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September 16, 2024 Project Number: P1355

Robinson Consultants Inc.
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Attention: **Brandon MacKechnie, P.Eng.**

Subject: **Cardel Creekside Ph 2 Subdivision - Conceptual SWM Pond Sizing**

Introduction

JFSA Canada Inc. (JFSA) was retained by Robinson Consultants Inc. (RCI) to complete a conceptual stormwater management (SWM) pond sizing for the Cardel Creekside Phase 2 Subdivision located at 2780 Eagleson Road in the City of Ottawa. This memo presents the conceptual sizing of the proposed SWM pond based on the latest proposed development plan provided by RCI.

Site Overview

The subject site is bound by Eagleson Road to the east, existing properties fronting Perth Street to the south, Flowing Creek to the west and agricultural lands to the north. The subject land is predominantly agricultural and is located near the downstream end of Flowing Creek, close to its confluence with the Jock River. **Figure 1** provides an overview of the development site relative to the Flowing Creek and major roads, as well as the location of the conceptual SWM pond block according to RCI's site plan.

Existing Stormwater Conditions

The existing conditions used for this site build on the work completed by Rideau Valley Conservation Authority (RVCA) in their May 8, 2017 report titled ***"Flowing Creek Flood Risk Mapping from Flewellyn Road to Jock River"*** (referred to hereon as RVCA Report). The RVCA Report assessed the Flowing Creek watershed based on land use as well as soil information and determined the peak flows at key locations along the watercourse using a single-event SWMHYMO hydrological model (referred to hereon as Existing SWMHYMO Model) based on various synthetic design storms. These key locations can be found in Figure 13 of the RVCA Report, as well as the peak flows for various return periods.

For the purpose of sizing the SWM pond for the proposed development, additional design storms such as the 25mm Chicago 3hr City of Ottawa design storm, as well as the 2- to 50-year Chicago 3hr events based on City of Ottawa design storms were incorporated into the Existing SWMHYMO Model to determine peak flows for these return periods and allow for a comprehensive analysis of the proposed conceptual SWM pond within the subject site. The 3hr Chicago design storms have been added to the analysis as typically these events result in higher peak runoff for urban lands when compared to the peak runoff generated by the 24hr SCS Type II design storms. Per City guidelines, both design storms need to be used in the Hydraulic Grade Line (HGL) analysis within the proposed development at the detailed design stage.

No other changes were made to the Existing SWMHYMO Model. Modelling input and summary files have been provided in **Attachment A**. Additionally, **Node N28** at Perth Street, just downstream of the subject site has been used in this analysis to compare existing and proposed condition peak flows. **Table 1** below shows the peak flows at **Node N28** under existing/pre-development conditions according to the Existing SWMHYMO Model.

Table 1: Peak Flows at Node N28 under Existing Conditions

Design Storm	Ex. Conditions Peak Flow(1) (m^3/s)
25mm CHI 3hr	3.545
2-yr CHI 3hr	6.918
5-yr CHI 3hr	14.213
10-yr CHI 3hr	20.227
25-yr CHI 3hr	27.148
50- yr CHI 3hr	31.977
100-yr CHI 3 hr	39.544
2-yr SCS 24hr	13.815
5-yr SCS 24hr	27.313
10-yr SCS 24hr	35.489
20-yr SCS 24hr	44.308
50-yr SCS 24hr	56.056
100-yr SCS 24hr	65.202

(1) Flows based on existing condition peak flows from the 2017 RVCA SWMHYMO model of Flowing Creek

Proposed Stormwater Conditions

Under proposed condition the site will have a drainage area of approximately **24.63 ha** with an average imperviousness of **63%** based on RCI's design. For this analysis it has been assumed that the full site will drain to the proposed SWM pond, which will outlet into the Flowing Creek. As mentioned earlier, **Node N28** has been used to compare existing and proposed condition flows.

Under proposed conditions, approximately **8.97 ha** of the subject site encroaches subcatchment M4, as shown in the RVCA report. For this reason, the drainage area of subcatchment M4 has reduced from **363.71 ha** to **354.74 ha**. However, the remaining **15.66 ha** of post-development drainage area from the subject site will be directed to Flowing Creek, increasing the total drainage area of its watershed from **5,243.6 ha** to **5,259.26 ha (+0.3%)**. Note that despite this increase in drainage area to Flowing Creek, there will be no increase in the peak flows at **Node N28,** since the peak flows from the proposed development will not coincide with the peak flows from Flowing Creek, as it will be demonstrated in greater detail later in this memo. **Figure 2** shows the proposed development in relation to subcatchment M4.

SWMHYMO Proposed Condition Simulations

A proposed condition SWMHYMO model has been developed to assess the proposed conceptual SWM pond outflows, as well as the total peak flows at **Node N28** under proposed conditions to ensure that the target/existing release rates are not exceeded. The Existing SWMHYMO Model outlined above was the base used to build this proposed condition SWMHYMO model.

The subcatchment **CRK** has been added to the SWMHYMO model to represent the proposed development. The depression storage and infiltration parameters in the model are as per the October 2012 *City of Ottawa Sewer Design Guidelines* and the percent imperviousness of the development as per RCI's subdivision design.

As the site encroaches subcatchment M4, the hydrological parameters for this subcatchment have been updated accordingly, following the same methodology used in the RVCA Report. **Table 2** shows a summary of the updated parameters used in the proposed conditions model. A detailed breakdown of land uses and soil groups, as well as updated CN calculations for subcatchment M4, can be found in **Attachment B**.

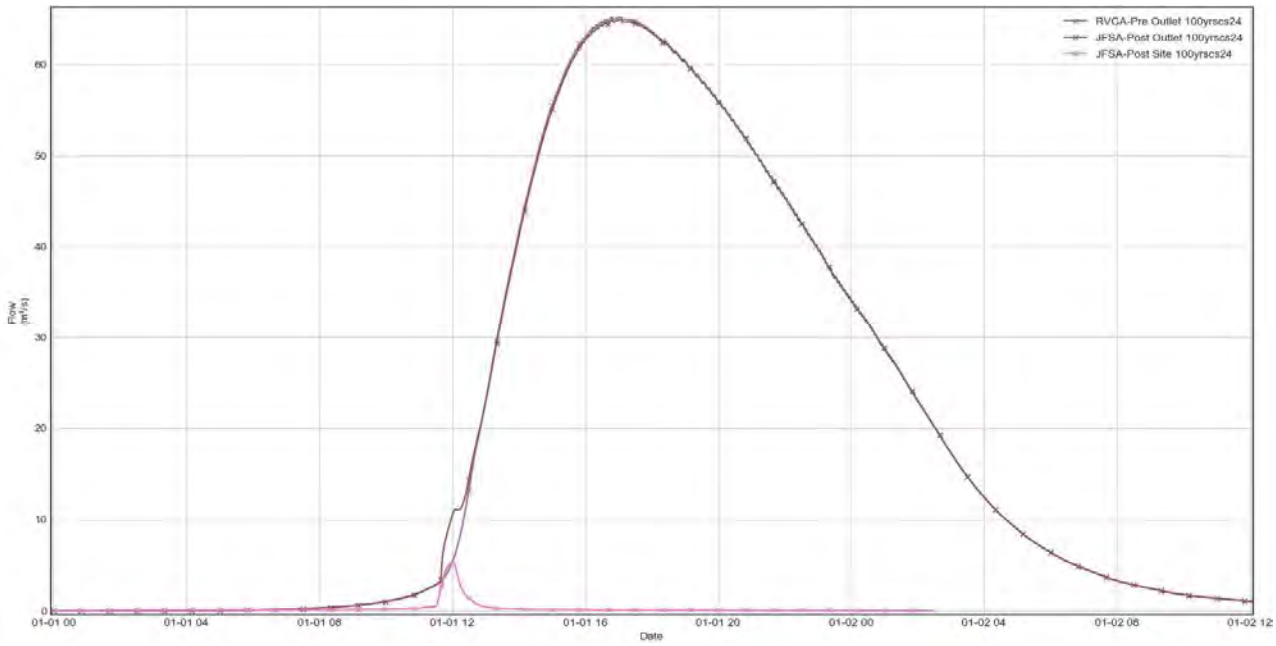
Table 2: Subcatchment M4 - Updated Hydrological Parameters

Area (km^2)	CN	CN*	IA (mm)	Channel Slope (2) (%)	Channel Length (2) (m)	TC (2) (hr)	TP (2) (hr)
3.55	84	78	3.62	0.08	4000	3.79	2.27

(1) Calculated using equations CN* = 25400/254+S and IA = 0.05 S
(2) As per the 2017 RVCA Flowing Creek Flood Risk Mapping from Flewellyn Road to Jock River Technical Memorandum

A simulation of the proposed condition SWMHYMO model with the updates described above and without any SWM controls (no SWM pond/site uncontrolled) was run to verify the impacts on Flowing Creek, as well as to verify the time of peak of the proposed development compared to the time of peak of the Flowing Creek at **Node N28** under proposed conditions, with the increase in drainage area to the Flowing Creek watershed. **Excerpt 1** below compares the 100-year peak flow under existing/ conditions (Existing SWMHYMO Model) with the 100-year peak flow from the proposed development without any SWM controls, at Perth Street **(Node N28)** just downstream of the subject site.

Excerpt 1: Flowing Creek – 100-year SCS 24hr Flows



As can be seen from **Excerpt 1**, the peak flow of the proposed development occurs around **12 hours** and the peak flow on the watercourse occurs around **17 hours**. Therefore, it can be concluded that the peak flows in the watercourse can be reduced by getting the runoff from the proposed development out quickly instead of attenuating the flows to existing conditions, which could result in peak flows coinciding with those in the Flowing Creek/watercourse, resulting in increased peak flows under proposed conditions. This is in line with the 2010 AECOM ***Cumulative Impact Assessment – Jock River Development*** in Richmond, which considered these subject lands as well as other future development sites in Richmond as developed without SWM controls. The analysis of this study concluded that "*Given the size of the watershed and the relatively small amount of development in the foreseeable future, it is apparent that there is no impact from anticipated development on Jock River flows*." A complete copy of this report has been provided in **Attachment C**.

Based on the above, it has been assumed in this analysis that the proposed development will be treated by a small wet SWM pond that will provide quality control released over **48 hours**, above the permanent pool storage volume. Given the significant difference between the timing of peaks between the proposed site and the watercourse, it can be reasonably assumed that a scenario where there is simultaneously both a 100-year water level in the watercourse and a 100-year rainfall event on the site would not occur. Therefore, the SWM pond active storage could start at around the 2-year water level in Flowing Creek, which would be approximately **91.98m** at cross-section **1015** from RVCA's HEC-RAS model, part of the RVCA Report. Additionally, that also means that this simultaneity scenario mentioned above may not need to be considered for the site's HGL analysis in the detailed design stage.

For this analysis, an erosion control volume has been assumed, which was based on matching the proposed condition flows from the proposed development for the 2-year Chicago 3hr design storm to a prorated existing release rate (based on subcatchment **M4** drainage area). For all events greater than the 2-year event, it has been assumed that these flows would pass unattenuated to Flowing Creek. **Table 3** below shows the details of the assumed 2-year target release rate. Based on this, a conceptual outflow-storage curve for the proposed conceptual SWM pond was applied to the proposed condition SWMHYMO model.

Table 3: Conceptual SWM Pond Erosion Control Target Release Rate

Subcatchment M4 Pre-Dev. Area (ha)	Subcatchment M4 Post-Dev. Area (ha)	Difference	2-year CHI 3hr Unitary Flow (1) (m^3/s/ha)	2-year CHI 3hr Target Release Rate (m^3/s)
363.71	354.74	8.97	0.0053	0.047

(1) Unitary Flow calculated by dividing the 2-yr CHI 3hr pre-development peak flow by 363.71 ha (1.931m^3 / 363.71ha).

Proposed Conditions Simulation Results

Table 4 below provides a summary of the 100-year peak flows under existing conditions and proposed conditions at **Node N28**. **Table 5** below provides a summary of the maximum 100-year release rates and storage volumes for the proposed conceptual SWM pond. **Attachment B** contains the complete SWMHYMO modelling input and output files, along with a comprehensive summary of the modelling results and calculations.

Table 4: Existing and Proposed Conditions Peak Flows at Node N28

Design Storm	Existing Conditions Peak Flow (1) (m^3/s)	Proposed Conditions Peak Flows (m^3/s)	Difference (m^3/s)
25mm Chicago 3hr	3.545	3.496	-0.049
2-yr Chicago 3hr	6.918	6.843	-0.075
100-yr Chicago 3hr	39.544	39.291	-0.253
100-yr SCS 24 hr	65.202	64.936	-0.266

(1) Flows based on existing condition peak flows from the 2017 RVCA SWMHYMO model of Flowing Creek.

Table 5: Conceptual SWM Pond Results Summary

Design Storm	Release Rate (m^3/s)	Volume Used (1) (m^3)
25mm Chicago 3hr	0.034	3,138
2-yr Chicago 3hr	0.047	4,338
100-yr Chicago 3hr	5.760	4,849
100-yr SCS 24 hr	5.386	4,816

(1) Active storage volume.

As shown in **Table 4**, the 100-year proposed/post-development conditions flows at **Node N28** are less than the existing conditions flows. Additionally, as shown in **Table 5**, the estimated maximum 100-year active storage volume for the conceptual SWM pond would be close to **5,000 m^3**. A detailed stage-storage curve will be prepared by RCI and appropriate pond outlet structure controls, to closely match the conceptual release rates, will be determined in the detailed design stage.

Conclusion

Part of the drainage area of the proposed development is located within the Flowing Creek watershed, more specifically within subcatchment M4 detailed in the RVCA Report and the remainder of the site's drainage area will be redirected to Flowing Creek. The hydrological parameters of subcatchment M4 were adjusted accordingly and a proposed conditions SWMHYMO model, based on the Existing SWMHYMO Model, was prepared.

An initial proposed condition simulation without any SWM controls for the subject site was run to verify the impacts on Flowing Creek, as well as to verify the time of peak of the proposed development compared to the time of the peak on Flowing Creek. The result of this analysis showed that due to the difference between the timing of peaks between the proposed site and the Flowing Creek, the peak flows in the Flowing Creek can be reduced by getting the runoff from the proposed development out quickly instead of attenuating the flows to existing conditions, which could result in peak flows coinciding with those in the Flowing Creek. Also, given the significant difference between the timing of peaks between the proposed site and the Flowing Creek, it was reasonably assumed that a scenario where there is simultaneously both a 100-year water level in the watercourse and a 100-year rainfall event on the site would not occur and for this reason, the SWM pond active storage could start at around the 2-year water level in the Flowing Creek. Additionally, this simultaneity scenario may not need to be considered for the HGL analysis of the proposed development in the detailed design stage.

The proposed development will be treated by a small wet SWM pond that will provide quality control released over **48 hours**, above the permanent pool storage volume. Additionally, an erosion control volume has been assumed in this analysis. A detailed stage-storage curve will be prepared in the detailed design stage and appropriate pond outlet controls will be set to closely match the conceptual release rates assumed in this study.

Yours truly,
JFSA Canada Inc.

Paulo Pickart, B.Eng., P.Eng.
Water Resources Project Engineer

Jonathon Burnett, B.Eng., P.Eng.
Senior Water Resources Engineer

cc: J.F Sabourin, M.Eng., P.Eng.
Director of Water Resources Projects

Figures

Tables

Attachments

Modelling Files

SWMHYMO: flowing (refer to Attachment A)
Creek-Post-SWM_Pond (refer to Attachment B)

N

Legend

- Development Boundary
- Site Plan
- Conceptual SWM Pond Block
- Watercourses

SCALE: 1:4500

0 100 200 m

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RCI Robinson Land Development

Creekside Phase 2
Subdivision

Figure 1: Site Overview

PROJECT	1355
DRAWN	PP
DATE	AUG 2024

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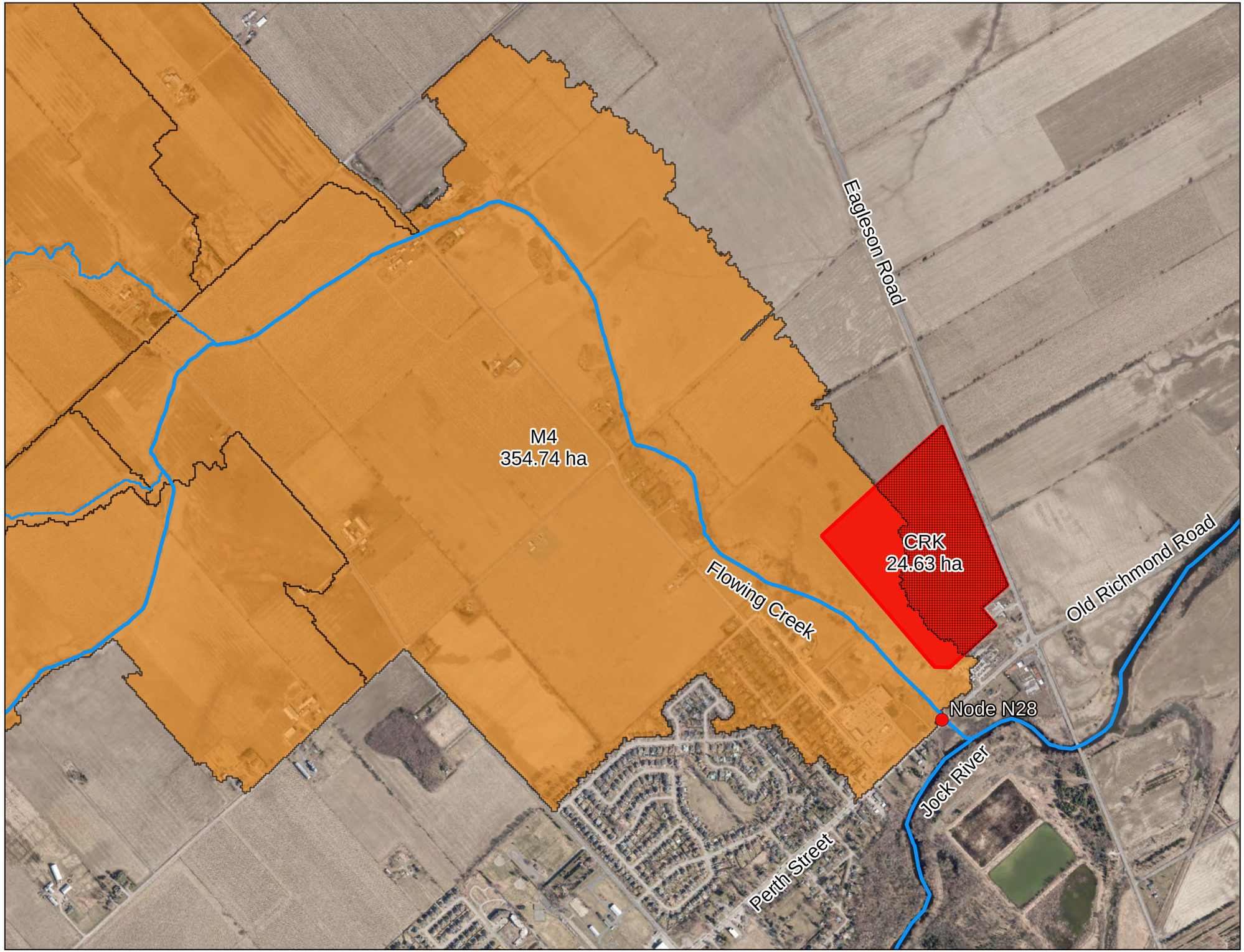

N

Legend

- RVCA Node N28
- Watercourse
- Subject Site
- Post-Dev. Subcatchment External
- Post-Dev. Subcatchments
- Additional Drainage Area to Flowing Creek Watershed

SCALE: 1:12000

0 250 500 m

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Creekside Phase 2 Subdivision

Figure 2: Proposed Conditions Overview

PROJECT	1355
DRAWN	PP
DATE	AUG 2024

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Attachment A

Existing Conditions Simulations

```
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00002> *$**********************************************************************
00003> *#  Project Name: [Flowing]    Project Number: [M800-200-050-205]
00004> *#  Date         : 04-03-2017
00005> *#  Modeller     : [   AA     ]
00006> *#  Company      : Rideau Valley Conservation Authority
00007> *#  License #    : 5329846
00008> *$**********************************************************************
00009> *# April 2024 - JB - JFSA Inc
00010> *# model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
00011> *$**********************************************************************
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00017> DEFAULT VALUES      ICASEdef=[1],  read and print values
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00209>                                                  101.00 ,118.29
00210>                                                  104.00 ,118.29
00211>                                                  105.00 ,119.29
00212>                                                  205.00 ,120.29
00213>                                                  205.00 ,120.50
00214> *\-----------------|-------------------------------------------------------|
00215> SAVE HYD           ID=[8],   # OF PCYCLES=[1],  ICASEsh=[1]
00216>                     HYD_COMMENT=["Routing Hydrograph for R5"]
00217> *\-----------------|-------------------------------------------------------|
00218> CALIB NASHYD       ID=[9], NHYD=["B2"], DT=[1]min, AREA=[255.45](ha),
00219>                     DWF=[0](cms),  CN/C=[68.84], IA=[5.75](mm),
00220>                     N=[3], TP=[2.39]hrs,
00221>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00222> *\-----------------|-------------------------------------------------------|
00223> SAVE HYD           ID=[9],   # OF PCYCLES=[1],  ICASEsh=[1]
00224>                     HYD_COMMENT=["Routing Hydrograph for B2"]
00225> *\-----------------|-------------------------------------------------------|
00226> ADD HYD            IDsum=[1], NHYD=["N2"], IDs to add=[8 + 9]
00227> *\-----------------|-------------------------------------------------------|
00228> SAVE HYD           ID=[1],   # OF PCYCLES=[1],  ICASEsh=[1]
00229>                     HYD_COMMENT=["Hydrograph for N2"]
00230> *\-----------------|-------------------------------------------------------|
00231> CALIB NASHYD       ID=[2], NHYD=["B3"], DT=[1]min, AREA=[336.77](ha),
00232>                     DWF=[0](cms),  CN/C=[53.92], IA=[10.86](mm),
00233>                     N=[3], TP=[3.10]hrs,
00234>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00235> *\-----------------|-------------------------------------------------------|
00236> SAVE HYD           ID=[2],   # OF PCYCLES=[1],  ICASEsh=[1]
00237>                     HYD_COMMENT=["Routing Hydrograph for B3"]
00238> *\-----------------|-------------------------------------------------------|
00239> ADD HYD            IDsum=[3], NHYD=["N4"], IDs to add=[1 + 2]
00240> *\-----------------|-------------------------------------------------------|
00241> SAVE HYD           ID=[3],   # OF PCYCLES=[1],  ICASEsh=[1]
00242>                     HYD_COMMENT=["Hydrograph for N4"]
00243> *\-----------------|-------------------------------------------------------|
00244> ROUTE CHANNEL      IDout=[4], NHYD=["R6"], IDin=[3],
00245>                     RDT=[1](min),
00246>                     CHLGTH=[1500](m),  CHSLOPE=[0.48](%),
00247>                                        FPSLOPE=[0.48](%),
00248>                     SECNUM=[1],       NSEG=[3]
00249>                     ( SEGROUGH, SEGDIST (m))=[0.05, 200] NSEG times
00250>                                            -0.035, 206
00251>                                             0.05, 406
00252>                     ( DISTANCE (m), ELEVATION (m))=[0.00 ,108.10]
00253>                                                    0.00 ,107.91
00254>                                                  200.00 ,106.91
00255>                                                  201.00 ,105.91
00256>                                                  205.00 ,105.91
00257>                                                  206.00 ,106.91
00258>                                                  406.00 ,107.91
00259>                                                  406.00 ,108.10
00260> *\-----------------|-------------------------------------------------------|
00261> SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
00262>                     HYD_COMMENT=["Routing Hydrograph for R6"]
00263> *\-----------------|-------------------------------------------------------|
00264> CALIB NASHYD       ID=[6], NHYD=["B5"], DT=[1]min, AREA=[224.06](ha),
00265>                     DWF=[0](cms),  CN/C=[53.66], IA=[10.97](mm),
00266>                     N=[3], TP=[2.60]hrs,
00267>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00268> *\-----------------|-------------------------------------------------------|
00269> SAVE HYD           ID=[6],   # OF PCYCLES=[1],  ICASEsh=[1]
00270>                     HYD_COMMENT=["Routing Hydrograph for B5"]
00271> *\-----------------|-------------------------------------------------------|
00272> ADD HYD            IDsum=[8], NHYD=["N5"], IDs to add=[6 + 4]
00273> *\-----------------|-------------------------------------------------------|
00274> SAVE HYD           ID=[8],   # OF PCYCLES=[1],  ICASEsh=[1]
00275>                     HYD_COMMENT=["Hydrograph for N5"]
00276> *\-----------------|-------------------------------------------------------|
00277> ROUTE CHANNEL      IDout=[9], NHYD=["R7"], IDin=[8],
00278>                     RDT=[1](min),
00279>                     CHLGTH=[4500](m),  CHSLOPE=[0.24](%),
00280>                                        FPSLOPE=[0.24](%),
00281>                     SECNUM=[1],       NSEG=[3]
00282>                     ( SEGROUGH, SEGDIST (m))=[0.10, 200] NSEG times
00283>                                            -0.035, 209
00284>                                             0.10, 409
00285>                     ( DISTANCE (m), ELEVATION (m))=[0.00 ,99.00]
00286>                                                    0.00 ,98.77
00287>                                                  200.00 ,97.77
00288>                                                  201.00 ,96.57
00289>                                                  208.00 ,96.57
00290>                                                  209.00 ,97.77
00291>                                                  409.00 ,98.77
00292>                                                  409.00 ,99.00
00293> *\-----------------|-------------------------------------------------------|
00294> SAVE HYD           ID=[9],   # OF PCYCLES=[1],  ICASEsh=[1]
00295>                     HYD_COMMENT=["Routing Hydrograph for R7"]
00296> *\-----------------|-------------------------------------------------------|
00297> CALIB NASHYD       ID=[1], NHYD=["B6"], DT=[1]min, AREA=[329.90](ha),
00298>                     DWF=[0](cms),  CN/C=[75.44], IA=[4.14](mm),
00299>                     N=[3], TP=[2.46]hrs,
00300>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00301> *\-----------------|-------------------------------------------------------|
00302> SAVE HYD           ID=[1],   # OF PCYCLES=[1],  ICASEsh=[1]
00303>                     HYD_COMMENT=["Routing Hydrograph for B6"]
00304> *\-----------------|-------------------------------------------------------|
00305> ADD HYD            IDsum=[2], NHYD=["N6"], IDs to add=[9 + 1]
00306> *\-----------------|-------------------------------------------------------|
00307> SAVE HYD           ID=[2],   # OF PCYCLES=[1],  ICASEsh=[1]
00308>                     HYD_COMMENT=["Hydrograph for N6"]
00309> *\-----------------|-------------------------------------------------------|
00310>
00311>
00312> *# Main channel combination with Trib A
00313>
00314>
00315> ADD HYD            IDsum=[3], NHYD=["N23"], IDs to add=[5 + 7]
00316> *\-----------------|-------------------------------------------------------|
00317> SAVE HYD           ID=[3],   # OF PCYCLES=[1],  ICASEsh=[1]
00318>                     HYD_COMMENT=["Hydrograph for N23/N24"]
00319> *\-----------------|-------------------------------------------------------|
00320>
00321>
00322> *# Main channel combination with Trib B
00323>
00324>
00325> ADD HYD            IDsum=[4], NHYD=["N25"], IDs to add=[3 + 2]
00326> *\-----------------|-------------------------------------------------------|
00327> SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
00328>                     HYD_COMMENT=["Hydrograph for N25/N26"]
00329> *\-----------------|-------------------------------------------------------|
00330>
00331>
00332>
00333> *# Main channel combination with Catchment C
00334>
00335>
00336>
00337>
00338> CALIB NASHYD       ID=[6], NHYD=["C1"], DT=[1]min, AREA=[1414.40](ha),
00339>                     DWF=[0](cms),  CN/C=[65.49], IA=[6.69](mm),
00340>                     N=[3], TP=[3.40]hrs,
00341>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00342> *\-----------------|-------------------------------------------------------|
00343> SAVE HYD           ID=[6],   # OF PCYCLES=[1],  ICASEsh=[1]
00344>                     HYD_COMMENT=["Routing Hydrograph for C1"]
00345> *\-----------------|-------------------------------------------------------|
00346> ADD HYD            IDsum=[8], NHYD=["N27"], IDs to add=[4 + 6]
00347> *\-----------------|-------------------------------------------------------|
00348> SAVE HYD           ID=[8],   # OF PCYCLES=[1],  ICASEsh=[1]
00349>                     HYD_COMMENT=["Hydrograph for N27"]
00350> *\-----------------|-------------------------------------------------------|
00351>
00352>
00353>
00354> *# Main channel
00355>
00356>
00357>
00358>
00359> ROUTE CHANNEL      IDout=[9], NHYD=["R8"], IDin=[8],
00360>                     RDT=[1](min),
```

```
00361>                    CHLGTH=[2700](m),  CHSLOPE=[0.05](%),
00362>                                       FPSLOPE=[0.05](%),
00363>                    SECNUM=[1],          NSEG=[3]
00364>                    ( SEGROUGH, SEGDIST (m))=[0.10, 200] NSEG times
00365>                                              -0.035, 212
00366>                                               0.10, 412
00367>                    ( DISTANCE (m), ELEVATION (m))=[0.00 ,95.50]
00368>                                                    0.00 ,94.67
00369>                                                  200.00 ,92.67
00370>                                                  201.00 ,90.67
00371>                                                  211.00 ,90.67
00372>                                                  212.00 ,92.67
00373>                                                  412.00 ,94.67
00374>                                                  412.00 ,95.50
00375> *%-----------------|-------------------------------------------------------------|
00376> SAVE HYD            ID=[9],   # OF PCYCLES=[1],  ICASEsh=[1]
00377>                    HYD_COMMENT=["Routing Hydrograph for R8"]
00378> *%-----------------|-------------------------------------------------------------|
00379> CALIB NASHYD       ID=[1], NHYD=["M4"], DT=[1]min, AREA=[363.71](ha),
00380>                    DWF=[0](cms),  CN/C=[79.17], IA=[3.34](mm),
00381>                    N=[3], TP=[2.27]hrs,
00382>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00383> *%-----------------|-------------------------------------------------------------|
00384> SAVE HYD            ID=[1],   # OF PCYCLES=[1],  ICASEsh=[1]
00385>                    HYD_COMMENT=["Routing Hydrograph for M4"]
00386> *%-----------------|-------------------------------------------------------------|
00387> ADD HYD            IDsum=[2], NHYD=["N28"], IDs to add=[1 + 9]
00388> *%-----------------|-------------------------------------------------------------|
00389> SAVE HYD            ID=[2],   # OF PCYCLES=[1],  ICASEsh=[1]
00390>                    HYD_COMMENT=["Hydrograph for N28"]
00391> *%-----------------|-------------------------------------------------------------|
00392> *%-----------------3 Hr CHI Storms - Per RVCA Flowing CreeK Study---------------|
00393> *%-----------------|-------------------------------------------------------------|
00394> *%  2-Year, 3-Hour Chicago Storm
00395> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
00396>                    ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
00397> *%-----------------|-------------------------------------------------------------|
00398> *%  5-Year, 3-Hour Chicago Storm
00399> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[005]
00400>                    ["005YC3H.stm"] <--storm filename, one per line for NSTORM time
00401> *%-----------------|-------------------------------------------------------------|
00402> *%  10-Year, 3-Hour Chicago Storm
00403> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[010]
00404>                    ["010YC3H.stm"] <--storm filename, one per line for NSTORM time
00405> *%-----------------|-------------------------------------------------------------|
00406> *%  25-Year, 3-Hour Chicago Storm
00407> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[025]
00408>                    ["025YC3H.stm"] <--storm filename, one per line for NSTORM time
00409> *%-----------------|-------------------------------------------------------------|
00410> *%  50-Year, 3-Hour Chicago Storm
00411> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[050]
00412>                    ["050YC3H.stm"] <--storm filename, one per line for NSTORM time
00413> *%-----------------|-------------------------------------------------------------|
00414> *%  100-Year, 3-Hour Chicago Storm
00415> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[099]
00416>                    ["100YC3H.stm"] <--storm filename, one per line for NSTORM time
00417> *%-----------------|-------------------------------------------------------------|
00418> *%-----------------24 Hr SCS Storms - Per RVCA Flowing Creek Study--------------|
00419> *%-----------------|-------------------------------------------------------------|
00420> *% 2 Year 24 Hour SCS Design Storm
00421> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[102]
00422> *                   ["2YS24.stm"] <--storm filename, one per line for NSTORM time
00423> *%-----------------|-------------------------------------------------------------|
00424> *% 5 Year 24 Hour SCS Design Storm
00425> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[105]
00426> *                   ["5YS24.stm"] <--storm filename, one per line for NSTORM time
00427> *%-----------------|-------------------------------------------------------------|
00428> *% 10 Year 24 Hour SCS Design Storm
00429> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[110]
00430> *                   ["10YS24.stm"] <--storm filename, one per line for NSTORM time
00431> *%-----------------|-------------------------------------------------------------|
00432> *% 20 Year 24 Hour SCS Design Storm
00433> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[120]
00434> *                   ["20YS24.stm"] <--storm filename, one per line for NSTORM time
00435> *%-----------------|-------------------------------------------------------------|
00436> *% 50 Year 24 Hour SCS Design Storm
00437> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[150]
00438> *                   ["50YS24.stm"] <--storm filename, one per line for NSTORM time
00439> *%-----------------|-------------------------------------------------------------|
00440> *% 100 Year 24 Hour SCS Design Storm
00441> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[199]
00442>                    ["100YS24.stm"] <--storm filename, one per line for NSTORM time
00443> *%-----------------|-------------------------------------------------------------|
00444> *% 200 Year 24 Hour SCS Design Storm
00445> *START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[200]
00446> *                   ["200YS24.stm"] <--storm filename, one per line for NSTORM time
00447> *%-----------------|-------------------------------------------------------------|
00448> *% 350 Year 24 Hour SCS Design Storm
00449> *START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[350]
00450> *                   ["350YS24.stm"] <--storm filename, one per line for NSTORM time
00451> *%-----------------|-------------------------------------------------------------|
00452> *% 500 Year 24 Hour SCS Design Storm
00453> *START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[500]
00454> *                   ["500YS24.stm"] <--storm filename, one per line for NSTORM time
00455> *%-----------------|-------------------------------------------------------------|
00456> FINISH
```

```
00001>  ================================================================================
00002>
00003>  SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222    000    11   5555   ========
00004>  S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2   0   0   1 1   5
00005>  SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2   0   0   1 1   5       Ver 5.500
00006>      S   W W W   M   M   H   H     Y     M   M   O   O        222   0   0   1 1   555     FEB  2015
00007>  SSSSS    W W    M   M   H   H     Y     M   M    OOO         2     0   0   1 1     5   ========
00008>                                                               2     0   0   1 1     5   # 2549237
00009>         StormWater Management HYdrologic Model                222    000    11   555    ========
00010>
00011>  ************************************************************************************************
00012>  ************************************  SWMHYMO Ver 5.500  *************************************
00013>  ***********************  A single event and continuous hydrologic simulation model  ************
00014>  ***********************       based on the principles of HYMO and its successors    ************
00015>  ***********************                 OTTHYMO-83 and OTTHYMO-89.                   ************
00016>  ************************************************************************************************
00017>  ***************** Distributed by:  J.F. Sabourin and Associates Inc.           *******************
00018>  *****************                  Ottawa, Ontario: (613) 836-3884             *******************
00019>  *****************                  Gatineau, Quebec: (819) 243-6858            *******************
00020>  *****************                  E-Mail: swmhymo@jfsa.com                    *******************
00021>  ************************************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  ++++++++++++++++++ Licensed user: JFSAinc.                                    ++++++++++++++++++
00025>  ++++++++++++++++++                 Ottawa                  SERIAL#:2549237   ++++++++++++++++++
00026>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028>  ************************************************************************************************
00029>  *****************                 ++++++ PROGRAM ARRAY DIMENSIONS ++++++              *******************
00030>  *****************                 Maximum value for ID numbers  :    11              *******************
00031>  *****************                 Max. number of rainfall points: 105408             *******************
00032>  *****************                 Max. number of flow points   : 105408              *******************
00033>  ************************************************************************************************
00034>
00035>
00036>  ******************************  S U M M A R Y   O U T P U T  ******************************************
00037>  ************************************************************************************************
00038>  *                    RUN DATE: 2024-04-24      TIME: 11:55:21      RUN COUNTER: 008119             *
00039>  ************************************************************************************************
00040>  * Input   file: C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev*
00041>  *                Offical\flowing.dat                                                             *
00042>  * Output  file: C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev*
00043>  *                Offical\flowing.out                                                             *
00044>  * Summary file: C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev*
00045>  *                Offical\flowing.sum                                                             *
00046>  * User comments:                                                                                *
00047>  * 1:_____________________________________________________________________________________________*
00048>  * 2:_____________________________________________________________________________________________*
00049>  * 3:_____________________________________________________________________________________________*
00050>  ************************************************************************************************
00051>
00052>
00053> #*********************************************************************
00054> #  Project Name: [Flowing]     Project Number: [M800-200-050-205]
00055> #  Date        : 04-03-2017
00056> #  Modeller    : [   AA     ]
00057> #  Company     : Rideau Valley Conservation Authority
00058> #  License #   : 5329846
00059> #*********************************************************************
00060> # April 2024 - JB - JFSA Inc
00061> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
00062> #*********************************************************************
00063>  RUN#:COMMAND#
00064> R0001:C00001------------------------------------------------------------------------------
00065>       START
00066>         [TZERO =     .00 hrs on      0]
00067>         [METOUT=   2    (1=imperial, 2=metric output)]
00068>         [NSTORM=   1 ]
00069>         [NRUN  = 0001 ]
00070> R0001:C00002------------------------------------------------------------------------------
00071>       READ STORM
00072>         Filename = storm.001
00073>         Comment  = 25 MM BASED ON CHICAGO STORM 2 Year, 3 Hours
00074>         [SDT=10.00:SDUR=   3.00:PTOT=  25.00]
00075> R0001:C00003------------------------------------------------------------------------------
00076>       DEFAULT VALUES
00077>         Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
00078>         ICASEdv  = 1 (read and print data)
00079>         FileTitle= File comment: [RVCA Flowing Creek FPM]
00080>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00081>         Horton's infiltration equation parameters:
00082>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00083>         Parameters for PERVIOUS surfaces in STANDHYD:
00084>         [IAper=   4.67 mm] [LGP=40.00 m] [MNP=  .250]
00085>         Parameters for IMPERVIOUS surfaces in STANDHYD:
00086>         [IAimp=   1.57 mm] [CLI=  1.50]  [MNI=  .013]
00087>         Parameters used in NASHYD:
00088>         [Ia=    1.50 mm] [N= 3.00]
00089>         Average monthly Pan Evaporation data in    (mm)
00090>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00091>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00092>       Average monthly Potential Evapotranspiration in    (mm)
00093>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00094>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00095> # Main Channel
00096> R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00097>     CALIB NASHYD           1.0 01:M1         136.59     .092 No_date   3:30     .83 .033     .000
00098>       [CN= 53.5: N= 3.00: Tp= 1.64]
00099> R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00100>     SAVE HYD               1.0 01:M1         136.59     .092 No_date   3:30     .83 n/a      .000
00101>       fname :M1.0001
00102>       remark:Runoff Hydrograph for M1
00103> R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00104>     ROUTE CHANNEL   ->     1.0 01:M1         136.59     .092 No_date   3:30     .83 n/a      .000
00105>       [RD= 1.00] out<-     1.0 02:R1         136.59     .062 No_date   4:50     .83 n/a      .000
00106>       [L/S/n= 3000./ .550/.035]
00107>       (Vmax=  .446:Dmax=  .040)
00108> R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00109>     SAVE HYD               1.0 02:R1         136.59     .062 No_date   4:50     .83 n/a      .000
00110>       fname :R1.0001
00111>       remark:Routing Hydrograph for R1
00112> R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00113>     CALIB NASHYD           1.0 03:M2         372.64     .217 No_date   3:32     .73 .029     .000
00114>       [CN= 52.2: N= 3.00: Tp= 1.65]
00115> R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00116>     SAVE HYD               1.0 03:M2         372.64     .217 No_date   3:32     .73 n/a      .000
00117>       fname :M2.0001
00118>       remark:Routing Hydrograph for M2
00119> R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00120>     ADD HYD                1.0 02:R1         136.59     .062 No_date   4:50     .83 n/a      .000
00121>                      +     1.0 03:M2         372.64     .217 No_date   3:32     .73 n/a      .000
00122>                    SUM=    1.0 04:N21        509.23     .265 No_date   3:43     .75 n/a      .000
00123> R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00124>     SAVE HYD               1.0 04:N21        509.23     .265 No_date   3:43     .75 n/a      .000
00125>       fname :N21.0001
00126>       remark:Hydrograph for N21
00127> R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00128>     ROUTE CHANNEL   ->     1.0 04:N21        509.23     .265 No_date   3:43     .75 n/a      .000
00129>       [RD= 1.00] out<-     1.0 05:R2         509.23     .147 No_date   5:41     .75 n/a      .000
00130>       [L/S/n= 4000./ .180/.035]
00131>       (Vmax=  .350:Dmax=  .075)
00132> R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00133>     SAVE HYD               1.0 05:R2         509.23     .147 No_date   5:41     .75 n/a      .000
00134>       fname :R2.0001
00135>       remark:Routing Hydrograph for R2
00136> R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00137>     CALIB NASHYD           1.0 06:M3         533.23     .326 No_date   4:14     1.06 .042    .000
00138>       [CN= 56.0: N= 3.00: Tp= 2.47]
00139> R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00140>     SAVE HYD               1.0 06:M3         533.23     .326 No_date   4:14     1.06 n/a     .000
00141>       fname :M3.0001
00142>       remark:Routing Hydrograph for M3
00143> R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00144>     ADD HYD                1.0 06:M3         533.23     .326 No_date   4:14     1.06 n/a     .000
00145>                      +     1.0 05:R2         509.23     .147 No_date   5:41     .75 n/a      .000
00146>                    SUM=    1.0 07:N22       1042.46     .451 No_date   4:35     .91 n/a      .000
00147> R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00148>     SAVE HYD               1.0 07:N22       1042.46     .451 No_date   4:35     .91 n/a      .000
00149>       fname :N22.0001
00150>       remark:Hydrograph for N22
00151> # Trib A
00152> R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00153>     CALIB NASHYD           1.0 08:A1          86.15     .068 No_date   3:38     1.06 .043    .000
00154>       [CN= 56.1: N= 3.00: Tp= 1.83]
00155> R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00156>     SAVE HYD               1.0 08:A1          86.15     .068 No_date   3:38     1.06 n/a     .000
00157>       fname :A1.0001
00158>       remark:Runoff Hydrograph for A1
00159> R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00160>     ROUTE CHANNEL   ->     1.0 09:A1          86.15     .053 No_date   4:44     1.06 n/a     .000
00161>       [RD= 1.00] out<-     1.0 09:R3          86.15     .053 No_date   4:44     1.06 n/a     .000
00162>       [L/S/n= 2500./ .600/.035]
00163>       (Vmax=  .538:Dmax=  .025)
00164> R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00165>     SAVE HYD               1.0 09:R3          86.15     .053 No_date   4:44     1.06 n/a     .000
00166>       fname :R3.0001
00167>       remark:Routing Hydrograph for R3
00168> R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00169>     CALIB NASHYD           1.0 01:A2         246.39     .271 No_date   3:43     1.59 .064    .000
00170>       [CN= 61.0: N= 3.00: Tp= 1.99]
00171> R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00172>     SAVE HYD               1.0 01:A2         246.39     .271 No_date   3:43     1.59 n/a     .000
00173>       fname :A2.0001
00174>       remark:Routing Hydrograph for A2
00175> R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00176>     ADD HYD                1.0 01:A2         246.39     .271 No_date   3:43     1.59 n/a     .000
00177>                      +     1.0 09:R3          86.15     .053 No_date   4:44     1.06 n/a     .000
00178>                    SUM=    1.0 02:N11        332.54     .317 No_date   3:51     1.45 n/a     .000
00179> R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00180>     SAVE HYD               1.0 02:N11        332.54     .317 No_date   3:51     1.45 n/a     .000
00181>       fname :N11.0001
00182>       remark:Hydrograph for N11
00183> R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00184>     ROUTE CHANNEL   ->     1.0 02:N11        332.54     .317 No_date   3:51     1.45 n/a     .000
00185>       [RD= 1.00] out<-     1.0 03:R4         332.54     .186 No_date   5:34     1.45 n/a     .000
00186>       [L/S/n= 3000./ .200/.035]
00187>       (Vmax=  .319:Dmax=  .143)
00188> R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00189>     SAVE HYD               1.0 03:R4         332.54     .186 No_date   5:34     1.45 n/a     .000
00190>       fname :R4.0001
00191>       remark:Routing Hydrograph for R4
00192> R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00193>     CALIB NASHYD           1.0 04:A3         316.70     .353 No_date   4:00     1.82 .073    .000
00194>       [CN= 62.8: N= 3.00: Tp= 2.31]
00195> R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00196>     SAVE HYD               1.0 04:A3         316.70     .353 No_date   4:00     1.82 n/a     .000
00197>       fname :A3.0001
00198>       remark:Routing Hydrograph for A3
00199> R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00200>     ADD HYD                1.0 04:A3         316.70     .353 No_date   4:00     1.82 n/a     .000
00201>                      +     1.0 03:R4         332.54     .186 No_date   5:34     1.45 n/a     .000
00202>                    SUM=    1.0 05:N12        649.24     .504 No_date   4:25     1.63 n/a     .000
00203> R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00204>     SAVE HYD               1.0 05:N12        649.24     .504 No_date   4:25     1.63 n/a     .000
00205>       fname :N12.0001
00206>       remark:Hydrograph for N12
00207> # Trib B
00208> R0001:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00209>     CALIB NASHYD           1.0 06:B1         627.61     .278 No_date   5:06     1.01 .040    .000
00210>       [CN= 55.5: N= 3.00: Tp= 3.36]
00211> R0001:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00212>     SAVE HYD               1.0 06:B1         627.61     .278 No_date   5:06     1.01 n/a     .000
00213>       fname :B1.0001
00214>       remark:Runoff Hydrograph for B1
00215> R0001:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00216>     ROUTE CHANNEL   ->     1.0 08:R5         627.61     .278 No_date   5:06     1.01 n/a     .000
00217>       [RD= 1.00] out<-     1.0 08:R5         627.61     .212 No_date   6:57     1.01 n/a     .000
00218>       [L/S/n= 4800./ .870/.035]
00219>       (Vmax=  .614:Dmax=  .129)
00220> R0001:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00221>     SAVE HYD               1.0 08:R5         627.61     .212 No_date   6:57     1.01 n/a     .000
00222>       fname :R5.0001
00223>       remark:Routing Hydrograph for R5
00224> R0001:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00225>     CALIB NASHYD           1.0 09:B2         255.45     .419 No_date   4:01     2.76 .110    .000
00226>       [CN= 68.8: N= 3.00: Tp= 2.39]
00227> R0001:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00228>     SAVE HYD               1.0 09:B2         255.45     .419 No_date   4:01     2.76 n/a     .000
00229>       fname :B2.0001
00230>       remark:Routing Hydrograph for B2
00231> R0001:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00232>     ADD HYD                1.0 08:R5         627.61     .212 No_date   6:57     1.01 n/a     .000
00233>                      +     1.0 09:B2         255.45     .419 No_date   4:01     2.76 n/a     .000
00234>                    SUM=    1.0 01:N2         883.06     .535 No_date   4:35     1.52 n/a     .000
00235> R0001:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00236>     SAVE HYD               1.0 01:N2         883.06     .535 No_date   4:35     1.52 n/a     .000
00237>       fname :N2.0001
00238>       remark:Hydrograph for N2
00239> R0001:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00240>     CALIB NASHYD           1.0 02:B3         336.77     .138 No_date   4:52      .86 .035    .000
00241>       [CN= 53.9: N= 3.00: Tp= 3.10]
00242> R0001:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00243>     SAVE HYD               1.0 02:B3         336.77     .138 No_date   4:52      .86 n/a     .000
00244>       fname :B3.0001
00245>       remark:Routing Hydrograph for B3
00246> R0001:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00247>     ADD HYD                1.0 01:N2         883.06     .535 No_date   4:35     1.52 n/a     .000
00248>                      +     1.0 02:B3         336.77     .138 No_date   4:52      .86 n/a     .000
00249>                    SUM=    1.0 03:N4        1219.83     .672 No_date   4:39     1.34 n/a     .000
00250> R0001:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00251>     SAVE HYD               1.0 03:N4        1219.83     .672 No_date   4:39     1.34 n/a     .000
00252>       fname :N4.0001
00253>       remark:Hydrograph for N4
00254> R0001:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00255>     ROUTE CHANNEL   ->     1.0 03:N4        1219.83     .672 No_date   4:39     1.34 n/a     .000
00256>       [RD= 1.00] out<-     1.0 04:R6        1219.83     .653 No_date   5:10     1.34 n/a     .000
00257>       [L/S/n= 1500./ .480/.035]
00258>       (Vmax=  .679:Dmax=  .226)
00259> R0001:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00260>     SAVE HYD               1.0 04:R6        1219.83     .653 No_date   5:10     1.34 n/a     .000
00261>       fname :R6.0001
00262>       remark:Routing Hydrograph for R6
00263> R0001:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00264>     CALIB NASHYD           1.0 06:B5         224.06     .105 No_date   4:24      .84 .034    .000
00265>       [CN= 53.7: N= 3.00: Tp= 2.60]
00266> R0001:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00267>     SAVE HYD               1.0 06:B5         224.06     .105 No_date   4:24      .84 n/a     .000
00268>       fname :B5.0001
00269>       remark:Routing Hydrograph for B5
00270> R0001:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00271>     ADD HYD                1.0 06:B5         224.06     .105 No_date   4:24      .84 n/a     .000
00272>                      +     1.0 04:R6        1219.83     .653 No_date   5:10     1.34 n/a     .000
00273>                    SUM=    1.0 08:N5        1443.89     .751 No_date   5:01     1.26 n/a     .000
00274> R0001:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00275>     SAVE HYD               1.0 08:N5        1443.89     .751 No_date   5:01     1.26 n/a     .000
00276>       fname :N5.0001
00277>       remark:Hydrograph for N5
00278> R0001:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00279>     ROUTE CHANNEL   ->     1.0 08:N5        1443.89     .751 No_date   5:01     1.26 n/a     .000
00280>       [RD= 1.00] out<-     1.0 09:R7        1443.89     .493 No_date   6:56     1.26 n/a     .000
00281>       [L/S/n= 4500./ .240/.035]
00282>       (Vmax=  .481:Dmax=  .215)
00283> R0001:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00284>     SAVE HYD               1.0 09:R7        1443.89     .493 No_date   6:56     1.26 n/a     .000
00285>       fname :R7.0001
00286>       remark:Routing Hydrograph for R7
00287> R0001:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00288>     CALIB NASHYD           1.0 01:B6         329.90     .804 No_date   4:01     4.20 .168    .000
00289>       [CN= 75.4: N= 3.00: Tp= 2.46]
00290> R0001:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00291>     SAVE HYD               1.0 01:B6         329.90     .804 No_date   4:01     4.20 n/a     .000
00292>       fname :B6.0001
00293>       remark:Routing Hydrograph for B6
00294> R0001:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00295>     ADD HYD                1.0 09:R7        1443.89     .493 No_date   6:56     1.26 n/a     .000
00296>                      +     1.0 01:B6         329.90     .804 No_date   4:01     4.20 n/a     .000
00297>                    SUM=    1.0 02:N6        1773.79    1.053 No_date   4:59     1.81 n/a     .000
00298> R0001:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00299>     SAVE HYD               1.0 02:N6        1773.79    1.053 No_date   4:59     1.81 n/a     .000
00300>       fname :N6.0001
00301>       remark:Hydrograph for N6
00302> # Main channel combination with Trib A
00303> R0001:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00304>     ADD HYD                1.0 05:N12        649.24     .504 No_date   4:25     1.63 n/a     .000
00305>                      +     1.0 07:N22       1042.46     .451 No_date   4:35     .91 n/a      .000
00306>                    SUM=    1.0 03:N23       1691.70     .954 No_date   4:30     1.19 n/a     .000
00307> R0001:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00308>     SAVE HYD               1.0 03:N23       1691.70     .954 No_date   4:30     1.19 n/a     .000
00309>       fname :N23.0001
00310>       remark:Hydrograph for N23/N24
00311> # Main channel combination with Trib B
00312> R0001:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00313>     ADD HYD                1.0 03:N23       1691.70     .954 No_date   4:30     1.19 n/a     .000
00314>                      +     1.0 02:N6        1773.79    1.053 No_date   4:59     1.81 n/a     .000
00315>                    SUM=    1.0 04:N25       3465.49    1.998 No_date   4:41     1.50 n/a     .000
00316> R0001:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00317>     SAVE HYD               1.0 04:N25       3465.49    1.998 No_date   4:41     1.50 n/a     .000
00318>       fname :N25.0001
00319>       remark:Hydrograph for N25/N26
00320> # Main channel combination with Catchment C
00321> R0001:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00322>     CALIB NASHYD           1.0 06:C1        1414.40    1.352 No_date   5:01     2.20 .088    .000
00323>       [CN= 65.5: N= 3.00: Tp= 3.40]
00324> R0001:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00325>     SAVE HYD               1.0 06:C1        1414.40    1.352 No_date   5:01     2.20 n/a     .000
00326>       fname :C1.0001
00327>       remark:Routing Hydrograph for C1
00328> R0001:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00329>     ADD HYD                1.0 04:N25       3465.49    1.998 No_date   4:41     1.50 n/a     .000
00330>                      +     1.0 06:C1        1414.40    1.352 No_date   5:01     2.20 n/a     .000
00331>                    SUM=    1.0 08:N27       4879.89    3.344 No_date   4:50     1.71 n/a     .000
00332> R0001:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00333>     SAVE HYD               1.0 08:N27       4879.89    3.344 No_date   4:50     1.71 n/a     .000
00334>       fname :N27.0001
00335>       remark:Hydrograph for N27
00336> # Main channel
00337> R0001:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00338>     ROUTE CHANNEL   ->     1.0 08:N27       4879.89    3.344 No_date   4:50     1.71 n/a     .000
00339>       [RD= 1.00] out<-     1.0 09:R8        4879.89    2.771 No_date   6:06     1.71 n/a     .000
00340>       [L/S/n= 2700./ .050/.035]
00341>       (Vmax=  .459:Dmax=  .690)
00342> R0001:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00343>     SAVE HYD               1.0 09:R8        4879.89    2.771 No_date   6:06     1.71 n/a     .000
00344>       fname :R8.0001
00345>       remark:Routing Hydrograph for R8
00346> R0001:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00347>     CALIB NASHYD           1.0 01:M4         363.71    1.199 No_date   3:48     5.30 .212    .000
00348>       [CN= 79.2: N= 3.00: Tp= 2.27]
00349> R0001:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00350>     SAVE HYD               1.0 01:M4         363.71    1.199 No_date   3:48     5.30 n/a     .000
00351>       fname :M4.0001
00352>       remark:Routing Hydrograph for M4
00353> R0001:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00354>     ADD HYD                1.0 01:M4         363.71    1.199 No_date   3:48     5.30 n/a     .000
00355>                      +     1.0 09:R8        4879.89    2.771 No_date   6:06     1.71 n/a     .000
00356>                    SUM=    1.0 02:N28       5243.60    3.545 No_date   5:21     1.96 n/a     .000
00357> R0001:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00358>     SAVE HYD               1.0 02:N28       5243.60    3.545 No_date   5:21     1.96 n/a     .000
00359>       fname :N28.0001
00360>       remark:Hydrograph for N28
```

```
00361>   ** END OF RUN :    1
00362>
00363> ****************************************************************************************************
00364>
00365>
00366>
00367>
00368>
00369>  RUN#:COMMAND#
00370> R0002:c00001-----------------------------------------------------------------------------------
00371>       START
00372>         [TZERO =      .00 hrs on        0]
00373>         [METOUT=   2     (1=imperial, 2=metric output)]
00374>         [NSTORM=   1 ]
00375>         [NRUN  = 0002 ]
00376> #*************************************************************************
00377> #  Project Name: [Flowing]    Project Number: [M800-200-050-205]
00378> #  Date        : 04-03-2017
00379> #  Modeller    : [   AA     ]
00380> #  Company     : Rideau Valley Conservation Authority
00381> #  License #   :  5329846
00382> #*************************************************************************
00383> # April 2024 - JB - JFSA Inc
00384> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
00385> #*************************************************************************
00386> R0002:c00002-----------------------------------------------------------------------------------
00387>       READ STORM
00388>         Filename = storm.001
00389>         Comment  = CHICAGO STORM 2 Year, 3 Hours
00390>         [SDT=10.00:SDUR=   3.00:PTOT=  31.86]
00391> R0002:c00003-----------------------------------------------------------------------------------
00392>       DEFAULT VALUES
00393>         Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
00394>         ICASEdv  = 1 (read and print data)
00395>         FileTitle= File comment: [RVCA Flowing Creek FPM]
00396>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00397>         Horton's infiltration equation parameters:
00398>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00399>         Parameters for PERVIOUS surfaces in STANDHYD:
00400>         [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
00401>         Parameters for IMPERVIOUS surfaces in STANDHYD:
00402>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
00403>         Parameters used in NASHYD:
00404>         [Ia=   1.50 mm] [N= 3.00]
00405>         Average monthly Pan Evaporation data in     (mm)
00406>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00407>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00408>         Average monthly Potential Evapotranspiration in     (mm)
00409>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00410>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00411> # Main Channel
00412> R0002:c00004-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00413>     CALIB NASHYD            1.0 01:M1          136.59     .197 No_date    3:24    1.80 .057     .000
00414>       [CN= 53.5: N= 3.00: Tp= 1.64]
00415> R0002:c00005-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00416>     SAVE HYD                1.0 01:M1          136.59     .197 No_date    3:24    1.80 n/a      .000
00417>       fname :M1.0002
00418>       remark:Runoff Hydrograph for M1
00419> R0002:c00006-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00420>     ROUTE CHANNEL   ->      1.0 01:M1          136.59     .197 No_date    3:24    1.80 n/a      .000
00421>       [RD= 1.00] out<-      1.0 02:R1          136.59     .133 No_date    4:44    1.80 n/a      .000
00422>       [L/S/n= 3000./ .550/.035]
00423>       [Vmax=  .446:Dmax=  .087)
00424> R0002:c00007-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00425>     SAVE HYD                1.0 02:R1          136.59     .133 No_date    4:44    1.80 n/a      .000
00426>       fname :R1.0002
00427>       remark:Routing Hydrograph for R1
00428> R0002:c00008-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00429>     CALIB NASHYD            1.0 03:M2          372.64     .481 No_date    3:26    1.62 .051     .000
00430>       [CN= 52.2: N= 3.00: Tp= 1.65]
00431> R0002:c00009-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00432>     SAVE HYD                1.0 03:M2          372.64     .481 No_date    3:26    1.62 n/a      .000
00433>       fname :M2.0002
00434>       remark:Routing Hydrograph for M2
00435> R0002:c00010-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00436>     ADD HYD                 1.0 02:R1          136.59     .133 No_date    4:44    1.80 n/a      .000
00437>                       +     1.0 03:M2          372.64     .481 No_date    3:26    1.62 n/a      .000
00438>                     SUM=    1.0 04:N21         509.23     .584 No_date    3:37    1.67 n/a      .000
00439> R0002:c00011-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00440>     SAVE HYD                1.0 04:N21         509.23     .584 No_date    3:37    1.67 n/a      .000
00441>       fname :N21.0002
00442>       remark:Hydrograph for N21
00443> R0002:c00012-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00444>     ROUTE CHANNEL   ->      1.0 04:N21         509.23     .584 No_date    3:37    1.67 n/a      .000
00445>       [RD= 1.00] out<-      1.0 05:R2          509.23     .324 No_date    5:34    1.67 n/a      .000
00446>       [L/S/n= 4000./ .180/.035]
00447>       [Vmax=  .353:Dmax=  .161)
00448> R0002:c00013-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00449>     SAVE HYD                1.0 05:R2          509.23     .324 No_date    5:34    1.67 n/a      .000
00450>       fname :R2.0002
00451>       remark:Routing Hydrograph for R2
00452> R0002:c00014-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00453>     CALIB NASHYD            1.0 06:M3          533.23     .668 No_date    4:09    2.17 .068     .000
00454>       [CN= 56.0: N= 3.00: Tp= 2.47]
00455> R0002:c00015-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00456>     SAVE HYD                1.0 06:M3          533.23     .668 No_date    4:09    2.17 n/a      .000
00457>       fname :M3.0002
00458>       remark:Routing Hydrograph for M3
00459> R0002:c00016-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00460>     ADD HYD                 1.0 06:M3          533.23     .668 No_date    4:09    2.17 n/a      .000
00461>                       +     1.0 05:R2          509.23     .324 No_date    5:34    1.67 n/a      .000
00462>                     SUM=    1.0 07:N22        1042.46     .948 No_date    4:31    1.92 n/a      .000
00463> R0002:c00017-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00464>     SAVE HYD                1.0 07:N22        1042.46     .948 No_date    4:31    1.92 n/a      .000
00465>       fname :N22.0002
00466>       remark:Hydrograph for N22
00467> # Trib A
00468> R0002:c00018-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00469>     CALIB NASHYD            1.0 08:A1           86.15     .139 No_date    3:33    2.18 .068     .000
00470>       [CN= 56.1: N= 3.00: Tp= 1.83]
00471> R0002:c00019-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00472>     SAVE HYD                1.0 08:A1           86.15     .139 No_date    3:33    2.18 n/a      .000
00473>       fname :A1.0002
00474>       remark:Runoff Hydrograph for A1
00475> R0002:c00020-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00476>     ROUTE CHANNEL   ->      1.0 08:A1           86.15     .139 No_date    3:33    2.18 n/a      .000
00477>       [RD= 1.00] out<-      1.0 09:R3           86.15     .110 No_date    4:39    2.18 n/a      .000
00478>       [L/S/n= 2500./ .600/.035]
00479>       [Vmax=  .538:Dmax=  .051]
00480> R0002:c00021-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00481>     SAVE HYD                1.0 09:R3           86.15     .110 No_date    4:39    2.18 n/a      .000
00482>       fname :R3.0002
00483>       remark:Routing Hydrograph for R3
00484> R0002:c00022-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00485>     CALIB NASHYD            1.0 01:A2          246.39     .517 No_date    3:39    3.03 .095     .000
00486>       [CN= 61.0: N= 3.00: Tp= 1.99]
00487> R0002:c00023-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00488>     SAVE HYD                1.0 01:A2          246.39     .517 No_date    3:39    3.03 n/a      .000
00489>       fname :A2.0002
00490>       remark:Routing Hydrograph for A2
00491> R0002:c00024-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00492>     ADD HYD                 1.0 01:A2          246.39     .517 No_date    3:39    3.03 n/a      .000
00493>                       +     1.0 09:R3           86.15     .110 No_date    4:39    2.18 n/a      .000
00494>                     SUM=    1.0 02:N11         332.54     .611 No_date    3:48    2.81 n/a      .000
00495> R0002:c00025-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00496>     SAVE HYD                1.0 02:N11         332.54     .611 No_date    3:48    2.81 n/a      .000
00497>       fname :N11.0002
00498>       remark:Hydrograph for N11
00499> R0002:c00026-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00500>     ROUTE CHANNEL   ->      1.0 02:N11         332.54     .611 No_date    3:48    2.81 n/a      .000
00501>       [RD= 1.00] out<-      1.0 03:R4          332.54     .416 No_date    4:51    2.81 n/a      .000
00502>       [L/S/n= 3000./ .200/.035]
00503>       [Vmax=  .438:Dmax=  .218]
00504> R0002:c00027-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00505>     SAVE HYD                1.0 03:R4          332.54     .416 No_date    4:51    2.81 n/a      .000
00506>       fname :R4.0002
00507>       remark:Routing Hydrograph for R4
00508> R0002:c00028-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00509>     CALIB NASHYD            1.0 04:A3          316.70     .657 No_date    3:56    3.39 .106     .000
00510>       [CN= 62.8: N= 3.00: Tp= 2.31]
00511> R0002:c00029-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00512>     SAVE HYD                1.0 04:A3          316.70     .657 No_date    3:56    3.39 n/a      .000
00513>       fname :A3.0002
00514>       remark:Routing Hydrograph for A3
00515> R0002:c00030-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00516>     ADD HYD                 1.0 04:A3          316.70     .657 No_date    3:56    3.39 n/a      .000
00517>                       +     1.0 03:R4          332.54     .416 No_date    4:51    2.81 n/a      .000
00518>                     SUM=    1.0 05:N12         649.24    1.020 No_date    4:30    3.09 n/a      .000
00519> R0002:c00031-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00520>     SAVE HYD                1.0 05:N12         649.24    1.020 No_date    4:30    3.09 n/a      .000
00521>       fname :N12.0002
00522>       remark:Hydrograph for N12
00523> # Trib B
00524> R0002:c00032-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00525>     CALIB NASHYD            1.0 06:B1          627.61     .576 No_date    5:01    2.09 .066     .000
00526>       [CN= 55.5: N= 3.00: Tp= 3.36]
00527> R0002:c00033-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00528>     SAVE HYD                1.0 06:B1          627.61     .576 No_date    5:01    2.09 n/a      .000
00529>       fname :B1.0002
00530>       remark:Runoff Hydrograph for B1
00531> R0002:c00034-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00532>     ROUTE CHANNEL   ->      1.0 06:B1          627.61     .576 No_date    5:01    2.09 n/a      .000
00533>       [RD= 1.00] out<-      1.0 08:R5          627.61     .490 No_date    6:05    2.09 n/a      .000
00534>       [L/S/n= 4800./ .870/.035]
00535>       [Vmax=  .860:Dmax=  .206]
00536> R0002:c00035-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00537>     SAVE HYD                1.0 08:R5          627.61     .490 No_date    6:05    2.09 n/a      .000
00538>       fname :R5.0002
00539>       remark:Routing Hydrograph for R5
00540> R0002:c00036-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00541>     CALIB NASHYD            1.0 09:B2          255.45     .734 No_date    3:58    4.83 .152     .000
00542>       [CN= 68.8: N= 3.00: Tp= 2.39]
00543> R0002:c00037-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00544>     SAVE HYD                1.0 09:B2          255.45     .734 No_date    3:58    4.83 n/a      .000
00545>       fname :B2.0002
00546>       remark:Routing Hydrograph for B2
00547> R0002:c00038-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00548>     ADD HYD                 1.0 08:R5          627.61     .490 No_date    6:05    2.09 n/a      .000
00549>                       +     1.0 09:B2          255.45     .734 No_date    3:58    4.83 n/a      .000
00550>                     SUM=    1.0 01:N2          883.06    1.050 No_date    4:52    2.88 n/a      .000
00551> R0002:c00039-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00552>     SAVE HYD                1.0 01:N2          883.06    1.050 No_date    4:52    2.88 n/a      .000
00553>       fname :N2.0002
00554>       remark:Hydrograph for N2
00555> R0002:c00040-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00556>     CALIB NASHYD            1.0 02:B3          336.77     .295 No_date    4:47    1.85 .058     .000
00557>       [CN= 53.9: N= 3.00: Tp= 3.10]
00558> R0002:c00041-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00559>     SAVE HYD                1.0 02:B3          336.77     .295 No_date    4:47    1.85 n/a      .000
00560>       fname :B3.0002
00561>       remark:Routing Hydrograph for B3
00562> R0002:c00042-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00563>     ADD HYD                 1.0 01:N2          883.06    1.050 No_date    4:52    2.88 n/a      .000
00564>                       +     1.0 02:B3          336.77     .295 No_date    4:47    1.85 n/a      .000
00565>                     SUM=    1.0 03:N4         1219.83    1.344 No_date    4:51    2.60 n/a      .000
00566> R0002:c00043-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00567>     SAVE HYD                1.0 03:N4         1219.83    1.344 No_date    4:51    2.60 n/a      .000
00568>       fname :N4.0002
00569>       remark:Hydrograph for N4
00570> R0002:c00044-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00571>     ROUTE CHANNEL   ->      1.0 03:N4         1219.83    1.344 No_date    4:51    2.60 n/a      .000
00572>       [RD= 1.00] out<-      1.0 04:R6         1219.83    1.324 No_date    5:12    2.60 n/a      .000
00573>       [L/S/n= 1500./ .480/.035]
00574>       [Vmax=  .879:Dmax=  .344]
00575> R0002:c00045-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00576>     SAVE HYD                1.0 04:R6         1219.83    1.324 No_date    5:12    2.60 n/a      .000
00577>       fname :R6.0002
00578>       remark:Routing Hydrograph for R6
00579> R0002:c00046-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00580>     CALIB NASHYD            1.0 06:B5          224.06     .225 No_date    4:18    1.82 .057     .000
00581>       [CN= 53.7: N= 3.00: Tp= 2.60]
00582> R0002:c00047-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00583>     SAVE HYD                1.0 06:B5          224.06     .225 No_date    4:18    1.82 n/a      .000
00584>       fname :B5.0002
00585>       remark:Routing Hydrograph for B5
00586> R0002:c00048-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00587>     ADD HYD                 1.0 06:B5          224.06     .225 No_date    4:18    1.82 n/a      .000
00588>                       +     1.0 04:R6         1219.83    1.324 No_date    5:12    2.60 n/a      .000
00589>                     SUM=    1.0 08:N5         1443.89    1.533 No_date    5:02    2.48 n/a      .000
00590> R0002:c00049-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00591>     SAVE HYD                1.0 08:N5         1443.89    1.533 No_date    5:02    2.48 n/a      .000
00592>       fname :N5.0002
00593>       remark:Hydrograph for N5
00594> R0002:c00050-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00595>     ROUTE CHANNEL   ->      1.0 08:N5         1443.89    1.533 No_date    5:02    2.48 n/a      .000
00596>       [RD= 1.00] out<-      1.0 09:R7         1443.89    1.182 No_date    6:33    2.48 n/a      .000
00597>       [L/S/n= 4500./ .240/.035]
00598>       [Vmax=  .635:Dmax=  .331]
00599> R0002:c00051-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00600>     SAVE HYD                1.0 09:R7         1443.89    1.182 No_date    6:33    2.48 n/a      .000
00601>       fname :R7.0002
00602>       remark:Routing Hydrograph for R7
00603> R0002:c00052-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00604>     CALIB NASHYD            1.0 01:B6          329.90    1.333 No_date    3:59    6.96 .218     .000
00605>       [CN= 75.4: N= 3.00: Tp= 2.46]
00606> R0002:c00053-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00607>     SAVE HYD                1.0 01:B6          329.90    1.333 No_date    3:59    6.96 n/a      .000
00608>       fname :B6.0002
00609>       remark:Routing Hydrograph for B6
00610> R0002:c00054-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00611>     ADD HYD                 1.0 09:R7         1443.89    1.182 No_date    6:33    2.48 n/a      .000
00612>                       +     1.0 01:B6          329.90    1.333 No_date    3:59    6.96 n/a      .000
00613>                     SUM=    1.0 02:N6         1773.79    2.108 No_date    5:13    3.31 n/a      .000
00614> R0002:c00055-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00615>     SAVE HYD                1.0 02:N6         1773.79    2.108 No_date    5:13    3.31 n/a      .000
00616>       fname :N6.0002
00617>       remark:Hydrograph for N6
00618> # Main channel combination with Trib A
00619> R0002:c00056-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00620>     ADD HYD                 1.0 05:N12         649.24    1.020 No_date    4:30    3.09 n/a      .000
00621>                       +     1.0 07:N22        1042.46     .948 No_date    4:31    1.92 n/a      .000
00622>                     SUM=    1.0 03:N23        1691.70    1.969 No_date    4:30    2.37 n/a      .000
00623> R0002:c00057-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00624>     SAVE HYD                1.0 03:N23        1691.70    1.969 No_date    4:30    2.37 n/a      .000
00625>       fname :N23.0002
00626>       remark:Hydrograph for N23/N24
00627> # Main channel combination with Trib B
00628> R0002:c00058-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00629>     ADD HYD                 1.0 03:N23        1691.70    1.969 No_date    4:30    2.37 n/a      .000
00630>                       +     1.0 06:B6          329.90    1.333 No_date    3:59    6.96 n/a      .000
00631>                     SUM=    1.0 04:N25        3465.49    4.029 No_date    4:47    2.85 n/a      .000
00632> R0002:c00059-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00633>     SAVE HYD                1.0 04:N25        3465.49    4.029 No_date    4:47    2.85 n/a      .000
00634>       fname :N25.0002
00635>       remark:Hydrograph for N25/N26
00636> # Main channel combination with Catchment C
00637> R0002:c00060-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00638>     CALIB NASHYD            1.0 06:C1         1414.40    2.446 No_date    4:58    3.98 .125     .000
00639>       [CN= 65.5: N= 3.00: Tp= 3.10]
00640> R0002:c00061-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00641>     SAVE HYD                1.0 06:C1         1414.40    2.446 No_date    4:58    3.98 n/a      .000
00642>       fname :C1.0002
00643>       remark:Routing Hydrograph for C1
00644> R0002:c00062-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00645>     ADD HYD                 1.0 04:N25        3465.49    4.029 No_date    4:47    2.85 n/a      .000
00646>                       +     1.0 06:C1         1414.40    2.446 No_date    4:58    3.98 n/a      .000
00647>                     SUM=    1.0 08:N27        4879.89    6.469 No_date    4:49    3.18 n/a      .000
00648> R0002:c00063-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00649>     SAVE HYD                1.0 08:N27        4879.89    6.469 No_date    4:49    3.18 n/a      .000
00650>       fname :N27.0002
00651>       remark:Hydrograph for N27
00652> # Main channel
00653> R0002:c00064-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00654>     ROUTE CHANNEL   ->      1.0 08:N27        4879.89    6.469 No_date    4:49    3.18 n/a      .000
00655>       [RD= 1.00] out<-      1.0 09:R8         4879.89    5.620 No_date    5:47    3.18 n/a      .000
00656>       [L/S/n= 2700./ .050/.035]
00657>       [Vmax=  .588:Dmax= 1.039]
00658> R0002:c00065-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00659>     SAVE HYD                1.0 09:R8         4879.89    5.620 No_date    5:47    3.18 n/a      .000
00660>       fname :R8.0002
00661>       remark:Routing Hydrograph for R8
00662> R0002:c00066-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00663>     CALIB NASHYD            1.0 01:M4          363.71    1.931 No_date    3:47    8.53 .268     .000
00664>       [CN= 79.2: N= 3.00: Tp= 2.27]
00665> R0002:c00067-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00666>     SAVE HYD                1.0 01:M4          363.71    1.931 No_date    3:47    8.53 n/a      .000
00667>       fname :M4.0002
00668>       remark:Routing Hydrograph for M4
00669> R0002:c00068-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00670>     ADD HYD                 1.0 01:M4          363.71    1.931 No_date    3:47    8.53 n/a      .000
00671>                       +     1.0 09:R8         4879.89    5.620 No_date    5:47    3.18 n/a      .000
00672>                     SUM=    1.0 02:N28        5243.60    6.918 No_date    5:21    3.55 n/a      .000
00673> R0002:c00069-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00674>     SAVE HYD                1.0 02:N28        5243.60    6.918 No_date    5:21    3.55 n/a      .000
00675>       fname :N28.0002
00676>       remark:Hydrograph for N28
00677>   ** END OF RUN :    4
00678>
00679> ****************************************************************************************************
00680>
00681>
00682>
00683>
00684>
00685>  RUN#:COMMAND#
00686> R0005:c00001-----------------------------------------------------------------------------------
00687>       START
00688>         [TZERO =      .00 hrs on        0]
00689>         [METOUT=   2     (1=imperial, 2=metric output)]
00690>         [NSTORM=   1 ]
00691>         [NRUN  = 0005 ]
00692> #*************************************************************************
00693> #  Project Name: [Flowing]    Project Number: [M800-200-050-205]
00694> #  Date        : 04-03-2017
00695> #  Modeller    : [   AA     ]
00696> #  Company     : Rideau Valley Conservation Authority
00697> #  License #   :  5329846
00698> #*************************************************************************
00699> # April 2024 - JB - JFSA Inc
00700> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
00701> #*************************************************************************
00702> R0005:c00002-----------------------------------------------------------------------------------
00703>       READ STORM
00704>         Filename = storm.001
00705>         Comment  = CHICAGO STORM  5 Year, 3 Hours
00706>         [SDT=10.00:SDUR=   3.00:PTOT=  42.51]
00707> R0005:c00003-----------------------------------------------------------------------------------
00708>       DEFAULT VALUES
00709>         Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
00710>         ICASEdv  = 1 (read and print data)
00711>         FileTitle= File comment: [RVCA Flowing Creek FPM]
00712>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00713>         Horton's infiltration equation parameters:
00714>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00715>         Parameters for PERVIOUS surfaces in STANDHYD:
00716>         [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
00717>         Parameters for IMPERVIOUS surfaces in STANDHYD:
00718>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
00719>         Parameters used in NASHYD:
00720>         [Ia=   1.50 mm] [N= 3.00]
```

```
       Average monthly Pan Evaporation data in     (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in     (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
# Main Channel
R0005:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:M1            136.59      .431 No_date    3:19    3.94 .093      .000
      [CN= 53.5: N= 3.00: Tp= 1.64]
R0005:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:M1            136.59      .431 No_date    3:19    3.94  n/a      .000
      fname :M1.0005
      remark:Runoff Hydrograph for M1
R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 01:M1            136.59      .431 No_date    3:19    3.94  n/a      .000
     [RDT= 1.00] out<-    1.0 02:R1            136.59      .296 No_date    4:25    3.94  n/a      .000
      [L/S/n= 3000./ .550/.035]
      {Vmax=  .523:Dmax=  .141}
R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:R1            136.59      .296 No_date    4:25    3.94  n/a      .000
      fname :R1.0005
      remark:Routing Hydrograph for R1
R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:M2            372.64     1.075 No_date    3:20    3.62 .085      .000
      [CN= 52.2: N= 3.00: Tp= 1.65]
R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 03:M2            372.64     1.075 No_date    3:20    3.62  n/a      .000
      fname :M2.0005
      remark:Routing Hydrograph for M2
R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R1            136.59      .296 No_date    4:25    3.94  n/a      .000
                     +    1.0 03:M2            372.64     1.075 No_date    3:20    3.62  n/a      .000
                  SUM=    1.0 04:N21           509.23     1.313 No_date    3:32    3.70  n/a      .000
R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 04:N21           509.23     1.313 No_date    3:32    3.70  n/a      .000
      fname :N21.0005
      remark:Hydrograph for N21
R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 04:N21           509.23     1.313 No_date    3:32    3.70  n/a      .000
     [RDT= 1.00] out<-    1.0 05:R2            509.23      .737 No_date    5:02    3.70  n/a      .000
      [L/S/n= 4000./ .180/.035]
      {Vmax=  .453:Dmax=  .257}
R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 05:R2            509.23      .737 No_date    5:02    3.70  n/a      .000
      fname :R2.0005
      remark:Routing Hydrograph for R2
R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:M3            533.23     1.409 No_date    4:05    4.57 .108      .000
      [CN= 56.0: N= 3.00: Tp= 2.47]
R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 06:M3            533.23     1.409 No_date    4:05    4.57  n/a      .000
      fname :M3.0005
      remark:Routing Hydrograph for M3
R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 06:M3            533.23     1.409 No_date    4:05    4.57  n/a      .000
                     +    1.0 05:R2            509.23      .737 No_date    5:02    3.70  n/a      .000
                  SUM=    1.0 07:N22          1042.46     2.091 No_date    4:25    4.15  n/a      .000
R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 07:N22          1042.46     2.091 No_date    4:25    4.15  n/a      .000
      fname :N22.0005
      remark:Hydrograph for N22
# Trib A
R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:A1             86.15      .292 No_date    3:28    4.59 .108      .000
      [CN= 56.1: N= 3.00: Tp= 1.83]
R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 08:A1             86.15      .292 No_date    3:28    4.59  n/a      .000
      fname :A1.0005
      remark:Runoff Hydrograph for A1
R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 08:A1             86.15      .292 No_date    3:28    4.59  n/a      .000
     [RDT= 1.00] out<-    1.0 09:R3             86.15      .231 No_date    4:34    4.59  n/a      .000
      [L/S/n= 2500./ .600/.035]
      {Vmax=  .538:Dmax=  .107}
R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 09:R3             86.15      .231 No_date    4:34    4.59  n/a      .000
      fname :R3.0005
      remark:Routing Hydrograph for R3
R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:A2            246.39     1.027 No_date    3:35    6.02 .142      .000
      [CN= 61.0: N= 3.00: Tp= 1.99]
R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:A2            246.39     1.027 No_date    3:35    6.02  n/a      .000
      fname :A2.0005
      remark:Routing Hydrograph for A2
R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:A2            246.39     1.027 No_date    3:35    6.02  n/a      .000
                     +    1.0 09:R3             86.15      .231 No_date    4:34    4.59  n/a      .000
                  SUM=    1.0 02:N11           332.54     1.226 No_date    3:44    5.65  n/a      .000
R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:N11           332.54     1.226 No_date    3:44    5.65  n/a      .000
      fname :N11.0005
      remark:Hydrograph for N11
R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:N11           332.54     1.226 No_date    3:44    5.65  n/a      .000
     [RDT= 1.00] out<-    1.0 03:R4            332.54      .958 No_date    4:49    5.65  n/a      .000
      [L/S/n= 3000./ .200/.035]
      {Vmax=  .571:Dmax=  .332}
R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 03:R4            332.54      .958 No_date    4:49    5.65  n/a      .000
      fname :R4.0005
      remark:Routing Hydrograph for R4
R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:A3            316.70     1.282 No_date    3:53    6.61 .155      .000
      [CN= 62.8: N= 3.00: Tp= 2.31]
R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 04:A3            316.70     1.282 No_date    3:53    6.61  n/a      .000
      fname :A3.0005
      remark:Routing Hydrograph for A3
R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:A3            316.70     1.282 No_date    3:53    6.61  n/a      .000
                     +    1.0 03:R4            332.54      .958 No_date    4:49    5.65  n/a      .000
                  SUM=    1.0 05:N12           649.24     2.161 No_date    4:19    6.12  n/a      .000
R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 05:N12           649.24     2.161 No_date    4:19    6.12  n/a      .000
      fname :N12.0005
      remark:Hydrograph for N12
# Trib B
R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:B1            627.61     1.223 No_date    4:57    4.44 .104      .000
      [CN= 55.5: N= 3.00: Tp= 3.36]
R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 06:B1            627.61     1.223 No_date    4:57    4.44  n/a      .000
      fname :B1.0005
      remark:Runoff Hydrograph for B1
R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:B1            627.61     1.223 No_date    4:57    4.44  n/a      .000
     [RDT= 1.00] out<-    1.0 08:R5            627.61     1.112 No_date    5:57    4.44  n/a      .000
      [L/S/n= 4800./ .870/.035]
      {Vmax= 1.118:Dmax=  .324}
R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 08:R5            627.61     1.112 No_date    5:57    4.44  n/a      .000
      fname :R5.0005
      remark:Routing Hydrograph for R5
R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:B2            255.45     1.355 No_date    3:55    8.91 .210      .000
      [CN= 68.8: N= 3.00: Tp= 2.39]
R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 09:B2            255.45     1.355 No_date    3:55    8.91  n/a      .000
      fname :B2.0005
      remark:Routing Hydrograph for B2
R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 08:R5            627.61     1.112 No_date    5:57    4.44  n/a      .000
                     +    1.0 09:B2            255.45     1.355 No_date    3:55    8.91  n/a      .000
                  SUM=    1.0 01:N2            883.06     2.194 No_date    4:51    5.73  n/a      .000
R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:N2            883.06     2.194 No_date    4:51    5.73  n/a      .000
      fname :N2.0005
      remark:Hydrograph for N2
R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:B3            336.77      .641 No_date    4:42    4.03 .095      .000
      [CN= 53.9: N= 3.00: Tp= 3.10]
R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:B3            336.77      .641 No_date    4:42    4.03  n/a      .000
      fname :B3.0005
      remark:Routing Hydrograph for B3
R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:N2            883.06     2.194 No_date    4:51    5.73  n/a      .000
                     +    1.0 02:B3            336.77      .641 No_date    4:42    4.03  n/a      .000
                  SUM=    1.0 03:N4           1219.83     2.834 No_date    4:46    5.26  n/a      .000
R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 03:N4           1219.83     2.834 No_date    4:46    5.26  n/a      .000
      fname :N4.0005
      remark:Hydrograph for N4
R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 03:N4           1219.83     2.834 No_date    4:46    5.26  n/a      .000
     [RDT= 1.00] out<-    1.0 04:R6           1219.83     2.807 No_date    5:03    5.26  n/a      .000
      [L/S/n= 1500./ .480/.035]
      {Vmax= 1.147:Dmax=  .540}
R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 04:R6           1219.83     2.807 No_date    5:03    5.26  n/a      .000
      fname :R6.0005
      remark:Routing Hydrograph for R6
R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:B5            224.06      .491 No_date    4:13    3.97 .093      .000
      [CN= 53.7: N= 3.00: Tp= 2.60]
R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 06:B5            224.06      .491 No_date    4:13    3.97  n/a      .000
      fname :B5.0005
      remark:Routing Hydrograph for B5
R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 06:B5            224.06      .491 No_date    4:13    3.97  n/a      .000
                     +    1.0 04:R6           1219.83     2.807 No_date    5:03    5.26  n/a      .000
                  SUM=    1.0 08:N5           1443.89     3.266 No_date    4:57    5.06  n/a      .000
R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 08:N5           1443.89     3.266 No_date    4:57    5.06  n/a      .000
      fname :N5.0005
      remark:Hydrograph for N5
R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 08:N5           1443.89     3.266 No_date    4:57    5.06  n/a      .000
     [RDT= 1.00] out<-    1.0 09:R7           1443.89     2.752 No_date    6:07    5.06  n/a      .000
      [L/S/n= 4500./ .240/.035]
      {Vmax=  .835:Dmax=  .522}
R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 09:R7           1443.89     2.752 No_date    6:07    5.06  n/a      .000
      fname :R7.0005
      remark:Routing Hydrograph for R7
R0005:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:B6            329.90     2.333 No_date    3:57   12.16 .286      .000
      [CN= 75.4: N= 3.00: Tp= 2.46]
R0005:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:B6            329.90     2.333 No_date    3:57   12.16  n/a      .000
      fname :B6.0005
      remark:Routing Hydrograph for B6
R0005:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 09:R7           1443.89     2.752 No_date    6:07    5.06  n/a      .000
                     +    1.0 01:B6            329.90     2.333 No_date    3:57   12.16  n/a      .000
                  SUM=    1.0 02:N6           1773.79     4.466 No_date    5:13    6.38  n/a      .000
R0005:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:N6           1773.79     4.466 No_date    5:13    6.38  n/a      .000
      fname :N6.0005
      remark:Hydrograph for N6
# Main channel combination with Trib A
R0005:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:N12           649.24     2.161 No_date    4:19    6.12  n/a      .000
                     +    1.0 07:N22          1042.46     2.091 No_date    4:25    4.15  n/a      .000
                  SUM=    1.0 03:N23          1691.70     4.251 No_date    4:23    4.90  n/a      .000
R0005:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 03:N23          1691.70     4.251 No_date    4:23    4.90  n/a      .000
      fname :N23.0005
      remark:Hydrograph for N23/N24
# Main channel combination with Trib B
R0005:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:N23          1691.70     4.251 No_date    4:23    4.90  n/a      .000
                     +    1.0 02:N6           1773.79     4.466 No_date    5:13    6.38  n/a      .000
                  SUM=    1.0 04:N25          3465.49     8.531 No_date    4:46    5.66  n/a      .000
R0005:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 04:N25          3465.49     8.531 No_date    4:46    5.66  n/a      .000
      fname :N25.0005
      remark:Hydrograph for N25/N26
# Main channel combination with Catchment C
R0005:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:C1           1414.40     4.647 No_date    4:55    7.56 .178      .000
      [CN= 65.5: N= 3.00: Tp= 3.40]
R0005:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 06:C1           1414.40     4.647 No_date    4:55    7.56  n/a      .000
      fname :C1.0005
      remark:Routing Hydrograph for C1
R0005:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:N25          3465.49     8.531 No_date    4:46    5.66  n/a      .000
                     +    1.0 06:C1           1414.40     4.647 No_date    4:55    7.56  n/a      .000
                  SUM=    1.0 08:N27          4879.89    13.173 No_date    4:49    6.21  n/a      .000
R0005:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 08:N27          4879.89    13.173 No_date    4:49    6.21  n/a      .000
      fname :N27.0005
      remark:Hydrograph for N27
# Main channel
R0005:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 08:N27          4879.89    13.173 No_date    4:49    6.21  n/a      .000
     [RDT= 1.00] out<-    1.0 09:R8           4879.89    11.838 No_date    5:31    6.21  n/a      .000
      [L/S/n= 2700./ .050/.035]
      {Vmax=  .754:Dmax= 1.615}
R0005:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 09:R8           4879.89    11.838 No_date    5:31    6.21  n/a      .000
      fname :R8.0005
      remark:Routing Hydrograph for R8
R0005:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:M4            363.71     3.283 No_date    3:44   14.48 .341      .000
      [CN= 79.2: N= 3.00: Tp= 2.27]
R0005:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:M4            363.71     3.283 No_date    3:44   14.48  n/a      .000
      fname :M4.0005
      remark:Routing Hydrograph for M4
R0005:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:M4            363.71     3.283 No_date    3:44   14.48  n/a      .000
                     +    1.0 09:R8           4879.89    11.838 No_date    5:31    6.21  n/a      .000
                  SUM=    1.0 02:N28          5243.60    14.213 No_date    5:12    6.78  n/a      .000
R0005:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:N28          5243.60    14.213 No_date    5:12    6.78  n/a      .000
      fname :N28.0005
      remark:Hydrograph for N28
  ** END OF RUN :    9

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 RUN#:COMMAND#
R0010:C00001----------------------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0010 ]
#*******************************************************************************
#  Project Name: [Flowing]    Project Number: [M800-200-050-205]
#  Date         : 04-03-2017
#  Modeller     : [   AA     ]
#  Company      : Rideau Valley Conservation Authority
#  License #    :  5329846
#*******************************************************************************
# April 2024 - JB - JFSA Inc
# model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
#*******************************************************************************
R0010:C00002----------------------------------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = CHICAGO STORM 10 Year, 3 Hours
      [SDT=10.00:SDUR=   3.00:PTOT=  49.50]
R0010:C00003----------------------------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [RVCA Flowing Creek FPM]
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   1.50 mm] [N= 3.00]
      Average monthly Pan Evaporation data in     (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in     (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
# Main Channel
R0010:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:M1            136.59      .627 No_date    3:16    5.72 .116      .000
      [CN= 53.5: N= 3.00: Tp= 1.64]
R0010:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:M1            136.59      .627 No_date    3:16    5.72  n/a      .000
      fname :M1.0010
      remark:Runoff Hydrograph for M1
R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 01:M1            136.59      .627 No_date    3:16    5.72  n/a      .000
     [RDT= 1.00] out<-    1.0 02:R1            136.59      .455 No_date    4:11    5.72  n/a      .000
      [L/S/n= 3000./ .550/.035]
      {Vmax=  .627:Dmax=  .181}
R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:R1            136.59      .455 No_date    4:11    5.72  n/a      .000
      fname :R1.0010
      remark:Routing Hydrograph for R1
R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:M2            372.64     1.576 No_date    3:17    5.30 .107      .000
      [CN= 52.2: N= 3.00: Tp= 1.65]
R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 03:M2            372.64     1.576 No_date    3:17    5.30  n/a      .000
      fname :M2.0010
      remark:Routing Hydrograph for M2
R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R1            136.59      .455 No_date    4:11    5.72  n/a      .000
                     +    1.0 03:M2            372.64     1.576 No_date    3:17    5.30  n/a      .000
                  SUM=    1.0 04:N21           509.23     1.960 No_date    3:30    5.41  n/a      .000
R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 04:N21           509.23     1.960 No_date    3:30    5.41  n/a      .000
      fname :N21.0010
      remark:Hydrograph for N21
R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 04:N21           509.23     1.960 No_date    3:30    5.41  n/a      .000
     [RDT= 1.00] out<-    1.0 05:R2            509.23     1.193 No_date    4:34    5.41  n/a      .000
      [L/S/n= 4000./ .180/.035]
      {Vmax=  .564:Dmax=  .334}
R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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01081>     SAVE HYD              1.0 05:R2          509.23    1.193 No_date   4:34    5.41  n/a     .000
01082>       fname :R2.0010
01083>       remark:Routing Hydrograph for R2
01084> R0010:C00014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01085>     CALIB NASHYD          1.0 06:M3          533.23    2.019 No_date   4:03    6.55 .132     .000
01086>       [CN= 56.0: N= 3.00: Tp= 2.47]
01087> R0010:C00015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01088>     SAVE HYD              1.0 06:M3          533.23    2.019 No_date   4:03    6.55  n/a     .000
01089>       fname :M3.0010
01090>       remark:Routing Hydrograph for M3
01091> R0010:C00016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01092>     ADD HYD               1.0 06:M3          533.23    2.019 No_date   4:03    6.55  n/a     .000
01093>                     +     1.0 05:R2          509.23    1.193 No_date   4:34    5.41  n/a     .000
01094>                 SUM=      1.0 07:N22        1042.46    3.180 No_date   4:16    5.99  n/a     .000
01095> R0010:C00017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01096>     SAVE HYD              1.0 07:N22        1042.46    3.180 No_date   4:16    5.99  n/a     .000
01097>       fname :N22.0010
01098>       remark:Hydrograph for N22
01099> # Trib A
01100> R0010:C00018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01101>     CALIB NASHYD          1.0 08:A1           86.15     .419 No_date   3:26    6.58 .133     .000
01102>       [CN= 56.1: N= 3.00: Tp= 1.83]
01103> R0010:C00019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01104>     SAVE HYD              1.0 08:A1           86.15     .419 No_date   3:26    6.58  n/a     .000
01105>       fname :A1.0010
01106>       remark:Runoff Hydrograph for A1
01107> R0010:C00020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01108>     ROUTE CHANNEL   ->    1.0 08:A1           86.15     .419 No_date   3:26    6.58  n/a     .000
01109>       [RDT= 1.00] out<-   1.0 09:R3           86.15     .329 No_date   4:33    6.58  n/a     .000
01110>       [L/S/n= 2500./ .600/.035]
01111>       [Vmax=  .559:Dmax=  .138]
01112> R0010:C00021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01113>     SAVE HYD              1.0 09:R3           86.15     .329 No_date   4:33    6.58  n/a     .000
01114>       fname :R3.0010
01115>       remark:Routing Hydrograph for R3
01116> R0010:C00022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01117>     CALIB NASHYD          1.0 01:A2          246.39    1.437 No_date   3:33    8.41 .170     .000
01118>       [CN= 61.0: N= 3.00: Tp= 1.99]
01119> R0010:C00023------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01120>     SAVE HYD              1.0 01:A2          246.39    1.437 No_date   3:33    8.41  n/a     .000
01121>       fname :A2.0010
01122>       remark:Routing Hydrograph for A2
01123> R0010:C00024------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01124>     ADD HYD               1.0 01:A2          246.39    1.437 No_date   3:33    8.41  n/a     .000
01125>                     +     1.0 09:R3           86.15     .329 No_date   4:33    6.58  n/a     .000
01126>                 SUM=      1.0 02:N11        332.54    1.726 No_date   3:42    7.94  n/a     .000
01127> R0010:C00025------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01128>     SAVE HYD              1.0 02:N11        332.54    1.726 No_date   3:42    7.94  n/a     .000
01129>       fname :N11.0010
01130>       remark:Hydrograph for N11
01131> R0010:C00026------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01132>     ROUTE CHANNEL   ->    1.0 02:N11        332.54    1.726 No_date   3:42    7.94  n/a     .000
01133>       [RDT= 1.00] out<-   1.0 03:R4         332.54    1.389 No_date   4:38    7.94  n/a     .000
01134>       [L/S/n= 3000./ .200/.035]
01135>       [Vmax=  .653:Dmax=  .410]
01136> R0010:C00027------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01137>     SAVE HYD              1.0 03:R4          332.54    1.389 No_date   4:38    7.94  n/a     .000
01138>       fname :R4.0010
01139>       remark:Routing Hydrograph for R4
01140> R0010:C00028------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01141>     CALIB NASHYD          1.0 04:A3          316.70    1.779 No_date   3:51    9.17 .185     .000
01142>       [CN= 62.8: N= 3.00: Tp= 2.31]
01143> R0010:C00029------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01144>     SAVE HYD              1.0 04:A3          316.70    1.779 No_date   3:51    9.17  n/a     .000
01145>       fname :A3.0010
01146>       remark:Routing Hydrograph for A3
01147> R0010:C00030------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01148>     ADD HYD               1.0 04:A3          316.70    1.779 No_date   3:51    9.17  n/a     .000
01149>                     +     1.0 03:R4          332.54    1.389 No_date   4:38    7.94  n/a     .000
01150>                 SUM=      1.0 05:N12        649.24    3.092 No_date   4:16    8.54  n/a     .000
01151> R0010:C00031------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01152>     SAVE HYD              1.0 05:N12         649.24    3.092 No_date   4:16    8.54  n/a     .000
01153>       fname :N12.0010
01154>       remark:Hydrograph for N12
01155> # Trib B
01156> R0010:C00032------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01157>     CALIB NASHYD          1.0 06:B1          627.61    1.756 No_date   4:55    6.38 .129     .000
01158>       [CN= 55.5: N= 3.00: Tp= 3.36]
01159> R0010:C00033------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01160>     SAVE HYD              1.0 06:B1          627.61    1.756 No_date   4:55    6.38  n/a     .000
01161>       fname :B1.0010
01162>       remark:Runoff Hydrograph for B1
01163> R0010:C00034------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01164>     ROUTE CHANNEL   ->    1.0 06:B1          627.61    1.756 No_date   4:55    6.38  n/a     .000
01165>       [RDT= 1.00] out<-   1.0 08:R5          627.61    1.622 No_date   5:45    6.38  n/a     .000
01166>       [L/S/n= 4800./ .870/.035]
01167>       [Vmax=  1.276:Dmax=  .404]
01168> R0010:C00035------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01169>     SAVE HYD              1.0 08:R5          627.61    1.622 No_date   5:45    6.38  n/a     .000
01170>       fname :R5.0010
01171>       remark:Routing Hydrograph for R5
01172> R0010:C00036------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01173>     CALIB NASHYD          1.0 09:B2          255.45    1.836 No_date   3:54   12.06 .244     .000
01174>       [CN= 68.8: N= 3.00: Tp= 2.39]
01175> R0010:C00037------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01176>     SAVE HYD              1.0 09:B2          255.45    1.836 No_date   3:54   12.06  n/a     .000
01177>       fname :B2.0010
01178>       remark:Routing Hydrograph for B2
01179> R0010:C00038------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01180>     ADD HYD               1.0 08:R5          627.61    1.622 No_date   5:45    6.38  n/a     .000
01181>                     +     1.0 09:B2          255.45    1.836 No_date   3:54   12.06  n/a     .000
01182>                 SUM=      1.0 01:N2          883.06    3.119 No_date   4:44    8.02  n/a     .000
01183> R0010:C00039------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01184>     SAVE HYD              1.0 01:N2          883.06    3.119 No_date   4:44    8.02  n/a     .000
01185>       fname :N2.0010
01186>       remark:Hydrograph for N2
01187> R0010:C00040------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01188>     CALIB NASHYD          1.0 02:B3          336.77     .929 No_date   4:40    5.84 .118     .000
01189>       [CN= 53.9: N= 3.00: Tp= 3.10]
01190> R0010:C00041------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01191>     SAVE HYD              1.0 02:B3          336.77     .929 No_date   4:40    5.84  n/a     .000
01192>       fname :B3.0010
01193>       remark:Routing Hydrograph for B3
01194> R0010:C00042------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01195>     ADD HYD               1.0 01:N2          883.06    3.119 No_date   4:44    8.02  n/a     .000
01196>                     +     1.0 02:B3          336.77     .929 No_date   4:40    5.84  n/a     .000
01197>                 SUM=      1.0 03:N4         1219.83    4.048 No_date   4:44    7.42  n/a     .000
01198> R0010:C00043------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01199>     SAVE HYD              1.0 03:N4         1219.83    4.048 No_date   4:44    7.42  n/a     .000
01200>       fname :N4.0010
01201>       remark:Hydrograph for N4
01202> R0010:C00044------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01203>     ROUTE CHANNEL   ->    1.0 03:N4         1219.83    4.048 No_date   4:44    7.42  n/a     .000
01204>       [RDT= 1.00] out<-   1.0 04:R6         1219.83    4.015 No_date   4:57    7.42  n/a     .000
01205>       [L/S/n= 1500./ .480/.035]
01206>       [Vmax= 1.292:Dmax=  .668]
01207> R0010:C00045------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01208>     SAVE HYD              1.0 04:R6         1219.83    4.015 No_date   4:57    7.42  n/a     .000
01209>       fname :R6.0010
01210>       remark:Routing Hydrograph for R6
01211> R0010:C00046------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01212>     CALIB NASHYD          1.0 06:B5          224.06     .713 No_date   4:11    5.76 .116     .000
01213>       [CN= 53.7: N= 3.00: Tp= 2.60]
01214> R0010:C00047------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01215>     SAVE HYD              1.0 06:B5          224.06     .713 No_date   4:11    5.76  n/a     .000
01216>       fname :B5.0010
01217>       remark:Routing Hydrograph for B5
01218> R0010:C00048------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01219>     ADD HYD               1.0 06:B5          224.06     .713 No_date   4:11    5.76  n/a     .000
01220>                     +     1.0 04:R6         1219.83    4.015 No_date   4:57    7.42  n/a     .000
01221>                 SUM=      1.0 08:N5         1443.89    4.688 No_date   4:50    7.16  n/a     .000
01222> R0010:C00049------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01223>     SAVE HYD              1.0 08:N5         1443.89    4.688 No_date   4:50    7.16  n/a     .000
01224>       fname :N5.0010
01225>       remark:Hydrograph for N5
01226> R0010:C00050------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01227>     ROUTE CHANNEL   ->    1.0 08:N5         1443.89    4.688 No_date   4:50    7.16  n/a     .000
01228>       [RDT= 1.00] out<-   1.0 09:R7         1443.89    4.069 No_date   5:55    7.16  n/a     .000
01229>       [L/S/n= 4500./ .240/.035]
01230>       [Vmax=  .955:Dmax=  .560]
01231> R0010:C00051------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01232>     SAVE HYD              1.0 09:R7         1443.89    4.069 No_date   5:55    7.16  n/a     .000
01233>       fname :R7.0010
01234>       remark:Routing Hydrograph for R7
01235> R0010:C00052------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01236>     CALIB NASHYD          1.0 01:B6          329.90    3.085 No_date   3:55   16.07 .325     .000
01237>       [CN= 75.4: N= 3.00: Tp= 2.46]
01238> R0010:C00053------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01239>     SAVE HYD              1.0 01:B6          329.90    3.085 No_date   3:55   16.07  n/a     .000
01240>       fname :B6.0010
01241>       remark:Routing Hydrograph for B6
01242> R0010:C00054------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01243>     ADD HYD               1.0 09:R7         1443.89    4.069 No_date   5:55    7.16  n/a     .000
01244>                     +     1.0 01:B6          329.90    3.085 No_date   3:55   16.07  n/a     .000
01245>                 SUM=      1.0 02:N6         1773.79    6.405 No_date   5:09    8.82  n/a     .000
01246> R0010:C00055------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01247>     SAVE HYD              1.0 02:N6         1773.79    6.405 No_date   5:09    8.82  n/a     .000
01248>       fname :N6.0010
01249>       remark:Hydrograph for N6
01250> # Main channel combination with Trib A
01251> R0010:C00056------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01252>     ADD HYD               1.0 05:N12         649.24    3.092 No_date   4:16    8.54  n/a     .000
01253>                     +     1.0 07:N22        1042.46    3.180 No_date   4:16    5.99  n/a     .000
01254>                 SUM=      1.0 03:N23        1691.70    6.272 No_date   4:16    6.97  n/a     .000
01255> R0010:C00057------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01256>     SAVE HYD              1.0 03:N23        1691.70    6.272 No_date   4:16    6.97  n/a     .000
01257>       fname :N23.0010
01258>       remark:Hydrograph for N23/N24
01259> # Main channel combination with Trib B
01260> R0010:C00058------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01261>     ADD HYD               1.0 03:N23        1691.70    6.272 No_date   4:16    6.97  n/a     .000
01262>                     +     1.0 02:N6         1773.79    6.405 No_date   5:09    8.82  n/a     .000
01263>                 SUM=      1.0 04:N25        3465.49   12.370 No_date   4:41    7.92  n/a     .000
01264> R0010:C00059------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01265>     SAVE HYD              1.0 04:N25        3465.49   12.370 No_date   4:41    7.92  n/a     .000
01266>       fname :N25.0010
01267>       remark:Hydrograph for N25/N26
01268> # Main channel combination with Catchment C
01269> R0010:C00060------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01270>     CALIB NASHYD          1.0 06:C1         1414.40    6.377 No_date   4:54   10.38 .210     .000
01271>       [CN= 65.5: N= 3.00: Tp= 3.40]
01272> R0010:C00061------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01273>     SAVE HYD              1.0 06:C1         1414.40    6.377 No_date   4:54   10.38  n/a     .000
01274>       fname :C1.0010
01275>       remark:Routing Hydrograph for C1
01276> R0010:C00062------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01277>     ADD HYD               1.0 04:N25        3465.49   12.370 No_date   4:41    7.92  n/a     .000
01278>                     +     1.0 06:C1         1414.40    6.377 No_date   4:54   10.38  n/a     .000
01279>                 SUM=      1.0 08:N27        4879.89   18.731 No_date   4:45    8.63  n/a     .000
01280> R0010:C00063------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01281>     SAVE HYD              1.0 08:N27        4879.89   18.731 No_date   4:45    8.63  n/a     .000
01282>       fname :N27.0010
01283>       remark:Hydrograph for N27
01284> # Main channel
01285> R0010:C00064------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01286>     ROUTE CHANNEL   ->    1.0 08:N27        4879.89   18.731 No_date   4:45    8.63  n/a     .000
01287>       [RDT= 1.00] out<-   1.0 09:R8         4879.89   17.010 No_date   5:17    8.63  n/a     .000
01288>       [L/S/n= 2700./ .050/.035]
01289>       [Vmax=  .842:Dmax= 2.008]
01290> R0010:C00065------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01291>     SAVE HYD              1.0 09:R8         4879.89   17.010 No_date   5:17    8.63  n/a     .000
01292>       fname :R8.0010
01293>       remark:Routing Hydrograph for R8
01294> R0010:C00066------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01295>     CALIB NASHYD          1.0 01:M4          363.71    4.281 No_date   3:43   18.86 .381     .000
01296>       [CN= 79.2: N= 3.00: Tp= 1.27]
01297> R0010:C00067------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01298>     SAVE HYD              1.0 01:M4          363.71    4.281 No_date   3:43   18.86  n/a     .000
01299>       fname :M4.0010
01300>       remark:Routing Hydrograph for M4
01301> R0010:C00068------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01302>     ADD HYD               1.0 01:M4          363.71    4.281 No_date   3:43   18.86  n/a     .000
01303>                     +     1.0 09:R8         4879.89   17.010 No_date   5:17    8.63  n/a     .000
01304>                 SUM=      1.0 02:N28        5243.60   20.227 No_date   5:02    9.34  n/a     .000
01305> R0010:C00069------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01306>     SAVE HYD              1.0 02:N28        5243.60   20.227 No_date   5:02    9.34  n/a     .000
01307>       fname :N28.0010
01308>       remark:Hydrograph for N28
01309>   ** END OF RUN :  24
01310>
01311> ************************************************************************************************
01312>
01313>
01314>
01315>
01316>
01317>  RUN#:COMMAND#
01318> R0025:C00001------------------------------------------------------------------------------------
01319>     START
01320>       [TZERO =    .00 hrs on      0]
01321>       [METOUT=   2    (1=imperial, 2=metric output)]
01322>       [NSTORM=   1 ]
01323>       [NRUN  = 0025 ]
01324> #**************************************************************************
01325> #  Project Name: [Flowing]    Project Number: [M800-200-050-205]
01326> #  Date       : 04-03-2017
01327> #  Modeller   : [   AA    ]
01328> #  Company    : Rideau Valley Conservation Authority
01329> #  License #  :  5329846
01330> #**************************************************************************
01331> # April 2024 - JB - JFSA Inc
01332> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
01333> #**************************************************************************
01334> R0025:C00002------------------------------------------------------------------------------------
01335>     READ STORM
01336>       Filename = storm.001
01337>       Comment  = CHICAGO STORM   25 Year, 3 Hours
01338>       [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
01339> R0025:C00003------------------------------------------------------------------------------------
01340>     DEFAULT VALUES
01341>       Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
01342>       ICASEdv  = 1 (read and print data)
01343>       FileTitle= File comment: RVCA Flowing Creek PFM]
01344>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01345>       Horton's infiltration equation parameters:
01346>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01347>       Parameters for PERVIOUS surfaces in STANDHYD:
01348>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01349>       Parameters for IMPERVIOUS surfaces in STANDHYD:
01350>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01351>       Parameters used in NASHYD:
01352>       [Ia=  1.50 mm] [N= 3.00]
01353>       Average monthly Pan Evaporation data in    (mm)
01354>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01355>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01356>       Average monthly Potential Evapotranspiration in    (mm)
01357>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01358>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01359> # Main Channel
01360> R0025:C00004------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01361>     CALIB NASHYD          1.0 01:M1          136.59     .914 No_date   3:14    8.33 .143     .000
01362>       [CN= 53.5: N= 3.00: Tp= 1.64]
01363> R0025:C00005------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01364>     SAVE HYD              1.0 01:M1          136.59     .914 No_date   3:14    8.33  n/a     .000
01365>       fname :M1.0025
01366>       remark:Runoff Hydrograph for M1
01367> R0025:C00006------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01368>     ROUTE CHANNEL   ->    1.0 01:M1          136.59     .914 No_date   3:14    8.33  n/a     .000
01369>       [RDT= 1.00] out<-   1.0 02:R1          136.59     .743 No_date   4:02    8.33  n/a     .000
01370>       [L/S/n= 3000./ .550/.035]
01371>       [Vmax=  .738:Dmax=  .228]
01372> R0025:C00007------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01373>     SAVE HYD              1.0 02:R1          136.59     .743 No_date   4:02    8.33  n/a     .000
01374>       fname :R1.0025
01375>       remark:Routing Hydrograph for R1
01376> R0025:C00008------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01377>     CALIB NASHYD          1.0 03:M2          372.64    2.315 No_date   3:15    7.77 .133     .000
01378>       [CN= 52.2: N= 3.00: Tp= 1.65]
01379> R0025:C00009------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01380>     SAVE HYD              1.0 03:M2          372.64    2.315 No_date   3:15    7.77  n/a     .000
01381>       fname :M2.0025
01382>       remark:Routing Hydrograph for M2
01383> R0025:C00010------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01384>     ADD HYD               1.0 02:R1          136.59     .743 No_date   4:02    8.33  n/a     .000
01385>                     +     1.0 03:M2          372.64    2.315 No_date   3:15    7.77  n/a     .000
01386>                 SUM=      1.0 04:N21        509.23    2.957 No_date   3:29    7.92  n/a     .000
01387> R0025:C00011------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01388>     SAVE HYD              1.0 04:N21         509.23    2.957 No_date   3:29    7.92  n/a     .000
01389>       fname :N21.0025
01390>       remark:Hydrograph for N21
01391> R0025:C00012------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01392>     ROUTE CHANNEL   ->    1.0 04:N21         509.23    2.957 No_date   3:29    7.92  n/a     .000
01393>       [RDT= 1.00] out<-   1.0 05:R2          509.23    2.030 No_date   4:30    7.92  n/a     .000
01394>       [L/S/n= 4000./ .180/.035]
01395>       [Vmax=  .655:Dmax=  .428]
01396> R0025:C00013------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01397>     SAVE HYD              1.0 05:R2          509.23    2.030 No_date   4:30    7.92  n/a     .000
01398>       fname :R2.0025
01399>       remark:Routing Hydrograph for R2
01400> R0025:C00014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01401>     CALIB NASHYD          1.0 06:M3          533.23    2.905 No_date   4:01    9.41 .162     .000
01402>       [CN= 56.0: N= 3.00: Tp= 2.47]
01403> R0025:C00015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01404>     SAVE HYD              1.0 06:M3          533.23    2.905 No_date   4:01    9.41  n/a     .000
01405>       fname :M3.0025
01406>       remark:Routing Hydrograph for M3
01407> R0025:C00016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01408>     ADD HYD               1.0 06:M3          533.23    2.905 No_date   4:01    9.41  n/a     .000
01409>                     +     1.0 05:R2          509.23    2.030 No_date   4:30    7.92  n/a     .000
01410>                 SUM=      1.0 07:N22        1042.46    4.889 No_date   4:15    8.68  n/a     .000
01411> R0025:C00017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01412>     SAVE HYD              1.0 07:N22        1042.46    4.889 No_date   4:15    8.68  n/a     .000
01413>       fname :N22.0025
01414>       remark:Hydrograph for N22
01415> # Trib A
01416> R0025:C00018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01417>     CALIB NASHYD          1.0 08:A1           86.15     .603 No_date   3:24    9.45 .162     .000
01418>       [CN= 56.1: N= 3.00: Tp= 1.83]
01419> R0025:C00019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01420>     SAVE HYD              1.0 08:A1           86.15     .603 No_date   3:24    9.45  n/a     .000
01421>       fname :A1.0025
01422>       remark:Runoff Hydrograph for A1
01423> R0025:C00020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01424>     ROUTE CHANNEL   ->    1.0 08:A1           86.15     .603 No_date   3:24    9.45  n/a     .000
01425>       [RDT= 1.00] out<-   1.0 09:R3           86.15     .485 No_date   4:19    9.45  n/a     .000
01426>       [L/S/n= 2500./ .600/.035]
01427>       [Vmax=  .616:Dmax=  .169]
01428> R0025:C00021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01429>     SAVE HYD              1.0 09:R3           86.15     .485 No_date   4:19    9.45  n/a     .000
01430>       fname :R3.0025
01431>       remark:Routing Hydrograph for R3
01432> R0025:C00022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01433>     CALIB NASHYD          1.0 01:A2          246.39    2.022 No_date   3:31   11.82 .203     .000
01434>       [CN= 61.0: N= 3.00: Tp= 1.99]
01435> R0025:C00023------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01436>     SAVE HYD              1.0 01:A2          246.39    2.022 No_date   3:31   11.82  n/a     .000
01437>       fname :A2.0025
01438>       remark:Routing Hydrograph for A2
01439> R0025:C00024------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01440>     ADD HYD               1.0 01:A2          246.39    2.022 No_date   3:31   11.82  n/a     .000
```

```
01441>                    +     1.0 09:R3          86.15    .485 No_date    4:19    9.45  n/a     .000
01442>                SUM=      1.0 02:N11        332.54   2.457 No_date    3:41   11.21  n/a     .000
01443> R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01444>     SAVE HYD             1.0 02:N11        332.54   2.457 No_date    3:41   11.21  n/a     .000
01445>       fname :N11.0025
01446>       remark:Hydrograph for N11
01447> R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01448>     ROUTE CHANNEL   ->     1.0 02:N11        332.54   2.457 No_date    3:41   11.21  n/a     .000
01449>      [RDT= 1.00] out<-     1.0 03:R4         332.54   2.050 No_date    4:31   11.21  n/a     .000
01450>       [L/S/n= 3000./ .200/ .035]
01451>       (Vmax=  .743:Dmax=  .507)
01452> R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01453>     SAVE HYD             1.0 03:R4         332.54   2.050 No_date    4:31   11.21  n/a     .000
01454>       fname :R4.0025
01455>       remark:Routing Hydrograph for R4
01456> R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01457>     CALIB NASHYD         1.0 04:A3         316.70   2.485 No_date    3:49   12.79  .220     .000
01458>       [CN= 62.8: N= 3.00: Tp= 2.31]
01459> R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01460>     SAVE HYD             1.0 04:A3         316.70   2.485 No_date    3:49   12.79  n/a     .000
01461>       fname :A3.0025
01462>       remark:Routing Hydrograph for A3
01463> R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01464>     ADD HYD              1.0 04:A3         316.70   2.485 No_date    3:49   12.79  n/a     .000
01465>                    +     1.0 03:R4         332.54   2.050 No_date    4:31   11.21  n/a     .000
01466>                SUM=      1.0 05:N12        649.24   4.449 No_date    4:12   11.98  n/a     .000
01467> R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01468>     SAVE HYD             1.0 05:N12        649.24   4.449 No_date    4:12   11.98  n/a     .000
01469>       fname :N12.0025
01470>       remark:Hydrograph for N12
01471> # Trib B
01472> R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01473>     CALIB NASHYD         1.0 06:B1         627.61   2.532 No_date    4:53    9.19 .158     .000
01474>       [CN= 55.5: N= 3.00: Tp= 3.36]
01475> R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01476>     SAVE HYD             1.0 06:B1         627.61   2.532 No_date    4:53    9.19  n/a     .000
01477>       fname :B1.0025
01478>       remark:Runoff Hydrograph for B1
01479> R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01480>     ROUTE CHANNEL   ->     1.0 06:B1         627.61   2.532 No_date    4:53    9.19  n/a     .000
01481>      [RDT= 1.00] out<-     1.0 08:R5         627.61   2.378 No_date    5:38    9.19  n/a     .000
01482>       [L/S/n= 4800./ .870/ .035]
01483>       (Vmax= 1.440:Dmax=  .502)
01484> R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01485>     SAVE HYD             1.0 08:R5         627.61   2.378 No_date    5:38    9.19  n/a     .000
01486>       fname :R5.0025
01487>       remark:Routing Hydrograph for R5
01488> R0025:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01489>     CALIB NASHYD         1.0 09:B2         255.45   2.506 No_date    3:52   16.45 .282     .000
01490>       [CN= 68.8: N= 3.00: Tp= 2.39]
01491> R0025:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01492>     SAVE HYD             1.0 09:B2         255.45   2.506 No_date    3:52   16.45  n/a     .000
01493>       fname :B2.0025
01494>       remark:Routing Hydrograph for B2
01495> R0025:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01496>     ADD HYD              1.0 08:R5         627.61   2.378 No_date    5:38    9.19  n/a     .000
01497>                    +     1.0 09:B2         255.45   2.506 No_date    3:52   16.45  n/a     .000
01498>                SUM=      1.0 01:N2         883.06   4.451 No_date    4:41   11.29  n/a     .000
01499> R0025:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01500>     SAVE HYD             1.0 01:N2         883.06   4.451 No_date    4:41   11.29  n/a     .000
01501>       fname :N2.0025
01502>       remark:Hydrograph for N2
01503> R0025:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01504>     CALIB NASHYD         1.0 02:B3         336.77   1.350 No_date    4:38    8.48 .146     .000
01505>       [CN= 53.9: N= 3.00: Tp= 3.10]
01506> R0025:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01507>     SAVE HYD             1.0 02:B3         336.77   1.350 No_date    4:38    8.48  n/a     .000
01508>       fname :B3.0025
01509>       remark:Routing Hydrograph for B3
01510> R0025:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01511>     ADD HYD              1.0 01:N2         883.06   4.451 No_date    4:41   11.29  n/a     .000
01512>                    +     1.0 02:B3         336.77   1.350 No_date    4:38    8.48  n/a     .000
01513>                SUM=      1.0 03:N4        1219.83   5.801 No_date    4:41   10.51  n/a     .000
01514> R0025:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01515>     SAVE HYD             1.0 03:N4        1219.83   5.801 No_date    4:41   10.51  n/a     .000
01516>       fname :N4.0025
01517>       remark:Hydrograph for N4
01518> R0025:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01519>     ROUTE CHANNEL   ->     1.0 03:N4        1219.83   5.801 No_date    4:41   10.51  n/a     .000
01520>      [RDT= 1.00] out<-     1.0 04:R6        1219.83   5.765 No_date    4:55   10.51  n/a     .000
01521>       [L/S/n= 1500./ .480/ .035]
01522>       (Vmax= 1.451:Dmax=  .826)
01523> R0025:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01524>     SAVE HYD             1.0 04:R6        1219.83   5.765 No_date    4:55   10.51  n/a     .000
01525>       fname :R6.0025
01526>       remark:Routing Hydrograph for R6
01527> R0025:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01528>     CALIB NASHYD         1.0 06:B5         224.06   1.038 No_date    4:09    8.38 .144     .000
01529>       [CN= 53.7: N= 3.00: Tp= 2.60]
01530> R0025:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01531>     SAVE HYD             1.0 06:B5         224.06   1.038 No_date    4:09    8.38  n/a     .000
01532>       fname :B5.0025
01533>       remark:Routing Hydrograph for B5
01534> R0025:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01535>     ADD HYD              1.0 06:B5         224.06   1.038 No_date    4:09    8.38  n/a     .000
01536>                    +     1.0 04:R6        1219.83   5.765 No_date    4:55   10.51  n/a     .000
01537>                SUM=      1.0 08:N5        1443.89   6.741 No_date    4:47   10.18  n/a     .000
01538> R0025:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01539>     SAVE HYD             1.0 08:N5        1443.89   6.741 No_date    4:47   10.18  n/a     .000
01540>       fname :N5.0025
01541>       remark:Hydrograph for N5
01542> R0025:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01543>     ROUTE CHANNEL   ->     1.0 08:N5        1443.89   6.741 No_date    4:47   10.18  n/a     .000
01544>      [RDT= 1.00] out<-     1.0 09:R7        1443.89   6.019 No_date    5:47   10.18  n/a     .000
01545>       [L/S/n= 4500./ .240/ .035]
01546>       (Vmax= 1.082:Dmax=  .808)
01547> R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01548>     SAVE HYD             1.0 09:R7        1443.89   6.019 No_date    5:47   10.18  n/a     .000
01549>       fname :R7.0025
01550>       remark:Routing Hydrograph for R7
01551> R0025:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01552>     CALIB NASHYD         1.0 01:B6         329.90   4.110 No_date    3:54   21.39 .367     .000
01553>       [CN= 75.4: N= 3.00: Tp= 2.46]
01554> R0025:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01555>     SAVE HYD             1.0 01:B6         329.90   4.110 No_date    3:54   21.39  n/a     .000
01556>       fname :B6.0025
01557>       remark:Routing Hydrograph for B6
01558> R0025:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01559>     ADD HYD              1.0 09:R7        1443.89   6.019 No_date    5:47   10.18  n/a     .000
01560>                    +     1.0 01:B6         329.90   4.110 No_date    3:54   21.39  n/a     .000
01561>                SUM=      1.0 02:N6        1773.79   9.209 No_date    5:06   12.27  n/a     .000
01562> R0025:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01563>     SAVE HYD             1.0 02:N6        1773.79   9.209 No_date    5:06   12.27  n/a     .000
01564>       fname :N6.0025
01565>       remark:Hydrograph for N6
01566> # Main channel combination with Trib A
01567> R0025:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01568>     ADD HYD              1.0 05:N12        649.24   4.449 No_date    4:12   11.98  n/a     .000
01569>                    +     1.0 07:N22       1042.46   4.889 No_date    4:15    8.68  n/a     .000
01570>                SUM=      1.0 03:N23       1691.70   9.334 No_date    4:12    9.95  n/a     .000
01571> R0025:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01572>     SAVE HYD             1.0 03:N23       1691.70   9.334 No_date    4:12    9.95  n/a     .000
01573>       fname :N23.0025
01574>       remark:Hydrograph for N23/N24
01575> # Main channel combination with Trib B
01576> R0025:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01577>     ADD HYD              1.0 03:N23       1691.70   9.334 No_date    4:12    9.95  n/a     .000
01578>                    +     1.0 02:N6        1773.79   9.209 No_date    5:06   12.27  n/a     .000
01579>                SUM=      1.0 04:N25       3465.49  18.104 No_date    4:36   11.13  n/a     .000
01580> R0025:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01581>     SAVE HYD             1.0 04:N25       3465.49  18.104 No_date    4:36   11.13  n/a     .000
01582>       fname :N25.0025
01583>       remark:Hydrograph for N25/N26
01584> # Main channel combination with Catchment C
01585> R0025:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01586>     CALIB NASHYD         1.0 06:C1        1414.40   8.808 No_date    4:52   14.33 .246     .000
01587>       [CN= 65.5: N= 3.00: Tp= 3.40]
01588> R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01589>     SAVE HYD             1.0 06:C1        1414.40   8.808 No_date    4:52   14.33  n/a     .000
01590>       fname :C1.0025
01591>       remark:Routing Hydrograph for C1
01592> R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01593>     ADD HYD              1.0 04:N25       3465.49  18.104 No_date    4:36   11.13  n/a     .000
01594>                    +     1.0 06:C1        1414.40   8.808 No_date    4:52   14.33  n/a     .000
01595>                SUM=      1.0 08:N27       4879.89  26.873 No_date    4:40   12.06  n/a     .000
01596> R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01597>     SAVE HYD             1.0 08:N27       4879.89  26.873 No_date    4:40   12.06  n/a     .000
01598>       fname :N27.0025
01599>       remark:Hydrograph for N27
01600> # Main channel
01601> R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01602>     ROUTE CHANNEL   ->     1.0 08:N27       4879.89  26.873 No_date    4:40   12.06  n/a     .000
01603>      [RDT= 1.00] out<-     1.0 09:R8        4879.89  23.732 No_date    6:04   12.06  n/a     .000
01604>       [L/S/n= 2700./ .050/ .035]
01605>       (Vmax=  .637:Dmax= 2.387)
01606> R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01607>     SAVE HYD             1.0 09:R8        4879.89  23.732 No_date    6:04   12.06  n/a     .000
01608>       fname :R8.0025
01609>       remark:Routing Hydrograph for R8
01610> R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01611>     CALIB NASHYD         1.0 01:M4         363.71   5.624 No_date    3:42   24.75 .425     .000
01612>       [CN= 79.2: N= 3.00: Tp= 2.27]
01613> R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01614>     SAVE HYD             1.0 01:M4         363.71   5.624 No_date    3:42   24.75  n/a     .000
01615>       fname :M4.0025
01616>       remark:Routing Hydrograph for M4
01617> R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01618>     ADD HYD              1.0 01:M4         363.71   5.624 No_date    3:42   24.75  n/a     .000
01619>                    +     1.0 09:R8        4879.89  23.732 No_date    6:04   12.06  n/a     .000
01620>                SUM=      1.0 02:N28       5243.60  27.148 No_date    5:28   12.94  n/a     .000
01621> R0025:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01622>     SAVE HYD             1.0 02:N28       5243.60  27.148 No_date    5:28   12.94  n/a     .000
01623>       fname :N28.0025
01624>       remark:Hydrograph for N28
01625>  ** END OF RUN :  49
01626>
01627> ************************************************************************************************
01628>
01629>
01630>
01631>
01632>
01633> RUN#:COMMAND#
01634> R0050:C00001------------------------------------------------------------------------------------
01635>      START
01636>       [TZERO =    .00 hrs on       0]
01637>       [METOUT=   2   (1=imperial, 2=metric output)]
01638>       [NSTORM=   1 ]
01639>       [NRUN  = 0050 ]
01640> #*************************************************************************
01641> #  Project Name: [Flowing]    Project Number: [M800-200-050-205]
01642> #  Date       : 04-03-2017
01643> #  Modeller   : [   AA      ]
01644> #  Company    : Rideau Valley Conservation Authority
01645> #  License #  :  5329846
01646> #*************************************************************************
01647> # April 2024 - JB - JFSA Inc
01648> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
01649> #*************************************************************************
01650> R0050:C00002------------------------------------------------------------------------------------
01651>      READ STORM
01652>       Filename = storm.001
01653>       Comment  = CHICAGO STORM  50 Year, 3 Hours
01654>       [SDT=10.00:SDUR=   3.00:PTOT=  64.81]
01655> R0050:C00003------------------------------------------------------------------------------------
01656>      DEFAULT VALUES
01657>       Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
01658>       ICASEdv  = 1 (read and print data)
01659>       FileTitle= File comment: [RVCA Flowing Creek FPM]
01660>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01661>       Horton's infiltration equation parameters:
01662>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01663>       Parameters for PERVIOUS surfaces in STANDHYD:
01664>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01665>       Parameters for IMPERVIOUS surfaces in STANDHYD:
01666>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01667>       Parameters used in NASHYD:
01668>       [Ia=   1.50 mm] [N= 3.00]
01669>       Average monthly Pan Evaporation data in    (mm)
01670>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01671>  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01672>       Average monthly Potential Evapotranspiration in    (mm)
01673>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01674>  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01675> # Main Channel
01676> R0050:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01677>     CALIB NASHYD         1.0 01:M1         136.59    1.159 No_date    3:12   10.55 .163     .000
01678>       [CN= 53.5: N= 3.00: Tp= 1.64]
01679> R0050:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01680>     SAVE HYD             1.0 01:M1         136.59    1.159 No_date    3:12   10.55  n/a     .000
01681>       fname :M1.0050
01682>       remark:Runoff Hydrograph for M1
01683> R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01684>     ROUTE CHANNEL   ->     1.0 01:M1         136.59    1.159 No_date    3:12   10.55  n/a     .000
01685>      [RDT= 1.00] out<-     1.0 02:R1         136.59     .948 No_date    3:58   10.55  n/a     .000
01686>       [L/S/n= 3000./ .550/ .035]
01687>       (Vmax=  .805:Dmax=  .263)
01688> R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01689>     SAVE HYD             1.0 02:R1         136.59     .948 No_date    3:58   10.55  n/a     .000
01690>       fname :R1.0050
01691>       remark:Routing Hydrograph for R1
01692> R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01693>     CALIB NASHYD         1.0 03:M2         372.64    2.948 No_date    3:14    9.89 .153     .000
01694>       [CN= 52.2: N= 3.00: Tp= 1.65]
01695> R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01696>     SAVE HYD             1.0 03:M2         372.64    2.948 No_date    3:14    9.89  n/a     .000
01697>       fname :M2.0050
01698>       remark:Routing Hydrograph for M2
01699> R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01700>     ADD HYD              1.0 02:R1         136.59     .948 No_date    3:58   10.55  n/a     .000
01701>                    +     1.0 03:M2         372.64    2.948 No_date    3:14    9.89  n/a     .000
01702>                SUM=      1.0 04:N21        509.23    3.798 No_date    3:25   10.06  n/a     .000
01703> R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01704>     SAVE HYD             1.0 04:N21        509.23    3.798 No_date    3:25   10.06  n/a     .000
01705>       fname :N21.0050
01706>       remark:Hydrograph for N21
01707> R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01708>     ROUTE CHANNEL   ->     1.0 04:N21        509.23    3.798 No_date    3:25   10.06  n/a     .000
01709>      [RDT= 1.00] out<-     1.0 05:R2         509.23    2.707 No_date    4:22   10.06  n/a     .000
01710>       [L/S/n= 4000./ .180/ .035]
01711>       (Vmax=  .731:Dmax=  .500)
01712> R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01713>     SAVE HYD             1.0 05:R2         509.23    2.707 No_date    4:22   10.06  n/a     .000
01714>       fname :R2.0050
01715>       remark:Routing Hydrograph for R2
01716> R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01717>     CALIB NASHYD         1.0 06:M3         533.23    3.655 No_date    4:00   11.84 .183     .000
01718>       [CN= 56.0: N= 3.00: Tp= 2.47]
01719> R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01720>     SAVE HYD             1.0 06:M3         533.23    3.655 No_date    4:00   11.84  n/a     .000
01721>       fname :M3.0050
01722>       remark:Routing Hydrograph for M3
01723> R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01724>     ADD HYD              1.0 06:M3         533.23    3.655 No_date    4:00   11.84  n/a     .000
01725>                    +     1.0 05:R2         509.23    2.707 No_date    4:22   10.06  n/a     .000
01726>                SUM=      1.0 07:N22       1042.46    6.326 No_date    4:10   10.97  n/a     .000
01727> R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01728>     SAVE HYD             1.0 07:N22       1042.46    6.326 No_date    4:10   10.97  n/a     .000
01729>       fname :N22.0050
01730>       remark:Hydrograph for N22
01731> # Trib A
01732> R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01733>     CALIB NASHYD         1.0 08:A1          86.15     .759 No_date    3:23   11.88 .183     .000
01734>       [CN= 56.1: N= 3.00: Tp= 1.83]
01735> R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01736>     SAVE HYD             1.0 08:A1          86.15     .759 No_date    3:23   11.88  n/a     .000
01737>       fname :A1.0050
01738>       remark:Runoff Hydrograph for A1
01739> R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01740>     ROUTE CHANNEL   ->     1.0 08:A1          86.15     .759 No_date    3:23   11.88  n/a     .000
01741>      [RDT= 1.00] out<-     1.0 09:R3          86.15     .625 No_date    4:11   11.88  n/a     .000
01742>       [L/S/n= 2500./ .600/ .035]
01743>       (Vmax=  .673:Dmax=  .196)
01744> R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01745>     SAVE HYD             1.0 09:R3          86.15     .625 No_date    4:11   11.88  n/a     .000
01746>       fname :R3.0050
01747>       remark:Routing Hydrograph for R3
01748> R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01749>     CALIB NASHYD         1.0 01:A2         246.39    2.511 No_date    3:31   14.68 .226     .000
01750>       [CN= 61.0: N= 3.00: Tp= 1.99]
01751> R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01752>     SAVE HYD             1.0 01:A2         246.39    2.511 No_date    3:31   14.68  n/a     .000
01753>       fname :A2.0050
01754>       remark:Routing Hydrograph for A2
01755> R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01756>     ADD HYD              1.0 01:A2         246.39    2.511 No_date    3:31   14.68  n/a     .000
01757>                    +     1.0 09:R3          86.15     .625 No_date    4:11   11.88  n/a     .000
01758>                SUM=      1.0 02:N11        332.54    3.085 No_date    3:39   13.95  n/a     .000
01759> R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01760>     SAVE HYD             1.0 02:N11        332.54    3.085 No_date    3:39   13.95  n/a     .000
01761>       fname :N11.0050
01762>       remark:Hydrograph for N11
01763> R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01764>     ROUTE CHANNEL   ->     1.0 02:N11        332.54    3.085 No_date    3:39   13.95  n/a     .000
01765>      [RDT= 1.00] out<-     1.0 03:R4         332.54    2.629 No_date    4:27   13.95  n/a     .000
01766>       [L/S/n= 3000./ .200/ .035]
01767>       (Vmax=  .803:Dmax=  .581)
01768> R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01769>     SAVE HYD             1.0 03:R4         332.54    2.629 No_date    4:27   13.95  n/a     .000
01770>       fname :R4.0050
01771>       remark:Routing Hydrograph for R4
01772> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01773>     CALIB NASHYD         1.0 04:A3         316.70    3.073 No_date    3:49   15.81 .244     .000
01774>       [CN= 62.8: N= 3.00: Tp= 2.31]
01775> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01776>     SAVE HYD             1.0 04:A3         316.70    3.073 No_date    3:49   15.81  n/a     .000
01777>       fname :A3.0050
01778>       remark:Routing Hydrograph for A3
01779> R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01780>     ADD HYD              1.0 04:A3         316.70    3.073 No_date    3:49   15.81  n/a     .000
01781>                    +     1.0 03:R4         332.54    2.629 No_date    4:27   13.95  n/a     .000
01782>                SUM=      1.0 05:N12        649.24    5.605 No_date    4:07   14.86  n/a     .000
01783> R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01784>     SAVE HYD             1.0 05:N12        649.24    5.605 No_date    4:07   14.86  n/a     .000
01785>       fname :N12.0050
01786>       remark:Hydrograph for N12
01787> # Trib B
01788> R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01789>     CALIB NASHYD         1.0 06:B1         627.61    3.190 No_date    4:52   11.57 .179     .000
01790>       [CN= 55.5: N= 3.00: Tp= 3.36]
01791> R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01792>     SAVE HYD             1.0 06:B1         627.61    3.190 No_date    4:52   11.57  n/a     .000
01793>       fname :B1.0050
01794>       remark:Runoff Hydrograph for B1
01795> R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01796>     ROUTE CHANNEL   ->     1.0 06:B1         627.61    3.190 No_date    4:52   11.57  n/a     .000
01797>      [RDT= 1.00] out<-     1.0 08:R5         627.61    3.019 No_date    5:36   11.57  n/a     .000
01798>       [L/S/n= 4800./ .870/ .035]
01799>       (Vmax= 1.546:Dmax=  .574)
01800> R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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01801>     SAVE HYD                1.0 08:R5          627.61    3.019 No_date    5:36   11.57  n/a     .000
01802>       fname :R5.0050
01803>       remark:Routing Hydrograph for R5
01804> R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01805>     CALIB NASHYD            1.0 09:B2          255.45    3.055 No_date    3:51   20.04 .309     .000
01806>       [CN= 68.8: N= 3.00: Tp= 2.39]
01807> R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01808>     SAVE HYD                1.0 09:B2          255.45    3.055 No_date    3:51   20.04  n/a     .000
01809>       fname :B2.0050
01810>       remark:Routing Hydrograph for B2
01811> R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01812>     ADD HYD                 1.0 08:R5          627.61    3.019 No_date    5:36   11.57  n/a     .000
01813>                           + 1.0 09:B2          255.45    3.055 No_date    3:51   20.04  n/a     .000
01814>                       SUM=  1.0 01:N2          883.06    5.567 No_date    4:40   14.02  n/a     .000
01815> R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01816>     SAVE HYD                1.0 01:N2          883.06    5.567 No_date    4:40   14.02  n/a     .000
01817>       fname :N2.0050
01818>       remark:Hydrograph for N2
01819> R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01820>     CALIB NASHYD            1.0 02:B3          336.77    1.710 No_date    4:37   10.74 .166     .000
01821>       [CN= 53.9: N= 3.00: Tp= 3.10]
01822> R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01823>     SAVE HYD                1.0 02:B3          336.77    1.710 No_date    4:37   10.74  n/a     .000
01824>       fname :B3.0050
01825>       remark:Routing Hydrograph for B3
01826> R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01827>     ADD HYD                 1.0 01:N2          883.06    5.567 No_date    4:40   14.02  n/a     .000
01828>                           + 1.0 02:B3          336.77    1.710 No_date    4:37   10.74  n/a     .000
01829>                       SUM=  1.0 01:N4         1219.83    7.277 No_date    4:40   13.12  n/a     .000
01830> R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01831>     SAVE HYD                1.0 03:N4         1219.83    7.277 No_date    4:40   13.12  n/a     .000
01832>       fname :N4.0050
01833>       remark:Hydrograph for N4
01834> R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01835>     ROUTE CHANNEL     ->    1.0 03:N4         1219.83    7.277 No_date    4:40   13.12  n/a     .000
01836>       [RD= 1.00] out<-      1.0 04:R6         1219.83    7.232 No_date    4:52   13.12  n/a     .000
01837>       [L/S/n= 1500./ .480/.035]
01838>       [Vmax= 1.557:Dmax=  .943]
01839> R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01840>     SAVE HYD                1.0 04:R6         1219.83    7.232 No_date    4:52   13.12  n/a     .000
01841>       fname :R6.0050
01842>       remark:Routing Hydrograph for R6
01843> R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01844>     CALIB NASHYD            1.0 06:B5          224.06    1.316 No_date    4:08   10.61 .164     .000
01845>       [CN= 53.7: N= 3.00: Tp= 2.60]
01846> R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01847>     SAVE HYD                1.0 06:B5          224.06    1.316 No_date    4:08   10.61  n/a     .000
01848>       fname :B5.0050
01849>       remark:Routing Hydrograph for B5
01850> R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01851>     ADD HYD                 1.0 06:B5          224.06    1.316 No_date    4:08   10.61  n/a     .000
01852>                           + 1.0 04:R6         1219.83    7.232 No_date    4:52   13.12  n/a     .000
01853>                       SUM=  1.0 08:N5         1443.89    8.481 No_date    4:44   12.73  n/a     .000
01854> R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01855>     SAVE HYD                1.0 08:N5         1443.89    8.481 No_date    4:44   12.73  n/a     .000
01856>       fname :N5.0050
01857>       remark:Hydrograph for N5
01858> R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01859>     ROUTE CHANNEL     ->    1.0 08:N5         1443.89    8.481 No_date    4:44   12.73  n/a     .000
01860>       [RD= 1.00] out<-      1.0 09:R7         1443.89    7.672 No_date    5:41   12.73  n/a     .000
01861>       [L/S/n= 4500./ .240/.035]
01862>       [Vmax= 1.171:Dmax=  .929]
01863> R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01864>     SAVE HYD                1.0 09:R7         1443.89    7.672 No_date    5:41   12.73  n/a     .000
01865>       fname :R7.0050
01866>       remark:Routing Hydrograph for R7
01867> R0050:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01868>     CALIB NASHYD            1.0 01:B6          329.90    4.936 No_date    3:53   25.67 .396     .000
01869>       [CN= 75.4: N= 3.00: Tp= 2.46]
01870> R0050:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01871>     SAVE HYD                1.0 01:B6          329.90    4.936 No_date    3:53   25.67  n/a     .000
01872>       fname :B6.0050
01873>       remark:Routing Hydrograph for B6
01874> R0050:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01875>     ADD HYD                 1.0 09:R7         1443.89    7.672 No_date    5:41   12.73  n/a     .000
01876>                           + 1.0 01:B6          329.90    4.936 No_date    3:53   25.67  n/a     .000
01877>                       SUM=  1.0 02:N6         1773.79   11.574 No_date    5:04   15.13  n/a     .000
01878> R0050:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01879>     SAVE HYD                1.0 02:N6         1773.79   11.574 No_date    5:04   15.13  n/a     .000
01880>       fname :N6.0050
01881>       remark:Hydrograph for N6
01882> # Main channel combination with Trib A
01883> R0050:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01884>     ADD HYD                 1.0 05:N12         649.24    5.605 No_date    4:07   14.86  n/a     .000
01885>                           + 1.0 07:N22        1042.46    6.326 No_date    4:10   10.97  n/a     .000
01886>                       SUM=  1.0 03:N23        1691.70   11.930 No_date    4:09   12.46  n/a     .000
01887> R0050:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01888>     SAVE HYD                1.0 03:N23        1691.70   11.930 No_date    4:09   12.46  n/a     .000
01889>       fname :N23.0050
01890>       remark:Hydrograph for N23/N24
01891> # Main channel combination with Trib B
01892> R0050:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01893>     ADD HYD                 1.0 03:N23        1691.70   11.930 No_date    4:09   12.46  n/a     .000
01894>                           + 1.0 02:N6         1773.79   11.574 No_date    5:04   15.13  n/a     .000
01895>                       SUM=  1.0 04:N25        3465.49   22.931 No_date    4:33   13.83  n/a     .000
01896> R0050:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01897>     SAVE HYD                1.0 04:N25        3465.49   22.931 No_date    4:33   13.83  n/a     .000
01898>       fname :N25.0050
01899>       remark:Hydrograph for N25/N26
01900> # Main channel combination with Catchment C
01901> R0050:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01902>     CALIB NASHYD            1.0 06:C1         1414.40   10.820 No_date    4:51   17.59 .271     .000
01903>       [CN= 65.5: N= 3.00: Tp= 3.40]
01904> R0050:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01905>     SAVE HYD                1.0 06:C1         1414.40   10.820 No_date    4:51   17.59  n/a     .000
01906>       fname :C1.0050
01907>       remark:Routing Hydrograph for C1
01908> R0050:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01909>     ADD HYD                 1.0 04:N25        3465.49   22.931 No_date    4:33   13.83  n/a     .000
01910>                           + 1.0 06:C1         1414.40   10.820 No_date    4:51   17.59  n/a     .000
01911>                       SUM=  1.0 08:N27        4879.89   33.688 No_date    4:39   14.92  n/a     .000
01912> R0050:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01913>     SAVE HYD                1.0 08:N27        4879.89   33.688 No_date    4:39   14.92  n/a     .000
01914>       fname :N27.0050
01915>       remark:Hydrograph for N27
01916> # Main channel
01917> R0050:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01918>     ROUTE CHANNEL     ->    1.0 08:N27        4879.89   33.688 No_date    4:39   14.92  n/a     .000
01919>       [RD= 1.00] out<-      1.0 09:R8         4879.89   28.127 No_date    6:16   14.92  n/a     .000
01920>       [L/S/n= 2700./ .050/.035]
01921>       [Vmax=  .513:Dmax= 2.601]
01922> R0050:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01923>     SAVE HYD                1.0 09:R8         4879.89   28.127 No_date    6:16   14.92  n/a     .000
01924>       fname :R8.0050
01925>       remark:Routing Hydrograph for R8
01926> R0050:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01927>     CALIB NASHYD            1.0 01:M4          363.71    6.696 No_date    3:41   29.45 .454     .000
01928>       [CN= 79.2: N= 3.00: Tp= 2.27]
01929> R0050:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01930>     SAVE HYD                1.0 01:M4          363.71    6.696 No_date    3:41   29.45  n/a     .000
01931>       fname :M4.0050
01932>       remark:Routing Hydrograph for M4
01933> R0050:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01934>     ADD HYD                 1.0 01:M4          363.71    6.696 No_date    3:41   29.45  n/a     .000
01935>                           + 1.0 09:R8         4879.89   28.127 No_date    6:16   14.92  n/a     .000
01936>                       SUM=  1.0 02:N28        5243.60   31.977 No_date    5:41   15.93  n/a     .000
01937> R0050:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01938>     SAVE HYD                1.0 02:N28        5243.60   31.977 No_date    5:41   15.93  n/a     .000
01939>       fname :N28.0050
01940>       remark:Hydrograph for N28
01941>  ** END OF RUN :   98
01942>
01943> ************************************************************************************************************
01944>
01945>
01946>
01947>
01948>
01949>  RUN#:COMMAND#
01950> R0099:C00001------------------------------------------------------------------------------------------------
01951>     START
01952>       [TZERO =      .00 hrs on      0]
01953>       [METOUT=   2     (1=imperial, 2=metric output)]
01954>       [NSTORM=   1 ]
01955>       [NRUN  = 0099 ]
01956> #*********************************************************************
01957> #  Project Name: [Flowing]    Project Number: [M800-200-050-205]
01958> #  Date        : 04-03-2017
01959> #  Modeller    : [     AA      ]
01960> #  Company     : Rideau Valley Conservation Authority
01961> #  License #   : 5329846
01962> #*********************************************************************
01963> # April 2024 - JB - JFSA Inc
01964> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
01965> #*********************************************************************
01966> R0099:C00002------------------------------------------------------------------------------------------------
01967>     READ STORM
01968>       Filename = storm.001
01969>       Comment  = 100 Year 3 Hour Chicago Storm
01970>       [SDT=10.00:SDUR=   3.00:PTOT=  74.43]
01971> R0099:C00003------------------------------------------------------------------------------------------------
01972>     DEFAULT VALUES
01973>       Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
01974>       ICASEdv  = 1 (read and print data)
01975>       FileTitle= File comment: [RVCA Flowing Creek FPM]
01976>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01977>       Horton's infiltration equation parameters:
01978>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01979>       Parameters for PERVIOUS surfaces in STANDHYD:
01980>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01981>       Parameters for IMPERVIOUS surfaces in STANDHYD:
01982>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01983>       Parameters used in NASHYD:
01984>       [Ia=   1.50 mm] [N= 3.00]
01985>       Average monthly Pan Evaporation data in    (mm)
01986>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01987>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01988>       Average monthly Potential Evapotranspiration in    (mm)
01989>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01990>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01991> # Main Channel
01992> R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01993>     CALIB NASHYD            1.0 01:M1          136.59    1.541 No_date    3:17   14.17 .190     .000
01994>       [CN= 53.5: N= 3.00: Tp= 1.64]
01995> R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01996>     SAVE HYD                1.0 01:M1          136.59    1.541 No_date    3:17   14.17  n/a     .000
01997>       fname :M1.0099
01998>       remark:Runoff Hydrograph for M1
01999> R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02000>     ROUTE CHANNEL     ->    1.0 01:M1          136.59    1.541 No_date    3:17   14.17  n/a     .000
02001>       [RD= 1.00] out<-      1.0 02:R1          136.59    1.323 No_date    3:53   14.17  n/a     .000
02002>       [L/S/n= 3000./ .550/.035]
02003>       [Vmax=  .910:Dmax=  .315]
02004> R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02005>     SAVE HYD                1.0 02:R1          136.59    1.323 No_date    3:53   14.17  n/a     .000
02006>       fname :R1.0099
02007>       remark:Routing Hydrograph for R1
02008> R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02009>     CALIB NASHYD            1.0 01:M2          372.64    3.942 No_date    3:18   13.34 .179     .000
02010>       [CN= 52.2: N= 3.00: Tp= 1.65]
02011> R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02012>     SAVE HYD                1.0 03:M2          372.64    3.942 No_date    3:18   13.34  n/a     .000
02013>       fname :M2.0099
02014>       remark:Routing Hydrograph for M2
02015> R0099:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02016>     ADD HYD                 1.0 01:M2          136.59    1.323 No_date    3:53   14.17  n/a     .000
02017>                           + 1.0 03:M2          372.64    3.942 No_date    3:18   13.34  n/a     .000
02018>                       SUM=  1.0 04:N21         509.23    5.148 No_date    3:29   13.56  n/a     .000
02019> R0099:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02020>     SAVE HYD                1.0 04:N21         509.23    5.148 No_date    3:29   13.56  n/a     .000
02021>       fname :N21.0099
02022>       remark:Hydrograph for N21
02023> R0099:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02024>     ROUTE CHANNEL     ->    1.0 04:N21         509.23    5.148 No_date    3:29   13.56  n/a     .000
02025>       [RD= 1.00] out<-      1.0 05:R2          509.23    3.882 No_date    4:22   13.56  n/a     .000
02026>       [L/S/n= 4000./ .180/.035]
02027>       [Vmax=  .821:Dmax=  .601]
02028> R0099:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02029>     SAVE HYD                1.0 05:R2          509.23    3.882 No_date    4:22   13.56  n/a     .000
02030>       fname :R2.0099
02031>       remark:Routing Hydrograph for R2
02032> R0099:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02033>     CALIB NASHYD            1.0 06:M3          533.23    4.845 No_date    4:04   15.76 .212     .000
02034>       [CN= 56.0: N= 3.00: Tp= 2.47]
02035> R0099:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02036>     SAVE HYD                1.0 06:M3          533.23    4.845 No_date    4:04   15.76  n/a     .000
02037>       fname :M3.0099
02038>       remark:Routing Hydrograph for M3
02039> R0099:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02040>     ADD HYD                 1.0 06:M3          533.23    4.845 No_date    4:04   15.76  n/a     .000
02041>                           + 1.0 05:R2          509.23    3.882 No_date    4:22   13.56  n/a     .000
02042>                       SUM=  1.0 07:N22        1042.46    8.694 No_date    4:14   14.69  n/a     .000
02043> R0099:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02044>     SAVE HYD                1.0 07:N22        1042.46    8.694 No_date    4:14   14.69  n/a     .000
02045>       fname :N22.0099
02046>       remark:Hydrograph for N22
02047> # Trib A
02048> R0099:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02049>     CALIB NASHYD            1.0 08:A1           86.15    1.002 No_date    3:27   15.81 .212     .000
02050>       [CN= 56.1: N= 3.00: Tp= 1.83]
02051> R0099:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02052>     SAVE HYD                1.0 08:A1           86.15    1.002 No_date    3:27   15.81  n/a     .000
02053>       fname :A1.0099
02054>       remark:Runoff Hydrograph for A1
02055> R0099:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02056>     ROUTE CHANNEL     ->    1.0 08:A1           86.15    1.002 No_date    3:27   15.81  n/a     .000
02057>       [RD= 1.00] out<-      1.0 09:R3           86.15     .865 No_date    4:04   15.81  n/a     .000
02058>       [L/S/n= 2500./ .600/.035]
02059>       [Vmax=  .789:Dmax=  .238]
02060> R0099:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02061>     SAVE HYD                1.0 09:R3           86.15     .865 No_date    4:04   15.81  n/a     .000
02062>       fname :R3.0099
02063>       remark:Routing Hydrograph for R3
02064> R0099:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02065>     CALIB NASHYD            1.0 01:A2          246.39    3.268 No_date    3:34   19.24 .258     .000
02066>       [CN= 61.0: N= 3.00: Tp= 1.99]
02067> R0099:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02068>     SAVE HYD                1.0 01:A2          246.39    3.268 No_date    3:34   19.24  n/a     .000
02069>       fname :A2.0099
02070>       remark:Routing Hydrograph for A2
02071> R0099:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02072>     ADD HYD                 1.0 01:A2          246.39    3.268 No_date    3:34   19.24  n/a     .000
02073>                           + 1.0 09:R3           86.15     .865 No_date    4:04   15.81  n/a     .000
02074>                       SUM=  1.0 02:N11        332.54    4.091 No_date    3:44   18.35  n/a     .000
02075> R0099:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02076>     SAVE HYD                1.0 02:N11         332.54    4.091 No_date    3:44   18.35  n/a     .000
02077>       fname :N11.0099
02078>       remark:Hydrograph for N11
02079> R0099:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02080>     ROUTE CHANNEL     ->    1.0 02:N11         332.54    4.091 No_date    3:44   18.35  n/a     .000
02081>       [RD= 1.00] out<-      1.0 03:R4          332.54    3.556 No_date    4:25   18.35  n/a     .000
02082>       [L/S/n= 3000./ .200/.035]
02083>       [Vmax=  .887:Dmax=  .688]
02084> R0099:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02085>     SAVE HYD                1.0 03:R4          332.54    3.556 No_date    4:25   18.35  n/a     .000
02086>       fname :R4.0099
02087>       remark:Routing Hydrograph for R4
02088> R0099:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02089>     CALIB NASHYD            1.0 04:A3          316.70    3.985 No_date    3:52   20.61 .277     .000
02090>       [CN= 62.8: N= 3.00: Tp= 2.31]
02091> R0099:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02092>     SAVE HYD                1.0 04:A3          316.70    3.985 No_date    3:52   20.61  n/a     .000
02093>       fname :A3.0099
02094>       remark:Routing Hydrograph for A3
02095> R0099:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02096>     ADD HYD                 1.0 04:A3          316.70    3.985 No_date    3:52   20.61  n/a     .000
02097>                           + 1.0 03:R4          332.54    3.556 No_date    4:25   18.35  n/a     .000
02098>                       SUM=  1.0 01:N12        649.24    7.445 No_date    4:10   19.45  n/a     .000
02099> R0099:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02100>     SAVE HYD                1.0 05:N12         649.24    7.445 No_date    4:10   19.45  n/a     .000
02101>       fname :N12.0099
02102>       remark:Hydrograph for N12
02103> # Trib B
02104> R0099:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02105>     CALIB NASHYD            1.0 06:B1          627.61    4.244 No_date    4:55   15.43 .207     .000
02106>       [CN= 55.5: N= 3.00: Tp= 3.36]
02107> R0099:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02108>     SAVE HYD                1.0 06:B1          627.61    4.244 No_date    4:55   15.43  n/a     .000
02109>       fname :B1.0099
02110>       remark:Runoff Hydrograph for B1
02111> R0099:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02112>     ROUTE CHANNEL     ->    1.0 06:B1          627.61    4.244 No_date    4:55   15.43  n/a     .000
02113>       [RD= 1.00] out<-      1.0 08:R5          627.61    4.054 No_date    5:35   15.43  n/a     .000
02114>       [L/S/n= 4800./ .870/.035]
02115>       [Vmax= 1.693:Dmax=  .679]
02116> R0099:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02117>     SAVE HYD                1.0 08:R5          627.61    4.054 No_date    5:35   15.43  n/a     .000
02118>       fname :R5.0099
02119>       remark:Routing Hydrograph for R5
02120> R0099:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02121>     CALIB NASHYD            1.0 09:B2          255.45    3.895 No_date    3:55   25.68 .345     .000
02122>       [CN= 68.8: N= 3.00: Tp= 2.39]
02123> R0099:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02124>     SAVE HYD                1.0 09:B2          255.45    3.895 No_date    3:55   25.68  n/a     .000
02125>       fname :B2.0099
02126>       remark:Routing Hydrograph for B2
02127> R0099:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02128>     ADD HYD                 1.0 08:R5          627.61    4.054 No_date    5:35   15.43  n/a     .000
02129>                           + 1.0 09:B2          255.45    3.895 No_date    3:55   25.68  n/a     .000
02130>                       SUM=  1.0 01:N2          883.06    7.335 No_date    4:43   18.40  n/a     .000
02131> R0099:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02132>     SAVE HYD                1.0 01:N2          883.06    7.335 No_date    4:43   18.40  n/a     .000
02133>       fname :N2.0099
02134>       remark:Hydrograph for N2
02135> R0099:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02136>     CALIB NASHYD            1.0 02:B3          336.77    2.286 No_date    4:41   14.40 .193     .000
02137>       [CN= 53.9: N= 3.00: Tp= 3.10]
02138> R0099:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02139>     SAVE HYD                1.0 02:B3          336.77    2.286 No_date    4:41   14.40  n/a     .000
02140>       fname :B3.0099
02141>       remark:Routing Hydrograph for B3
02142> R0099:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02143>     ADD HYD                 1.0 01:N2          883.06    7.335 No_date    4:43   18.40  n/a     .000
02144>                           + 1.0 02:B3          336.77    2.286 No_date    4:41   14.40  n/a     .000
02145>                       SUM=  1.0 03:N4         1219.83    9.621 No_date    4:43   17.29  n/a     .000
02146> R0099:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02147>     SAVE HYD                1.0 03:N4         1219.83    9.621 No_date    4:43   17.29  n/a     .000
02148>       fname :N4.0099
02149>       remark:Hydrograph for N4
02150> R0099:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02151>     ROUTE CHANNEL     ->    1.0 03:N4         1219.83    9.621 No_date    4:43   17.29  n/a     .000
02152>       [RD= 1.00] out<-      1.0 04:R6         1219.83    9.483 No_date    5:10   17.29  n/a     .000
02153>       [L/S/n= 1500./ .480/.035]
02154>       [Vmax= 1.372:Dmax= 1.074]
02155> R0099:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02156>     SAVE HYD                1.0 04:R6         1219.83    9.483 No_date    5:10   17.29  n/a     .000
02157>       fname :R6.0099
02158>       remark:Routing Hydrograph for R6
02159> R0099:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02160>     CALIB NASHYD            1.0 06:B5          224.06    1.759 No_date    4:12   14.24 .191     .000
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02161>       [CN= 53.7: N= 3.00: Tp= 2.60]
02162> R0099:C00047------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02163>       SAVE HYD              1.0 06:B5          224.06    1.759 No_date   4:12   14.24  n/a     .000
02164>        fname :B5.0099
02165>        remark:Routing Hydrograph for B5
02166> R0099:C00048------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02167>       ADD HYD              1.0 06:B5          224.06    1.759 No_date   4:12   14.24  n/a     .000
02168>                       +    1.0 04:R6         1219.83    9.483 No_date   5:10   17.29  n/a     .000
02169>                     SUM=   1.0 08:N5         1443.89   11.068 No_date   5:06   16.82  n/a     .000
02170> R0099:C00049------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02171>       SAVE HYD              1.0 08:N5         1443.89   11.068 No_date   5:06   16.82  n/a     .000
02172>        fname :N5.0099
02173>        remark:Hydrograph for N5
02174> R0099:C00050------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02175>       ROUTE CHANNEL   ->    1.0 08:N5         1443.89   11.068 No_date   5:06   16.82  n/a     .000
02176>        [RDT= 1.00] out<-    1.0 09:R7         1443.89   10.329 No_date   5:52   16.82  n/a     .000
02177>         [L/S/n= 4500./ .240/.035]
02178>         {Vmax= 1.282:Dmax= 1.091}
02179> R0099:C00051------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02180>       SAVE HYD              1.0 09:R7         1443.89   10.329 No_date   5:52   16.82  n/a     .000
02181>        fname :R7.0099
02182>        remark:Routing Hydrograph for R7
02183> R0099:C00052------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02184>       CALIB NASHYD          1.0 01:B6          329.90    6.176 No_date   3:57   32.29  .434     .000
02185>        [CN= 75.4: N= 3.00: Tp= 2.46]
02186> R0099:C00053------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02187>       SAVE HYD              1.0 01:B6          329.90    6.176 No_date   3:57   32.29  n/a     .000
02188>        fname :B6.0099
02189>        remark:Routing Hydrograph for B6
02190> R0099:C00054------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02191>       ADD HYD              1.0 09:R7         1443.89   10.329 No_date   5:52   16.82  n/a     .000
02192>                       +    1.0 01:B6          329.90    6.176 No_date   3:57   32.29  n/a     .000
02193>                     SUM=   1.0 02:N6         1773.79   15.104 No_date   5:09   19.70  n/a     .000
02194> R0099:C00055------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02195>       SAVE HYD              1.0 02:N6         1773.79   15.104 No_date   5:09   19.70  n/a     .000
02196>        fname :N6.0099
02197>        remark:Hydrograph for N6
02198> # Main channel combination with Trib A
02199> R0099:C00056------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02200>       ADD HYD              1.0 05:N12         649.24    7.445 No_date   4:10   19.45  n/a     .000
02201>                       +    1.0 07:N22        1042.46    8.694 No_date   4:14   14.69  n/a     .000
02202>                     SUM=   1.0 03:N23        1691.70   16.133 No_date   4:11   16.51  n/a     .000
02203> R0099:C00057------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02204>       SAVE HYD              1.0 03:N23        1691.70   16.133 No_date   4:11   16.51  n/a     .000
02205>        fname :N23.0099
02206>        remark:Hydrograph for N23/N24
02207> # Main channel combination with Trib B
02208> R0099:C00058------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02209>       ADD HYD              1.0 03:N23        1691.70   16.133 No_date   4:11   16.51  n/a     .000
02210>                       +    1.0 02:N6         1773.79   15.104 No_date   5:09   19.70  n/a     .000
02211>                     SUM=   1.0 04:N25        3465.49   30.419 No_date   4:36   18.14  n/a     .000
02212> R0099:C00059------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02213>       SAVE HYD              1.0 04:N25        3465.49   30.419 No_date   4:36   18.14  n/a     .000
02214>        fname :N25.0099
02215>        remark:Hydrograph for N25/N26
02216> # Main channel combination with Catchment C
02217> R0099:C00060------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02218>       CALIB NASHYD          1.0 06:C1         1414.40   13.962 No_date   4:55   22.76  .306     .000
02219>        [CN= 65.5: N= 3.00: Tp= 3.40]
02220> R0099:C00061------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02221>       SAVE HYD              1.0 06:C1         1414.40   13.962 No_date   4:55   22.76  n/a     .000
02222>        fname :C1.0099
02223>        remark:Routing Hydrograph for C1
02224> R0099:C00062------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02225>       ADD HYD              1.0 04:N25        3465.49   30.419 No_date   4:36   18.14  n/a     .000
02226>                       +    1.0 06:C1         1414.40   13.962 No_date   4:55   22.76  n/a     .000
02227>                     SUM=   1.0 08:N27        4879.89   44.282 No_date   4:38   19.48  n/a     .000
02228> R0099:C00063------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02229>       SAVE HYD              1.0 08:N27        4879.89   44.282 No_date   4:38   19.48  n/a     .000
02230>        fname :N27.0099
02231>        remark:Hydrograph for N27
02232> # Main channel
02233> R0099:C00064------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02234>       ROUTE CHANNEL   ->    1.0 08:N27        4879.89   44.282 No_date   4:38   19.48  n/a     .000
02235>        [RDT= 1.00] out<-    1.0 09:R8         4879.89   35.157 No_date   6:23   19.48  n/a     .000
02236>         [L/S/n= 2700./ .050/.035]
02237>         {Vmax=  .425:Dmax= 2.847}
02238> R0099:C00065------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02239>       SAVE HYD              1.0 09:R8         4879.89   35.157 No_date   6:23   19.48  n/a     .000
02240>        fname :R8.0099
02241>        remark:Routing Hydrograph for R8
02242> R0099:C00066------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02243>       CALIB NASHYD          1.0 01:M4          363.71    8.278 No_date   3:44   36.64  .492     .000
02244>        [CN= 79.2: N= 3.00: Tp= 2.27]
02245> R0099:C00067------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02246>       SAVE HYD              1.0 01:M4          363.71    8.278 No_date   3:44   36.64  n/a     .000
02247>        fname :M4.0099
02248>        remark:Routing Hydrograph for M4
02249> R0099:C00068------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02250>       ADD HYD              1.0 08:M4          363.71    8.278 No_date   3:44   36.64  n/a     .000
02251>                       +    1.0 09:R8         4879.89   35.157 No_date   6:23   19.48  n/a     .000
02252>                     SUM=   1.0 02:N28        5243.60   39.544 No_date   5:44   20.67  n/a     .000
02253> R0099:C00069------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02254>       SAVE HYD              1.0 02:N28        5243.60   39.544 No_date   5:44   20.67  n/a     .000
02255>        fname :N28.0099
02256>        remark:Hydrograph for N28
02257>   ** END OF RUN :  101
02258>
02259> ************************************************************************************************
02260>
02261>
02262>
02263>
02264>
02265>  RUN#:COMMAND#
02266> R0102:C00001------------------------------------------------------------------------------------
02267>       START
02268>        [TZERO =    .00 hrs on      0]
02269>        [METOUT=   2    (1=imperial, 2=metric output)]
02270>        [NSTORM=   1 ]
02271>        [NRUN  = 0102 ]
02272> #*************************************************************************
02273> #  Project Name: [Flowing]    Project Number: [M800-200-050-205]
02274> #  Date        : 04-03-2017
02275> #  Modeller    :  [   AA     ]
02276> #  Company     : Rideau Valley Conservation Authority
02277> #  License #   :  5329846
02278> #*************************************************************************
02279> # April 2024 - JB - JFSA Inc
02280> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
02281> #*************************************************************************
02282> R0102:C00002------------------------------------------------------------------------------------
02283>       READ STORM
02284>        Filename = storm.001
02285>        Comment  = 2 Year 24 Hour SCS storm
02286>        [SDT=30.00:SDUR=  24.00:PTOT=  50.07]
02287> R0102:C00003------------------------------------------------------------------------------------
02288>       DEFAULT VALUES
02289>        Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
02290>        ICASEdv  = 1 (read and print data)
02291>        FileTitle= File comment: [RVCA Flowing Creek FPM]
02292>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02293>        Horton's infiltration equation parameters:
02294>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02295>        Parameters for PERVIOUS surfaces in STANDHYD:
02296>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
02297>        Parameters for IMPERVIOUS surfaces in STANDHYD:
02298>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
02299>        Parameters used in NASHYD:
02300>        [Ia=    1.50 mm] [N= 3.00]
02301>        Average monthly Pan Evaporation data in    (mm)
02302>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02303>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02304>        Average monthly Potential Evapotranspiration in    (mm)
02305>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02306>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02307> # Main Channel
02308> R0102:C00004------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02309>       CALIB NASHYD          1.0 01:M1          136.59     .386 No_date   13:58    5.88  .117     .000
02310>        [CN= 53.5: N= 3.00: Tp= 1.64]
02311> R0102:C00005------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02312>       SAVE HYD              1.0 01:M1          136.59     .386 No_date   13:58    5.88  n/a     .000
02313>        fname :M1.0102
02314>        remark:Runoff Hydrograph for M1
02315> R0102:C00006------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02316>       ROUTE CHANNEL   ->    1.0 01:M1          136.59     .386 No_date   13:58    5.88  n/a     .000
02317>        [RDT= 1.00] out<-    1.0 02:R1          136.59     .274 No_date   15:26    5.88  n/a     .000
02318>         [L/S/n= 3000./ .550/.035]
02319>         {Vmax=  .504:Dmax=  .132}
02320> R0102:C00007------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02321>       SAVE HYD              1.0 02:R1          136.59     .274 No_date   15:26    5.88  n/a     .000
02322>        fname :R1.0102
02323>        remark:Routing Hydrograph for R1
02324> R0102:C00008------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02325>       CALIB NASHYD          1.0 03:M2          372.64     .961 No_date   14:00    5.45  .109     .000
02326>        [CN= 52.2: N= 3.00: Tp= 1.65]
02327> R0102:C00009------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02328>       SAVE HYD              1.0 03:M2          372.64     .961 No_date   14:00    5.45  n/a     .000
02329>        fname :M2.0102
02330>        remark:Routing Hydrograph for M2
02331> R0102:C00010------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02332>       ADD HYD              1.0 02:R1          136.59     .274 No_date   15:26    5.88  n/a     .000
02333>                       +    1.0 03:M2          372.64     .961 No_date   14:00    5.45  n/a     .000
02334>                     SUM=   1.0 04:N21        509.23    1.174 No_date   14:15    5.56  n/a     .000
02335> R0102:C00011------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02336>       SAVE HYD              1.0 04:N21        509.23    1.174 No_date   14:15    5.56  n/a     .000
02337>        fname :N21.0102
02338>        remark:Hydrograph for N21
02339> R0102:C00012------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02340>       ROUTE CHANNEL   ->    1.0 04:N21        509.23    1.174 No_date   14:15    5.56  n/a     .000
02341>        [RDT= 1.00] out<-    1.0 05:R2          509.23     .724 No_date   16:32    5.56  n/a     .000
02342>         [L/S/n= 4000./ .180/.035]
02343>         {Vmax=  .430:Dmax=  .239}
02344> R0102:C00013------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02345>       SAVE HYD              1.0 05:R2          509.23     .724 No_date   16:32    5.56  n/a     .000
02346>        fname :R2.0102
02347>        remark:Routing Hydrograph for R2
02348> R0102:C00014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02349>       CALIB NASHYD          1.0 06:M3          533.23    1.301 No_date   15:00    6.72  .134     .000
02350>        [CN= 56.0: N= 3.00: Tp= 2.47]
02351> R0102:C00015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02352>       SAVE HYD              1.0 06:M3          533.23    1.301 No_date   15:00    6.72  n/a     .000
02353>        fname :M3.0102
02354>        remark:Routing Hydrograph for M3
02355> R0102:C00016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02356>       ADD HYD              1.0 06:M3          533.23    1.301 No_date   15:00    6.72  n/a     .000
02357>                       +    1.0 05:R2          509.23     .724 No_date   16:32    5.56  n/a     .000
02358>                     SUM=   1.0 07:N22        1042.46    1.956 No_date   15:28    6.16  n/a     .000
02359> R0102:C00017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02360>       SAVE HYD              1.0 07:N22        1042.46    1.956 No_date   15:28    6.16  n/a     .000
02361>        fname :N22.0102
02362>        remark:Hydrograph for N22
02363> # Trib A
02364> R0102:C00018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02365>       CALIB NASHYD          1.0 08:A1           86.15     .263 No_date   14:11    6.75  .135     .000
02366>        [CN= 56.1: N= 3.00: Tp= 1.83]
02367> R0102:C00019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02368>       SAVE HYD              1.0 08:A1           86.15     .263 No_date   14:11    6.75  n/a     .000
02369>        fname :A1.0102
02370>        remark:Runoff Hydrograph for A1
02371> R0102:C00020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02372>       ROUTE CHANNEL   ->    1.0 08:A1           86.15     .263 No_date   14:11    6.75  n/a     .000
02373>        [RDT= 1.00] out<-    1.0 09:R3           86.15     .215 No_date   15:29    6.75  n/a     .000
02374>         [L/S/n= 2500./ .600/.035]
02375>         {Vmax=  .538:Dmax=  .096}
02376> R0102:C00021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02377>       SAVE HYD              1.0 09:R3           86.15     .215 No_date   15:29    6.75  n/a     .000
02378>        fname :R3.0102
02379>        remark:Routing Hydrograph for R3
02380> R0102:C00022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02381>       CALIB NASHYD          1.0 01:A2          246.39     .930 No_date   14:19    8.62  .172     .000
02382>        [CN= 61.0: N= 3.00: Tp= 0.99]
02383> R0102:C00023------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02384>       SAVE HYD              1.0 01:A2          246.39     .930 No_date   14:19    8.62  n/a     .000
02385>        fname :A2.0102
02386>        remark:Routing Hydrograph for A2
02387> R0102:C00024------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02388>       ADD HYD              1.0 A2             246.39     .930 No_date   14:19    8.62  n/a     .000
02389>                       +    1.0 09:R3           86.15     .215 No_date   15:29    6.75  n/a     .000
02390>                     SUM=   1.0 02:N11        332.54    1.116 No_date   14:31    8.14  n/a     .000
02391> R0102:C00025------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02392>       SAVE HYD              1.0 02:N11        332.54    1.116 No_date   14:31    8.14  n/a     .000
02393>        fname :N11.0102
02394>        remark:Hydrograph for N11
02395> R0102:C00026------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02396>       ROUTE CHANNEL   ->    1.0 02:N11        332.54    1.116 No_date   14:31    8.14  n/a     .000
02397>        [RDT= 1.00] out<-    1.0 03:R4          332.54     .895 No_date   15:44    8.14  n/a     .000
02398>         [L/S/n= 3000./ .200/.035]
02399>         {Vmax=  .555:Dmax=  .315}
02400> R0102:C00027------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02401>       SAVE HYD              1.0 03:R4          332.54     .895 No_date   15:44    8.14  n/a     .000
02402>        fname :R4.0102
02403>        remark:Routing Hydrograph for R4
02404> R0102:C00028------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02405>       CALIB NASHYD          1.0 04:A3          316.70    1.174 No_date   14:42    9.39  .187     .000
02406>        [CN= 62.8: N= 3.00: Tp= 2.31]
02407> R0102:C00029------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02408>       SAVE HYD              1.0 04:A3          316.70    1.174 No_date   14:42    9.39  n/a     .000
02409>        fname :A3.0102
02410>        remark:Routing Hydrograph for A3
02411> R0102:C00030------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02412>       ADD HYD              1.0 04:A3          316.70    1.174 No_date   14:42    9.39  n/a     .000
02413>                       +    1.0 03:R4          332.54     .895 No_date   15:44    8.14  n/a     .000
02414>                     SUM=   1.0 05:N12        649.24    2.008 No_date   15:18    8.75  n/a     .000
02415> R0102:C00031------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02416>       SAVE HYD              1.0 05:N12        649.24    2.008 No_date   15:18    8.75  n/a     .000
02417>        fname :N12.0102
02418>        remark:Hydrograph for N12
02419> # Trib B
02420> R0102:C00032------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02421>       CALIB NASHYD          1.0 06:B1          627.61    1.190 No_date   16:16    6.55  .131     .000
02422>        [CN= 55.5: N= 3.00: Tp= 3.36]
02423> R0102:C00033------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02424>       SAVE HYD              1.0 06:B1          627.61    1.190 No_date   16:16    6.55  n/a     .000
02425>        fname :B1.0102
02426>        remark:Runoff Hydrograph for B1
02427> R0102:C00034------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02428>       ROUTE CHANNEL   ->    1.0 06:B1          627.61    1.190 No_date   16:16    6.55  n/a     .000
02429>        [RDT= 1.00] out<-    1.0 08:R5          627.61    1.121 No_date   17:21    6.55  n/a     .000
02430>         [L/S/n= 4800./ .870/.035]
02431>         {Vmax= 1.109:Dmax=  .319}
02432> R0102:C00035------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02433>       SAVE HYD              1.0 08:R5          627.61    1.121 No_date   17:21    6.55  n/a     .000
02434>        fname :R5.0102
02435>        remark:Routing Hydrograph for R5
02436> R0102:C00036------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02437>       CALIB NASHYD          1.0 09:B2          255.45    1.242 No_date   14:44   12.33  .246     .000
02438>        [CN= 68.8: N= 3.00: Tp= 2.39]
02439> R0102:C00037------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02440>       SAVE HYD              1.0 09:B2          255.45    1.242 No_date   14:44   12.33  n/a     .000
02441>        fname :B2.0102
02442>        remark:Routing Hydrograph for B2
02443> R0102:C00038------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02444>       ADD HYD              1.0 08:R5          627.61    1.121 No_date   17:21    6.55  n/a     .000
02445>                       +    1.0 09:B2          255.45    1.242 No_date   14:44   12.33  n/a     .000
02446>                     SUM=   1.0 01:N2         883.06    2.103 No_date   16:05    8.22  n/a     .000
02447> R0102:C00039------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02448>       SAVE HYD              1.0 01:N2          883.06    2.103 No_date   16:05    8.22  n/a     .000
02449>        fname :N2.0102
02450>        remark:Hydrograph for N2
02451> R0102:C00040------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02452>       CALIB NASHYD          1.0 02:B3          336.77     .614 No_date   15:56    6.00  .120     .000
02453>        [CN= 53.9: N= 3.00: Tp= 3.10]
02454> R0102:C00041------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02455>       SAVE HYD              1.0 02:B3          336.77     .614 No_date   15:56    6.00  n/a     .000
02456>        fname :B3.0102
02457>        remark:Routing Hydrograph for B3
02458> R0102:C00042------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02459>       ADD HYD              1.0 01:N2          883.06    2.103 No_date   16:05    8.22  n/a     .000
02460>                       +    1.0 02:B3          336.77     .614 No_date   15:56    6.00  n/a     .000
02461>                     SUM=   1.0 03:N4         1219.83    2.717 No_date   16:01    7.61  n/a     .000
02462> R0102:C00043------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02463>       SAVE HYD              1.0 03:N4         1219.83    2.717 No_date   16:01    7.61  n/a     .000
02464>        fname :N4.0102
02465>        remark:Hydrograph for N4
02466> R0102:C00044------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02467>       ROUTE CHANNEL   ->    1.0 03:N4         1219.83    2.717 No_date   16:01    7.61  n/a     .000
02468>        [RDT= 1.00] out<-    1.0 04:R6         1219.83    2.701 No_date   16:18    7.61  n/a     .000
02469>         [L/S/n= 1500./ .480/.035]
02470>         {Vmax= 1.132:Dmax=  .527}
02471> R0102:C00045------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02472>       SAVE HYD              1.0 04:R6         1219.83    2.701 No_date   16:18    7.61  n/a     .000
02473>        fname :R6.0102
02474>        remark:Routing Hydrograph for R6
02475> R0102:C00046------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02476>       CALIB NASHYD          1.0 06:B5          224.06     .456 No_date   15:13    5.92  .118     .000
02477>        [CN= 53.7: N= 3.00: Tp= 2.60]
02478> R0102:C00047------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02479>       SAVE HYD              1.0 06:B5          224.06     .456 No_date   15:13    5.92  n/a     .000
02480>        fname :B5.0102
02481>        remark:Routing Hydrograph for B5
02482> R0102:C00048------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02483>       ADD HYD              1.0 06:B5          224.06     .456 No_date   15:13    5.92  n/a     .000
02484>                       +    1.0 04:R6         1219.83    2.701 No_date   16:18    7.61  n/a     .000
02485>                     SUM=   1.0 08:N5         1443.89    3.130 No_date   16:09    7.35  n/a     .000
02486> R0102:C00049------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02487>       SAVE HYD              1.0 08:N5         1443.89    3.130 No_date   16:09    7.35  n/a     .000
02488>        fname :N5.0102
02489>        remark:Hydrograph for N5
02490> R0102:C00050------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02491>       ROUTE CHANNEL   ->    1.0 08:N5         1443.89    3.130 No_date   16:09    7.35  n/a     .000
02492>        [RDT= 1.00] out<-    1.0 09:R7         1443.89    2.792 No_date   17:32    7.35  n/a     .000
02493>         [L/S/n= 4500./ .240/.035]
02494>         {Vmax=  .821:Dmax=  .508}
02495> R0102:C00051------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02496>       SAVE HYD              1.0 09:R7         1443.89    2.792 No_date   17:32    7.35  n/a     .000
02497>        fname :R7.0102
02498>        remark:Routing Hydrograph for R7
02499> R0102:C00052------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02500>       CALIB NASHYD          1.0 01:B6          329.90    2.132 No_date   14:45   16.40  .328     .000
02501>        [CN= 75.4: N= 3.00: Tp= 2.46]
02502> R0102:C00053------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02503>       SAVE HYD              1.0 01:B6          329.90    2.132 No_date   14:45   16.40  n/a     .000
02504>        fname :B6.0102
02505>        remark:Hydrograph for B6
02506> R0102:C00054------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02507>       ADD HYD              1.0 09:R7         1443.89    2.792 No_date   17:32    7.35  n/a     .000
02508>                       +    1.0 01:B6          329.90    2.132 No_date   14:45   16.40  n/a     .000
02509>                     SUM=   1.0 02:N6         1773.79    4.348 No_date   16:29    9.03  n/a     .000
02510> R0102:C00055------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02511>       SAVE HYD              1.0 02:N6         1773.79    4.348 No_date   16:29    9.03  n/a     .000
02512>        fname :N6.0102
02513>        remark:Hydrograph for N6
02514> # Main channel combination with Trib A
02515> R0102:C00056------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02516>       ADD HYD              1.0 05:N12         649.24    2.008 No_date   15:18    8.75  n/a     .000
02517>                       +    1.0 07:N22        1042.46    1.956 No_date   15:28    6.16  n/a     .000
02518>                     SUM=   1.0 03:N23        1691.70    3.961 No_date   15:23    7.15  n/a     .000
02519> R0102:C00057------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02520>       SAVE HYD              1.0 03:N23        1691.70    3.961 No_date   15:23    7.15  n/a     .000
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02521>       fname :N23.0102
02522>       remark:Hydrograph for N23/N24
02523> # Main channel combination with Trib B
02524> R0102:c00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02525>     ADD HYD              1.0 03:N23        1691.70    3.961 No_date   15:23    7.15  n/a     .000
02526>                    +     1.0 02:N6         1773.79    4.348 No_date   16:29    9.03  n/a     .000
02527>                  SUM=    1.0 04:N25        3465.49    8.130 No_date   16:02    8.11  n/a     .000
02528> R0102:c00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02529>     SAVE HYD             1.0 04:N25        3465.49    8.130 No_date   16:02    8.11  n/a     .000
02530>       fname :N25.0102
02531>       remark:Hydrograph for N25/N26
02532> # Main channel combination with Catchment C
02533> R0102:c00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02534>     CALIB NASHYD         1.0 06:C1         1414.40    4.487 No_date   16:06   10.62 .212     .000
02535>       [CN= 65.5: N= 3.00: Tp= 3.40]
02536> R0102:c00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02537>     SAVE HYD             1.0 06:C1         1414.40    4.487 No_date   16:06   10.62  n/a     .000
02538>       fname :C1.0102
02539>       remark:Routing Hydrograph for C1
02540> R0102:c00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02541>     ADD HYD              1.0 04:N25        3465.49    8.130 No_date   16:02    8.11  n/a     .000
02542>                    +     1.0 06:C1         1414.40    4.487 No_date   16:06   10.62  n/a     .000
02543>                  SUM=    1.0 08:N27        4879.89   12.616 No_date   16:02    8.84  n/a     .000
02544> R0102:c00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02545>     SAVE HYD             1.0 08:N27        4879.89   12.616 No_date   16:02    8.84  n/a     .000
02546>       fname :N27.0102
02547>       remark:Hydrograph for N27
02548> # Main channel
02549> R0102:c00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02550>     ROUTE CHANNEL   ->    1.0 08:N27        4879.89   12.616 No_date   16:02    8.84  n/a     .000
02551>       [RDT= 1.00] out<-    1.0 09:R8         4879.89   11.726 No_date   16:49    8.84  n/a     .000
02552>       [L/S/n= 2700./ .050/.035]
02553>       {Vmax=  .743:Dmax= 1.572}
02554> R0102:c00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02555>     SAVE HYD             1.0 09:R8         4879.89   11.726 No_date   16:49    8.84  n/a     .000
02556>       fname :R8.0102
02557>       remark:Routing Hydrograph for R8
02558> R0102:c00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02559>     CALIB NASHYD         1.0 01:M4         363.71    2.964 No_date   14:29   19.23 .384     .000
02560>       [CN= 79.2: N= 3.00: Tp= 2.27]
02561> R0102:c00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02562>     SAVE HYD             1.0 01:M4         363.71    2.964 No_date   14:29   19.23  n/a     .000
02563>       fname :M4.0102
02564>       remark:Routing Hydrograph for M4
02565> R0102:c00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02566>     ADD HYD              1.0 01:M4         363.71    2.964 No_date   14:29   19.23  n/a     .000
02567>                    +     1.0 09:R8         4879.89   11.726 No_date   16:49    8.84  n/a     .000
02568>                  SUM=    1.0 02:N28        5243.60   13.815 No_date   16:26    9.56  n/a     .000
02569> R0102:c00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02570>     SAVE HYD             1.0 02:N28        5243.60   13.815 No_date   16:26    9.56  n/a     .000
02571>       fname :N28.0102
02572>       remark:Hydrograph for N28
02573>   ** END OF RUN :  104
02574>
02575> ************************************************************************************************
02576>
02577>
02578>
02579>
02580>
02581>  RUN#:COMMAND#
02582> R0105:c00001------------------------------------------------------------------------------------
02583>       START
02584>       [TZERO =     .00 hrs on        0]
02585>       [METOUT=   2    (1=imperial, 2=metric output)]
02586>       [NSTORM=   1 ]
02587>       [NRUN  = 0105 ]
02588> #*********************************************************************
02589> #  Project Name: [Flowing]     Project Number: [M800-200-050-205]
02590> #  Date        : 04-03-2017
02591> #  Modeller    : [    AA     ]
02592> #  Company     : Rideau Valley Conservation Authority
02593> #  License #   : 5329846
02594> #*********************************************************************
02595> # April 2024 - JB - JFSA Inc
02596> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
02597> #*********************************************************************
02598> R0105:c00002------------------------------------------------------------------------------------
02599>       READ STORM
02600>       Filename = storm.001
02601>       Comment  = 5 Year 24 Hour SCS storm
02602>       [SDT=30.00:SDUR=  24.00:PTOT=  70.01]
02603> R0105:c00003------------------------------------------------------------------------------------
02604>       DEFAULT VALUES
02605>       Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
02606>       ICASEdv  = 1 (read and print data)
02607>       FileTitle= File comment: [RVCA Flowing Creek FPM]
02608>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02609>       Horton's infiltration equation parameters:
02610>       [F0= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02611>       Parameters for PERVIOUS surfaces in STANDHYD:
02612>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
02613>       Parameters for IMPERVIOUS surfaces in STANDHYD:
02614>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
02615>       Parameters used in NASHYD:
02616>       [Ia=   1.50 mm] [N= 3.00]
02617>       Average monthly Pan Evaporation data in    (mm)
02618>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02619>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02620>       Average monthly Potential Evapotranspiration in    (mm)
02621>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02622>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02623> # Main Channel
02624> R0105:c00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02625>     CALIB NASHYD         1.0 01:M1         136.59     .862 No_date   13:52   12.45 .178     .000
02626>       [CN= 53.5: N= 3.00: Tp= 1.64]
02627> R0105:c00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02628>     SAVE HYD             1.0 01:M1         136.59     .862 No_date   13:52   12.45  n/a     .000
02629>       fname :M1.0105
02630>       remark:Runoff Hydrograph for M1
02631> R0105:c00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02632>     ROUTE CHANNEL   ->    1.0 01:M1         136.59     .862 No_date   13:52   12.45  n/a     .000
02633>       [RDT= 1.00] out<-    1.0 02:R1         136.59     .710 No_date   14:51   12.45  n/a     .000
02634>       [L/S/n= 3000./ .550/.035]
02635>       {Vmax=  .725:Dmax=  .220}
02636> R0105:c00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02637>     SAVE HYD             1.0 02:R1         136.59     .710 No_date   14:51   12.45  n/a     .000
02638>       fname :R1.0105
02639>       remark:Routing Hydrograph for R1
02640> R0105:c00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02641>     CALIB NASHYD         1.0 03:M2         372.64    2.184 No_date   13:53   11.70 .167     .000
02642>       [CN= 52.2: N= 3.00: Tp= 1.65]
02643> R0105:c00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02644>     SAVE HYD             1.0 03:M2         372.64    2.184 No_date   13:53   11.70  n/a     .000
02645>       fname :M2.0105
02646>       remark:Routing Hydrograph for M2
02647> R0105:c00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02648>     ADD HYD              1.0 02:R1         136.59     .710 No_date   14:51   12.45  n/a     .000
02649>                    +     1.0 03:M2         372.64    2.184 No_date   13:53   11.70  n/a     .000
02650>                  SUM=    1.0 04:N21        509.23    2.783 No_date   14:12   11.90  n/a     .000
02651> R0105:c00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02652>     SAVE HYD             1.0 04:N21        509.23    2.783 No_date   14:12   11.90  n/a     .000
02653>       fname :N21.0105
02654>       remark:Hydrograph for N21
02655> R0105:c00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02656>     ROUTE CHANNEL   ->    1.0 04:N21        509.23    2.783 No_date   14:12   11.90  n/a     .000
02657>       [RDT= 1.00] out<-    1.0 05:R2         509.23    1.999 No_date   15:31   11.90  n/a     .000
02658>       [L/S/n= 4000./ .180/.035]
02659>       {Vmax=  .637:Dmax=  .411}
02660> R0105:c00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02661>     SAVE HYD             1.0 05:R2         509.23    1.999 No_date   15:31   11.90  n/a     .000
02662>       fname :R2.0105
02663>       remark:Routing Hydrograph for R2
02664> R0105:c00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02665>     CALIB NASHYD         1.0 06:M3         533.23    2.797 No_date   14:53   13.91 .199     .000
02666>       [CN= 56.0: N= 3.00: Tp= 2.47]
02667> R0105:c00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02668>     SAVE HYD             1.0 06:M3         533.23    2.797 No_date   14:53   13.91  n/a     .000
02669>       fname :M3.0105
02670>       remark:Routing Hydrograph for M3
02671> R0105:c00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02672>     ADD HYD              1.0 06:M3         533.23    2.797 No_date   14:53   13.91  n/a     .000
02673>                    +     1.0 05:R2         509.23    1.999 No_date   15:31   11.90  n/a     .000
02674>                  SUM=    1.0 07:N22       1042.46    4.753 No_date   15:09   12.93  n/a     .000
02675> R0105:c00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02676>     SAVE HYD             1.0 07:N22       1042.46    4.753 No_date   15:09   12.93  n/a     .000
02677>       fname :N22.0105
02678>       remark:Hydrograph for N22
02679> # Trib A
02680> R0105:c00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02681>     CALIB NASHYD         1.0 08:A1          86.15     .568 No_date   14:05   13.95 .199     .000
02682>       [CN= 56.1: N= 3.00: Tp= 1.83]
02683> R0105:c00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02684>     SAVE HYD             1.0 08:A1          86.15     .568 No_date   14:05   13.95  n/a     .000
02685>       fname :A1.0105
02686>       remark:Runoff Hydrograph for A1
02687> R0105:c00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02688>     ROUTE CHANNEL   ->    1.0 08:A1          86.15     .568 No_date   14:05   13.95  n/a     .000
02689>       [RDT= 1.00] out<-    1.0 09:R3          86.15     .468 No_date   15:11   13.95  n/a     .000
02690>       [L/S/n= 2500./ .600/.035]
02691>       {Vmax=  .604:Dmax=  .164}
02692> R0105:c00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02693>     SAVE HYD             1.0 09:R3          86.15     .468 No_date   15:11   13.95  n/a     .000
02694>       fname :R3.0105
02695>       remark:Routing Hydrograph for R3
02696> R0105:c00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02697>     CALIB NASHYD         1.0 01:A2         246.39    1.903 No_date   14:14   17.09 .244     .000
02698>       [CN= 61.0: N= 3.00: Tp= 1.99]
02699> R0105:c00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02700>     SAVE HYD             1.0 01:A2         246.39    1.903 No_date   14:14   17.09  n/a     .000
02701>       fname :A2.0105
02702>       remark:Routing Hydrograph for A2
02703> R0105:c00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02704>     ADD HYD              1.0 01:A2         246.39    1.903 No_date   14:14   17.09  n/a     .000
02705>                    +     1.0 09:R3          86.15     .468 No_date   15:11   13.95  n/a     .000
02706>                  SUM=    1.0 02:N11        332.54    2.322 No_date   14:27   16.27  n/a     .000
02707> R0105:c00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02708>     SAVE HYD             1.0 02:N11        332.54    2.322 No_date   14:27   16.27  n/a     .000
02709>       fname :N11.0105
02710>       remark:Hydrograph for N11
02711> R0105:c00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02712>     ROUTE CHANNEL   ->    1.0 02:N11        332.54    2.322 No_date   14:27   16.27  n/a     .000
02713>       [RDT= 1.00] out<-    1.0 03:R4         332.54    1.994 No_date   15:25   16.27  n/a     .000
02714>       [L/S/n= 3000./ .200/.035]
02715>       {Vmax=  .727:Dmax=  .490}
02716> R0105:c00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02717>     SAVE HYD             1.0 03:R4         332.54    1.994 No_date   15:25   16.27  n/a     .000
02718>       fname :R4.0105
02719>       remark:Routing Hydrograph for R4
02720> R0105:c00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02721>     CALIB NASHYD         1.0 04:A3         316.70    2.360 No_date   14:37   18.35 .262     .000
02722>       [CN= 62.8: N= 3.00: Tp= 2.31]
02723> R0105:c00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02724>     SAVE HYD             1.0 04:A3         316.70    2.360 No_date   14:37   18.35  n/a     .000
02725>       fname :A3.0105
02726>       remark:Routing Hydrograph for A3
02727> R0105:c00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02728>     ADD HYD              1.0 04:A3         316.70    2.360 No_date   14:37   18.35  n/a     .000
02729>                    +     1.0 03:R4         332.54    1.994 No_date   15:25   16.27  n/a     .000
02730>                  SUM=    1.0 05:N12        649.24    4.275 No_date   15:00   17.29  n/a     .000
02731> R0105:c00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02732>     SAVE HYD             1.0 05:N12        649.24    4.275 No_date   15:00   17.29  n/a     .000
02733>       fname :N12.0105
02734>       remark:Hydrograph for N12
02735> # Trib B
02736> R0105:c00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02737>     CALIB NASHYD         1.0 06:B1         627.61    2.554 No_date   16:05   13.60 .194     .000
02738>       [CN= 55.5: N= 3.00: Tp= 3.36]
02739> R0105:c00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02740>     SAVE HYD             1.0 06:B1         627.61    2.554 No_date   16:05   13.60  n/a     .000
02741>       fname :B1.0105
02742>       remark:Runoff Hydrograph for B1
02743> R0105:c00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02744>     ROUTE CHANNEL   ->    1.0 06:B1         627.61    2.554 No_date   16:05   13.60  n/a     .000
02745>       [RDT= 1.00] out<-    1.0 08:R5         627.61    2.459 No_date   16:51   13.60  n/a     .000
02746>       [L/S/n= 4800./ .870/.035]
02747>       {Vmax= 1.444:Dmax=  .504}
02748> R0105:c00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02749>     SAVE HYD             1.0 08:R5         627.61    2.459 No_date   16:51   13.60  n/a     .000
02750>       fname :R5.0105
02751>       remark:Routing Hydrograph for R5
02752> R0105:c00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02753>     CALIB NASHYD         1.0 09:B2         255.45    2.369 No_date   14:39   23.04 .329     .000
02754>       [CN= 68.8: N= 3.00: Tp= 2.39]
02755> R0105:c00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02756>     SAVE HYD             1.0 09:B2         255.45    2.369 No_date   14:39   23.04  n/a     .000
02757>       fname :B2.0105
02758>       remark:Routing Hydrograph for B2
02759> R0105:c00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02760>     ADD HYD              1.0 08:R5         627.61    2.459 No_date   16:51   13.60  n/a     .000
02761>                    +     1.0 09:B2         255.45    2.369 No_date   14:39   23.04  n/a     .000
02762>                  SUM=    1.0 01:N2         883.06    4.402 No_date   15:47   16.33  n/a     .000
02763> R0105:c00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02764>     SAVE HYD             1.0 01:N2         883.06    4.402 No_date   15:47   16.33  n/a     .000
02765>       fname :N2.0105
02766>       remark:Hydrograph for N2
02767> R0105:c00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02768>     CALIB NASHYD         1.0 02:B3         336.77    1.346 No_date   15:45   12.66 .181     .000
02769>       [CN= 53.9: N= 3.00: Tp= 3.10]
02770> R0105:c00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02771>     SAVE HYD             1.0 02:B3         336.77    1.346 No_date   15:45   12.66  n/a     .000
02772>       fname :B3.0105
02773>       remark:Routing Hydrograph for B3
02774> R0105:c00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02775>     ADD HYD              1.0 01:N2         883.06    4.402 No_date   15:47   16.33  n/a     .000
02776>                    +     1.0 02:B3         336.77    1.346 No_date   15:45   12.66  n/a     .000
02777>                  SUM=    1.0 03:N4        1219.83    5.748 No_date   15:47   15.32  n/a     .000
02778> R0105:c00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02779>     SAVE HYD             1.0 03:N4        1219.83    5.748 No_date   15:47   15.32  n/a     .000
02780>       fname :N4.0105
02781>       remark:Hydrograph for N4
02782> R0105:c00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02783>     ROUTE CHANNEL   ->    1.0 03:N4        1219.83    5.748 No_date   15:47   15.32  n/a     .000
02784>       [RDT= 1.00] out<-    1.0 04:R6        1219.83    5.728 No_date   16:01   15.32  n/a     .000
02785>       [L/S/n= 1500./ .480/.035]
02786>       {Vmax= 1.448:Dmax=  .821}
02787> R0105:c00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02788>     SAVE HYD             1.0 04:R6        1219.83    5.728 No_date   16:01   15.32  n/a     .000
02789>       fname :R6.0105
02790>       remark:Routing Hydrograph for R6
02791> R0105:c00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02792>     CALIB NASHYD         1.0 06:B5         224.06    1.008 No_date   15:05   12.52 .179     .000
02793>       [CN= 53.7: N= 3.00: Tp= 1.60]
02794> R0105:c00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02795>     SAVE HYD             1.0 06:B5         224.06    1.008 No_date   15:05   12.52  n/a     .000
02796>       fname :B5.0105
02797>       remark:Routing Hydrograph for B5
02798> R0105:c00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02799>     ADD HYD              1.0 05:B5         224.06    1.008 No_date   15:05   12.52  n/a     .000
02800>                    +     1.0 04:R6        1219.83    5.728 No_date   16:01   15.32  n/a     .000
02801>                  SUM=    1.0 08:N5        1443.89    6.681 No_date   15:59   14.89  n/a     .000
02802> R0105:c00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02803>     SAVE HYD             1.0 08:N5        1443.89    6.681 No_date   15:59   14.89  n/a     .000
02804>       fname :N5.0105
02805>       remark:Hydrograph for N5
02806> R0105:c00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02807>     ROUTE CHANNEL   ->    1.0 08:N5        1443.89    6.681 No_date   15:59   14.89  n/a     .000
02808>       [RDT= 1.00] out<-    1.0 09:R7        1443.89    6.196 No_date   16:57   14.89  n/a     .000
02809>       [L/S/n= 4500./ .240/.035]
02810>       {Vmax= 1.078:Dmax=  .804}
02811> R0105:c00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02812>     SAVE HYD             1.0 09:R7        1443.89    6.196 No_date   16:57   14.89  n/a     .000
02813>       fname :R7.0105
02814>       remark:Routing Hydrograph for R7
02815> R0105:c00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02816>     CALIB NASHYD         1.0 01:B6         329.90    3.857 No_date   14:41   29.20 .417     .000
02817>       [CN= 75.4: N= 3.00: Tp= 2.46]
02818> R0105:c00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02819>     SAVE HYD             1.0 01:B6         329.90    3.857 No_date   14:41   29.20  n/a     .000
02820>       fname :B6.0105
02821>       remark:Routing Hydrograph for B6
02822> R0105:c00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02823>     ADD HYD              1.0 09:R7        1443.89    6.196 No_date   16:57   14.89  n/a     .000
02824>                    +     1.0 01:B6         329.90    3.857 No_date   14:41   29.20  n/a     .000
02825>                  SUM=    1.0 02:N6        1773.79    9.212 No_date   16:13   17.55  n/a     .000
02826> R0105:c00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02827>     SAVE HYD             1.0 02:N6        1773.79    9.212 No_date   16:13   17.55  n/a     .000
02828>       fname :N6.0105
02829>       remark:Hydrograph for N6
02830> # Main channel combination with Trib A
02831> R0105:c00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02832>     ADD HYD              1.0 05:N12        649.24    4.275 No_date   15:00   17.29  n/a     .000
02833>                    +     1.0 07:N22       1042.46    4.753 No_date   15:09   12.93  n/a     .000
02834>                  SUM=    1.0 03:N23       1691.70    9.024 No_date   15:07   14.60  n/a     .000
02835> R0105:c00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02836>     SAVE HYD             1.0 03:N23       1691.70    9.024 No_date   15:07   14.60  n/a     .000
02837>       fname :N23.0105
02838>       remark:Hydrograph for N23/N24
02839> # Main channel combination with Trib B
02840> R0105:c00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02841>     ADD HYD              1.0 03:N23       1691.70    9.024 No_date   15:07   14.60  n/a     .000
02842>                    +     1.0 02:N6        1773.79    9.212 No_date   16:13   17.55  n/a     .000
02843>                  SUM=    1.0 04:N25       3465.49   17.797 No_date   15:38   16.11  n/a     .000
02844> R0105:c00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02845>     SAVE HYD             1.0 04:N25       3465.49   17.797 No_date   15:38   16.11  n/a     .000
02846>       fname :N25.0105
02847>       remark:Hydrograph for N25/N26
02848> # Main channel combination with Catchment C
02849> R0105:c00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02850>     CALIB NASHYD         1.0 06:C1        1414.40    8.770 No_date   15:59   20.33 .290     .000
02851>       [CN= 65.5: N= 3.00: Tp= 3.40]
02852> R0105:c00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02853>     SAVE HYD             1.0 06:C1        1414.40    8.770 No_date   15:59   20.33  n/a     .000
02854>       fname :C1.0105
02855>       remark:Routing Hydrograph for C1
02856> R0105:c00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02857>     ADD HYD              1.0 04:N25       3465.49   17.797 No_date   15:38   16.11  n/a     .000
02858>                    +     1.0 06:C1        1414.40    8.770 No_date   15:59   20.33  n/a     .000
02859>                  SUM=    1.0 08:N27       4879.89   26.529 No_date   15:44   17.33  n/a     .000
02860> R0105:c00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02861>     SAVE HYD             1.0 08:N27       4879.89   26.529 No_date   15:44   17.33  n/a     .000
02862>       fname :N27.0105
02863>       remark:Hydrograph for N27
02864> # Main channel
02865> R0105:c00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02866>     ROUTE CHANNEL   ->    1.0 08:N27       4879.89   26.529 No_date   15:44   17.33  n/a     .000
02867>       [RDT= 1.00] out<-    1.0 09:R8        4879.89   24.092 No_date   17:07   17.33  n/a     .000
02868>       [L/S/n= 2700./ .050/.035]
02869>       {Vmax=  .646:Dmax= 2.374}
02870> R0105:c00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02871>     SAVE HYD             1.0 09:R8        4879.89   24.092 No_date   17:07   17.33  n/a     .000
02872>       fname :R8.0105
02873>       remark:Routing Hydrograph for R8
02874> R0105:c00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02875>     CALIB NASHYD         1.0 01:M4         363.71    5.203 No_date   14:26   33.29 .476     .000
02876>       [CN= 79.2: N= 3.00: Tp= 2.27]
02877> R0105:c00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02878>     SAVE HYD             1.0 01:M4         363.71    5.203 No_date   14:26   33.29  n/a     .000
02879>       fname :M4.0105
02880>       remark:Routing Hydrograph for M4
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02881> R0105:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02882>     ADD HYD                1.0 01:M4          363.71    5.203 No_date   14:26   33.29  n/a     .000
02883>                  +         1.0 09:R8         4879.89   24.092 No_date   17:07   17.33  n/a     .000
02884>                SUM=        1.0 02:N28        5243.60   27.313 No_date   16:44   18.44  n/a     .000
02885> R0105:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02886>     SAVE HYD               1.0 02:N28        5243.60   27.313 No_date   16:44   18.44  n/a     .000
02887>       fname :N28.0105
02888>       remark:Hydrograph for N28
02889>  ** END OF RUN :  109
02890>
02891> ****************************************************************************************************
02892>
02893>
02894>
02895>
02896>
02897>  RUN#:COMMAND#
02898> R0110:C00001------------------------------------------------------------------------------------------
02899>     START
02900>       [TZERO =    .00 hrs on        0]
02901>       [METOUT=  2    (1=imperial, 2=metric output)]
02902>       [NSTORM=  1 ]
02903>       [NRUN  = 0110 ]
02904> #*************************************************************************
02905> #  Project Name: [Flowing]     Project Number: [M800-200-050-205]
02906> #  Date        : 04-03-2017
02907> #  Modeller    : [   AA      ]
02908> #  Company     : Rideau Valley Conservation Authority
02909> #  License #   :  5329846
02910> #*************************************************************************
02911> # April 2024 - JB - JFSA Inc
02912> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
02913> #*************************************************************************
02914> R0110:C00002------------------------------------------------------------------------------------------
02915>     READ STORM
02916>       Filename = storm.001
02917>       Comment  = 10 Year 24 Hour SCS storm
02918>       [SDT=30.00:SDUR=  24.00:PTOT=  82.59]
02919> R0110:C00003------------------------------------------------------------------------------------------
02920>     DEFAULT VALUES
02921>       Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
02922>       ICASEdv  = 1 (read and print data)
02923>       FileTitle= File comment: [RVCA Flowing Creek FPM]
02924>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02925>       Horton's infiltration equation parameters:
02926>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02927>       Parameters for PERVIOUS surfaces in STANDHYD:
02928>       [IAperc=   4.67 mm] [LGPerc=0.00 m] [MNP= .250]
02929>       Parameters for IMPERVIOUS surfaces in STANDHYD:
02930>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
02931>       Parameters used in NASHYD:
02932>       [ia=   1.50 mm] [N= 3.00]
02933>       Average monthly Fan Evaporation data in    (mm)
02934>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02935>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02936>       Average monthly Fractional Evapotranspiration in    (mm)
02937>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02938>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02939> # Main Channel
02940> R0110:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02941>     CALIB NASHYD           1.0 01:M1          136.59    1.235 No_date   13:50   17.54 .212     .000
02942>       [CN= 53.5: N= 3.00: Tp= 1.64]
02943> R0110:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02944>     SAVE HYD               1.0 01:M1          136.59    1.235 No_date   13:50   17.54  n/a     .000
02945>       fname :M1.0110
02946>       remark:Runoff Hydrograph for M1
02947> R0110:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02948>     ROUTE CHANNEL    ->    1.0 01:M1          136.59    1.235 No_date   13:50   17.54  n/a     .000
02949>       [RDT= 1.00] out<-    1.0 02:R1          136.59    1.032 No_date   14:42   17.54  n/a     .000
02950>       [L/S/n= 3000./ .550/.035]
02951>       {Vmax=  .829:Dmax=  .274}
02952> R0110:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02953>     SAVE HYD               1.0 02:R1          136.59    1.032 No_date   14:42   17.54  n/a     .000
02954>       fname :R1.0110
02955>       remark:Routing Hydrograph for R1
02956> R0110:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02957>     CALIB NASHYD           1.0 03:M2          372.64    3.152 No_date   13:51   16.57 .201     .000
02958>       [CN= 52.2: N= 3.00: Tp= 1.65]
02959> R0110:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02960>     SAVE HYD               1.0 03:M2          372.64    3.152 No_date   13:51   16.57  n/a     .000
02961>       fname :M2.0110
02962>       remark:Routing Hydrograph for M2
02963> R0110:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02964>     ADD HYD                1.0 02:R1          136.59    1.032 No_date   14:42   17.54  n/a     .000
02965>                  +         1.0 03:M2          372.64    3.152 No_date   13:51   16.57  n/a     .000
02966>                SUM=        1.0 04:N21         509.23    4.073 No_date   14:05   16.83  n/a     .000
02967> R0110:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02968>     SAVE HYD               1.0 04:N21         509.23    4.073 No_date   14:05   16.83  n/a     .000
02969>       fname :N21.0110
02970>       remark:Hydrograph for N21
02971> R0110:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02972>     ROUTE CHANNEL    ->    1.0 04:N21         509.23    4.073 No_date   14:05   16.83  n/a     .000
02973>       [RDT= 1.00] out<-    1.0 05:R2          509.23    3.098 No_date   15:11   16.83  n/a     .000
02974>       [L/S/n= 4000./ .180/.035]
02975>       {Vmax=  .748:Dmax=  .521}
02976> R0110:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02977>     SAVE HYD               1.0 05:R2          509.23    3.098 No_date   15:11   16.83  n/a     .000
02978>       fname :R2.0110
02979>       remark:Routing Hydrograph for R2
02980> R0110:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02981>     CALIB NASHYD           1.0 06:M3          533.23    3.957 No_date   14:50   19.40 .235     .000
02982>       [CN= 56.0: N= 3.00: Tp= 2.47]
02983> R0110:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02984>     SAVE HYD               1.0 06:M3          533.23    3.957 No_date   14:50   19.40  n/a     .000
02985>       fname :M3.0110
02986>       remark:Routing Hydrograph for M3
02987> R0110:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02988>     ADD HYD                1.0 06:M3          533.23    3.957 No_date   14:50   19.40  n/a     .000
02989>                  +         1.0 05:R2          509.23    3.098 No_date   15:11   16.83  n/a     .000
02990>                SUM=        1.0 07:N22        1042.46    7.021 No_date   15:05   18.15  n/a     .000
02991> R0110:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02992>     SAVE HYD               1.0 07:N22        1042.46    7.021 No_date   15:05   18.15  n/a     .000
02993>       fname :N22.0110
02994>       remark:Hydrograph for N22
02995> # Trib A
02996> R0110:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02997>     CALIB NASHYD           1.0 08:A1           86.15     .804 No_date   14:03   19.46 .236     .000
02998>       [CN= 56.1: N= 3.00: Tp= 1.83]
02999> R0110:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03000>     SAVE HYD               1.0 08:A1           86.15     .804 No_date   14:03   19.46  n/a     .000
03001>       fname :A1.0110
03002>       remark:Runoff Hydrograph for A1
03003> R0110:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03004>     ROUTE CHANNEL    ->    1.0 08:A1           86.15     .804 No_date   14:03   19.46  n/a     .000
03005>       [RDT= 1.00] out<-    1.0 09:R3           86.15     .684 No_date   14:57   19.46  n/a     .000
03006>       [L/S/n= 2500./ .600/.035]
03007>       {Vmax=  .692:Dmax=  .204}
03008> R0110:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03009>     SAVE HYD               1.0 09:R3           86.15     .684 No_date   14:57   19.46  n/a     .000
03010>       fname :R3.0110
03011>       remark:Routing Hydrograph for R3
03012> R0110:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03013>     CALIB NASHYD           1.0 01:A2          246.39    2.640 No_date   14:13   23.43 .284     .000
03014>       [CN= 61.0: N= 3.00: Tp= 1.99]
03015> R0110:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03016>     SAVE HYD               1.0 01:A2          246.39    2.640 No_date   14:13   23.43  n/a     .000
03017>       fname :A2.0110
03018>       remark:Routing Hydrograph for A2
03019> R0110:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03020>     ADD HYD                1.0 01:A2          246.39    2.640 No_date   14:13   23.43  n/a     .000
03021>                  +         1.0 09:R3           86.15     .684 No_date   14:57   19.46  n/a     .000
03022>                SUM=        1.0 02:N11        332.54    3.273 No_date   14:23   22.40  n/a     .000
03023> R0110:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03024>     SAVE HYD               1.0 02:N11         332.54    3.273 No_date   14:23   22.40  n/a     .000
03025>       fname :N11.0110
03026>       remark:Hydrograph for N11
03027> R0110:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03028>     ROUTE CHANNEL    ->    1.0 02:N11         332.54    3.273 No_date   14:23   22.40  n/a     .000
03029>       [RDT= 1.00] out<-    1.0 03:R4          332.54    2.874 No_date   15:15   22.40  n/a     .000
03030>       [L/S/n= 3000./ .200/.035]
03031>       {Vmax=  .822:Dmax=  .603}
03032> R0110:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03033>     SAVE HYD               1.0 03:R4          332.54    2.874 No_date   15:15   22.40  n/a     .000
03034>       fname :R4.0110
03035>       remark:Routing Hydrograph for R4
03036> R0110:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03037>     CALIB NASHYD           1.0 04:A3          316.70    3.250 No_date   14:35   25.00 .303     .000
03038>       [CN= 62.8: N= 3.00: Tp= 2.31]
03039> R0110:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03040>     SAVE HYD               1.0 04:A3          316.70    3.250 No_date   14:35   25.00  n/a     .000
03041>       fname :A3.0110
03042>       remark:Routing Hydrograph for A3
03043> R0110:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03044>     ADD HYD                1.0 04:A3          316.70    3.250 No_date   14:35   25.00  n/a     .000
03045>                  +         1.0 03:R4          332.54    2.874 No_date   15:15   22.40  n/a     .000
03046>                SUM=        1.0 05:N12         649.24    6.044 No_date   14:55   23.67  n/a     .000
03047> R0110:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03048>     SAVE HYD               1.0 05:N12         649.24    6.044 No_date   14:55   23.67  n/a     .000
03049>       fname :N12.0110
03050>       remark:Hydrograph for N12
03051> # Trib B
03052> R0110:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03053>     CALIB NASHYD           1.0 06:B1          627.61    3.614 No_date   16:01   19.02 .230     .000
03054>       [CN= 55.5: N= 3.00: Tp= 3.36]
03055> R0110:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03056>     SAVE HYD               1.0 06:B1          627.61    3.614 No_date   16:01   19.02  n/a     .000
03057>       fname :B1.0110
03058>       remark:Runoff Hydrograph for B1
03059> R0110:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03060>     ROUTE CHANNEL    ->    1.0 06:B1          627.61    3.614 No_date   16:01   19.02  n/a     .000
03061>       [RDT= 1.00] out<-    1.0 08:R5          627.61    3.505 No_date   16:45   19.02  n/a     .000
03062>       [L/S/n= 4800./ .870/.035]
03063>       {Vmax= 1.610:Dmax=  .618}
03064> R0110:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03065>     SAVE HYD               1.0 08:R5          627.61    3.505 No_date   16:45   19.02  n/a     .000
03066>       fname :R5.0110
03067>       remark:Routing Hydrograph for R5
03068> R0110:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03069>     CALIB NASHYD           1.0 09:B2          255.45    3.192 No_date   14:38   30.78 .373     .000
03070>       [CN= 68.8: N= 3.00: Tp= 2.39]
03071> R0110:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03072>     SAVE HYD               1.0 09:B2          255.45    3.192 No_date   14:38   30.78  n/a     .000
03073>       fname :B2.0110
03074>       remark:Routing Hydrograph for B2
03075> R0110:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03076>     ADD HYD                1.0 08:R5          627.61    3.505 No_date   16:45   19.02  n/a     .000
03077>                  +         1.0 09:B2          255.45    3.192 No_date   14:38   30.78  n/a     .000
03078>                SUM=        1.0 01:N2          883.06    6.159 No_date   15:44   22.42  n/a     .000
03079> R0110:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03080>     SAVE HYD               1.0 01:N2          883.06    6.159 No_date   15:44   22.42  n/a     .000
03081>       fname :N2.0110
03082>       remark:Hydrograph for N2
03083> R0110:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03084>     CALIB NASHYD           1.0 02:B3          336.77    1.919 No_date   15:41   17.82 .216     .000
03085>       [CN= 53.9: N= 3.00: Tp= 3.10]
03086> R0110:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03087>     SAVE HYD               1.0 02:B3          336.77    1.919 No_date   15:41   17.82  n/a     .000
03088>       fname :B3.0110
03089>       remark:Routing Hydrograph for B3
03090> R0110:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03091>     ADD HYD                1.0 01:N2          883.06    6.159 No_date   15:44   22.42  n/a     .000
03092>                  +         1.0 02:B3          336.77    1.919 No_date   15:41   17.82  n/a     .000
03093>                SUM=        1.0 03:N4         1219.83    8.078 No_date   15:44   21.15  n/a     .000
03094> R0110:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03095>     SAVE HYD               1.0 03:N4         1219.83    8.078 No_date   15:44   21.15  n/a     .000
03096>       fname :N4.0110
03097>       remark:Hydrograph for N4
03098> R0110:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03099>     ROUTE CHANNEL    ->    1.0 03:N4         1219.83    8.078 No_date   15:44   21.15  n/a     .000
03100>       [RDT= 1.00] out<-    1.0 04:R6         1219.83    8.062 No_date   15:59   21.15  n/a     .000
03101>       [L/S/n= 1500./ .480/.035]
03102>       {Vmax= 1.602:Dmax= 1.002}
03103> R0110:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03104>     SAVE HYD               1.0 04:R6         1219.83    8.062 No_date   15:59   21.15  n/a     .000
03105>       fname :R6.0110
03106>       remark:Routing Hydrograph for R6
03107> R0110:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03108>     CALIB NASHYD           1.0 06:B5          224.06    1.442 No_date   15:02   17.63 .213     .000
03109>       [CN= 53.7: N= 3.00: Tp= 2.60]
03110> R0110:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03111>     SAVE HYD               1.0 06:B5          224.06    1.442 No_date   15:02   17.63  n/a     .000
03112>       fname :B5.0110
03113>       remark:Routing Hydrograph for B5
03114> R0110:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03115>     ADD HYD                1.0 06:B5          224.06    1.442 No_date   15:02   17.63  n/a     .000
03116>                  +         1.0 04:R6         1219.83    8.062 No_date   15:59   21.15  n/a     .000
03117>                SUM=        1.0 08:N5         1443.89    9.426 No_date   15:51   20.60  n/a     .000
03118> R0110:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03119>     SAVE HYD               1.0 08:N5         1443.89    9.426 No_date   15:51   20.60  n/a     .000
03120>       fname :N5.0110
03121>       remark:Hydrograph for N5
03122> R0110:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03123>     ROUTE CHANNEL    ->    1.0 08:N5         1443.89    9.426 No_date   15:51   20.60  n/a     .000
03124>       [RDT= 1.00] out<-    1.0 09:R7         1443.89    8.837 No_date   16:42   20.60  n/a     .000
03125>       [L/S/n= 4500./ .240/.035]
03126>       {Vmax= 1.215:Dmax=  .991}
03127> R0110:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03128>     SAVE HYD               1.0 09:R7         1443.89    8.837 No_date   16:42   20.60  n/a     .000
03129>       fname :R7.0110
03130>       remark:Routing Hydrograph for R7
03131> R0110:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03132>     CALIB NASHYD           1.0 01:B6          329.90    5.078 No_date   14:39   38.19 .462     .000
03133>       [CN= 75.4: N= 3.00: Tp= 2.46]
03134> R0110:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03135>     SAVE HYD               1.0 01:B6          329.90    5.078 No_date   14:39   38.19  n/a     .000
03136>       fname :B6.0110
03137>       remark:Routing Hydrograph for B6
03138> R0110:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03139>     ADD HYD                1.0 09:R7         1443.89    8.837 No_date   16:42   20.60  n/a     .000
03140>                  +         1.0 01:B6          329.90    5.078 No_date   14:39   38.19  n/a     .000
03141>                SUM=        1.0 02:N6         1773.79   12.928 No_date   16:07   23.88  n/a     .000
03142> R0110:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03143>     SAVE HYD               1.0 02:N6         1773.79   12.928 No_date   16:07   23.88  n/a     .000
03144>       fname :N6.0110
03145>       remark:Hydrograph for N6
03146> # Main channel combination with Trib A
03147> R0110:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03148>     ADD HYD                1.0 05:N12         649.24    6.044 No_date   14:55   23.67  n/a     .000
03149>                  +         1.0 07:N22        1042.46    7.021 No_date   15:05   18.15  n/a     .000
03150>                SUM=        1.0 03:N23        1691.70   13.052 No_date   15:05   20.27  n/a     .000
03151> R0110:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03152>     SAVE HYD               1.0 03:N23        1691.70   13.052 No_date   15:05   20.27  n/a     .000
03153>       fname :N23.0110
03154>       remark:Hydrograph for N23/N24
03155> # Main channel combination with Trib B
03156> R0110:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03157>     ADD HYD                1.0 03:N23        1691.70   13.052 No_date   15:05   20.27  n/a     .000
03158>                  +         1.0 02:N6         1773.79   12.928 No_date   16:07   23.88  n/a     .000
03159>                SUM=        1.0 04:N25        3465.49   25.351 No_date   15:29   22.11  n/a     .000
03160> R0110:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03161>     SAVE HYD               1.0 04:N25        3465.49   25.351 No_date   15:29   22.11  n/a     .000
03162>       fname :N25.0110
03163>       remark:Hydrograph for N25/N26
03164> # Main channel combination with Catchment C
03165> R0110:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03166>     CALIB NASHYD           1.0 06:C1         1414.40   11.945 No_date   15:56   27.47 .333     .000
03167>       [CN= 65.5: N= 3.00: Tp= 3.40]
03168> R0110:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03169>     SAVE HYD               1.0 06:C1         1414.40   11.945 No_date   15:56   27.47  n/a     .000
03170>       fname :C1.0110
03171>       remark:Routing Hydrograph for C1
03172> R0110:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03173>     ADD HYD                1.0 04:N25        3465.49   25.351 No_date   15:29   22.11  n/a     .000
03174>                  +         1.0 06:C1         1414.40   11.945 No_date   15:56   27.47  n/a     .000
03175>                SUM=        1.0 08:N27        4879.89   37.194 No_date   15:34   23.67  n/a     .000
03176> R0110:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03177>     SAVE HYD               1.0 08:N27        4879.89   37.194 No_date   15:34   23.67  n/a     .000
03178>       fname :N27.0110
03179>       remark:Hydrograph for N27
03180> # Main channel
03181> R0110:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03182>     ROUTE CHANNEL    ->    1.0 08:N27        4879.89   37.194 No_date   15:34   23.67  n/a     .000
03183>       [RDT= 1.00] out<-    1.0 09:R8         4879.89   31.672 No_date   17:23   23.67  n/a     .000
03184>       [L/S/n= 2700./ .050/.035]
03185>       {Vmax=  .473:Dmax= 2.694}
03186> R0110:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03187>     SAVE HYD               1.0 09:R8         4879.89   31.672 No_date   17:23   23.67  n/a     .000
03188>       fname :R8.0110
03189>       remark:Routing Hydrograph for R8
03190> R0110:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03191>     CALIB NASHYD           1.0 01:M4          363.71    6.758 No_date   14:24   42.99 .521     .000
03192>       [CN= 79.2: N= 3.00: Tp= 2.27]
03193> R0110:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03194>     SAVE HYD               1.0 01:M4          363.71    6.758 No_date   14:24   42.99  n/a     .000
03195>       fname :M4.0110
03196>       remark:Routing Hydrograph for M4
03197> R0110:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03198>     ADD HYD                1.0 01:M4          363.71    6.758 No_date   14:24   42.99  n/a     .000
03199>                  +         1.0 09:R8         4879.89   31.672 No_date   17:23   23.67  n/a     .000
03200>                SUM=        1.0 02:N28        5243.60   35.489 No_date   17:00   25.01  n/a     .000
03201> R0110:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03202>     SAVE HYD               1.0 02:N28        5243.60   35.489 No_date   17:00   25.01  n/a     .000
03203>       fname :N28.0110
03204>       remark:Hydrograph for N28
03205>  ** END OF RUN :  119
03206>
03207> ****************************************************************************************************
03208>
03209>
03210>
03211>
03212>
03213>  RUN#:COMMAND#
03214> R0120:C00001------------------------------------------------------------------------------------------
03215>     START
03216>       [TZERO =    .00 hrs on        0]
03217>       [METOUT=  2    (1=imperial, 2=metric output)]
03218>       [NSTORM=  1 ]
03219>       [NRUN  = 0120 ]
03220> #*************************************************************************
03221> #  Project Name: [Flowing]     Project Number: [M800-200-050-205]
03222> #  Date        : 04-03-2017
03223> #  Modeller    : [   AA      ]
03224> #  Company     : Rideau Valley Conservation Authority
03225> #  License #   :  5329846
03226> #*************************************************************************
03227> # April 2024 - JB - JFSA Inc
03228> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
03229> #*************************************************************************
03230> R0120:C00002------------------------------------------------------------------------------------------
03231>     READ STORM
03232>       Filename = storm.001
03233>       Comment  = 20 Year 24 Hour SCS storm
03234>       [SDT=30.00:SDUR=  24.00:PTOT=  95.06]
03235> R0120:C00003------------------------------------------------------------------------------------------
03236>     DEFAULT VALUES
03237>       Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
03238>       ICASEdv  = 1 (read and print data)
03239>       FileTitle= File comment: [RVCA Flowing Creek FPM]
03240>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
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03241>       Horton's infiltration equation parameters:
03242>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03243>       Parameters for PERVIOUS surfaces in STANDHYD:
03244>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
03245>       Parameters for IMPERVIOUS surfaces in STANDHYD:
03246>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
03247>       Parameters used in NASHYD:
03248>       [Ia=   1.50 mm] [N= 3.00]
03249>       Average monthly Pan Evaporation data in    (mm)
03250>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03251>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03252>       Average monthly Potential Evapotranspiration in    (mm)
03253>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03254>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03255> # Main Channel
03256> R0120:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03257>     CALIB NASHYD             1.0 01:M1    136.59    1.655 No_date   13:48   23.207 .244     .000
03258>       [CN= 53.5: N= 3.00: Tp= 1.64]
03259> R0120:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03260>     SAVE HYD                 1.0 01:M1    136.59    1.655 No_date   13:48   23.220 n/a      .000
03261>       fname :M1.0120
03262>       remark:Runoff Hydrograph for M1
03263> R0120:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03264>     ROUTE CHANNEL    ->      1.0 01:M1    136.59    1.655 No_date   13:48   23.20  n/a      .000
03265>       [RDT= 1.00] out<-      1.0 02:R1    136.59    1.445 No_date   14:35   23.20  n/a      .000
03266>       [L/S/n= 3000./ .550/.035]
03267>       {Vmax=  .930:Dmax=  .328}
03268> R0120:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03269>     SAVE HYD                 1.0 02:R1    136.59    1.445 No_date   14:35   23.20  n/a      .000
03270>       fname :R1.0120
03271>       remark:Routing Hydrograph for R1
03272> R0120:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03273>     CALIB NASHYD             1.0 03:M2    372.64    4.245 No_date   13:50   22.01 .232      .000
03274>       [CN= 52.2: N= 3.00: Tp= 1.65]
03275> R0120:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03276>     SAVE HYD                 1.0 03:M2    372.64    4.245 No_date   13:50   22.01  n/a      .000
03277>       fname :M2.0120
03278>       remark:Routing Hydrograph for M2
03279> R0120:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03280>     ADD HYD                  1.0 02:R1    136.59    1.445 No_date   14:35   23.20  n/a      .000
03281>                        +     1.0 03:M2    372.64    4.245 No_date   13:50   22.01  n/a      .000
03282>                    SUM=      1.0 04:N21   509.23    5.555 No_date   14:03   22.33  n/a      .000
03283> R0120:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03284>     SAVE HYD                 1.0 04:N21   509.23    5.555 No_date   14:03   22.33  n/a      .000
03285>       fname :N21.0120
03286>       remark:Hydrograph for N21
03287> R0120:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03288>     ROUTE CHANNEL    ->      1.0 04:N21   509.23    5.555 No_date   14:03   22.33  n/a      .000
03289>       [RDT= 1.00] out<-      1.0 05:R2    509.23    4.342 No_date   15:04   22.33  n/a      .000
03290>       [L/S/n= 4000./ .180/.035]
03291>       {Vmax=  .852:Dmax=  .632}
03292> R0120:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03293>     SAVE HYD                 1.0 05:R2    509.23    4.342 No_date   15:04   22.33  n/a      .000
03294>       fname :R2.0120
03295>       remark:Routing Hydrograph for R2
03296> R0120:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03297>     CALIB NASHYD             1.0 06:M3    533.23    5.252 No_date   14:48   25.47 .268      .000
03298>       [CN= 56.0: N= 3.00: Tp= 2.47]
03299> R0120:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03300>     SAVE HYD                 1.0 06:M3    533.23    5.252 No_date   14:48   25.47  n/a      .000
03301>       fname :M3.0120
03302>       remark:Routing Hydrograph for M3
03303> R0120:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03304>     ADD HYD                  1.0 06:M3    533.23    5.252 No_date   14:48   25.47  n/a      .000
03305>                        +     1.0 05:R2    509.23    4.342 No_date   15:04   22.33  n/a      .000
03306>                    SUM=      1.0 07:N22  1042.46    9.575 No_date   14:57   23.93  n/a      .000
03307> R0120:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03308>     SAVE HYD                 1.0 07:N22  1042.46    9.575 No_date   14:57   23.93  n/a      .000
03309>       fname :N22.0120
03310>       remark:Hydrograph for N22
03311> # Trib A
03312> R0120:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03313>     CALIB NASHYD             1.0 08:A1     86.15    1.068 No_date   14:02   25.54 .269      .000
03314>       [CN= 56.1: N= 3.00: Tp= 1.83]
03315> R0120:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03316>     SAVE HYD                 1.0 08:A1     86.15    1.068 No_date   14:02   25.54  n/a      .000
03317>       fname :A1.0120
03318>       remark:Runoff Hydrograph for A1
03319> R0120:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03320>     ROUTE CHANNEL    ->      1.0 08:A1     86.15    1.068 No_date   14:02   25.54  n/a      .000
03321>       [RDT= 1.00] out<-      1.0 09:R3     86.15     .948 No_date   14:40   25.54  n/a      .000
03322>       [L/S/n= 2500./ .600/.035]
03323>       {Vmax=  .828:Dmax=  .249}
03324> R0120:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03325>     SAVE HYD                 1.0 09:R3     86.15     .948 No_date   14:40   25.54  n/a      .000
03326>       fname :R3.0120
03327>       remark:Routing Hydrograph for R3
03328> R0120:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03329>     CALIB NASHYD             1.0 01:A2    246.39    3.451 No_date   14:11   30.33 .319      .000
03330>       [CN= 61.0: N= 3.00: Tp= 1.99]
03331> R0120:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03332>     SAVE HYD                 1.0 01:A2    246.39    3.451 No_date   14:11   30.33  n/a      .000
03333>       fname :A2.0120
03334>       remark:Routing Hydrograph for A2
03335> R0120:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03336>     ADD HYD                  1.0 01:A2    246.39    3.451 No_date   14:11   30.33  n/a      .000
03337>                        +     1.0 09:R3     86.15     .948 No_date   14:40   25.54  n/a      .000
03338>                    SUM=      1.0 02:N11   332.54    4.363 No_date   14:21   29.09  n/a      .000
03339> R0120:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03340>     SAVE HYD                 1.0 02:N11   332.54    4.363 No_date   14:21   29.09  n/a      .000
03341>       fname :N11.0120
03342>       remark:Hydrograph for N11
03343> R0120:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03344>     ROUTE CHANNEL    ->      1.0 02:N11   332.54    4.363 No_date   14:21   29.09  n/a      .000
03345>       [RDT= 1.00] out<-      1.0 03:R4    332.54    3.885 No_date   15:06   29.09  n/a      .000
03346>       [L/S/n= 3000./ .200/.035]
03347>       {Vmax=  .906:Dmax=  .715}
03348> R0120:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03349>     SAVE HYD                 1.0 03:R4    332.54    3.885 No_date   15:06   29.09  n/a      .000
03350>       fname :R4.0120
03351>       remark:Routing Hydrograph for R4
03352> R0120:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03353>     CALIB NASHYD             1.0 04:A3    316.70    4.225 No_date   14:33   32.22 .339      .000
03354>       [CN= 62.8: N= 3.00: Tp= 2.31]
03355> R0120:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03356>     SAVE HYD                 1.0 04:A3    316.70    4.225 No_date   14:33   32.22  n/a      .000
03357>       fname :A3.0120
03358>       remark:Routing Hydrograph for A3
03359> R0120:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03360>     ADD HYD                  1.0 04:A3    316.70    4.225 No_date   14:33   32.22  n/a      .000
03361>                        +     1.0 03:R4    332.54    3.885 No_date   15:06   29.09  n/a      .000
03362>                    SUM=      1.0 05:N12   649.24    8.034 No_date   14:51   30.61  n/a      .000
03363> R0120:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03364>     SAVE HYD                 1.0 05:N12   649.24    8.034 No_date   14:51   30.61  n/a      .000
03365>       fname :N12.0120
03366>       remark:Hydrograph for N12
03367> # Trib B
03368> R0120:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03369>     CALIB NASHYD             1.0 06:B1    627.61    4.797 No_date   15:58   25.00 .263      .000
03370>       [CN= 55.5: N= 3.00: Tp= 3.36]
03371> R0120:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03372>     SAVE HYD                 1.0 06:B1    627.61    4.797 No_date   15:58   25.00  n/a      .000
03373>       fname :B1.0120
03374>       remark:Runoff Hydrograph for B1
03375> R0120:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03376>     ROUTE CHANNEL    ->      1.0 06:B1    627.61    4.797 No_date   15:58   25.00  n/a      .000
03377>       [RDT= 1.00] out<-      1.0 08:R5    627.61    4.671 No_date   16:38   25.00  n/a      .000
03378>       [L/S/n= 4800./ .870/.035]
03379>       {Vmax= 1.758:Dmax=  .729}
03380> R0120:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03381>     SAVE HYD                 1.0 08:R5    627.61    4.671 No_date   16:38   25.00  n/a      .000
03382>       fname :R5.0120
03383>       remark:Routing Hydrograph for R5
03384> R0120:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03385>     CALIB NASHYD             1.0 09:B2    255.45    4.079 No_date   14:36   39.04 .411      .000
03386>       [CN= 68.8: N= 3.00: Tp= 2.39]
03387> R0120:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03388>     SAVE HYD                 1.0 09:B2    255.45    4.079 No_date   14:36   39.04  n/a      .000
03389>       fname :B2.0120
03390>       remark:Routing Hydrograph for B2
03391> R0120:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03392>     ADD HYD                  1.0 08:R5    627.61    4.671 No_date   16:38   25.00  n/a      .000
03393>                        +     1.0 09:B2    255.45    4.079 No_date   14:36   39.04  n/a      .000
03394>                    SUM=      1.0 01:N2    883.06    8.101 No_date   15:41   29.06  n/a      .000
03395> R0120:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03396>     SAVE HYD                 1.0 01:N2    883.06    8.101 No_date   15:41   29.06  n/a      .000
03397>       fname :N2.0120
03398>       remark:Hydrograph for N2
03399> R0120:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03400>     CALIB NASHYD             1.0 02:B3    336.77    2.563 No_date   15:38   23.53 .248      .000
03401>       [CN= 53.9: N= 3.00: Tp= 3.10]
03402> R0120:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03403>     SAVE HYD                 1.0 02:B3    336.77    2.563 No_date   15:38   23.53  n/a      .000
03404>       fname :B3.0120
03405>       remark:Routing Hydrograph for B3
03406> R0120:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03407>     ADD HYD                  1.0 01:N2    883.06    8.101 No_date   15:41   29.06  n/a      .000
03408>                        +     1.0 02:B3    336.77    2.563 No_date   15:38   23.53  n/a      .000
03409>                    SUM=      1.0 03:N4   1219.83   10.663 No_date   15:41   27.54  n/a      .000
03410> R0120:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03411>     SAVE HYD                 1.0 03:N4   1219.83   10.663 No_date   15:41   27.54  n/a      .000
03412>       fname :N4.0120
03413>       remark:Hydrograph for N4
03414> R0120:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03415>     ROUTE CHANNEL    ->      1.0 03:N4   1219.83   10.663 No_date   15:41   27.54  n/a      .000
03416>       [RDT= 1.00] out<-      1.0 04:R6   1219.83   10.534 No_date   16:15   27.54  n/a      .000
03417>       [L/S/n= 1500./ .480/.035]
03418>       {Vmax= 1.253:Dmax= 1.117}
03419> R0120:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03420>     SAVE HYD                 1.0 04:R6   1219.83   10.534 No_date   16:15   27.54  n/a      .000
03421>       fname :R6.0120
03422>       remark:Routing Hydrograph for R6
03423> R0120:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03424>     CALIB NASHYD             1.0 06:B5    224.06    1.928 No_date   14:59   23.30 .245      .000
03425>       [CN= 53.7: N= 3.00: Tp= 2.60]
03426> R0120:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03427>     SAVE HYD                 1.0 06:B5    224.06    1.928 No_date   14:59   23.30  n/a      .000
03428>       fname :B5.0120
03429>       remark:Routing Hydrograph for B5
03430> R0120:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03431>     ADD HYD                  1.0 06:B5    224.06    1.928 No_date   14:59   23.30  n/a      .000
03432>                        +     1.0 04:R6   1219.83   10.534 No_date   16:15   27.54  n/a      .000
03433>                    SUM=      1.0 08:N5   1443.89   12.286 No_date   16:07   26.88  n/a      .000
03434> R0120:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03435>     SAVE HYD                 1.0 08:N5   1443.89   12.286 No_date   16:07   26.88  n/a      .000
03436>       fname :N5.0120
03437>       remark:Hydrograph for N5
03438> R0120:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03439>     ROUTE CHANNEL    ->      1.0 08:N5   1443.89   12.286 No_date   16:07   26.88  n/a      .000
03440>       [RDT= 1.00] out<-      1.0 09:R7   1443.89   11.747 No_date   16:51   26.88  n/a      .000
03441>       [L/S/n= 4500./ .240/.035]
03442>       {Vmax= 1.326:Dmax= 1.161}
03443> R0120:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03444>     SAVE HYD                 1.0 09:R7   1443.89   11.747 No_date   16:51   26.88  n/a      .000
03445>       fname :R7.0120
03446>       remark:Routing Hydrograph for R7
03447> R0120:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03448>     CALIB NASHYD             1.0 01:B6    329.90    6.369 No_date   14:38   47.61 .501      .000
03449>       [CN= 75.4: N= 3.00: Tp= 2.46]
03450> R0120:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03451>     SAVE HYD                 1.0 01:B6    329.90    6.369 No_date   14:38   47.61  n/a      .000
03452>       fname :B6.0120
03453>       remark:Routing Hydrograph for B6
03454> R0120:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03455>     ADD HYD                  1.0 09:R7   1443.89   11.747 No_date   16:51   26.88  n/a      .000
03456>                        +     1.0 01:B6    329.90    6.369 No_date   14:38   47.61  n/a      .000
03457>                    SUM=      1.0 02:N6   1773.79   16.719 No_date   16:08   30.74  n/a      .000
03458> R0120:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03459>     SAVE HYD                 1.0 02:N6   1773.79   16.719 No_date   16:08   30.74  n/a      .000
03460>       fname :N6.0120
03461>       remark:Hydrograph for N6
03462> # Main channel combination with Trib A
03463> R0120:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03464>     ADD HYD                  1.0 05:N12   649.24    8.034 No_date   14:51   30.61  n/a      .000
03465>                        +     1.0 02:N22  1042.46    9.575 No_date   14:57   23.93  n/a      .000
03466>                    SUM=      1.0 03:N23  1691.70   17.598 No_date   14:57   26.50  n/a      .000
03467> R0120:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03468>     SAVE HYD                 1.0 03:N23  1691.70   17.598 No_date   14:57   26.50  n/a      .000
03469>       fname :N23.0120
03470>       remark:Hydrograph for N23/N24
03471> # Main channel combination with Trib B
03472> R0120:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03473>     ADD HYD                  1.0 03:N23  1691.70   17.598 No_date   14:57   26.50  n/a      .000
03474>                        +     1.0 02:N6   1773.79   16.719 No_date   16:08   30.74  n/a      .000
03475>                    SUM=      1.0 04:N25  3465.49   33.299 No_date   15:24   28.67  n/a      .000
03476> R0120:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03477>     SAVE HYD                 1.0 04:N25  3465.49   33.299 No_date   15:24   28.67  n/a      .000
03478>       fname :N25.0120
03479>       remark:Hydrograph for N25/N26
03480> # Main channel combination with Catchment C
03481> R0120:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03482>     CALIB NASHYD             1.0 06:C1   1414.40   15.393 No_date   15:53   35.14 .370      .000
03483>       [CN= 65.5: N= 3.00: Tp= 3.40]
03484> R0120:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03485>     SAVE HYD                 1.0 06:C1   1414.40   15.393 No_date   15:53   35.14  n/a      .000
03486>       fname :C1.0120
03487>       remark:Hydrograph for C1
03488> R0120:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03489>     ADD HYD                  1.0 04:N25  3465.49   33.299 No_date   15:24   28.67  n/a      .000
03490>                        +     1.0 06:C1   1414.40   15.393 No_date   15:53   35.14  n/a      .000
03491>                    SUM=      1.0 08:N27  4879.89   48.541 No_date   15:33   30.54  n/a      .000
03492> R0120:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03493>     SAVE HYD                 1.0 08:N27  4879.89   48.541 No_date   15:33   30.54  n/a      .000
03494>       fname :N27.0120
03495>       remark:Hydrograph for N27
03496> # Main channel
03497> R0120:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03498>     ROUTE CHANNEL    ->      1.0 08:N27  4879.89   48.541 No_date   15:33   30.54  n/a      .000
03499>       [RDT= 1.00] out<-      1.0 09:R8   4879.89   39.723 No_date   17:38   30.54  n/a      .000
03500>       [L/S/n= 2700./ .050/.035]
03501>       {Vmax=  .406:Dmax= 2.928}
03502> R0120:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03503>     SAVE HYD                 1.0 09:R8   4879.89   39.723 No_date   17:38   30.54  n/a      .000
03504>       fname :R8.0120
03505>       remark:Routing Hydrograph for R8
03506> R0120:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03507>     CALIB NASHYD             1.0 07:M4    363.71    8.382 No_date   14:23   53.06 .558      .000
03508>       [CN= 79.2: N= 3.00: Tp= 2.27]
03509> R0120:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03510>     SAVE HYD                 1.0 01:M4    363.71    8.382 No_date   14:23   53.06  n/a      .000
03511>       fname :M4.0120
03512>       remark:Routing Hydrograph for M4
03513> R0120:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03514>     ADD HYD                  1.0 01:M4    363.71    8.382 No_date   14:23   53.06  n/a      .000
03515>                        +     1.0 09:R8   4879.89   39.723 No_date   17:38   30.54  n/a      .000
03516>                    SUM=      1.0 02:N28  5243.60   44.308 No_date   17:06   32.11  n/a      .000
03517> R0120:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03518>     SAVE HYD                 1.0 02:N28  5243.60   44.308 No_date   17:06   32.11  n/a      .000
03519>       fname :N28.0120
03520>       remark:Hydrograph for N28
03521>  ** END OF RUN :  149
03522>
03523> ************************************************************************************************
03524>
03525>
03526>
03527>
03528>
03529>  RUN#:COMMAND#
03530> R0150:C00001------------------------------------------------------------------------------------
03531>       START
03532>       [TZERO =    .00 hrs on        0]
03533>       [METOUT=   2    (1=imperial, 2=metric output)]
03534>       [NSTORM=   1 ]
03535>       [NRUN   = 0150 ]
03536> #*********************************************************************
03537> #  Project Name: [Flowing]    Project Number: [M800-200-050-205]
03538> #  Date        : 04-03-2017
03539> #  Modeller    : [   AA      ]
03540> #  Company     : Rideau Valley Conservation Authority
03541> #  License #   : 5329846
03542> #*********************************************************************
03543> # April 2024 - JB - JFSA Inc
03544> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
03545> #*********************************************************************
03546> R0150:C00002------------------------------------------------------------------------------------
03547>       READ STORM
03548>       Filename = storm.001
03549>       Comment  = 50 Year 24 Hour SCS storm
03550>       [SDT=30.00:SDUR=  24.00:PTOT= 110.93]
03551> R0150:C00003------------------------------------------------------------------------------------
03552>       DEFAULT VALUES
03553>       Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
03554>       ICASEdv  = 1 (read and print data)
03555>       FileTitle= File comment: [RVCA Flowing Creek FPM]
03556>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03557>       Horton's infiltration equation parameters:
03558>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03559>       Parameters for PERVIOUS surfaces in STANDHYD:
03560>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
03561>       Parameters for IMPERVIOUS surfaces in STANDHYD:
03562>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
03563>       Parameters used in NASHYD:
03564>       [Ia=   1.50 mm] [N= 3.00]
03565>       Average monthly Pan Evaporation data in    (mm)
03566>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03567>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03568>       Average monthly Potential Evapotranspiration in    (mm)
03569>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03570>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03571> # Main Channel
03572> R0150:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03573>     CALIB NASHYD             1.0 01:M1    136.59    2.248 No_date   13:47   31.16 .281      .000
03574>       [CN= 53.5: N= 3.00: Tp= 1.64]
03575> R0150:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03576>     SAVE HYD                 1.0 01:M1    136.59    2.248 No_date   13:47   31.16  n/a      .000
03577>       fname :M1.0150
03578>       remark:Runoff Hydrograph for M1
03579> R0150:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03580>     ROUTE CHANNEL    ->      1.0 01:M1    136.59    2.248 No_date   13:47   31.16  n/a      .000
03581>       [RDT= 1.00] out<-      1.0 02:R1    136.59    1.989 No_date   14:27   31.16  n/a      .000
03582>       [L/S/n= 3000./ .550/.035]
03583>       {Vmax= 1.049:Dmax=  .396}
03584> R0150:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03585>     SAVE HYD                 1.0 02:R1    136.59    1.989 No_date   14:27   31.16  n/a      .000
03586>       fname :R1.0150
03587>       remark:Routing Hydrograph for R1
03588> R0150:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03589>     CALIB NASHYD             1.0 03:M2    372.64    5.794 No_date   13:48   29.69 .268      .000
03590>       [CN= 52.2: N= 3.00: Tp= 1.65]
03591> R0150:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03592>     SAVE HYD                 1.0 03:M2    372.64    5.794 No_date   13:48   29.69  n/a      .000
03593>       fname :M2.0150
03594>       remark:Routing Hydrograph for M2
03595> R0150:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03596>     ADD HYD                  1.0 02:R1    136.59    1.989 No_date   14:27   31.16  n/a      .000
03597>                        +     1.0 03:M2    372.64    5.794 No_date   13:48   29.69  n/a      .000
03598>                    SUM=      1.0 04:N21   509.23    7.641 No_date   14:01   30.08  n/a      .000
03599> R0150:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03600>     SAVE HYD                 1.0 04:N21   509.23    7.641 No_date   14:01   30.08  n/a      .000
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03601>       fname :N21.0150
03602>       remark:Hydrograph for N21
03603> R0150:C00012------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03604>     ROUTE CHANNEL   ->    1.0 04:N21       509.23    7.641 No_date   14:01   30.08  n/a     .000
03605>       [RDT= 1.00] out<-    1.0 05:R2        509.23    6.211 No_date   14:57   30.08  n/a     .000
03606>       [L/S/n= 4000./ .180/.035]
03607>       [Vmax=  .956:Dmax=  .765]
03608> R0150:C00013------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03609>     SAVE HYD            1.0 05:R2        509.23    6.211 No_date   14:57   30.08  n/a     .000
03610>       fname :R2.0150
03611>       remark:Routing Hydrograph for R2
03612> R0150:C00014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03613>     CALIB NASHYD        1.0 06:M3        533.23    7.068 No_date   14:46   33.96 .306     .000
03614>       [CN= 56.0: N= 3.00: Tp= 2.47]
03615> R0150:C00015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03616>     SAVE HYD            1.0 06:M3        533.23    7.068 No_date   14:46   33.96  n/a     .000
03617>       fname :M3.0150
03618>       remark:Routing Hydrograph for M3
03619> R0150:C00016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03620>     ADD HYD             1.0 06:M3        533.23    7.068 No_date   14:46   33.96  n/a     .000
03621>                       +    1.0 05:R2        509.23    6.211 No_date   14:57   30.08  n/a     .000
03622>                     SUM=   1.0 07:N22      1042.46   13.269 No_date   14:52   32.06  n/a     .000
03623> R0150:C00017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03624>     SAVE HYD            1.0 07:N22      1042.46   13.269 No_date   14:52   32.06  n/a     .000
03625>       fname :N22.0150
03626>       remark:Hydrograph for N22
03627> # Trib A
03628> R0150:C00018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03629>     CALIB NASHYD        1.0 08:A1         86.15    1.438 No_date   14:00   34.05 .307     .000
03630>       [CN= 56.1: N= 3.00: Tp= 1.83]
03631> R0150:C00019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03632>     SAVE HYD            1.0 08:A1         86.15    1.438 No_date   14:00   34.05  n/a     .000
03633>       fname :A1.0150
03634>       remark:Runoff Hydrograph for A1
03635> R0150:C00020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03636>     ROUTE CHANNEL   ->    1.0 08:A1         86.15    1.438 No_date   14:00   34.05  n/a     .000
03637>       [RDT= 1.00] out<-    1.0 09:R3        86.15    1.310 No_date   14:40   34.05  n/a     .000
03638>       [L/S/n= 2500./ .600/.035]
03639>       [Vmax=  .902:Dmax=  .294]
03640> R0150:C00021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03641>     SAVE HYD            1.0 09:R3         86.15    1.310 No_date   14:40   34.05  n/a     .000
03642>       fname :R3.0150
03643>       remark:Routing Hydrograph for R3
03644> R0150:C00022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03645>     CALIB NASHYD        1.0 01:A2        246.39    4.574 No_date   14:10   39.87 .359     .000
03646>       [CN= 61.0: N= 3.00: Tp= 1.99]
03647> R0150:C00023------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03648>     SAVE HYD            1.0 01:A2        246.39    4.574 No_date   14:10   39.87  n/a     .000
03649>       fname :A2.0150
03650>       remark:Routing Hydrograph for A2
03651> R0150:C00024------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03652>     ADD HYD             1.0 01:A2        246.39    4.574 No_date   14:10   39.87  n/a     .000
03653>                       +    1.0 09:R3         86.15    1.310 No_date   14:40   34.05  n/a     .000
03654>                     SUM=   1.0 02:N11      332.54    5.839 No_date   14:17   38.36  n/a     .000
03655> R0150:C00025------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03656>     SAVE HYD            1.0 02:N11       332.54    5.839 No_date   14:17   38.36  n/a     .000
03657>       fname :N11.0150
03658>       remark:Hydrograph for N11
03659> R0150:C00026------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03660>     ROUTE CHANNEL   ->    1.0 02:N11       332.54    5.839 No_date   14:17   38.36  n/a     .000
03661>       [RDT= 1.00] out<-    1.0 03:R4        332.54    5.301 No_date   15:01   38.36  n/a     .000
03662>       [L/S/n= 3000./ .200/.035]
03663>       [Vmax=  .999:Dmax=  .850]
03664> R0150:C00027------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03665>     SAVE HYD            1.0 03:R4        332.54    5.301 No_date   15:01   38.36  n/a     .000
03666>       fname :R4.0150
03667>       remark:Routing Hydrograph for R4
03668> R0150:C00028------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03669>     CALIB NASHYD        1.0 04:A3        316.70    5.569 No_date   14:32   42.14 .380     .000
03670>       [CN= 62.8: N= 3.00: Tp= 2.31]
03671> R0150:C00029------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03672>     SAVE HYD            1.0 04:A3        316.70    5.569 No_date   14:32   42.14  n/a     .000
03673>       fname :A3.0150
03674>       remark:Routing Hydrograph for A3
03675> R0150:C00030------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03676>     ADD HYD             1.0 04:A3        316.70    5.569 No_date   14:32   42.14  n/a     .000
03677>                       +    1.0 03:R4        332.54    5.301 No_date   15:01   38.36  n/a     .000
03678>                     SUM=   1.0 05:N12      649.24   10.791 No_date   14:49   40.20  n/a     .000
03679> R0150:C00031------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03680>     SAVE HYD            1.0 05:N12       649.24   10.791 No_date   14:49   40.20  n/a     .000
03681>       fname :N12.0150
03682>       remark:Hydrograph for N12
03683> # Trib B
03684> R0150:C00032------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03685>     CALIB NASHYD        1.0 06:B1        627.61    6.460 No_date   15:55   33.38 .301     .000
03686>       [CN= 55.5: N= 3.00: Tp= 3.36]
03687> R0150:C00033------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03688>     SAVE HYD            1.0 06:B1        627.61    6.460 No_date   15:55   33.38  n/a     .000
03689>       fname :R1.0150
03690>       remark:Runoff Hydrograph for B1
03691> R0150:C00034------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03692>     ROUTE CHANNEL   ->    1.0 06:B1        627.61    6.460 No_date   15:55   33.38  n/a     .000
03693>       [RDT= 1.00] out<-    1.0 08:R5        627.61    6.314 No_date   16:31   33.38  n/a     .000
03694>       [L/S/n= 4800./ .870/.035]
03695>       [Vmax= 1.923:Dmax=  .866]
03696> R0150:C00035------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03697>     SAVE HYD            1.0 08:R5        627.61    6.314 No_date   16:31   33.38  n/a     .000
03698>       fname :R5.0150
03699>       remark:Routing Hydrograph for R5
03700> R0150:C00036------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03701>     CALIB NASHYD        1.0 09:B2        255.45    5.283 No_date   14:35   50.25 .453     .000
03702>       [CN= 68.8: N= 3.00: Tp= 2.39]
03703> R0150:C00037------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03704>     SAVE HYD            1.0 09:B2        255.45    5.283 No_date   14:35   50.25  n/a     .000
03705>       fname :R2.0150
03706>       remark:Routing Hydrograph for B2
03707> R0150:C00038------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03708>     ADD HYD             1.0 08:R5        627.61    6.314 No_date   16:31   33.38  n/a     .000
03709>                       +    1.0 09:B2        255.45    5.283 No_date   14:35   50.25  n/a     .000
03710>                     SUM=   1.0 01:N2       883.06   10.793 No_date   15:35   38.26  n/a     .000
03711> R0150:C00039------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03712>     SAVE HYD            1.0 01:N2        883.06   10.793 No_date   15:35   38.26  n/a     .000
03713>       fname :N2.0150
03714>       remark:Hydrograph for N2
03715> R0150:C00040------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03716>     CALIB NASHYD        1.0 02:B3        336.77    3.471 No_date   15:35   31.57 .285     .000
03717>       [CN= 53.9: N= 3.00: Tp= 3.10]
03718> R0150:C00041------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03719>     SAVE HYD            1.0 02:B3        336.77    3.471 No_date   15:35   31.57  n/a     .000
03720>       fname :B3.0150
03721>       remark:Routing Hydrograph for B3
03722> R0150:C00042------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03723>     ADD HYD             1.0 01:N2        883.06   10.793 No_date   15:35   38.26  n/a     .000
03724>                       +    1.0 02:B3        336.77    3.471 No_date   15:35   31.57  n/a     .000
03725>                     SUM=   1.0 03:N4      1219.83   14.264 No_date   15:35   36.41  n/a     .000
03726> R0150:C00043------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03727>     SAVE HYD            1.0 03:N4       1219.83   14.264 No_date   15:35   36.41  n/a     .000
03728>       fname :N4.0150
03729>       remark:Hydrograph for N4
03730> R0150:C00044------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03731>     ROUTE CHANNEL   ->    1.0 03:N4       1219.83   14.264 No_date   15:35   36.41  n/a     .000
03732>       [RDT= 1.00] out<-    1.0 04:R6       1219.83   13.987 No_date   16:23   36.41  n/a     .000
03733>       [L/S/n= 1500./ .480/.035]
03734>       [Vmax=  .978:Dmax= 1.203]
03735> R0150:C00045------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03736>     SAVE HYD            1.0 04:R6       1219.83   13.987 No_date   16:23   36.41  n/a     .000
03737>       fname :R6.0150
03738>       remark:Routing Hydrograph for R6
03739> R0150:C00046------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03740>     CALIB NASHYD        1.0 06:B5        224.06    2.616 No_date   14:57   31.29 .282     .000
03741>       [CN= 53.7: N= 3.00: Tp= 2.60]
03742> R0150:C00047------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03743>     SAVE HYD            1.0 06:B5        224.06    2.616 No_date   14:57   31.29  n/a     .000
03744>       fname :B5.0150
03745>       remark:Routing Hydrograph for B5
03746> R0150:C00048------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03747>     ADD HYD             1.0 06:B5        224.06    2.616 No_date   14:57   31.29  n/a     .000
03748>                       +    1.0 04:R6       1219.83   13.987 No_date   16:23   36.41  n/a     .000
03749>                     SUM=   1.0 08:N5      1443.89   16.308 No_date   16:13   35.62  n/a     .000
03750> R0150:C00049------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03751>     SAVE HYD            1.0 08:N5       1443.89   16.308 No_date   16:13   35.62  n/a     .000
03752>       fname :N5.0150
03753>       remark:Hydrograph for N5
03754> R0150:C00050------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03755>     ROUTE CHANNEL   ->    1.0 08:N5       1443.89   16.308 No_date   16:13   35.62  n/a     .000
03756>       [RDT= 1.00] out<-    1.0 09:R7       1443.89   15.361 No_date   17:47   35.62  n/a     .000
03757>       [L/S/n= 4500./ .240/.035]
03758>       [Vmax= 1.095:Dmax= 1.339]
03759> R0150:C00051------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03760>     SAVE HYD            1.0 09:R7       1443.89   15.361 No_date   17:47   35.62  n/a     .000
03761>       fname :R7.0150
03762>       remark:Routing Hydrograph for R7
03763> R0150:C00052------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03764>     CALIB NASHYD        1.0 01:B6        329.90    8.089 No_date   14:37   60.18 .543     .000
03765>       [CN= 75.4: N= 3.00: Tp= 2.46]
03766> R0150:C00053------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03767>     SAVE HYD            1.0 01:B6        329.90    8.089 No_date   14:37   60.18  n/a     .000
03768>       fname :B6.0150
03769>       remark:Routing Hydrograph for B6
03770> R0150:C00054------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03771>     ADD HYD             1.0 09:R7       1443.89   15.361 No_date   17:47   35.62  n/a     .000
03772>                       +    1.0 01:B6        329.90    8.089 No_date   14:37   60.18  n/a     .000
03773>                     SUM=   1.0 02:N6      1773.79   20.726 No_date   16:36   40.19  n/a     .000
03774> R0150:C00055------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03775>     SAVE HYD            1.0 02:N6       1773.79   20.726 No_date   16:36   40.19  n/a     .000
03776>       fname :N6.0150
03777>       remark:Hydrograph for N6
03778> # Main channel combination with Trib A
03779> R0150:C00056------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03780>     ADD HYD             1.0 05:N12       649.24   10.791 No_date   14:49   40.20  n/a     .000
03781>                       +    1.0 07:N22      1042.46   13.269 No_date   14:52   32.06  n/a     .000
03782>                     SUM=   1.0 03:N23      1691.70   24.057 No_date   14:50   35.19  n/a     .000
03783> R0150:C00057------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03784>     SAVE HYD            1.0 03:N23       1691.70   24.057 No_date   14:50   35.19  n/a     .000
03785>       fname :N23.0150
03786>       remark:Hydrograph for N23/N24
03787> # Main channel combination with Trib B
03788> R0150:C00058------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03789>     ADD HYD             1.0 03:N23       1691.70   24.057 No_date   14:50   35.19  n/a     .000
03790>                       +    1.0 02:N6       1773.79   20.726 No_date   16:36   40.19  n/a     .000
03791>                     SUM=   1.0 04:N25      3465.49   43.512 No_date   15:19   37.75  n/a     .000
03792> R0150:C00059------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03793>     SAVE HYD            1.0 04:N25       3465.49   43.512 No_date   15:19   37.75  n/a     .000
03794>       fname :N25.0150
03795>       remark:Hydrograph for N25/N26
03796> # Main channel combination with Catchment C
03797> R0150:C00060------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03798>     CALIB NASHYD        1.0 06:C1        1414.40   20.114 No_date   15:51   45.63 .411     .000
03799>       [CN= 65.5: N= 3.00: Tp= 3.40]
03800> R0150:C00061------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03801>     SAVE HYD            1.0 06:C1        1414.40   20.114 No_date   15:51   45.63  n/a     .000
03802>       fname :C1.0150
03803>       remark:Routing Hydrograph for C1
03804> R0150:C00062------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03805>     ADD HYD             1.0 04:N25       3465.49   43.512 No_date   15:19   37.75  n/a     .000
03806>                       +    1.0 06:C1        1414.40   20.114 No_date   15:51   45.63  n/a     .000
03807>                     SUM=   1.0 08:N27      4879.89   63.374 No_date   15:29   40.03  n/a     .000
03808> R0150:C00063------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03809>     SAVE HYD            1.0 08:N27       4879.89   63.374 No_date   15:29   40.03  n/a     .000
03810>       fname :N27.0150
03811>       remark:Hydrograph for N27
03812> # Main channel
03813> R0150:C00064------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03814>     ROUTE CHANNEL   ->    1.0 08:N27       4879.89   63.374 No_date   15:29   40.03  n/a     .000
03815>       [RDT= 1.00] out<-    1.0 09:R8        4879.89   50.355 No_date   17:29   40.03  n/a     .000
03816>       [L/S/n= 2700./ .050/.035]
03817>       [Vmax=  .370:Dmax= 3.161]
03818> R0150:C00065------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03819>     SAVE HYD            1.0 09:R8        4879.89   50.355 No_date   17:29   40.03  n/a     .000
03820>       fname :R8.0150
03821>       remark:Routing Hydrograph for R8
03822> R0150:C00066------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03823>     CALIB NASHYD        1.0 01:M4         363.71   10.525 No_date   14:22   66.36 .598     .000
03824>       [CN= 79.2: N= 3.00: Tp= 2.27]
03825> R0150:C00067------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03826>     SAVE HYD            1.0 01:M4         363.71   10.525 No_date   14:22   66.36  n/a     .000
03827>       fname :M4.0150
03828>       remark:Routing Hydrograph for M4
03829> R0150:C00068------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03830>     ADD HYD             1.0 01:M4         363.71   10.525 No_date   14:22   66.36  n/a     .000
03831>                       +    1.0 09:R8        4879.89   50.355 No_date   17:29   40.03  n/a     .000
03832>                     SUM=   1.0 02:N28      5243.60   56.056 No_date   17:03   41.86  n/a     .000
03833> R0150:C00069------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03834>     SAVE HYD            1.0 02:N28       5243.60   56.056 No_date   17:03   41.86  n/a     .000
03835>       fname :N28.0150
03836>       remark:Hydrograph for N28
03837>   ** END OF RUN :  198
03838>
03839> ************************************************************************************************************
03840>
03841>
03842>
03843>
03844>
03845>  RUN#:COMMAND#
03846> R0199:C00001------------------------------------------------------------------------------------------------
03847>       START
03848>       [TZERO =    .00 hrs on        0]
03849>       [METOUT=   2   (1=imperial, 2=metric output)]
03850>       [NSTORM=   1 ]
03851>       [NRUN  = 0199 ]
03852> #*************************************************************************
03853> #  Project Name: [Flowing]    Project Number: [M800-200-050-205]
03854> #  Date        : 04-03-2017
03855> #  Modeller    : [   AA     ]
03856> #  Company     : Rideau Valley Conservation Authority
03857> #  License #   : 5329846
03858> #*************************************************************************
03859> # April 2024 - JB - JFSA Inc
03860> # model updated to run just the 3Hr Chicago (Per City of Ottawa) and 24Hr SCS storms (per RVCA study)
03861> #*************************************************************************
03862> R0199:C00002------------------------------------------------------------------------------------------------
03863>       READ STORM
03864>       Filename = storm.001
03865>       Comment  = SCS Storm 24 hour (100 year)
03866>       [SDT=30.00:SDUR=  24.00:PTOT= 123.01]
03867> R0199:C00003------------------------------------------------------------------------------------------------
03868>     DEFAULT VALUES
03869>       Filename = C:\Users\JonathonBurnett\OneDrive - J.F. Sabourin and Associates Inc\Temp\Pre Dev Offical\FlowVal.val
03870>       ICASEdv  = 1 (read and print data)
03871>       FileTitle= File comment: [RVCA Flowing Creek FFM]
03872>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03873>       Horton's infiltration equation parameters:
03874>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03875>       Parameters for PERVIOUS surfaces in STANDHYD:
03876>       [Iapex=   4.67 mm] [LGP=40.00 m] [MNP=  .250]
03877>       Parameters for IMPERVIOUS surfaces in STANDHYD:
03878>       [IAimp=  1.57 mm] [CLI= 1.50]   [MNI= .013]
03879>       Parameters used in NASHYD:
03880>       [Ia=   1.50 mm] [N= 3.00]
03881>       Average monthly Pan Evaporation data in    (mm)
03882>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03883>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03884>       Average monthly Potential Evapotranspiration in    (mm)
03885>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03886>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03887> # Main Channel
03888> R0199:C00004------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03889>     CALIB NASHYD        1.0 01:M1        136.59    2.742 No_date   13:46   37.73 .307     .000
03890>       [CN= 53.5: N= 3.00: Tp= 1.64]
03891> R0199:C00005------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03892>     SAVE HYD            1.0 01:M1        136.59    2.742 No_date   13:46   37.73  n/a     .000
03893>       fname :M1.0199
03894>       remark:Runoff Hydrograph for M1
03895> R0199:C00006------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03896>     ROUTE CHANNEL   ->    1.0 01:M1        136.59    2.742 No_date   13:46   37.73  n/a     .000
03897>       [RDT= 1.00] out<-    1.0 02:R1        136.59    2.468 No_date   14:25   37.73  n/a     .000
03898>       [L/S/n= 3000./ .550/.035]
03899>       [Vmax= 1.118:Dmax=  .445]
03900> R0199:C00007------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03901>     SAVE HYD            1.0 02:R1        136.59    2.468 No_date   14:25   37.73  n/a     .000
03902>       fname :R1.0199
03903>       remark:Routing Hydrograph for R1
03904> R0199:C00008------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03905>     CALIB NASHYD        1.0 02:M2        372.64    7.088 No_date   13:47   36.04 .293     .000
03906>       [CN= 52.2: N= 3.00: Tp= 1.65]
03907> R0199:C00009------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03908>     SAVE HYD            1.0 03:M2        372.64    7.088 No_date   13:47   36.04  n/a     .000
03909>       fname :M2.0199
03910>       remark:Routing Hydrograph for M2
03911> R0199:C00010------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03912>     ADD HYD             1.0 02:R1        136.59    2.468 No_date   14:25   37.73  n/a     .000
03913>                       +    1.0 03:M2        372.64    7.088 No_date   13:47   36.04  n/a     .000
03914>                     SUM=   1.0 04:N21      509.23    9.401 No_date   13:57   36.49  n/a     .000
03915> R0199:C00011------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03916>     SAVE HYD            1.0 04:N21       509.23    9.401 No_date   13:57   36.49  n/a     .000
03917>       fname :N21.0199
03918>       remark:Hydrograph for N21
03919> R0199:C00012------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03920>     ROUTE CHANNEL   ->    1.0 04:N21       509.23    9.401 No_date   13:57   36.49  n/a     .000
03921>       [RDT= 1.00] out<-    1.0 05:R2        509.23    7.836 No_date   14:51   36.49  n/a     .000
03922>       [L/S/n= 4000./ .180/.035]
03923>       [Vmax= 1.031:Dmax=  .867]
03924> R0199:C00013------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03925>     SAVE HYD            1.0 05:R2        509.23    7.836 No_date   14:51   36.49  n/a     .000
03926>       fname :R2.0199
03927>       remark:Routing Hydrograph for R2
03928> R0199:C00014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03929>     CALIB NASHYD        1.0 06:M3        533.23    8.572 No_date   14:45   40.92 .333     .000
03930>       [CN= 56.0: N= 3.00: Tp= 2.47]
03931> R0199:C00015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03932>     SAVE HYD            1.0 06:M3        533.23    8.572 No_date   14:45   40.92  n/a     .000
03933>       fname :M3.0199
03934>       remark:Routing Hydrograph for M3
03935> R0199:C00016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03936>     ADD HYD             1.0 06:M3        533.23    8.572 No_date   14:45   40.92  n/a     .000
03937>                       +    1.0 03:M2        509.23    7.836 No_date   14:51   36.49  n/a     .000
03938>                     SUM=   1.0 07:N22     1042.46   16.403 No_date   14:49   38.76  n/a     .000
03939> R0199:C00017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03940>     SAVE HYD            1.0 07:N22      1042.46   16.403 No_date   14:49   38.76  n/a     .000
03941>       fname :N22.0199
03942>       remark:Hydrograph for N22
03943> # Trib A
03944> R0199:C00018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03945>     CALIB NASHYD        1.0 08:A1         86.15    1.744 No_date   13:59   41.03 .334     .000
03946>       [CN= 56.1: N= 3.00: Tp= 1.83]
03947> R0199:C00019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03948>     SAVE HYD            1.0 08:A1         86.15    1.744 No_date   13:59   41.03  n/a     .000
03949>       fname :A1.0199
03950>       remark:Runoff Hydrograph for A1
03951> R0199:C00020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03952>     ROUTE CHANNEL   ->    1.0 08:A1         86.15    1.744 No_date   13:59   41.03  n/a     .000
03953>       [RDT= 1.00] out<-    1.0 09:R3         86.15    1.602 No_date   14:36   41.03  n/a     .000
03954>       [L/S/n= 2500./ .600/.035]
03955>       [Vmax=  .971:Dmax=  .332]
03956> R0199:C00021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03957>     SAVE HYD            1.0 09:R3         86.15    1.602 No_date   14:36   41.03  n/a     .000
03958>       fname :R3.0199
03959>       remark:Routing Hydrograph for R3
03960> R0199:C00022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

```
03961>     CALIB NASHYD           1.0 01:A2          246.39    5.494 No_date   14:09   47.62 .387     .000
03962>       [CN= 61.0: N= 3.00: Tp= 1.99]
03963> R0199:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03964>     SAVE HYD               1.0 01:A2          246.39    5.494 No_date   14:09   47.62  n/a     .000
03965>       fname :A2.0199
03966>       remark:Routing Hydrograph for A2
03967> R0199:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03968>     ADD HYD                1.0 01:A2          246.39    5.494 No_date   14:09   47.62  n/a     .000
03969>                        +    1.0 09:R3           86.15    1.602 No_date   14:36   41.03  n/a     .000
03970>                    SUM=     1.0 02:N11         332.54    7.053 No_date   14:17   45.91  n/a     .000
03971> R0199:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03972>     SAVE HYD               1.0 02:N11         332.54    7.053 No_date   14:17   45.91  n/a     .000
03973>       fname :N11.0199
03974>       remark:Hydrograph for N11
03975> R0199:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03976>     ROUTE CHANNEL   ->     1.0 02:N11         332.54    7.053 No_date   14:17   45.91  n/a     .000
03977>       [RDT= 1.00] out<-    1.0 03:R4          332.54    6.456 No_date   14:57   45.91  n/a     .000
03978>       {L/S/n= 3000./ .200/.035}
03979>       {Vmax= 1.064:Dmax=  .951}
03980> R0199:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03981>     SAVE HYD               1.0 03:R4          332.54    6.456 No_date   14:57   45.91  n/a     .000
03982>       fname :R4.0199
03983>       remark:Routing Hydrograph for R4
03984> R0199:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03985>     CALIB NASHYD           1.0 04:A3          316.70    6.666 No_date   14:31   50.18 .408     .000
03986>       [CN= 62.8: N= 3.00: Tp= 2.31]
03987> R0199:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03988>     SAVE HYD               1.0 04:A3          316.70    6.666 No_date   14:31   50.18  n/a     .000
03989>       fname :A3.0199
03990>       remark:Routing Hydrograph for A3
03991> R0199:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03992>     ADD HYD                1.0 04:A3          316.70    6.666 No_date   14:31   50.18  n/a     .000
03993>                        +    1.0 03:R4          332.54    6.456 No_date   14:57   45.91  n/a     .000
03994>                    SUM=     1.0 05:N12         649.24   13.046 No_date   14:45   47.99  n/a     .000
03995> R0199:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03996>     SAVE HYD               1.0 05:N12         649.24   13.046 No_date   14:45   47.99  n/a     .000
03997>       fname :N12.0199
03998>       remark:Hydrograph for N12
03999> # Trib B
04000> R0199:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04001>     CALIB NASHYD           1.0 06:B1          627.61    7.836 No_date   15:53   40.27 .327     .000
04002>       [CN= 55.5: N= 3.00: Tp= 3.36]
04003> R0199:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04004>     SAVE HYD               1.0 06:B1          627.61    7.836 No_date   15:53   40.27  n/a     .000
04005>       fname :B1.0199
04006>       remark:Runoff Hydrograph for B1
04007> R0199:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04008>     ROUTE CHANNEL   ->     1.0 06:B1          627.61    7.836 No_date   15:53   40.27  n/a     .000
04009>       [RDT= 1.00] out<-    1.0 08:R5          627.61    7.677 No_date   16:27   40.27  n/a     .000
04010>       {L/S/n= 4800./ .870/.035}
04011>       {Vmax= 2.037:Dmax=  .967}
04012> R0199:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04013>     SAVE HYD               1.0 08:R5          627.61    7.677 No_date   16:27   40.27  n/a     .000
04014>       fname :R5.0199
04015>       remark:Routing Hydrograph for R5
04016> R0199:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04017>     CALIB NASHYD           1.0 09:B2          255.45    6.252 No_date   14:34   59.21 .481     .000
04018>       [CN= 68.8: N= 3.00: Tp= 2.39]
04019> R0199:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04020>     SAVE HYD               1.0 09:B2          255.45    6.252 No_date   14:34   59.21  n/a     .000
04021>       fname :B2.0199
04022>       remark:Routing Hydrograph for B2
04023> R0199:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04024>     ADD HYD                1.0 08:R5          627.61    7.677 No_date   16:27   40.27  n/a     .000
04025>                        +    1.0 09:B2          255.45    6.252 No_date   14:34   59.21  n/a     .000
04026>                    SUM=     1.0 01:N2          883.06   13.006 No_date   15:31   45.75  n/a     .000
04027> R0199:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04028>     SAVE HYD               1.0 01:N2          883.06   13.006 No_date   15:31   45.75  n/a     .000
04029>       fname :N2.0199
04030>       remark:Hydrograph for N2
04031> R0199:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04032>     CALIB NASHYD           1.0 02:B3          336.77    4.226 No_date   15:33   38.21 .311     .000
04033>       [CN= 53.9: N= 3.00: Tp= 3.10]
04034> R0199:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04035>     SAVE HYD               1.0 02:B3          336.77    4.226 No_date   15:33   38.21  n/a     .000
04036>       fname :B3.0199
04037>       remark:Routing Hydrograph for B3
04038> R0199:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04039>     ADD HYD                1.0 01:N2          883.06   13.006 No_date   15:31   45.75  n/a     .000
04040>                        +    1.0 02:B3          336.77    4.226 No_date   15:33   38.21  n/a     .000
04041>                    SUM=     1.0 03:N4         1219.83   17.231 No_date   15:31   43.67  n/a     .000
04042> R0199:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04043>     SAVE HYD               1.0 03:N4         1219.83   17.231 No_date   15:31   43.67  n/a     .000
04044>       fname :N4.0199
04045>       remark:Hydrograph for N4
04046> R0199:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04047>     ROUTE CHANNEL   ->     1.0 03:N4         1219.83   17.231 No_date   15:31   43.67  n/a     .000
04048>       [RDT= 1.00] out<-    1.0 04:R6         1219.83   16.839 No_date   16:10   43.67  n/a     .000
04049>       {L/S/n= 1500./ .480/.035}
04050>       {Vmax=  .894:Dmax= 1.251}
04051> R0199:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04052>     SAVE HYD               1.0 04:R6         1219.83   16.839 No_date   16:10   43.67  n/a     .000
04053>       fname :R6.0199
04054>       remark:Routing Hydrograph for R6
04055> R0199:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04056>     CALIB NASHYD           1.0 06:B5          224.06    3.188 No_date   14:56   37.88 .308     .000
04057>       [CN= 53.7: N= 3.00: Tp= 2.60]
04058> R0199:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04059>     SAVE HYD               1.0 06:B5          224.06    3.188 No_date   14:56   37.88  n/a     .000
04060>       fname :B5.0199
04061>       remark:Routing Hydrograph for B5
04062> R0199:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04063>     ADD HYD                1.0 06:B5          224.06    3.188 No_date   14:56   37.88  n/a     .000
04064>                        +    1.0 04:R6         1219.83   16.839 No_date   16:10   43.67  n/a     .000
04065>                    SUM=     1.0 08:N5         1443.89   19.715 No_date   16:06   42.77  n/a     .000
04066> R0199:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04067>     SAVE HYD               1.0 08:N5         1443.89   19.715 No_date   16:06   42.77  n/a     .000
04068>       fname :N5.0199
04069>       remark:Hydrograph for N5
04070> R0199:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04071>     ROUTE CHANNEL   ->     1.0 08:N5         1443.89   19.715 No_date   16:06   42.77  n/a     .000
04072>       [RDT= 1.00] out<-    1.0 09:R7         1443.89   18.105 No_date   18:23   42.77  n/a     .000
04073>       [L/S/n= 4500./ .240/.035]
04074>       {Vmax=  .833:Dmax= 1.443}
04075> R0199:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04076>     SAVE HYD               1.0 09:R7         1443.89   18.105 No_date   18:23   42.77  n/a     .000
04077>       fname :R7.0199
04078>       remark:Routing Hydrograph for R7
04079> R0199:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04080>     CALIB NASHYD           1.0 01:B6          329.90    9.453 No_date   14:36   70.10 .570     .000
04081>       [CN= 75.4: N= 3.00: Tp= 2.46]
04082> R0199:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04083>     SAVE HYD               1.0 01:B6          329.90    9.453 No_date   14:36   70.10  n/a     .000
04084>       fname :B6.0199
04085>       remark:Routing Hydrograph for B6
04086> R0199:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04087>     ADD HYD                1.0 09:R7         1443.89   18.105 No_date   18:23   42.77  n/a     .000
04088>                        +    1.0 01:B6          329.90    9.453 No_date   14:36   70.10  n/a     .000
04089>                    SUM=     1.0 02:N6         1773.79   23.547 No_date   16:48   47.85  n/a     .000
04090> R0199:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04091>     SAVE HYD               1.0 02:N6         1773.79   23.547 No_date   16:48   47.85  n/a     .000
04092>       fname :N6.0199
04093>       remark:Hydrograph for N6
04094> # Main channel combination with Trib A
04095> R0199:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04096>     ADD HYD                1.0 05:N12         649.24   13.046 No_date   14:45   47.99  n/a     .000
04097>                        +    1.0 07:N22        1042.46   16.403 No_date   14:49   38.76  n/a     .000
04098>                    SUM=     1.0 03:N23        1691.70   29.445 No_date   14:47   42.30  n/a     .000
04099> R0199:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04100>     SAVE HYD               1.0 03:N23        1691.70   29.445 No_date   14:47   42.30  n/a     .000
04101>       fname :N23.0199
04102>       remark:Hydrograph for N23/N24
04103> # Main channel combination with Trib B
04104> R0199:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04105>     ADD HYD                1.0 03:N23        1691.70   29.445 No_date   14:47   42.30  n/a     .000
04106>                        +    1.0 02:N6         1773.79   23.547 No_date   16:48   47.85  n/a     .000
04107>                    SUM=     1.0 04:N25        3465.49   51.103 No_date   15:07   45.14  n/a     .000
04108> R0199:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04109>     SAVE HYD               1.0 04:N25        3465.49   51.103 No_date   15:07   45.14  n/a     .000
04110>       fname :N25.0199
04111>       remark:Hydrograph for N25/N26
04112> # Main channel combination with Catchment C
04113> R0199:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04114>     CALIB NASHYD           1.0 06:C1         1414.40   23.942 No_date   15:49   54.09 .440     .000
04115>       [CN= 65.5: N= 3.00: Tp= 3.40]
04116> R0199:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04117>     SAVE HYD               1.0 06:C1         1414.40   23.942 No_date   15:49   54.09  n/a     .000
04118>       fname :C1.0199
04119>       remark:Routing Hydrograph for C1
04120> R0199:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04121>     ADD HYD                1.0 04:N25        3465.49   51.103 No_date   15:07   45.14  n/a     .000
04122>                        +    1.0 06:C1         1414.40   23.942 No_date   15:49   54.09  n/a     .000
04123>                    SUM=     1.0 08:N27        4879.89   74.463 No_date   15:16   47.74  n/a     .000
04124> R0199:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04125>     SAVE HYD               1.0 08:N27        4879.89   74.463 No_date   15:16   47.74  n/a     .000
04126>       fname :N27.0199
04127>       remark:Hydrograph for N27
04128> # Main channel
04129> R0199:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04130>     ROUTE CHANNEL   ->     1.0 08:N27        4879.89   74.463 No_date   15:16   47.74  n/a     .000
04131>       [RDT= 1.00] out<-    1.0 09:R8         4879.89   58.525 No_date   17:36   47.74  n/a     .000
04132>       {L/S/n= 2700./ .050/.035}
04133>       {Vmax=  .357:Dmax= 3.306}
04134> R0199:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04135>     SAVE HYD               1.0 09:R8         4879.89   58.525 No_date   17:36   47.74  n/a     .000
04136>       fname :R8.0199
04137>       remark:Routing Hydrograph for R8
04138> R0199:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04139>     CALIB NASHYD           1.0 01:M4          363.71   12.209 No_date   14:21   76.79 .624     .000
04140>       [CN= 79.2: N= 3.00: Tp= 2.27]
04141> R0199:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04142>     SAVE HYD               1.0 01:M4          363.71   12.209 No_date   14:21   76.79  n/a     .000
04143>       fname :M4.0199
04144>       remark:Routing Hydrograph for M4
04145> R0199:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04146>     ADD HYD                1.0 01:M4          363.71   12.209 No_date   14:21   76.79  n/a     .000
04147>                        +    1.0 09:R8         4879.89   58.525 No_date   17:36   47.74  n/a     .000
04148>                    SUM=     1.0 02:N28        5243.60   65.202 No_date   17:05   49.75  n/a     .000
04149> R0199:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04150>     SAVE HYD               1.0 02:N28        5243.60   65.202 No_date   17:05   49.75  n/a     .000
04151>       fname :N28.0199
04152>       remark:Hydrograph for N28
04153> R0199:C00002------------------------------------------------------------------------------------------
04154>     FINISH
04155> ------------------------------------------------------------------------------------------------------
04156> ******************************************************************************************************
04157>      WARNINGS / ERRORS / NOTES
04158>      -------------------------
04159>   Simulation ended on 2024-04-24     at 11:55:49
04160> ======================================================================================================
04161>
```

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Attachment B

Proposed Conditions Simulations

Table B1: Subcatchment M4 Land Use

Code	Land Use Description	2017 RVCA Report [1] Area (km^2)	August 2024 Update Area (km^2)
R1	Single -detached residential	0.18	0.18
C3	Other Commercial	0.01	0.01
UT	Utility	0.01	0.01
ROS	Idle and shrub Land	0.11	0.11
AG	Agriculture	2.80	2.80
V1	Vacant Land	0.37	0.29
FT	Forest	0.02	0.02
ST	Street	0.13	0.13
Total		**3.64**	**3.547**

[1] 2017 RVCA Flowing Creek Flood Risk Mapping from Flewellyn Road to Jock River Technical Memorandum

Table B2: Subcatchment M4 Soil Groups

Soil Group	2017 RVCA Report [1]		August 2024 Update	
	Area (km^2)	% of Catchment Area	Area (km^2)	% of Catchment Area
C	0.30	8.17	0.30	8.46
D	2.80	77.05	2.72	76.60
Unclassified	0.54	14.78	0.53	14.94
Total	**3.64**	**100.00**	**3.55**	**100.00**

[1] 2017 RVCA Flowing Creek Flood Risk Mapping from Flewellyn Road to Jock River Technical Memorandum

Table B3: Subcatchment M4 Updated CN Calculation

Code	Description	Area (km^2)	Soil Group	Indiv. Area (km^2)	CN	% of Catchment	Weighted CN
R1	Single - detached residential	0.18	C	0.01	77	0.3%	0.22
			D	0.09	82	2.5%	2.08
			Unclassified	0.08	82	2.3%	1.85
C3	Other Commercial	0.01	C	0.00	94	0.0%	0.00
			D	0.01	95	0.3%	0.27
			Unclassified	0.00	95	0.0%	0.00
UT	Utility	0.01	C	0.00	91	0.0%	0.00
			D	0.01	93	0.3%	0.26
			Unclassified	0.00	93	0.0%	0.00
ROS	Idle and Shrub Land	0.11	C	0.00	65	0.0%	0.00
			D	0.05	73	1.4%	1.03
			Unclassified	0.06	73	1.7%	1.23
AG	Agriculture	2.80	C	0.26	82	7.3%	6.01
			D	2.30	85	64.8%	55.11
			Unclassified	0.24	85	6.8%	5.75
V1	Vacant Land	0.29	C	0.00	65	0.0%	0.00
			D	0.18	73	5.0%	3.65
			Unclassified	0.11	73	3.1%	2.26
FT	Forest	0.02	C	0.00	70	0.0%	0.00
			D	0.02	77	0.6%	0.43
			Unclassified	0.00	77	0.0%	0.00
ST	Street	0.13	C	0.03	98	0.8%	0.83
			D	0.06	98	1.7%	1.66
			Unclassified	0.04	98	1.1%	1.11
Total	-	3.55	-	3.55	-	100.0%	-
						CN	**84**
						CN*	**78**

Notes:

(1) CN value for the unclassified soil group has conservatively been assumed to be equal to the CN value of the Soil Group D for the respective land use.

```
00001> 2     Metric units
00002> *$**********************************************************************
00003> *#  Project Name: [Creekside Subdivision]    Project Number: [1355]
00004> *#  Date        : 2024-04-16
00005> *#  Modeller    : [   PP    ]
00006> *#  Company     : J.F. Sabourin and Associates
00007> *#  License #   : 2549237
00008> *$**********************************************************************
00009> START              TZERO=[0.0], METOUT=[2], NSTORM=[1],  NRUN=[001]
00010> *\                   ["25MWC3H.stm"] <--storm filename, one per line for NSTORM time
00011> *\-----------------|-------------------------------------------------------|
00012> READ STORM          STORM_FILENAME=["storm.001"]
00013> *\-----------------|-------------------------------------------------------|
00014> DEFAULT VALUES      ICASEdef=[1],  read and print values
00015>                     DEFVAL_FILENAME=["FlowVal.val"]
00016> *\-----------------|-------------------------------------------------------|
00017> SAVE ALL HYDS       ON=[1]
00018> *\-----------------|-------------------------------------------------------|
00019>
00020> *# Main Channel
00021>
00022>
00023>
00024>
00025> CALIB NASHYD        ID=[1], NHYD=["M1"], DT=[1]min, AREA=[136.59](ha),
00026>                     DWF=[0](cms),  CN/C=[53.54], IA=[11.02](mm),
00027>                     N=[3], TP=[1.64]hrs,
00028>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00029> *\-----------------|-------------------------------------------------------|
00030> SAVE HYD           ID=[1],   # OF PCYCLES=[1],  ICASEsh=[1]
00031>                     HYD_COMMENT=["Runoff Hydrograph for M1"]
00032> *\-----------------|-------------------------------------------------------|
00033> ROUTE CHANNEL      IDout=[2], NHYD=["R1"], IDin=[1],
00034>                     RDT=[1](min),
00035>                     CHLGTH=[3000](m),  CHSLOPE=[0.55](%),
00036>                                          FPSLOPE=[0.55](%),
00037>                     SECNUM=[1],       NSEG=[3]
00038>                     ( SEGROUGH, SEGDIST (m))=[0.10, 40] NSEG times
00039>                                            -0.035, 47
00040>                                             0.10, 87
00041>                     ( DISTANCE (m), ELEVATION (m))=[0.00 ,113.50]
00042>                                                    0.00 ,113.14
00043>                                                   40.00 ,112.14
00044>                                                   41.00 ,111.14
00045>                                                   46.00 ,111.14
00046>                                                   47.00 ,112.14
00047>                                                   87.00 ,113.14
00048>                                                   87.00 ,113.50
00049> *\-----------------|-------------------------------------------------------|
00050> SAVE HYD           ID=[2],   # OF PCYCLES=[1],  ICASEsh=[1]
00051>                     HYD_COMMENT=["Routing Hydrograph for R1"]
00052> *\-----------------|-------------------------------------------------------|
00053> CALIB NASHYD        ID=[3], NHYD=["M2"], DT=[1]min, AREA=[372.64](ha),
00054>                     DWF=[0](cms),  CN/C=[52.18], IA=[11.64](mm),
00055>                     N=[3], TP=[1.65]hrs,
00056>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00057> *\-----------------|-------------------------------------------------------|
00058> SAVE HYD           ID=[3],   # OF PCYCLES=[1],  ICASEsh=[1]
00059>                     HYD_COMMENT=["Routing Hydrograph for M2"]
00060> *\-----------------|-------------------------------------------------------|
00061> ADD HYD            IDsum=[4], NHYD=["N21"], IDs to add=[2 + 3]
00062> *\-----------------|-------------------------------------------------------|
00063> SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
00064>                     HYD_COMMENT=["Hydrograph for N21"]
00065> *\-----------------|-------------------------------------------------------|
00066> ROUTE CHANNEL      IDout=[5], NHYD=["R2"], IDin=[4],
00067>                     RDT=[1](min),
00068>                     CHLGTH=[4000](m),  CHSLOPE=[0.18](%),
00069>                                          FPSLOPE=[0.18](%),
00070>                     SECNUM=[1],       NSEG=[3]
00071>                     ( SEGROUGH, SEGDIST (m))=[0.05, 101] NSEG times
00072>                                            -0.035, 112
00073>                                             0.05, 212
00074>                     ( DISTANCE (m), ELEVATION (m))=[0.00 ,99.50]
00075>                                                    0.00 ,99.18
00076>                                                  100.00 ,98.18
00077>                                                  101.00 ,96.18
00078>                                                  111.00 ,96.18
00079>                                                  112.00 ,98.18
00080>                                                  212.00 ,99.18
00081>                                                  212.00 ,99.50
00082> *\-----------------|-------------------------------------------------------|
00083> SAVE HYD           ID=[5],   # OF PCYCLES=[1],  ICASEsh=[1]
00084>                     HYD_COMMENT=["Routing Hydrograph for R2"]
00085> *\-----------------|-------------------------------------------------------|
00086> CALIB NASHYD        ID=[6], NHYD=["M3"], DT=[1]min, AREA=[533.23](ha),
00087>                     DWF=[0](cms),  CN/C=[56.04], IA=[9.96](mm),
00088>                     N=[3], TP=[2.47]hrs,
00089>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00090> *\-----------------|-------------------------------------------------------|
00091> SAVE HYD           ID=[6],   # OF PCYCLES=[1],  ICASEsh=[1]
00092>                     HYD_COMMENT=["Routing Hydrograph for M3"]
00093> *\-----------------|-------------------------------------------------------|
00094> ADD HYD            IDsum=[7], NHYD=["N22"], IDs to add=[6 + 5]
00095> *\-----------------|-------------------------------------------------------|
00096> SAVE HYD           ID=[7],   # OF PCYCLES=[1],  ICASEsh=[1]
00097>                     HYD_COMMENT=["Hydrograph for N22"]
00098> *\-----------------|-------------------------------------------------------|
00099>
00100>
00101> *# Trib A
00102>
00103>
00104>
00105>
00106> CALIB NASHYD        ID=[8], NHYD=["A1"], DT=[1]min, AREA=[86.15](ha),
00107>                     DWF=[0](cms),  CN/C=[56.12], IA=[9.93](mm),
00108>                     N=[3], TP=[1.83]hrs,
00109>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00110> *\-----------------|-------------------------------------------------------|
00111> SAVE HYD           ID=[8],   # OF PCYCLES=[1],  ICASEsh=[1]
00112>                     HYD_COMMENT=["Runoff Hydrograph for A1"]
00113> *\-----------------|-------------------------------------------------------|
00114> ROUTE CHANNEL      IDout=[9], NHYD=["R3"], IDin=[8],
00115>                     RDT=[1](min),
00116>                     CHLGTH=[2500](m),  CHSLOPE=[0.6](%),
00117>                                          FPSLOPE=[0.6](%),
00118>                     SECNUM=[1],       NSEG=[3]
00119>                     ( SEGROUGH, SEGDIST (m))=[0.05, 50] NSEG times
00120>                                            -0.035, 57
00121>                                             0.05, 107
00122>                     ( DISTANCE (m), ELEVATION (m))=[0.00 ,108.00]
00123>                                                    0.00 ,107.58
00124>                                                   50.00 ,106.58
00125>                                                   51.00 ,105.08
00126>                                                   56.00 ,105.08
00127>                                                   57.00 ,106.58
00128>                                                  107.00 ,107.58
00129>                                                  107.00 ,108.00
00130>
00131> *\-----------------|-------------------------------------------------------|
00132> SAVE HYD           ID=[9],   # OF PCYCLES=[1],  ICASEsh=[1]
00133>                     HYD_COMMENT=["Routing Hydrograph for R3"]
00134> *\-----------------|-------------------------------------------------------|
00135> CALIB NASHYD        ID=[1], NHYD=["A2"], DT=[1]min, AREA=[246.39](ha),
00136>                     DWF=[0](cms),  CN/C=[61.01], IA=[8.11](mm),
00137>                     N=[3], TP=[1.99]hrs,
00138>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00139> *\-----------------|-------------------------------------------------------|
00140> SAVE HYD           ID=[1],   # OF PCYCLES=[1],  ICASEsh=[1]
00141>                     HYD_COMMENT=["Routing Hydrograph for A2"]
00142> *\-----------------|-------------------------------------------------------|
00143> ADD HYD            IDsum=[2], NHYD=["N11"], IDs to add=[1 + 9]
00144> *\-----------------|-------------------------------------------------------|
00145> SAVE HYD           ID=[2],   # OF PCYCLES=[1],  ICASEsh=[1]
00146>                     HYD_COMMENT=["Hydrograph for N11"]
00147> *\-----------------|-------------------------------------------------------|
00148> ROUTE CHANNEL      IDout=[3], NHYD=["R4"], IDin=[2],
00149>                     RDT=[1](min),
00150>                     CHLGTH=[3000](m),  CHSLOPE=[0.2](%),
00151>                                          FPSLOPE=[0.2](%),
00152>                     SECNUM=[1],       NSEG=[3]
00153>                     ( SEGROUGH, SEGDIST (m))=[0.10, 150] NSEG times
00154>                                            -0.035, 158
00155>                                             0.10, 308
00156>                     ( DISTANCE (m), ELEVATION (m))=[0.00 ,100.00]
00157>                                                    0.00 ,99.87
00158>                                                  150.00 ,98.87
00159>                                                  151.00 ,97.87
00160>                                                  157.00 ,97.87
00161>                                                  158.00 ,98.87
00162>                                                  308.00 ,99.87
00163>                                                  308.00 ,100.00
00164> *\-----------------|-------------------------------------------------------|
00165> SAVE HYD           ID=[3],   # OF PCYCLES=[1],  ICASEsh=[1]
00166>                     HYD_COMMENT=["Routing Hydrograph for R4"]
00167> *\-----------------|-------------------------------------------------------|
00168> CALIB NASHYD        ID=[4], NHYD=["A3"], DT=[1]min, AREA=[316.70](ha),
00169>                     DWF=[0](cms),  CN/C=[62.82], IA=[7.52](mm),
00170>                     N=[3], TP=[2.31]hrs,
00171>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00172> *\-----------------|-------------------------------------------------------|
00173> SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
00174>                     HYD_COMMENT=["Routing Hydrograph for A3"]
00175> *\-----------------|-------------------------------------------------------|
00176> ADD HYD            IDsum=[5], NHYD=["N12"], IDs to add=[4 + 3]
00177> *\-----------------|-------------------------------------------------------|
00178> SAVE HYD           ID=[5],   # OF PCYCLES=[1],  ICASEsh=[1]
00179>                     HYD_COMMENT=["Hydrograph for N12"]
00180> *\-----------------|-------------------------------------------------------|
00181>
00182>
00183> *# Trib B
00184>
00185>
00186>
00187> CALIB NASHYD        ID=[6], NHYD=["B1"], DT=[1]min, AREA=[627.61](ha),
00188>                     DWF=[0](cms),  CN/C=[55.54], IA=[10.17](mm),
00189>                     N=[3], TP=[3.36]hrs,
00190>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00191> *\-----------------|-------------------------------------------------------|
00192> SAVE HYD           ID=[6],   # OF PCYCLES=[1],  ICASEsh=[1]
00193>                     HYD_COMMENT=["Runoff Hydrograph for B1"]
00194> *\-----------------|-------------------------------------------------------|
00195> ROUTE CHANNEL      IDout=[8], NHYD=["R5"], IDin=[6],
00196>                     RDT=[1](min),
00197>                     CHLGTH=[4800](m),  CHSLOPE=[0.87](%),
00198>                                          FPSLOPE=[0.87](%),
00199>                     SECNUM=[1],       NSEG=[3]
00200>                     ( SEGROUGH, SEGDIST (m))=[0.05, 100] NSEG times
00201>                                            -0.035, 105
00202>                                             0.05, 205
00203>                     ( DISTANCE (m), ELEVATION (m))=[0.00 ,120.50]
00204>                                                    0.00 ,120.29
00205>                                                  100.00 ,119.29
00206>                                                  101.00 ,118.29
00207>                                                  104.00 ,118.29
00208>                                                  105.00 ,119.29
00209>                                                  205.00 ,120.29
00210>                                                  205.00 ,120.50
00211> *\-----------------|-------------------------------------------------------|
00212> SAVE HYD           ID=[8],   # OF PCYCLES=[1],  ICASEsh=[1]
00213>                     HYD_COMMENT=["Routing Hydrograph for R5"]
00214> *\-----------------|-------------------------------------------------------|
00215> CALIB NASHYD        ID=[9], NHYD=["B2"], DT=[1]min, AREA=[255.45](ha),
00216>                     DWF=[0](cms),  CN/C=[68.84], IA=[5.75](mm),
00217>                     N=[3], TP=[2.39]hrs,
00218>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00219> *\-----------------|-------------------------------------------------------|
00220> SAVE HYD           ID=[9],   # OF PCYCLES=[1],  ICASEsh=[1]
00221>                     HYD_COMMENT=["Routing Hydrograph for B2"]
00222> *\-----------------|-------------------------------------------------------|
00223> ADD HYD            IDsum=[1], NHYD=["N2"], IDs to add=[8 + 9]
00224> *\-----------------|-------------------------------------------------------|
00225> SAVE HYD           ID=[1],   # OF PCYCLES=[1],  ICASEsh=[1]
00226>                     HYD_COMMENT=["Hydrograph for N2"]
00227> *\-----------------|-------------------------------------------------------|
00228> CALIB NASHYD        ID=[2], NHYD=["B3"], DT=[1]min, AREA=[336.77](ha),
00229>                     DWF=[0](cms),  CN/C=[53.92], IA=[10.86](mm),
00230>                     N=[3], TP=[3.10]hrs,
00231>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00232> *\-----------------|-------------------------------------------------------|
00233> SAVE HYD           ID=[2],   # OF PCYCLES=[1],  ICASEsh=[1]
00234>                     HYD_COMMENT=["Routing Hydrograph for B3"]
00235> *\-----------------|-------------------------------------------------------|
00236> ADD HYD            IDsum=[3], NHYD=["N4"], IDs to add=[1 + 2]
00237> *\-----------------|-------------------------------------------------------|
00238> SAVE HYD           ID=[3],   # OF PCYCLES=[1],  ICASEsh=[1]
00239>                     HYD_COMMENT=["Hydrograph for N4"]
00240> *\-----------------|-------------------------------------------------------|
00241> ROUTE CHANNEL      IDout=[4], NHYD=["R6"], IDin=[3],
00242>                     RDT=[1](min),
00243>                     CHLGTH=[1500](m),  CHSLOPE=[0.48](%),
00244>                                          FPSLOPE=[0.48](%),
00245>                     SECNUM=[1],       NSEG=[3]
00246>                     ( SEGROUGH, SEGDIST (m))=[0.05, 200] NSEG times
00247>                                            -0.035, 206
00248>                                             0.05, 406
00249>                     ( DISTANCE (m), ELEVATION (m))=[0.00 ,108.10]
00250>                                                    0.00 ,107.91
00251>                                                  200.00 ,106.91
00252>                                                  201.00 ,105.91
00253>                                                  205.00 ,105.91
00254>                                                  206.00 ,106.91
00255>                                                  406.00 ,107.91
00256>                                                  406.00 ,108.10
00257> *\-----------------|-------------------------------------------------------|
00258> SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
00259>                     HYD_COMMENT=["Routing Hydrograph for R6"]
00260> *\-----------------|-------------------------------------------------------|
00261> CALIB NASHYD        ID=[6], NHYD=["B5"], DT=[1]min, AREA=[224.06](ha),
00262>                     DWF=[0](cms),  CN/C=[53.66], IA=[10.97](mm),
00263>                     N=[3], TP=[2.60]hrs,
00264>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00265> *\-----------------|-------------------------------------------------------|
00266> SAVE HYD           ID=[6],   # OF PCYCLES=[1],  ICASEsh=[1]
00267>                     HYD_COMMENT=["Routing Hydrograph for B5"]
00268> *\-----------------|-------------------------------------------------------|
00269> ADD HYD            IDsum=[8], NHYD=["N5"], IDs to add=[6 + 4]
00270> *\-----------------|-------------------------------------------------------|
00271> SAVE HYD           ID=[8],   # OF PCYCLES=[1],  ICASEsh=[1]
00272>                     HYD_COMMENT=["Hydrograph for N5"]
00273> *\-----------------|-------------------------------------------------------|
00274> ROUTE CHANNEL      IDout=[9], NHYD=["R7"], IDin=[8],
00275>                     RDT=[1](min),
00276>                     CHLGTH=[4500](m),  CHSLOPE=[0.24](%),
00277>                                          FPSLOPE=[0.24](%),
00278>                     SECNUM=[1],       NSEG=[3]
00279>                     ( SEGROUGH, SEGDIST (m))=[0.10, 200] NSEG times
00280>                                            -0.035, 209
00281>                                             0.10, 409
00282>                     ( DISTANCE (m), ELEVATION (m))=[0.00 ,99.00]
00283>                                                    0.00 ,98.77
00284>                                                  200.00 ,97.77
00285>                                                  201.00 ,96.57
00286>                                                  208.00 ,96.57
00287>                                                  209.00 ,97.77
00288>                                                  409.00 ,98.77
00289>                                                  409.00 ,99.00
00290> *\-----------------|-------------------------------------------------------|
00291> SAVE HYD           ID=[9],   # OF PCYCLES=[1],  ICASEsh=[1]
00292>                     HYD_COMMENT=["Routing Hydrograph for R7"]
00293> *\-----------------|-------------------------------------------------------|
00294> CALIB NASHYD        ID=[1], NHYD=["B6"], DT=[1]min, AREA=[329.90](ha),
00295>                     DWF=[0](cms),  CN/C=[75.44], IA=[4.14](mm),
00296>                     N=[3], TP=[2.46]hrs,
00297>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00298> *\-----------------|-------------------------------------------------------|
00299> SAVE HYD           ID=[1],   # OF PCYCLES=[1],  ICASEsh=[1]
00300>                     HYD_COMMENT=["Routing Hydrograph for B6"]
00301> *\-----------------|-------------------------------------------------------|
00302> ADD HYD            IDsum=[2], NHYD=["N6"], IDs to add=[9 + 1]
00303> *\-----------------|-------------------------------------------------------|
00304> SAVE HYD           ID=[2],   # OF PCYCLES=[1],  ICASEsh=[1]
00305>                     HYD_COMMENT=["Hydrograph for N6"]
00306> *\-----------------|-------------------------------------------------------|
00307>
00308>
00309> *# Main channel combination with Trib A
00310>
00311>
00312> ADD HYD            IDsum=[3], NHYD=["N23"], IDs to add=[5 + 7]
00313> *\-----------------|-------------------------------------------------------|
00314> SAVE HYD           ID=[3],   # OF PCYCLES=[1],  ICASEsh=[1]
00315>                     HYD_COMMENT=["Hydrograph for N23/N24"]
00316> *\-----------------|-------------------------------------------------------|
00317>
00318>
00319> *# Main channel combination with Trib B
00320>
00321>
00322> ADD HYD            IDsum=[4], NHYD=["N25"], IDs to add=[3 + 2]
00323> *\-----------------|-------------------------------------------------------|
00324> SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
00325>                     HYD_COMMENT=["Hydrograph for N25/N26"]
00326> *\-----------------|-------------------------------------------------------|
00327>
00328>
00329>
00330> *# Main channel combination with Catchment C
00331>
00332>
00333>
00334>
00335> CALIB NASHYD        ID=[6], NHYD=["C1"], DT=[1]min, AREA=[1414.40](ha),
00336>                     DWF=[0](cms),  CN/C=[65.49], IA=[6.69](mm),
00337>                     N=[3], TP=[3.40]hrs,
00338>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00339> *\-----------------|-------------------------------------------------------|
00340> SAVE HYD           ID=[6],   # OF PCYCLES=[1],  ICASEsh=[1]
00341>                     HYD_COMMENT=["Routing Hydrograph for C1"]
00342> *\-----------------|-------------------------------------------------------|
00343> ADD HYD            IDsum=[8], NHYD=["N27"], IDs to add=[4 + 6]
00344> *\-----------------|-------------------------------------------------------|
00345> SAVE HYD           ID=[8],   # OF PCYCLES=[1],  ICASEsh=[1]
00346>                     HYD_COMMENT=["Hydrograph for N27"]
00347> *\-----------------|-------------------------------------------------------|
00348>
00349>
00350>
00351> *# Main channel
00352>
00353>
00354>
00355>
00356> ROUTE CHANNEL      IDout=[9], NHYD=["R8"], IDin=[8],
00357>                     RDT=[1](min),
00358>                     CHLGTH=[2700](m),  CHSLOPE=[0.05](%),
00359>                                          FPSLOPE=[0.05](%),
00360>                     SECNUM=[1],       NSEG=[3]
```

```
00361>                    ( SEGROUGH, SEGDIST (m))=[0.10, 200] NSEG times
00362>                                            -0.035, 212
00363>                                             0.10, 412
00364>                    ( DISTANCE (m), ELEVATION (m))=[0.00 ,95.50]
00365>                                                    0.00 ,94.67
00366>                                                  200.00 ,92.67
00367>                                                  201.00 ,90.67
00368>                                                  211.00 ,90.67
00369>                                                  212.00 ,92.67
00370>                                                  412.00 ,94.67
00371>                                                  412.00 ,95.50
00372> *%-----------------|-------------------------------------------------------------|
00373> SAVE HYD            ID=[9],   # OF PCYCLES=[1],  ICASEsh=[1]
00374>                    HYD_COMMENT=["Routing Hydrograph for R8"]
00375> *%-----------------|-------------------------------------------------------------|
00376> *# Updated catchment M4
00377> CALIB NASHYD       ID=[1], NHYD=["M4"], DT=[1]min, AREA=[354.74](ha),
00378>                    DWF=[0](cms),  CN/C=[78], IA=[3.62](mm),
00379>                    N=[3], TP=[2.27]hrs,
00380>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00381> *%-----------------|-------------------------------------------------------------|
00382> SAVE HYD            ID=[1],   # OF PCYCLES=[1],  ICASEsh=[1]
00383>                    HYD_COMMENT=["Routing Hydrograph for M4"]
00384> *%-----------------|-------------------------------------------------------------|
00385> *# Creekside Subdivision - Post Development
00386> CALIB STANDHYD     ID=[2], NHYD=["CRK"], DT=[1]min, AREA=[24.63](ha),
00387>                    XIMP=[0.531], TIMP=[0.631], DWF=[0](cms),  LOSS=[1],
00388>                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr),
00389>                            DCAY=[4.14](/hr), Fr=[0.0](mm),
00390>                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
00391>                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
00392>                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
00393>                              LGI=[405](m), MNI=[0.013], SCI=[0](min),
00394>                    RAINFALL=[ ,  ,  ,  , ](mm/hr), END=-1
00395> *%-----------------|-------------------------------------------------------------|
00396> *# Creekside Subdivision - SWM Pond Routing
00397> ROUTE RESERVOIR     IDout=[3], NHYD=["Pond-Out"], IDin=[2], RDT=[1](min),
00398>                         TABLE of ( OUTFLOW-STORAGE ) values
00399>                                  (cms) - (ha-m)
00400>                                  [ 0 , 0 ]
00401>                                  [ 0.011 , 0.0985 ]
00402>                                  [ 0.047 , 0.435 ]
00403>                                  [ 7.5   , 0.500 ]
00404>                                  [    -1 , -1    ]  (max twenty pts)
00405>                         IDovf=[4], NHYDovf=["Pond-Ovf"]
00406> *%-----------------|-------------------------------------------------------------|
00407> ADD HYD            IDsum=[5], NHYD=["N28"], IDs to add=[1 + 3 + 4 + 9]
00408> *%-----------------|-------------------------------------------------------------|
00409> SAVE HYD            ID=[5],   # OF PCYCLES=[1],  ICASEsh=[1]
00410>                    HYD_COMMENT=["Hydrograph for N28"]
00411> *%-----------------|-------------------------------------------------------------|
00412> *%-----------------|-------------------------------------------------------------|
00413> *%-----------------3 Hr CHI Storms - Per RVCA Flowing Creek Study-------------|
00414> *%-----------------|-------------------------------------------------------------|
00415> *%  2-Year, 3-Hour Chicago Storm
00416> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
00417>                    ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
00418> *%-----------------|-------------------------------------------------------------|
00419> *%  5-Year, 3-Hour Chicago Storm
00420> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[005]
00421>                    ["005YC3H.stm"] <--storm filename, one per line for NSTORM time
00422> *%-----------------|-------------------------------------------------------------|
00423> *%  10-Year, 3-Hour Chicago Storm
00424> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[010]
00425>                    ["010YC3H.stm"] <--storm filename, one per line for NSTORM time
00426> *%-----------------|-------------------------------------------------------------|
00427> *%  25-Year, 3-Hour Chicago Storm
00428> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[025]
00429>                    ["025YC3H.stm"] <--storm filename, one per line for NSTORM time
00430> *%-----------------|-------------------------------------------------------------|
00431> *%  50-Year, 3-Hour Chicago Storm
00432> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[050]
00433>                    ["050YC3H.stm"] <--storm filename, one per line for NSTORM time
00434> *%-----------------|-------------------------------------------------------------|
00435> *%  100-Year, 3-Hour Chicago Storm
00436> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[099]
00437>                    ["100YC3H.stm"] <--storm filename, one per line for NSTORM time
00438> *%-----------------|-------------------------------------------------------------|
00439> *%-----------------24 Hr SCS Storms - Per RVCA Flowing Creek Study-------------|
00440> *%-----------------|-------------------------------------------------------------|
00441> *% 2 Year 24 Hour SCS Design Storm
00442> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[102]
00443> *                   ["2YS24.stm"] <--storm filename, one per line for NSTORM time
00444> *%-----------------|-------------------------------------------------------------|
00445> *% 5 Year 24 Hour SCS Design Storm
00446> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[105]
00447> *                   ["5YS24.stm"] <--storm filename, one per line for NSTORM time
00448> *%-----------------|-------------------------------------------------------------|
00449> *% 10 Year 24 Hour SCS Design Storm
00450> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[110]
00451> *                   ["10YS24.stm"] <--storm filename, one per line for NSTORM time
00452> *%-----------------|-------------------------------------------------------------|
00453> *% 20 Year 24 Hour SCS Design Storm
00454> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[120]
00455> *                   ["20YS24.stm"] <--storm filename, one per line for NSTORM time
00456> *%-----------------|-------------------------------------------------------------|
00457> *% 50 Year 24 Hour SCS Design Storm
00458> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[150]
00459> *                   ["50YS24.stm"] <--storm filename, one per line for NSTORM time
00460> *%-----------------|-------------------------------------------------------------|
00461> *% 100 Year 24 Hour SCS Design Storm
00462> START               TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[199]
00463>                    ["100YS24.stm"] <--storm filename, one per line for NSTORM time
00464> *%-----------------|-------------------------------------------------------------|
00465> *% 200 Year 24 Hour SCS Design Storm
00466> *START              TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[200]
00467> *                   ["200YS24.stm"] <--storm filename, one per line for NSTORM time
00468> *%-----------------|-------------------------------------------------------------|
00469> *% 350 Year 24 Hour SCS Design Storm
00470> *START              TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[350]
00471> *                   ["350YS24.stm"] <--storm filename, one per line for NSTORM time
00472> *%-----------------|-------------------------------------------------------------|
00473> *% 500 Year 24 Hour SCS Design Storm
00474> *START              TZERO=[0.0]hrs or date,  METOUT=[2], NSTORM=[1],  NRUN=[500]
00475> *                   ["500YS24.stm"] <--storm filename, one per line for NSTORM time
00476> *%-----------------|-------------------------------------------------------------|
00477> FINISH
```

```
 ============================================================================================
 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000    11   5555   =========
 S       W W W   MM MM   H   H    Y Y    MM MM   O   O           2    0   0   11   5
 SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O           2    0   0   11   5      Ver 5.500
     S    W W    M   M   H   H     Y     M   M   O   O         222    0   0   11   555    FEB  2015
 SSSSS    W W    M   M   H   H     Y     M   M    OOO          2      0   0   11     5   =========
                                                               2      0   0   11     5   # 2549237
       StormWater Management HYdrologic Model                  222     000    11   555    =========

 ********************************************************************************************
 **************************************  SWMHYMO Ver 5.500  *********************************
 ******************  A single event and continuous hydrologic simulation model  *************
 ******************     based on the principles of HYMO and its successors      *************
 ******************                  OTTHYMO-83 and OTTHYMO-89.                 *************
 ********************************************************************************************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.          *************
 ******************                  Ottawa,  Ontario: (613) 836-3884           *************
 ******************                  Gatineau, Quebec: (819) 243-6858           *************
 ******************                  E-Mail: swmhymo@jfsa.Com                   *************
 ********************************************************************************************

 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 ++++++++++++++++++ Licensed user: JFSAinc.                                     +++++++++++++
 ++++++++++++++++++               Ottawa              SERIAL#:2549237           +++++++++++++
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

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


 ********************************  S U M M A R Y   O U T P U T  ****************************
 ********************************************************************************************
 *                 RUN DATE: 2024-04-24     TIME: 14:12:38     RUN COUNTER: 008122          *
 ********************************************************************************************
 * Input   file: C:\Temp\temp\Creek-Post-SWM_Pond.dat                                       *
 * Output  file: C:\Temp\temp\Creek-Post-SWM_Pond.out                                       *
 * Summary file: C:\Temp\temp\Creek-Post-SWM_Pond.sum                                       *
 * User comments:                                                                           *
 * 1:_______________________________________________________________________________________*
 * 2:_______________________________________________________________________________________*
 * 3:_______________________________________________________________________________________*
 ********************************************************************************************


#*******************************************************************************
#  Project Name: [Creekside Subdivision]    Project Number: [1355]
#  Date         : 2024-04-16
#  Modeller     : [   PP    ]
#  Company      : J.F. Sabourin and Associates
#  License #    :  2549237
#*******************************************************************************
 RUN#:COMMAND#
R0001:C00001-----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0001 ]
R0001:C00002-----------------------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = 25 MM BASED ON CHICAGO STORM 2 Year, 3 Hours
      [SDT=10.00:SDUR=   3.00:PTOT=  25.00]
R0001:C00003-----------------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Temp\temp\FlowVal.val
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [RVCA Flowing Creek FPM]
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   1.50 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0001:C00004-----------------------------------------------------------------------------------------
 -------------
 | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.



 -------------
# Main Channel
R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:M1            136.59     .092 No_date    3:30      .83 .033     .000
      [CN= 53.5: N= 3.00: Tp= 1.64]
R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:M1            136.59     .092 No_date    3:30      .83  n/a     .000
      fname :M1.0001
      remark:Runoff Hydrograph for M1
R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 01:M1            136.59     .092 No_date    3:30      .83  n/a     .000
     [RDT= 1.00] out<-    1.0 02:R1            136.59     .062 No_date    4:50      .83  n/a     .000
      [L/S/n= 3000./ .550/.035]
      {Vmax=  .446:Dmax=  .040}
R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:R1            136.59     .062 No_date    4:50      .83  n/a     .000
      fname :R1.0001
      remark:Routing Hydrograph for R1
R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:M2            372.64     .217 No_date    3:32      .73 .029     .000
      [CN= 52.2: N= 3.00: Tp= 1.65]
R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 03:M2            372.64     .217 No_date    3:32      .73  n/a     .000
      fname :M2.0001
      remark:Routing Hydrograph for M2
R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:R1            136.59     .062 No_date    4:50      .83  n/a     .000
                     +    1.0 03:M2            372.64     .217 No_date    3:32      .73  n/a     .000
                  SUM=    1.0 04:N21           509.23     .265 No_date    3:43      .75  n/a     .000
R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 04:N21           509.23     .265 No_date    3:43      .75  n/a     .000
      fname :N21.0001
      remark:Hydrograph for N21
R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 04:N21           509.23     .265 No_date    3:43      .75  n/a     .000
     [RDT= 1.00] out<-    1.0 05:R2            509.23     .147 No_date    5:41      .75  n/a     .000
      [L/S/n= 4000./ .180/.035]
      {Vmax=  .350:Dmax=  .075}
R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 05:R2            509.23     .147 No_date    5:41      .75  n/a     .000
      fname :R2.0001
      remark:Routing Hydrograph for R2
R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:M3            533.23     .326 No_date    4:14     1.06 .042     .000
      [CN= 56.0: N= 3.00: Tp= 2.47]
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 06:M3            533.23     .326 No_date    4:14     1.06  n/a     .000
      fname :M3.0001
      remark:Routing Hydrograph for M3
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 06:M3            533.23     .326 No_date    4:14     1.06  n/a     .000
                     +    1.0 05:R2            509.23     .147 No_date    5:41      .75  n/a     .000
                  SUM=    1.0 07:N22          1042.46     .451 No_date    4:35      .91  n/a     .000
R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 07:N22          1042.46     .451 No_date    4:35      .91  n/a     .000
      fname :N22.0001
      remark:Hydrograph for N22
# Trib A
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:A1             86.15     .068 No_date    3:38     1.06 .043     .000
      [CN= 56.1: N= 3.00: Tp= 1.83]
R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 08:A1             86.15     .068 No_date    3:38     1.06  n/a     .000
      fname :A1.0001
      remark:Runoff Hydrograph for A1
R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 08:A1             86.15     .068 No_date    3:38     1.06  n/a     .000
     [RDT= 1.00] out<-    1.0 09:R3             86.15     .053 No_date    4:44     1.06  n/a     .000
      [L/S/n= 2500./ .600/.035]
      {Vmax=  .538:Dmax=  .025}
R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 09:R3             86.15     .053 No_date    4:44     1.06  n/a     .000
      fname :R3.0001
      remark:Routing Hydrograph for R3
R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:A2            246.39     .271 No_date    3:43     1.59 .064     .000
      [CN= 61.0: N= 3.00: Tp= 1.99]
R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:A2            246.39     .271 No_date    3:43     1.59  n/a     .000
      fname :A2.0001
      remark:Routing Hydrograph for A2
R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:A2            246.39     .271 No_date    3:43     1.59  n/a     .000
                     +    1.0 09:R3             86.15     .053 No_date    4:44     1.06  n/a     .000
                  SUM=    1.0 02:N11           332.54     .317 No_date    3:51     1.45  n/a     .000
R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:N11           332.54     .317 No_date    3:51     1.45  n/a     .000
      fname :N11.0001
      remark:Hydrograph for N11
R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:N11           332.54     .317 No_date    3:51     1.45  n/a     .000
     [RDT= 1.00] out<-    1.0 03:R4            332.54     .186 No_date    5:34     1.45  n/a     .000
      [L/S/n= 3000./ .200/.035]
      {Vmax=  .319:Dmax=  .143}
R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 03:R4            332.54     .186 No_date    5:34     1.45  n/a     .000
      fname :R4.0001
      remark:Routing Hydrograph for R4
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:A3            316.70     .353 No_date    4:00     1.82 .073     .000
      [CN= 62.8: N= 3.00: Tp= 2.31]
R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 04:A3            316.70     .353 No_date    4:00     1.82  n/a     .000
      fname :A3.0001
      remark:Routing Hydrograph for A3
R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:A3            316.70     .353 No_date    4:00     1.82  n/a     .000
                     +    1.0 03:R4            332.54     .186 No_date    5:34     1.45  n/a     .000
                  SUM=    1.0 05:N12           649.24     .504 No_date    4:25     1.63  n/a     .000
R0001:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 05:N12           649.24     .504 No_date    4:25     1.63  n/a     .000
      fname :N12.0001
      remark:Hydrograph for N12
# Trib B
R0001:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:B1            627.61     .278 No_date    5:06     1.01 .040     .000
      [CN= 55.5: N= 3.00: Tp= 3.36]
R0001:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 06:B1            627.61     .278 No_date    5:06     1.01  n/a     .000
      fname :B1.0001
      remark:Runoff Hydrograph for B1
R0001:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:B1            627.61     .278 No_date    5:06     1.01  n/a     .000
     [RDT= 1.00] out<-    1.0 08:R5            627.61     .212 No_date    6:57     1.01  n/a     .000
      [L/S/n= 4800./ .870/.035]
      {Vmax=  .614:Dmax=  .129}
R0001:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 08:R5            627.61     .212 No_date    6:57     1.01  n/a     .000
      fname :R5.0001
      remark:Routing Hydrograph for R5
R0001:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:B2            255.45     .419 No_date    4:01     2.76 .110     .000
      [CN= 68.8: N= 3.00: Tp= 2.39]
R0001:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 09:B2            255.45     .419 No_date    4:01     2.76  n/a     .000
      fname :B2.0001
      remark:Routing Hydrograph for B2
R0001:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 08:R5            627.61     .212 No_date    6:57     1.01  n/a     .000
                     +    1.0 09:B2            255.45     .419 No_date    4:01     2.76  n/a     .000
                  SUM=    1.0 01:N2            883.06     .535 No_date    4:35     1.52  n/a     .000
R0001:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:N2            883.06     .535 No_date    4:35     1.52  n/a     .000
      fname :N2.0001
      remark:Hydrograph for N2
R0001:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:B3            336.77     .138 No_date    4:52      .86 .035     .000
      [CN= 53.9: N= 3.00: Tp= 3.10]
R0001:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:B3            336.77     .138 No_date    4:52      .86  n/a     .000
      fname :B3.0001
      remark:Routing Hydrograph for B3
R0001:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:N2            883.06     .535 No_date    4:35     1.52  n/a     .000
                     +    1.0 02:B3            336.77     .138 No_date    4:52      .86  n/a     .000
                  SUM=    1.0 03:N4           1219.83     .672 No_date    4:39     1.34  n/a     .000
R0001:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 03:N4           1219.83     .672 No_date    4:39     1.34  n/a     .000
      fname :N4.0001
      remark:Hydrograph for N4
R0001:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 03:N4           1219.83     .672 No_date    4:39     1.34  n/a     .000
     [RDT= 1.00] out<-    1.0 04:R6           1219.83     .653 No_date    5:10     1.34  n/a     .000
      [L/S/n= 1500./ .480/.035]
      {Vmax=  .679:Dmax=  .226}
R0001:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 04:R6           1219.83     .653 No_date    5:10     1.34  n/a     .000
      fname :R6.0001
      remark:Routing Hydrograph for R6
R0001:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:B5            224.06     .105 No_date    4:24      .84 .034     .000
      [CN= 53.7: N= 3.00: Tp= 2.60]
R0001:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 06:B5            224.06     .105 No_date    4:24      .84  n/a     .000
      fname :B5.0001
      remark:Routing Hydrograph for B5
R0001:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 06:B5            224.06     .105 No_date    4:24      .84  n/a     .000
                     +    1.0 04:R6           1219.83     .653 No_date    5:10     1.34  n/a     .000
                  SUM=    1.0 08:N5           1443.89     .751 No_date    5:01     1.26  n/a     .000
R0001:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 08:N5           1443.89     .751 No_date    5:01     1.26  n/a     .000
      fname :N5.0001
      remark:Hydrograph for N5
R0001:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 08:N5           1443.89     .751 No_date    5:01     1.26  n/a     .000
     [RDT= 1.00] out<-    1.0 09:R7           1443.89     .493 No_date    6:56     1.26  n/a     .000
      [L/S/n= 4500./ .240/.035]
      {Vmax=  .481:Dmax=  .215}
R0001:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 09:R7           1443.89     .493 No_date    6:56     1.26  n/a     .000
      fname :R7.0001
      remark:Routing Hydrograph for R7
R0001:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:B6            329.90     .804 No_date    4:01     4.20 .168     .000
      [CN= 75.4: N= 3.00: Tp= 2.46]
R0001:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:B6            329.90     .804 No_date    4:01     4.20  n/a     .000
      fname :B6.0001
      remark:Routing Hydrograph for B6
R0001:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 09:R7           1443.89     .493 No_date    6:56     1.26  n/a     .000
                     +    1.0 01:B6            329.90     .804 No_date    4:01     4.20  n/a     .000
                  SUM=    1.0 02:N6           1773.79    1.053 No_date    4:59     1.81  n/a     .000
R0001:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 02:N6           1773.79    1.053 No_date    4:59     1.81  n/a     .000
      fname :N6.0001
      remark:Hydrograph for N6
# Main channel combination with Trib A
R0001:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:N12           649.24     .504 No_date    4:25     1.63  n/a     .000
                     +    1.0 07:N22          1042.46     .451 No_date    4:35      .91  n/a     .000
                  SUM=    1.0 03:N23          1691.70     .954 No_date    4:30     1.19  n/a     .000
R0001:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 03:N23          1691.70     .954 No_date    4:30     1.19  n/a     .000
      fname :N23.0001
      remark:Hydrograph for N23/N24
# Main channel combination with Trib B
R0001:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:N23          1691.70     .954 No_date    4:30     1.19  n/a     .000
                     +    1.0 02:N6           1773.79    1.053 No_date    4:59     1.81  n/a     .000
                  SUM=    1.0 04:N25          3465.49    1.998 No_date    4:41     1.50  n/a     .000
R0001:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 04:N25          3465.49    1.998 No_date    4:41     1.50  n/a     .000
      fname :N25.0001
      remark:Hydrograph for N25/N26
# Main channel combination with Catchment C
R0001:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:C1           1414.40    1.352 No_date    5:01     2.20 .088     .000
      [CN= 65.5: N= 3.00: Tp= 3.40]
R0001:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 06:C1           1414.40    1.352 No_date    5:01     2.20  n/a     .000
      fname :C1.0001
      remark:Routing Hydrograph for C1
R0001:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:N25          3465.49    1.998 No_date    4:41     1.50  n/a     .000
                     +    1.0 06:C1           1414.40    1.352 No_date    5:01     2.20  n/a     .000
                  SUM=    1.0 08:N27          4879.89    3.344 No_date    4:50     1.71  n/a     .000
R0001:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 08:N27          4879.89    3.344 No_date    4:50     1.71  n/a     .000
      fname :N27.0001
      remark:Hydrograph for N27
# Main channel
R0001:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 08:N27          4879.89    3.344 No_date    4:50     1.71  n/a     .000
     [RDT= 1.00] out<-    1.0 09:R8           4879.89    2.771 No_date    6:06     1.71  n/a     .000
      [L/S/n= 2700./ .050/.035]
      {Vmax=  .459:Dmax=  .690}
R0001:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 09:R8           4879.89    2.771 No_date    6:06     1.71  n/a     .000
      fname :R8.0001
      remark:Routing Hydrograph for R8
# Updated catchment M4
R0001:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:M4            354.74    1.084 No_date    3:49     4.91 .197     .000
      [CN= 78.0: N= 3.00: Tp= 2.27]
R0001:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:M4            354.74    1.084 No_date    3:49     4.91  n/a     .000
      fname :M4.0001
      remark:Routing Hydrograph for M4
# Creekside Subdivision - Post Development
R0001:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 02:CRK            24.63    1.467 No_date    1:05    13.75 .550     .000
      [XIMP=.53:TIMP=.63]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
```

```
00361>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 405.:MNI=.013:SCI=   .0]
00362> # Creekside Subdivision - SWM Pond Routing
00363> R0001:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00364>     ROUTE RESERVOIR ->     1.0 02:CRK          24.63    1.467 No_date    3:05   13.75  n/a     .000
00365>                out <=     1.0 03:Pond-Out     24.63     .034 No_date    3:12   13.74  n/a     .000
00366>            overflow <=    1.0 04:Pond-Ovf       .00     .000 No_date    0:00    .00  n/a     .000
00367>      (MxStoUsed=.3138E+00  m3, TotOvfVol=.0000E+00 m3, N-Ovf=    0, TotDurOvf=     0.hrs)
00368> R0001:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00369>     ADD HYD                1.0 01:M4          354.74    1.084 No_date    3:49    4.91  n/a     .000
00370>                       +     1.0 03:Pond-Out     24.63     .034 No_date    3:12   13.74  n/a     .000
00371>                       +     1.0 04:Pond-Ovf       .00     .000 No_date    0:00     .00  n/a     .000
00372>                       +     1.0 09:R8         4879.89    2.771 No_date    6:06    1.71  n/a     .000
00373>                   SUM=      1.0 05:N28        5259.26    3.496 No_date    5:25    1.98  n/a     .000
00374> R0001:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00375>     SAVE HYD               1.0 05:N28        5259.26    3.496 No_date    5:25    1.98  n/a     .000
00376>        fname :N28.0001
00377>        remark:Hydrograph for N28
00378>   ** END OF RUN :   1
00379>
00380> ****************************************************************************************************
00381>
00382>
00383>
00384>
00385>
00386>  RUN#:COMMAND#
00387> R0002:C00001------------------------------------------------------------------------------------------
00388>      START
00389>        [TZERO =    .00 hrs on        0]
00390>        [METOUT=   2    (1=imperial, 2=metric output)]
00391>        [NSTORM=   1 ]
00392>        [NRUN  = 0002 ]
00393> #*************************************************************************
00394> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
00395> #  Date        : 2024-04-16
00396> #  Modeller    :  [    PP     ]
00397> #  Company     : J.F. Sabourin and Associates
00398> #  License #   : 2549237
00399> #*************************************************************************
00400> R0002:C00002------------------------------------------------------------------------------------------
00401>      READ STORM
00402>        Filename = storm.001
00403>        Comment  = CHICAGO STORM 2 Year, 3 Hours
00404>        [SDT=10.00:SDUR=   3.00:PTOT=  31.86]
00405> R0002:C00003------------------------------------------------------------------------------------------
00406>      DEFAULT VALUES
00407>        Filename = C:\Temp\temp\FlowVal.val
00408>        ICASEdr  = 1 (read and print data)
00409>        FileTitle= File comment: [RVCA Flowing Creek FPM]
00410>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00411>        Horton's infiltration equation parameters:
00412>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00413>        Parameters for PERVIOUS surfaces in STANDHYD:
00414>        [IAperc=   4.67 mm] [LGP=40.00 m] [MNP= .250]
00415>        Parameters for IMPERVIOUS surfaces in STANDHYD:
00416>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
00417>        Parameters used in NASHYD:
00418>        [Ia=   1.50 mm] [N= 3.00]
00419>        Average monthly Pan Evaporation data in     (mm)
00420>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00421>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00422>        Average monthly Potential Evapotranspiration in     (mm)
00423>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00424>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00425> R0002:C00004------------------------------------------------------------------------------------------
00426>  -------------
00427>  | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
00428>
00429>
00430>
00431>  -------------
00432> # Main Channel
00433> R0002:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00434>     CALIB NASHYD           1.0 01:M1          136.59     .197 No_date    3:24    1.80 .057     .000
00435>       [CN= 53.5: N= 3.00: Tp= 1.64]
00436> R0002:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00437>     SAVE HYD               1.0 01:M1          136.59     .197 No_date    3:24    1.80  n/a     .000
00438>        fname :M1.0002
00439>        remark:Runoff Hydrograph for M1
00440> R0002:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00441>     ROUTE CHANNEL   ->     1.0 01:M1          136.59     .197 No_date    3:24    1.80  n/a     .000
00442>       [RD= 1.00] out<-     1.0 02:R1          136.59     .133 No_date    4:44    1.80  n/a     .000
00443>       [L/S/n= 3000./ .550/.035]
00444>       [Vmax=  .446:Dmax=  .087]
00445> R0002:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00446>     SAVE HYD               1.0 02:R1          136.59     .133 No_date    4:44    1.80  n/a     .000
00447>        fname :R1.0002
00448>        remark:Routing Hydrograph for R1
00449> R0002:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00450>     CALIB NASHYD           1.0 03:M2          372.64     .481 No_date    3:26    1.62 .051     .000
00451>       [CN= 52.2: N= 3.00: Tp= 1.65]
00452> R0002:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00453>     SAVE HYD               1.0 03:M2          372.64     .481 No_date    3:26    1.62  n/a     .000
00454>        fname :M2.0002
00455>        remark:Routing Hydrograph for M2
00456> R0002:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00457>     ADD HYD                1.0 02:R1          136.59     .133 No_date    4:44    1.80  n/a     .000
00458>                       +     1.0 03:M2          372.64     .481 No_date    3:26    1.62  n/a     .000
00459>                   SUM=      1.0 04:N21         509.23     .584 No_date    3:37    1.67  n/a     .000
00460> R0002:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00461>     SAVE HYD               1.0 04:N21         509.23     .584 No_date    3:37    1.67  n/a     .000
00462>        fname :N21.0002
00463>        remark:Hydrograph for N21
00464> R0002:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00465>     ROUTE CHANNEL   ->     1.0 04:N21         509.23     .584 No_date    3:37    1.67  n/a     .000
00466>       [RD= 1.00] out<-     1.0 05:R2          509.23     .324 No_date    5:34    1.67  n/a     .000
00467>       [L/S/n= 4000./ .180/.035]
00468>       [Vmax=  .353:Dmax=  .161]
00469> R0002:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00470>     SAVE HYD               1.0 05:R2          509.23     .324 No_date    5:34    1.67  n/a     .000
00471>        fname :R2.0002
00472>        remark:Routing Hydrograph for R2
00473> R0002:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00474>     CALIB NASHYD           1.0 06:M3          533.23     .668 No_date    4:09    2.17 .068     .000
00475>       [CN= 56.0: N= 3.00: Tp= 2.47]
00476> R0002:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00477>     SAVE HYD               1.0 06:M3          533.23     .668 No_date    4:09    2.17  n/a     .000
00478>        fname :M3.0002
00479>        remark:Routing Hydrograph for M3
00480> R0002:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00481>     ADD HYD                1.0 06:M3          533.23     .668 No_date    4:09    2.17  n/a     .000
00482>                       +     1.0 05:R2          509.23     .324 No_date    5:34    1.67  n/a     .000
00483>                   SUM=      1.0 07:N22        1042.46     .948 No_date    4:31    1.92  n/a     .000
00484> R0002:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00485>     SAVE HYD               1.0 07:N22        1042.46     .948 No_date    4:31    1.92  n/a     .000
00486>        fname :N22.0002
00487>        remark:Hydrograph for N22
00488> # Trib A
00489> R0002:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00490>     CALIB NASHYD           1.0 08:A1           86.15     .139 No_date    3:33    2.18 .068     .000
00491>       [CN= 56.1: N= 3.00: Tp= 1.83]
00492> R0002:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00493>     SAVE HYD               1.0 08:A1           86.15     .139 No_date    3:33    2.18  n/a     .000
00494>        fname :A1.0002
00495>        remark:Runoff Hydrograph for A1
00496> R0002:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00497>     ROUTE CHANNEL   ->     1.0 08:A1           86.15     .139 No_date    3:33    2.18  n/a     .000
00498>       [RD= 1.00] out<-     1.0 09:R3           86.15     .110 No_date    4:39    2.18  n/a     .000
00499>       [L/S/n= 2500./ .600/.035]
00500>       [Vmax=  .538:Dmax=  .051]
00501> R0002:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00502>     SAVE HYD               1.0 09:R3           86.15     .110 No_date    4:39    2.18  n/a     .000
00503>        fname :R3.0002
00504>        remark:Routing Hydrograph for R3
00505> R0002:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00506>     CALIB NASHYD           1.0 01:A2          246.39     .517 No_date    3:39    3.03 .095     .000
00507>       [CN= 61.0: N= 3.00: Tp= 1.99]
00508> R0002:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00509>     SAVE HYD               1.0 01:A2          246.39     .517 No_date    3:39    3.03  n/a     .000
00510>        fname :A2.0002
00511>        remark:Routing Hydrograph for A2
00512> R0002:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00513>     ADD HYD                1.0 01:A2          246.39     .517 No_date    3:39    3.03  n/a     .000
00514>                       +     1.0 09:R3           86.15     .110 No_date    4:39    2.18  n/a     .000
00515>                   SUM=      1.0 02:N11        332.54     .611 No_date    3:48    2.81  n/a     .000
00516> R0002:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00517>     SAVE HYD               1.0 02:N11        332.54     .611 No_date    3:48    2.81  n/a     .000
00518>        fname :N11.0002
00519>        remark:Hydrograph for N11
00520> R0002:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00521>     ROUTE CHANNEL   ->     1.0 02:N11        332.54     .611 No_date    3:48    2.81  n/a     .000
00522>       [RD= 1.00] out<-     1.0 03:R4          332.54     .416 No_date    4:51    2.81  n/a     .000
00523>       [L/S/n= 3000./ .200/.035]
00524>       [Vmax=  .438:Dmax=  .218]
00525> R0002:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00526>     SAVE HYD               1.0 03:R4          332.54     .416 No_date    4:51    2.81  n/a     .000
00527>        fname :R4.0002
00528>        remark:Routing Hydrograph for R4
00529> R0002:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00530>     CALIB NASHYD           1.0 04:A3          316.70     .657 No_date    3:56    3.39 .106     .000
00531>       [CN= 62.8: N= 3.00: Tp= 2.31]
00532> R0002:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00533>     SAVE HYD               1.0 04:A3          316.70     .657 No_date    3:56    3.39  n/a     .000
00534>        fname :A3.0002
00535>        remark:Routing Hydrograph for A3
00536> R0002:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00537>     ADD HYD                1.0 04:A3          316.70     .657 No_date    3:56    3.39  n/a     .000
00538>                       +     1.0 03:R4          332.54     .416 No_date    4:51    2.81  n/a     .000
00539>                   SUM=      1.0 05:N12        649.24    1.020 No_date    4:30    3.09  n/a     .000
00540> R0002:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00541>     SAVE HYD               1.0 05:N12        649.24    1.020 No_date    4:30    3.09  n/a     .000
00542>        fname :N12.0002
00543>        remark:Hydrograph for N12
00544> # Trib B
00545> R0002:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00546>     CALIB NASHYD           1.0 06:B1          627.61     .576 No_date    5:01    2.09 .066     .000
00547>       [CN= 55.5: N= 3.00: Tp= 3.36]
00548> R0002:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00549>     SAVE HYD               1.0 06:B1          627.61     .576 No_date    5:01    2.09  n/a     .000
00550>        fname :B1.0002
00551>        remark:Runoff Hydrograph for B1
00552> R0002:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00553>     ROUTE CHANNEL   ->     1.0 06:B1          627.61     .576 No_date    5:01    2.09  n/a     .000
00554>       [RD= 1.00] out<-     1.0 08:R5          627.61     .490 No_date    6:05    2.09  n/a     .000
00555>       [L/S/n= 4800./ .870/.035]
00556>       [Vmax=  .860:Dmax=  .206]
00557> R0002:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00558>     SAVE HYD               1.0 08:R5          627.61     .490 No_date    6:05    2.09  n/a     .000
00559>        fname :R5.0002
00560>        remark:Routing Hydrograph for R5
00561> R0002:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00562>     CALIB NASHYD           1.0 09:B2          255.45     .734 No_date    3:58    4.83 .152     .000
00563>       [CN= 68.8: N= 3.00: Tp= 2.39]
00564> R0002:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00565>     SAVE HYD               1.0 09:B2          255.45     .734 No_date    3:58    4.83  n/a     .000
00566>        fname :B2.0002
00567>        remark:Routing Hydrograph for B2
00568> R0002:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00569>     ADD HYD                1.0 08:R5          627.61     .490 No_date    6:05    2.09  n/a     .000
00570>                       +     1.0 09:B2          255.45     .734 No_date    3:58    4.83  n/a     .000
00571>                   SUM=      1.0 01:N2         883.06    1.050 No_date    4:52    2.88  n/a     .000
00572> R0002:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00573>     SAVE HYD               1.0 01:N2          883.06    1.050 No_date    4:52    2.88  n/a     .000
00574>        fname :N2.0002
00575>        remark:Hydrograph for N2
00576> R0002:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00577>     CALIB NASHYD           1.0 02:B3          336.77     .295 No_date    4:47    1.85 .058     .000
00578>       [CN= 53.9: N= 3.00: Tp= 3.10]
00579> R0002:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00580>     SAVE HYD               1.0 02:B3          336.77     .295 No_date    4:47    1.85  n/a     .000
00581>        fname :B3.0002
00582>        remark:Routing Hydrograph for B3
00583> R0002:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00584>     ADD HYD                1.0 01:N2          883.06    1.050 No_date    4:52    2.88  n/a     .000
00585>                       +     1.0 02:B3          336.77     .295 No_date    4:47    1.85  n/a     .000
00586>                   SUM=      1.0 03:N4         1219.83    1.344 No_date    4:51    2.60  n/a     .000
00587> R0002:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00588>     SAVE HYD               1.0 03:N4         1219.83    1.344 No_date    4:51    2.60  n/a     .000
00589>        fname :N4.0002
00590>        remark:Hydrograph for N4
00591> R0002:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00592>     ROUTE CHANNEL   ->     1.0 03:N4         1219.83    1.344 No_date    4:51    2.60  n/a     .000
00593>       [RD= 1.00] out<-     1.0 04:R6         1219.83    1.324 No_date    5:12    2.60  n/a     .000
00594>       [L/S/n= 1500./ .480/.035]
00595>       [Vmax=  .879:Dmax=  .144]
00596> R0002:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00597>     SAVE HYD               1.0 04:R6         1219.83    1.324 No_date    5:12    2.60  n/a     .000
00598>        fname :R6.0002
00599>        remark:Routing Hydrograph for R6
00600> R0002:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00601>     CALIB NASHYD           1.0 05:B5          224.06     .225 No_date    4:18    1.82 .057     .000
00602>       [CN= 53.7: N= 3.00: Tp= 2.60]
00603> R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00604>     SAVE HYD               1.0 06:B5          224.06     .225 No_date    4:18    1.82  n/a     .000
00605>        fname :B5.0002
00606>        remark:Routing Hydrograph for B5
00607> R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00608>     ADD HYD                1.0 06:B5          224.06     .225 No_date    4:18    1.82  n/a     .000
00609>                       +     1.0 04:R6         1219.83    1.324 No_date    5:12    2.60  n/a     .000
00610>                   SUM=      1.0 08:N5         1443.89    1.533 No_date    5:02    2.48  n/a     .000
00611> R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00612>     SAVE HYD               1.0 08:N5         1443.89    1.533 No_date    5:02    2.48  n/a     .000
00613>        fname :N5.0002
00614>        remark:Hydrograph for N5
00615> R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00616>     ROUTE CHANNEL   ->     1.0 08:N5         1443.89    1.533 No_date    5:02    2.48  n/a     .000
00617>       [RD= 1.00] out<-     1.0 09:R7         1443.89    1.182 No_date    6:33    2.48  n/a     .000
00618>       [L/S/n= 4500./ .240/.035]
00619>       [Vmax=  .635:Dmax=  .331]
00620> R0002:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00621>     SAVE HYD               1.0 09:R7         1443.89    1.182 No_date    6:33    2.48  n/a     .000
00622>        fname :R7.0002
00623>        remark:Routing Hydrograph for R7
00624> R0002:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00625>     CALIB NASHYD           1.0 01:B6          329.90    1.333 No_date    3:59    6.96 .218     .000
00626>       [CN= 75.4: N= 3.00: Tp= 2.46]
00627> R0002:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00628>     SAVE HYD               1.0 01:B6          329.90    1.333 No_date    3:59    6.96  n/a     .000
00629>        fname :B6.0002
00630>        remark:Routing Hydrograph for B6
00631> R0002:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00632>     ADD HYD                1.0 09:R7         1443.89    1.182 No_date    6:33    2.48  n/a     .000
00633>                       +     1.0 01:B6          329.90    1.333 No_date    3:59    6.96  n/a     .000
00634>                   SUM=      1.0 02:N6         1773.79    2.108 No_date    5:13    3.31  n/a     .000
00635> R0002:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00636>     SAVE HYD               1.0 02:N6         1773.79    2.108 No_date    5:13    3.31  n/a     .000
00637>        fname :N6.0002
00638>        remark:Hydrograph for N6
00639> # Main channel combination with Trib A
00640> R0002:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00641>     ADD HYD                1.0 05:N12         649.24    1.020 No_date    4:30    3.09  n/a     .000
00642>                       +     1.0 07:N22        1042.46     .948 No_date    4:31    1.92  n/a     .000
00643>                   SUM=      1.0 03:N23        1691.70    1.969 No_date    4:30    2.37  n/a     .000
00644> R0002:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00645>     SAVE HYD               1.0 03:N23        1691.70    1.969 No_date    4:30    2.37  n/a     .000
00646>        fname :N23.0002
00647>        remark:Hydrograph for N23/N24
00648> # Main channel combination with Trib B
00649> R0002:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00650>     ADD HYD                1.0 03:N23        1691.70    1.969 No_date    4:30    2.37  n/a     .000
00651>                       +     1.0 02:N6         1773.79    2.108 No_date    5:13    3.31  n/a     .000
00652>                   SUM=      1.0 04:N25        3465.49    4.029 No_date    4:47    2.85  n/a     .000
00653> R0002:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00654>     SAVE HYD               1.0 04:N25        3465.49    4.029 No_date    4:47    2.85  n/a     .000
00655>        fname :N25.0002
00656>        remark:Hydrograph for N25/N26
00657> # Main channel combination with Catchment C
00658> R0002:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00659>     CALIB NASHYD           1.0 06:C1         1414.40    2.446 No_date    4:58    3.98 .125     .000
00660>       [CN= 65.5: N= 3.00: Tp= 3.40]
00661> R0002:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00662>     SAVE HYD               1.0 06:C1         1414.40    2.446 No_date    4:58    3.98  n/a     .000
00663>        fname :C1.0002
00664>        remark:Routing Hydrograph for C1
00665> R0002:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00666>     ADD HYD                1.0 04:N25        3465.49    4.029 No_date    4:47    2.85  n/a     .000
00667>                       +     1.0 06:C1         1414.40    2.446 No_date    4:58    3.98  n/a     .000
00668>                   SUM=      1.0 08:N27        4879.89    6.469 No_date    4:49    3.18  n/a     .000
00669> R0002:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00670>     SAVE HYD               1.0 08:N27        4879.89    6.469 No_date    4:49    3.18  n/a     .000
00671>        fname :N27.0002
00672>        remark:Hydrograph for N27
00673> # Main channel
00674> R0002:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00675>     ROUTE CHANNEL   ->     1.0 08:N27        4879.89    6.469 No_date    4:49    3.18  n/a     .000
00676>       [RD= 1.00] out<-     1.0 09:R8         4879.89    5.620 No_date    5:47    3.18  n/a     .000
00677>       [L/S/n= 2700./ .050/.035]
00678>       [Vmax=  .588:Dmax=  1.039]
00679> R0002:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00680>     SAVE HYD               1.0 09:R8         4879.89    5.620 No_date    5:47    3.18  n/a     .000
00681>        fname :R8.0002
00682>        remark:Routing Hydrograph for R8
00683> # Updated catchment M4
00684> R0002:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00685>     CALIB NASHYD           1.0 01:M4          354.74    1.763 No_date    3:47    7.98 .251     .000
00686>       [CN= 78.0: N= 3.00: Tp= 2.27]
00687> R0002:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00688>     SAVE HYD               1.0 01:M4          354.74    1.763 No_date    3:47    7.98  n/a     .000
00689>        fname :M4.0002
00690>        remark:Routing Hydrograph for M4
00691> # Creekside Subdivision - Post Development
00692> R0002:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00693>     CALIB STANDHYD         1.0 02:CRK          24.63    2.076 No_date    1:04   18.98 .596     .000
00694>       [XIMP=.53:TIMP=.63]
00695>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00696>       [Pervious    area: IAperc= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00697>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 405.:MNI=.013:SCI=   .0]
00698> # Creekside Subdivision - SWM Pond Routing
00699> R0002:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00700>     ROUTE RESERVOIR ->     1.0 02:CRK          24.63    2.076 No_date    1:04   18.98  n/a     .000
00701>                out <=     1.0 03:Pond-Out     24.63     .047 No_date    3:09   18.97  n/a     .000
00702>            overflow <=    1.0 04:Pond-Ovf       .00     .000 No_date    0:00     .00  n/a     .000
00703>      (MxStoUsed=.4338E+00  m3, TotOvfVol=.0000E+00 m3, N-Ovf=    0, TotDurOvf=     0.hrs)
00704> R0002:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00705>     ADD HYD                1.0 01:M4          354.74    1.763 No_date    3:47    7.98  n/a     .000
00706>                       +     1.0 03:Pond-Out     24.63     .047 No_date    3:09   18.97  n/a     .000
00707>                       +     1.0 04:Pond-Ovf       .00     .000 No_date    0:00     .00  n/a     .000
00708>                       +     1.0 09:R8         4879.89    5.620 No_date    5:47    3.18  n/a     .000
00709>                   SUM=      1.0 05:N28        5259.26    6.843 No_date    5:23    3.58  n/a     .000
00710> R0002:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00711>     SAVE HYD               1.0 05:N28        5259.26    6.843 No_date    5:23    3.58  n/a     .000
00712>        fname :N28.0002
00713>        remark:Hydrograph for N28
00714>   ** END OF RUN :   4
00715>
00716> ****************************************************************************************************
00717>
00718>
00719>
00720>
```

```
00721>
00722>  RUN#:COMMAND#
00723> R0005:C00001------------------------------------------------------------------------------
00724>       START
00725>        [TZERO =    .00 hrs on        0]
00726>        [METOUT=   2   (1=imperial, 2=metric output)]
00727>        [NSTORM=   1 ]
00728>        [NRUN  = 0005 ]
00729> #*******************************************************************************
00730> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
00731> #  Date        : 2024-04-16
00732> #  Modeller    : [   PP    ]
00733> #  Company     : J.F. Sabourin and Associates
00734> #  License #   : 2549237
00735> #*******************************************************************************
00736> R0005:C00002------------------------------------------------------------------------------
00737>       READ STORM
00738>        Filename = storm.001
00739>        Comment  = CHICAGO STORM  5 Year, 3 Hours
00740>        [SDT=10.00:SDUR=   3.00:PTOT=  42.51]
00741> R0005:C00003------------------------------------------------------------------------------
00742>       DEFAULT VALUES
00743>        Filename = C:\Temp\temp\FlowVal.val
00744>        ICASEdv  = 1 (read and print data)
00745>        FileTitle= File comment: [RVCA Flowing Creek FPM]
00746>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00747>        Horton's infiltration equation parameters:
00748>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00749>        Parameters for PERVIOUS surfaces in STANDHYD:
00750>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
00751>        Parameters for IMPERVIOUS surfaces in STANDHYD:
00752>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
00753>        Parameters used in NASHYD:
00754>        [Ia=   1.50 mm] [N= 3.00]
00755>        Average monthly Pan Evaporation data in     (mm)
00756>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00757>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00758>        Average monthly Potential Evapotranspiration in     (mm)
00759>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00760>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00761> R0005:C00004------------------------------------------------------------------------------
00762>       ----------
00763>    | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
00764>
00765>
00766>
00767>       ----------
00768> # Main Channel
00769> R0005:C00005------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00770>       CALIB NASHYD             1.0 01:M1          136.59     .431 No_date    3:19    3.94 .093    .000
00771>         [CN= 53.5: N= 3.00: Tp= 1.64]
00772> R0005:C00006------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00773>       SAVE HYD                 1.0 01:M1          136.59     .431 No_date    3:19    3.94 n/a     .000
00774>         fname :M1.0005
00775>         remark:Runoff Hydrograph for M1
00776> R0005:C00007------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00777>       ROUTE CHANNEL    ->     1.0 01:M1          136.59     .431 No_date    3:19    3.94 n/a     .000
00778>         [RD*= 1.00] out<-     1.0 02:R1          136.59     .296 No_date    4:25    3.94 n/a     .000
00779>         [L/S/n= 3000./ .550/.035]
00780>         [Vmax=  .523:Dmax=  .141]
00781> R0005:C00008------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00782>       SAVE HYD                 1.0 02:R1          136.59     .296 No_date    4:25    3.94 n/a     .000
00783>         fname :R1.0005
00784>         remark:Routing Hydrograph for R1
00785> R0005:C00009------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00786>       CALIB NASHYD             1.0 03:M2          372.64    1.075 No_date    3:20    3.62 .085    .000
00787>         [CN= 52.2: N= 3.00: Tp= 1.65]
00788> R0005:C00010------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00789>       SAVE HYD                 1.0 03:M2          372.64    1.075 No_date    3:20    3.62 n/a     .000
00790>         fname :M2.0005
00791>         remark:Routing Hydrograph for M2
00792> R0005:C00011------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00793>       ADD HYD                  1.0 02:R1          136.59     .296 No_date    4:25    3.94 n/a     .000
00794>                           +     1.0 03:M2          372.64    1.075 No_date    3:20    3.62 n/a     .000
00795>                     SUM=        1.0 04:N21         509.23    1.313 No_date    3:32    3.70 n/a     .000
00796> R0005:C00012------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00797>       SAVE HYD                 1.0 04:N21         509.23    1.313 No_date    3:32    3.70 n/a     .000
00798>         fname :N21.0005
00799>         remark:Hydrograph for N21
00800> R0005:C00013------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00801>       ROUTE CHANNEL    ->     1.0 04:N21         509.23    1.313 No_date    3:32    3.70 n/a     .000
00802>         [RD*= 1.00] out<-     1.0 05:R2          509.23     .737 No_date    5:02    3.70 n/a     .000
00803>         [L/S/n= 4000./ .180/.035]
00804>         [Vmax=  .453:Dmax=  .257]
00805> R0005:C00014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00806>       SAVE HYD                 1.0 05:R2          509.23     .737 No_date    5:02    3.70 n/a     .000
00807>         fname :R2.0005
00808>         remark:Routing Hydrograph for R2
00809> R0005:C00015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00810>       CALIB NASHYD             1.0 06:M3          533.23    1.409 No_date    4:05    4.57 .108    .000
00811>         [CN= 56.0: N= 3.00: Tp= 2.47]
00812> R0005:C00016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00813>       SAVE HYD                 1.0 06:M3          533.23    1.409 No_date    4:05    4.57 n/a     .000
00814>         fname :M3.0005
00815>         remark:Routing Hydrograph for M3
00816> R0005:C00017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00817>       ADD HYD                  1.0 06:M3          533.23    1.409 No_date    4:05    4.57 n/a     .000
00818>                           +     1.0 05:R2          509.23     .737 No_date    5:02    3.70 n/a     .000
00819>                     SUM=        1.0 07:N22        1042.46    2.091 No_date    4:25    4.15 n/a     .000
00820> R0005:C00018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00821>       SAVE HYD                 1.0 07:N22        1042.46    2.091 No_date    4:25    4.15 n/a     .000
00822>         fname :N22.0005
00823>         remark:Hydrograph for N22
00824> # Trib A
00825> R0005:C00019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00826>       CALIB NASHYD             1.0 08:A1           86.15     .292 No_date    3:28    4.59 .108    .000
00827>         [CN= 56.1: N= 3.00: Tp= 1.83]
00828> R0005:C00020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00829>       SAVE HYD                 1.0 08:A1           86.15     .292 No_date    3:28    4.59 n/a     .000
00830>         fname :A1.0005
00831>         remark:Runoff Hydrograph for A1
00832> R0005:C00021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00833>       ROUTE CHANNEL    ->     1.0 08:A1           86.15     .292 No_date    3:28    4.59 n/a     .000
00834>         [RD*= 1.00] out<-     1.0 09:R3           86.15     .231 No_date    4:34    4.59 n/a     .000
00835>         [L/S/n= 2500./ .600/.035]
00836>         [Vmax=  .538:Dmax=  .107]
00837> R0005:C00022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00838>       SAVE HYD                 1.0 09:R3           86.15     .231 No_date    4:34    4.59 n/a     .000
00839>         fname :R3.0005
00840>         remark:Routing Hydrograph for R3
00841> R0005:C00023------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00842>       CALIB NASHYD             1.0 01:A2          246.39    1.027 No_date    3:35    6.02 .142    .000
00843>         [CN= 61.0: N= 3.00: Tp= 1.99]
00844> R0005:C00024------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00845>       SAVE HYD                 1.0 01:A2          246.39    1.027 No_date    3:35    6.02 n/a     .000
00846>         fname :A2.0005
00847>         remark:Routing Hydrograph for A2
00848> R0005:C00025------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00849>       ADD HYD                  1.0 01:A2          246.39    1.027 No_date    3:35    6.02 n/a     .000
00850>                           +     1.0 09:R3           86.15     .231 No_date    4:34    4.59 n/a     .000
00851>                     SUM=        1.0 02:N11         332.54    1.226 No_date    3:44    5.65 n/a     .000
00852> R0005:C00026------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00853>       SAVE HYD                 1.0 02:N11         332.54    1.226 No_date    3:44    5.65 n/a     .000
00854>         fname :N11.0005
00855>         remark:Hydrograph for N11
00856> R0005:C00027------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00857>       ROUTE CHANNEL    ->     1.0 02:N11         332.54    1.226 No_date    3:44    5.65 n/a     .000
00858>         [RD*= 1.00] out<-     1.0 03:R4          332.54     .958 No_date    4:49    5.65 n/a     .000
00859>         [L/S/n= 3000./ .200/.035]
00860>         [Vmax=  .571:Dmax=  .332]
00861> R0005:C00028------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00862>       SAVE HYD                 1.0 03:R4          332.54     .958 No_date    4:49    5.65 n/a     .000
00863>         fname :R4.0005
00864>         remark:Routing Hydrograph for R4
00865> R0005:C00029------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00866>       CALIB NASHYD             1.0 04:A3          316.70    1.282 No_date    3:53    6.61 .155    .000
00867>         [CN= 62.8: N= 3.00: Tp= 2.31]
00868> R0005:C00030------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00869>       SAVE HYD                 1.0 04:A3          316.70    1.282 No_date    3:53    6.61 n/a     .000
00870>         fname :A3.0005
00871>         remark:Routing Hydrograph for A3
00872> R0005:C00031------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00873>       ADD HYD                  1.0 04:A3          316.70    1.282 No_date    3:53    6.61 n/a     .000
00874>                           +     1.0 03:R4          332.54     .958 No_date    4:49    5.65 n/a     .000
00875>                     SUM=        1.0 05:N12         649.24    2.161 No_date    4:19    6.12 n/a     .000
00876> R0005:C00032------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00877>       SAVE HYD                 1.0 05:N12         649.24    2.161 No_date    4:19    6.12 n/a     .000
00878>         fname :N12.0005
00879>         remark:Hydrograph for N12
00880> # Trib B
00881> R0005:C00033------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00882>       CALIB NASHYD             1.0 06:B1          627.61    1.223 No_date    4:57    4.44 .104    .000
00883>         [CN= 55.5: N= 3.00: Tp= 3.36]
00884> R0005:C00034------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00885>       SAVE HYD                 1.0 06:B1          627.61    1.223 No_date    4:57    4.44 n/a     .000
00886>         fname :B1.0005
00887>         remark:Runoff Hydrograph for B1
00888> R0005:C00035------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00889>       ROUTE CHANNEL    ->     1.0 06:B1          627.61    1.223 No_date    4:57    4.44 n/a     .000
00890>         [RD*= 1.00] out<-     1.0 08:R5          627.61    1.112 No_date    5:57    4.44 n/a     .000
00891>         [L/S/n= 4800./ .870/.035]
00892>         [Vmax= 1.118:Dmax=  .324]
00893> R0005:C00036------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00894>       SAVE HYD                 1.0 08:R5          627.61    1.112 No_date    5:57    4.44 n/a     .000
00895>         fname :R5.0005
00896>         remark:Routing Hydrograph for R5
00897> R0005:C00037------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00898>       CALIB NASHYD             1.0 09:B2          255.45    1.355 No_date    3:55    8.91 .210    .000
00899>         [CN= 68.8: N= 3.00: Tp= 2.39]
00900> R0005:C00038------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00901>       SAVE HYD                 1.0 09:B2          255.45    1.355 No_date    3:55    8.91 n/a     .000
00902>         fname :B2.0005
00903>         remark:Routing Hydrograph for B2
00904> R0005:C00039------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00905>       ADD HYD                  1.0 08:R5          627.61    1.112 No_date    5:57    4.44 n/a     .000
00906>                           +     1.0 09:B2          255.45    1.355 No_date    3:55    8.91 n/a     .000
00907>                     SUM=        1.0 01:N2          883.06    2.194 No_date    4:51    5.73 n/a     .000
00908> R0005:C00040------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00909>       SAVE HYD                 1.0 01:N2          883.06    2.194 No_date    4:51    5.73 n/a     .000
00910>         fname :N2.0005
00911>         remark:Hydrograph for N2
00912> R0005:C00041------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00913>       CALIB NASHYD             1.0 02:B3          336.77     .641 No_date    4:42    4.03 .095    .000
00914>         [CN= 53.9: N= 3.00: Tp= 3.10]
00915> R0005:C00042------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00916>       SAVE HYD                 1.0 02:B3          336.77     .641 No_date    4:42    4.03 n/a     .000
00917>         fname :B3.0005
00918>         remark:Routing Hydrograph for B3
00919> R0005:C00043------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00920>       ADD HYD                  1.0 01:N2          883.06    2.194 No_date    4:51    5.73 n/a     .000
00921>                           +     1.0 02:B3          336.77     .641 No_date    4:42    4.03 n/a     .000
00922>                     SUM=        1.0 03:N4         1219.83    2.834 No_date    4:46    5.26 n/a     .000
00923> R0005:C00044------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00924>       SAVE HYD                 1.0 03:N4         1219.83    2.834 No_date    4:46    5.26 n/a     .000
00925>         fname :N4.0005
00926>         remark:Hydrograph for N4
00927> R0005:C00045------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00928>       ROUTE CHANNEL    ->     1.0 03:N4         1219.83    2.834 No_date    4:46    5.26 n/a     .000
00929>         [RD*= 1.00] out<-     1.0 04:R6         1219.83    2.807 No_date    5:03    5.26 n/a     .000
00930>         [L/S/n= 1500./ .480/.035]
00931>         [Vmax= 1.147:Dmax=  .540]
00932> R0005:C00046------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00933>       SAVE HYD                 1.0 04:R6         1219.83    2.807 No_date    5:03    5.26 n/a     .000
00934>         fname :R6.0005
00935>         remark:Routing Hydrograph for R6
00936> R0005:C00047------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00937>       CALIB NASHYD             1.0 06:B5          224.06     .491 No_date    4:13    3.97 .093    .000
00938>         [CN= 53.7: N= 3.00: Tp= 2.60]
00939> R0005:C00048------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00940>       SAVE HYD                 1.0 06:B5          224.06     .491 No_date    4:13    3.97 n/a     .000
00941>         fname :B5.0005
00942>         remark:Routing Hydrograph for B5
00943> R0005:C00049------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00944>       ADD HYD                  1.0 06:B5          224.06     .491 No_date    4:13    3.97 n/a     .000
00945>                           +     1.0 04:R6         1219.83    2.807 No_date    5:03    5.26 n/a     .000
00946>                     SUM=        1.0 08:N5         1443.89    3.266 No_date    4:57    5.06 n/a     .000
00947> R0005:C00050------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00948>       SAVE HYD                 1.0 08:N5         1443.89    3.266 No_date    4:57    5.06 n/a     .000
00949>         fname :N5.0005
00950>         remark:Hydrograph for N5
00951> R0005:C00051------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00952>       ROUTE CHANNEL    ->     1.0 08:N5         1443.89    3.266 No_date    4:57    5.06 n/a     .000
00953>         [RD*= 1.00] out<-     1.0 09:R7         1443.89    2.752 No_date    6:07    5.06 n/a     .000
00954>         [L/S/n= 4500./ .240/.035]
00955>         [Vmax=  .835:Dmax=  .522]
00956> R0005:C00052------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00957>       SAVE HYD                 1.0 09:R7         1443.89    2.752 No_date    6:07    5.06 n/a     .000
00958>         fname :R7.0005
00959>         remark:Routing Hydrograph for R7
00960> R0005:C00053------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00961>       CALIB NASHYD             1.0 01:B6          329.90    2.333 No_date    3:57   12.16 .286    .000
00962>         [CN= 75.4: N= 3.00: Tp= 2.46]
00963> R0005:C00054------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00964>       SAVE HYD                 1.0 01:B6          329.90    2.333 No_date    3:57   12.16 n/a     .000
00965>         fname :B6.0005
00966>         remark:Routing Hydrograph for B6
00967> R0005:C00055------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00968>       ADD HYD                  1.0 09:R7         1443.89    2.752 No_date    6:07    5.06 n/a     .000
00969>                           +     1.0 01:B6          329.90    2.333 No_date    3:57   12.16 n/a     .000
00970>                     SUM=        1.0 02:N6         1773.79    4.466 No_date    5:13    6.38 n/a     .000
00971> R0005:C00056------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00972>       SAVE HYD                 1.0 02:N6         1773.79    4.466 No_date    5:13    6.38 n/a     .000
00973>         fname :N6.0005
00974>         remark:Hydrograph for N6
00975> # Main channel combination with Trib A
00976> R0005:C00057------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00977>       ADD HYD                  1.0 05:N12         649.24    2.161 No_date    4:19    6.12 n/a     .000
00978>                           +     1.0 07:N22        1042.46    2.091 No_date    4:25    4.15 n/a     .000
00979>                     SUM=        1.0 03:N23        1691.70    4.251 No_date    4:23    4.90 n/a     .000
00980> R0005:C00058------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00981>       SAVE HYD                 1.0 03:N23        1691.70    4.251 No_date    4:23    4.90 n/a     .000
00982>         fname :N23.0005
00983>         remark:Hydrograph for N23/N24
00984> # Main channel combination with Trib B
00985> R0005:C00059------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00986>       ADD HYD                  1.0 03:N23        1691.70    4.251 No_date    4:23    4.90 n/a     .000
00987>                           +     1.0 02:N6         1773.79    4.466 No_date    5:13    6.38 n/a     .000
00988>                     SUM=        1.0 04:N25        3465.49    8.531 No_date    4:46    5.66 n/a     .000
00989> R0005:C00060------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00990>       SAVE HYD                 1.0 04:N25        3465.49    8.531 No_date    4:46    5.66 n/a     .000
00991>         fname :N25.0005
00992>         remark:Hydrograph for N25/N26
00993> # Main channel combination with Catchment C
00994> R0005:C00061------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00995>       CALIB NASHYD             1.0 06:C1         1414.40    4.647 No_date    4:55    7.56 .178    .000
00996>         [CN= 65.5: N= 3.00: Tp= 3.00]
00997> R0005:C00062------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00998>       SAVE HYD                 1.0 06:C1         1414.40    4.647 No_date    4:55    7.56 n/a     .000
00999>         fname :C1.0005
01000>         remark:Routing Hydrograph for C1
01001> R0005:C00063------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01002>       ADD HYD                  1.0 04:N25        3465.49    8.531 No_date    4:46    5.66 n/a     .000
01003>                           +     1.0 06:C1         1414.40    4.647 No_date    4:55    7.56 n/a     .000
01004>                     SUM=        1.0 08:N27        4879.89   13.173 No_date    4:49    6.21 n/a     .000
01005> R0005:C00064------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01006>       SAVE HYD                 1.0 08:N27        4879.89   13.173 No_date    4:49    6.21 n/a     .000
01007>         fname :N27.0005
01008>         remark:Hydrograph for N27
01009> # Main channel
01010> R0005:C00065------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01011>       ROUTE CHANNEL    ->     1.0 08:N27        4879.89   13.173 No_date    4:49    6.21 n/a     .000
01012>         [RD*= 1.00] out<-     1.0 09:R8         4879.89   11.838 No_date    5:31    6.21 n/a     .000
01013>         [L/S/n= 2700./ .050/.035]
01014>         [Vmax=  .754:Dmax= 1.615]
01015> R0005:C00066------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01016>       SAVE HYD                 1.0 09:R8         4879.89   11.838 No_date    5:31    6.21 n/a     .000
01017>         fname :R8.0005
01018>         remark:Routing Hydrograph for R8
01019> # Updated catchment M4
01020> R0005:C00067------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01021>       CALIB NASHYD             1.0 01:M4          354.74    3.026 No_date    3:45   13.69 .322    .000
01022>         [CN= 78.0: N= 3.00: Tp= 2.27]
01023> R0005:C00068------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01024>       SAVE HYD                 1.0 01:M4          354.74    3.026 No_date    3:45   13.69 n/a     .000
01025>         fname :M4.0005
01026>         remark:Routing Hydrograph for M4
01027> # Creekside Subdivision - Post Development
01028> R0005:C00069------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01029>       CALIB STANDHYD           1.0 02:CRK          24.63    3.254 No_date    1:04   27.80 .654    .000
01030>         [IMP=.53:TIMP=.63]
01031>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01032>         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01033>         [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 405.:MNI=.013:SCI=   .0]
01034> # Creekside Subdivision - SWM Pond Routing
01035> R0005:C00070------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01036>       ROUTE RESERVOIR ->     1.0 02:CRK          24.63    3.254 No_date    1:04   27.80 n/a     .000
01037>                           out <=     1.0 03:Pond-Out     24.63    1.393 No_date    1:23   27.80 n/a     .000
01038>                overflow <=     1.0 04:Pond-Ovf      .00     .000 No_date    0:00     .00 n/a     .000
01039>      (MxStoUsed=.4467E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01040> R0005:C00071------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01041>       ADD HYD                  1.0 01:M4          354.74    3.026 No_date    3:45   13.69 n/a     .000
01042>                           +     1.0 03:Pond-Out     24.63    1.393 No_date    1:23   27.80 n/a     .000
01043>                           +     1.0 04:Pond-Ovf      .00     .000 No_date    0:00     .00 n/a     .000
01044>                     SUM=        1.0 05:N28        5259.26   14.068 No_date    5:12    6.82 n/a     .000
01045> R0005:C00072------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01046>       SAVE HYD                 1.0 05:N28        5259.26   14.068 No_date    5:12    6.82 n/a     .000
01047>         fname :N28.0005
01048>         remark:Hydrograph for N28
01049> ** END OF RUN :    9
01050>
01051>
01052> ***************************************************************************************
01053>
01054>
01055>
01056>
01057>
01058>  RUN#:COMMAND#
01059> R0010:C00001------------------------------------------------------------------------------
01060>       START
01061>        [TZERO =    .00 hrs on        0]
01062>        [METOUT=   2   (1=imperial, 2=metric output)]
01063>        [NSTORM=   1 ]
01064>        [NRUN  = 0010 ]
01065> #*******************************************************************************
01066> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
01067> #  Date        : 2024-04-16
01068> #  Modeller    : [   PP    ]
01069> #  Company     : J.F. Sabourin and Associates
01070> #  License #   : 2549237
01071> #*******************************************************************************
01072> R0010:C00002------------------------------------------------------------------------------
01073>       READ STORM
01074>        Filename = storm.001
01075>        Comment  = CHICAGO STORM 10 Year, 3 Hours
01076>        [SDT=10.00:SDUR=   3.00:PTOT=  49.50]
01077> R0010:C00003------------------------------------------------------------------------------
01078>       DEFAULT VALUES
01079>        Filename = C:\Temp\temp\FlowVal.val
01080>        ICASEdv  = 1 (read and print data)
```

```
01081>       FileTitle= File comment: [RVCA Flowing Creek FPM]
01082>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01083>       Horton's infiltration equation parameters:
01084>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01085>       Parameters for PERVIOUS surfaces in STANDHYD:
01086>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01087>       Parameters for IMPERVIOUS surfaces in STANDHYD:
01088>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01089>       Parameters used in NASHYD:
01090>       [Ia=   1.50 mm] [N= 3.00]
01091>       Average monthly Pan Evaporation data in    (mm)
01092>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01093>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01094>       Average monthly Potential Evapotranspiration in    (mm)
01095>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01096>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01097> R0010:C00004-----------------------------------------------------------------------------------------------
01098>  ------------
01099>  | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
01100>
01101>
01102>
01103>  ------------
01104> # Main Channel
01105> R0010:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01106>      CALIB NASHYD             1.0 01:M1       136.59    .627 No_date    3:16    5.72 .116     .000
01107>        [CN= 53.5: N= 3.00: Tp= 1.64]
01108> R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01109>      SAVE HYD                 1.0 01:M1       136.59    .627 No_date    3:16    5.72 n/a      .000
01110>        fname :M1.0010
01111>        remark:Runoff Hydrograph for M1
01112> R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01113>      ROUTE CHANNEL    ->      1.0 01:M1       136.59    .627 No_date    3:16    5.72 n/a      .000
01114>        [RDT= 1.00] out<-     1.0 02:R1       136.59    .455 No_date    4:11    5.72 n/a      .000
01115>        [L/S/n= 3000./ .550/.035]
01116>        [Vmax=  .627:Dmax=  .181]
01117> R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01118>      SAVE HYD                 1.0 02:R1       136.59    .455 No_date    4:11    5.72 n/a      .000
01119>        fname :R1.0010
01120>        remark:Routing Hydrograph for R1
01121> R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01122>      CALIB NASHYD             1.0 03:M2       372.64   1.576 No_date    3:17    5.30 .107     .000
01123>        [CN= 52.2: N= 3.00: Tp= 1.65]
01124> R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01125>      SAVE HYD                 1.0 03:M2       372.64   1.576 No_date    3:17    5.30 n/a      .000
01126>        fname :M2.0010
01127>        remark:Routing Hydrograph for M2
01128> R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01129>      ADD HYD                  1.0 02:R1       136.59    .455 No_date    4:11    5.72 n/a      .000
01130>                         +     1.0 03:M2       372.64   1.576 No_date    3:17    5.30 n/a      .000
01131>                       SUM=    1.0 04:N21      509.23   1.960 No_date    3:30    5.41 n/a      .000
01132> R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01133>      SAVE HYD                 1.0 04:N21      509.23   1.960 No_date    3:30    5.41 n/a      .000
01134>        fname :N21.0010
01135>        remark:Hydrograph for N21
01136> R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01137>      ROUTE CHANNEL    ->      1.0 04:N21      509.23   1.960 No_date    3:30    5.41 n/a      .000
01138>        [RDT= 1.00] out<-     1.0 05:R2       509.23   1.193 No_date    4:34    5.41 n/a      .000
01139>        [L/S/n= 4000./ .180/.035]
01140>        [Vmax=  .564:Dmax=  .334]
01141> R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01142>      SAVE HYD                 1.0 05:R2       509.23   1.193 No_date    4:34    5.41 n/a      .000
01143>        fname :R2.0010
01144>        remark:Routing Hydrograph for R2
01145> R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01146>      CALIB NASHYD             1.0 06:M3       533.23   2.019 No_date    4:03    6.55 .132     .000
01147>        [CN= 56.0: N= 3.00: Tp= 2.47]
01148> R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01149>      SAVE HYD                 1.0 06:M3       533.23   2.019 No_date    4:03    6.55 n/a      .000
01150>        fname :M3.0010
01151>        remark:Routing Hydrograph for M3
01152> R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01153>      ADD HYD                  1.0 06:M3       533.23   2.019 No_date    4:03    6.55 n/a      .000
01154>                         +     1.0 05:R2       509.23   1.193 No_date    4:34    5.41 n/a      .000
01155>                       SUM=    1.0 07:N22     1042.46   3.180 No_date    4:16    5.99 n/a      .000
01156> R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01157>      SAVE HYD                 1.0 07:N22     1042.46   3.180 No_date    4:16    5.99 n/a      .000
01158>        fname :N22.0010
01159>        remark:Hydrograph for N22
01160> # Trib A
01161> R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01162>      CALIB NASHYD             1.0 08:A1        86.15    .419 No_date    3:26    6.58 .133     .000
01163>        [CN= 56.1: N= 3.00: Tp= 1.83]
01164> R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01165>      SAVE HYD                 1.0 08:A1        86.15    .419 No_date    3:26    6.58 n/a      .000
01166>        fname :A1.0010
01167>        remark:Runoff Hydrograph for A1
01168> R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01169>      ROUTE CHANNEL    ->      1.0 08:A1        86.15    .419 No_date    3:26    6.58 n/a      .000
01170>        [RDT= 1.00] out<-     1.0 09:R3        86.15    .329 No_date    4:33    6.58 n/a      .000
01171>        [L/S/n= 2500./ .600/.035]
01172>        [Vmax=  .559:Dmax=  .138]
01173> R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01174>      SAVE HYD                 1.0 09:R3        86.15    .329 No_date    4:33    6.58 n/a      .000
01175>        fname :R3.0010
01176>        remark:Routing Hydrograph for R3
01177> R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01178>      CALIB NASHYD             1.0 01:A2       246.39   1.437 No_date    3:33    8.41 .170     .000
01179>        [CN= 61.0: N= 3.00: Tp= 1.99]
01180> R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01181>      SAVE HYD                 1.0 01:A2       246.39   1.437 No_date    3:33    8.41 n/a      .000
01182>        fname :A2.0010
01183>        remark:Routing Hydrograph for A2
01184> R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01185>      ADD HYD                  1.0 01:A2       246.39   1.437 No_date    3:33    8.41 n/a      .000
01186>                         +     1.0 09:R3        86.15    .329 No_date    4:33    6.58 n/a      .000
01187>                       SUM=    1.0 02:N11      332.54   1.726 No_date    3:42    7.94 n/a      .000
01188> R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01189>      SAVE HYD                 1.0 02:N11      332.54   1.726 No_date    3:42    7.94 n/a      .000
01190>        fname :N11.0010
01191>        remark:Hydrograph for N11
01192> R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01193>      ROUTE CHANNEL    ->      1.0 02:N11      332.54   1.726 No_date    3:42    7.94 n/a      .000
01194>        [RDT= 1.00] out<-     1.0 03:R4       332.54   1.389 No_date    4:38    7.94 n/a      .000
01195>        [L/S/n= 3000./ .200/.035]
01196>        [Vmax=  .653:Dmax=  .410]
01197> R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01198>      SAVE HYD                 1.0 03:R4       332.54   1.389 No_date    4:38    7.94 n/a      .000
01199>        fname :R4.0010
01200>        remark:Routing Hydrograph for R4
01201> R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01202>      CALIB NASHYD             1.0 04:A3       316.70   1.779 No_date    3:51    9.17 .185     .000
01203>        [CN= 62.8: N= 3.00: Tp= 2.31]
01204> R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01205>      SAVE HYD                 1.0 04:A3       316.70   1.779 No_date    3:51    9.17 n/a      .000
01206>        fname :A3.0010
01207>        remark:Routing Hydrograph for A3
01208> R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01209>      ADD HYD                  1.0 04:A3       316.70   1.779 No_date    3:51    9.17 n/a      .000
01210>                         +     1.0 03:R4       332.54   1.389 No_date    4:38    7.94 n/a      .000
01211>                       SUM=    1.0 05:N12      649.24   3.092 No_date    4:16    8.54 n/a      .000
01212> R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01213>      SAVE HYD                 1.0 05:N12      649.24   3.092 No_date    4:16    8.54 n/a      .000
01214>        fname :N12.0010
01215>        remark:Hydrograph for N12
01216> # Trib B
01217> R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01218>      CALIB NASHYD             1.0 06:B1       627.61   1.756 No_date    4:55    6.38 .129     .000
01219>        [CN= 55.5: N= 3.00: Tp= 3.36]
01220> R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01221>      SAVE HYD                 1.0 06:B1       627.61   1.756 No_date    4:55    6.38 n/a      .000
01222>        fname :B1.0010
01223>        remark:Runoff Hydrograph for B1
01224> R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01225>      ROUTE CHANNEL    ->      1.0 06:B1       627.61   1.756 No_date    4:55    6.38 n/a      .000
01226>        [RDT= 1.00] out<-     1.0 08:R5       627.61   1.622 No_date    5:45    6.38 n/a      .000
01227>        [L/S/n= 4800./ .870/.035]
01228>        [Vmax= 1.276:Dmax=  .404]
01229> R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01230>      SAVE HYD                 1.0 08:R5       627.61   1.622 No_date    5:45    6.38 n/a      .000
01231>        fname :R5.0010
01232>        remark:Routing Hydrograph for R5
01233> R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01234>      CALIB NASHYD             1.0 09:B2       255.45   1.836 No_date    3:54   12.06 .244     .000
01235>        [CN= 68.8: N= 3.00: Tp= 2.39]
01236> R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01237>      SAVE HYD                 1.0 09:B2       255.45   1.836 No_date    3:54   12.06 n/a      .000
01238>        fname :B2.0010
01239>        remark:Routing Hydrograph for B2
01240> R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01241>      ADD HYD                  1.0 08:R5       627.61   1.622 No_date    5:45    6.38 n/a      .000
01242>                         +     1.0 09:B2       255.45   1.836 No_date    3:54   12.06 n/a      .000
01243>                       SUM=    1.0 01:N2       883.06   3.119 No_date    4:44    8.02 n/a      .000
01244> R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01245>      SAVE HYD                 1.0 01:N2       883.06   3.119 No_date    4:44    8.02 n/a      .000
01246>        fname :N2.0010
01247>        remark:Hydrograph for N2
01248> R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01249>      CALIB NASHYD             1.0 02:B3       336.77    .929 No_date    4:40    5.84 .118     .000
01250>        [CN= 53.9: N= 3.00: Tp= 3.10]
01251> R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01252>      SAVE HYD                 1.0 02:B3       336.77    .929 No_date    4:40    5.84 n/a      .000
01253>        fname :B3.0010
01254>        remark:Routing Hydrograph for B3
01255> R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01256>      ADD HYD                  1.0 01:N2       883.06   3.119 No_date    4:44    8.02 n/a      .000
01257>                         +     1.0 02:B3       336.77    .929 No_date    4:40    5.84 n/a      .000
01258>                       SUM=    1.0 03:N4      1219.83   4.048 No_date    4:44    7.42 n/a      .000
01259> R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01260>      SAVE HYD                 1.0 03:N4      1219.83   4.048 No_date    4:44    7.42 n/a      .000
01261>        fname :N4.0010
01262>        remark:Hydrograph for N4
01263> R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01264>      ROUTE CHANNEL    ->      1.0 03:N4      1219.83   4.048 No_date    4:44    7.42 n/a      .000
01265>        [RDT= 1.00] out<-     1.0 04:R6      1219.83   4.015 No_date    4:57    7.42 n/a      .000
01266>        [L/S/n= 1500./ .480/.035]
01267>        [Vmax= 1.292:Dmax=  .668]
01268> R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01269>      SAVE HYD                 1.0 04:R6      1219.83   4.015 No_date    4:57    7.42 n/a      .000
01270>        fname :R6.0010
01271>        remark:Routing Hydrograph for R6
01272> R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01273>      CALIB NASHYD             1.0 06:B5       224.06    .713 No_date    4:11    5.76 .116     .000
01274>        [CN= 53.7: N= 3.00: Tp= 2.60]
01275> R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01276>      SAVE HYD                 1.0 06:B5       224.06    .713 No_date    4:11    5.76 n/a      .000
01277>        fname :B5.0010
01278>        remark:Routing Hydrograph for B5
01279> R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01280>      ADD HYD                  1.0 06:B5       224.06    .713 No_date    4:11    5.76 n/a      .000
01281>                         +     1.0 04:R6      1219.83   4.015 No_date    4:57    7.42 n/a      .000
01282>                       SUM=    1.0 08:N5      1443.89   4.688 No_date    4:50    7.16 n/a      .000
01283> R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01284>      SAVE HYD                 1.0 08:N5      1443.89   4.688 No_date    4:50    7.16 n/a      .000
01285>        fname :N5.0010
01286>        remark:Hydrograph for N5
01287> R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01288>      ROUTE CHANNEL    ->      1.0 08:N5      1443.89   4.688 No_date    4:50    7.16 n/a      .000
01289>        [RDT= 1.00] out<-     1.0 09:R7      1443.89   4.069 No_date    5:55    7.16 n/a      .000
01290>        [L/S/n= 4500./ .240/.035]
01291>        [Vmax=  .955:Dmax=  .650]
01292> R0010:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01293>      SAVE HYD                 1.0 09:R7      1443.89   4.069 No_date    5:55    7.16 n/a      .000
01294>        fname :R7.0010
01295>        remark:Routing Hydrograph for R7
01296> R0010:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01297>      CALIB NASHYD             1.0 01:B6       329.90   3.085 No_date    3:55   16.07 .325     .000
01298>        [CN= 75.4: N= 3.00: Tp= 2.46]
01299> R0010:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01300>      SAVE HYD                 1.0 01:B6       329.90   3.085 No_date    3:55   16.07 n/a      .000
01301>        fname :B6.0010
01302>        remark:Routing Hydrograph for B6
01303> R0010:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01304>      ADD HYD                  1.0 09:R7      1443.89   4.069 No_date    5:55    7.16 n/a      .000
01305>                         +     1.0 01:B6       329.90   3.085 No_date    3:55   16.07 n/a      .000
01306>                       SUM=    1.0 02:N6      1773.79   6.405 No_date    5:09    8.82 n/a      .000
01307> R0010:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01308>      SAVE HYD                 1.0 02:N6      1773.79   6.405 No_date    5:09    8.82 n/a      .000
01309>        fname :N6.0010
01310>        remark:Hydrograph for N6
01311> # Main channel combination with Trib A
01312> R0010:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01313>      ADD HYD                  1.0 05:N12      649.24   3.092 No_date    4:16    8.54 n/a      .000
01314>                         +     1.0 07:N22     1042.46   3.180 No_date    4:16    5.99 n/a      .000
01315>                       SUM=    1.0 03:N23     1691.70   6.272 No_date    4:16    6.97 n/a      .000
01316> R0010:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01317>      SAVE HYD                 1.0 03:N23     1691.70   6.272 No_date    4:16    6.97 n/a      .000
01318>        fname :N23.0010
01319>        remark:Hydrograph for N23/N24
01320> # Main channel combination with Trib B
01321> R0010:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01322>      ADD HYD                  1.0 03:N23     1691.70   6.272 No_date    4:16    6.97 n/a      .000
01323>                         +     1.0 02:N6      1773.79   6.405 No_date    5:09    8.82 n/a      .000
01324>                       SUM=    1.0 04:N25     3465.49  12.370 No_date    4:41    7.92 n/a      .000
01325> R0010:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01326>      SAVE HYD                 1.0 04:N25     3465.49  12.370 No_date    4:41    7.92 n/a      .000
01327>        fname :N25.0010
01328>        remark:Hydrograph for N25/N26
01329> # Main channel combination with Catchment C
01330> R0010:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01331>      CALIB NASHYD             1.0 06:C1      1414.40   6.377 No_date    4:54   10.38 .210     .000
01332>        [CN= 65.5: N= 3.00: Tp= 3.40]
01333> R0010:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01334>      SAVE HYD                 1.0 06:C1      1414.40   6.377 No_date    4:54   10.38 n/a      .000
01335>        fname :C1.0010
01336>        remark:Hydrograph for C1
01337> R0010:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01338>      ADD HYD                  1.0 04:N25     3465.49  12.370 No_date    4:41    7.92 n/a      .000
01339>                         +     1.0 06:C1      1414.40   6.377 No_date    4:54   10.38 n/a      .000
01340>                       SUM=    1.0 08:N27     4879.89  18.731 No_date    4:45    8.63 n/a      .000
01341> R0010:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01342>      SAVE HYD                 1.0 08:N27     4879.89  18.731 No_date    4:45    8.63 n/a      .000
01343>        fname :N27.0010
01344>        remark:Hydrograph for N27
01345> # Main channel
01346> R0010:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01347>      ROUTE CHANNEL    ->      1.0 08:N27     4879.89  18.731 No_date    4:45    8.63 n/a      .000
01348>        [RDT= 1.00] out<-     1.0 09:R8      4879.89  17.010 No_date    5:17    8.63 n/a      .000
01349>        [L/S/n= 2700./ .050/.035]
01350>        [Vmax=  .842:Dmax=  2.008]
01351> R0010:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01352>      SAVE HYD                 1.0 09:R8      4879.89  17.010 No_date    5:17    8.63 n/a      .000
01353>        fname :R8.0010
01354>        remark:Routing Hydrograph for R8
01355> # Updated catchment M4
01356> R0010:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01357>      CALIB NASHYD             1.0 01:M4       354.74   3.965 No_date    3:43   17.91 .362     .000
01358>        [CN= 78.0: N= 3.00: Tp= 2.27]
01359> R0010:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01360>      SAVE HYD                 1.0 01:M4       354.74   3.965 No_date    3:43   17.91 n/a      .000
01361>        fname :M4.0010
01362>        remark:Routing Hydrograph for M4
01363> # Creekside Subdivision - Post Development
01364> R0010:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01365>      CALIB STANDHYD           1.0 02:CRK        24.63   4.160 No_date    1:04   33.92 .685     .000
01366>        [ XIMP=.53:TIMP=.63]
01367>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01368>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01369>        [Impervious   area: IAimp= 1.57:SLPI=.50:LGI= 405.:MNI=.013:SCI=   .0]
01370> # Creekside Subdivision - SWM Pond Routing
01371> R0010:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01372>      ROUTE RESERVOIR  ->      1.0 02:CRK        24.63   4.160 No_date    1:04   33.92 n/a      .000
01373>                     out <=    1.0 03:Pond-Out   24.63   2.577 No_date    1:16   33.92 n/a      .000
01374>                overflow <=    1.0 04:Pond-Ovf     .00    .000 No_date    0:00    .00 n/a      .000
01375>       (MxStoUsed=.457ZE+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs)
01376> R0010:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01377>      ADD HYD                  1.0 01:M4       354.74   3.965 No_date    3:43   17.91 n/a      .000
01378>                         +     1.0 03:Pond-Out   24.63   2.577 No_date    1:16   33.92 n/a      .000
01379>                         +     1.0 04:Pond-Ovf     .00    .000 No_date    0:00    .00 n/a      .000
01380>                       SUM=    1.0 09:R8      4879.89  17.010 No_date    5:17    8.63 n/a      .000
01381>                       SUM=    1.0 05:N28     5259.26  20.027 No_date    5:02    9.37 n/a      .000
01382> R0010:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01383>      SAVE HYD                 1.0 05:N28     5259.26  20.027 No_date    5:02    9.37 n/a      .000
01384>        fname :N28.0010
01385>        remark:Hydrograph for N28
01386>  ** END OF RUN :  24
01387>
01388>  ****************************************************************************************************
01389>
01390>
01391>
01392>
01393>
01394>  RUN#:COMMAND#
01395> R0025:C00001-----------------------------------------------------------------------------------------
01396>       START
01397>       [TZERO =    .00 hrs on        0]
01398>       [METOUT=   2   (1=imperial, 2=metric output)]
01399>       [NSTORM=   1 ]
01400>       [NRUN  = 0025 ]
01401> #*********************************************************************
01402> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
01403> #  Date       : 2024-04-16
01404> #  Modeller   : [   PP    ]
01405> #  Company    : J.F. Sabourin and Associates
01406> #  License #  : 2549237
01407> #*********************************************************************
01408> R0025:C00002-----------------------------------------------------------------------------------------
01409>       READ STORM
01410>         Filename = storm.001
01411>         Comment  = CHICAGO STORM   25 Year, 3 Hours
01412>         [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
01413> R0025:C00003-----------------------------------------------------------------------------------------
01414>       DEFAULT VALUES
01415>         Filename = C:\Temp\temp\FlowVal.val
01416>         ICASEdv  = 1 (read and print data)
01417>         FileTitle= File comment: [RVCA Flowing Creek FPM]
01418>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01419>         Horton's infiltration equation parameters:
01420>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01421>         Parameters for PERVIOUS surfaces in STANDHYD:
01422>         [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01423>         Parameters for IMPERVIOUS surfaces in STANDHYD:
01424>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01425>         Parameters used in NASHYD:
01426>         [Ia=   1.50 mm] [N= 3.00]
01427>         Average monthly Pan Evaporation data in    (mm)
01428>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01429>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01430>         Average monthly Potential Evapotranspiration in    (mm)
01431>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01432>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01433> R0025:C00004-----------------------------------------------------------------------------------------
01434>  ------------
01435>  | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
01436>
01437>
01438>
01439>  ------------
01440> # Main Channel
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01441> R0025:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01442>      CALIB NASHYD            1.0 01:M1          136.59     .914 No_date    3:14    8.33 .143     .000
01443>        [CN= 53.5: N= 3.00: Tp= 1.64]
01444> R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01445>      SAVE HYD                1.0 01:M1          136.59     .914 No_date    3:14    8.33 n/a      .000
01446>        fname :M1.0025
01447>        remark:Runoff Hydrograph for M1
01448> R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01449>      ROUTE CHANNEL   ->      1.0 01:M1          136.59     .914 No_date    3:14    8.33 n/a      .000
01450>        [RDT= 1.00] out<-     1.0 02:R1          136.59     .743 No_date    4:02    8.33 n/a      .000
01451>        [L/S/n= 3000./ .550/.035]
01452>        [Vmax=  .738:Dmax=  .228]
01453> R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01454>      SAVE HYD                1.0 02:R1          136.59     .743 No_date    4:02    8.33 n/a      .000
01455>        fname :R1.0025
01456>        remark:Routing Hydrograph for R1
01457> R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01458>      CALIB NASHYD            1.0 03:M2          372.64    2.315 No_date    3:15    7.77 .133     .000
01459>        [CN= 52.2: N= 3.00: Tp= 1.65]
01460> R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01461>      SAVE HYD                1.0 03:M2          372.64    2.315 No_date    3:15    7.77 n/a      .000
01462>        fname :M2.0025
01463>        remark:Routing Hydrograph for M2
01464> R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01465>      ADD HYD                 1.0 02:R1          136.59     .743 No_date    4:02    8.33 n/a      .000
01466>                        +     1.0 03:M2          372.64    2.315 No_date    3:15    7.77 n/a      .000
01467>                      SUM=    1.0 04:N21         509.23    2.957 No_date    3:29    7.92 n/a      .000
01468> R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01469>      SAVE HYD                1.0 04:N21         509.23    2.957 No_date    3:29    7.92 n/a      .000
01470>        fname :N21.0025
01471>        remark:Hydrograph for N21
01472> R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01473>      ROUTE CHANNEL   ->      1.0 04:N21         509.23    2.957 No_date    3:29    7.92 n/a      .000
01474>        [RDT= 1.00] out<-     1.0 05:R2          509.23    2.030 No_date    4:30    7.92 n/a      .000
01475>        [L/S/n= 4000./ .180/.035]
01476>        [Vmax=  .655:Dmax=  .428]
01477> R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01478>      SAVE HYD                1.0 05:R2          509.23    2.030 No_date    4:30    7.92 n/a      .000
01479>        fname :R2.0025
01480>        remark:Routing Hydrograph for R2
01481> R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01482>      CALIB NASHYD            1.0 06:M3          533.23    2.905 No_date    4:01    9.41 .162     .000
01483>        [CN= 56.0: N= 3.00: Tp= 2.47]
01484> R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01485>      SAVE HYD                1.0 06:M3          533.23    2.905 No_date    4:01    9.41 n/a      .000
01486>        fname :M3.0025
01487>        remark:Routing Hydrograph for M3
01488> R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01489>      ADD HYD                 1.0 06:M3          533.23    2.905 No_date    4:01    9.41 n/a      .000
01490>                        +     1.0 05:R2          509.23    2.030 No_date    4:30    7.92 n/a      .000
01491>                      SUM=    1.0 07:N22        1042.46    4.889 No_date    4:15    8.68 n/a      .000
01492> R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01493>      SAVE HYD                1.0 07:N22        1042.46    4.889 No_date    4:15    8.68 n/a      .000
01494>        fname :N22.0025
01495>        remark:Hydrograph for N22
01496> # Trib A
01497> R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01498>      CALIB NASHYD            1.0 08:A1           86.15     .603 No_date    3:24    9.45 .162     .000
01499>        [CN= 56.1: N= 3.00: Tp= 1.83]
01500> R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01501>      SAVE HYD                1.0 08:A1           86.15     .603 No_date    3:24    9.45 n/a      .000
01502>        fname :A1.0025
01503>        remark:Runoff Hydrograph for A1
01504> R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01505>      ROUTE CHANNEL   ->      1.0 08:A1           86.15     .603 No_date    3:24    9.45 n/a      .000
01506>        [RDT= 1.00] out<-     1.0 09:R3           86.15     .485 No_date    4:19    9.45 n/a      .000
01507>        [L/S/n= 2500./ .600/.035]
01508>        [Vmax=  .616:Dmax=  .169]
01509> R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01510>      SAVE HYD                1.0 09:R3           86.15     .485 No_date    4:19    9.45 n/a      .000
01511>        fname :R3.0025
01512>        remark:Routing Hydrograph for R3
01513> R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01514>      CALIB NASHYD            1.0 01:A2          246.39    2.022 No_date    3:31   11.82 .203     .000
01515>        [CN= 61.0: N= 3.00: Tp= 1.99]
01516> R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01517>      SAVE HYD                1.0 01:A2          246.39    2.022 No_date    3:31   11.82 n/a      .000
01518>        fname :A2.0025
01519>        remark:Routing Hydrograph for A2
01520> R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01521>      ADD HYD                 1.0 01:A2          246.39    2.022 No_date    3:31   11.82 n/a      .000
01522>                        +     1.0 09:R3           86.15     .485 No_date    4:19    9.45 n/a      .000
01523>                      SUM=    1.0 02:N11         332.54    2.457 No_date    3:41   11.21 n/a      .000
01524> R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01525>      SAVE HYD                1.0 02:N11         332.54    2.457 No_date    3:41   11.21 n/a      .000
01526>        fname :N11.0025
01527>        remark:Hydrograph for N11
01528> R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01529>      ROUTE CHANNEL   ->      1.0 02:N11         332.54    2.457 No_date    3:41   11.21 n/a      .000
01530>        [RDT= 1.00] out<-     1.0 03:R4          332.54    2.050 No_date    4:31   11.21 n/a      .000
01531>        [L/S/n= 3000./ .200/.035]
01532>        [Vmax=  .743:Dmax=  .507]
01533> R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01534>      SAVE HYD                1.0 03:R4          332.54    2.050 No_date    4:31   11.21 n/a      .000
01535>        fname :R4.0025
01536>        remark:Routing Hydrograph for R4
01537> R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01538>      CALIB NASHYD            1.0 04:A3          316.70    2.485 No_date    3:49   12.79 .220     .000
01539>        [CN= 62.8: N= 3.00: Tp= 2.31]
01540> R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01541>      SAVE HYD                1.0 04:A3          316.70    2.485 No_date    3:49   12.79 n/a      .000
01542>        fname :A3.0025
01543>        remark:Routing Hydrograph for A3
01544> R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01545>      ADD HYD                 1.0 04:A3          316.70    2.485 No_date    3:49   12.79 n/a      .000
01546>                        +     1.0 03:R4          332.54    2.050 No_date    4:31   11.21 n/a      .000
01547>                      SUM=    1.0 05:N12         649.24    4.449 No_date    4:12   11.98 n/a      .000
01548> R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01549>      SAVE HYD                1.0 05:N12         649.24    4.449 No_date    4:12   11.98 n/a      .000
01550>        fname :N12.0025
01551>        remark:Hydrograph for N12
01552> # Trib B
01553> R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01554>      CALIB NASHYD            1.0 06:B1          627.61    2.532 No_date    4:53    9.19 .158     .000
01555>        [CN= 55.5: N= 3.00: Tp= 3.36]
01556> R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01557>      SAVE HYD                1.0 06:B1          627.61    2.532 No_date    4:53    9.19 n/a      .000
01558>        fname :B1.0025
01559>        remark:Runoff Hydrograph for B1
01560> R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01561>      ROUTE CHANNEL   ->      1.0 06:B1          627.61    2.532 No_date    4:53    9.19 n/a      .000
01562>        [RDT= 1.00] out<-     1.0 08:R5          627.61    2.378 No_date    5:38    9.19 n/a      .000
01563>        [L/S/n= 4800./ .870/.035]
01564>        [Vmax= 1.440:Dmax=  .502]
01565> R0025:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01566>      SAVE HYD                1.0 08:R5          627.61    2.378 No_date    5:38    9.19 n/a      .000
01567>        fname :R5.0025
01568>        remark:Routing Hydrograph for R5
01569> R0025:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01570>      CALIB NASHYD            1.0 09:B2          255.45    2.506 No_date    3:52   16.45 .282     .000
01571>        [CN= 68.8: N= 3.00: Tp= 2.39]
01572> R0025:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01573>      SAVE HYD                1.0 09:B2          255.45    2.506 No_date    3:52   16.45 n/a      .000
01574>        fname :B2.0025
01575>        remark:Routing Hydrograph for B2
01576> R0025:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01577>      ADD HYD                 1.0 08:R5          627.61    2.378 No_date    5:38    9.19 n/a      .000
01578>                        +     1.0 09:B2          255.45    2.506 No_date    3:52   16.45 n/a      .000
01579>                      SUM=    1.0 01:N2          883.06    4.451 No_date    4:41   11.29 n/a      .000
01580> R0025:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01581>      SAVE HYD                1.0 01:N2          883.06    4.451 No_date    4:41   11.29 n/a      .000
01582>        fname :N2.0025
01583>        remark:Hydrograph for N2
01584> R0025:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01585>      CALIB NASHYD            1.0 02:B3          336.77    1.350 No_date    4:38    8.48 .146     .000
01586>        [CN= 53.9: N= 3.00: Tp= 3.10]
01587> R0025:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01588>      SAVE HYD                1.0 02:B3          336.77    1.350 No_date    4:38    8.48 n/a      .000
01589>        fname :B3.0025
01590>        remark:Routing Hydrograph for B3
01591> R0025:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01592>      ADD HYD                 1.0 01:N2          883.06    4.451 No_date    4:41   11.29 n/a      .000
01593>                        +     1.0 02:B3          336.77    1.350 No_date    4:38    8.48 n/a      .000
01594>                      SUM=    1.0 03:N4         1219.83    5.801 No_date    4:41   10.51 n/a      .000
01595> R0025:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01596>      SAVE HYD                1.0 03:N4         1219.83    5.801 No_date    4:41   10.51 n/a      .000
01597>        fname :N4.0025
01598>        remark:Hydrograph for N4
01599> R0025:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01600>      ROUTE CHANNEL   ->      1.0 03:N4         1219.83    5.801 No_date    4:41   10.51 n/a      .000
01601>        [RDT= 1.00] out<-     1.0 04:R6         1219.83    5.765 No_date    4:55   10.51 n/a      .000
01602>        [L/S/n= 1500./ .480/.035]
01603>        [Vmax= 1.451:Dmax=  .826]
01604> R0025:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01605>      SAVE HYD                1.0 04:R6         1219.83    5.765 No_date    4:55   10.51 n/a      .000
01606>        fname :R6.0025
01607>        remark:Routing Hydrograph for R6
01608> R0025:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01609>      CALIB NASHYD            1.0 06:B5          224.06    1.038 No_date    4:09    8.38 .144     .000
01610>        [CN= 53.7: N= 3.00: Tp= 2.60]
01611> R0025:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01612>      SAVE HYD                1.0 06:B5          224.06    1.038 No_date    4:09    8.38 n/a      .000
01613>        fname :B5.0025
01614>        remark:Routing Hydrograph for B5
01615> R0025:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01616>      ADD HYD                 1.0 06:B5          224.06    1.038 No_date    4:09    8.38 n/a      .000
01617>                        +     1.0 04:R6         1219.83    5.765 No_date    4:55   10.51 n/a      .000
01618>                      SUM=    1.0 08:N5         1443.89    6.741 No_date    4:47   10.18 n/a      .000
01619> R0025:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01620>      SAVE HYD                1.0 08:N5         1443.89    6.741 No_date    4:47   10.18 n/a      .000
01621>        fname :N5.0025
01622>        remark:Hydrograph for N5
01623> R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01624>      ROUTE CHANNEL   ->      1.0 08:N5         1443.89    6.741 No_date    4:47   10.18 n/a      .000
01625>        [RDT= 1.00] out<-     1.0 09:R7         1443.89    6.019 No_date    5:47   10.18 n/a      .000
01626>        [L/S/n= 4500./ .240/.035]
01627>        [Vmax= 1.082:Dmax=  .808]
01628> R0025:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01629>      SAVE HYD                1.0 09:R7         1443.89    6.019 No_date    5:47   10.18 n/a      .000
01630>        fname :R7.0025
01631>        remark:Routing Hydrograph for R7
01632> R0025:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01633>      CALIB NASHYD            1.0 01:B6          329.90    4.110 No_date    3:54   21.39 .367     .000
01634>        [CN= 75.4: N= 3.00: Tp= 2.46]
01635> R0025:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01636>      SAVE HYD                1.0 01:B6          329.90    4.110 No_date    3:54   21.39 n/a      .000
01637>        fname :B6.0025
01638>        remark:Routing Hydrograph for B6
01639> R0025:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01640>      ADD HYD                 1.0 09:R7         1443.89    6.019 No_date    5:47   10.18 n/a      .000
01641>                        +     1.0 01:B6          329.90    4.110 No_date    3:54   21.39 n/a      .000
01642>                      SUM=    1.0 02:N6         1773.79    9.209 No_date    5:06   12.27 n/a      .000
01643> R0025:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01644>      SAVE HYD                1.0 02:N6         1773.79    9.209 No_date    5:06   12.27 n/a      .000
01645>        fname :N6.0025
01646>        remark:Hydrograph for N6
01647> # Main channel combination with Trib A
01648> R0025:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01649>      ADD HYD                 1.0 05:N12         649.24    4.449 No_date    4:12   11.98 n/a      .000
01650>                        +     1.0 07:N22        1042.46    4.889 No_date    4:15    8.68 n/a      .000
01651>                      SUM=    1.0 03:N23        1691.70    9.334 No_date    4:12    9.95 n/a      .000
01652> R0025:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01653>      SAVE HYD                1.0 03:N23        1691.70    9.334 No_date    4:12    9.95 n/a      .000
01654>        fname :N23.0025
01655>        remark:Hydrograph for N23/N24
01656> # Main channel combination wit Trib B
01657> R0025:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01658>      ADD HYD                 1.0 03:N23        1691.70    9.334 No_date    4:12    9.95 n/a      .000
01659>                        +     1.0 02:B6          1773.79    9.209 No_date    5:06   12.27 n/a      .000
01660>                      SUM=    1.0 04:N25        3465.49   18.104 No_date    4:36   11.13 n/a      .000
01661> R0025:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01662>      SAVE HYD                1.0 04:N25        3465.49   18.104 No_date    4:36   11.13 n/a      .000
01663>        fname :N25.0025
01664>        remark:Hydrograph for N25/N26
01665> # Main channel combination with Catchment C
01666> R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01667>      CALIB NASHYD            1.0 06:C1         1414.40    8.808 No_date    4:52   14.33 .246     .000
01668>        [CN= 65.5: N= 3.00: Tp= 3.40]
01669> R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01670>      SAVE HYD                1.0 06:C1         1414.40    8.808 No_date    4:52   14.33 n/a      .000
01671>        fname :C1.0025
01672>        remark:Routing Hydrograph for C1
01673> R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01674>      ADD HYD                 1.0 04:N25        3465.49   18.104 No_date    4:36   11.13 n/a      .000
01675>                        +     1.0 06:C1         1414.40    8.808 No_date    4:52   14.33 n/a      .000
01676>                      SUM=    1.0 08:N27        4879.89   26.873 No_date    4:40   12.06 n/a      .000
01677> R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01678>      SAVE HYD                1.0 08:N27        4879.89   26.873 No_date    4:40   12.06 n/a      .000
01679>        fname :N27.0025
01680>        remark:Hydrograph for N27
01681> # Main channel
01682> R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01683>      ROUTE CHANNEL   ->      1.0 08:N27        4879.89   26.873 No_date    4:40   12.06 n/a      .000
01684>        [RDT= 1.00] out<-     1.0 09:R8         4879.89   23.732 No_date    6:04   12.06 n/a      .000
01685>        [L/S/n= 2700./ .050/.035]
01686>        [Vmax=  .637:Dmax= 2.387]
01687> R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01688>      SAVE HYD                1.0 09:R8         4879.89   23.732 No_date    6:04   12.06 n/a      .000
01689>        fname :R8.0025
01690>        remark:Routing Hydrograph for R8
01691> # Updated catchment M4
01692> R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01693>      CALIB NASHYD            1.0 01:M4          354.74    5.233 No_date    3:42   23.62 .406     .000
01694>        [CN= 78.0: N= 3.00: Tp= 2.27]
01695> R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01696>      SAVE HYD                1.0 01:M4          354.74    5.233 No_date    3:42   23.62 n/a      .000
01697>        fname :M4.0025
01698>        remark:Routing Hydrograph for M4
01699> # Creekside Subdivision - Post Development
01700> R0025:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01701>      CALIB STANDHYD          1.0 02:CRK          24.63    5.252 No_date    1:03   41.67 .716     .000
01702>        [XIMP=.53:TIMP=.63]
01703>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01704>        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01705>        [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 405.:MNI=.013:SCI=   .0]
01706> # Creekside Subdivision - SWM Pond Routing
01707> R0025:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01708>      ROUTE RESERVOIR ->      1.0 02:CRK          24.63    5.252 No_date    1:03   41.67 n/a      .000
01709>                        out <=    1.0 03:Pond-Out     24.63    3.937 No_date    1:11   41.67 n/a      .000
01710>                      overflow <=   1.0 04:Pond-Ovf      .00     .000 No_date    0:00     .00 n/a      .000
01711>      (MxStoUsed=.4692E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01712> R0025:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01713>      ADD HYD                 1.0 01:M4          354.74    5.233 No_date    3:42   23.62 n/a      .000
01714>                        +     1.0 03:Pond-Out     24.63    3.937 No_date    1:11   41.67 n/a      .000
01715>                        +     1.0 04:Pond-Ovf      .00     .000 No_date    0:00     .00 n/a      .000
01716>                        +     1.0 09:R8         4879.89   23.732 No_date    6:04   12.06 n/a      .000
01717>                      SUM=    1.0 05:N28        5259.26   26.935 No_date    5:28   12.98 n/a      .000
01718> R0025:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01719>      SAVE HYD                1.0 05:N28        5259.26   26.935 No_date    5:28   12.98 n/a      .000
01720>        fname :N28.0025
01721>        remark:Hydrograph for N28
01722>  ** END OF RUN :  49
01723>
01724> ************************************************************************************************
01725>
01726>
01727>
01728>
01729>
01730>  RUN#:COMMAND#
01731> R0050:C00001------------------------------------------------------------------------------------
01732>      START
01733>        [TZERO =    .00 hrs on        0]
01734>        [METOUT=   2   (1=imperial, 2=metric output)]
01735>        [NSTORM=   1 ]
01736>        [NRUN  = 0050 ]
01737> #**************************************************************************
01738> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
01739> #  Date        : 2024-04-16
01740> #  Modeller    : [   PP    ]
01741> #  Company     : J.F. Sabourin and Associates
01742> #  License #   :  2594237
01743> #**************************************************************************
01744> R0050:C00002------------------------------------------------------------------------------------
01745>      READ STORM
01746>        Filename = storm.001
01747>        Comment  = CHICAGO STORM  50 Year, 3 Hours
01748>        [SDT=10.00:SDUR=   3.00:PTOT=  64.81]
01749> R0050:C00003------------------------------------------------------------------------------------
01750>      DEFAULT VALUES
01751>        Filename = C:\Temp\temp\FlowVal.val
01752>        ICASEdv  = 1 (read and print data)
01753>        FileTitle= File comment: [RVCA Flowing Creek FPM]
01754>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01755>        Horton's infiltration equation parameters:
01756>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [P=  .00 mm]
01757>        Parameters for PERVIOUS surfaces in STANDHYD:
01758>        [IAper=   4.67 mm] [LGP=40.0 m] [MNP= .250]
01759>        Parameters for IMPERVIOUS surfaces in STANDHYD:
01760>        [IAimp=   1.57 mm] [CLI= 1.50]  [MNI= .013]
01761>        Parameters used in NASHYD:
01762>        [Ia=  1.50 mm] [N= 3.00]
01763>        Average monthly Pan Evaporation data in     (mm)
01764>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01765>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01766>        Average monthly Potential Evapotranspiration in     (mm)
01767>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01768>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01769> R0050:C00004------------------------------------------------------------------------------------
01770>      ------------
01771>  | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
01772>
01773>
01774>
01775>  ------------
01776> # Main Channel
01777> R0050:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01778>      CALIB NASHYD            1.0 01:M1          136.59    1.159 No_date    3:12   10.55 .163     .000
01779>        [CN= 53.5: N= 3.00: Tp= 1.64]
01780> R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01781>      SAVE HYD                1.0 01:M1          136.59    1.159 No_date    3:12   10.55 n/a      .000
01782>        fname :M1.0050
01783>        remark:Runoff Hydrograph for M1
01784> R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01785>      ROUTE CHANNEL   ->      1.0 01:M1          136.59    1.159 No_date    3:12   10.55 n/a      .000
01786>        [RDT= 1.00] out<-     1.0 02:R1          136.59     .948 No_date    3:58   10.55 n/a      .000
01787>        [L/S/n= 3000./ .550/.035]
01788>        [Vmax=  .805:Dmax=  .263]
01789> R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01790>      SAVE HYD                1.0 02:R1          136.59     .948 No_date    3:58   10.55 n/a      .000
01791>        fname :R1.0050
01792>        remark:Routing Hydrograph for R1
01793> R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01794>      CALIB NASHYD            1.0 03:M2          372.64    2.948 No_date    3:14    9.89 .153     .000
01795>        [CN= 52.2: N= 3.00: Tp= 1.65]
01796> R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01797>      SAVE HYD                1.0 03:M2          372.64    2.948 No_date    3:14    9.89 n/a      .000
01798>        fname :M2.0050
01799>        remark:Routing Hydrograph for M2
01800> R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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01801>     ADD HYD              1.0 02:R1          136.59    .948 No_date    3:58   10.55  n/a     .000
01802>                    +     1.0 03:M2          372.64   2.948 No_date    3:14    9.89  n/a     .000
01803>                  SUM=    1.0 04:N21         509.23   3.798 No_date    3:25   10.06  n/a     .000
01804> R0050:c000012------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01805>     SAVE HYD             1.0 04:N21         509.23   3.798 No_date    3:25   10.06  n/a     .000
01806>       fname :N21.0050
01807>       remark:Hydrograph for N21
01808> R0050:c000013------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01809>     ROUTE CHANNEL   ->     1.0 04:N21         509.23   3.798 No_date    3:25   10.06  n/a     .000
01810>      [RDT= 1.00] out<-     1.0 05:R2          509.23   2.707 No_date    4:22   10.06  n/a     .000
01811>      [L/S/n= 4000./ .180/.035]
01812>      {Vmax=  .731:Dmax=  .500}
01813> R0050:c000014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01814>     SAVE HYD             1.0 05:R2          509.23   2.707 No_date    4:22   10.06  n/a     .000
01815>       fname :R2.0050
01816>       remark:Routing Hydrograph for R2
01817> R0050:c000015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01818>     CALIB NASHYD         1.0 06:M3          533.23   3.655 No_date    4:00   11.84 .183     .000
01819>       [CN= 56.0: N= 3.00: Tp= 2.47]
01820> R0050:c000016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01821>     SAVE HYD             1.0 06:M3          533.23   3.655 No_date    4:00   11.84  n/a     .000
01822>       fname :M3.0050
01823>       remark:Routing Hydrograph for M3
01824> R0050:c000017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01825>     ADD HYD              1.0 06:M3          533.23   3.655 No_date    4:00   11.84  n/a     .000
01826>                    +     1.0 05:R2          509.23   2.707 No_date    4:22   10.06  n/a     .000
01827>                  SUM=    1.0 07:N22        1042.46   6.326 No_date    4:10   10.97  n/a     .000
01828> R0050:c000018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01829>     SAVE HYD             1.0 07:N22        1042.46   6.326 No_date    4:10   10.97  n/a     .000
01830>       fname :N22.0050
01831>       remark:Hydrograph for N22
01832> # Trib A
01833> R0050:c000019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01834>     CALIB NASHYD         1.0 08:A1           86.15    .759 No_date    3:23   11.88 .183     .000
01835>       [CN= 56.1: N= 3.00: Tp= 1.83]
01836> R0050:c000020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01837>     SAVE HYD             1.0 08:A1           86.15    .759 No_date    3:23   11.88  n/a     .000
01838>       fname :A1.0050
01839>       remark:Runoff Hydrograph for A1
01840> R0050:c000021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01841>     ROUTE CHANNEL   ->     1.0 08:A1           86.15    .759 No_date    3:23   11.88  n/a     .000
01842>      [RDT= 1.00] out<-     1.0 09:R3           86.15    .625 No_date    4:11   11.88  n/a     .000
01843>      [L/S/n= 2500./ .600/.035]
01844>      {Vmax=  .673:Dmax=  .196}
01845> R0050:c000022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01846>     SAVE HYD             1.0 09:R3           86.15    .625 No_date    4:11   11.88  n/a     .000
01847>       fname :R3.0050
01848>       remark:Routing Hydrograph for R3
01849> R0050:c000023------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01850>     CALIB NASHYD         1.0 01:A2          246.39   2.511 No_date    3:31   14.68 .226     .000
01851>       [CN= 61.0: N= 3.00: Tp= 1.99]
01852> R0050:c000024------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01853>     SAVE HYD             1.0 01:A2          246.39   2.511 No_date    3:31   14.68  n/a     .000
01854>       fname :A2.0050
01855>       remark:Routing Hydrograph for A2
01856> R0050:c000025------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01857>     ADD HYD              1.0 01:A2          246.39   2.511 No_date    3:31   14.68  n/a     .000
01858>                    +     1.0 09:R3           86.15    .625 No_date    4:11   11.88  n/a     .000
01859>                  SUM=    1.0 02:N11         332.54   3.085 No_date    3:39   13.95  n/a     .000
01860> R0050:c000026------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01861>     SAVE HYD             1.0 02:N11         332.54   3.085 No_date    3:39   13.95  n/a     .000
01862>       fname :N11.0050
01863>       remark:Hydrograph for N11
01864> R0050:c000027------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01865>     ROUTE CHANNEL   ->     1.0 02:N11         332.54   3.085 No_date    3:39   13.95  n/a     .000
01866>      [RDT= 1.00] out<-     1.0 03:R4          332.54   2.629 No_date    4:27   13.95  n/a     .000
01867>      [L/S/n= 3000./ .200/.035]
01868>      {Vmax=  .803:Dmax=  .581}
01869> R0050:c000028------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01870>     SAVE HYD             1.0 03:R4          332.54   2.629 No_date    4:27   13.95  n/a     .000
01871>       fname :R4.0050
01872>       remark:Routing Hydrograph for R4
01873> R0050:c000029------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01874>     CALIB NASHYD         1.0 04:A3          316.70   3.073 No_date    3:49   15.81 .244     .000
01875>       [CN= 62.8: N= 3.00: Tp= 2.31]
01876> R0050:c000030------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01877>     SAVE HYD             1.0 04:A3          316.70   3.073 No_date    3:49   15.81  n/a     .000
01878>       fname :A3.0050
01879>       remark:Routing Hydrograph for A3
01880> R0050:c000031------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01881>     ADD HYD              1.0 04:A3          316.70   3.073 No_date    3:49   15.81  n/a     .000
01882>                    +     1.0 03:R4          332.54   2.629 No_date    4:27   13.95  n/a     .000
01883>                  SUM=    1.0 05:N12         649.24   5.605 No_date    4:07   14.86  n/a     .000
01884> R0050:c000032------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01885>     SAVE HYD             1.0 05:N12         649.24   5.605 No_date    4:07   14.86  n/a     .000
01886>       fname :N12.0050
01887>       remark:Hydrograph for N12
01888> # Trib B
01889> R0050:c000033------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01890>     CALIB NASHYD         1.0 06:B1          627.61   3.190 No_date    4:52   11.57 .179     .000
01891>       [CN= 55.5: N= 3.00: Tp= 3.36]
01892> R0050:c000034------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01893>     SAVE HYD             1.0 06:B1          627.61   3.190 No_date    4:52   11.57  n/a     .000
01894>       fname :B1.0050
01895>       remark:Runoff Hydrograph for B1
01896> R0050:c000035------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01897>     ROUTE CHANNEL   ->     1.0 06:B1          627.61   3.190 No_date    4:52   11.57  n/a     .000
01898>      [RDT= 1.00] out<-     1.0 08:R5          627.61   3.019 No_date    5:36   11.57  n/a     .000
01899>      [L/S/n= 4800./ .870/.035]
01900>      {Vmax= 1.546:Dmax=  .574}
01901> R0050:c000036------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01902>     SAVE HYD             1.0 08:R5          627.61   3.019 No_date    5:36   11.57  n/a     .000
01903>       fname :R5.0050
01904>       remark:Routing Hydrograph for R5
01905> R0050:c000037------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01906>     CALIB NASHYD         1.0 09:B2          255.45   3.055 No_date    3:51   20.04 .309     .000
01907>       [CN= 68.8: N= 3.00: Tp= 2.39]
01908> R0050:c000038------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01909>     SAVE HYD             1.0 09:B2          255.45   3.055 No_date    3:51   20.04  n/a     .000
01910>       fname :B2.0050
01911>       remark:Routing Hydrograph for B2
01912> R0050:c000039------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01913>     ADD HYD              1.0 08:R5          627.61   3.019 No_date    5:36   11.57  n/a     .000
01914>                    +     1.0 09:B2          255.45   3.055 No_date    3:51   20.04  n/a     .000
01915>                  SUM=    1.0 01:N2          883.06   5.567 No_date    4:40   14.02  n/a     .000
01916> R0050:c000040------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01917>     SAVE HYD             1.0 01:N2          883.06   5.567 No_date    4:40   14.02  n/a     .000
01918>       fname :N2.0050
01919>       remark:Hydrograph for N2
01920> R0050:c000041------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01921>     CALIB NASHYD         1.0 02:B3          336.77   1.710 No_date    4:37   10.74 .166     .000
01922>       [CN= 53.9: N= 3.00: Tp= 3.10]
01923> R0050:c000042------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01924>     SAVE HYD             1.0 02:B3          336.77   1.710 No_date    4:37   10.74  n/a     .000
01925>       fname :B3.0050
01926>       remark:Routing Hydrograph for B3
01927> R0050:c000043------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01928>     ADD HYD              1.0 01:N2          883.06   5.567 No_date    4:40   14.02  n/a     .000
01929>                    +     1.0 02:B3          336.77   1.710 No_date    4:37   10.74  n/a     .000
01930>                  SUM=    1.0 03:N4         1219.83   7.277 No_date    4:40   13.12  n/a     .000
01931> R0050:c000044------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01932>     SAVE HYD             1.0 03:N4         1219.83   7.277 No_date    4:40   13.12  n/a     .000
01933>       fname :N4.0050
01934>       remark:Hydrograph for N4
01935> R0050:c000045------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01936>     ROUTE CHANNEL   ->     1.0 03:N4         1219.83   7.277 No_date    4:40   13.12  n/a     .000
01937>      [RDT= 1.00] out<-     1.0 04:R6         1219.83   7.232 No_date    4:52   13.12  n/a     .000
01938>      [L/S/n= 1500./ .480/.035]
01939>      {Vmax= 1.557:Dmax=  .943}
01940> R0050:c000046------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01941>     SAVE HYD             1.0 04:R6         1219.83   7.232 No_date    4:52   13.12  n/a     .000
01942>       fname :R6.0050
01943>       remark:Routing Hydrograph for R6
01944> R0050:c000047------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01945>     CALIB NASHYD         1.0 06:B5          224.06   1.316 No_date    4:08   10.61 .164     .000
01946>       [CN= 53.7: N= 3.00: Tp= 2.60]
01947> R0050:c000048------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01948>     SAVE HYD             1.0 06:B5          224.06   1.316 No_date    4:08   10.61  n/a     .000
01949>       fname :B5.0050
01950>       remark:Routing Hydrograph for B5
01951> R0050:c000049------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01952>     ADD HYD              1.0 06:B5          224.06   1.316 No_date    4:08   10.61  n/a     .000
01953>                    +     1.0 04:R6         1219.83   7.232 No_date    4:52   13.12  n/a     .000
01954>                  SUM=    1.0 08:N5         1443.89   8.481 No_date    4:44   12.73  n/a     .000
01955> R0050:c000050------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01956>     SAVE HYD             1.0 08:N5         1443.89   8.481 No_date    4:44   12.73  n/a     .000
01957>       fname :N5.0050
01958>       remark:Hydrograph for N5
01959> R0050:c000051------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01960>     ROUTE CHANNEL   ->     1.0 08:N5         1443.89   8.481 No_date    4:44   12.73  n/a     .000
01961>      [RDT= 1.00] out<-     1.0 09:R7         1443.89   7.672 No_date    5:41   12.73  n/a     .000
01962>      [L/S/n= 4500./ .240/.035]
01963>      {Vmax= 1.171:Dmax=  .929}
01964> R0050:c000052------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01965>     SAVE HYD             1.0 09:R7         1443.89   7.672 No_date    5:41   12.73  n/a     .000
01966>       fname :R7.0050
01967>       remark:Routing Hydrograph for R7
01968> R0050:c000053------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01969>     CALIB NASHYD         1.0 01:B6          329.90   4.936 No_date    3:53   25.67 .396     .000
01970>       [CN= 75.4: N= 3.00: Tp= 2.46]
01971> R0050:c000054------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01972>     SAVE HYD             1.0 01:B6          329.90   4.936 No_date    3:53   25.67  n/a     .000
01973>       fname :B6.0050
01974>       remark:Routing Hydrograph for B6
01975> R0050:c000055------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01976>     ADD HYD              1.0 09:R7         1443.89   7.672 No_date    5:41   12.73  n/a     .000
01977>                    +     1.0 01:B6          329.90   4.936 No_date    3:53   25.67  n/a     .000
01978>                  SUM=    1.0 02:N6         1773.79  11.574 No_date    5:04   15.13  n/a     .000
01979> R0050:c000056------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01980>     SAVE HYD             1.0 02:N6         1773.79  11.574 No_date    5:04   15.13  n/a     .000
01981>       fname :N6.0050
01982>       remark:Hydrograph for N6
01983> # Main channel combination with Trib A
01984> R0050:c000057------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01985>     ADD HYD              1.0 05:N12         649.24   5.605 No_date    4:07   14.86  n/a     .000
01986>                    +     1.0 07:N22        1042.46   6.326 No_date    4:10   10.97  n/a     .000
01987>                  SUM=    1.0 03:N23        1691.70  11.930 No_date    4:09   12.46  n/a     .000
01988> R0050:c000058------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01989>     SAVE HYD             1.0 03:N23        1691.70  11.930 No_date    4:09   12.46  n/a     .000
01990>       fname :N23.0050
01991>       remark:Hydrograph for N23/N24
01992> # Main channel combination with Trib B
01993> R0050:c000059------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01994>     ADD HYD              1.0 03:N23        1691.70  11.930 No_date    4:09   12.46  n/a     .000
01995>                    +     1.0 02:N6         1773.79  11.574 No_date    5:04   15.13  n/a     .000
01996>                  SUM=    1.0 04:N25        3465.49  22.931 No_date    4:33   13.83  n/a     .000
01997> R0050:c000060------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01998>     SAVE HYD             1.0 04:N25        3465.49  22.931 No_date    4:33   13.83  n/a     .000
01999>       fname :N25.0050
02000>       remark:Hydrograph for N25/N26
02001> # Main channel combination with Catchment C
02002> R0050:c000061------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02003>     CALIB NASHYD         1.0 06:C1         1414.40  10.820 No_date    4:51   17.59 .271     .000
02004>       [CN= 65.5: N= 3.00: Tp= 3.40]
02005> R0050:c000062------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02006>     SAVE HYD             1.0 06:C1         1414.40  10.820 No_date    4:51   17.59  n/a     .000
02007>       fname :C1.0050
02008>       remark:Routing Hydrograph for C1
02009> R0050:c000063------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02010>     ADD HYD              1.0 04:N25        3465.49  22.931 No_date    4:33   13.83  n/a     .000
02011>                    +     1.0 06:C1         1414.40  10.820 No_date    4:51   17.59  n/a     .000
02012>                  SUM=    1.0 08:N27        4879.89  33.688 No_date    4:39   14.92  n/a     .000
02013> R0050:c000064------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02014>     SAVE HYD             1.0 08:N27        4879.89  33.688 No_date    4:39   14.92  n/a     .000
02015>       fname :N27.0050
02016>       remark:Hydrograph for N27
02017> # Main channel
02018> R0050:c000065------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02019>     ROUTE CHANNEL   ->     1.0 08:N27        4879.89  33.688 No_date    4:39   14.92  n/a     .000
02020>      [RDT= 1.00] out<-     1.0 09:R8         4879.89  28.127 No_date    6:16   14.92  n/a     .000
02021>      [L/S/n= 2700./ .050/.035]
02022>      {Vmax=  .513:Dmax=  2.601}
02023> R0050:c000066------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02024>     SAVE HYD             1.0 09:R8         4879.89  28.127 No_date    6:16   14.92  n/a     .000
02025>       fname :R8.0050
02026>       remark:Routing Hydrograph for R8
02027> # Updated catchment M4
02028> R0050:c000067------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02029>     CALIB NASHYD         1.0 01:M4          354.74   6.249 No_date    3:41   28.19 .435     .000
02030>       [CN= 78.0: N= 3.00: Tp= 2.27]
02031> R0050:c000068------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02032>     SAVE HYD             1.0 01:M4          354.74   6.249 No_date    3:41   28.19  n/a     .000
02033>       fname :M4.0050
02034>       remark:Routing Hydrograph for M4
02035> # Creekside Subdivision - Post Development
02036> R0050:c000069------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02037>     CALIB STANDHYD       1.0 02:CRK          24.63    6.194 No_date    1:03   47.71 .736     .000
02038>       [XIMP=.53:TIMP=.63]
02039>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
02040>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
02041>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 405.:MNI=.013:SCI=   .0]
02042> # Creekside Subdivision - SWM Pond Routing
02043> R0050:c000070------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02044>     ROUTE RESERVOIR ->     1.0 02:CRK          24.63    6.194 No_date    1:03   47.71  n/a     .000
02045>                  out <=    1.0 03:Pond-Out     24.63    5.000 No_date    1:09   47.70  n/a     .000
02046>                overflow <= 1.0 04:Pond-Ovf      .00     .000 No_date    0:00    .00  n/a     .000
02047>       (MxStoUsed=.4783E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
02048> R0050:c000071------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02049>     ADD HYD              1.0 01:M4          354.74   6.249 No_date    3:41   28.19  n/a     .000
02050>                    +     1.0 03:Pond-Out     24.63    5.000 No_date    1:09   47.70  n/a     .000
02051>                    +     1.0 04:Pond-Ovf      .00     .000 No_date    0:00    .00  n/a     .000
02052>                    +     1.0 09:R8         4879.89  28.127 No_date    6:16   14.92  n/a     .000
02053>                  SUM=    1.0 05:N28        5259.26  31.752 No_date    5:41   15.97  n/a     .000
02054> R0050:c000072------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02055>     SAVE HYD             1.0 05:N28        5259.26  31.752 No_date    5:41   15.97  n/a     .000
02056>       fname :N28.0050
02057>       remark:Hydrograph for N28
02058>  ** END OF RUN :  98
02059>
02060> ************************************************************************************************
02061>
02062>
02063>
02064>
02065>
02066> RUN#:COMMAND#
02067> R0099:c000001------------------------------------------------------------------------------------
02068>     START
02069>      [TZERO =    .00 hrs on      0]
02070>      [METOUT=   2   (1=imperial, 2=metric output)]
02071>      [NSTORM=   1 ]
02072>      [NRUN  = 0099 ]
02073> #*********************************************************************
02074> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
02075> #  Date       : 2024-04-16
02076> #  Modeller   : [   PP    ]
02077> #  Company    : J.F. Sabourin and Associates
02078> #  License #  : 2549237
02079> #*********************************************************************
02080> R0099:c000002------------------------------------------------------------------------------------
02081>      READ STORM
02082>       Filename = storm.001
02083>       Comment  = 100 Year 3 Hour Chicago Storm
02084>       [SDT=10.00:SDUR=   3.00:PTOT=  74.43]
02085> R0099:c000003------------------------------------------------------------------------------------
02086>       DEFAULT VALUES
02087>       Filename = C:\Temp\temp\FlowVal.val
02088>       ICASEdv  = 1 (read and print data)
02089>       FileTitle= File comment: [RVCA Flowing Creek FPM]
02090>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02091>       Horton's infiltration equation parameters:
02092>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02093>       Parameters for PERVIOUS surfaces in STANDHYD:
02094>       [IAper=  4.67 mm] [LGP=40.00 m] [MNP= .250]
02095>       Parameters for IMPERVIOUS surfaces in STANDHYD:
02096>       [IAimp=  1.57 mm] [CLI= 1.50]   [MNI= .013]
02097>       Parameters used in NASHYD:
02098>       [Ia=   1.50 mm] [N= 3.00]
02099>       Average monthly Pan Evaporation data in    (mm)
02100>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02101>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02102>       Average monthly Potential Evapotranspiration in    (mm)
02103>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02104>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02105> R0099:c000004------------------------------------------------------------------------------------
02106>  -------------
02107>  | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
02108>  -------------
02109>
02110>
02111>  -------------
02112> # Main Channel
02113> R0099:c000005------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02114>     CALIB NASHYD         1.0 01:M1          136.59    1.541 No_date    3:17   14.17 .190     .000
02115>       [CN= 53.5: N= 3.00: Tp= 1.64]
02116> R0099:c000006------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02117>     SAVE HYD             1.0 01:M1          136.59    1.541 No_date    3:17   14.17  n/a     .000
02118>       fname :M1.0099
02119>       remark:Runoff Hydrograph for M1
02120> R0099:c000007------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02121>     ROUTE CHANNEL   ->     1.0 01:M1          136.59    1.541 No_date    3:17   14.17  n/a     .000
02122>      [RDT= 1.00] out<-     1.0 02:R1          136.59    1.323 No_date    3:53   14.17  n/a     .000
02123>      [L/S/n= 3000./ .550/.035]
02124>      {Vmax=  .910:Dmax=  .315}
02125> R0099:c000008------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02126>     SAVE HYD             1.0 02:R1          136.59    1.323 No_date    3:53   14.17  n/a     .000
02127>       fname :R1.0099
02128>       remark:Routing Hydrograph for R1
02129> R0099:c000009------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02130>     CALIB NASHYD         1.0 03:M2          372.64    3.942 No_date    3:18   13.34 .179     .000
02131>       [CN= 52.2: N= 3.00: Tp= 1.65]
02132> R0099:c000010------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02133>     SAVE HYD             1.0 03:M2          372.64    3.942 No_date    3:18   13.34  n/a     .000
02134>       fname :M2.0099
02135>       remark:Routing Hydrograph for M2
02136> R0099:c000011------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02137>     ADD HYD              1.0 02:R1          136.59    1.323 No_date    3:53   14.17  n/a     .000
02138>                    +     1.0 03:M2          372.64    3.942 No_date    3:18   13.34  n/a     .000
02139>                  SUM=    1.0 04:N21         509.23    5.148 No_date    3:29   13.56  n/a     .000
02140> R0099:c000012------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02141>     SAVE HYD             1.0 04:N21         509.23    5.148 No_date    3:29   13.56  n/a     .000
02142>       fname :N21.0099
02143>       remark:Hydrograph for N21
02144> R0099:c000013------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02145>     ROUTE CHANNEL   ->     1.0 04:N21         509.23    5.148 No_date    3:29   13.56  n/a     .000
02146>      [RDT= 1.00] out<-     1.0 05:R2          509.23    3.882 No_date    4:22   13.56  n/a     .000
02147>      [L/S/n= 4000./ .180/.035]
02148>      {Vmax=  .821:Dmax=  .601}
02149> R0099:c000014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02150>     SAVE HYD             1.0 05:R2          509.23    3.882 No_date    4:22   13.56  n/a     .000
02151>       fname :R2.0099
02152>       remark:Routing Hydrograph for R2
02153> R0099:c000015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02154>     CALIB NASHYD         1.0 06:M3          533.23    4.845 No_date    4:04   15.76 .212     .000
02155>       [CN= 56.0: N= 3.00: Tp= 2.47]
02156> R0099:c000016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02157>     SAVE HYD             1.0 06:M3          533.23    4.845 No_date    4:04   15.76  n/a     .000
02158>       fname :M3.0099
02159>       remark:Routing Hydrograph for M3
02160> R0099:c000017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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02161>     ADD HYD                  1.0 06:M3          533.23    4.845 No_date    4:04   15.76  n/a     .000
02162>                        +     1.0 05:R2          509.23    3.882 No_date    4:22   13.56  n/a     .000
02163>                    SUM=      1.0 07:N22        1042.46    8.694 No_date    4:14   14.69  n/a     .000
02164> R0099:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02165>     SAVE HYD                 1.0 07:N22        1042.46    8.694 No_date    4:14   14.69  n/a     .000
02166>       fname :N22.0099
02167>       remark:Hydrograph for N22
02168> # Trib A
02169> R0099:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02170>     CALIB NASHYD             1.0 08:A1          86.15    1.002 No_date    3:27   15.81 .212     .000
02171>       [CN= 56.1: N= 3.00: Tp= 1.83]
02172> R0099:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02173>     SAVE HYD                 1.0 08:A1          86.15    1.002 No_date    3:27   15.81  n/a     .000
02174>       fname :A1.0099
02175>       remark:Runoff Hydrograph for A1
02176> R0099:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02177>     ROUTE CHANNEL   ->       1.0 08:A1          86.15    1.002 No_date    3:27   15.81  n/a     .000
02178>       [RDT= 1.00] out<-      1.0 09:R3          86.15     .865 No_date    4:04   15.81  n/a     .000
02179>       [L/S/n= 2500./ .600/.035]
02180>       {Vmax=  .789:Dmax=  .238}
02181> R0099:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02182>     SAVE HYD                 1.0 09:R3          86.15     .865 No_date    4:04   15.81  n/a     .000
02183>       fname :R3.0099
02184>       remark:Routing Hydrograph for R3
02185> R0099:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02186>     CALIB NASHYD             1.0 01:A2         246.39    3.268 No_date    3:34   19.24 .258     .000
02187>       [CN= 61.0: N= 3.00: Tp= 1.99]
02188> R0099:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02189>     SAVE HYD                 1.0 01:A2         246.39    3.268 No_date    3:34   19.24  n/a     .000
02190>       fname :A2.0099
02191>       remark:Routing Hydrograph for A2
02192> R0099:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02193>     ADD HYD                  1.0 01:A2         246.39    3.268 No_date    3:34   19.24  n/a     .000
02194>                        +     1.0 09:R3          86.15     .865 No_date    4:04   15.81  n/a     .000
02195>                    SUM=      1.0 02:N11        332.54    4.091 No_date    3:44   18.35  n/a     .000
02196> R0099:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02197>     SAVE HYD                 1.0 02:N11        332.54    4.091 No_date    3:44   18.35  n/a     .000
02198>       fname :N11.0099
02199>       remark:Hydrograph for N11
02200> R0099:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02201>     ROUTE CHANNEL   ->       1.0 02:N11        332.54    4.091 No_date    3:44   18.35  n/a     .000
02202>       [RDT= 1.00] out<-      1.0 03:R4         332.54    3.556 No_date    4:25   18.35  n/a     .000
02203>       [L/S/n= 3000./ .200/.035]
02204>       {Vmax=  .887:Dmax=  .688}
02205> R0099:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02206>     SAVE HYD                 1.0 03:R4         332.54    3.556 No_date    4:25   18.35  n/a     .000
02207>       fname :R4.0099
02208>       remark:Routing Hydrograph for R4
02209> R0099:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02210>     CALIB NASHYD             1.0 04:A3         316.70    3.985 No_date    3:52   20.61 .277     .000
02211>       [CN= 62.8: N= 3.00: Tp= 2.31]
02212> R0099:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02213>     SAVE HYD                 1.0 04:A3         316.70    3.985 No_date    3:52   20.61  n/a     .000
02214>       fname :A3.0099
02215>       remark:Routing Hydrograph for A3
02216> R0099:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02217>     ADD HYD                  1.0 04:A3         316.70    3.985 No_date    3:52   20.61  n/a     .000
02218>                        +     1.0 03:R4         332.54    3.556 No_date    4:25   18.35  n/a     .000
02219>                    SUM=      1.0 05:N12        649.24    7.445 No_date    4:10   19.45  n/a     .000
02220> R0099:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02221>     SAVE HYD                 1.0 05:N12        649.24    7.445 No_date    4:10   19.45  n/a     .000
02222>       fname :N12.0099
02223>       remark:Hydrograph for N12
02224> # Trib B
02225> R0099:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02226>     CALIB NASHYD             1.0 06:B1         627.61    4.244 No_date    4:55   15.43 .207     .000
02227>       [CN= 55.5: N= 3.00: Tp= 3.36]
02228> R0099:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02229>     SAVE HYD                 1.0 06:B1         627.61    4.244 No_date    4:55   15.43  n/a     .000
02230>       fname :B1.0099
02231>       remark:Runoff Hydrograph for B1
02232> R0099:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02233>     ROUTE CHANNEL   ->       1.0 06:B1         627.61    4.244 No_date    4:55   15.43  n/a     .000
02234>       [RDT= 1.00] out<-      1.0 08:R5         627.61    4.054 No_date    5:35   15.43  n/a     .000
02235>       [L/S/n= 4800./ .870/.035]
02236>       {Vmax= 1.693:Dmax=  .679}
02237> R0099:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02238>     SAVE HYD                 1.0 08:R5         627.61    4.054 No_date    5:35   15.43  n/a     .000
02239>       fname :R5.0099
02240>       remark:Routing Hydrograph for R5
02241> R0099:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02242>     CALIB NASHYD             1.0 09:B2         255.45    3.895 No_date    3:55   25.68 .345     .000
02243>       [CN= 68.8: N= 3.00: Tp= 2.39]
02244> R0099:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02245>     SAVE HYD                 1.0 09:B2         255.45    3.895 No_date    3:55   25.68  n/a     .000
02246>       fname :B2.0099
02247>       remark:Routing Hydrograph for B2
02248> R0099:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02249>     ADD HYD                  1.0 08:R5         627.61    4.054 No_date    5:35   15.43  n/a     .000
02250>                        +     1.0 09:B2         255.45    3.895 No_date    3:55   25.68  n/a     .000
02251>                    SUM=      1.0 01:N2         883.06    7.335 No_date    4:43   18.40  n/a     .000
02252> R0099:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02253>     SAVE HYD                 1.0 01:N2         883.06    7.335 No_date    4:43   18.40  n/a     .000
02254>       fname :N2.0099
02255>       remark:Hydrograph for N2
02256> R0099:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02257>     CALIB NASHYD             1.0 02:B3         336.77    2.286 No_date    4:41   14.40 .193     .000
02258>       [CN= 53.9: N= 3.00: Tp= 3.10]
02259> R0099:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02260>     SAVE HYD                 1.0 02:B3         336.77    2.286 No_date    4:41   14.40  n/a     .000
02261>       fname :B3.0099
02262>       remark:Routing Hydrograph for B3
02263> R0099:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02264>     ADD HYD                  1.0 01:N2         883.06    7.335 No_date    4:43   18.40  n/a     .000
02265>                        +     1.0 02:B3         336.77    2.286 No_date    4:41   14.40  n/a     .000
02266>                    SUM=      1.0 03:N4        1219.83    9.621 No_date    4:43   17.29  n/a     .000
02267> R0099:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02268>     SAVE HYD                 1.0 03:N4        1219.83    9.621 No_date    4:43   17.29  n/a     .000
02269>       fname :N4.0099
02270>       remark:Hydrograph for N4
02271> R0099:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02272>     ROUTE CHANNEL   ->       1.0 03:N4        1219.83    9.621 No_date    4:43   17.29  n/a     .000
02273>       [RDT= 1.00] out<-      1.0 04:R6        1219.83    9.483 No_date    5:10   17.29  n/a     .000
02274>       [L/S/n= 1500./ .480/.035]
02275>       {Vmax= 1.372:Dmax= 1.074}
02276> R0099:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02277>     SAVE HYD                 1.0 04:R6        1219.83    9.483 No_date    5:10   17.29  n/a     .000
02278>       fname :R6.0099
02279>       remark:Routing Hydrograph for R6
02280> R0099:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02281>     CALIB NASHYD             1.0 06:B5         224.06    1.759 No_date    4:12   14.24 .191     .000
02282>       [CN= 53.7: N= 3.00: Tp= 2.60]
02283> R0099:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02284>     SAVE HYD                 1.0 06:B5         224.06    1.759 No_date    4:12   14.24  n/a     .000
02285>       fname :B5.0099
02286>       remark:Routing Hydrograph for B5
02287> R0099:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02288>     ADD HYD                  1.0 06:B5         224.06    1.759 No_date    4:12   14.24  n/a     .000
02289>                        +     1.0 04:R6        1219.83    9.483 No_date    5:10   17.29  n/a     .000
02290>                    SUM=      1.0 08:N5        1443.89   11.068 No_date    5:06   16.82  n/a     .000
02291> R0099:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02292>     SAVE HYD                 1.0 08:N5        1443.89   11.068 No_date    5:06   16.82  n/a     .000
02293>       fname :N5.0099
02294>       remark:Hydrograph for N5
02295> R0099:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02296>     ROUTE CHANNEL   ->       1.0 08:N5        1443.89   11.068 No_date    5:06   16.82  n/a     .000
02297>       [RDT= 1.00] out<-      1.0 09:R7        1443.89   10.329 No_date    5:52   16.82  n/a     .000
02298>       [L/S/n= 4500./ .240/.035]
02299>       {Vmax= 1.282:Dmax= 1.091}
02300> R0099:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02301>     SAVE HYD                 1.0 09:R7        1443.89   10.329 No_date    5:52   16.82  n/a     .000
02302>       fname :R7.0099
02303>       remark:Routing Hydrograph for R7
02304> R0099:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02305>     CALIB NASHYD             1.0 01:B6         329.90    6.176 No_date    3:57   32.29 .434     .000
02306>       [CN= 75.4: N= 3.00: Tp= 2.46]
02307> R0099:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02308>     SAVE HYD                 1.0 01:B6         329.90    6.176 No_date    3:57   32.29  n/a     .000
02309>       fname :B6.0099
02310>       remark:Routing Hydrograph for B6
02311> R0099:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02312>     ADD HYD                  1.0 09:R7        1443.89   10.329 No_date    5:52   16.82  n/a     .000
02313>                        +     1.0 01:B6         329.90    6.176 No_date    3:57   32.29  n/a     .000
02314>                    SUM=      1.0 02:N6        1773.79   15.104 No_date    5:09   19.70  n/a     .000
02315> R0099:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02316>     SAVE HYD                 1.0 02:N6        1773.79   15.104 No_date    5:09   19.70  n/a     .000
02317>       fname :N6.0099
02318>       remark:Hydrograph for N6
02319> # Main channel combination with Trib A
02320> R0099:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02321>     ADD HYD                  1.0 05:N12        649.24    7.445 No_date    4:10   19.45  n/a     .000
02322>                        +     1.0 07:N22       1042.46    8.694 No_date    4:14   14.69  n/a     .000
02323>                    SUM=      1.0 03:N23       1691.70   16.133 No_date    4:11   16.51  n/a     .000
02324> R0099:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02325>     SAVE HYD                 1.0 03:N23       1691.70   16.133 No_date    4:11   16.51  n/a     .000
02326>       fname :N23.0099
02327>       remark:Hydrograph for N23/N24
02328> # Main channel combination with Trib B
02329> R0099:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02330>     ADD HYD                  1.0 03:N23       1691.70   16.133 No_date    4:11   16.51  n/a     .000
02331>                        +     1.0 02:N6        1773.79   15.104 No_date    5:09   19.70  n/a     .000
02332>                    SUM=      1.0 04:N25       3465.49   30.419 No_date    4:36   18.14  n/a     .000
02333> R0099:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02334>     SAVE HYD                 1.0 04:N25       3465.49   30.419 No_date    4:36   18.14  n/a     .000
02335>       fname :N25.0099
02336>       remark:Hydrograph for N25/N26
02337> # Main channel combination with Catchment C
02338> R0099:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02339>     CALIB NASHYD             1.0 06:C1        1414.40   13.962 No_date    4:55   22.76 .306     .000
02340>       [CN= 65.5: N= 3.00: Tp= 3.40]
02341> R0099:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02342>     SAVE HYD                 1.0 06:C1        1414.40   13.962 No_date    4:55   22.76  n/a     .000
02343>       fname :C1.0099
02344>       remark:Routing Hydrograph for C1
02345> R0099:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02346>     ADD HYD                  1.0 04:N25       3465.49   30.419 No_date    4:36   18.14  n/a     .000
02347>                        +     1.0 06:C1        1414.40   13.962 No_date    4:55   22.76  n/a     .000
02348>                    SUM=      1.0 08:N27       4879.89   44.282 No_date    4:38   19.48  n/a     .000
02349> R0099:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02350>     SAVE HYD                 1.0 08:N27       4879.89   44.282 No_date    4:38   19.48  n/a     .000
02351>       fname :N27.0099
02352>       remark:Hydrograph for N27
02353> # Main channel
02354> R0099:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02355>     ROUTE CHANNEL   ->       1.0 08:N27       4879.89   44.282 No_date    4:38   19.48  n/a     .000
02356>       [RDT= 1.00] out<-      1.0 09:R8        4879.89   35.157 No_date    6:23   19.48  n/a     .000
02357>       [L/S/n= 2700./ .050/.035]
02358>       {Vmax=  .425:Dmax= 2.847}
02359> R0099:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02360>     SAVE HYD                 1.0 09:R8        4879.89   35.157 No_date    6:23   19.48  n/a     .000
02361>       fname :R8.0099
02362>       remark:Routing Hydrograph for R8
02363> # Updated catchment M4
02364> R0099:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02365>     CALIB NASHYD             1.0 01:M4         354.74    7.754 No_date    3:45   35.20 .473     .000
02366>       [CN= 78.0: N= 3.00: Tp= 2.27]
02367> R0099:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02368>     SAVE HYD                 1.0 01:M4         354.74    7.754 No_date    3:45   35.20  n/a     .000
02369>       fname :M4.0099
02370>       remark:Routing Hydrograph for M4
02371> # Creekside Subdivision - Post Development
02372> R0099:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02373>     CALIB STANDHYD           1.0 02:CRK        24.63    6.678 No_date    1:03   55.78 .749     .000
02374>       [XIMP=.53:TIMP=.63]
02375>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
02376>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
02377>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 405.:MNI=.013:SCI=  .0]
02378> # Creekside Subdivision - SWM Pond Routing
02379> R0099:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02380>     ROUTE RESERVOIR ->       1.0 02:CRK        24.63    6.678 No_date    1:03   55.78  n/a     .000
02381>                        out <=    1.0 03:Pond-Out   24.63    5.760 No_date    1:08   55.78  n/a     .000
02382>                   overflow <=    1.0 04:Pond-Ovf     .00     .000 No_date    0:00    .00  n/a     .000
02383>     {MxStoUsed=.4849E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
02384> R0099:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02385>     ADD HYD                  1.0 01:M4         354.74    7.754 No_date    3:45   35.20  n/a     .000
02386>                        +     1.0 03:Pond-Out   24.63    5.760 No_date    1:08   55.78  n/a     .000
02387>                        +     1.0 04:Pond-Ovf     .00     .000 No_date    0:00    .00  n/a     .000
02388>                        +     1.0 09:R8        4879.89   35.157 No_date    6:23   19.48  n/a     .000
02389>                    SUM=      1.0 05:N28       5259.26   39.291 No_date    5:56   20.71  n/a     .000
02390> R0099:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02391>     SAVE HYD                 1.0 05:N28       5259.26   39.291 No_date    5:56   20.71  n/a     .000
02392>       fname :N28.0099
02393>       remark:Hydrograph for N28
02394>   ** END OF RUN :  101
02395>
02396> ************************************************************************************************
02397>
02398>
02399>
02400>
02401>
02402>  RUN#:COMMAND#
02403> R0102:C00001------------------------------------------------------------------------------------
02404>       START
02405>       [TZERO =    .00 hrs on        0]
02406>       [METOUT=   2   (1=imperial, 2=metric output)]
02407>       [NSTORM=   1 ]
02408>       [NRUN  = 0102 ]
02409> #*************************************************************************
02410> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
02411> #  Date        : 2024-04-16
02412> #  Modeller    : [   PP    ]
02413> #  Company     : J.F. Sabourin and Associates
02414> #  License #   : 2549237
02415> #*************************************************************************
02416> R0102:C00002------------------------------------------------------------------------------------
02417>       READ STORM
02418>       Filename = storm.001
02419>       Comment  = 2 Year 24 Hour SCS storm
02420>       [SDT=30.00:SDUR=  24.00:PTOT=  50.07]
02421> R0102:C00003------------------------------------------------------------------------------------
02422>       DEFAULT VALUES
02423>       Filename = C:\Temp\temp\FlowTal.val
02424>       ICASEdv  = 1 (read and print data)
02425>       FileTitle= File comment: [RVCA Flowing Creek FPM]
02426>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02427>       Horton's infiltration equation parameters:
02428>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02429>       Parameters for PERVIOUS surfaces in STANDHYD:
02430>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
02431>       Parameters for IMPERVIOUS surfaces in STANDHYD:
02432>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
02433>       Parameters used in NASHYD:
02434>       [Ia=   1.50 mm] [N= 3.00]
02435>       Average monthly Pan Evaporation data in    (mm)
02436>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02437>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02438>       Average monthly Potential Evapotranspiration in    (mm)
02439>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02440>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02441> R0102:C00004------------------------------------------------------------------------------------
02442>  -------------
02443>  | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
02444>
02445>
02446>
02447>  -------------
02448> # Main Channel
02449> R0102:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02450>     CALIB NASHYD             1.0 01:M1         136.59     .386 No_date   13:58    5.88 .117     .000
02451>       [CN= 53.5: N= 3.00: Tp= 1.64]
02452> R0102:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02453>     SAVE HYD                 1.0 01:M1         136.59     .386 No_date   13:58    5.88  n/a     .000
02454>       fname :M1.0102
02455>       remark:Runoff Hydrograph for M1
02456> R0102:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02457>     ROUTE CHANNEL   ->       1.0 01:M1         136.59     .386 No_date   13:58    5.88  n/a     .000
02458>       [RDT= 1.00] out<-      1.0 02:R1         136.59     .274 No_date   15:26    5.88  n/a     .000
02459>       [L/S/n= 3000./ .550/.035]
02460>       {Vmax=  .504:Dmax=  .132}
02461> R0102:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02462>     SAVE HYD                 1.0 02:R1         136.59     .274 No_date   15:26    5.88  n/a     .000
02463>       fname :R1.0102
02464>       remark:Routing Hydrograph for R1
02465> R0102:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02466>     CALIB NASHYD             1.0 03:M2         372.64     .961 No_date   14:00    5.45 .109     .000
02467>       [CN= 52.2: N= 3.00: Tp= 1.65]
02468> R0102:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02469>     SAVE HYD                 1.0 03:M2         372.64     .961 No_date   14:00    5.45  n/a     .000
02470>       fname :M2.0102
02471>       remark:Routing Hydrograph for M2
02472> R0102:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02473>     ADD HYD                  1.0 02:R1         136.59     .274 No_date   15:26    5.88  n/a     .000
02474>                        +     1.0 03:M2         372.64     .961 No_date   14:00    5.45  n/a     .000
02475>                    SUM=      1.0 04:N21        509.23    1.174 No_date   14:15    5.56  n/a     .000
02476> R0102:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02477>     SAVE HYD                 1.0 04:N21        509.23    1.174 No_date   14:15    5.56  n/a     .000
02478>       fname :N21.0102
02479>       remark:Hydrograph for N21
02480> R0102:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02481>     ROUTE CHANNEL   ->       1.0 04:N21        509.23    1.174 No_date   14:15    5.56  n/a     .000
02482>       [RDT= 1.00] out<-      1.0 05:R2         509.23     .724 No_date   16:32    5.56  n/a     .000
02483>       [L/S/n= 4000./ .180/.035]
02484>       {Vmax=  .430:Dmax=  .239}
02485> R0102:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02486>     SAVE HYD                 1.0 05:R2         509.23     .724 No_date   16:32    5.56  n/a     .000
02487>       fname :R2.0102
02488>       remark:Routing Hydrograph for R2
02489> R0102:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02490>     CALIB NASHYD             1.0 06:M3         533.23    1.301 No_date   15:00    6.72 .134     .000
02491>       [CN= 56.0: N= 3.00: Tp= 2.47]
02492> R0102:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02493>     SAVE HYD                 1.0 06:M3         533.23    1.301 No_date   15:00    6.72  n/a     .000
02494>       fname :M3.0102
02495>       remark:Routing Hydrograph for M3
02496> R0102:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02497>     ADD HYD                  1.0 06:M3         533.23    1.301 No_date   15:00    6.72  n/a     .000
02498>                        +     1.0 05:R2         509.23     .724 No_date   16:32    5.56  n/a     .000
02499>                    SUM=      1.0 07:N22       1042.46    1.956 No_date   15:28    6.16  n/a     .000
02500> R0102:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02501>     SAVE HYD                 1.0 07:N22       1042.46    1.956 No_date   15:28    6.16  n/a     .000
02502>       fname :N22.0102
02503>       remark:Hydrograph for N22
02504> # Trib A
02505> R0102:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02506>     CALIB NASHYD             1.0 08:A1          86.15     .263 No_date   14:11    6.75 .135     .000
02507>       [CN= 56.1: N= 3.00: Tp= 1.83]
02508> R0102:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02509>     SAVE HYD                 1.0 08:A1          86.15     .263 No_date   14:11    6.75  n/a     .000
02510>       fname :A1.0102
02511>       remark:Runoff Hydrograph for A1
02512> R0102:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02513>     ROUTE CHANNEL   ->       1.0 08:A1          86.15     .263 No_date   14:11    6.75  n/a     .000
02514>       [RDT= 1.00] out<-      1.0 09:R3          86.15     .215 No_date   15:29    6.75  n/a     .000
02515>       [L/S/n= 2500./ .600/.035]
02516>       {Vmax=  .538:Dmax=  .096}
02517> R0102:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02518>     SAVE HYD                 1.0 09:R3          86.15     .215 No_date   15:29    6.75  n/a     .000
02519>       fname :R3.0102
02520>       remark:Routing Hydrograph for R3
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02521> R0102:c000023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02522>      CALIB NASHYD           1.0 01:A2          246.39     .930 No_date   14:19   8.62 .172    .000
02523>        [CN= 61.0: N= 3.00: Tp= 1.99]
02524> R0102:c000024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02525>      SAVE HYD               1.0 01:A2          246.39     .930 No_date   14:19   8.62 n/a     .000
02526>        fname :A2.0102
02527>        remark:Routing Hydrograph for A2
02528> R0102:c000025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02529>      ADD HYD                1.0 01:A2          246.39     .930 No_date   14:19   8.62 n/a     .000
02530>                       +     1.0 09:R3           86.15     .215 No_date   15:29   6.75 n/a     .000
02531>                     SUM=    1.0 02:N11         332.54    1.116 No_date   14:31   8.14 n/a     .000
02532> R0102:c000026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02533>      SAVE HYD               1.0 02:N11         332.54    1.116 No_date   14:31   8.14 n/a     .000
02534>        fname :N11.0102
02535>        remark:Hydrograph for N11
02536> R0102:c000027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02537>      ROUTE CHANNEL   ->     1.0 02:N11         332.54    1.116 No_date   14:31   8.14 n/a     .000
02538>        [RDT= 1.00] out<-    1.0 03:R4          332.54     .895 No_date   15:44   8.14 n/a     .000
02539>        [L/S/n= 3000./ .200/.035]
02540>        {Vmax=  .555:Dmax=  .219}
02541> R0102:c000028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02542>      SAVE HYD               1.0 03:R4          332.54     .895 No_date   15:44   8.14 n/a     .000
02543>        fname :R4.0102
02544>        remark:Routing Hydrograph for R4
02545> R0102:c000029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02546>      CALIB NASHYD           1.0 04:A3          316.70    1.174 No_date   14:42   9.39 .187    .000
02547>        [CN= 62.8: N= 3.00: Tp= 2.31]
02548> R0102:c000030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02549>      SAVE HYD               1.0 04:A3          316.70    1.174 No_date   14:42   9.39 n/a     .000
02550>        fname :A3.0102
02551>        remark:Routing Hydrograph for A3
02552> R0102:c000031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02553>      ADD HYD                1.0 04:A3          316.70    1.174 No_date   14:42   9.39 n/a     .000
02554>                       +     1.0 03:R4          332.54     .895 No_date   15:44   8.14 n/a     .000
02555>                     SUM=    1.0 05:N12         649.24    2.008 No_date   15:18   8.75 n/a     .000
02556> R0102:c000032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02557>      SAVE HYD               1.0 05:N12         649.24    2.008 No_date   15:18   8.75 n/a     .000
02558>        fname :N12.0102
02559>        remark:Hydrograph for N12
02560> # Trib B
02561> R0102:c000033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02562>      CALIB NASHYD           1.0 06:B1          627.61    1.190 No_date   16:16   6.55 .131    .000
02563>        [CN= 55.5: N= 3.00: Tp= 3.36]
02564> R0102:c000034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02565>      SAVE HYD               1.0 06:B1          627.61    1.190 No_date   16:16   6.55 n/a     .000
02566>        fname :B1.0102
02567>        remark:Runoff Hydrograph for B1
02568> R0102:c000035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02569>      ROUTE CHANNEL   ->     1.0 06:B1          627.61    1.190 No_date   16:16   6.55 n/a     .000
02570>        [RDT= 1.00] out<-    1.0 08:R5          627.61    1.121 No_date   17:21   6.55 n/a     .000
02571>        [L/S/n= 4800./ .870/.035]
02572>        {Vmax= 1.109:Dmax=  .319}
02573> R0102:c000036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02574>      SAVE HYD               1.0 08:R5          627.61    1.121 No_date   17:21   6.55 n/a     .000
02575>        fname :R5.0102
02576>        remark:Routing Hydrograph for R5
02577> R0102:c000037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02578>      CALIB NASHYD           1.0 09:B2          255.45    1.242 No_date   14:44  12.33 .246    .000
02579>        [CN= 68.8: N= 3.00: Tp= 2.39]
02580> R0102:c000038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02581>      SAVE HYD               1.0 09:B2          255.45    1.242 No_date   14:44  12.33 n/a     .000
02582>        fname :B2.0102
02583>        remark:Routing Hydrograph for B2
02584> R0102:c000039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02585>      ADD HYD                1.0 08:R5          627.61    1.121 No_date   17:21   6.55 n/a     .000
02586>                       +     1.0 09:B2          255.45    1.242 No_date   14:44  12.33 n/a     .000
02587>                     SUM=    1.0 01:N2          883.06    2.103 No_date   16:05   8.22 n/a     .000
02588> R0102:c000040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02589>      SAVE HYD               1.0 01:N2          883.06    2.103 No_date   16:05   8.22 n/a     .000
02590>        fname :N2.0102
02591>        remark:Hydrograph for N2
02592> R0102:c000041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02593>      CALIB NASHYD           1.0 02:B3          336.77     .614 No_date   15:56   6.00 .120    .000
02594>        [CN= 53.9: N= 3.00: Tp= 3.10]
02595> R0102:c000042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02596>      SAVE HYD               1.0 02:B3          336.77     .614 No_date   15:56   6.00 n/a     .000
02597>        fname :B3.0102
02598>        remark:Routing Hydrograph for B3
02599> R0102:c000043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02600>      ADD HYD                1.0 01:N2          883.06    2.103 No_date   16:05   8.22 n/a     .000
02601>                       +     1.0 02:B3          336.77     .614 No_date   15:56   6.00 n/a     .000
02602>                     SUM=    1.0 03:N4         1219.83    2.717 No_date   16:01   7.61 n/a     .000
02603> R0102:c000044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02604>      SAVE HYD               1.0 03:N4         1219.83    2.717 No_date   16:01   7.61 n/a     .000
02605>        fname :N4.0102
02606>        remark:Hydrograph for N4
02607> R0102:c000045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02608>      ROUTE CHANNEL   ->     1.0 03:N4         1219.83    2.717 No_date   16:01   7.61 n/a     .000
02609>        [RDT= 1.00] out<-    1.0 04:R6         1219.83    2.701 No_date   16:18   7.61 n/a     .000
02610>        [L/S/n= 1500./ .480/.035]
02611>        {Vmax= 1.132:Dmax=  .527}
02612> R0102:c000046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02613>      SAVE HYD               1.0 04:R6         1219.83    2.701 No_date   16:18   7.61 n/a     .000
02614>        fname :R6.0102
02615>        remark:Routing Hydrograph for R6
02616> R0102:c000047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02617>      CALIB NASHYD           1.0 06:B5          224.06     .456 No_date   15:13   5.92 .118    .000
02618>        [CN= 53.7: N= 3.00: Tp= 2.60]
02619> R0102:c000048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02620>      SAVE HYD               1.0 06:B5          224.06     .456 No_date   15:13   5.92 n/a     .000
02621>        fname :B5.0102
02622>        remark:Routing Hydrograph for B5
02623> R0102:c000049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02624>      ADD HYD                1.0 06:B5          224.06     .456 No_date   15:13   5.92 n/a     .000
02625>                       +     1.0 04:R6         1219.83    2.701 No_date   16:18   7.61 n/a     .000
02626>                     SUM=    1.0 08:N5         1443.89    3.130 No_date   16:09   7.35 n/a     .000
02627> R0102:c000050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02628>      SAVE HYD               1.0 08:N5         1443.89    3.130 No_date   16:09   7.35 n/a     .000
02629>        fname :N5.0102
02630>        remark:Hydrograph for N5
02631> R0102:c000051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02632>      ROUTE CHANNEL   ->     1.0 08:N5         1443.89    3.130 No_date   16:09   7.35 n/a     .000
02633>        [RDT= 1.00] out<-    1.0 09:R7         1443.89    2.792 No_date   17:32   7.35 n/a     .000
02634>        [L/S/n= 4500./ .240/.035]
02635>        {Vmax=  .821:Dmax=  .508}
02636> R0102:c000052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02637>      SAVE HYD               1.0 09:R7         1443.89    2.792 No_date   17:32   7.35 n/a     .000
02638>        fname :R7.0102
02639>        remark:Routing Hydrograph for R7
02640> R0102:c000053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02641>      CALIB NASHYD           1.0 01:B6          329.90    2.132 No_date   14:45  16.40 .328    .000
02642>        [CN= 75.4: N= 3.00: Tp= 2.46]
02643> R0102:c000054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02644>      SAVE HYD               1.0 01:B6          329.90    2.132 No_date   14:45  16.40 n/a     .000
02645>        fname :B6.0102
02646>        remark:Routing Hydrograph for B6
02647> R0102:c000055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02648>      ADD HYD                1.0 09:R7         1443.89    2.792 No_date   17:32   7.35 n/a     .000
02649>                       +     1.0 01:B6          329.90    2.132 No_date   14:45  16.40 n/a     .000
02650>                     SUM=    1.0 02:N6         1773.79    4.348 No_date   16:29   9.03 n/a     .000
02651> R0102:c000056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02652>      SAVE HYD               1.0 02:N6         1773.79    4.348 No_date   16:29   9.03 n/a     .000
02653>        fname :N6.0102
02654>        remark:Hydrograph for N6
02655> # Main channel combination with Trib A
02656> R0102:c000057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02657>      ADD HYD                1.0 05:N12         649.24    2.008 No_date   15:18   8.75 n/a     .000
02658>                       +     1.0 07:N22        1042.46    1.956 No_date   15:28   6.16 n/a     .000
02659>                     SUM=    1.0 03:N23        1691.70    3.961 No_date   15:23   7.15 n/a     .000
02660> R0102:c000058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02661>      SAVE HYD               1.0 03:N23        1691.70    3.961 No_date   15:23   7.15 n/a     .000
02662>        fname :N23.0102
02663>        remark:Hydrograph for N23/N24
02664> # Main channel combination with Trib B
02665> R0102:c000059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02666>      ADD HYD                1.0 03:N23        1691.70    3.961 No_date   15:23   7.15 n/a     .000
02667>                       +     1.0 02:N6         1773.79    4.348 No_date   16:29   9.03 n/a     .000
02668>                     SUM=    1.0 04:N25        3465.49    8.130 No_date   16:02   8.11 n/a     .000
02669> R0102:c000060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02670>      SAVE HYD               1.0 04:N25        3465.49    8.130 No_date   16:02   8.11 n/a     .000
02671>        fname :N25.0102
02672>        remark:Hydrograph for N25/N26
02673> # Main channel combination with Catchment C
02674> R0102:c000061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02675>      CALIB NASHYD           1.0 06:C1         1414.40    4.487 No_date   16:06  10.62 .212    .000
02676>        [CN= 65.5: N= 3.00: Tp= 3.40]
02677> R0102:c000062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02678>      SAVE HYD               1.0 06:C1         1414.40    4.487 No_date   16:06  10.62 n/a     .000
02679>        fname :C1.0102
02680>        remark:Routing Hydrograph for C1
02681> R0102:c000063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02682>      ADD HYD                1.0 04:N25        3465.49    8.130 No_date   16:02   8.11 n/a     .000
02683>                       +     1.0 06:C1         1414.40    4.487 No_date   16:06  10.62 n/a     .000
02684>                     SUM=    1.0 08:N27        4879.89   12.616 No_date   16:02   8.84 n/a     .000
02685> R0102:c000064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02686>      SAVE HYD               1.0 08:N27        4879.89   12.616 No_date   16:02   8.84 n/a     .000
02687>        fname :N27.0102
02688>        remark:Hydrograph for N27
02689> # Main channel
02690> R0102:c000065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02691>      ROUTE CHANNEL   ->     1.0 08:N27        4879.89   12.616 No_date   16:02   8.84 n/a     .000
02692>        [RDT= 1.00] out<-    1.0 09:R8         4879.89   11.726 No_date   16:49   8.84 n/a     .000
02693>        [L/S/n= 2700./ .050/.035]
02694>        {Vmax=  .743:Dmax= 1.572}
02695> R0102:c000066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02696>      SAVE HYD               1.0 09:R8         4879.89   11.726 No_date   16:49   8.84 n/a     .000
02697>        fname :R8.0102
02698>        remark:Routing Hydrograph for R8
02699> # Updated catchment M4
02700> R0102:c000067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02701>      CALIB NASHYD           1.0 01:M4          354.74    2.737 No_date   14:29   18.27 .365    .000
02702>        [CN= 78.0: N= 3.00: Tp= 2.27]
02703> R0102:c000068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02704>      SAVE HYD               1.0 01:M4          354.74    2.737 No_date   14:29   18.27 n/a     .000
02705>        fname :M4.0102
02706>        remark:Routing Hydrograph for M4
02707> # Creekside Subdivision - Post Development
02708> R0102:c000069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02709>      CALIB STANDHYD         1.0 02:CRK          24.63    1.641 No_date   12:03   30.74 .614    .000
02710>        [XIMP=.53:TIMP=.63]
02711>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
02712>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
02713>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 405.:MNI=.013:SCI=   .0]
02714> # Creekside Subdivision - SWM Pond Routing
02715> R0102:c000070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02716>      ROUTE RESERVOIR ->     1.0 02:CRK          24.63    1.641 No_date   12:03   30.74 n/a     .000
02717>                        out <=   1.0 03:Pond-Out      24.63     .860 No_date   12:22   30.74 n/a     .000
02718>                overflow <=    1.0 04:Pond-Ovf        .00     .000 No_date   0:00     .00 n/a     .000
02719>        {MxStoUsed=.4421E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
02720> R0102:c000071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02721>      ADD HYD                1.0 01:M4          354.74    2.737 No_date   14:29   18.27 n/a     .000
02722>                       +     1.0 03:Pond-Out      24.63     .860 No_date   12:22   30.74 n/a     .000
02723>                       +     1.0 04:Pond-Ovf        .00     .000 No_date   0:00     .00 n/a     .000
02724>                     SUM=    1.0 05:N28         4879.89   11.726 No_date   16:49    8.84 n/a     .000
02725>                     SUM=    1.0 05:N28         5259.26   13.705 No_date   16:26    9.58 n/a     .000
02726> R0102:c000072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02727>      SAVE HYD               1.0 05:N28         5259.26   13.705 No_date   16:26    9.58 n/a     .000
02728>        fname :N28.0102
02729>        remark:Hydrograph for N28
02730>  ** END OF RUN :  104
02731>
02732> ************************************************************************************************
02733>
02734>
02735>
02736>
02737>
02738> RUN#:COMMAND#
02739> R0105:c000001------------------------------------------------------------------------------------
02740>      START
02741>        [TZERO =    .00 hrs on        0]
02742>        [METOUT=   2     (1=imperial, 2=metric output)]
02743>        [NSTORM=   1 ]
02744>        [NRUN  = 0105 ]
02745> ************************************************************************
02746> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
02747> #  Date       : 2024-04-16
02748> #  Modeller   : [     FP     ]
02749> #  Company    : J.F. Sabourin and Associates
02750> #  License #  :  2549237
02751> ************************************************************************
02752> R0105:c000002------------------------------------------------------------------------------------
02753>      READ STORM
02754>        Filename = storm.001
02755>        Comment  = 5 Year 24 Hour SCS storm
02756>        [SDT=30.00:SDUR=  24.00:PTOT=  70.01]
02757> R0105:c000003------------------------------------------------------------------------------------
02758>      DEFAULT VALUES
02759>        Filename = C:\Temp\temp\FlowVal.val
02760>        ICASEdv  = 1 (read and print data)
02761>        FileTitle= File comment: [SVCA Flowing Creek FPM]
02762>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02763>        Horton's infiltration equation parameters:
02764>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02765>        Parameters for PERVIOUS surfaces in STANDHYD:
02766>        [IAper=  4.67 mm] [LGP=40.00 m] [MNP= .250]
02767>        Parameters for IMPERVIOUS surfaces in STANDHYD:
02768>        [IAimp=  1.57 mm] [CLI= 1.50]   [MNI= .013]
02769>        Parameters used in NASHYD:
02770>        [Ia=  1.50 mm] [N= 3.00]
02771>        Average monthly Pan Evaporation data in    (mm)
02772>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02773>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02774>        Average monthly Potential Evapotranspiration in    (mm)
02775>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02776>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02777> R0105:c000004------------------------------------------------------------------------------------
02778>  -------------
02779>  | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
02780>
02781>
02782>
02783>  -------------
02784> # Main Channel
02785> R0105:c000005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02786>      CALIB NASHYD           1.0 01:M1          136.59     .862 No_date   13:52   12.45 .178    .000
02787>        [CN= 53.5: N= 3.00: Tp= 1.64]
02788> R0105:c000006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02789>      SAVE HYD               1.0 01:M1          136.59     .862 No_date   13:52   12.45 n/a     .000
02790>        fname :M1.0105
02791>        remark:Runoff Hydrograph for M1
02792> R0105:c000007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02793>      ROUTE CHANNEL   ->     1.0 01:M1          136.59     .862 No_date   13:52   12.45 n/a     .000
02794>        [RDT= 1.00] out<-    1.0 02:R1          136.59     .710 No_date   14:51   12.45 n/a     .000
02795>        [L/S/n= 3000./ .550/.035]
02796>        {Vmax=  .725:Dmax=  .220}
02797> R0105:c000008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02798>      SAVE HYD               1.0 02:R1          136.59     .710 No_date   14:51   12.45 n/a     .000
02799>        fname :R1.0105
02800>        remark:Routing Hydrograph for R1
02801> R0105:c000009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02802>      CALIB NASHYD           1.0 03:M2          372.64    2.184 No_date   13:53   11.70 .167    .000
02803>        [CN= 52.2: N= 3.00: Tp= 1.65]
02804> R0105:c000010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02805>      SAVE HYD               1.0 03:M2          372.64    2.184 No_date   13:53   11.70 n/a     .000
02806>        fname :M2.0105
02807>        remark:Routing Hydrograph for M2
02808> R0105:c000011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02809>      ADD HYD                1.0 02:R1          136.59     .710 No_date   14:51   12.45 n/a     .000
02810>                       +     1.0 03:M2          372.64    2.184 No_date   13:53   11.70 n/a     .000
02811>                     SUM=    1.0 04:N21         509.23    2.783 No_date   14:12   11.90 n/a     .000
02812> R0105:c000012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02813>      SAVE HYD               1.0 04:N21         509.23    2.783 No_date   14:12   11.90 n/a     .000
02814>        fname :N21.0105
02815>        remark:Hydrograph for N21
02816> R0105:c000013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02817>      ROUTE CHANNEL   ->     1.0 04:N21         509.23    2.783 No_date   14:12   11.90 n/a     .000
02818>        [RDT= 1.00] out<-    1.0 05:R2          509.23    1.999 No_date   15:31   11.90 n/a     .000
02819>        [L/S/n= 4000./ .180/.035]
02820>        {Vmax=  .637:Dmax=  .411}
02821> R0105:c000014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02822>      SAVE HYD               1.0 05:R2          509.23    1.999 No_date   15:31   11.90 n/a     .000
02823>        fname :R2.0105
02824>        remark:Routing Hydrograph for R2
02825> R0105:c000015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02826>      CALIB NASHYD           1.0 06:M3          533.23    2.797 No_date   14:53   13.91 .199    .000
02827>        [CN= 56.0: N= 3.00: Tp= 2.47]
02828> R0105:c000016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02829>      SAVE HYD               1.0 06:M3          533.23    2.797 No_date   14:53   13.91 n/a     .000
02830>        fname :M3.0105
02831>        remark:Routing Hydrograph for M3
02832> R0105:c000017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02833>      ADD HYD                1.0 06:M3          533.23    2.797 No_date   14:53   13.91 n/a     .000
02834>                       +     1.0 05:R2          509.23    1.999 No_date   15:31   11.90 n/a     .000
02835>                     SUM=    1.0 07:N22        1042.46    4.753 No_date   15:09   12.93 n/a     .000
02836> R0105:c000018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02837>      SAVE HYD               1.0 07:N22        1042.46    4.753 No_date   15:09   12.93 n/a     .000
02838>        fname :N22.0105
02839>        remark:Hydrograph for N22
02840> # Trib A
02841> R0105:c000019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02842>      CALIB NASHYD           1.0 08:A1           86.15     .568 No_date   14:05   13.95 .199    .000
02843>        [CN= 56.1: N= 3.00: Tp= 1.83]
02844> R0105:c000020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02845>      SAVE HYD               1.0 08:A1           86.15     .568 No_date   14:05   13.95 n/a     .000
02846>        fname :A1.0105
02847>        remark:Runoff Hydrograph for A1
02848> R0105:c000021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02849>      ROUTE CHANNEL   ->     1.0 08:A1           86.15     .568 No_date   14:05   13.95 n/a     .000
02850>        [RDT= 1.00] out<-    1.0 09:R3           86.15     .468 No_date   15:11   13.95 n/a     .000
02851>        [L/S/n= 2500./ .600/.035]
02852>        {Vmax=  .604:Dmax=  .164}
02853> R0105:c000022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02854>      SAVE HYD               1.0 09:R3           86.15     .468 No_date   15:11   13.95 n/a     .000
02855>        fname :R3.0105
02856>        remark:Routing Hydrograph for R3
02857> R0105:c000023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02858>      CALIB NASHYD           1.0 01:A2          246.39    1.903 No_date   14:14   17.09 .244    .000
02859>        [CN= 61.0: N= 3.00: Tp= 1.99]
02860> R0105:c000024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02861>      SAVE HYD               1.0 01:A2          246.39    1.903 No_date   14:14   17.09 n/a     .000
02862>        fname :A2.0105
02863>        remark:Routing Hydrograph for A2
02864> R0105:c000025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02865>      ADD HYD                1.0 01:A2          246.39    1.903 No_date   14:14   17.09 n/a     .000
02866>                       +     1.0 09:R3           86.15     .468 No_date   15:11   13.95 n/a     .000
02867>                     SUM=    1.0 02:N11         332.54    2.322 No_date   14:27   16.27 n/a     .000
02868> R0105:c000026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02869>      SAVE HYD               1.0 02:N11         332.54    2.322 No_date   14:27   16.27 n/a     .000
02870>        fname :N11.0105
02871>        remark:Hydrograph for N11
02872> R0105:c000027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02873>      ROUTE CHANNEL   ->     1.0 02:N11         332.54    2.322 No_date   14:27   16.27 n/a     .000
02874>        [RDT= 1.00] out<-    1.0 03:R4          332.54    1.994 No_date   15:25   16.27 n/a     .000
02875>        [L/S/n= 3000./ .200/.035]
02876>        {Vmax=  .727:Dmax=  .490}
02877> R0105:c000028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02878>      SAVE HYD               1.0 03:R4          332.54    1.994 No_date   15:25   16.27 n/a     .000
02879>        fname :R4.0105
02880>        remark:Routing Hydrograph for R4
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02881> R0105:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02882>     CALIB NASHYD           1.0 04:A3          316.70    2.360 No_date   14:37   18.35 .262     .000
02883>       [CN= 62.8: N= 3.00: Tp= 2.31]
02884> R0105:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02885>     SAVE HYD               1.0 04:A3          316.70    2.360 No_date   14:37   18.35 n/a      .000
02886>       fname :A3.0105
02887>       remark:Routing Hydrograph for A3
02888> R0105:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02889>     ADD HYD                1.0 04:A3          316.70    2.360 No_date   14:37   18.35 n/a      .000
02890>                      +     1.0 03:R4          332.54    1.994 No_date   15:25   16.27 n/a      .000
02891>                SUM=        1.0 05:N12         649.24    4.275 No_date   15:00   17.29 n/a      .000
02892> R0105:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02893>     SAVE HYD               1.0 05:N12         649.24    4.275 No_date   15:00   17.29 n/a      .000
02894>       fname :N12.0105
02895>       remark:Hydrograph for N12
02896> # Trib B
02897> R0105:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02898>     CALIB NASHYD           1.0 06:B1          627.61    2.554 No_date   16:05   13.60 .194     .000
02899>       [CN= 55.5: N= 3.00: Tp= 3.36]
02900> R0105:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02901>     SAVE HYD               1.0 06:B1          627.61    2.554 No_date   16:05   13.60 n/a      .000
02902>       fname :B1.0105
02903>       remark:Runoff Hydrograph for B1
02904> R0105:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02905>     ROUTE CHANNEL   ->     1.0 06:B1          627.61    2.554 No_date   16:05   13.60 n/a      .000
02906>       [RDT= 1.00] out<-    1.0 08:R5          627.61    2.459 No_date   16:51   13.60 n/a      .000
02907>       [L/S/n= 4800./ .870/.035]
02908>       [Vmax= 1.444:Dmax=  .504)
02909> R0105:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02910>     SAVE HYD               1.0 08:R5          627.61    2.459 No_date   16:51   13.60 n/a      .000
02911>       fname :R5.0105
02912>       remark:Routing Hydrograph for R5
02913> R0105:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02914>     CALIB NASHYD           1.0 09:B2          255.45    2.369 No_date   14:39   23.04 .329     .000
02915>       [CN= 68.8: N= 3.00: Tp= 2.39]
02916> R0105:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02917>     SAVE HYD               1.0 09:B2          255.45    2.369 No_date   14:39   23.04 n/a      .000
02918>       fname :B2.0105
02919>       remark:Routing Hydrograph for B2
02920> R0105:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02921>     ADD HYD                1.0 08:R5          627.61    2.459 No_date   16:51   13.60 n/a      .000
02922>                      +     1.0 09:B2          255.45    2.369 No_date   14:39   23.04 n/a      .000
02923>                SUM=        1.0 01:N2          883.06    4.402 No_date   15:47   16.33 n/a      .000
02924> R0105:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02925>     SAVE HYD               1.0 01:N2          883.06    4.402 No_date   15:47   16.33 n/a      .000
02926>       fname :N2.0105
02927>       remark:Hydrograph for N2
02928> R0105:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02929>     CALIB NASHYD           1.0 02:B3          336.77    1.346 No_date   15:45   12.66 .181     .000
02930>       [CN= 53.9: N= 3.00: Tp= 3.10]
02931> R0105:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02932>     SAVE HYD               1.0 02:B3          336.77    1.346 No_date   15:45   12.66 n/a      .000
02933>       fname :B3.0105
02934>       remark:Routing Hydrograph for B3
02935> R0105:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02936>     ADD HYD                1.0 01:N2          883.06    4.402 No_date   15:47   16.33 n/a      .000
02937>                      +     1.0 02:B3          336.77    1.346 No_date   15:45   12.66 n/a      .000
02938>                SUM=        1.0 03:N4         1219.83    5.748 No_date   15:47   15.32 n/a      .000
02939> R0105:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02940>     SAVE HYD               1.0 03:N4         1219.83    5.748 No_date   15:47   15.32 n/a      .000
02941>       fname :N4.0105
02942>       remark:Hydrograph for N4
02943> R0105:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02944>     ROUTE CHANNEL   ->     1.0 03:N4         1219.83    5.748 No_date   15:47   15.32 n/a      .000
02945>       [RDT= 1.00] out<-    1.0 04:R6         1219.83    5.728 No_date   16:01   15.32 n/a      .000
02946>       [L/S/n= 1500./ .480/.035]
02947>       [Vmax= 1.448:Dmax=  .821)
02948> R0105:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02949>     SAVE HYD               1.0 04:R6         1219.83    5.728 No_date   16:01   15.32 n/a      .000
02950>       fname :R6.0105
02951>       remark:Routing Hydrograph for R6
02952> R0105:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02953>     CALIB NASHYD           1.0 06:B5          224.06    1.008 No_date   15:05   12.52 .179     .000
02954>       [CN= 53.7: N= 3.00: Tp= 2.60]
02955> R0105:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02956>     SAVE HYD               1.0 06:B5          224.06    1.008 No_date   15:05   12.52 n/a      .000
02957>       fname :B5.0105
02958>       remark:Routing Hydrograph for B5
02959> R0105:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02960>     ADD HYD                1.0 06:B5          224.06    1.008 No_date   15:05   12.52 n/a      .000
02961>                      +     1.0 04:R6         1219.83    5.728 No_date   16:01   15.32 n/a      .000
02962>                SUM=        1.0 08:N5         1443.89    6.681 No_date   15:59   14.89 n/a      .000
02963> R0105:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02964>     SAVE HYD               1.0 08:N5         1443.89    6.681 No_date   15:59   14.89 n/a      .000
02965>       fname :N5.0105
02966>       remark:Hydrograph for N5
02967> R0105:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02968>     ROUTE CHANNEL   ->     1.0 08:N5         1443.89    6.681 No_date   15:59   14.89 n/a      .000
02969>       [RDT= 1.00] out<-    1.0 09:R7         1443.89    6.196 No_date   16:57   14.89 n/a      .000
02970>       [L/S/n= 4500./ .240/.035]
02971>       (Vmax= 1.078:Dmax=  .804)
02972> R0105:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02973>     SAVE HYD               1.0 09:R7         1443.89    6.196 No_date   16:57   14.89 n/a      .000
02974>       fname :R7.0105
02975>       remark:Routing Hydrograph for R7
02976> R0105:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02977>     CALIB NASHYD           1.0 01:B6          329.90    3.857 No_date   14:41   29.20 .417     .000
02978>       [CN= 75.4: N= 3.00: Tp= 2.46]
02979> R0105:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02980>     SAVE HYD               1.0 01:B6          329.90    3.857 No_date   14:41   29.20 n/a      .000
02981>       fname :B6.0105
02982>       remark:Routing Hydrograph for B6
02983> R0105:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02984>     ADD HYD                1.0 09:R7         1443.89    6.196 No_date   16:57   14.89 n/a      .000
02985>                      +     1.0 01:B6          329.90    3.857 No_date   14:41   29.20 n/a      .000
02986>                SUM=        1.0 02:N6         1773.79    9.212 No_date   16:13   17.55 n/a      .000
02987> R0105:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02988>     SAVE HYD               1.0 02:N6         1773.79    9.212 No_date   16:13   17.55 n/a      .000
02989>       fname :N6.0105
02990>       remark:Hydrograph for N6
02991> # Main channel combination with Trib A
02992> R0105:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02993>     ADD HYD                1.0 05:N12         649.24    4.275 No_date   15:00   17.29 n/a      .000
02994>                      +     1.0 07:N22        1042.46    4.753 No_date   15:09   12.93 n/a      .000
02995>                SUM=        1.0 03:N23        1691.70    9.024 No_date   15:07   14.60 n/a      .000
02996> R0105:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02997>     SAVE HYD               1.0 03:N23        1691.70    9.024 No_date   15:07   14.60 n/a      .000
02998>       fname :N23.0105
02999>       remark:Hydrograph for N23/N24
03000> # Main channel combination with Trib B
03001> R0105:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03002>     ADD HYD                1.0 03:N23        1691.70    9.024 No_date   15:07   14.60 n/a      .000
03003>                      +     1.0 02:N6         1773.79    9.212 No_date   16:13   17.55 n/a      .000
03004>                SUM=        1.0 04:N25        3465.49   17.797 No_date   15:38   16.11 n/a      .000
03005> R0105:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03006>     SAVE HYD               1.0 04:N25        3465.49   17.797 No_date   15:38   16.11 n/a      .000
03007>       fname :N25.0105
03008>       remark:Hydrograph for N25/N26
03009> # Main channel combination with Catchment C
03010> R0105:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03011>     CALIB NASHYD           1.0 06:C1         1414.40    8.770 No_date   15:59   20.33 .290     .000
03012>       [CN= 65.5: N= 3.00: Tp= 3.40]
03013> R0105:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03014>     SAVE HYD               1.0 06:C1         1414.40    8.770 No_date   15:59   20.33 n/a      .000
03015>       fname :C1.0105
03016>       remark:Routing Hydrograph for C1
03017> R0105:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03018>     ADD HYD                1.0 04:N25        3465.49   17.797 No_date   15:38   16.11 n/a      .000
03019>                      +     1.0 06:C1         1414.40    8.770 No_date   15:59   20.33 n/a      .000
03020>                SUM=        1.0 08:N27        4879.89   26.529 No_date   15:44   17.33 n/a      .000
03021> R0105:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03022>     SAVE HYD               1.0 08:N27        4879.89   26.529 No_date   15:44   17.33 n/a      .000
03023>       fname :N27.0105
03024>       remark:Hydrograph for N27
03025> # Main channel
03026> R0105:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03027>     ROUTE CHANNEL   ->     1.0 08:N27        4879.89   26.529 No_date   15:44   17.33 n/a      .000
03028>       [RDT= 1.00] out<-    1.0 09:R8         4879.89   24.092 No_date   17:07   17.33 n/a      .000
03029>       [L/S/n= 2700./ .050/.035]
03030>       (Vmax=  .646:Dmax= 2.374)
03031> R0105:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03032>     SAVE HYD               1.0 09:R8         4879.89   24.092 No_date   17:07   17.33 n/a      .000
03033>       fname :R8.0105
03034>       remark:Routing Hydrograph for R8
03035> # Updated catchment M4
03036> R0105:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03037>     CALIB NASHYD           1.0 01:M4          354.74    4.854 No_date   14:26   31.93 .456     .000
03038>       [CN= 78.0: N= 3.00: Tp= 2.27]
03039> R0105:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03040>     SAVE HYD               1.0 01:M4          354.74    4.854 No_date   14:26   31.93 n/a      .000
03041>       fname :M4.0105
03042>       remark:Routing Hydrograph for M4
03043> # Creekside Subdivision - Post Development
03044> R0105:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03045>     CALIB STANDHYD         1.0 02:CRK          24.63    2.693 No_date   12:02   45.82 .655     .000
03046>       [XIMP=.53:TIMP=.63]
03047>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03048>       [Previous    area: IAper= 4.67:SLPF=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03049>       [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 405.:MNI=.013:SCI=   .0]
03050> # Creekside Subdivision - SWM Pond Routing
03051> R0105:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03052>     ROUTE RESERVOIR ->     1.0 02:CRK          24.63    2.693 No_date   12:02   45.82 n/a      .000
03053>                  out <=    1.0 03:Pond-Out     24.63    2.634 No_date   12:04   45.82 n/a      .000
03054>            overflow <=     1.0 04:Pond-Ovf      .00     .000 No_date    0:00     .00 n/a      .000
03055>       (MxStoUsed=.4576E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
03056> R0105:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03057>     ADD HYD                1.0 01:M4          354.74    4.854 No_date   14:26   31.93 n/a      .000
03058>                      +     1.0 03:Pond-Out     24.63    2.634 No_date   12:04   45.82 n/a      .000
03059>                      +     1.0 04:Pond-Ovf      .00     .000 No_date    0:00     .00 n/a      .000
03060>                      +     1.0 09:R8          4879.89   24.092 No_date   17:07   17.33 n/a      .000
03061>                SUM=        1.0 05:N28         5259.26   27.144 No_date   16:44   18.45 n/a      .000
03062> R0105:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03063>     SAVE HYD               1.0 05:N28         5259.26   27.144 No_date   16:44   18.45 n/a      .000
03064>       fname :N28.0105
03065>       remark:Hydrograph for N28
03066>  ** END OF RUN :  109
03067>
03068>  ************************************************************************************************
03069>
03070>
03071>
03072>
03073>
03074>  RUN#:COMMAND#
03075> R0110:C00001------------------------------------------------------------------------------------
03076>      START
03077>       [TZERO =    .00 hrs on        0]
03078>       [METOUT=   2   (1=imperial, 2=metric output)]
03079>       [NSTORM=   1 ]
03080>       [NRUN  = 0110 ]
03081> #**********************************************************************
03082> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
03083> #  Date       : 2024-04-16
03084> #  Modeller   : [   PP    ]
03085> #  Company    : J.F. Sabourin and Associates
03086> #  License #  : 2549237
03087> #**********************************************************************
03088> R0110:C00002------------------------------------------------------------------------------------
03089>      READ STORM
03090>       Filename = storm.001
03091>       Comment  = 10 Year 24 Hour SCS storm
03092>       [SDT=30.00:SDUR=  24.00:PTOT=  82.59]
03093> R0110:C00003------------------------------------------------------------------------------------
03094>      DEFAULT VALUES
03095>       Filename = C:\Temp\temp\FlowVal.val
03096>       ICASEdv  = 1 (read and print data)
03097>       FileTitle= File comment: [RVCA Flowing Creek FPM]
03098>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03099>       Horton's infiltration equation parameters:
03100>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03101>       Parameters for PERVIOUS surfaces in STANDHYD:
03102>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
03103>       Parameters for IMPERVIOUS surfaces in STANDHYD:
03104>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
03105>       Parameters used in NASHYD:
03106>       [Ia=   1.50 mm] [N= 3.00]
03107>       Average monthly Pan Evaporation data in    (mm)
03108>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03109>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03110>       Average monthly Potential Evapotranspiration in    (mm)
03111>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03112>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03113> R0110:C00004------------------------------------------------------------------------------------
03114>      ------------
03115>      | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
03116>
03117>
03118>
03119>      ------------
03120> # Main Channel
03121> R0110:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03122>     CALIB NASHYD           1.0 01:M1          136.59    1.235 No_date   13:50   17.54 .212     .000
03123>       [CN= 53.5: N= 3.00: Tp= 1.64]
03124> R0110:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03125>     SAVE HYD               1.0 01:M1          136.59    1.235 No_date   13:50   17.54 n/a      .000
03126>       fname :M1.0110
03127>       remark:Runoff Hydrograph for M1
03128> R0110:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03129>     ROUTE CHANNEL   ->     1.0 01:M1          136.59    1.235 No_date   13:50   17.54 n/a      .000
03130>       [RDT= 1.00] out<-    1.0 02:R1          136.59    1.032 No_date   14:42   17.54 n/a      .000
03131>       [L/S/n= 3000./ .550/.035]
03132>       (Vmax=  .829:Dmax=  .274)
03133> R0110:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03134>     SAVE HYD               1.0 02:R1          136.59    1.032 No_date   14:42   17.54 n/a      .000
03135>       fname :R1.0110
03136>       remark:Routing Hydrograph for R1
03137> R0110:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03138>     CALIB NASHYD           1.0 03:M2          372.64    3.152 No_date   13:51   16.57 .201     .000
03139>       [CN= 52.2: N= 3.00: Tp= 1.65]
03140> R0110:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03141>     SAVE HYD               1.0 03:M2          372.64    3.152 No_date   13:51   16.57 n/a      .000
03142>       fname :M2.0110
03143>       remark:Routing Hydrograph for M2
03144> R0110:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03145>     ADD HYD                1.0 02:R1          136.59    1.032 No_date   14:42   17.54 n/a      .000
03146>                      +     1.0 03:M2          372.64    3.152 No_date   13:51   16.57 n/a      .000
03147>                SUM=        1.0 04:N21         509.23    4.073 No_date   14:05   16.83 n/a      .000
03148> R0110:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03149>     SAVE HYD               1.0 04:N21         509.23    4.073 No_date   14:05   16.83 n/a      .000
03150>       fname :N21.0110
03151>       remark:Hydrograph for N21
03152> R0110:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03153>     ROUTE CHANNEL   ->     1.0 04:N21         509.23    4.073 No_date   14:05   16.83 n/a      .000
03154>       [RDT= 1.00] out<-    1.0 05:R2          509.23    3.098 No_date   15:11   16.83 n/a      .000
03155>       [L/S/n= 4000./ .180/.035]
03156>       (Vmax=  .748:Dmax=  .521)
03157> R0110:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03158>     SAVE HYD               1.0 05:R2          509.23    3.098 No_date   15:11   16.83 n/a      .000
03159>       fname :R2.0110
03160>       remark:Routing Hydrograph for R2
03161> R0110:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03162>     CALIB NASHYD           1.0 06:M3          533.23    3.957 No_date   14:50   19.40 .235     .000
03163>       [CN= 56.0: N= 3.00: Tp= 2.47]
03164> R0110:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03165>     SAVE HYD               1.0 06:M3          533.23    3.957 No_date   14:50   19.40 n/a      .000
03166>       fname :M3.0110
03167>       remark:Routing Hydrograph for M3
03168> R0110:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03169>     ADD HYD                1.0 06:M3          533.23    3.957 No_date   14:50   19.40 n/a      .000
03170>                      +     1.0 05:R2          509.23    3.098 No_date   15:11   16.83 n/a      .000
03171>                SUM=        1.0 07:N22        1042.46    7.021 No_date   15:05   18.15 n/a      .000
03172> R0110:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03173>     SAVE HYD               1.0 07:N22        1042.46    7.021 No_date   15:05   18.15 n/a      .000
03174>       fname :N22.0110
03175>       remark:Hydrograph for N22
03176> # Trib A
03177> R0110:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03178>     CALIB NASHYD           1.0 08:A1           86.15     .804 No_date   14:03   19.46 .236     .000
03179>       [CN= 56.1: N= 3.00: Tp= 1.83]
03180> R0110:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03181>     SAVE HYD               1.0 08:A1           86.15     .804 No_date   14:03   19.46 n/a      .000
03182>       fname :A1.0110
03183>       remark:Runoff Hydrograph for A1
03184> R0110:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03185>     ROUTE CHANNEL   ->     1.0 08:A1           86.15     .804 No_date   14:03   19.46 n/a      .000
03186>       [RDT= 1.00] out<-    1.0 09:R3           86.15     .684 No_date   14:57   19.46 n/a      .000
03187>       [L/S/n= 2500./ .600/.035]
03188>       (Vmax=  .692:Dmax=  .204)
03189> R0110:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03190>     SAVE HYD               1.0 09:R3           86.15     .684 No_date   14:57   19.46 n/a      .000
03191>       fname :R3.0110
03192>       remark:Routing Hydrograph for R3
03193> R0110:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03194>     CALIB NASHYD           1.0 01:A2          246.39    2.640 No_date   14:13   23.43 .284     .000
03195>       [CN= 61.0: N= 3.00: Tp= 1.99]
03196> R0110:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03197>     SAVE HYD               1.0 01:A2          246.39    2.640 No_date   14:13   23.43 n/a      .000
03198>       fname :A2.0110
03199>       remark:Routing Hydrograph for A2
03200> R0110:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03201>     ADD HYD                1.0 01:A2          246.39    2.640 No_date   14:13   23.43 n/a      .000
03202>                      +     1.0 09:R3           86.15     .684 No_date   14:57   19.46 n/a      .000
03203>                SUM=        1.0 02:N11         332.54    3.273 No_date   14:23   22.40 n/a      .000
03204> R0110:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03205>     SAVE HYD               1.0 02:N11         332.54    3.273 No_date   14:23   22.40 n/a      .000
03206>       fname :N11.0110
03207>       remark:Hydrograph for N11
03208> R0110:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03209>     ROUTE CHANNEL   ->     1.0 02:N11         332.54    3.273 No_date   14:23   22.40 n/a      .000
03210>       [RDT= 1.00] out<-    1.0 03:R4          332.54    2.874 No_date   15:15   22.40 n/a      .000
03211>       [L/S/n= 3000./ .200/.035]
03212>       (Vmax=  .822:Dmax=  .603)
03213> R0110:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03214>     SAVE HYD               1.0 03:R4          332.54    2.874 No_date   15:15   22.40 n/a      .000
03215>       fname :R4.0110
03216>       remark:Routing Hydrograph for R4
03217> R0110:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03218>     CALIB NASHYD           1.0 04:A3          316.70    3.250 No_date   14:35   25.00 .303     .000
03219>       [CN= 62.8: N= 3.00: Tp= 2.31]
03220> R0110:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03221>     SAVE HYD               1.0 04:A3          316.70    3.250 No_date   14:35   25.00 n/a      .000
03222>       fname :A3.0110
03223>       remark:Routing Hydrograph for A3
03224> R0110:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03225>     ADD HYD                1.0 04:A3          316.70    3.250 No_date   14:35   25.00 n/a      .000
03226>                      +     1.0 03:R4          332.54    2.874 No_date   15:15   22.40 n/a      .000
03227>                SUM=        1.0 05:N12         649.24    6.044 No_date   14:55   23.67 n/a      .000
03228> R0110:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03229>     SAVE HYD               1.0 05:N12         649.24    6.044 No_date   14:55   23.67 n/a      .000
03230>       fname :N12.0110
03231>       remark:Hydrograph for N12
03232> # Trib B
03233> R0110:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03234>     CALIB NASHYD           1.0 06:B1          627.61    3.614 No_date   16:01   19.02 .230     .000
03235>       [CN= 55.5: N= 3.00: Tp= 3.36]
03236> R0110:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03237>     SAVE HYD               1.0 06:B1          627.61    3.614 No_date   16:01   19.02 n/a      .000
03238>       fname :B1.0110
03239>       remark:Runoff Hydrograph for B1
03240> R0110:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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03241>     ROUTE CHANNEL   ->     1.0 06:B1          627.61    3.614 No_date   16:01   19.02  n/a     .000
03242>       [RDT= 1.00] out<-    1.0 08:R5          627.61    3.505 No_date   16:45   19.02  n/a     .000
03243>       [L/S/n= 4800./ .870/.035]
03244>       [Vmax= 1.610:Dmax=  .618]
03245> R0110:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03246>     SAVE HYD              1.0 08:R5          627.61    3.505 No_date   16:45   19.02  n/a     .000
03247>       fname :R5.0110
03248>       remark:Routing Hydrograph for R5
03249> R0110:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03250>     CALIB NASHYD          1.0 09:B2          255.45    3.192 No_date   14:38   30.78 .373     .000
03251>       [CN= 68.8: N= 3.00: Tp= 2.39]
03252> R0110:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03253>     SAVE HYD              1.0 09:B2          255.45    3.192 No_date   14:38   30.78  n/a     .000
03254>       fname :B2.0110
03255>       remark:Routing Hydrograph for B2
03256> R0110:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03257>     ADD HYD               1.0 08:R5          627.61    3.505 No_date   16:45   19.02  n/a     .000
03258>                       +   1.0 09:B2          255.45    3.192 No_date   14:38   30.78  n/a     .000
03259>                   SUM=    1.0 01:N2          883.06    6.159 No_date   15:44   22.42  n/a     .000
03260> R0110:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03261>     SAVE HYD              1.0 01:N2          883.06    6.159 No_date   15:44   22.42  n/a     .000
03262>       fname :N2.0110
03263>       remark:Hydrograph for N2
03264> R0110:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03265>     CALIB NASHYD          1.0 02:B3          336.77    1.919 No_date   15:41   17.82 .216     .000
03266>       [CN= 53.9: N= 3.00: Tp= 3.10]
03267> R0110:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03268>     SAVE HYD              1.0 02:B3          336.77    1.919 No_date   15:41   17.82  n/a     .000
03269>       fname :B3.0110
03270>       remark:Routing Hydrograph for B3
03271> R0110:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03272>     ADD HYD               1.0 01:N2          883.06    6.159 No_date   15:44   22.42  n/a     .000
03273>                       +   1.0 02:B3          336.77    1.919 No_date   15:41   17.82  n/a     .000
03274>                   SUM=    1.0 03:N4         1219.83    8.078 No_date   15:44   21.15  n/a     .000
03275> R0110:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03276>     SAVE HYD              1.0 03:N4         1219.83    8.078 No_date   15:44   21.15  n/a     .000
03277>       fname :N4.0110
03278>       remark:Hydrograph for N4
03279> R0110:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03280>     ROUTE CHANNEL   ->     1.0 03:N4         1219.83    8.078 No_date   15:44   21.15  n/a     .000
03281>       [RDT= 1.00] out<-    1.0 04:R6         1219.83    8.062 No_date   15:59   21.15  n/a     .000
03282>       [L/S/n= 1500./ .480/.035]
03283>       [Vmax= 1.602:Dmax= 1.002]
03284> R0110:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03285>     SAVE HYD              1.0 04:R6         1219.83    8.062 No_date   15:59   21.15  n/a     .000
03286>       fname :R6.0110
03287>       remark:Routing Hydrograph for R6
03288> R0110:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03289>     CALIB NASHYD          1.0 06:B5          224.06    1.442 No_date   15:02   17.63 .213     .000
03290>       [CN= 53.7: N= 3.00: Tp= 2.60]
03291> R0110:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03292>     SAVE HYD              1.0 06:B5          224.06    1.442 No_date   15:02   17.63  n/a     .000
03293>       fname :B5.0110
03294>       remark:Routing Hydrograph for B5
03295> R0110:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03296>     ADD HYD               1.0 06:B5          224.06    1.442 No_date   15:02   17.63  n/a     .000
03297>                       +   1.0 04:R6         1219.83    8.062 No_date   15:59   21.15  n/a     .000
03298>                   SUM=    1.0 08:N5         1443.89    9.426 No_date   15:51   20.60  n/a     .000
03299> R0110:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03300>     SAVE HYD              1.0 08:N5         1443.89    9.426 No_date   15:51   20.60  n/a     .000
03301>       fname :N5.0110
03302>       remark:Hydrograph for N5
03303> R0110:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03304>     ROUTE CHANNEL   ->     1.0 08:N5         1443.89    9.426 No_date   15:51   20.60  n/a     .000
03305>       [RDT= 1.00] out<-    1.0 09:R7         1443.89    8.837 No_date   16:42   20.60  n/a     .000
03306>       [L/S/n= 4500./ .240/.035]
03307>       [Vmax= 1.215:Dmax=  .991]
03308> R0110:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03309>     SAVE HYD              1.0 09:R7         1443.89    8.837 No_date   16:42   20.60  n/a     .000
03310>       fname :R7.0110
03311>       remark:Routing Hydrograph for R7
03312> R0110:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03313>     CALIB NASHYD          1.0 01:B6          329.90    5.078 No_date   14:39   38.19 .462     .000
03314>       [CN= 75.4: N= 3.00: Tp= 2.46]
03315> R0110:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03316>     SAVE HYD              1.0 01:B6          329.90    5.078 No_date   14:39   38.19  n/a     .000
03317>       fname :B6.0110
03318>       remark:Routing Hydrograph for B6
03319> R0110:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03320>     ADD HYD               1.0 09:R7         1443.89    8.837 No_date   16:42   20.60  n/a     .000
03321>                       +   1.0 01:B6          329.90    5.078 No_date   14:39   38.19  n/a     .000
03322>                   SUM=    1.0 02:N6         1773.79   12.928 No_date   16:07   23.88  n/a     .000
03323> R0110:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03324>     SAVE HYD              1.0 02:N6         1773.79   12.928 No_date   16:07   23.88  n/a     .000
03325>       fname :N6.0110
03326>       remark:Hydrograph for N6
03327> # Main channel combination with Trib A
03328> R0110:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03329>     ADD HYD               1.0 05:N12         649.24    6.044 No_date   14:55   23.67  n/a     .000
03330>                       +   1.0 07:N22        1042.46    7.021 No_date   15:05   18.15  n/a     .000
03331>                   SUM=    1.0 03:N23        1691.70   13.052 No_date   15:05   20.27  n/a     .000
03332> R0110:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03333>     SAVE HYD              1.0 03:N23        1691.70   13.052 No_date   15:05   20.27  n/a     .000
03334>       fname :N23.0110
03335>       remark:Hydrograph for N23/N24
03336> # Main channel combination with Trib B
03337> R0110:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03338>     ADD HYD               1.0 03:N23        1691.70   13.052 No_date   15:05   20.27  n/a     .000
03339>                       +   1.0 02:N6         1773.79   12.928 No_date   16:07   23.88  n/a     .000
03340>                   SUM=    1.0 04:N25        3465.49   25.351 No_date   15:29   22.11  n/a     .000
03341> R0110:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03342>     SAVE HYD              1.0 04:N25        3465.49   25.351 No_date   15:29   22.11  n/a     .000
03343>       fname :N25.0110
03344>       remark:Hydrograph for N25/N26
03345> # Main channel combination with Catchment C
03346> R0110:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03347>     CALIB NASHYD          1.0 06:C1         1414.40   11.945 No_date   15:56   27.47 .333     .000
03348>       [CN= 65.5: N= 3.00: Tp= 3.40]
03349> R0110:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03350>     SAVE HYD              1.0 06:C1         1414.40   11.945 No_date   15:56   27.47  n/a     .000
03351>       fname :C1.0110
03352>       remark:Routing Hydrograph for C1
03353> R0110:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03354>     ADD HYD               1.0 04:N25        3465.49   25.351 No_date   15:29   22.11  n/a     .000
03355>                       +   1.0 06:C1         1414.40   11.945 No_date   15:56   27.47  n/a     .000
03356>                   SUM=    1.0 08:N27        4879.89   37.194 No_date   15:34   23.67  n/a     .000
03357> R0110:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03358>     SAVE HYD              1.0 08:N27        4879.89   37.194 No_date   15:34   23.67  n/a     .000
03359>       fname :N27.0110
03360>       remark:Hydrograph for N27
03361> # Main channel
03362> R0110:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03363>     ROUTE CHANNEL   ->     1.0 08:N27        4879.89   37.194 No_date   15:34   23.67  n/a     .000
03364>       [RDT= 1.00] out<-    1.0 09:R8         4879.89   31.672 No_date   17:23   23.67  n/a     .000
03365>       [L/S/n= 2700./ .050/.035]
03366>       [Vmax=  .473:Dmax= 2.694]
03367> R0110:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03368>     SAVE HYD              1.0 09:R8         4879.89   31.672 No_date   17:23   23.67  n/a     .000
03369>       fname :R8.0110
03370>       remark:Routing Hydrograph for R8
03371> # Updated catchment M4
03372> R0110:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03373>     CALIB NASHYD          1.0 01:M4          354.74    6.333 No_date   14:25   41.41 .501     .000
03374>       [CN= 78.0: N= 3.00: Tp= 2.27]
03375> R0110:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03376>     SAVE HYD              1.0 01:M4          354.74    6.333 No_date   14:25   41.41  n/a     .000
03377>       fname :M4.0110
03378>       remark:Routing Hydrograph for M4
03379> # Creekside Subdivision - Post Development
03380> R0110:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03381>     CALIB STANDHYD        1.0 02:CRK          24.63    3.340 No_date   12:02   55.44 .671     .000
03382>       [XIMP=.53:TIMP=.63]
03383>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03384>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03385>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 405.:MNI=.013:SCI=   .0]
03386> # Creekside Subdivision - SWM Pond Routing
03387> R0110:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03388>     ROUTE RESERVOIR ->     1.0 02:CRK          24.63    3.340 No_date   12:02   55.44  n/a     .000
03389>                  out <=    1.0 03:Pond-Out     24.63    3.320 No_date   12:03   55.44  n/a     .000
03390>            overflow <=     .00 04:Pond-Ovf     .00     .000 No_date    0:00     .00  n/a     .000
03391>       (MxStoUsed=.4636E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
03392> R0110:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03393>     ADD HYD               1.0 01:M4          354.74    6.333 No_date   14:25   41.41  n/a     .000
03394>                       +   1.0 03:Pond-Out     24.63    3.320 No_date   12:03   55.44  n/a     .000
03395>                       +   1.0 04:Pond-Ovf      .00     .000 No_date    0:00     .00  n/a     .000
03396>                       +   1.0 09:R8         4879.89   31.672 No_date   17:23   23.67  n/a     .000
03397>                   SUM=    1.0 05:N28        5259.26   35.304 No_date   17:00   25.01  n/a     .000
03398> R0110:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03399>     SAVE HYD              1.0 05:N28        5259.26   35.304 No_date   17:00   25.01  n/a     .000
03400>       fname :N28.0110
03401>       remark:Hydrograph for N28
03402>   ** END OF RUN :  119
03403>
03404> ************************************************************************************************************
03405>
03406>
03407>
03408>
03409>
03410>  RUN#:COMMAND#
03411> R0120:C00001------------------------------------------------------------------------------------------------
03412>       START
03413>       [TZERO =    .00 hrs on       0]
03414>       [METOUT=  2   (1=imperial, 2=metric output)]
03415>       [NSTORM=  1 ]
03416>       [NRUN   = 0120 ]
03417> #*************************************************************************
03418> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
03419> #  Date        : 2024-04-16
03420> #  Modeller    : [   PF    ]

03421> #  Company     : J.F. Sabourin and Associates
03422> #  License #   :  2549237
03423> #*************************************************************************
03424> R0120:C00002------------------------------------------------------------------------------------------------
03425>       READ STORM
03426>       Filename = storm.001
03427>       Comment  = 20 Year 24 Hour SCS storm
03428>       [SDT=30.00:SDUR=  24.00:PTOT=  95.06]
03429> R0120:C00003------------------------------------------------------------------------------------------------
03430>       DEFAULT VALUES
03431>       Filename = C:\Temp\temp\FlowVal.val
03432>       ICASEdv  = 1 (read and print data)
03433>       FileTitle= File comment: [RVCA Flowing Creek FFM]
03434>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03435>       Horton's infiltration equation parameters:
03436>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03437>       Parameters for PERVIOUS surfaces in STANDHYD:
03438>       [IAper=  4.67 mm] [LGP=40.00 m] [MNP= .250]
03439>       Parameters for IMPERVIOUS surfaces in STANDHYD:
03440>       [IAimp=  1.57 mm] [CLI= 1.50]    [MNI= .013]
03441>       Parameters used in NASHYD:
03442>       [Ia=  1.50 mm] [N= 3.00]
03443>       Average monthly Pan Evaporation data in    (mm)
03444>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03445>  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03446>       Average monthly Potential Evapotranspiration in    (mm)
03447>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03448>  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03449> R0120:C00004------------------------------------------------------------------------------------------------
03450>  ------------
03451>  | SAVE HYD  |       START SAVING ALL SIMULATED HYDROGRAPHS.
03452>
03453>
03454>
03455>  ------------
03456> # Main Channel
03457> R0120:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03458>     CALIB NASHYD          1.0 01:M1          136.59    1.655 No_date   13:48   23.20 .244     .000
03459>       [CN= 53.5: N= 3.00: Tp= 1.64]
03460> R0120:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03461>     SAVE HYD              1.0 01:M1          136.59    1.655 No_date   13:48   23.20  n/a     .000
03462>       fname :M1.0120
03463>       remark:Runoff Hydrograph for M1
03464> R0120:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03465>     ROUTE CHANNEL   ->     1.0 01:M1          136.59    1.655 No_date   13:48   23.20  n/a     .000
03466>       [RDT= 1.00] out<-    1.0 02:R1          136.59    1.445 No_date   14:35   23.20  n/a     .000
03467>       [L/S/n= 3000./ .550/.035]
03468>       [Vmax=  .930:Dmax=  .328]
03469> R0120:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03470>     SAVE HYD              1.0 02:R1          136.59    1.445 No_date   14:35   23.20  n/a     .000
03471>       fname :R1.0120
03472>       remark:Routing Hydrograph for R1
03473> R0120:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03474>     CALIB NASHYD          1.0 03:M2          372.64    4.245 No_date   13:50   22.01 .232     .000
03475>       [CN= 52.2: N= 3.00: Tp= 1.65]
03476> R0120:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03477>     SAVE HYD              1.0 03:M2          372.64    4.245 No_date   13:50   22.01  n/a     .000
03478>       fname :M2.0120
03479>       remark:Routing Hydrograph for M2
03480> R0120:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03481>     ADD HYD               1.0 01:B1          136.59    1.445 No_date   14:35   23.20  n/a     .000
03482>                       +   1.0 03:M2          372.64    4.245 No_date   13:50   22.01  n/a     .000
03483>                   SUM=    1.0 04:N21         509.23    5.555 No_date   14:03   22.33  n/a     .000
03484> R0120:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03485>     SAVE HYD              1.0 04:N21         509.23    5.555 No_date   14:03   22.33  n/a     .000
03486>       fname :N21.0120
03487>       remark:Hydrograph for N21
03488> R0120:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03489>     ROUTE CHANNEL   ->     1.0 04:N21         509.23    5.555 No_date   14:03   22.33  n/a     .000
03490>       [RDT= 1.00] out<-    1.0 05:R2          509.23    4.342 No_date   15:04   22.33  n/a     .000
03491>       [L/S/n= 4000./ .180/.035]
03492>       [Vmax=  .852:Dmax=  .632]
03493> R0120:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03494>     SAVE HYD              1.0 05:R2          509.23    4.342 No_date   15:04   22.33  n/a     .000
03495>       fname :R2.0120
03496>       remark:Routing Hydrograph for R2
03497> R0120:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03498>     CALIB NASHYD          1.0 06:M3          533.23    5.252 No_date   14:48   25.47 .268     .000
03499>       [CN= 56.0: N= 3.00: Tp= 2.47]
03500> R0120:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03501>     SAVE HYD              1.0 06:M3          533.23    5.252 No_date   14:48   25.47  n/a     .000
03502>       fname :M3.0120
03503>       remark:Routing Hydrograph for M3
03504> R0120:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03505>     ADD HYD               1.0 06:M3          533.23    5.252 No_date   14:48   25.47  n/a     .000
03506>                       +   1.0 05:R2          509.23    4.342 No_date   15:04   22.33  n/a     .000
03507>                   SUM=    1.0 07:N22        1042.46    9.575 No_date   14:57   23.93  n/a     .000
03508> R0120:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03509>     SAVE HYD              1.0 07:N22        1042.46    9.575 No_date   14:57   23.93  n/a     .000
03510>       fname :N22.0120
03511>       remark:Hydrograph for N22
03512> # Trib A
03513> R0120:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03514>     CALIB NASHYD          1.0 08:A1           86.15    1.068 No_date   14:02   25.54 .269     .000
03515>       [CN= 56.1: N= 3.00: Tp= 1.83]
03516> R0120:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03517>     SAVE HYD              1.0 08:A1           86.15    1.068 No_date   14:02   25.54  n/a     .000
03518>       fname :A1.0120
03519>       remark:Runoff Hydrograph for A1
03520> R0120:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03521>     ROUTE CHANNEL   ->     1.0 08:A1           86.15    1.068 No_date   14:02   25.54  n/a     .000
03522>       [RDT= 1.00] out<-    1.0 09:R3           86.15     .948 No_date   14:40   25.54  n/a     .000
03523>       [L/S/n= 2500./ .600/.035]
03524>       [Vmax=  .828:Dmax=  .249]
03525> R0120:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03526>     SAVE HYD              1.0 09:R3           86.15     .948 No_date   14:40   25.54  n/a     .000
03527>       fname :R3.0120
03528>       remark:Routing Hydrograph for R3
03529> R0120:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03530>     CALIB NASHYD          1.0 01:A2          246.39    3.451 No_date   14:11   30.33 .319     .000
03531>       [CN= 61.0: N= 3.00: Tp= 1.99]
03532> R0120:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03533>     SAVE HYD              1.0 01:A2          246.39    3.451 No_date   14:11   30.33  n/a     .000
03534>       fname :A2.0120
03535>       remark:Routing Hydrograph for A2
03536> R0120:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03537>     ADD HYD               1.0 01:A2          246.39    3.451 No_date   14:11   30.33  n/a     .000
03538>                       +   1.0 09:R3           86.15     .948 No_date   14:40   25.54  n/a     .000
03539>                   SUM=    1.0 02:N11         332.54    4.363 No_date   14:21   29.09  n/a     .000
03540> R0120:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03541>     SAVE HYD              1.0 02:N11         332.54    4.363 No_date   14:21   29.09  n/a     .000
03542>       fname :N11.0120
03543>       remark:Hydrograph for N11
03544> R0120:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03545>     ROUTE CHANNEL   ->     1.0 02:N11         332.54    4.363 No_date   14:21   29.09  n/a     .000
03546>       [RDT= 1.00] out<-    1.0 03:R4          332.54    3.885 No_date   15:06   29.09  n/a     .000
03547>       [L/S/n= 3000./ .200/.035]
03548>       [Vmax=  .906:Dmax=  .715]
03549> R0120:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03550>     SAVE HYD              1.0 03:R4          332.54    3.885 No_date   15:06   29.09  n/a     .000
03551>       fname :R4.0120
03552>       remark:Routing Hydrograph for R4
03553> R0120:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03554>     CALIB NASHYD          1.0 04:A3          316.70    4.225 No_date   14:33   32.22 .339     .000
03555>       [CN= 62.8: N= 3.00: Tp= 2.31]
03556> R0120:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03557>     SAVE HYD              1.0 04:A3          316.70    4.225 No_date   14:33   32.22  n/a     .000
03558>       fname :A3.0120
03559>       remark:Routing Hydrograph for A3
03560> R0120:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03561>     ADD HYD               1.0 04:A3          316.70    4.225 No_date   14:33   32.22  n/a     .000
03562>                       +   1.0 03:R4          332.54    3.885 No_date   15:06   29.09  n/a     .000
03563>                   SUM=    1.0 05:N12         649.24    8.034 No_date   14:51   30.61  n/a     .000
03564> R0120:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03565>     SAVE HYD              1.0 05:N12         649.24    8.034 No_date   14:51   30.61  n/a     .000
03566>       fname :N12.0120
03567>       remark:Hydrograph for N12
03568> # Trib B
03569> R0120:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03570>     CALIB NASHYD          1.0 01:B1          627.61    4.797 No_date   15:58   25.00 .263     .000
03571>       [CN= 55.5: N= 3.00: Tp= 3.36]
03572> R0120:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03573>     SAVE HYD              1.0 06:B1          627.61    4.797 No_date   15:58   25.00  n/a     .000
03574>       fname :B1.0120
03575>       remark:Runoff Hydrograph for B1
03576> R0120:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03577>     ROUTE CHANNEL   ->     1.0 06:B1          627.61    4.797 No_date   15:58   25.00  n/a     .000
03578>       [RDT= 1.00] out<-    1.0 08:R5          627.61    4.671 No_date   16:38   25.00  n/a     .000
03579>       [L/S/n= 4800./ .870/.035]
03580>       [Vmax= 1.758:Dmax=  .729]
03581> R0120:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03582>     SAVE HYD              1.0 08:R5          627.61    4.671 No_date   16:38   25.00  n/a     .000
03583>       fname :R5.0120
03584>       remark:Routing Hydrograph for R5
03585> R0120:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03586>     CALIB NASHYD          1.0 09:B2          255.45    4.079 No_date   14:36   39.04 .411     .000
03587>       [CN= 68.8: N= 3.00: Tp= 2.39]
03588> R0120:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03589>     SAVE HYD              1.0 09:B2          255.45    4.079 No_date   14:36   39.04  n/a     .000
03590>       fname :B2.0120
03591>       remark:Routing Hydrograph for B2
03592> R0120:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03593>     ADD HYD               1.0 08:R5          627.61    4.671 No_date   16:38   25.00  n/a     .000
03594>                       +   1.0 09:B2          255.45    4.079 No_date   14:36   39.04  n/a     .000
03595>                   SUM=    1.0 01:N2          883.06    8.101 No_date   15:41   29.06  n/a     .000
03596> R0120:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03597>     SAVE HYD              1.0 01:N2          883.06    8.101 No_date   15:41   29.06  n/a     .000
03598>       fname :N2.0120
03599>       remark:Hydrograph for N2
03600> R0120:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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```
03601>     CALIB NASHYD           1.0 02:B3          336.77    2.563 No_date   15:38   23.53 .248     .000
03602>       [CN= 53.9: N= 3.00: Tp= 3.10]
03603> R0120:C00042------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03604>     SAVE HYD               1.0 02:B3          336.77    2.563 No_date   15:38   23.53 n/a      .000
03605>       fname :B3.0120
03606>       remark:Routing Hydrograph for B3
03607> R0120:C00043------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03608>     ADD HYD                1.0 01:N2          883.06    8.101 No_date   15:41   29.06 n/a      .000
03609>                          + 1.0 02:B3          336.77    2.563 No_date   15:38   23.53 n/a      .000
03610>                    SUM=    1.0 03:N4         1219.83   10.663 No_date   15:41   27.54 n/a      .000
03611> R0120:C00044------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03612>     SAVE HYD               1.0 03:N4         1219.83   10.663 No_date   15:41   27.54 n/a      .000
03613>       fname :N4.0120
03614>       remark:Hydrograph for N4
03615> R0120:C00045------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03616>     ROUTE CHANNEL    ->    1.0 03:N4         1219.83   10.663 No_date   15:41   27.54 n/a      .000
03617>       [RDT= 1.00] out<-    1.0 04:R6         1219.83   10.534 No_date   16:15   27.54 n/a      .000
03618>       [L/S/n= 1500./ .480/.035]
03619>       [Vmax= 1.253:Dmax= 1.117]
03620> R0120:C00046------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03621>     SAVE HYD               1.0 04:R6         1219.83   10.534 No_date   16:15   27.54 n/a      .000
03622>       fname :R6.0120
03623>       remark:Routing Hydrograph for R6
03624> R0120:C00047------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03625>     CALIB NASHYD           1.0 06:B5          224.06    1.928 No_date   14:59   23.30 .245     .000
03626>       [CN= 53.7: N= 3.00: Tp= 2.60]
03627> R0120:C00048------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03628>     SAVE HYD               1.0 06:B5          224.06    1.928 No_date   14:59   23.30 n/a      .000
03629>       fname :B5.0120
03630>       remark:Routing Hydrograph for B5
03631> R0120:C00049------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03632>     ADD HYD                1.0 06:B5          224.06    1.928 No_date   14:59   23.30 n/a      .000
03633>                          + 1.0 04:R6         1219.83   10.534 No_date   16:15   27.54 n/a      .000
03634>                    SUM=    1.0 08:N5         1443.89   12.286 No_date   16:07   26.88 n/a      .000
03635> R0120:C00050------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03636>     SAVE HYD               1.0 08:N5         1443.89   12.286 No_date   16:07   26.88 n/a      .000
03637>       fname :N5.0120
03638>       remark:Hydrograph for N5
03639> R0120:C00051------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03640>     ROUTE CHANNEL    ->    1.0 08:N5         1443.89   12.286 No_date   16:07   26.88 n/a      .000
03641>       [RDT= 1.00] out<-    1.0 09:R7         1443.89   11.747 No_date   16:51   26.88 n/a      .000
03642>       [L/S/n= 4500./ .240/.035]
03643>       [Vmax= 1.326:Dmax= 1.161]
03644> R0120:C00052------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03645>     SAVE HYD               1.0 09:R7         1443.89   11.747 No_date   16:51   26.88 n/a      .000
03646>       fname :R7.0120
03647>       remark:Routing Hydrograph for R7
03648> R0120:C00053------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03649>     CALIB NASHYD           1.0 01:B6          329.90    6.369 No_date   14:38   47.61 .501     .000
03650>       [CN= 75.4: N= 3.00: Tp= 2.46]
03651> R0120:C00054------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03652>     SAVE HYD               1.0 01:B6          329.90    6.369 No_date   14:38   47.61 n/a      .000
03653>       fname :B6.0120
03654>       remark:Routing Hydrograph for B6
03655> R0120:C00055------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03656>     ADD HYD                1.0 09:R7         1443.89   11.747 No_date   16:51   26.88 n/a      .000
03657>                          + 1.0 01:B6          329.90    6.369 No_date   14:38   47.61 n/a      .000
03658>                    SUM=    1.0 02:N6         1773.79   16.719 No_date   16:08   30.74 n/a      .000
03659> R0120:C00056------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03660>     SAVE HYD               1.0 02:N6         1773.79   16.719 No_date   16:08   30.74 n/a      .000
03661>       fname :N6.0120
03662>       remark:Hydrograph for N6
03663> # Main channel combination with Trib A
03664> R0120:C00057------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03665>     ADD HYD                1.0 05:N12         649.24    8.034 No_date   14:51   30.61 n/a      .000
03666>                          + 1.0 07:N22        1042.46    9.575 No_date   14:57   23.93 n/a      .000
03667>                    SUM=    1.0 03:N23        1691.70   17.598 No_date   14:57   26.50 n/a      .000
03668> R0120:C00058------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03669>     SAVE HYD               1.0 03:N23        1691.70   17.598 No_date   14:57   26.50 n/a      .000
03670>       fname :N23.0120
03671>       remark:Hydrograph for N23/N24
03672> # Main channel combination with Trib B
03673> R0120:C00059------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03674>     ADD HYD                1.0 03:N23        1691.70   17.598 No_date   14:57   26.50 n/a      .000
03675>                          + 1.0 02:N6         1773.79   16.719 No_date   16:08   30.74 n/a      .000
03676>                    SUM=    1.0 04:N25        3465.49   33.299 No_date   15:24   28.67 n/a      .000
03677> R0120:C00060------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03678>     SAVE HYD               1.0 04:N25        3465.49   33.299 No_date   15:24   28.67 n/a      .000
03679>       fname :N25.0120
03680>       remark:Hydrograph for N25/N26
03681> # Main channel combination with Catchment C
03682> R0120:C00061------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03683>     CALIB NASHYD           1.0 06:C1         1414.40   15.393 No_date   15:53   35.14 .370     .000
03684>       [CN= 65.5: N= 3.00: Tp= 3.40]
03685> R0120:C00062------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03686>     SAVE HYD               1.0 06:C1         1414.40   15.393 No_date   15:53   35.14 n/a      .000
03687>       fname :C1.0120
03688>       remark:Routing Hydrograph for C1
03689> R0120:C00063------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03690>     ADD HYD                1.0 04:N25        3465.49   33.299 No_date   15:24   28.67 n/a      .000
03691>                          + 1.0 06:C1         1414.40   15.393 No_date   15:53   35.14 n/a      .000
03692>                    SUM=    1.0 08:N27        4879.89   48.541 No_date   15:33   30.54 n/a      .000
03693> R0120:C00064------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03694>     SAVE HYD               1.0 08:N27        4879.89   48.541 No_date   15:33   30.54 n/a      .000
03695>       fname :N27.0120
03696>       remark:Hydrograph for N27
03697> # Main channel
03698> R0120:C00065------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03699>     ROUTE CHANNEL    ->    1.0 08:N27        4879.89   48.541 No_date   15:33   30.54 n/a      .000
03700>       [RDT= 1.00] out<-    1.0 09:R8         4879.89   39.723 No_date   17:38   30.54 n/a      .000
03701>       [L/S/n= 2700./ .050/.035]
03702>       [Vmax=  .406:Dmax= 2.928]
03703> R0120:C00066------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03704>     SAVE HYD               1.0 09:R8         4879.89   39.723 No_date   17:38   30.54 n/a      .000
03705>       fname :R8.0120
03706>       remark:Routing Hydrograph for R8
03707> # Updated catchment M4
03708> R0120:C00067------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03709>     CALIB NASHYD           1.0 01:M4          354.74    7.883 No_date   14:24   51.27 .539     .000
03710>       [CN= 78.0: N= 3.00: Tp= 2.27]
03711> R0120:C00068------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03712>     SAVE HYD               1.0 01:M4          354.74    7.883 No_date   14:24   51.27 n/a      .000
03713>       fname :M4.0120
03714>       remark:Routing Hydrograph for M4
03715> # Creekside Subdivision - Post Development
03716> R0120:C00069------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03717>     CALIB STANDHYD         1.0 02:CRK          24.63    3.981 No_date   12:01   64.85 .682     .000
03718>       [XIMP=.53:TIMP=.63]
03719>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03720>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03721>       [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 405.:MNI=.013:SCI=   .0]
03722> # Creekside Subdivision - SWM Pond Routing
03723> R0120:C00070------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03724>     ROUTE RESERVOIR  ->    1.0 02:CRK          24.63    3.981 No_date   12:01   64.85 n/a      .000
03725>                      out <-   1.0 03:Pond-Out    24.63    3.954 No_date   12:02   64.85 n/a      .000
03726>              overflow <-    1.0 04:Pond-Ovf      .00     .000 No_date   0:00     .00 n/a      .000
03727>       (MxStoUsed=.4691E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=   0.hrs)
03728> R0120:C00071------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03729>     ADD HYD                1.0 01:M4          354.74    7.883 No_date   14:24   51.27 n/a      .000
03730>                          + 1.0 03:Pond-Out     24.63    3.954 No_date   12:02   64.85 n/a      .000
03731>                          + 1.0 04:Pond-Ovf      .00     .000 No_date   0:00     .00 n/a      .000
03732>                          + 1.0 09:R8         4879.89   39.723 No_date   17:38   30.54 n/a      .000
03733>                    SUM=    1.0 05:N28        5259.26   44.102 No_date   17:06   32.10 n/a      .000
03734> R0120:C00072------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03735>     SAVE HYD               1.0 05:N28        5259.26   44.102 No_date   17:06   32.10 n/a      .000
03736>       fname :N28.0120
03737>       remark:Hydrograph for N28
03738>   ** END OF RUN :  149
03739>
03740> ************************************************************************************************
03741>
03742>
03743>
03744>
03745>
03746>  RUN#:COMMAND#
03747> R0150:C00001------------------------------------------------------------------------------------
03748>     START
03749>       [TZERO =      .00 hrs on      0]
03750>       [METOUT=   2     (1=imperial, 2=metric output)]
03751>       [NSTORM=   1 ]
03752>       [NRUN  = 0150 ]
03753> #*********************************************************************
03754> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
03755> #  Date        : 2024-04-16
03756> #  Modeller    : [     PP     ]
03757> #  Company     : J.F. Sabourin and Associates
03758> #  License #   : 2549237
03759> #*********************************************************************
03760> R0150:C00002------------------------------------------------------------------------------------
03761>     READ STORM
03762>       Filename = storm.001
03763>       Comment  = 50 Year 24 Hour SCS storm
03764>       [SDT=30.00:SDUR=  24.00:PTOT= 110.93]
03765> R0150:C00003------------------------------------------------------------------------------------
03766>     DEFAULT VALUES
03767>       Filename = C:\Temp\temp\FlowVal.val
03768>       ICASEdv  = 1 (read and print data)
03769>       FileTitle= File comment: [RVCA Flowing Creek FPM]
03770>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03771>       Horton's infiltration equation parameters:
03772>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03773>       Parameters for PERVIOUS surfaces in STANDHYD:
03774>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
03775>       Parameters for IMPERVIOUS surfaces in STANDHYD:
03776>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
03777>       Parameters used in NASHYD:
03778>       [Ia=   1.50 mm] [N= 3.00]
03779>       Average monthly Pan Evaporation data in     (mm)
03780>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC

03781>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03782>       Average monthly Potential Evapotranspiration in    (mm)
03783>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03784>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03785> R0150:C00004------------------------------------------------------------------------------------
03786>
03787>  | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
03788>
03789>
03790>
03791>  ------------
03792> # Main Channel
03793> R0150:C00005------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03794>     CALIB NASHYD           1.0 01:M1          136.59    2.248 No_date   13:47   31.16 .281     .000
03795>       [CN= 53.5: N= 3.00: Tp= 1.64]
03796> R0150:C00006------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03797>     SAVE HYD               1.0 01:M1          136.59    2.248 No_date   13:47   31.16 n/a      .000
03798>       fname :M1.0150
03799>       remark:Runoff Hydrograph for M1
03800> R0150:C00007------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03801>     ROUTE CHANNEL    ->    1.0 01:M1          136.59    2.248 No_date   13:47   31.16 n/a      .000
03802>       [RDT= 1.00] out<-    1.0 02:R1          136.59    1.989 No_date   14:27   31.16 n/a      .000
03803>       [L/S/n= 3000./ .550/.035]
03804>       [Vmax= 1.049:Dmax=  .396]
03805> R0150:C00008------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03806>     SAVE HYD               1.0 02:R1          136.59    1.989 No_date   14:27   31.16 n/a      .000
03807>       fname :R1.0150
03808>       remark:Routing Hydrograph for R1
03809> R0150:C00009------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03810>     CALIB NASHYD           1.0 03:M2          372.64    5.794 No_date   13:48   29.69 .268     .000
03811>       [CN= 52.2: N= 3.00: Tp= 1.65]
03812> R0150:C00010------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03813>     SAVE HYD               1.0 03:M2          372.64    5.794 No_date   13:48   29.69 n/a      .000
03814>       fname :M2.0150
03815>       remark:Routing Hydrograph for M2
03816> R0150:C00011------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03817>     ADD HYD                1.0 02:R1          136.59    1.989 No_date   14:27   31.16 n/a      .000
03818>                          + 1.0 03:M2          372.64    5.794 No_date   13:48   29.69 n/a      .000
03819>                    SUM=    1.0 04:N21        509.23    7.641 No_date   14:01   30.08 n/a      .000
03820> R0150:C00012------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03821>     SAVE HYD               1.0 04:N21         509.23    7.641 No_date   14:01   30.08 n/a      .000
03822>       fname :N21.0150
03823>       remark:Hydrograph for N21
03824> R0150:C00013------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03825>     ROUTE CHANNEL    ->    1.0 04:N21         509.23    7.641 No_date   14:01   30.08 n/a      .000
03826>       [RDT= 1.00] out<-    1.0 05:R2          509.23    6.211 No_date   14:57   30.08 n/a      .000
03827>       [L/S/n= 4000./ .180/.035]
03828>       [Vmax=  .956:Dmax=  .765]
03829> R0150:C00014------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03830>     SAVE HYD               1.0 05:R2          509.23    6.211 No_date   14:57   30.08 n/a      .000
03831>       fname :R2.0150
03832>       remark:Routing Hydrograph for R2
03833> R0150:C00015------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03834>     CALIB NASHYD           1.0 06:M3          533.23    7.068 No_date   14:46   33.96 .306     .000
03835>       [CN= 56.0: N= 3.00: Tp= 2.47]
03836> R0150:C00016------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03837>     SAVE HYD               1.0 06:M3          533.23    7.068 No_date   14:46   33.96 n/a      .000
03838>       fname :M3.0150
03839>       remark:Routing Hydrograph for M3
03840> R0150:C00017------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03841>     ADD HYD                1.0 06:M3          533.23    7.068 No_date   14:46   33.96 n/a      .000
03842>                          + 1.0 05:R2          509.23    6.211 No_date   14:57   30.08 n/a      .000
03843>                    SUM=    1.0 07:N22        1042.46   13.269 No_date   14:52   32.06 n/a      .000
03844> R0150:C00018------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03845>     SAVE HYD               1.0 07:N22        1042.46   13.269 No_date   14:52   32.06 n/a      .000
03846>       fname :N22.0150
03847>       remark:Hydrograph for N22
03848> # Trib A
03849> R0150:C00019------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03850>     CALIB NASHYD           1.0 08:A1           86.15    1.438 No_date   14:00   34.05 .307     .000
03851>       [CN= 56.1: N= 3.00: Tp= 1.83]
03852> R0150:C00020------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03853>     SAVE HYD               1.0 08:A1           86.15    1.438 No_date   14:00   34.05 n/a      .000
03854>       fname :A1.0150
03855>       remark:Runoff Hydrograph for A1
03856> R0150:C00021------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03857>     ROUTE CHANNEL    ->    1.0 08:A1           86.15    1.438 No_date   14:00   34.05 n/a      .000
03858>       [RDT= 1.00] out<-    1.0 09:R3           86.15    1.310 No_date   14:40   34.05 n/a      .000
03859>       [L/S/n= 2500./ .600/.035]
03860>       [Vmax=  .902:Dmax=  .294]
03861> R0150:C00022------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03862>     SAVE HYD               1.0 09:R3           86.15    1.310 No_date   14:40   34.05 n/a      .000
03863>       fname :R3.0150
03864>       remark:Routing Hydrograph for R3
03865> R0150:C00023------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03866>     CALIB NASHYD           1.0 01:A2          246.39    4.574 No_date   14:10   39.87 .359     .000
03867>       [CN= 61.0: N= 3.00: Tp= 1.99]
03868> R0150:C00024------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03869>     SAVE HYD               1.0 01:A2          246.39    4.574 No_date   14:10   39.87 n/a      .000
03870>       fname :A2.0150
03871>       remark:Routing Hydrograph for A2
03872> R0150:C00025------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03873>     ADD HYD                1.0 01:A2          246.39    4.574 No_date   14:10   39.87 n/a      .000
03874>                          + 1.0 09:R3           86.15    1.310 No_date   14:40   34.05 n/a      .000
03875>                    SUM=    1.0 02:N11        332.54    5.839 No_date   14:17   38.36 n/a      .000
03876> R0150:C00026------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03877>     SAVE HYD               1.0 02:N11         332.54    5.839 No_date   14:17   38.36 n/a      .000
03878>       fname :N11.0150
03879>       remark:Hydrograph for N11
03880> R0150:C00027------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03881>     ROUTE CHANNEL    ->    1.0 02:N11         332.54    5.839 No_date   14:17   38.36 n/a      .000
03882>       [RDT= 1.00] out<-    1.0 03:R4          332.54    5.301 No_date   15:01   38.36 n/a      .000
03883>       [L/S/n= 3000./ .200/.035]
03884>       [Vmax=  .999:Dmax=  .850]
03885> R0150:C00028------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03886>     SAVE HYD               1.0 03:R4          332.54    5.301 No_date   15:01   38.36 n/a      .000
03887>       fname :R4.0150
03888>       remark:Routing Hydrograph for R4
03889> R0150:C00029------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03890>     CALIB NASHYD           1.0 04:A3          316.70    5.569 No_date   14:32   42.14 .380     .000
03891>       [CN= 62.8: N= 3.00: Tp= 2.31]
03892> R0150:C00030------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03893>     SAVE HYD               1.0 04:A3          316.70    5.569 No_date   14:32   42.14 n/a      .000
03894>       fname :A3.0150
03895>       remark:Routing Hydrograph for A3
03896> R0150:C00031------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03897>     ADD HYD                1.0 04:A3          316.70    5.569 No_date   14:32   42.14 n/a      .000
03898>                          + 1.0 03:R4          332.54    5.301 No_date   15:01   38.36 n/a      .000
03899>                    SUM=    1.0 05:N12        649.24   10.791 No_date   14:49   40.20 n/a      .000
03900> R0150:C00032------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03901>     SAVE HYD               1.0 05:N12        649.24   10.791 No_date   14:49   40.20 n/a      .000
03902>       fname :N12.0150
03903>       remark:Hydrograph for N12
03904> # Trib B
03905> R0150:C00033------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03906>     CALIB NASHYD           1.0 06:B1          627.61    6.460 No_date   15:55   33.38 .301     .000
03907>       [CN= 55.5: N= 3.00: Tp= 3.36]
03908> R0150:C00034------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03909>     SAVE HYD               1.0 06:B1          627.61    6.460 No_date   15:55   33.38 n/a      .000
03910>       fname :B1.0150
03911>       remark:Runoff Hydrograph for B1
03912> R0150:C00035------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03913>     ROUTE CHANNEL    ->    1.0 06:B1          627.61    6.460 No_date   15:55   33.38 n/a      .000
03914>       [RDT= 1.00] out<-    1.0 08:R5          627.61    6.314 No_date   16:31   33.38 n/a      .000
03915>       [L/S/n= 4800./ .870/.035]
03916>       [Vmax= 1.923:Dmax=  .866]
03917> R0150:C00036------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03918>     SAVE HYD               1.0 08:R5          627.61    6.314 No_date   16:31   33.38 n/a      .000
03919>       fname :R5.0150
03920>       remark:Routing Hydrograph for R5
03921> R0150:C00037------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03922>     CALIB NASHYD           1.0 09:B2          255.45    5.283 No_date   14:35   50.25 .453     .000
03923>       [CN= 68.8: N= 3.00: Tp= 2.39]
03924> R0150:C00038------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03925>     SAVE HYD               1.0 09:B2          255.45    5.283 No_date   14:35   50.25 n/a      .000
03926>       fname :B2.0150
03927>       remark:Routing Hydrograph for B2
03928> R0150:C00039------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03929>     ADD HYD                1.0 08:R5          627.61    6.314 No_date   16:31   33.38 n/a      .000
03930>                          + 1.0 09:B2          255.45    5.283 No_date   14:35   50.25 n/a      .000
03931>                    SUM=    1.0 01:N2         883.06   10.793 No_date   15:35   38.26 n/a      .000
03932> R0150:C00040------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03933>     SAVE HYD               1.0 01:N2          883.06   10.793 No_date   15:35   38.26 n/a      .000
03934>       fname :N2.0150
03935>       remark:Hydrograph for N2
03936> R0150:C00041------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03937>     CALIB NASHYD           1.0 02:B3          336.77    3.471 No_date   15:35   31.57 .285     .000
03938>       [CN= 53.9: N= 3.00: Tp= 3.10]
03939> R0150:C00042------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03940>     SAVE HYD               1.0 02:B3          336.77    3.471 No_date   15:35   31.57 n/a      .000
03941>       fname :B3.0150
03942>       remark:Routing Hydrograph for B3
03943> R0150:C00043------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03944>     ADD HYD                1.0 01:N2          883.06   10.793 No_date   15:35   38.26 n/a      .000
03945>                          + 1.0 02:B3          336.77    3.471 No_date   15:35   31.57 n/a      .000
03946>                    SUM=    1.0 03:N4         1219.83   14.264 No_date   15:35   36.41 n/a      .000
03947> R0150:C00044------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03948>     SAVE HYD               1.0 03:N4         1219.83   14.264 No_date   15:35   36.41 n/a      .000
03949>       fname :N4.0150
03950>       remark:Hydrograph for N4
03951> R0150:C00045------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03952>     ROUTE CHANNEL    ->    1.0 03:N4         1219.83   14.264 No_date   15:35   36.41 n/a      .000
03953>       [RDT= 1.00] out<-    1.0 04:R6         1219.83   13.987 No_date   16:23   36.41 n/a      .000
03954>       [L/S/n= 1500./ .480/.035]
03955>       [Vmax=  .978:Dmax= 1.203]
03956> R0150:C00046------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03957>     SAVE HYD               1.0 04:R6         1219.83   13.987 No_date   16:23   36.41 n/a      .000
03958>       fname :R6.0150
03959>       remark:Routing Hydrograph for R6
03960> R0150:C00047------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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03961>     CALIB NASHYD           1.0 06:B5          224.06    2.616 No_date   14:57   31.29 .282    .000
03962>       [CN= 53.7: N= 3.00: Tp= 2.60]
03963> R0150:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03964>     SAVE HYD               1.0 06:B5          224.06    2.616 No_date   14:57   31.29 n/a     .000
03965>       fname :B5.0150
03966>       remark:Routing Hydrograph for B5
03967> R0150:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03968>     ADD HYD                1.0 06:B5          224.06    2.616 No_date   14:57   31.29 n/a     .000
03969>                      +     1.0 04:R6         1219.83   13.987 No_date   16:23   36.41 n/a     .000
03970>                    SUM=    1.0 08:N5         1443.89   16.308 No_date   16:13   35.62 n/a     .000
03971> R0150:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03972>     SAVE HYD               1.0 08:N5         1443.89   16.308 No_date   16:13   35.62 n/a     .000
03973>       fname :N5.0150
03974>       remark:Hydrograph for N5
03975> R0150:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03976>     ROUTE CHANNEL    ->    1.0 08:N5         1443.89   16.308 No_date   16:13   35.62 n/a     .000
03977>       [RDT= 1.00] out<-    1.0 09:R7         1443.89   15.361 No_date   17:47   35.62 n/a     .000
03978>       [L/S/n= 4500./ .240/.035]
03979>       {Vmax= 1.095:Dmax= 1.339}
03980> R0150:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03981>     SAVE HYD               1.0 09:R7         1443.89   15.361 No_date   17:47   35.62 n/a     .000
03982>       fname :R7.0150
03983>       remark:Routing Hydrograph for R7
03984> R0150:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03985>     CALIB NASHYD           1.0 01:B6          329.90    8.089 No_date   14:37   60.18 .543    .000
03986>       [CN= 75.4: N= 3.00: Tp= 2.46]
03987> R0150:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03988>     SAVE HYD               1.0 01:B6          329.90    8.089 No_date   14:37   60.18 n/a     .000
03989>       fname :B6.0150
03990>       remark:Routing Hydrograph for B6
03991> R0150:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03992>     ADD HYD                1.0 09:R7         1443.89   15.361 No_date   17:47   35.62 n/a     .000
03993>                      +     1.0 01:B6          329.90    8.089 No_date   14:37   60.18 n/a     .000
03994>                    SUM=    1.0 02:N6         1773.79   20.726 No_date   16:36   40.19 n/a     .000
03995> R0150:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03996>     SAVE HYD               1.0 02:N6         1773.79   20.726 No_date   16:36   40.19 n/a     .000
03997>       fname :N6.0150
03998>       remark:Hydrograph for N6
03999> # Main channel combination with Trib A
04000> R0150:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04001>     ADD HYD                1.0 05:N12         649.24   10.791 No_date   14:49   40.20 n/a     .000
04002>                      +     1.0 07:N22        1042.46   13.269 No_date   14:52   32.06 n/a     .000
04003>                    SUM=    1.0 03:N23        1691.70   24.057 No_date   14:50   35.19 n/a     .000
04004> R0150:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04005>     SAVE HYD               1.0 03:N23        1691.70   24.057 No_date   14:50   35.19 n/a     .000
04006>       fname :N23.0150
04007>       remark:Hydrograph for N23/N24
04008> # Main channel combination with Trib B
04009> R0150:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04010>     ADD HYD                1.0 03:N23        1691.70   24.057 No_date   14:50   35.19 n/a     .000
04011>                      +     1.0 02:N6         1773.79   20.726 No_date   16:36   40.19 n/a     .000
04012>                    SUM=    1.0 04:N25        3465.49   43.512 No_date   15:19   37.75 n/a     .000
04013> R0150:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04014>     SAVE HYD               1.0 04:N25        3465.49   43.512 No_date   15:19   37.75 n/a     .000
04015>       fname :N25.0150
04016>       remark:Hydrograph for N25/N26
04017> # Main channel combination with Catchment C
04018> R0150:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04019>     CALIB NASHYD           1.0 06:C1         1414.40   20.114 No_date   15:51   45.63 .411    .000
04020>       [CN= 65.5: N= 3.00: Tp= 3.40]
04021> R0150:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04022>     SAVE HYD               1.0 06:C1         1414.40   20.114 No_date   15:51   45.63 n/a     .000
04023>       fname :C1.0150
04024>       remark:Routing Hydrograph for C1
04025> R0150:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04026>     ADD HYD                1.0 04:N25        3465.49   43.512 No_date   15:19   37.75 n/a     .000
04027>                      +     1.0 06:C1         1414.40   20.114 No_date   15:51   45.63 n/a     .000
04028>                    SUM=    1.0 08:N27        4879.89   63.374 No_date   15:29   40.03 n/a     .000
04029> R0150:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04030>     SAVE HYD               1.0 08:N27        4879.89   63.374 No_date   15:29   40.03 n/a     .000
04031>       fname :N27.0150
04032>       remark:Hydrograph for N27
04033> # Main channel
04034> R0150:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04035>     ROUTE CHANNEL    ->    1.0 08:N27        4879.89   63.374 No_date   15:29   40.03 n/a     .000
04036>       [RDT= 1.00] out<-    1.0 09:R8         4879.89   50.355 No_date   17:29   40.03 n/a     .000
04037>       [L/S/n= 2700./ .050/.035]
04038>       {Vmax=  .370:Dmax= 3.161}
04039> R0150:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04040>     SAVE HYD               1.0 09:R8         4879.89   50.355 No_date   17:29   40.03 n/a     .000
04041>       fname :R8.0150
04042>       remark:Routing Hydrograph for R8
04043> # Updated catchment M4
04044> R0150:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04045>     CALIB NASHYD           1.0 01:M4          354.74    9.936 No_date   14:23   64.34 .580    .000
04046>       [CN= 78.0: N= 3.00: Tp= 2.27]
04047> R0150:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04048>     SAVE HYD               1.0 01:M4          354.74    9.936 No_date   14:23   64.34 n/a     .000
04049>       fname :M4.0150
04050>       remark:Routing Hydrograph for M4
04051> # Creekside Subdivision - Post Development
04052> R0150:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04053>     CALIB STANDHYD         1.0 02:CRK          24.63    4.787 No_date   12:01   76.70 .691    .000
04054>       [XIMP=.53:TIMP=.63]
04055>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04056>       [Pervious    area: IAper= 4.67:ISLP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04057>       [Impervious  area: IAimp= 1.57:ISLP=.50:LGI= 405.:MNI=.013:SCI=   .0]
04058> # Creekside Subdivision - SWM Pond Routing
04059> R0150:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04060>     ROUTE RESERVOIR  ->    1.0 02:CRK          24.63    4.787 No_date   12:01   76.70 n/a     .000
04061>                out <=    1.0 03:Pond-Out       24.63    4.756 No_date   12:02   76.70 n/a     .000
04062>              overflow <=    1.0 04:Pond-Ovf        .00     .000 No_date    0:00     .00 n/a     .000
04063>       (MxStoUsed=.4761E+00  m3, TotOvfVol=.0000E+00  m3, R-Ovf=   0, TotDurOvf=    0.hrs)
04064> R0150:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04065>     ADD HYD                1.0 01:M4          354.74    9.936 No_date   14:23   64.34 n/a     .000
04066>                      +     1.0 03:Pond-Out       24.63    4.756 No_date   12:02   76.70 n/a     .000
04067>                      +     1.0 04:Pond-Ovf        .00     .000 No_date    0:00     .00 n/a     .000
04068>                      +     1.0 09:R8         4879.89   50.355 No_date   17:29   40.03 n/a     .000
04069>                    SUM=    1.0 05:N28        5259.26   55.812 No_date   17:03   41.84 n/a     .000
04070> R0150:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04071>     SAVE HYD               1.0 05:N28        5259.26   55.812 No_date   17:03   41.84 n/a     .000
04072>       fname :N28.0150
04073>       remark:Hydrograph for N28
04074>     ** END OF RUN :  198
04075> ------------------------------------------------------------------------------------------------------------
04076> ************************************************************************************************************
04077>
04078>
04079>
04080>
04081>
04082>  RUN#:COMMAND#
04083> R0199:C00001------------------------------------------------------------------------------------------------
04084>       START
04085>       [TZERO =    .00 hrs on        0]
04086>       [METOUT=   2    (1=imperial, 2=metric output)]
04087>       [NSTORM=   1 ]
04088>       [NRUN  = 0199 ]
04089> #**********************************************************************
04090> #  Project Name: [Creekside Subdivision]    Project Number: [1355]
04091> #  Date        : 2024-04-16
04092> #  Modeller    : [   PP   ]
04093> #  Company     : J.F. Sabourin and Associates
04094> #  License #   : 2549237
04095> #**********************************************************************
04096> R0199:C00002------------------------------------------------------------------------------------------------
04097>       READ STORM
04098>       Filename = storm.001
04099>       Comment  = SCS Storm 24 hour (100 year)
04100>       [SDT=30.00:SDUR=  24.00:PTOT= 123.01]
04101> R0199:C00003------------------------------------------------------------------------------------------------
04102>       DEFAULT VALUES
04103>       Filename = C:\Temp\temp\FlowVal.val
04104>       ICASEdv  = 1 (read and print data)
04105>       FileTitle= File comment: [RVCA Flowing Creek FPM]
04106>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
04107>       Horton's infiltration equation parameters:
04108>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
04109>       Parameters for PERVIOUS surfaces in STANDHYD:
04110>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
04111>       Parameters for IMPERVIOUS surfaces in STANDHYD:
04112>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
04113>       Parameters used in NASHYD:
04114>       [Ia=   1.50 mm] [N= 3.00]
04115>       Average monthly Pan Evaporation data in    (mm)
04116>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04117>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04118>       Average monthly Potential Evapotranspiration in    (mm)
04119>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04120>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04121> R0199:C00004------------------------------------------------------------------------------------------------
04122>  -------------
04123>  | SAVE HYD  |      START SAVING ALL SIMULATED HYDROGRAPHS.
04124>
04125>
04126>
04127>  -------------
04128> # Main Channel
04129> R0199:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04130>     CALIB NASHYD           1.0 01:M1          136.59    2.742 No_date   13:46   37.73 .307    .000
04131>       [CN= 53.5: N= 3.00: Tp= 1.64]
04132> R0199:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04133>     SAVE HYD               1.0 01:M1          136.59    2.742 No_date   13:46   37.73 n/a     .000
04134>       fname :M1.0199
04135>       remark:Runoff Hydrograph for M1
04136> R0199:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04137>     ROUTE CHANNEL    ->    1.0 01:M1          136.59    2.742 No_date   13:46   37.73 n/a     .000
04138>       [RDT= 1.00] out<-    1.0 02:R1          136.59    2.468 No_date   14:25   37.73 n/a     .000
04139>       [L/S/n= 3000./ .550/.035]
04140>       {Vmax= 1.118:Dmax=  .445}
04141> R0199:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04142>     SAVE HYD               1.0 02:R1          136.59    2.468 No_date   14:25   37.73 n/a     .000
04143>       fname :R1.0199
04144>       remark:Routing Hydrograph for R1
04145> R0199:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04146>     CALIB NASHYD           1.0 03:M2          372.64    7.088 No_date   13:47   36.04 .293    .000
04147>       [CN= 52.2: N= 3.00: Tp= 1.65]
04148> R0199:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04149>     SAVE HYD               1.0 03:M2          372.64    7.088 No_date   13:47   36.04 n/a     .000
04150>       fname :M2.0199
04151>       remark:Routing Hydrograph for M2
04152> R0199:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04153>     ADD HYD                1.0 02:R1          136.59    2.468 No_date   14:25   37.73 n/a     .000
04154>                      +     1.0 03:M2          372.64    7.088 No_date   13:47   36.04 n/a     .000
04155>                    SUM=    1.0 04:N21         509.23    9.401 No_date   13:57   36.49 n/a     .000
04156> R0199:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04157>     SAVE HYD               1.0 04:N21         509.23    9.401 No_date   13:57   36.49 n/a     .000
04158>       fname :N21.0199
04159>       remark:Hydrograph for N21
04160> R0199:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04161>     ROUTE CHANNEL    ->    1.0 04:N21         509.23    9.401 No_date   13:57   36.49 n/a     .000
04162>       [RDT= 1.00] out<-    1.0 05:R2          509.23    7.836 No_date   14:51   36.49 n/a     .000
04163>       [L/S/n= 4000./ .180/.035]
04164>       {Vmax= 1.031:Dmax=  .867}
04165> R0199:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04166>     SAVE HYD               1.0 05:R2          509.23    7.836 No_date   14:51   36.49 n/a     .000
04167>       fname :R2.0199
04168>       remark:Routing Hydrograph for R2
04169> R0199:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04170>     CALIB NASHYD           1.0 06:M3          533.23    8.572 No_date   14:45   40.92 .333    .000
04171>       [CN= 56.0: N= 3.00: Tp= 2.47]
04172> R0199:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04173>     SAVE HYD               1.0 06:M3          533.23    8.572 No_date   14:45   40.92 n/a     .000
04174>       fname :M3.0199
04175>       remark:Routing Hydrograph for M3
04176> R0199:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04177>     ADD HYD                1.0 06:M3          533.23    8.572 No_date   14:45   40.92 n/a     .000
04178>                      +     1.0 05:R2          509.23    7.836 No_date   14:51   36.49 n/a     .000
04179>                    SUM=    1.0 07:N22        1042.46   16.403 No_date   14:49   38.76 n/a     .000
04180> R0199:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04181>     SAVE HYD               1.0 07:N22        1042.46   16.403 No_date   14:49   38.76 n/a     .000
04182>       fname :N22.0199
04183>       remark:Hydrograph for N22
04184> # Trib A
04185> R0199:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04186>     CALIB NASHYD           1.0 08:A1           86.15    1.744 No_date   13:59   41.03 .334    .000
04187>       [CN= 56.1: N= 3.00: Tp= 1.83]
04188> R0199:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04189>     SAVE HYD               1.0 08:A1           86.15    1.744 No_date   13:59   41.03 n/a     .000
04190>       fname :A1.0199
04191>       remark:Runoff Hydrograph for A1
04192> R0199:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04193>     ROUTE CHANNEL    ->    1.0 08:A1           86.15    1.744 No_date   13:59   41.03 n/a     .000
04194>       [RDT= 1.00] out<-    1.0 09:R3           86.15    1.602 No_date   14:36   41.03 n/a     .000
04195>       [L/S/n= 2500./ .600/.035]
04196>       {Vmax=  .971:Dmax=  .332}
04197> R0199:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04198>     SAVE HYD               1.0 09:R3           86.15    1.602 No_date   14:36   41.03 n/a     .000
04199>       fname :R3.0199
04200>       remark:Routing Hydrograph for R3
04201> R0199:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04202>     CALIB NASHYD           1.0 01:A2          246.39    5.494 No_date   14:09   47.62 .387    .000
04203>       [CN= 61.0: N= 3.00: Tp= 1.99]
04204> R0199:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04205>     SAVE HYD               1.0 01:A2          246.39    5.494 No_date   14:09   47.62 n/a     .000
04206>       fname :A2.0199
04207>       remark:Routing Hydrograph for A2
04208> R0199:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04209>     ADD HYD                1.0 01:A2          246.39    5.494 No_date   14:09   47.62 n/a     .000
04210>                      +     1.0 09:R3           86.15    1.602 No_date   14:36   41.03 n/a     .000
04211>                    SUM=    1.0 02:N11         332.54    7.053 No_date   14:17   45.91 n/a     .000
04212> R0199:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04213>     SAVE HYD               1.0 02:N11         332.54    7.053 No_date   14:17   45.91 n/a     .000
04214>       fname :N11.0199
04215>       remark:Hydrograph for N11
04216> R0199:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04217>     ROUTE CHANNEL    ->    1.0 02:N11         332.54    7.053 No_date   14:17   45.91 n/a     .000
04218>       [RDT= 1.00] out<-    1.0 03:R4          332.54    6.456 No_date   14:57   45.91 n/a     .000
04219>       [L/S/n= 3000./ .200/.035]
04220>       {Vmax= 1.064:Dmax=  .951}
04221> R0199:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04222>     SAVE HYD               1.0 03:R4          332.54    6.456 No_date   14:57   45.91 n/a     .000
04223>       fname :R4.0199
04224>       remark:Routing Hydrograph for R4
04225> R0199:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04226>     CALIB NASHYD           1.0 04:A3          316.70    6.666 No_date   14:31   50.18 .408    .000
04227>       [CN= 62.8: N= 3.00: Tp= 2.31]
04228> R0199:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04229>     SAVE HYD               1.0 04:A3          316.70    6.666 No_date   14:31   50.18 n/a     .000
04230>       fname :A3.0199
04231>       remark:Routing Hydrograph for A3
04232> R0199:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04233>     ADD HYD                1.0 04:A3          316.70    6.666 No_date   14:31   50.18 n/a     .000
04234>                      +     1.0 03:R4          332.54    6.456 No_date   14:57   45.91 n/a     .000
04235>                    SUM=    1.0 05:N12         649.24   13.046 No_date   14:45   47.99 n/a     .000
04236> R0199:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04237>     SAVE HYD               1.0 05:N12         649.24   13.046 No_date   14:45   47.99 n/a     .000
04238>       fname :N12.0199
04239>       remark:Hydrograph for N12
04240> # Trib B
04241> R0199:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04242>     CALIB NASHYD           1.0 06:B1          627.61    7.836 No_date   15:53   40.27 .327    .000
04243>       [CN= 55.5: N= 3.00: Tp= 3.36]
04244> R0199:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04245>     SAVE HYD               1.0 06:B1          627.61    7.836 No_date   15:53   40.27 n/a     .000
04246>       fname :B1.0199
04247>       remark:Runoff Hydrograph for B1
04248> R0199:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04249>     ROUTE CHANNEL    ->    1.0 06:B1          627.61    7.836 No_date   15:53   40.27 n/a     .000
04250>       [RDT= 1.00] out<-    1.0 08:R5          627.61    7.677 No_date   16:27   40.27 n/a     .000
04251>       [L/S/n= 4800./ .870/.035]
04252>       {Vmax= 2.037:Dmax=  .967}
04253> R0199:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04254>     SAVE HYD               1.0 08:R5          627.61    7.677 No_date   16:27   40.27 n/a     .000
04255>       fname :R5.0199
04256>       remark:Routing Hydrograph for R5
04257> R0199:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04258>     CALIB NASHYD           1.0 09:B2          255.45    6.252 No_date   14:34   59.21 .481    .000
04259>       [CN= 68.8: N= 3.00: Tp= 2.39]
04260> R0199:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04261>     SAVE HYD               1.0 09:B2          255.45    6.252 No_date   14:34   59.21 n/a     .000
04262>       fname :B2.0199
04263>       remark:Routing Hydrograph for B2
04264> R0199:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04265>     ADD HYD                1.0 08:R5          627.61    7.677 No_date   16:27   40.27 n/a     .000
04266>                      +     1.0 09:B2          255.45    6.252 No_date   14:34   59.21 n/a     .000
04267>                    SUM=    1.0 01:N2          883.06   13.006 No_date   15:31   45.75 n/a     .000
04268> R0199:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04269>     SAVE HYD               1.0 01:N2          883.06   13.006 No_date   15:31   45.75 n/a     .000
04270>       fname :N2.0199
04271>       remark:Hydrograph for N2
04272> R0199:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04273>     CALIB NASHYD           1.0 02:B3          336.77    4.226 No_date   15:33   38.21 .311    .000
04274>       [CN= 53.9: N= 3.00: Tp= 3.10]
04275> R0199:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04276>     SAVE HYD               1.0 02:B3          336.77    4.226 No_date   15:33   38.21 n/a     .000
04277>       fname :B3.0199
04278>       remark:Routing Hydrograph for B3
04279> R0199:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04280>     ADD HYD                1.0 01:N2          883.06   13.006 No_date   15:31   45.75 n/a     .000
04281>                      +     1.0 02:B3          336.77    4.226 No_date   15:33   38.21 n/a     .000
04282>                    SUM=    1.0 03:N4         1219.83   17.231 No_date   15:31   43.67 n/a     .000
04283> R0199:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04284>     SAVE HYD               1.0 03:N4         1219.83   17.231 No_date   15:31   43.67 n/a     .000
04285>       fname :N4.0199
04286>       remark:Hydrograph for N4
04287> R0199:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04288>     ROUTE CHANNEL    ->    1.0 03:N4         1219.83   17.231 No_date   15:31   43.67 n/a     .000
04289>       [RDT= 1.00] out<-    1.0 04:R6         1219.83   16.839 No_date   16:10   43.67 n/a     .000
04290>       [L/S/n= 1500./ .480/.035]
04291>       {Vmax=  .894:Dmax= 1.251}
04292> R0199:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04293>     SAVE HYD               1.0 04:R6         1219.83   16.839 No_date   16:10   43.67 n/a     .000
04294>       fname :R6.0199
04295>       remark:Routing Hydrograph for R6
04296> R0199:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04297>     CALIB NASHYD           1.0 06:B5          224.06    3.188 No_date   14:56   37.88 .308    .000
04298>       [CN= 53.7: N= 3.00: Tp= 2.60]
04299> R0199:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04300>     SAVE HYD               1.0 06:B5          224.06    3.188 No_date   14:56   37.88 n/a     .000
04301>       fname :B5.0199
04302>       remark:Routing Hydrograph for B5
04303> R0199:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04304>     ADD HYD                1.0 06:B5          224.06    3.188 No_date   14:56   37.88 n/a     .000
04305>                      +     1.0 04:R6         1219.83   16.839 No_date   16:10   43.67 n/a     .000
04306>                    SUM=    1.0 08:N5         1443.89   19.715 No_date   16:06   42.77 n/a     .000
04307> R0199:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04308>     SAVE HYD               1.0 08:N5         1443.89   19.715 No_date   16:06   42.77 n/a     .000
04309>       fname :N5.0199
04310>       remark:Hydrograph for N5
04311> R0199:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04312>     ROUTE CHANNEL    ->    1.0 08:N5         1443.89   19.715 No_date   16:06   42.77 n/a     .000
04313>       [RDT= 1.00] out<-    1.0 09:R7         1443.89   18.105 No_date   18:23   42.77 n/a     .000
04314>       [L/S/n= 4500./ .240/.035]
04315>       {Vmax=  .833:Dmax= 1.443}
04316> R0199:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04317>     SAVE HYD               1.0 09:R7         1443.89   18.105 No_date   18:23   42.77 n/a     .000
04318>       fname :R7.0199
04319>       remark:Routing Hydrograph for R7
04320> R0199:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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04321>     CALIB NASHYD          1.0 01:B6           329.90    9.453 No_date   14:36   70.10 .570     .000
04322>       [CN= 75.4: N= 3.00: Tp= 2.46]
04323> R0199:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04324>     SAVE HYD              1.0 01:B6           329.90    9.453 No_date   14:36   70.10  n/a     .000
04325>       fname :B6.0199
04326>       remark:Routing Hydrograph for B6
04327> R0199:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04328>     ADD HYD               1.0 09:R7          1443.89   18.105 No_date   18:23   42.77  n/a     .000
04329>                       +   1.0 01:B6           329.90    9.453 No_date   14:36   70.10  n/a     .000
04330>                   SUM=    1.0 02:N6          1773.79   23.547 No_date   16:48   47.85  n/a     .000
04331> R0199:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04332>     SAVE HYD              1.0 02:N6          1773.79   23.547 No_date   16:48   47.85  n/a     .000
04333>       fname :N6.0199
04334>       remark:Hydrograph for N6
04335> # Main channel combination with Trib A
04336> R0199:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04337>     ADD HYD               1.0 05:N12         649.24   13.046 No_date   14:45   47.99  n/a     .000
04338>                       +   1.0 07:N22        1042.46   16.403 No_date   14:49   38.76  n/a     .000
04339>                   SUM=    1.0 03:N23        1691.70   29.445 No_date   14:47   42.30  n/a     .000
04340> R0199:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04341>     SAVE HYD              1.0 03:N23         1691.70   29.445 No_date   14:47   42.30  n/a     .000
04342>       fname :N23.0199
04343>       remark:Hydrograph for N23/N24
04344> # Main channel combination with Trib B
04345> R0199:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04346>     ADD HYD               1.0 03:N23         1691.70   29.445 No_date   14:47   42.30  n/a     .000
04347>                       +   1.0 02:N6          1773.79   23.547 No_date   16:48   47.85  n/a     .000
04348>                   SUM=    1.0 04:N25        3465.49   51.103 No_date   15:07   45.14  n/a     .000
04349> R0199:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04350>     SAVE HYD              1.0 04:N25         3465.49   51.103 No_date   15:07   45.14  n/a     .000
04351>       fname :N25.0199
04352>       remark:Hydrograph for N25/N26
04353> # Main channel combination with Catchment C
04354> R0199:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04355>     CALIB NASHYD          1.0 06:C1          1414.40   23.942 No_date   15:49   54.09 .440     .000
04356>       [CN= 65.5: N= 3.00: Tp= 3.40]
04357> R0199:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04358>     SAVE HYD              1.0 06:C1          1414.40   23.942 No_date   15:49   54.09  n/a     .000
04359>       fname :C1.0199
04360>       remark:Routing Hydrograph for C1
04361> R0199:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04362>     ADD HYD               1.0 04:N25         3465.49   51.103 No_date   15:07   45.14  n/a     .000
04363>                       +   1.0 06:C1          1414.40   23.942 No_date   15:49   54.09  n/a     .000
04364>                   SUM=    1.0 08:N27        4879.89   74.463 No_date   15:16   47.74  n/a     .000
04365> R0199:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04366>     SAVE HYD              1.0 08:N27         4879.89   74.463 No_date   15:16   47.74  n/a     .000
04367>       fname :N27.0199
04368>       remark:Hydrograph for N27
04369> # Main channel
04370> R0199:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04371>     ROUTE CHANNEL   ->    1.0 08:N27         4879.89   74.463 No_date   15:16   47.74  n/a     .000
04372>       [RD= 1.00] out<-    1.0 09:R8          4879.89   58.525 No_date   17:36   47.74  n/a     .000
04373>       [L/S/n= 2700./ .050/.035]
04374>       [Vmax=  .357:Dmax= 3.306]
04375> R0199:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04376>     SAVE HYD              1.0 09:R8          4879.89   58.525 No_date   17:36   47.74  n/a     .000
04377>       fname :R8.0199
04378>       remark:Routing Hydrograph for R8
04379> # Updated catchment M4
04380> R0199:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04381>     CALIB NASHYD          1.0 01:M4           354.74   11.554 No_date   14:22   74.62 .607     .000
04382>       [CN= 78.0: N= 3.00: Tp= 2.27]
04383> R0199:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04384>     SAVE HYD              1.0 01:M4           354.74   11.554 No_date   14:22   74.62  n/a     .000
04385>       fname :M4.0199
04386>       remark:Routing Hydrograph for M4
04387> # Creekside Subdivision - Post Development
04388> R0199:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04389>     CALIB STANDHYD        1.0 02:CRK           24.63    5.419 No_date   12:01   85.98 .699     .000
04390>       [XIMP=.53:TIMP=.63]
04391>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04392>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04393>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 405.:MNI=.013:SCI=   .0]
04394> # Creekside Subdivision - SWM Pond Routing
04395> R0199:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04396>     ROUTE RESERVOIR ->    1.0 02:CRK           24.63    5.419 No_date   12:01   85.98  n/a     .000
04397>                 out <=    1.0 03:Pond-Out      24.63    5.386 No_date   12:02   85.97  n/a     .000
04398>           overflow <=    1.0 04:Pond-Ovf        .00     .000 No_date    0:00     .00  n/a     .000
04399>       {MxStoUsed=.4816E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
04400> R0199:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04401>     ADD HYD               1.0 01:M4           354.74   11.554 No_date   14:22   74.62  n/a     .000
04402>                       +   1.0 03:Pond-Out      24.63    5.386 No_date   12:02   85.97  n/a     .000
04403>                       +   1.0 04:Pond-Ovf        .00     .000 No_date    0:00     .00  n/a     .000
04404>                   SUM=    1.0 09:R8          4879.89   58.525 No_date   17:36   47.74  n/a     .000
04405>                       +   1.0 05:N28         5259.26   64.936 No_date   17:05   49.73  n/a     .000
04406> R0199:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04407>     SAVE HYD              1.0 05:N28         5259.26   64.936 No_date   17:05   49.73  n/a     .000
04408>       fname :N28.0199
04409>       remark:Hydrograph for N28
04410> R0199:C00002------------------------------------------------------------------------------------------
04411>     FINISH
04412> ------------------------------------------------------------------------------------------------------
04413> ******************************************************************************************************
04414>      WARNINGS / ERRORS / NOTES
04415>       -------------------------
04416>    Simulation ended on 2024-04-24     at 14:13:08
04417> ======================================================================================================
04418>
```

Table B1: SWM Pond Criteria for Required Storage Volumes

Pond	Area [1] (ha)	Imperviousness (%)	Storage Volume for Impervious Level [2] (m^3/ha)
N/A	N/A	55	190
East SWM Pond	24.63	63	209
N/A	N/A	70	225

[1] Based on drainage area provided by Robinson Consultants Inc. (RCI); Assumes that the entire development (total drainage area) drains to the SWM facility.

[2] Protection Level for Wet Pond: Enhanced 80% long-term S.S. removal.
SWM Planning & Design Manual, Table 3.2, p.3-10 (March 2003).

Table B2: Required Storage Volumes for SWM Facility

Pond Component	Required Volume (m^3)	Allowable Release Rate (m^3/s)
Permanent Pool (PP) [1]	4,162	-
Quality Control [2]	985	0.011
Forebay (20% PP)	832	-
PP - Forebay	3,330	-

(1) Required PP volume based on Table B-1 (209 - 40).

(2) Required quality control volume based on 40 m3/ha

(3) Quality control release rate based on 48 hour drawdown time

Table B3: Summary of Preliminary SWM Pond - Operating Characteristics

Pond Components	Node N28 Ex. Condition Peak Flows [1] (m^3/s)	Node N28 Prop. Condition Peak Flows (m^3/s)	Difference (m^3/s)	Site Uncontrolled (no SWM Pond) (m^3/s)	SWM Pond Release Rate (m^3/s)	Pond Volume (m^3)
Permanent Pool [2]	-	-	-	-	-	4,162
Quality Control [3]	-	-	-	-	0.011	985
25mmCHI3Hr	3.545	3.496	-0.049	1.467	0.034	3,138
2YrCHI3Hr	6.918	6.843	-0.075	2.076	0.047	4,338
5YrCHI3Hr	14.213	14.068	-0.145	3.254	1.393	4,467
10YrCHI3Hr	20.227	20.027	-0.200	4.160	2.577	4,572
25YrCHI3Hr	27.148	26.935	-0.213	5.252	3.937	4,692
50YrCHI3Hr	31.977	31.752	-0.225	6.194	5.000	4,783
100YrCHI3Hr	39.544	39.291	-0.253	6.678	5.760	4,849
2YrSCS24Hr	13.815	13.705	-0.110	1.641	0.860	4,421
5-yr SCS 24hr	27.313	27.144	-0.169	2.693	2.634	4,576
10-yr SCS 24hr	35.489	35.304	-0.185	3.340	3.320	4,636
20-yr SCS 24hr	44.308	44.102	-0.206	3.981	3.954	4,691
50-yr SCS 24hr	56.056	55.812	-0.244	4.787	4.756	4,761
100-yr SCS 24hr	65.202	64.936	-0.266	5.419	5.386	4,816

[1] Flows based on existing condition peak flows from 2017 RVCA SWMHYMO model of Flowing Creek

[2] Required permanent pool volume based on MOE SWMPD Manual Table 3.2, enhanced 80% TSS Removal for wet pond.

[3] Required quality control volume based on 40 m^3/ha released over 48 hours

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52 Springbrook Drive,
Ottawa, ON K2S 1B9
T 613-836-3884 F 613-836-0332

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Attachment C

Cumulative Impact Assessment – Jock River Development,
AECOM 2010

AECOM
302 – 1150 Morrison Drive
Ottawa, ON, Canada K2H 8S9
www.aecom.com

613 820 8282 tel
613 820 8338 fax

Memorandum

To	Susan Murphy, Mattamy Homes	Page	1
CC			
Subject	Cumulative Impact Assessment – Jock River Development		
From	Paul Frigon, AECOM		
Date	March 3, 2010	Project Number	60117455

We have completed a cumulative impact assessment of future development in the Jock River Watershed upstream of Eagleson Road, on peak flows in the Jock River. As detailed below, it is evident that there is no cumulative impact on peak flows in the Jock River from foreseeable development.

The ten (10) development areas, as identified by the RVCA, are located in **Figure 1** and detailed in **Figure 2**, for Richmond, and for the remaining nine areas in the attached **Appendix A.** It is assumed that the ten areas provide a reasonable estimate of potential urbanisation within the watershed. The hydrologic model for summer flow estimates, prepared for the Jock River Flood Risk Mapping Study (PSR Group/JFSA 2004), was used to assess both existing and future (developed) flows.

The comparison of existing and developed flows was achieved by modifying the Curve Numbers (CN) utilised in the hydrologic model for those catchments that contained proposed development. There was no stormwater management (SWM) component considered: the intent was to gain understanding of the magnitude and timing of development flows and their potential to impact downstream areas. The addition of SWM would reduce flow magnitude but potentially increase the duration of the reduced peak flow.

There was no modification to the Time to Peak (Tp) since development areas typically ranged between 2% and 15% of the total drainage area, in the given subcatchments, and it was assumed this small change in landuse would not impact the overall Tp.

The modified CN are found in **Table 1** and were developed by using area weighted averages for the existing CN and the CN for the proposed development. CN for existing conditions are found in **Table 2** extracted from the Hydrologic Study prepared for the Jock River Flood Risk Mapping Study: the CN identified for proposed development assumed, conservatively, that most rural lot sizes would be ¼ acre with a CN of 83 while lots within Richmond would be less than 1/8 acre with a CN of 90.

A review of the watershed boundaries determined for the hydrologic model and a review of the location of the proposed development (confirmed through detailed engineering analysis

in preparation of subdivision stormwater management plans) suggested that the drainage area of the watershed would have to be increased, as related to developments 4, 5 and 6. This was achieved by adding those development areas (87 ha in total) to the area of the subcatchment identified as JR_GWM ie, the Goodwood Marsh: so JR_GWM increased from 3074 ha to 3161 ha.

The review also identified that the 260 hectares of development in Richmond, as identified in **Figure 2,** would be split between the following catchments: VG_DR, SW_5, SW_6, FL_CK, and SW_5A1 in the following ratios: 51%, 14%, 9%, 14% and 12%.

The result from the modelling of existing and future landuses and their resultant 1:100 Year flows are summarised in **Table 3** and illustrated in **Figure 3** for several significant points along the Jock River. These points include: upstream of Richmond (N6), downstream of the Van Gaal Drain (VG_DR), downstream of Richmond at Eagleson Road (S_N5A) and at the outlet which is the confluence with the Rideau River (N1). As well, the peak flows from several subcatchments (s/c) in Richmond are reported. The modelling input and output are summarised in **Appendix B**.

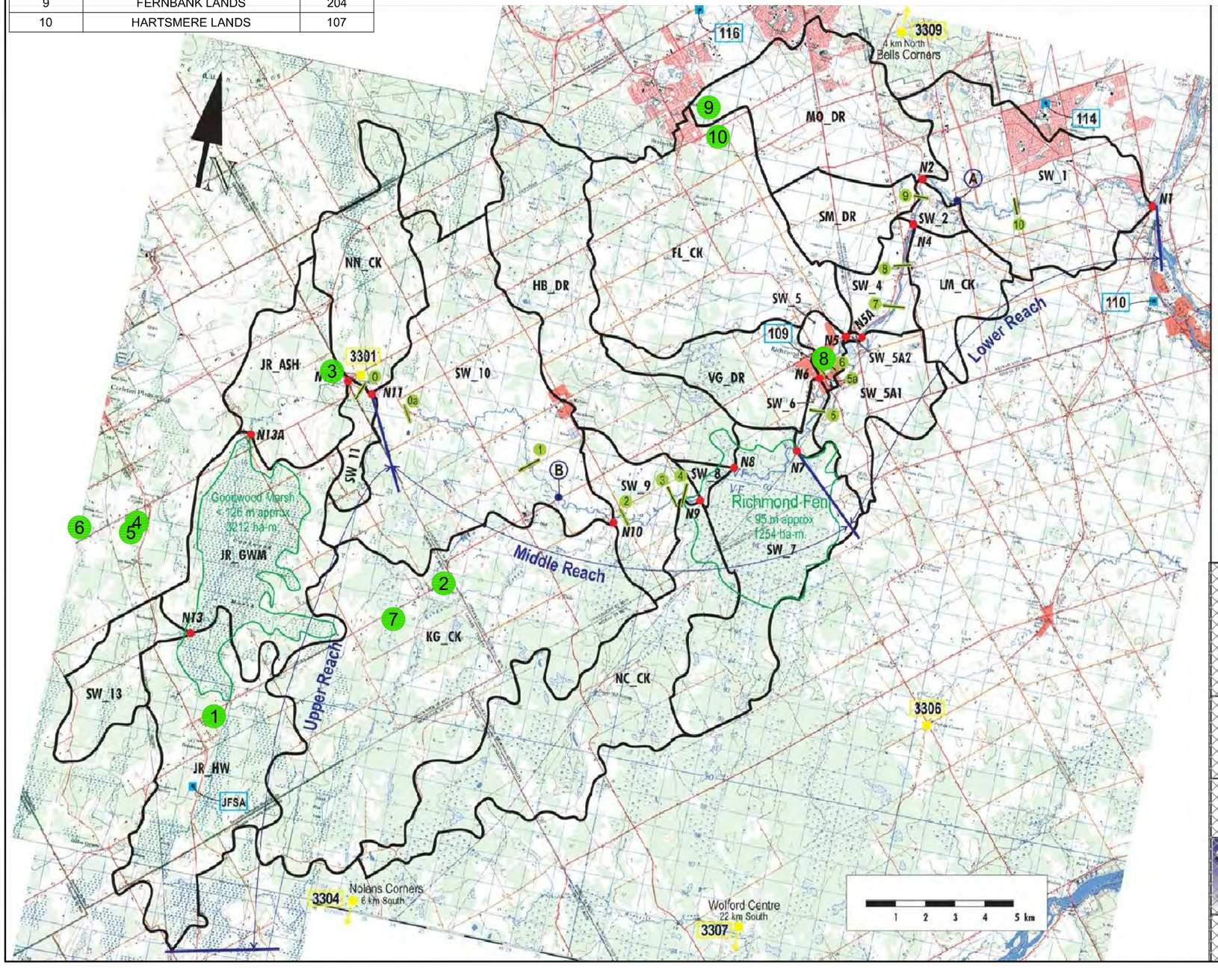
It is apparent that, given the Time to Peak assumptions in the model, coupled with routing characteristics including channel routing for various reaches and reservoir routing for Goodwood Marsh and the Richmond Fen, there are two major peaks in the system separated by approximately 30 hours.

The first peak is due to lands upstream of Richmond and occurs at roughly 60 hours into the 1:100 Year rainfall event. It is estimated at 60.3 m3/s, upstream of Richmond, for existing conditions and reflects peak flow and timing attenuation from the Goodwood Marsh and the Richmond Fen. This is illustrated in **Figure 3** by the hydrograph upstream (u/s) of Richmond. Review of the peak flow considering development, at this point in the system – 60.3m3/s, suggests that development upstream of Richmond has no impact on peak flows – see **Table 2** for peak flow estimates at node N6 upstream of Richmond.

The second peak occurs downstream of Richmond and is illustrated by review, in **Figure 3,** of the hydrograph at Eagleson Road (S_N5). The peak occurs at roughly 30 hours and is estimated at 88.6m3/s at this location under existing conditions. The hydrograph is heavily influenced by Flowing Creek (FL_CK) interaction with the rising limb of the flows from upstream of Richmond. Review of the peak flow considering development, at this point in the system, suggests that development through Richmond has little or no impact on peak flows: **Table 2** indicates an increase to 89.0m3/s under future conditions which is less than a 0.5% increase and well within the accuracy and limitations of the model and its current assumptions: for example, no SWM has been accounted for in the Mattamy development in Richmond (subcatchments VG_DR and SW_6).

In conclusion, a simplistic approach has been used to identify the cumulative impact of development on peak flows in the Jock River watershed. Given the size of the watershed and the relatively small amount of development in the foreseeable future, it is apparent that there is no impact from anticipated development on Jock River flows.

LOCATION #	DEVELOPMENT NAME	AREA (Ha)
1	FRANKTOWN	106
2	PROSPECT	129
3	ASHTON	54
4	RICHARDSON	26
5	AMT GROUP	22
6	HAY FAMILY DEVELOPMENTS	15
7	1343791 ONTARIO LTD.	32
8	VILLAGE OF RICHMOND	413
9	FERNBANK LANDS	204
10	HARTSMERE LANDS	107



1 LOCATION NUMBER
VACANT DEVELOPMENT

Legend:
- Watershed
- Bogs (Reservoir)
- Nodes
- Flow gauges
- Rain gauges
- Snow course stations
- River Cross-Sections (based on topo. maps)
- River Cross-Sections adjusted with field data
- Reaches limits

Flow gauges ID
- (A) 02LA007- Jock River near Richmond
- (B) Jock River at Franktown Rd

Rain gauges ID
- 109 Richmond
- 110 Manotick
- 114 Barrhaven
- 116 Maple Grove
- JFSA JFSA Inc, Temporary Rain Gauge 2003

Snow course stations ID
- 3301 Ashton
- 3304 Nolans Corners
- 3306 Pierces Corners
- 3307 Bells Corners
- 3309 Wolford Centre

No.	DATE	BY	ISSUES / REVISIONS
1			

AECOM Canada Ltd.
1701 Hollis Street, Halifax, Nova Scotia, Canada B3J 3M8
T902.428.2021 F902.428.2031

Client: RIDEAU VALLEY CONSERVATION AUTHORITY

Project: Jock River Flood Plain Mapping Study

Title: Watershed Delineation

J.F. Sabourin & Associates Inc.
WATER RESOURCES AND ENVIRONMENTAL CONSULTANTS
OTTAWA (613) 727-5199
GATINEAU (819) 243-6858

Ref. File: Base Map Jock River R.dgn

CLIENT: MATTAMY HOMES

PROJECT: RICHMOND - -

DRAWING: VACANT DEVELOPMENT LANDS IN BECKWITH AND OTTAWA UPSTREAM OF EAGLESON ROAD

DRAWN BY:	CHECKED BY:	PROJECT No. :
S.A.E.		60117455
DESIGNED BY:	APPROVED BY:	DRAWING No.
		Fig. 1
SCALE: N.T.S.	DATE: Jan. 2010	

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Figure 2
Development in Richmond

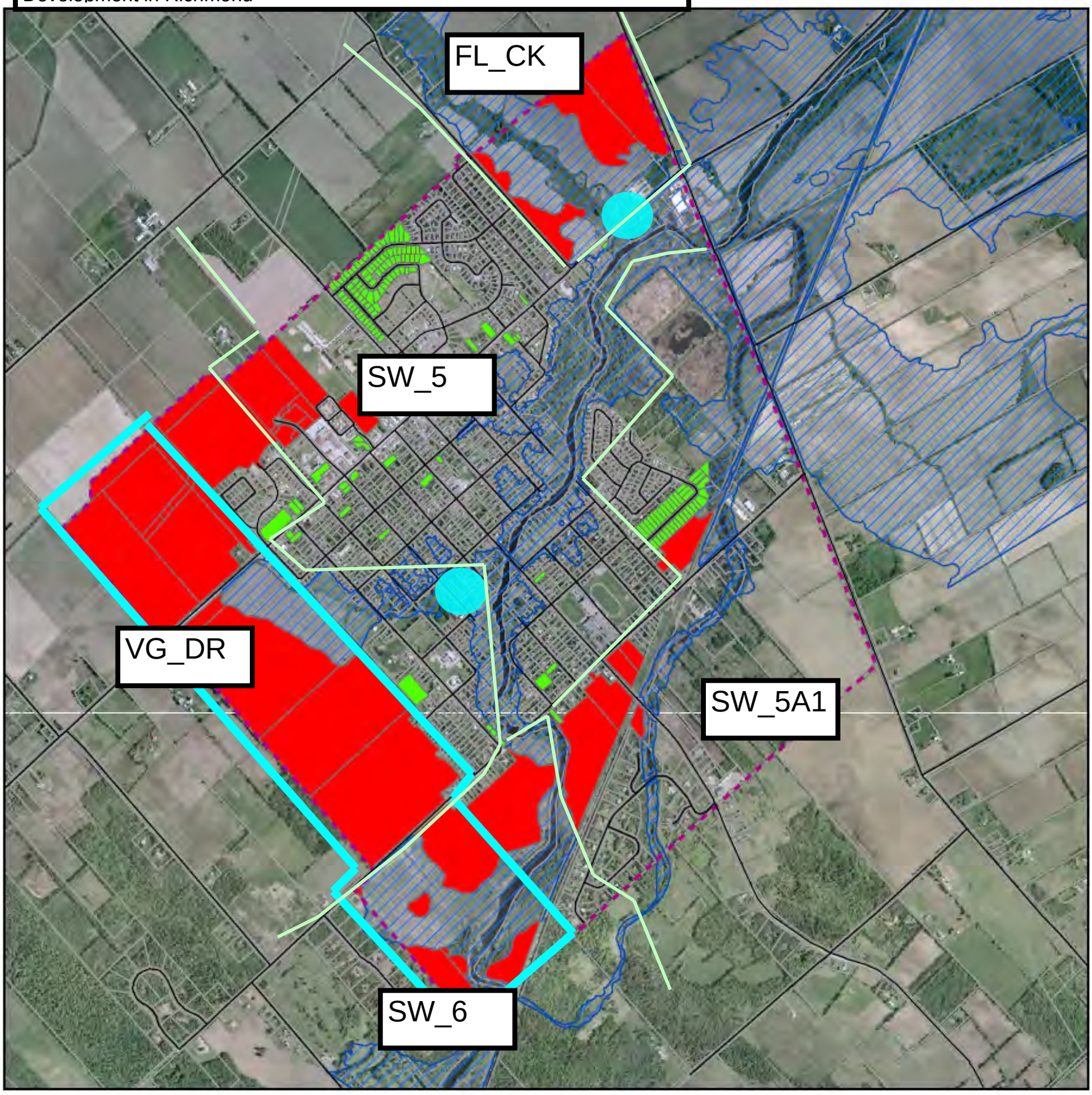


Figure 3 1:100 Year Hydrographs for selected catchments and locations on the Jock River

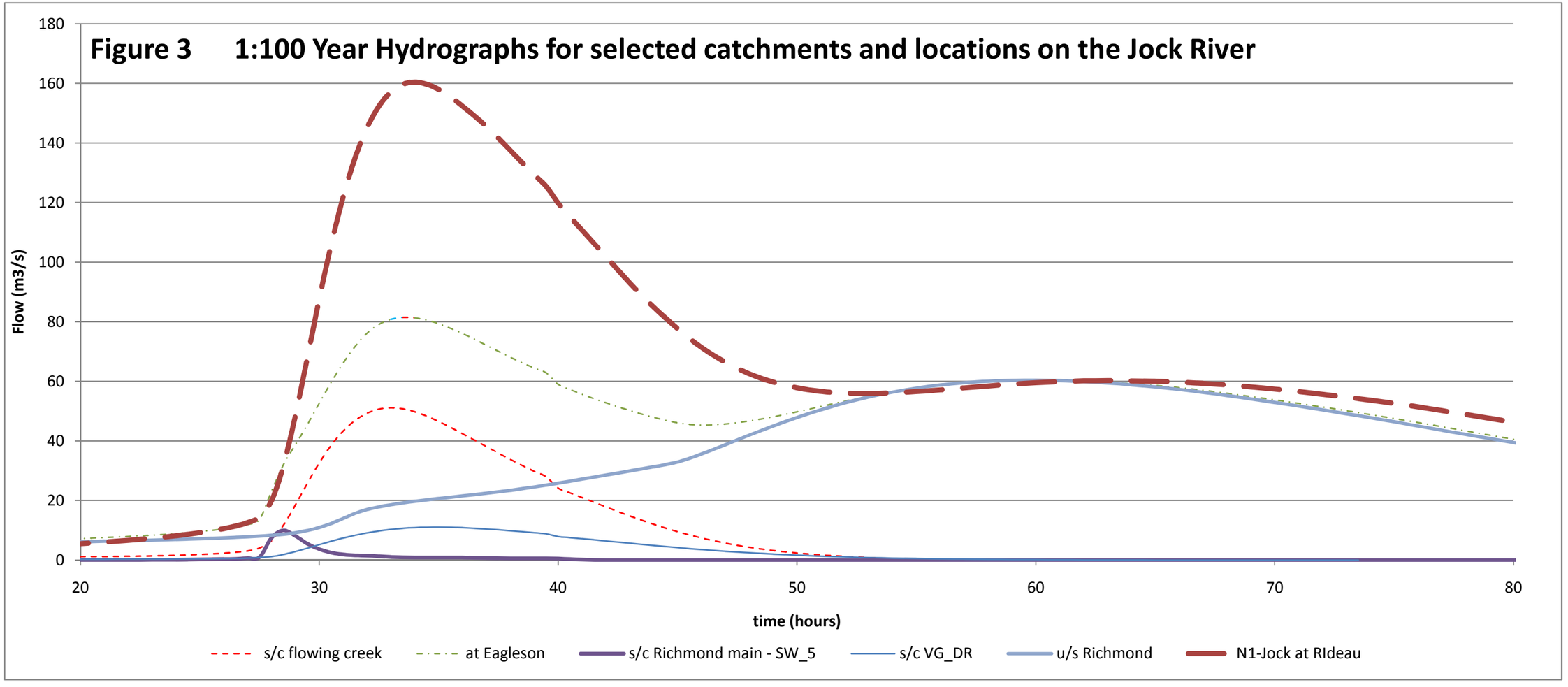


Table 1: CN determination based on future development

development			sub-catchment			
location	area (ha)	CN	id	area (ha)	CN	revised CN
1	106	83	JR_HW	3680	64	64.5
2	129	83	KG_CK	8376	66	66.3
7	32	83	KG_CK			
3	54	83	JR_ASH	1781	72	72.3
4	26	83	JR_GWM	3161	55	55.8
5	22	83	JR_GWM			
6	39	83	JR_GWM			
8d	36	90	SW_5	224	77	79.1
8c	132	90	VG_DR	1332	72	73.8
10	107	83	FL_CK	4945	74	74.6
9	204	83	FL_CK			
8a	36	90	FL_CK			
8e	24.0	90	SW_6	165	67	70.3
8b	30	90	SW_5A1	1412	75	75.3

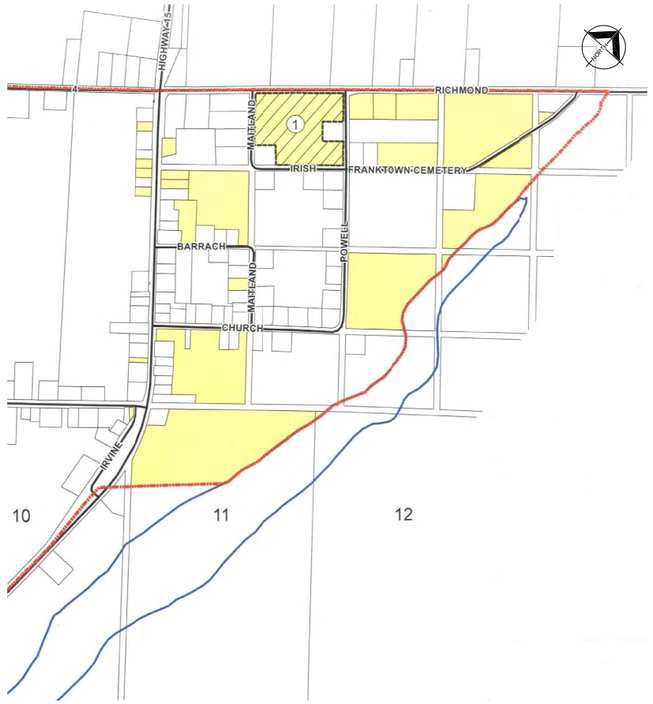
In Richmond			% of remaining development	remaining development area (ha)
8a	FL_CK		14%	36
8b	SW_5A1		12%	30
8c	VG_DR		51%	132
8d	SW_5		14%	36
8e	SW_6		9%	24
		TOTAL	**100%**	**258**
				(From Figure 2)

	Table 2: 1:100 Year Peak Flow Comparisons - Selected Locations - Existing and Future Conditions						
	Location	Existing		Future			
		peak (m3/s)	time (hrs)	peak (m3/s)	time (hrs)		
	u/s Richmond (N6)	60.3	60:00:00	60.3	60:00:00		
	s/c SW-6	1.5	33:00:00	1.6	32:30:00		
	s/c VG_DR	10.6	35:00:00	10.9	35:00:00		
	s/c SW_5	9.3	28:30:00	10.0	28:30:00		
	s/c FL_CK	51.1	33:00:00	51.1	33:00:00		
	d/s Eagleson (S_N5A)	88.6	34:30:00	89.0	34:30:00		
	Confluence with Rideau (N1)	158.3	34:00:00	158.8	34:00:00		

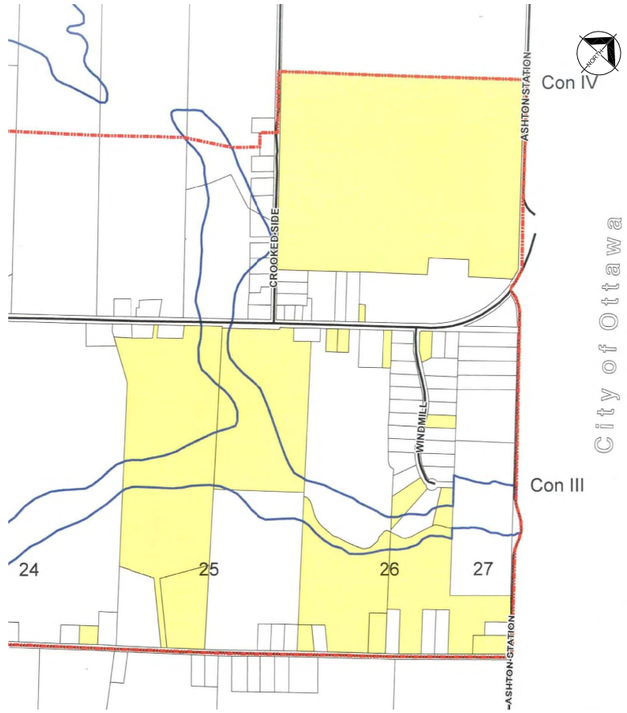
APPENDIX A

Location of Future Development

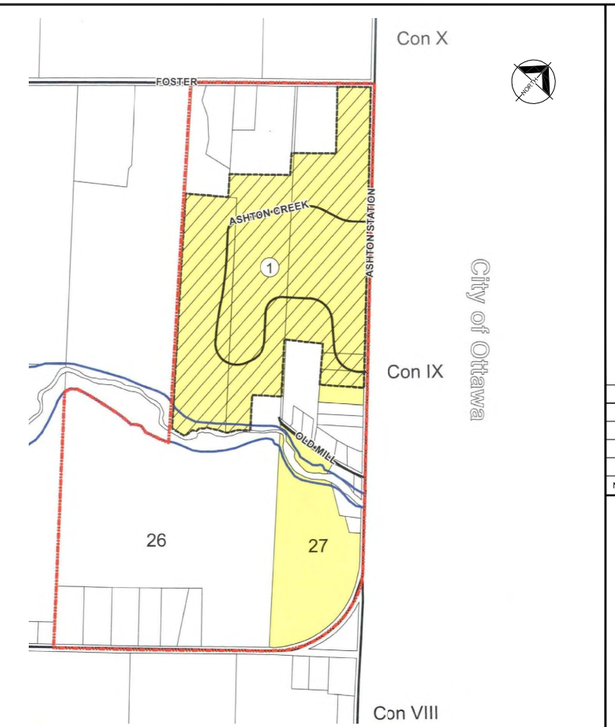
Jock River Watershed Drainage Areas Upstream of Eagleson Road



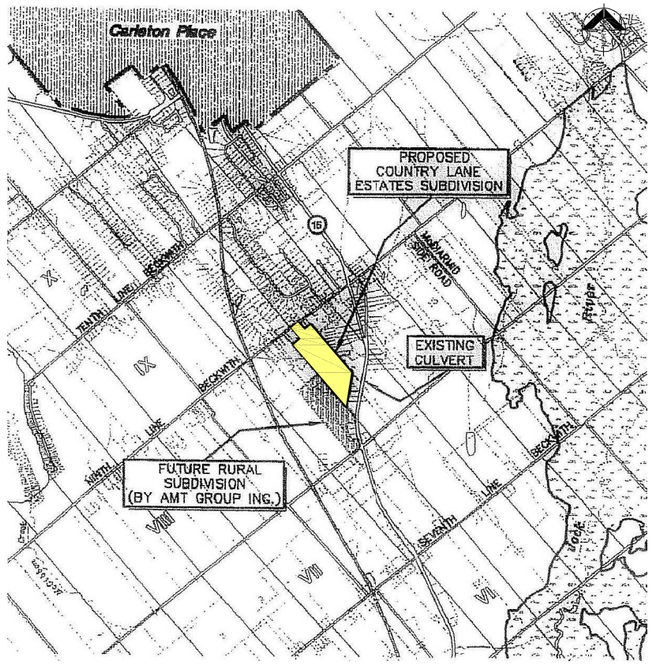
1 FRANKTOWN



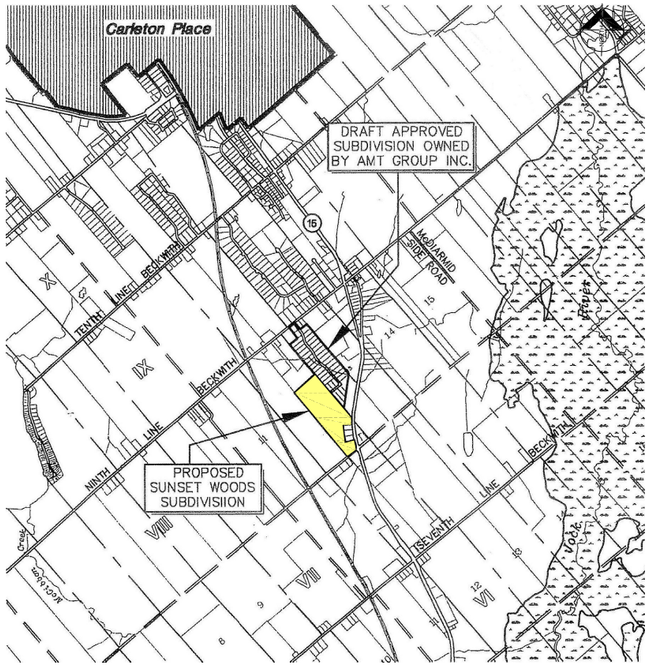
2 PROSPECT



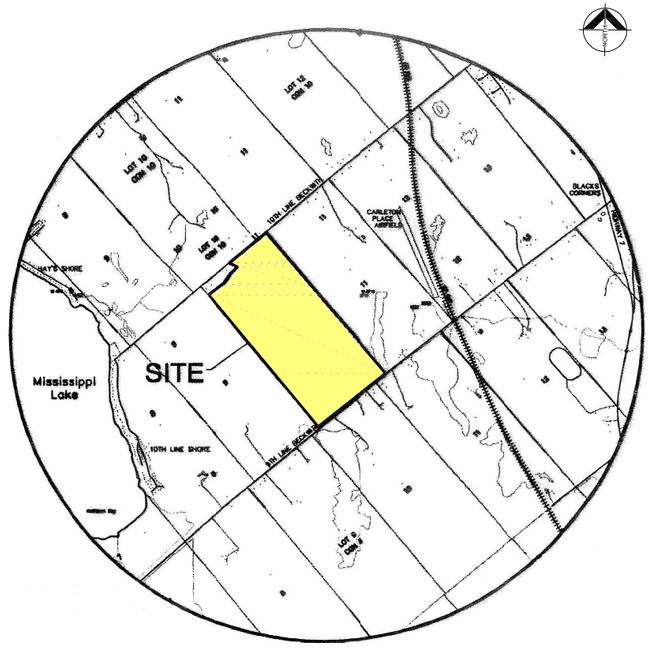
3 ASHTON



4 RICHARDSON



5 AMT GROUP



6 HAY FAMILY DEVELOPMENTS

No.	DATE	BY	ISSUES / REVISIONS
1			

AECOM

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T902.428.2021 F902.428.2031

MATTAMY HOMES

PROJECT:

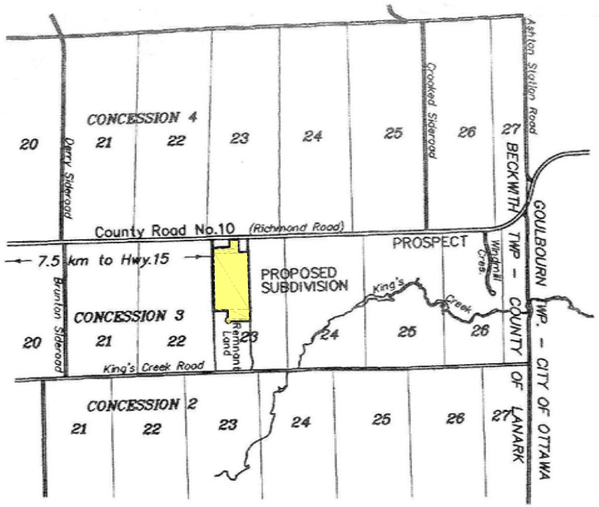
RICHMOND
-
-

DRAWING:

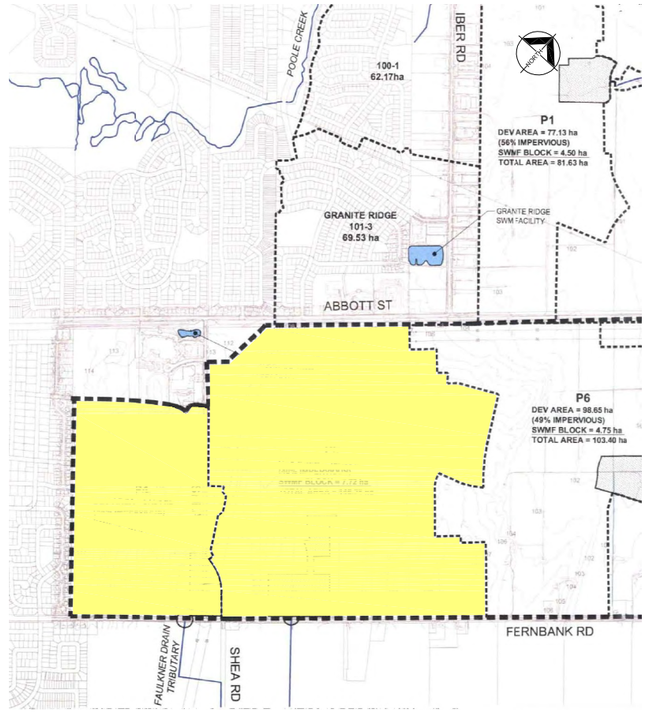
VACANT DEVELOPMENT LANDS IN BECKWITH AND OTTAWA UPSTREM OF EAGLESON ROAD

DRAWN BY:	CHECKED BY:	PROJECT No. :
S.A.E.		60117455
DESIGNED BY:	APPROVED BY:	DRAWING No.
		Fig. A1
	DATE:	
N.T.S.	Jan. 2010	

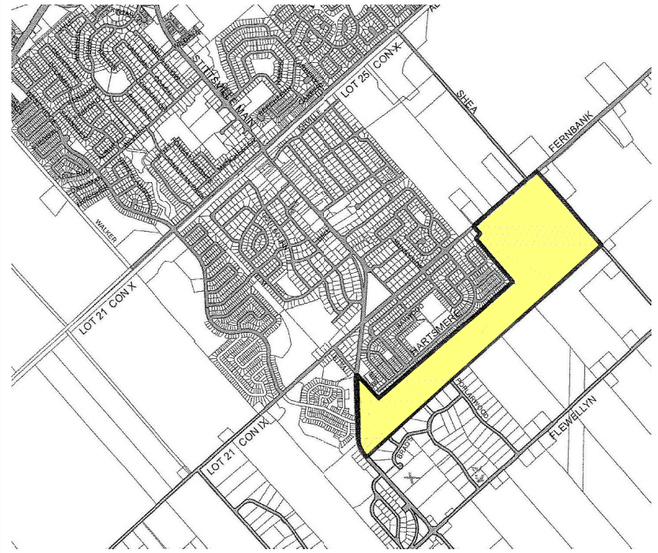
ID - C:\Projects\18\18-10000\100772 - Mattamy - Jock River\Cumulative Impact Analysis\development areas\60117455_Fig 1.dwg - Fri, 29 Jan 2010 - 11:24



7 1343791 ONTARIO LTD.



9 FERNBANK LANDS



10 HARTSMERE LANDS

No.	DATE	BY	ISSUES / REVISIONS
1			

AECOM Canada Ltd.
1701 Hollis Street, Halifax, Nova Scotia, Canada B3J 3M8
T902.428.2021 F902.428.2031

MATTAMY HOMES

PROJECT:
RICHMOND
-
-

DRAWING:
VACANT DEVELOPMENT LANDS IN BECKWITH AND OTTAWA UPSTREM OF EAGLESON ROAD

DRAWN BY:	CHECKED BY:	PROJECT No. :
S.A.E.		60117455
DESIGNED BY:	APPROVED BY:	DRAWING No.
		Fig. A2
N.T.S.	DATE: Jan. 2010	

ID - C:\Projects\18\18-100000\100072 - Mattamy - Jock River\Cumulative Impact Analysis\development areas\60117455_Fig 1.dwg - Fri, 29 Jan 2010 - 11:24

APPENDIX B
Hydrologic Model
Input and Output files

SWMHYMO – INPUT - EXISTING

```
20    Metric units / ID numbers OFF
*#*************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#*************************************************************************
*#  Project Name: [Jock River]    Project Number: [411-02]
*#  Date        : 06-06-2003
*#  Modeller    : [JoF]
*#  Company     : JFSAinc.
*#  License #   :  2549237
*#*************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ------------------------------------------------------------------------
*#
*#   EXISING SUMMER
*#
*#
*
*START               TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                    ["XAVG0315.STM"] average storm data a 15 minute time step
*                    The above rainf file is an average of the JFSA gauge data
*                    with the City of Ottawa rainfall data collected during
*                    the same period.
*%  2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1]
                   ["C:\STORMS-PF\C24SC002.stm"]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
READ STORM          STORM_FILENAME=["storm.001"]
*%-----------------|-------------------------------------------------------|
MODIFY STORM        ICASEms=[1],  NSHIFT=[96],
                    RedFACT=[1],
*%-----------------|-------------------------------------------------------|
COMPUTE API         APII=[50], APIK=[.85]/day
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD    1 NHYD=["JR_HW"], DT=[30]min, AREA=[3680](ha),
                    DWF=[0](cms),  CN/C=[64], IA=[2.5](mm),
                    N=[3.0], TP=[7.13]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD    2 NHYD=["SW_13"], DT=[30]min, AREA=[971](ha),
                    DWF=[0](cms),  CN/C=[61], IA=[2.5](mm),
                    N=[3.0], TP=[3.76]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD             1  NHYDsum=["S_N13"] NHYDs to add=1 2
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL         NHYDout=2  ["N13A"] ,  NHYDin=1 ,
                    RDT=[30](min),
                    CHLGTH=[9074](m),  CHSLOPE=[0.0220](%),
                                        FPSLOPE=[0.0220](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.0]
                          [15.5, 129.5]
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=1 ["JR_GWM"], DT=[30]min, AREA=[3161](ha),
                    DWF=[0](cms),  CN/C=[55], IA=[2.5](mm),
                    N=[3], TP=[11.33]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD             NHYDsum=1 ["SN13A"], NHYDs to add= 2 1 ["N13A"+"JR_GWM"]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR     NHYDout= 2 ["RES_GM"] ,NHYDin= 1 ,
                    RDT=[30](min),
```

```
                        TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [1.991, 2.144    ]
                                  [2.693, 39.826   ]
                                  [3.509, 81.697   ]
                                  [4.578, 318.774  ]
                                  [5.647, 594.947  ]
                                  [7.109, 910.219  ]
                                  [8.616, 1264.589  ]
                                  [10.371, 1658.057  ]
                                  [12.402, 2090.622 ]
                                  [22.056, 3462.487 ]
                                  [   -1  ,  -1  ]  (max twenty pts)
                        NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------|
*#
SAVE HYD            NHYD= 2 ,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_RESGM"]
                    HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout=1 ["N12"] ,NHYDin=2,
                    RDT=[30](min),
                    CHLGTH=[5926](m),  CHSLOPE=[0.0759](%),
                                        FPSLOPE=[0.0759](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=4 ["SW_11"], DT=[30]min, AREA=[500](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[1.24]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 2 ["JR_ASH"], DT=[30]min, AREA=[1781](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[3.91]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
```

```
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD             NHYDsum=1 ["S_N12"], NHYDs to add= 1 2 ["N12"+"JR_ASH"]
SAVE HYD            NHYD=1 ,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN12"]
                    HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout= 2 ["N11"] ,NHYDin= 1 ,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.0514](%),
                                        FPSLOPE=[0.0514](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL       NHYDout= 3 ["Dum11"] ,NHYDin= 1,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                        FPSLOPE=[0.054](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
```

```
*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 5 ["NN_CK"], DT=[30]min, AREA=[1917](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[5.29]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD             NHYDsum=1 ["S_N11"], NHYDs to add= 3 4 5 ["Dum11"+"SW_11"+"NN_CK"]
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL       NHYDout= 2 ["N10"] ,NHYDin= 1 ,
                    RDT=[30](min),
                    CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                        FPSLOPE=[0.1568](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                     [0.04,-52.82
                      0.1,-6.47
                      -0.05,6.47
                      0.1,45.36
                      0.04,423.88] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-226.24 ,112.50]
                          [-167.50 ,111.50]
                          [-106.81 ,111.00]
                          [-92.37 ,110.00]
                          [-52.82 ,109.00]
                          [-24.90, 109.00]
                          [-17.02, 108.50]
                          [-6.47, 108.00]
                          [6.47, 108.00]
                          [15.67, 108.50]
                          [18.95, 109.00]
                          [45.36, 109.50]
                          [120.79, 110.00]
                          [145.72, 111.00]
                          [181.56, 111.50]
                          [423.88, 112.50]
CONTINUOUS NASHYD   NHYD= 4 ["SW_10"], DT=[30]min, AREA=[5666](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
```

```
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD             NHYDsum= 1 ["S_N10"], NHYDs to add= 2 4 ["N10"+"SW_10"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN10"]
                    HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["KG_CK"], DT=[30]min, AREA=[8376](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[11.66]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD             NHYDsum=2 ["S_N10A"], NHYDs to add= 1 3 ["S_N10"+"KG_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL       NHYDout= 1 ["N9"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[3982](m),  CHSLOPE=[0.0753](%),
                                        FPSLOPE=[0.0753](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-30.27
                       0.05,-18.42
                      -0.05,18.42
                      0.04,131.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-446.74, 106.00]
                          [-415.68, 105.50]
                          [-285.40, 105.00]
                          [-173.77, 104.50]
                          [-144.95, 104.00]
                          [-111.18, 103.50]
                          [-94.06, 103.00]
                          [-71.02, 102.50]
                          [-30.27, 102.00]
                          [-19.33, 100.00]
                          [-18.42, 99.50]
                          [18.42, 99.50]
                          [20.77, 100.00]
                          [27.93, 101.00]
                          [52.29, 101.00]
                          [68.80, 101.50]
                          [79.66, 103.00]
                          [91.50, 103.50]
                          [131.58, 104.00]
```

```
*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_9"], DT=[30]min, AREA=[1132](ha),
                    DWF=[0](cms),  CN/C=[70], IA=[2.5](mm),
                    N=[3.0], TP=[2.51]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["NC_CK"], DT=[30]min, AREA=[4464](ha),
                    DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                    N=[3.0], TP=[11.32]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
*#
ADD HYD             NHYDsum= 2 ["S_N9"], NHYDs to add= 1 3 4 ["N9"+"SW_9"+"NC_CK"]
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL       NHYDout= 1 ["N8"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[2269](m),  CHSLOPE=[0.0882](%),
                                        FPSLOPE=[0.0882](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-17.99
                      -0.045,17.31
                      0.1,456.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-201.19,100.50]
                          [-135.21, 100.00]
                          [-94.83, 99.50]
                          [-67.05, 99.00]
                          [-17.99, 98.50]
                          [-16.02, 98.00]
                          [-13.95, 97.50]
                          [13.95, 97.50]
                          [15.64, 98.00]
                          [17.31, 98.50]
                          [162.02, 98.50]
                          [172.89 ,99.00]
                          [314.38, 99.00]
                          [343.78, 99.50]
```

```
                          [365.67, 100.00]
                          [376.68, 100.00 ]
                          [393.11, 99.50]
                          [404.97, 99.50]
                          [431.70, 100.00]
                          [456.58, 100.50 ]


*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_8"], DT=[30]min, AREA=[131](ha),
                    DWF=[0](cms),  CN/C=[63], IA=[2.5](mm),
                    N=[3.0], TP=[0.90]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["HB_DR"], DT=[30]min, AREA=[3854](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[8.42]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD             NHYDsum= 2 ["S_N8"], NHYDs to add= 1 3 4 ["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL       NHYDout= 1 ["N7"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[3750](m),  CHSLOPE=[0.0533](%),
                                        FPSLOPE=[0.0533](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.12,-18.11
                      -0.07,17.22
                      0.12,590.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-433.21, 102.00]
                          [-425.34, 101.50]
                          [-377.56, 101.50]
                          [-366.23, 101.00]
                          [-202.60, 100.50]
                          [-96.25, 99.50]
```

```
                          [-68.36 99.00]
                          [-18.11, 98.50]
                          [-13.81, 97.50]
                          [13.81, 97.50]
                          [17.22, 98.50]
                          [161.95, 98.50]
                          [173.11, 99.00]
                          [314.05, 99.00]
                          [365.52, 100.00]
                          [404.70, 99.50]
                          [476.74, 100.50]
                          [502.31, 101.00]
                          [584.69, 101.00]
                          [585.79, 101.00]
                          [590.05, 102.00]

*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_7"], DT=[30]min, AREA=[3197](ha),
                    DWF=[0](cms),  CN/C=[57], IA=[2.5](mm),
                    N=[3.0], TP=[6.65]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD             NHYDsum= 2 ["S_N7"], NHYDs to add= 1 3 ["N7"+"SW_7"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN7"]
                    HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR     NHYDout= 1 ["RES_RF"] ,NHYDin= 2
                    RDT=[30](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,     0.0 ]
                                    [0.9051,    2.40]
                                    [2.907,     4.13]
                                    [9.744,     9.18]
                                    [20.304,   14.96]
                                    [34.167,  310.21]
                                    [74.993,  605.46]
                                    [104.876, 900.71]
                                    [140.56, 2892.00]
                                    [225.00, 3615.63]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["      "] ,
```

```
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_ResRF"]
                    HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL       NHYDout= 2["N6"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.025,-70.8
                      0.1,-23.9
                      -0.05,23.9
                      0.06,39.8
                      0.05,96.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-100.8, 97.00]
                                      [-70.8, 96.50]
                                      [-52.0, 96.00]
                                      [-35.1, 95.50]
                                      [-30.6, 95.00]
                                      [-23.9, 94.54]
                                      [23.9, 94.54]
                                      [39.8, 95.00]
                                      [50.4, 95.50]
                                      [93.5, 96.00]
                                      [94.9, 96.50]
                                      [96.3, 97.00]

*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_6"], DT=[30]min, AREA=[165](ha),
                    DWF=[0](cms),  CN/C=[67], IA=[2.5](mm),
                    N=[3.0], TP=[4.18]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["VG_DR"], DT=[30]min, AREA=[1332](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[5.95]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
```

```
                    HYD_FILENAME=["H-VG_DR"]
                    HYD_COMMENT=["flow at Van Gaal Drain"]

*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD             NHYDsum= 1 ["S_N6"], NHYDs to add= 2 3 4 ["N6"+"SW_6"+"VG_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL       NHYDout= 2 ["N5"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[1852](m),  CHSLOPE=[0.0540](%),
                                        FPSLOPE=[0.0540](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.035,-131.59
                      -0.045,48.96
                      0.1,239.04] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                       [-686.30, 94.50]
                                       [-675.70, 94.00]
                                       [-492.52, 93.00]
                                       [-467.28, 94.00]
                                       [-131.59, 94.00]
                                       [-92.79, 92.50]
                                       [-18.06, 91.00]
                                       [18.06, 91.00]
                                       [43.47, 92.50]
                                       [48.96, 94.00]
                                       [177.43, 94.00]
                                       [239.04,94.50]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_5"], DT=[30]min, AREA=[224](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["FL_CK"], DT=[30]min, AREA=[4945](ha),
                    DWF=[0](cms),  CN/C=[74], IA=[2.5](mm),
                    N=[3.0], TP=[4.45]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
```

```
*#
ADD HYD             NHYDsum= 1 ["S_N5"], NHYDs to add= 2 3 4 ["N5"+"SW_5"+"FL_CK"]
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["N5ex"]
                    HYD_COMMENT=["flow at N5"]
SAVE HYD            NHYD=3,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["SW_5ex"]
                    HYD_COMMENT=["flow at SW_5"]
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["FL_CKex"]
                    HYD_COMMENT=["flow at FL_CK"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["S_N5ex"]
                    HYD_COMMENT=["flow at S_N5"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL       NHYDout= 2 ["N5A"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[556](m),  CHSLOPE=[0.0900](%),
                                        FPSLOPE=[0.0900](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-41.5
                      0.1,-14.0
                      -0.045,14.0
                      0.1,41.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-275.8, 93.00]
                                      [-248.6, 92.50]
                                      [-237.0, 92.00]
                                      [-219.3, 91.50]
                                      [-202.1, 91.50]
                                      [-186.0, 92.00]
                                      [-129.2, 92.00]
                                      [-117.6, 91.50]
                                      [-100.6, 91.00]
                                      [-41.5, 91.00]
                                      [-20.0, 91.00]
                                      [-14.0, 90.54]
                                      [14.0, 90.54]
                                      [15.3, 91.00]
                                      [17.3, 91.50]
                                      [38.4, 92.00]
                                      [39.8, 92.50]
                                      [41.1, 93.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_5A2"], DT=[30]min, AREA=[20](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[0.62]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["SW_5A1"], DT=[30]min, AREA=[1412](ha),
                    DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
```

```
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD             NHYDsum= 1 ["S_N5A"], NHYDs to add= 2 3 4 ["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL       NHYDout= 2["N4"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                        FPSLOPE=[0.0432](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.05,-28.2
                      -0.035,28.2
                      0.05,173.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                       [-38.9, 92.00]
                                       [-35.8, 91.50]
                                       [-33.3, 91.00]
                                       [-28.2, 90.50]
                                       [-15.0, 87.48]
                                       [-5.0, 88.34]
                                       [5.0, 86.20]
                                       [15.0, 88.55]
                                       [28.2, 90.50]
                                       [29.7, 91.00]
                                       [46.5, 91.00]
                                       [127.8, 91.00]
                                       [148.7, 91.50]
                                       [173.1, 92.00]

*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3["SW_4"], DT=[30]min, AREA=[585](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[1.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["LM_CK"], DT=[30]min, AREA=[1021](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                    N=[3.0], TP=[2.46]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
```

```
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|---------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD             NHYDsum= 1 ["S_N4"], NHYDs to add= 2 3 4 ["N4"+"SW_4"+"LM_CK"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["flow at S_N4"]
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL       NHYDout= 2 ["N2"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[1667](m),  CHSLOPE=[0.0600](%),
                                        FPSLOPE=[0.0600](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-28.0
                      -0.04,28.4
                      0.06,31.7
                      0.04,80.2] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                           [-36.3, 92.00]
                           [-32.6, 91.50]
                           [-30.2, 91.00]
                           [-28.0, 90.45]
                           [-15.0, 87.48]
                           [-5.0, 88.34]
                           [5.0, 86.20]
                           [15.0, 88.55]
                           [28.0, 90.45]
                           [28.4, 90.50]
                           [30.4, 91.00]
                           [31.7, 91.50]
                           [80.2, 92.00]
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_2"], DT=[30]min, AREA=[177](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["SM_DR"], DT=[30]min, AREA=[1122](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[3.25]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 5 ["MO_DR"], DT=[30]min, AREA=[2737](ha),
                    DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                    N=[3.0], TP=[3.03]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD             NHYDsum= 1 ["S_N2"], NHYDs to add= 2 3 4 5
                                          ["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN2"]
                    HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
ROUTE CHANNEL       NHYDout= 2 ["N1"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[10046](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-27.6
                      0.06,-15.0
                      -0.045,15.0
                      0.06,25.4
                      0.04,122.6] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-87.0, 91.50]
                                      [-32.4, 91.00]
                                      [-27.6, 90.50]
                                      [-25.0, 90.00]
                                      [-22.9, 89.57]
                                      [-15.0, 86.20]
                                      [-5.0, 84.83]
                                      [5.0, 84.83]
                                      [15.0, 88.11]
                                      [22.9, 89.57]
                                      [25.4, 90.00]
                                      [27.9, 90.50]
                                      [38.0, 91.00]
                                      [112.5, 91.00]
                                      [114.3, 90.50]
                                      [115.1, 90.26]
                                      [116.3, 90.50]
                                      [119.0, 91.00]
                                      [121.0, 91.50]
                                      [122.6, 92.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_1"], DT=[30]min, AREA=[3176](ha),
                    DWF=[0](cms),  CN/C=[78], IA=[2.5](mm),
                    N=[3.0], TP=[3.56]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
```

```
*#
*# Addition of Subwatershed 1 to Node 1
*#
ADD HYD             NHYDsum= 1["N1"], NHYDs to add= 2 3 ["N1"+"SW_1"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_FILENAME=["N1-ex"]
                    HYD_COMMENT=["total outflow of Jock River"]
*##############################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                   ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|

*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

SWMHYMO – OUTPUT - EXISTING

```
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------------
#
#   EXISING SUMMER
#
#
 RUN:COMMAND#
 001:0001-------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   1 ]
 001:0002-------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
 001:0003-------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
 001:0004-------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00    6.065 No_date   37:00   11.44 .251
      [CN= 64.0: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    2.154 No_date   32:30   10.72 .236
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00    6.065 No_date   37:00   11.44  n/a
                      +  02:SW_13    971.00    2.154 No_date   32:30   10.72  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00    7.713 No_date   35:30   11.29  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
```

```
 001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00    7.713 No_date   35:30   11.29  n/a
      [RDT=30.00] out<- 02:N13A    4651.00    6.154 No_date   39:30   11.29  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .427:Dmax= 2.537}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00    3.203 No_date   39:30    9.41 .207
      [CN= 55.0: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00    6.154 No_date   39:30   11.29  n/a
                      +  01:SN13A   3161.00    3.203 No_date   39:30    9.41  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00    9.357 No_date   39:30   10.53  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00    9.357 No_date   39:30   10.53  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
     {MxStoUsed=.3547E+02}
#
 001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
      fname :C:\STORMS~1\H_RESGM.001
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
      [RDT=30.00] out<- 01:N12     7812.00    2.604 No_date   58:00   10.53  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .501:Dmax= 1.328}
 001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00    2.663 No_date   29:00   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
 001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00    5.417 No_date   32:30   13.91 .306
      [CN= 72.0: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    2.604 No_date   58:00   10.53  n/a
                      +  02:JR_ASH  1781.00    5.417 No_date   32:30   13.91  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
 001:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      fname :C:\STORMS~1\H_SN12.001
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
```

```
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 001:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      [RDT=30.00] out<- 02:N11     9593.00    7.323 No_date   33:00   11.16  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .580:Dmax= 2.120}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 001:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00    7.326 No_date   33:00   11.16  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .589:Dmax= 2.098}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00    3.966 No_date   34:30   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 001:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00    7.326 No_date   33:00   11.16  n/a
                      +  04:SW_11    500.00    2.663 No_date   29:00   11.95  n/a
                      +  05:NN_CK   1917.00    3.966 No_date   34:30   11.95  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   11.957 No_date   33:00   11.32  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 001:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   11.957 No_date   33:00   11.32  n/a
      [RDT=30.00] out<- 02:N10    12010.00    8.226 No_date   39:30   11.32  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .460:Dmax=  .881}
 001:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   10.936 No_date   38:00   13.91 .306
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 001:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00    8.226 No_date   39:30   11.32  n/a
                      +  04:SW_10   5666.00   10.936 No_date   38:00   13.91  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
 001:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
      fname :C:\STORMS~1\H_SN10.001
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 001:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   10.656 No_date   39:30   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp=11.66:DT=30.00]
```

```
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 001:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
                      +  03:KG_CK   8376.00   10.656 No_date   39:30   11.95  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   29.632 No_date   39:30   12.08  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 001:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   29.632 No_date   39:30   12.08  n/a
      [RDT=30.00] out<- 01:N9     26052.00   28.892 No_date   39:30   12.08  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .591:Dmax= 1.193}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 001:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00    4.365 No_date   30:30   13.32 .293
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 001:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00    5.312 No_date   39:30   10.96 .241
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 001:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   28.892 No_date   39:30   12.08  n/a
                      +  03:SW_9    1132.00    4.365 No_date   30:30   13.32  n/a
                      +  04:NC_CK   4464.00    5.312 No_date   39:30   10.96  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00   35.499 No_date   39:30   11.97  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 001:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00   35.499 No_date   39:30   11.97  n/a
      [RDT=30.00] out<- 01:N8     31648.00   33.315 No_date   40:00   11.97  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .420:Dmax= 1.270}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00     .770 No_date   28:30   11.20 .246
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 001:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00    6.083 No_date   38:30   11.95 .263
      [CN= 66.0: N= 3.00]
```

```
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 001:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00   33.315 No_date   40:00   11.97  n/a
                    +  03:SW_8     131.00     .770 No_date   28:30   11.20  n/a
                    +  04:HB_DR   3854.00    6.083 No_date   38:30   11.95  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00   39.371 No_date   39:30   11.96  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 001:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00   39.371 No_date   39:30   11.96  n/a
      [RDT=30.00] out<- 01:N7     35633.00   32.183 No_date   44:00   11.96  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .209:Dmax= 1.635}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 001:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00    4.557 No_date   36:30    9.83 .216
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 001:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00   32.183 No_date   44:00   11.96  n/a
                    +  03:SW_7    3197.00    4.557 No_date   36:30    9.83  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
 001:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
      fname :C:\STORMS~1\H_SN7.001
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 001:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
     {MxStoUsed=.7407E+02}
 001:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
      fname :C:\STORMS~1\H_ResRF.001
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 001:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
      [RDT=30.00] out<- 02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .431:Dmax=  .805}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
```

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 001:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00     .407 No_date   33:00   12.21 .268
      [CN= 67.0: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
 001:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00    3.083 No_date   35:00   13.91 .306
      [CN= 72.0: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
 001:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    3.083 No_date   35:00   13.91  n/a
      fname :C:\STORMS~1\H-VG_DR.001
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 001:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
                      +  03:SW_6     165.00     .407 No_date   33:00   12.21  n/a
                      +  04:VG_DR   1332.00    3.083 No_date   35:00   13.91  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   23.227 No_date   39:30   11.86  n/a
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 001:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   23.227 No_date   39:30   11.86  n/a
      [RDT=30.00] out<- 02:N5     40327.01   23.175 No_date   55:00   11.86  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .378:Dmax=  .915}
 001:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    2.527 No_date   28:30   15.88 .349
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
 001:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   14.579 No_date   33:00   14.54 .319
      [CN= 74.0: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 001:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   23.175 No_date   55:00   11.86  n/a
                      +  03:SW_5     224.00    2.527 No_date   28:30   15.88  n/a
                      +  04:FL_CK   4945.00   14.579 No_date   33:00   14.54  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   32.982 No_date   37:00   12.17  n/a
 001:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   23.175 No_date   55:00   11.86  n/a
      fname :C:\STORMS~1\N5ex.001
      remark:flow at N5
 001:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    2.527 No_date   28:30   15.88  n/a
      fname :C:\STORMS~1\SW_5ex.001
      remark:flow at SW_5
```

```
 001:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   14.579 No_date   33:00   14.54  n/a
      fname :C:\STORMS~1\FL_CKex.001
      remark:flow at FL_CK
 001:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   32.982 No_date   37:00   12.17  n/a
      fname :C:\STORMS~1\S_N5ex.001
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 001:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   32.982 No_date   37:00   12.17  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   32.930 No_date   37:00   12.17  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .443:Dmax=  .935}
 001:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00     .287 No_date   28:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
 001:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    3.007 No_date   38:00   15.19 .334
      [CN= 75.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 001:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   32.930 No_date   37:00   12.17  n/a
                      +  03:SW_5A2    20.00     .287 No_date   28:30   17.76  n/a
                      +  04:SW_5A1  1412.00    3.007 No_date   38:00   15.19  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   35.948 No_date   37:00   12.26  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 001:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   35.948 No_date   37:00   12.26  n/a
      [RDT=30.00] out<- 02:N4     46928.01   35.073 No_date   39:00   12.26  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .693:Dmax= 2.837}
 001:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00    4.232 No_date   29:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 001:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00    5.667 No_date   30:30   17.36 .382
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 001:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   35.073 No_date   39:00   12.26  n/a
                      +  03:SW_4     585.00    4.232 No_date   29:30   17.76  n/a
```

```
                    +  04:LM_CK   1021.00    5.667 No_date   30:30   17.36  n/a
     [DT=30.00]  SUM=  01:S_N4   48534.01   37.407 No_date   38:30   12.44  n/a
 001:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   37.407 No_date   38:30   12.44  n/a
      fname :C:\STORMS~1\H-S_N4.001
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 001:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   37.407 No_date   38:30   12.44  n/a
      [RDT=30.00] out<- 02:N2     48534.01   37.307 No_date   39:00   12.44  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .714:Dmax= 2.841}
 001:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    1.996 No_date   28:30   15.88 .349
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 001:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00    5.257 No_date   31:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 001:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   11.338 No_date   31:30   15.53 .341
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 001:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   37.307 No_date   39:00   12.44  n/a
                    +  03:SW_2     177.00    1.996 No_date   28:30   15.88  n/a
                    +  04:SM_DR   1122.00    5.257 No_date   31:30   17.76  n/a
                    +  05:MO_DR   2737.00   11.338 No_date   31:30   15.53  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01   45.692 No_date   33:30   12.72  n/a
 001:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01   45.692 No_date   33:30   12.72  n/a
      fname :C:\STORMS~1\H_SN2.001
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 001:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01   45.692 No_date   33:30   12.72  n/a
      [RDT=30.00] out<- 02:N1     52570.01   42.616 No_date   39:30   12.72  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax=  .767:Dmax= 2.662}
 001:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   12.490 No_date   32:00   16.23 .357
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 001:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01   42.616 No_date   39:30   12.72  n/a
                    +  03:SW_1    3176.00   12.490 No_date   32:00   16.23  n/a
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      [DT=30.00]  SUM=  01:N1     55746.00   49.180 No_date   36:30   12.92  n/a
 001:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            01:N1     55746.00   49.180 No_date   36:30   12.92  n/a
      fname :C:\STORMS~1\H-N1.001
      remark:N1-ex
###############################################################################
  ** END OF RUN :   4

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




 RUN:COMMAND#
 005:0001---------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   5 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------------
#
#   EXISING SUMMER
#
#
 005:0002---------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
 005:0003---------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
 005:0004---------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 90.83: APIavg= 60.09: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 005:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00    9.169 No_date   37:00   16.38 .287
      [CN= 64.0: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 005:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    3.350 No_date   32:30   15.27 .267
      [CN= 61.0: N= 3.00]
```

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      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 005:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00    9.169 No_date   37:00   16.38  n/a
                    +  02:SW_13    971.00    3.350 No_date   32:30   15.27  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00   11.688 No_date   35:30   16.15  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
 005:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00   11.688 No_date   35:30   16.15  n/a
      [RDT=30.00] out<- 02:N13A    4651.00    9.343 No_date   39:30   16.15  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .475:Dmax= 2.992}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00    4.639 No_date   39:30   13.20 .231
      [CN= 55.0: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 005:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00    9.343 No_date   39:30   16.15  n/a
                    +  01:SN13A   3161.00    4.639 No_date   39:30   13.20  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00   13.982 No_date   39:30   14.96  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 005:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00   13.982 No_date   39:30   14.96  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
     {MxStoUsed=.6269E+02}
#
 005:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
      fname :C:\STORMS~1\H_RESGM.005
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 005:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
      [RDT=30.00] out<- 01:N12     7812.00    3.129 No_date   60:30   14.96  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .526:Dmax= 1.427}
 005:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00    4.260 No_date   29:00   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
 005:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00    8.382 No_date   32:30   20.09 .352
      [CN= 72.0: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
```

```
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 005:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    3.129 No_date   60:30   14.96  n/a
                    +  02:JR_ASH  1781.00    8.382 No_date   32:30   20.09  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
 005:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      fname :C:\STORMS~1\H_SN12.005
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 005:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      [RDT=30.00] out<- 02:N11     9593.00   10.235 No_date   33:00   15.91  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .634:Dmax= 2.418}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 005:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00   10.246 No_date   33:00   15.91  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .645:Dmax= 2.393}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00    6.085 No_date   34:00   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 005:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00   10.246 No_date   33:00   15.91  n/a
                    +  04:SW_11    500.00    4.260 No_date   29:00   17.15  n/a
                    +  05:NN_CK   1917.00    6.085 No_date   34:00   17.15  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   17.319 No_date   33:00   16.16  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 005:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   17.319 No_date   33:00   16.16  n/a
      [RDT=30.00] out<- 02:N10    12010.00   11.909 No_date   38:30   16.16  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .462:Dmax= 1.078}
 005:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   16.454 No_date   38:00   20.09 .352
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
```

```
 005:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00   11.909 No_date   38:30   16.16  n/a
                      +  04:SW_10   5666.00   16.454 No_date   38:00   20.09  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
 005:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
      fname :C:\STORMS~1\H_SN10.005
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 005:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   15.668 No_date   39:30   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 005:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
                      +  03:KG_CK   8376.00   15.668 No_date   39:30   17.15  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   43.598 No_date   39:30   17.33  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 005:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   43.598 No_date   39:30   17.33  n/a
      [RDT=30.00] out<- 01:N9     26052.00   42.453 No_date   39:30   17.33  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .663:Dmax= 1.480}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 005:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00    6.854 No_date   30:30   19.22 .336
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 005:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00    7.795 No_date   39:30   15.63 .274
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 005:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   42.453 No_date   39:30   17.33  n/a
                      +  03:SW_9    1132.00    6.854 No_date   30:30   19.22  n/a
                      +  04:NC_CK   4464.00    7.795 No_date   39:30   15.63  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00   52.078 No_date   39:30   17.16  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 005:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00   52.078 No_date   39:30   17.16  n/a
      [RDT=30.00] out<- 01:N8     31648.00   48.443 No_date   40:00   17.16  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .371:Dmax= 1.510}
```

```
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00    1.239 No_date   28:30   16.00 .280
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 005:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00    9.126 No_date   38:30   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 005:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00   48.443 No_date   40:00   17.16  n/a
                    +  03:SW_8     131.00    1.239 No_date   28:30   16.00  n/a
                    +  04:HB_DR   3854.00    9.126 No_date   38:30   17.15  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00   57.182 No_date   39:30   17.16  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 005:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00   57.182 No_date   39:30   17.16  n/a
      [RDT=30.00] out<- 01:N7     35633.00   46.901 No_date   45:00   17.16  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .207:Dmax= 1.840}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 005:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00    6.873 No_date   36:00   13.87 .243
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 005:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00   46.901 No_date   45:00   17.16  n/a
                    +  03:SW_7    3197.00    6.873 No_date   36:00   13.87  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
 005:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
      fname :C:\STORMS~1\H_SN7.005
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 005:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
     {MxStoUsed=.1714E+03}
 005:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
     SAVE HYD           01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
      fname :C:\STORMS~1\H_ResRF.005
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 005:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
      [RDT=30.00] out<- 02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .458:Dmax=  .889}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 005:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00     .630 No_date   33:00   17.55 .307
      [CN= 67.0: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
 005:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00    4.700 No_date   35:00   20.09 .352
      [CN= 72.0: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
 005:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    4.700 No_date   35:00   20.09  n/a
      fname :C:\STORMS~1\H-VG_DR.005
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 005:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
                      +  03:SW_6     165.00     .630 No_date   33:00   17.55  n/a
                      +  04:VG_DR   1332.00    4.700 No_date   35:00   20.09  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   27.692 No_date   59:30   16.99  n/a
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 005:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   27.692 No_date   59:30   16.99  n/a
      [RDT=30.00] out<- 02:N5     40327.01   27.656 No_date   59:30   16.99  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .396:Dmax=  .997}
 005:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    3.985 No_date   28:30   22.94 .402
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
 005:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   22.432 No_date   33:00   21.01 .368
      [CN= 74.0: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
```

```
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 005:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             02:N5     40327.01   27.656 No_date   59:30   16.99  n/a
                       +  03:SW_5     224.00    3.985 No_date   28:30   22.94  n/a
                       +  04:FL_CK   4945.00   22.432 No_date   33:00   21.01  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   43.205 No_date   35:00   17.46  n/a
 005:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            02:N5     40327.01   27.656 No_date   59:30   16.99  n/a
      fname :C:\STORMS~1\N5ex.005
      remark:flow at N5
 005:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            03:SW_5     224.00    3.985 No_date   28:30   22.94  n/a
      fname :C:\STORMS~1\SW_5ex.005
      remark:flow at SW_5
 005:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            04:FL_CK   4945.00   22.432 No_date   33:00   21.01  n/a
      fname :C:\STORMS~1\FL_CKex.005
      remark:flow at FL_CK
 005:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            01:S_N5   45496.01   43.205 No_date   35:00   17.46  n/a
      fname :C:\STORMS~1\S_N5ex.005
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 005:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   43.205 No_date   35:00   17.46  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   43.167 No_date   35:30   17.46  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .464:Dmax= 1.057}
 005:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00     .448 No_date   28:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
 005:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    4.515 No_date   37:30   21.96 .384
      [CN= 75.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 005:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             02:N5A    45496.01   43.167 No_date   35:30   17.46  n/a
                       +  03:SW_5A2    20.00     .448 No_date   28:30   25.59  n/a
                       +  04:SW_5A1  1412.00    4.515 No_date   37:30   21.96  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   47.522 No_date   35:30   17.60  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 005:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   47.522 No_date   35:30   17.60  n/a
      [RDT=30.00] out<- 02:N4     46928.01   45.859 No_date   37:30   17.60  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .753:Dmax= 3.105}
 005:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00    6.551 No_date   29:30   25.59 .448
      [CN= 81.0: N= 3.00]
```

```
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 005:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00    8.738 No_date   30:30   25.04 .438
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 005:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   45.859 No_date   37:30   17.60  n/a
                    +  03:SW_4     585.00     6.551 No_date   29:30   25.59  n/a
                    +  04:LM_CK   1021.00     8.738 No_date   30:30   25.04  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   50.003 No_date   36:30   17.85  n/a
 005:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   50.003 No_date   36:30   17.85  n/a
      fname :C:\STORMS~1\H-S_N4.005
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 005:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   50.003 No_date   36:30   17.85  n/a
      [RDT=30.00] out<- 02:N2     48534.01   49.892 No_date   37:00   17.85  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .780:Dmax= 3.124}
 005:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    3.149 No_date   28:30   22.94 .402
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 005:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00    8.043 No_date   31:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 005:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   17.548 No_date   31:30   22.44 .393
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 005:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   49.892 No_date   37:00   17.85  n/a
                    +  03:SW_2     177.00     3.149 No_date   28:30   22.94  n/a
                    +  04:SM_DR   1122.00     8.043 No_date   31:30   25.59  n/a
                    +  05:MO_DR   2737.00    17.548 No_date   31:30   22.44  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01   66.308 No_date   33:00   18.27  n/a
 005:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01   66.308 No_date   33:00   18.27  n/a
      fname :C:\STORMS~1\H_SN2.005
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 005:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01   66.308 No_date   33:00   18.27  n/a
```

```
      [RDT=30.00] out<- 02:N1     52570.01   59.710 No_date   37:00   18.27  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax=  .861:Dmax= 3.202}
 005:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   19.206 No_date   32:00   23.45 .411
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 005:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01   59.710 No_date   37:00   18.27  n/a
                      +  03:SW_1    3176.00   19.206 No_date   32:00   23.45  n/a
      [DT=30.00]  SUM=  01:N1     55746.00   72.094 No_date   35:00   18.57  n/a
 005:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:N1     55746.00   72.094 No_date   35:00   18.57  n/a
      fname :C:\STORMS~1\H-N1.005
      remark:N1-ex
###############################################################################
  ** END OF RUN :  99

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




 RUN:COMMAND#
 100:0001---------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 100 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------------
#
#   EXISING SUMMER
#
#
 100:0002---------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
 100:0003---------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
 100:0004---------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax=119.84: APIavg= 69.19: APImin= 44.87}
```

```
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 100:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00   21.054 No_date   36:30   35.15 .397
      [CN= 64.0: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 100:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    8.058 No_date   32:30   32.81 .370
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 100:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00   21.054 No_date   36:30   35.15  n/a
                      +  02:SW_13    971.00    8.058 No_date   32:30   32.81  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00   27.020 No_date   35:00   34.66  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
 100:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00   27.020 No_date   35:00   34.66  n/a
      [RDT=30.00] out<- 02:N13A    4651.00   22.149 No_date   38:30   34.66  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .594:Dmax= 4.138}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00   10.266 No_date   39:30   28.27 .319
      [CN= 55.0: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 100:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00   22.149 No_date   38:30   34.66  n/a
                      +  01:SN13A   3161.00   10.266 No_date   39:30   28.27  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00   32.270 No_date   39:30   32.08  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 100:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00   32.270 No_date   39:30   32.08  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
     {MxStoUsed=.1788E+03}
#
 100:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
      fname :C:\STORMS~1\H_RESGM.100
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 100:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
      [RDT=30.00] out<- 01:N12     7812.00    3.943 No_date   66:30   32.08  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .560:Dmax= 1.559}
 100:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00   10.499 No_date   29:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
 100:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00   19.356 No_date   32:30   42.46 .479
      [CN= 72.0: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 100:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    3.943 No_date   66:30   32.08  n/a
                      +  02:JR_ASH  1781.00   19.356 No_date   32:30   42.46  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
 100:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      fname :C:\STORMS~1\H_SN12.100
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 100:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      [RDT=30.00] out<- 02:N11     9593.00   21.120 No_date   33:00   34.00  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .760:Dmax= 3.206}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 100:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00   21.116 No_date   32:30   34.00  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .774:Dmax= 3.175}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00   14.197 No_date   34:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 100:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00   21.116 No_date   32:30   34.00  n/a
                      +  04:SW_11    500.00   10.499 No_date   29:00   36.74  n/a
                      +  05:NN_CK   1917.00   14.197 No_date   34:00   36.74  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   37.438 No_date   33:00   34.55  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
```

```
#
 100:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   37.438 No_date   33:00   34.55  n/a
      [RDT=30.00] out<- 02:N10    12010.00   23.324 No_date   39:00   34.55  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .484:Dmax= 1.483}
 100:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   36.560 No_date   37:30   42.46 .479
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 100:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00   23.324 No_date   39:00   34.55  n/a
                      +  04:SW_10   5666.00   36.560 No_date   37:30   42.46  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
 100:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
      fname :C:\STORMS~1\H_SN10.100
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 100:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   34.456 No_date   39:30   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 100:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
                      +  03:KG_CK   8376.00   34.456 No_date   39:30   36.74  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   93.257 No_date   39:30   36.98  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 100:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   93.257 No_date   39:30   36.98  n/a
      [RDT=30.00] out<- 01:N9     26052.00   91.386 No_date   39:30   36.98  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .769:Dmax= 2.125}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 100:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00   16.257 No_date   30:30   40.80 .461
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 100:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00   17.270 No_date   39:30   33.59 .379
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
```

```
#
 100:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   91.386 No_date   39:30   36.98  n/a
                      +  03:SW_9    1132.00   16.257 No_date   30:30   40.80  n/a
                      +  04:NC_CK   4464.00   17.270 No_date   39:30   33.59  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00  112.276 No_date   39:30   36.63  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 100:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00  112.276 No_date   39:30   36.63  n/a
      [RDT=30.00] out<- 01:N8     31648.00  106.477 No_date   40:00   36.63  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .372:Dmax= 1.905}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00    3.096 No_date   28:30   34.37 .388
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 100:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00   20.590 No_date   38:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 100:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00  106.477 No_date   40:00   36.63  n/a
                      +  03:SW_8     131.00    3.096 No_date   28:30   34.37  n/a
                      +  04:HB_DR   3854.00   20.590 No_date   38:00   36.74  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00  126.247 No_date   39:30   36.64  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 100:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00  126.247 No_date   39:30   36.64  n/a
      [RDT=30.00] out<- 01:N7     35633.00  108.774 No_date   44:30   36.64  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .236:Dmax= 2.384}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 100:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00   16.027 No_date   36:00   29.76 .336
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 100:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00  108.774 No_date   44:30   36.64  n/a
                      +  03:SW_7    3197.00   16.027 No_date   36:00   29.76  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
 100:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
     SAVE HYD           02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
      fname :C:\STORMS~1\H_SN7.100
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 100:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
     {MxStoUsed=.5014E+03}
 100:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
      fname :C:\STORMS~1\H_ResRF.100
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 100:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
      [RDT=30.00] out<- 02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .553:Dmax= 1.353}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 100:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00    1.482 No_date   33:00   37.54 .424
      [CN= 67.0: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
 100:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00   10.635 No_date   35:00   42.46 .479
      [CN= 72.0: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
 100:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00   10.635 No_date   35:00   42.46  n/a
      fname :C:\STORMS~1\H-VG_DR.100
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 100:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
                      +  03:SW_6     165.00    1.482 No_date   33:00   37.54  n/a
                      +  04:VG_DR   1332.00   10.635 No_date   35:00   42.46  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   60.507 No_date   59:30   36.29  n/a
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 100:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   60.507 No_date   59:30   36.29  n/a
      [RDT=30.00] out<- 02:N5     40327.01   60.393 No_date   60:30   36.29  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .490:Dmax= 1.451}
 100:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
  *  CONTINUOUS NASHYD  03:SW_5     224.00    9.294 No_date   28:30   47.59 .537
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
 100:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   51.121 No_date   33:00   44.15 .498
      [CN= 74.0: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 100:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   60.393 No_date   60:30   36.29  n/a
                    +  03:SW_5     224.00    9.294 No_date   28:30   47.59  n/a
                    +  04:FL_CK   4945.00   51.121 No_date   33:00   44.15  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   79.896 No_date   34:00   37.20  n/a
 100:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   60.393 No_date   60:30   36.29  n/a
      fname :C:\STORMS~1\N5ex.100
      remark:flow at N5
 100:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    9.294 No_date   28:30   47.59  n/a
      fname :C:\STORMS~1\SW_5ex.100
      remark:flow at SW_5
 100:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   51.121 No_date   33:00   44.15  n/a
      fname :C:\STORMS~1\FL_CKex.100
      remark:flow at FL_CK
 100:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   79.896 No_date   34:00   37.20  n/a
      fname :C:\STORMS~1\S_N5ex.100
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 100:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   79.896 No_date   34:00   37.20  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   79.822 No_date   34:00   37.20  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .544:Dmax= 1.346}
 100:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00    1.014 No_date   28:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
 100:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    9.884 No_date   37:30   45.85 .518
      [CN= 75.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 100:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   79.822 No_date   34:00   37.20  n/a
```

```
                    +  03:SW_5A2    20.00    1.014 No_date   28:30   52.03  n/a
                    +  04:SW_5A1  1412.00    9.884 No_date   37:30   45.85  n/a
     [DT=30.00]  SUM=  01:S_N5A  46928.01   88.624 No_date   34:30   37.46  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 100:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   88.624 No_date   34:30   37.46  n/a
      [RDT=30.00] out<- 02:N4     46928.01   84.961 No_date   36:00   37.46  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .901:Dmax= 3.849}
 100:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00   14.684 No_date   29:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 100:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00   19.515 No_date   30:30   51.13 .577
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 100:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   84.961 No_date   36:00   37.46  n/a
                    +  03:SW_4     585.00   14.684 No_date   29:30   52.03  n/a
                    +  04:LM_CK   1021.00   19.515 No_date   30:30   51.13  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   95.703 No_date   34:30   37.93  n/a
 100:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   95.703 No_date   34:30   37.93  n/a
      fname :C:\STORMS~1\H-S_N4.100
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 100:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   95.703 No_date   34:30   37.93  n/a
      [RDT=30.00] out<- 02:N2     48534.01   95.351 No_date   35:00   37.93  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .942:Dmax= 3.915}
 100:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    7.344 No_date   28:30   47.59 .537
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 100:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00   17.710 No_date   31:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 100:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   40.026 No_date   31:00   46.72 .527
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 100:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
     ADD HYD            02:N2     48534.01   95.351 No_date   35:00   37.93  n/a
                      +  03:SW_2     177.00    7.344 No_date   28:30   47.59  n/a
                      +  04:SM_DR   1122.00   17.710 No_date   31:30   52.03  n/a
                      +  05:MO_DR   2737.00   40.026 No_date   31:00   46.72  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01  141.440 No_date   32:30   38.72  n/a
 100:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01  141.440 No_date   32:30   38.72  n/a
      fname :C:\STORMS~1\H_SN2.100
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 100:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01  141.440 No_date   32:30   38.72  n/a
      [RDT=30.00] out<- 02:N1     52570.01  124.317 No_date   35:00   38.72  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax= 1.091:Dmax= 4.554}
 100:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   43.079 No_date   32:00   48.46 .547
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 100:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01  124.317 No_date   35:00   38.72  n/a
                      +  03:SW_1    3176.00   43.079 No_date   32:00   48.46  n/a
      [DT=30.00]  SUM=  01:N1     55746.00  158.436 No_date   34:00   39.27  n/a
 100:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:N1     55746.00  158.436 No_date   34:00   39.27  n/a
      fname :C:\STORMS~1\H-N1.100
      remark:N1-ex
###############################################################################
 100:0002-------------------------------------------------------------------------
      FINISH
-------------------------------------------------------------------------------
*******************************************************************************
```

SWMHYMO – INPUT - FUTURE

```
20    Metric units / ID numbers OFF
*#************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#************************************************************************
*#  Project Name: [Jock River]    Project Number: [411-02]
*#  Date        : 06-06-2003
*#  Modeller    : [JoF]
*#  Company     : JFSAinc.
*#  License #   :  2549237
*#************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ------------------------------------------------------------------------
*#
*#   FUTURE SUMMER - Cumulative Development
*#
*#
*
*START               TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                    ["XAVG0315.STM"] average storm data a 15 minute time step
*                    The above rainf file is an average of the JFSA gauge data
*                    with the City of Ottawa rainfall data collected during
*                    the same period.
*%  2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1]
                   ["C:\STORMS-PF\C24SC002.stm"]
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
READ STORM          STORM_FILENAME=["storm.001"]
*%-----------------|------------------------------------------------------------|
MODIFY STORM        ICASEms=[1],  NSHIFT=[96],
                    RedFACT=[1],
*%-----------------|------------------------------------------------------------|
COMPUTE API         APII=[50], APIK=[.85]/day
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*# mod CN
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD    1 NHYD=["JR_HW"], DT=[30]min, AREA=[3680](ha),
                    DWF=[0](cms),  CN/C=[64.5], IA=[2.5](mm),
                    N=[3.0], TP=[7.13]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD    2 NHYD=["SW_13"], DT=[30]min, AREA=[971](ha),
                    DWF=[0](cms),  CN/C=[61], IA=[2.5](mm),
                    N=[3.0], TP=[3.76]hrs,
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD             1  NHYDsum=["S_N13"] NHYDs to add=1 2
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL         NHYDout=2  ["N13A"] ,  NHYDin=1 ,
                    RDT=[30](min),
                    CHLGTH=[9074](m),  CHSLOPE=[0.0220](%),
                                        FPSLOPE=[0.0220](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.0]
                          [15.5, 129.5]
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*#mod CN
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=1 ["JR_GWM"], DT=[30]min, AREA=[3161](ha),
                    DWF=[0](cms),  CN/C=[55.8], IA=[2.5](mm),
                    N=[3], TP=[11.33]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD             NHYDsum=1 ["SN13A"], NHYDs to add= 2 1 ["N13A"+"JR_GWM"]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
```

```
ROUTE RESERVOIR     NHYDout= 2 ["RES_GM"] ,NHYDin= 1 ,
                    RDT=[30](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [1.991, 2.144    ]
                                   [2.693, 39.826   ]
                                   [3.509, 81.697   ]
                                   [4.578, 318.774  ]
                                   [5.647, 594.947  ]
                                   [7.109, 910.219  ]
                                   [8.616, 1264.589  ]
                                   [10.371, 1658.057  ]
                                   [12.402, 2090.622 ]
                                   [22.056, 3462.487 ]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------|
*#
SAVE HYD            NHYD= 2 ,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_RESGM"]
                    HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout=1 ["N12"] ,NHYDin=2,
                    RDT=[30](min),
                    CHLGTH=[5926](m),  CHSLOPE=[0.0759](%),
                                        FPSLOPE=[0.0759](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=4 ["SW_11"], DT=[30]min, AREA=[500](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[1.24]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*#mod CN
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 2 ["JR_ASH"], DT=[30]min, AREA=[1781](ha),
                    DWF=[0](cms),  CN/C=[72.3], IA=[2.5](mm),
                    N=[3.0], TP=[3.91]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD             NHYDsum=1 ["S_N12"], NHYDs to add= 1 2 ["N12"+"JR_ASH"]
SAVE HYD            NHYD=1 ,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN12"]
                    HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout= 2 ["N11"] ,NHYDin= 1 ,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.0514](%),
                                        FPSLOPE=[0.0514](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL       NHYDout= 3 ["Dum11"] ,NHYDin= 1,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                        FPSLOPE=[0.054](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
```

```
                        [10, 127.5]
                        [11.5, 128.00]
                        [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 5 ["NN_CK"], DT=[30]min, AREA=[1917](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[5.29]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD             NHYDsum=1 ["S_N11"], NHYDs to add= 3 4 5 ["Dum11"+"SW_11"+"NN_CK"]
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL       NHYDout= 2 ["N10"] ,NHYDin= 1 ,
                    RDT=[30](min),
                    CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                        FPSLOPE=[0.1568](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                     [0.04,-52.82
                      0.1,-6.47
                      -0.05,6.47
                      0.1,45.36
                      0.04,423.88] NSEG times
                   ( DISTANCE (m), ELEVATION (m))=
                        [-226.24 ,112.50]
                        [-167.50 ,111.50]
                        [-106.81 ,111.00]
                        [-92.37 ,110.00]
                        [-52.82 ,109.00]
                        [-24.90, 109.00]
                        [-17.02, 108.50]
                        [-6.47, 108.00]
                        [6.47, 108.00]
                        [15.67, 108.50]
                        [18.95, 109.00]
                        [45.36, 109.50]
                        [120.79, 110.00]
                        [145.72, 111.00]
                        [181.56, 111.50]
                        [423.88, 112.50]
CONTINUOUS NASHYD   NHYD= 4 ["SW_10"], DT=[30]min, AREA=[5666](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
```

```
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD             NHYDsum= 1 ["S_N10"], NHYDs to add= 2 4 ["N10"+"SW_10"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN10"]
                    HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*#mod CN
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["KG_CK"], DT=[30]min, AREA=[8376](ha),
                    DWF=[0](cms),  CN/C=[66.3], IA=[2.5](mm),
                    N=[3.0], TP=[11.66]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD             NHYDsum=2 ["S_N10A"], NHYDs to add= 1 3 ["S_N10"+"KG_CK"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL       NHYDout= 1 ["N9"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[3982](m),  CHSLOPE=[0.0753](%),
                                        FPSLOPE=[0.0753](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-30.27
                       0.05,-18.42
                      -0.05,18.42
                      0.04,131.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-446.74, 106.00]
                          [-415.68, 105.50]
                          [-285.40, 105.00]
                          [-173.77, 104.50]
                          [-144.95, 104.00]
                          [-111.18, 103.50]
                          [-94.06, 103.00]
                          [-71.02, 102.50]
                          [-30.27, 102.00]
                          [-19.33, 100.00]
                          [-18.42, 99.50]
                          [18.42, 99.50]
                          [20.77, 100.00]
                          [27.93, 101.00]
                          [52.29, 101.00]
```

```
                        [68.80, 101.50]
                        [79.66, 103.00]
                        [91.50, 103.50]
                        [131.58, 104.00]

*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_9"], DT=[30]min, AREA=[1132](ha),
                    DWF=[0](cms),  CN/C=[70], IA=[2.5](mm),
                    N=[3.0], TP=[2.51]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["NC_CK"], DT=[30]min, AREA=[4464](ha),
                    DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                    N=[3.0], TP=[11.32]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
*#
ADD HYD             NHYDsum= 2 ["S_N9"], NHYDs to add= 1 3 4 ["N9"+"SW_9"+"NC_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL       NHYDout= 1 ["N8"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[2269](m),  CHSLOPE=[0.0882](%),
                                        FPSLOPE=[0.0882](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-17.99
                      -0.045,17.31
                      0.1,456.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-201.19,100.50]
                          [-135.21, 100.00]
                          [-94.83, 99.50]
                          [-67.05, 99.00]
                          [-17.99, 98.50]
                          [-16.02, 98.00]
                          [-13.95, 97.50]
                          [13.95, 97.50]
                          [15.64, 98.00]
                          [17.31, 98.50]
```

```
                        [162.02, 98.50]
                        [172.89 ,99.00]
                        [314.38, 99.00]
                        [343.78, 99.50]
                        [365.67, 100.00]
                        [376.68, 100.00 ]
                        [393.11, 99.50]
                        [404.97, 99.50]
                        [431.70, 100.00]
                        [456.58, 100.50 ]


*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_8"], DT=[30]min, AREA=[131](ha),
                    DWF=[0](cms),  CN/C=[63], IA=[2.5](mm),
                    N=[3.0], TP=[0.90]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["HB_DR"], DT=[30]min, AREA=[3854](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[8.42]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD             NHYDsum= 2 ["S_N8"], NHYDs to add= 1 3 4 ["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL       NHYDout= 1 ["N7"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[3750](m),  CHSLOPE=[0.0533](%),
                                        FPSLOPE=[0.0533](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.12,-18.11
                      -0.07,17.22
                      0.12,590.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-433.21, 102.00]
                          [-425.34, 101.50]
```

```
                          [-377.56, 101.50]
                          [-366.23, 101.00]
                          [-202.60, 100.50]
                          [-96.25, 99.50]
                          [-68.36 99.00]
                          [-18.11, 98.50]
                          [-13.81, 97.50]
                          [13.81, 97.50]
                          [17.22, 98.50]
                          [161.95, 98.50]
                          [173.11, 99.00]
                          [314.05, 99.00]
                          [365.52, 100.00]
                          [404.70, 99.50]
                          [476.74, 100.50]
                          [502.31, 101.00]
                          [584.69, 101.00]
                          [585.79, 101.00]
                          [590.05, 102.00]

*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_7"], DT=[30]min, AREA=[3197](ha),
                    DWF=[0](cms),  CN/C=[57], IA=[2.5](mm),
                    N=[3.0], TP=[6.65]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD             NHYDsum= 2 ["S_N7"], NHYDs to add= 1 3 ["N7"+"SW_7"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN7"]
                    HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR     NHYDout= 1 ["RES_RF"] ,NHYDin= 2
                    RDT=[30](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                    [   0.0 ,     0.0 ]
                                    [0.9051,    2.40]
                                    [2.907,     4.13]
                                    [9.744,     9.18]
                                    [20.304,   14.96]
                                    [34.167,  310.21]
                                    [74.993,  605.46]
                                    [104.876, 900.71]
```

```
                                  [140.56, 2892.00]
                                  [225.00, 3615.63]
                                  [   -1  ,  -1  ]  (max twenty pts)
                         NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_ResRF"]
                    HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL       NHYDout= 2["N6"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.025,-70.8
                      0.1,-23.9
                      -0.05,23.9
                      0.06,39.8
                      0.05,96.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-100.8, 97.00]
                                    [-70.8, 96.50]
                                    [-52.0, 96.00]
                                    [-35.1, 95.50]
                                    [-30.6, 95.00]
                                    [-23.9, 94.54]
                                    [23.9, 94.54]
                                    [39.8, 95.00]
                                    [50.4, 95.50]
                                    [93.5, 96.00]
                                    [94.9, 96.50]
                                    [96.3, 97.00]
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["N6"]
                    HYD_COMMENT=["flow at N6 u/s of Richmond"]

*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*#mod CN - Tp reduced by 25%
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_6"], DT=[30]min, AREA=[165](ha),
                    DWF=[0](cms),  CN/C=[70.3], IA=[2.5](mm),
                    N=[3.0], TP=[4.18]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*# mod CN
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["VG_DR"], DT=[30]min, AREA=[1332](ha),
                    DWF=[0](cms),  CN/C=[73.8], IA=[2.5](mm),
                    N=[3.0], TP=[5.95]hrs,
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H-VG_DR"]
                    HYD_COMMENT=["flow at Van Gaal Drain"]

*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD             NHYDsum= 1 ["S_N6"], NHYDs to add= 2 3 4 ["N6"+"SW_6"+"VG_DR"]
SAVE HYD            NHYD=3,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["SW_6"]
                    HYD_COMMENT=["flow from SW_6"]
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["VG_DR"]
                    HYD_COMMENT=["flow from VG_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL       NHYDout= 2 ["N5"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[1852](m),  CHSLOPE=[0.0540](%),
                                        FPSLOPE=[0.0540](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.035,-131.59
                      -0.045,48.96
                      0.1,239.04] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-686.30, 94.50]
                                      [-675.70, 94.00]
                                      [-492.52, 93.00]
                                      [-467.28, 94.00]
                                      [-131.59, 94.00]
                                      [-92.79, 92.50]
                                      [-18.06, 91.00]
                                      [18.06, 91.00]
                                      [43.47, 92.50]
                                      [48.96, 94.00]
                                      [177.43, 94.00]
                                      [239.04,94.50]
*%-----------------|-------------------------------------------------------------|
*# mod CN
CONTINUOUS NASHYD   NHYD= 3 ["SW_5"], DT=[30]min, AREA=[224](ha),
                    DWF=[0](cms),  CN/C=[79.1], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
```

```
*# mod CN
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["FL_CK"], DT=[30]min, AREA=[4945](ha),
                    DWF=[0](cms),  CN/C=[74.6], IA=[2.5](mm),
                    N=[3.0], TP=[4.45]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD             NHYDsum= 1 ["S_N5"], NHYDs to add= 2 3 4 ["N5"+"SW_5"+"FL_CK"]
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["N5"]
                    HYD_COMMENT=["flow at N5"]
SAVE HYD            NHYD=3,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["SW_5"]
                    HYD_COMMENT=["flow at SW_5"]
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["FL_CK"]
                    HYD_COMMENT=["flow at FL_CK"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["S_N5"]
                    HYD_COMMENT=["flow at S_N5"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL       NHYDout= 2 ["N5A"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[556](m),  CHSLOPE=[0.0900](%),
                                        FPSLOPE=[0.0900](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-41.5
                      0.1,-14.0
                      -0.045,14.0
                      0.1,41.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-275.8, 93.00]
                                      [-248.6, 92.50]
                                      [-237.0, 92.00]
                                      [-219.3, 91.50]
                                      [-202.1, 91.50]
                                      [-186.0, 92.00]
                                      [-129.2, 92.00]
                                      [-117.6, 91.50]
                                      [-100.6, 91.00]
                                      [-41.5, 91.00]
                                      [-20.0, 91.00]
                                      [-14.0, 90.54]
                                      [14.0, 90.54]
                                      [15.3, 91.00]
                                      [17.3, 91.50]
                                      [38.4, 92.00]
                                      [39.8, 92.50]
                                      [41.1, 93.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_5A2"], DT=[30]min, AREA=[20](ha),
```

```
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[0.62]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*# mod CN
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["SW_5A1"], DT=[30]min, AREA=[1412](ha),
                    DWF=[0](cms),  CN/C=[75.3], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD             NHYDsum= 1 ["S_N5A"], NHYDs to add= 2 3 4 ["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL       NHYDout= 2["N4"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                        FPSLOPE=[0.0432](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.05,-28.2
                      -0.035,28.2
                      0.05,173.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-38.9, 92.00]
                                      [-35.8, 91.50]
                                      [-33.3, 91.00]
                                      [-28.2, 90.50]
                                      [-15.0, 87.48]
                                      [-5.0, 88.34]
                                      [5.0, 86.20]
                                      [15.0, 88.55]
                                      [28.2, 90.50]
                                      [29.7, 91.00]
                                      [46.5, 91.00]
                                      [127.8, 91.00]
                                      [148.7, 91.50]
                                      [173.1, 92.00]

*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3["SW_4"], DT=[30]min, AREA=[585](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[1.75]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["LM_CK"], DT=[30]min, AREA=[1021](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                    N=[3.0], TP=[2.46]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD             NHYDsum= 1 ["S_N4"], NHYDs to add= 2 3 4 ["N4"+"SW_4"+"LM_CK"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["flow at S_N4"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL       NHYDout= 2 ["N2"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[1667](m),  CHSLOPE=[0.0600](%),
                                        FPSLOPE=[0.0600](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-28.0
                      -0.04,28.4
                      0.06,31.7
                      0.04,80.2] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                           [-36.3, 92.00]
                           [-32.6, 91.50]
                           [-30.2, 91.00]
                           [-28.0, 90.45]
                           [-15.0, 87.48]
                           [-5.0, 88.34]
                           [5.0, 86.20]
                           [15.0, 88.55]
                           [28.0, 90.45]
                           [28.4, 90.50]
                           [30.4, 91.00]
                           [31.7, 91.50]
                           [80.2, 92.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_2"], DT=[30]min, AREA=[177](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
```

```
                    VHydCond=[0.055](mm/hr),   END=-1
*%------------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["SM_DR"], DT=[30]min, AREA=[1122](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[3.25]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%------------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 5 ["MO_DR"], DT=[30]min, AREA=[2737](ha),
                    DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                    N=[3.0], TP=[3.03]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%------------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD             NHYDsum= 1 ["S_N2"], NHYDs to add= 2 3 4 5
                                         ["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%------------------|-------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN2"]
                    HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%------------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
ROUTE CHANNEL       NHYDout= 2 ["N1"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[10046](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-27.6
                      0.06,-15.0
                      -0.045,15.0
                      0.06,25.4
                      0.04,122.6] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                       [-87.0, 91.50]
                                       [-32.4, 91.00]
                                       [-27.6, 90.50]
                                       [-25.0, 90.00]
                                       [-22.9, 89.57]
                                       [-15.0, 86.20]
                                       [-5.0, 84.83]
                                       [5.0, 84.83]
                                       [15.0, 88.11]
                                       [22.9, 89.57]
                                       [25.4, 90.00]
                                       [27.9, 90.50]
                                       [38.0, 91.00]
                                       [112.5, 91.00]
                                       [114.3, 90.50]
```

```
                                    [115.1, 90.26]
                                    [116.3, 90.50]
                                    [119.0, 91.00]
                                    [121.0, 91.50]
                                    [122.6, 92.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_1"], DT=[30]min, AREA=[3176](ha),
                    DWF=[0](cms),  CN/C=[78], IA=[2.5](mm),
                    N=[3.0], TP=[3.56]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 1 to Node 1
*#
ADD HYD             NHYDsum= 1["N1"], NHYDs to add= 2 3 ["N1"+"SW_1"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_FILENAME=["N1-fut"]
                    HYD_COMMENT=["total outflow of Jock River"]
*#########################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                   ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|

*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

SWMHYMO – OUTPUT - FUTURE

```
================================================================================

 SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
 S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
 SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9 Ver. 4.02
     S   W W   M   M  H   H    Y    M   M  O   O       9999   9999 July 1999
 SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9 =========
                                                      9   9  9   9 # 1915185
      StormWater Management HYdrologic Model           999    999  =========

 ****************************************************************************
 *************************** SWMHYMO-99 Ver/4.02 ****************************
 *******  A single event and continuous hydrologic simulation model  *******
 *******     based on the principles of HYMO and its successors      *******
 *******                  OTTHYMO-83 and OTTHYMO-89.                  *******
 ****************************************************************************
 ******* Distributed by:  J.F. Sabourin and Associates Inc.          *******
 *******                   Ottawa,  Ontario: (613) 727-5199          *******
 *******                   Gatineau, Quebec: (819) 243-6858          *******
 *******                   E-Mail: swmhymo@jfsa.Com                  *******
 ****************************************************************************

 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++ Licensed user: TSH Ottawa                                    +++++++
 +++++++                Ottawa               SERIAL#:1915185        +++++++
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

 ****************************************************************************
 *******           ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *******
 *******           Maximum value for ID numbers  :     10           *******
 *******           Max. number of rainfall points:  15000           *******
 *******           Max. number of flow points    :  15000           *******
 ****************************************************************************

 *** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) ***
 ***------------------------------------------------------------------------***
 ***    ID:  Hydrograph IDentification numbers, (1-10).                   ***
 ***  NHYD:  Hydrograph reference numbers, (6 digits or characters).      ***
 ***  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).    ***
 *** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).      ***
 *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
 ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         ***
 ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         ***
 ***     *:  see WARNING or NOTE message printed at end of run.           ***
 ***    **:  see  ERROR  message printed at end of run.                   ***
 ****************************************************************************
 ****************************************************************************

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

 *********************   S U M M A R Y   O U T P U T   *********************
 ****************************************************************************
 *       DATE: 2010-03-07     TIME: 14:11:29     RUN COUNTER: 000645       *
 ****************************************************************************
 * Input   filename: C:\STORMS~1\R2V2-A~1.DAT                               *
 * Output  filename: C:\STORMS~1\R2V2-A~1.out                               *
 * Summary filename: C:\STORMS~1\R2V2-A~1.sum                               *
 * User comments:                                                           *
 * 1:_______________________________________________________________________*
 * 2:_______________________________________________________________________*
 * 3:_______________________________________________________________________*
 ****************************************************************************


#*******************************************************************************
```

```
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ----------------------------------------------------------------------------
#
#   FUTURE SUMMER - Cumulative Development
#
#
 RUN:COMMAND#
 001:0001-------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   1 ]
 001:0002-------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
 001:0003-------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
 001:0004-------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
# mod CN
 001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00    6.065 No_date   37:00   11.44 .251
      [CN= 64.5: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    2.154 No_date   32:30   10.72 .236
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00    6.065 No_date   37:00   11.44  n/a
                      +  02:SW_13    971.00    2.154 No_date   32:30   10.72  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00    7.713 No_date   35:30   11.29  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
```

```
#
 001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00    7.713 No_date   35:30   11.29  n/a
      [RDT=30.00] out<- 02:N13A    4651.00    6.154 No_date   39:30   11.29  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .427:Dmax= 2.537}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
#mod CN
 001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00    3.203 No_date   39:30    9.41 .207
      [CN= 55.8: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00    6.154 No_date   39:30   11.29  n/a
                      +  01:SN13A   3161.00    3.203 No_date   39:30    9.41  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00    9.357 No_date   39:30   10.53  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00    9.357 No_date   39:30   10.53  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
     {MxStoUsed=.3547E+02}
#
 001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
      fname :C:\STORMS~1\H_RESGM.001
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
      [RDT=30.00] out<- 01:N12     7812.00    2.604 No_date   58:00   10.53  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .501:Dmax= 1.328}
 001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00    2.663 No_date   29:00   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#mod CN
 001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00    5.417 No_date   32:30   13.91 .306
      [CN= 72.3: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    2.604 No_date   58:00   10.53  n/a
                      +  02:JR_ASH  1781.00    5.417 No_date   32:30   13.91  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
 001:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      fname :C:\STORMS~1\H_SN12.001
      remark:flow at S_N12 near Ashton
```

```
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 001:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      [RDT=30.00] out<- 02:N11     9593.00    7.323 No_date   33:00   11.16  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .580:Dmax= 2.120}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 001:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00    7.326 No_date   33:00   11.16  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .589:Dmax= 2.098}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00    3.966 No_date   34:30   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 001:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00    7.326 No_date   33:00   11.16  n/a
                      +  04:SW_11    500.00    2.663 No_date   29:00   11.95  n/a
                      +  05:NN_CK   1917.00    3.966 No_date   34:30   11.95  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   11.957 No_date   33:00   11.32  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 001:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   11.957 No_date   33:00   11.32  n/a
      [RDT=30.00] out<- 02:N10    12010.00    8.226 No_date   39:30   11.32  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .460:Dmax=  .881}
 001:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   10.936 No_date   38:00   13.91 .306
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 001:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00    8.226 No_date   39:30   11.32  n/a
                      +  04:SW_10   5666.00   10.936 No_date   38:00   13.91  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
 001:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
      fname :C:\STORMS~1\H_SN10.001
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN
```

```
 001:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   10.656 No_date   39:30   11.95 .263
      [CN= 66.3: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 001:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
                      +  03:KG_CK   8376.00   10.656 No_date   39:30   11.95  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   29.632 No_date   39:30   12.08  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 001:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   29.632 No_date   39:30   12.08  n/a
      [RDT=30.00] out<- 01:N9     26052.00   28.892 No_date   39:30   12.08  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .591:Dmax= 1.193}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 001:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00    4.365 No_date   30:30   13.32 .293
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 001:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00    5.312 No_date   39:30   10.96 .241
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 001:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   28.892 No_date   39:30   12.08  n/a
                      +  03:SW_9    1132.00    4.365 No_date   30:30   13.32  n/a
                      +  04:NC_CK   4464.00    5.312 No_date   39:30   10.96  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00   35.499 No_date   39:30   11.97  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 001:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00   35.499 No_date   39:30   11.97  n/a
      [RDT=30.00] out<- 01:N8     31648.00   33.315 No_date   40:00   11.97  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .420:Dmax= 1.270}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00     .770 No_date   28:30   11.20 .246
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
```

```
# of 1.65
 001:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00    6.083 No_date   38:30   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 001:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00   33.315 No_date   40:00   11.97  n/a
                      +  03:SW_8     131.00     .770 No_date   28:30   11.20  n/a
                      +  04:HB_DR   3854.00    6.083 No_date   38:30   11.95  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00   39.371 No_date   39:30   11.96  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 001:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00   39.371 No_date   39:30   11.96  n/a
      [RDT=30.00] out<- 01:N7     35633.00   32.183 No_date   44:00   11.96  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .209:Dmax= 1.635}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 001:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00    4.557 No_date   36:30    9.83 .216
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 001:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00   32.183 No_date   44:00   11.96  n/a
                      +  03:SW_7    3197.00    4.557 No_date   36:30    9.83  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
 001:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
      fname :C:\STORMS~1\H_SN7.001
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 001:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
     {MxStoUsed=.7407E+02}
 001:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
      fname :C:\STORMS~1\H_ResRF.001
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 001:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
      [RDT=30.00] out<- 02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
      [L/S/n= 3056./ .082/.025]
```

```
      {Vmax=  .431:Dmax=  .805}
 001:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
      fname :C:\STORMS~1\N6.001
      remark:flow at N6 u/s of Richmond
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN - Tp reduced by 25%
 001:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00     .454 No_date   33:00   13.32 .293
      [CN= 70.3: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
# mod CN
 001:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00    3.164 No_date   35:00   14.22 .312
      [CN= 73.8: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 38.18: SMAX=254.55: SK= .010]
      [InterEventTime=  12.00]
 001:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    3.164 No_date   35:00   14.22  n/a
      fname :C:\STORMS~1\H-VG_DR.001
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 001:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
                      +  03:SW_6     165.00     .454 No_date   33:00   13.32  n/a
                      +  04:VG_DR   1332.00    3.164 No_date   35:00   14.22  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   23.312 No_date   39:30   11.88  n/a
 001:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_6     165.00     .454 No_date   33:00   13.32  n/a
      fname :C:\STORMS~1\SW_6.001
      remark:flow from SW_6
 001:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    3.164 No_date   35:00   14.22  n/a
      fname :C:\STORMS~1\VG_DR.001
      remark:flow from VG_DR
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 001:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   23.312 No_date   39:30   11.88  n/a
      [RDT=30.00] out<- 02:N5     40327.01   23.176 No_date   55:30   11.88  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .378:Dmax=  .916}
# mod CN
 001:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    2.773 No_date   28:30   16.98 .373
      [CN= 79.1: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 27.47: SMAX=183.15: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
# mod CN
 001:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   14.579 No_date   33:00   14.54 .319
```

```
      [CN= 74.6: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 001:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   23.176 No_date   55:30   11.88  n/a
                    +  03:SW_5     224.00    2.773 No_date   28:30   16.98  n/a
                    +  04:FL_CK   4945.00   14.579 No_date   33:00   14.54  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   33.109 No_date   37:00   12.19  n/a
 001:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   23.176 No_date   55:30   11.88  n/a
      fname :C:\STORMS~1\N5.001
      remark:flow at N5
 001:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    2.773 No_date   28:30   16.98  n/a
      fname :C:\STORMS~1\SW_5.001
      remark:flow at SW_5
 001:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   14.579 No_date   33:00   14.54  n/a
      fname :C:\STORMS~1\FL_CK.001
      remark:flow at FL_CK
 001:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   33.109 No_date   37:00   12.19  n/a
      fname :C:\STORMS~1\S_N5.001
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 001:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   33.109 No_date   37:00   12.19  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   33.059 No_date   37:00   12.19  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .443:Dmax=  .937}
 001:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00     .287 No_date   28:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
# mod CN
 001:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    3.007 No_date   38:00   15.19 .334
      [CN= 75.3: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 001:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   33.059 No_date   37:00   12.19  n/a
                    +  03:SW_5A2    20.00     .287 No_date   28:30   17.76  n/a
                    +  04:SW_5A1  1412.00    3.007 No_date   38:00   15.19  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   36.077 No_date   37:00   12.28  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 001:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   36.077 No_date   37:00   12.28  n/a
```

```
      [RDT=30.00] out<- 02:N4     46928.01   35.195 No_date   39:00   12.28  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .694:Dmax= 2.840}
 001:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00    4.232 No_date   29:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 001:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00    5.667 No_date   30:30   17.36 .382
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 001:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   35.195 No_date   39:00   12.28  n/a
                    +  03:SW_4     585.00    4.232 No_date   29:30   17.76  n/a
                    +  04:LM_CK   1021.00    5.667 No_date   30:30   17.36  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   37.533 No_date   38:30   12.46  n/a
 001:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   37.533 No_date   38:30   12.46  n/a
      fname :C:\STORMS~1\H-S_N4.001
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 001:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   37.533 No_date   38:30   12.46  n/a
      [RDT=30.00] out<- 02:N2     48534.01   37.433 No_date   39:00   12.46  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .715:Dmax= 2.844}
 001:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    1.996 No_date   28:30   15.88 .349
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 001:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00    5.257 No_date   31:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 001:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   11.338 No_date   31:30   15.53 .341
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 001:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   37.433 No_date   39:00   12.46  n/a
                    +  03:SW_2     177.00    1.996 No_date   28:30   15.88  n/a
                    +  04:SM_DR   1122.00    5.257 No_date   31:30   17.76  n/a
                    +  05:MO_DR   2737.00   11.338 No_date   31:30   15.53  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01   45.832 No_date   33:30   12.74  n/a
 001:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01   45.832 No_date   33:30   12.74  n/a
      fname :C:\STORMS~1\H_SN2.001
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
```

```
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 001:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01   45.832 No_date   33:30   12.74  n/a
      [RDT=30.00] out<- 02:N1     52570.01   42.743 No_date   39:30   12.74  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax=  .768:Dmax= 2.667}
 001:0074---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   12.490 No_date   32:00   16.23 .357
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 001:0075---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             02:N1     52570.01   42.743 No_date   39:30   12.74  n/a
                       +  03:SW_1    3176.00   12.490 No_date   32:00   16.23  n/a
      [DT=30.00]  SUM=  01:N1     55746.00   49.310 No_date   36:30   12.94  n/a
 001:0076---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            01:N1     55746.00   49.310 No_date   36:30   12.94  n/a
      fname :C:\STORMS~1\H-N1.001
      remark:N1-fut
###############################################################################
  ** END OF RUN :   4

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




 RUN:COMMAND#
 005:0001---------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   5 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------------
#
#   FUTURE SUMMER - Cumulative Development
#
#
 005:0002---------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
 005:0003---------------------------------------------------------------------
     MODIFY STORM
```

```
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
 005:0004-------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 90.83: APIavg= 60.09: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
# mod CN
 005:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00    9.169 No_date   37:00   16.38 .287
      [CN= 64.5: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 005:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    3.350 No_date   32:30   15.27 .267
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 005:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00    9.169 No_date   37:00   16.38  n/a
                    +  02:SW_13    971.00    3.350 No_date   32:30   15.27  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00   11.688 No_date   35:30   16.15  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
 005:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00   11.688 No_date   35:30   16.15  n/a
      [RDT=30.00] out<- 02:N13A    4651.00    9.343 No_date   39:30   16.15  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .475:Dmax= 2.992}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
#mod CN
 005:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00    4.639 No_date   39:30   13.20 .231
      [CN= 55.8: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 005:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00    9.343 No_date   39:30   16.15  n/a
                    +  01:SN13A   3161.00    4.639 No_date   39:30   13.20  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00   13.982 No_date   39:30   14.96  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 005:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00   13.982 No_date   39:30   14.96  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
     {MxStoUsed=.6269E+02}
#
```

```
 005:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
      fname :C:\STORMS~1\H_RESGM.005
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 005:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
      [RDT=30.00] out<- 01:N12     7812.00    3.129 No_date   60:30   14.96  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .526:Dmax= 1.427}
 005:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00    4.260 No_date   29:00   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#mod CN
 005:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00    8.382 No_date   32:30   20.09 .352
      [CN= 72.3: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 005:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    3.129 No_date   60:30   14.96  n/a
                     +  02:JR_ASH  1781.00    8.382 No_date   32:30   20.09  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
 005:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      fname :C:\STORMS~1\H_SN12.005
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 005:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      [RDT=30.00] out<- 02:N11     9593.00   10.235 No_date   33:00   15.91  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .634:Dmax= 2.418}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 005:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00   10.246 No_date   33:00   15.91  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .645:Dmax= 2.393}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00    6.085 No_date   34:00   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 005:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00   10.246 No_date   33:00   15.91  n/a
```

```
                    +  04:SW_11    500.00    4.260 No_date   29:00   17.15  n/a
                    +  05:NN_CK   1917.00    6.085 No_date   34:00   17.15  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   17.319 No_date   33:00   16.16  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 005:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   17.319 No_date   33:00   16.16  n/a
      [RDT=30.00] out<- 02:N10    12010.00   11.909 No_date   38:30   16.16  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .462:Dmax= 1.078}
 005:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   16.454 No_date   38:00   20.09 .352
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 005:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00   11.909 No_date   38:30   16.16  n/a
                    +  04:SW_10   5666.00   16.454 No_date   38:00   20.09  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
 005:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
      fname :C:\STORMS~1\H_SN10.005
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN
 005:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   15.668 No_date   39:30   17.15 .300
      [CN= 66.3: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 005:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
                    +  03:KG_CK   8376.00   15.668 No_date   39:30   17.15  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   43.598 No_date   39:30   17.33  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 005:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   43.598 No_date   39:30   17.33  n/a
      [RDT=30.00] out<- 01:N9     26052.00   42.453 No_date   39:30   17.33  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .663:Dmax= 1.480}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 005:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00    6.854 No_date   30:30   19.22 .336
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
```

```
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 005:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00    7.795 No_date   39:30   15.63 .274
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 005:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   42.453 No_date   39:30   17.33  n/a
                      +  03:SW_9    1132.00    6.854 No_date   30:30   19.22  n/a
                      +  04:NC_CK   4464.00    7.795 No_date   39:30   15.63  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00   52.078 No_date   39:30   17.16  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 005:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00   52.078 No_date   39:30   17.16  n/a
      [RDT=30.00] out<- 01:N8     31648.00   48.443 No_date   40:00   17.16  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .371:Dmax= 1.510}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00    1.239 No_date   28:30   16.00 .280
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 005:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00    9.126 No_date   38:30   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 005:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00   48.443 No_date   40:00   17.16  n/a
                      +  03:SW_8     131.00    1.239 No_date   28:30   16.00  n/a
                      +  04:HB_DR   3854.00    9.126 No_date   38:30   17.15  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00   57.182 No_date   39:30   17.16  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 005:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00   57.182 No_date   39:30   17.16  n/a
      [RDT=30.00] out<- 01:N7     35633.00   46.901 No_date   45:00   17.16  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .207:Dmax= 1.840}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 005:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00    6.873 No_date   36:00   13.87 .243
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
```

```
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 005:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00   46.901 No_date   45:00   17.16  n/a
                    +  03:SW_7    3197.00    6.873 No_date   36:00   13.87  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
 005:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
      fname :C:\STORMS~1\H_SN7.005
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 005:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
     {MxStoUsed=.1714E+03}
 005:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
      fname :C:\STORMS~1\H_ResRF.005
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 005:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
      [RDT=30.00] out<- 02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .458:Dmax=  .889}
 005:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
      fname :C:\STORMS~1\N6.005
      remark:flow at N6 u/s of Richmond
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN - Tp reduced by 25%
 005:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00     .702 No_date   33:00   19.22 .336
      [CN= 70.3: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
# mod CN
 005:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00    4.821 No_date   35:00   20.55 .360
      [CN= 73.8: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 38.18: SMAX=254.55: SK= .010]
      [InterEventTime=  12.00]
 005:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    4.821 No_date   35:00   20.55  n/a
      fname :C:\STORMS~1\H-VG_DR.005
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
```

```
#
 005:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
                      +  03:SW_6     165.00     .702 No_date   33:00   19.22  n/a
                      +  04:VG_DR   1332.00    4.821 No_date   35:00   20.55  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   27.694 No_date   59:30   17.02  n/a
 005:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_6     165.00     .702 No_date   33:00   19.22  n/a
      fname :C:\STORMS~1\SW_6.005
      remark:flow from SW_6
 005:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    4.821 No_date   35:00   20.55  n/a
      fname :C:\STORMS~1\VG_DR.005
      remark:flow from VG_DR
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 005:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   27.694 No_date   59:30   17.02  n/a
      [RDT=30.00] out<- 02:N5     40327.01   27.667 No_date   60:30   17.02  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .396:Dmax=  .997}
# mod CN
 005:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    4.345 No_date   28:30   24.50 .429
      [CN= 79.1: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 27.47: SMAX=183.15: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
# mod CN
 005:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   22.432 No_date   33:00   21.01 .368
      [CN= 74.6: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 005:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   27.667 No_date   60:30   17.02  n/a
                      +  03:SW_5     224.00    4.345 No_date   28:30   24.50  n/a
                      +  04:FL_CK   4945.00   22.432 No_date   33:00   21.01  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   43.412 No_date   35:00   17.49  n/a
 005:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   27.667 No_date   60:30   17.02  n/a
      fname :C:\STORMS~1\N5.005
      remark:flow at N5
 005:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    4.345 No_date   28:30   24.50  n/a
      fname :C:\STORMS~1\SW_5.005
      remark:flow at SW_5
 005:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   22.432 No_date   33:00   21.01  n/a
      fname :C:\STORMS~1\FL_CK.005
      remark:flow at FL_CK
 005:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   43.412 No_date   35:00   17.49  n/a
      fname :C:\STORMS~1\S_N5.005
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
```

```
#
 005:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   43.412 No_date   35:00   17.49  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   43.373 No_date   35:30   17.49  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .464:Dmax= 1.059}
 005:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00     .448 No_date   28:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
# mod CN
 005:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    4.515 No_date   37:30   21.96 .384
      [CN= 75.3: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 005:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   43.373 No_date   35:30   17.49  n/a
                      +  03:SW_5A2    20.00     .448 No_date   28:30   25.59  n/a
                      +  04:SW_5A1  1412.00    4.515 No_date   37:30   21.96  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   47.728 No_date   35:30   17.62  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 005:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   47.728 No_date   35:30   17.62  n/a
      [RDT=30.00] out<- 02:N4     46928.01   46.060 No_date   37:00   17.62  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .754:Dmax= 3.110}
 005:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00    6.551 No_date   29:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 005:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00    8.738 No_date   30:30   25.04 .438
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 005:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   46.060 No_date   37:00   17.62  n/a
                      +  03:SW_4     585.00    6.551 No_date   29:30   25.59  n/a
                      +  04:LM_CK   1021.00    8.738 No_date   30:30   25.04  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   50.229 No_date   36:30   17.88  n/a
 005:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   50.229 No_date   36:30   17.88  n/a
      fname :C:\STORMS~1\H-S_N4.005
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
```

```
 005:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4    48534.01   50.229 No_date   36:30   17.88  n/a
      [RDT=30.00] out<- 02:N2     48534.01   50.109 No_date   37:00   17.88  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .781:Dmax= 3.129}
 005:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    3.149 No_date   28:30   22.94 .402
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 005:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00    8.043 No_date   31:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 005:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   17.548 No_date   31:30   22.44 .393
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 005:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   50.109 No_date   37:00   17.88  n/a
                      +  03:SW_2     177.00    3.149 No_date   28:30   22.94  n/a
                      +  04:SM_DR   1122.00    8.043 No_date   31:30   25.59  n/a
                      +  05:MO_DR   2737.00   17.548 No_date   31:30   22.44  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01   66.504 No_date   33:00   18.30  n/a
 005:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01   66.504 No_date   33:00   18.30  n/a
      fname :C:\STORMS~1\H_SN2.005
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 005:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01   66.504 No_date   33:00   18.30  n/a
      [RDT=30.00] out<- 02:N1     52570.01   59.921 No_date   37:00   18.30  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax=  .862:Dmax= 3.206}
 005:0074---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   19.206 No_date   32:00   23.45 .411
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 005:0075---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01   59.921 No_date   37:00   18.30  n/a
                      +  03:SW_1    3176.00   19.206 No_date   32:00   23.45  n/a
      [DT=30.00]  SUM=  01:N1     55746.00   72.279 No_date   35:00   18.59  n/a
 005:0076---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:N1     55746.00   72.279 No_date   35:00   18.59  n/a
      fname :C:\STORMS~1\H-N1.005
      remark:N1-fut
###############################################################################
  ** END OF RUN :  99

*******************************************************************************
```

```
 RUN:COMMAND#
 100:0001--------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 100 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# -----------------------------------------------------------------------------
#
#   FUTURE SUMMER - Cumulative Development
#
#
 100:0002--------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
 100:0003--------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
 100:0004--------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax=119.84: APIavg= 69.19: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
# mod CN
 100:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00   21.054 No_date   36:30   35.15 .397
      [CN= 64.5: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 100:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    8.058 No_date   32:30   32.81 .370
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 100:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00   21.054 No_date   36:30   35.15  n/a
                      +  02:SW_13    971.00    8.058 No_date   32:30   32.81  n/a
```

```
      [DT=30.00]  SUM=  01:S_N13   4651.00   27.020 No_date   35:00   34.66  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
 100:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00   27.020 No_date   35:00   34.66  n/a
      [RDT=30.00] out<- 02:N13A    4651.00   22.149 No_date   38:30   34.66  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .594:Dmax= 4.138}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
#mod CN
 100:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00   10.266 No_date   39:30   28.27 .319
      [CN= 55.8: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 100:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00   22.149 No_date   38:30   34.66  n/a
                      +  01:SN13A   3161.00   10.266 No_date   39:30   28.27  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00   32.270 No_date   39:30   32.08  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 100:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00   32.270 No_date   39:30   32.08  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
     {MxStoUsed=.1788E+03}
#
 100:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
      fname :C:\STORMS~1\H_RESGM.100
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 100:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
      [RDT=30.00] out<- 01:N12     7812.00    3.943 No_date   66:30   32.08  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .560:Dmax= 1.559}
 100:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00   10.499 No_date   29:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#mod CN
 100:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00   19.356 No_date   32:30   42.46 .479
      [CN= 72.3: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 100:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    3.943 No_date   66:30   32.08  n/a
                      +  02:JR_ASH  1781.00   19.356 No_date   32:30   42.46  n/a
```

```
      [DT=30.00]  SUM=  01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
 100:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      fname :C:\STORMS~1\H_SN12.100
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 100:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      [RDT=30.00] out<- 02:N11     9593.00   21.120 No_date   33:00   34.00  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .760:Dmax= 3.206}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 100:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00   21.116 No_date   32:30   34.00  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .774:Dmax= 3.175}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00   14.197 No_date   34:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 100:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00   21.116 No_date   32:30   34.00  n/a
                      +  04:SW_11    500.00   10.499 No_date   29:00   36.74  n/a
                      +  05:NN_CK   1917.00   14.197 No_date   34:00   36.74  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   37.438 No_date   33:00   34.55  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 100:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   37.438 No_date   33:00   34.55  n/a
      [RDT=30.00] out<- 02:N10    12010.00   23.324 No_date   39:00   34.55  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .484:Dmax= 1.483}
 100:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   36.560 No_date   37:30   42.46 .479
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 100:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00   23.324 No_date   39:00   34.55  n/a
                      +  04:SW_10   5666.00   36.560 No_date   37:30   42.46  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
 100:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
      fname :C:\STORMS~1\H_SN10.100
```

```
     remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN
 100:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   34.456 No_date   39:30   36.74 .415
      [CN= 66.3: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 100:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
                      +  03:KG_CK   8376.00   34.456 No_date   39:30   36.74  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   93.257 No_date   39:30   36.98  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 100:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   93.257 No_date   39:30   36.98  n/a
      [RDT=30.00] out<- 01:N9     26052.00   91.386 No_date   39:30   36.98  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .769:Dmax= 2.125}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 100:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00   16.257 No_date   30:30   40.80 .461
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 100:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00   17.270 No_date   39:30   33.59 .379
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 100:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   91.386 No_date   39:30   36.98  n/a
                      +  03:SW_9    1132.00   16.257 No_date   30:30   40.80  n/a
                      +  04:NC_CK   4464.00   17.270 No_date   39:30   33.59  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00  112.276 No_date   39:30   36.63  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 100:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00  112.276 No_date   39:30   36.63  n/a
      [RDT=30.00] out<- 01:N8     31648.00  106.477 No_date   40:00   36.63  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .372:Dmax= 1.905}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00    3.096 No_date   28:30   34.37 .388
      [CN= 63.0: N= 3.00]
```

```
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 100:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00   20.590 No_date   38:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 100:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00  106.477 No_date   40:00   36.63  n/a
                      +  03:SW_8     131.00    3.096 No_date   28:30   34.37  n/a
                      +  04:HB_DR   3854.00   20.590 No_date   38:00   36.74  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00  126.247 No_date   39:30   36.64  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 100:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00  126.247 No_date   39:30   36.64  n/a
      [RDT=30.00] out<- 01:N7     35633.00  108.774 No_date   44:30   36.64  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .236:Dmax= 2.384}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 100:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00   16.027 No_date   36:00   29.76 .336
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 100:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00  108.774 No_date   44:30   36.64  n/a
                      +  03:SW_7    3197.00   16.027 No_date   36:00   29.76  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
 100:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
      fname :C:\STORMS~1\H_SN7.100
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 100:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
     {MxStoUsed=.5014E+03}
 100:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
      fname :C:\STORMS~1\H_ResRF.100
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
```

```
#
 100:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
      [RDT=30.00] out<- 02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .553:Dmax= 1.353}
 100:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
      fname :C:\STORMS~1\N6.100
      remark:flow at N6 u/s of Richmond
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN - Tp reduced by 25%
 100:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00    1.630 No_date   32:30   40.80 .461
      [CN= 70.3: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
# mod CN
 100:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00   10.866 No_date   35:00   43.30 .489
      [CN= 73.8: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 38.18: SMAX=254.55: SK= .010]
      [InterEventTime=  12.00]
 100:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00   10.866 No_date   35:00   43.30  n/a
      fname :C:\STORMS~1\H-VG_DR.100
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 100:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
                      +  03:SW_6     165.00    1.630 No_date   32:30   40.80  n/a
                      +  04:VG_DR   1332.00   10.866 No_date   35:00   43.30  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   60.510 No_date   59:30   36.33  n/a
 100:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_6     165.00    1.630 No_date   32:30   40.80  n/a
      fname :C:\STORMS~1\SW_6.100
      remark:flow from SW_6
 100:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00   10.866 No_date   35:00   43.30  n/a
      fname :C:\STORMS~1\VG_DR.100
      remark:flow from VG_DR
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 100:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   60.510 No_date   59:30   36.33  n/a
      [RDT=30.00] out<- 02:N5     40327.01   60.396 No_date   60:30   36.33  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .490:Dmax= 1.451}
# mod CN
 100:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    9.957 No_date   28:30   50.23 .567
      [CN= 79.1: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 27.47: SMAX=183.15: SK= .010]
      [InterEventTime=  12.00]
#
```

```
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
# mod CN
 100:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   51.121 No_date   33:00   44.15 .498
      [CN= 74.6: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 100:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   60.396 No_date   60:30   36.33  n/a
                      +  03:SW_5     224.00    9.957 No_date   28:30   50.23  n/a
                      +  04:FL_CK   4945.00   51.121 No_date   33:00   44.15  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   80.280 No_date   34:00   37.25  n/a
 100:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   60.396 No_date   60:30   36.33  n/a
      fname :C:\STORMS~1\N5.100
      remark:flow at N5
 100:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    9.957 No_date   28:30   50.23  n/a
      fname :C:\STORMS~1\SW_5.100
      remark:flow at SW_5
 100:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   51.121 No_date   33:00   44.15  n/a
      fname :C:\STORMS~1\FL_CK.100
      remark:flow at FL_CK
 100:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   80.280 No_date   34:00   37.25  n/a
      fname :C:\STORMS~1\S_N5.100
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 100:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   80.280 No_date   34:00   37.25  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   80.210 No_date   34:00   37.25  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .545:Dmax= 1.349}
 100:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00    1.014 No_date   28:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
# mod CN
 100:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    9.884 No_date   37:30   45.85 .518
      [CN= 75.3: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 100:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   80.210 No_date   34:00   37.25  n/a
                      +  03:SW_5A2    20.00    1.014 No_date   28:30   52.03  n/a
                      +  04:SW_5A1  1412.00    9.884 No_date   37:30   45.85  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   89.005 No_date   34:30   37.51  n/a
#
```

```
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 100:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   89.005 No_date   34:30   37.51  n/a
      [RDT=30.00] out<- 02:N4     46928.01   85.339 No_date   36:00   37.51  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .902:Dmax= 3.855}
 100:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00   14.684 No_date   29:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 100:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00   19.515 No_date   30:30   51.13 .577
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 100:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   85.339 No_date   36:00   37.51  n/a
                      +  03:SW_4     585.00   14.684 No_date   29:30   52.03  n/a
                      +  04:LM_CK   1021.00   19.515 No_date   30:30   51.13  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   96.093 No_date   34:30   37.97  n/a
 100:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   96.093 No_date   34:30   37.97  n/a
      fname :C:\STORMS~1\H-S_N4.100
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 100:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   96.093 No_date   34:30   37.97  n/a
      [RDT=30.00] out<- 02:N2     48534.01   95.740 No_date   35:00   37.97  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .943:Dmax= 3.921}
 100:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    7.344 No_date   28:30   47.59 .537
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 100:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00   17.710 No_date   31:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 100:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   40.026 No_date   31:00   46.72 .527
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 100:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   95.740 No_date   35:00   37.97  n/a
                      +  03:SW_2     177.00    7.344 No_date   28:30   47.59  n/a
                      +  04:SM_DR   1122.00   17.710 No_date   31:30   52.03  n/a
                      +  05:MO_DR   2737.00   40.026 No_date   31:00   46.72  n/a
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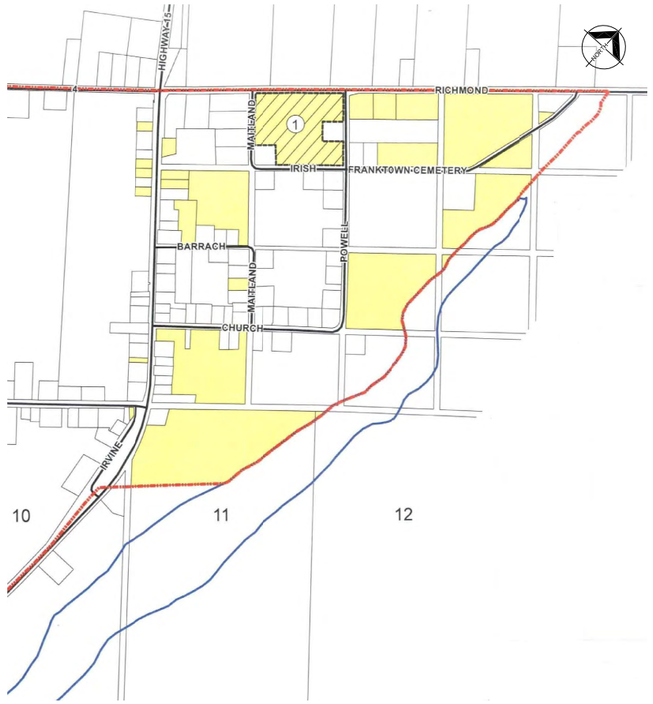
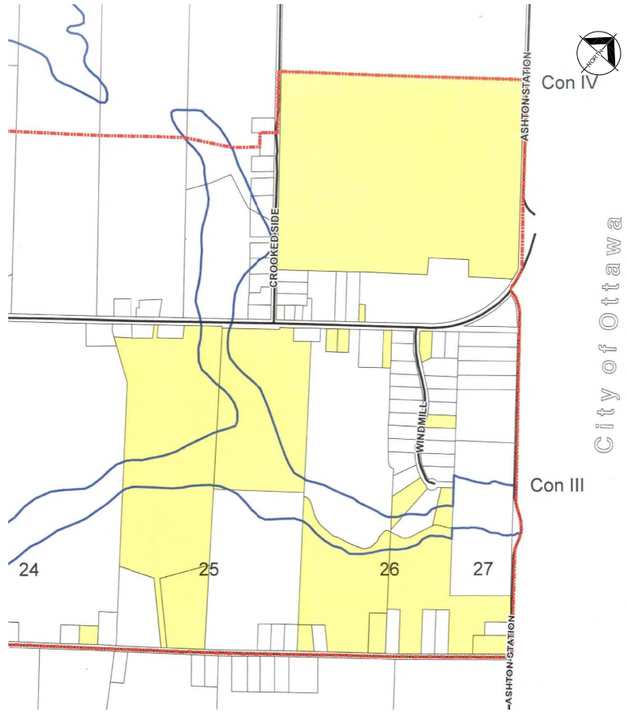
      [DT=30.00]  SUM=  01:S_N2   52570.01  141.818 No_date   32:30   38.76  n/a
 100:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01  141.818 No_date   32:30   38.76  n/a
      fname :C:\STORMS~1\H_SN2.100
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 100:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01  141.818 No_date   32:30   38.76  n/a
      [RDT=30.00] out<- 02:N1     52570.01  124.692 No_date   35:00   38.76  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax= 1.092:Dmax= 4.559}
 100:0074---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   43.079 No_date   32:00   48.46 .547
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 100:0075---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01  124.692 No_date   35:00   38.76  n/a
                    +  03:SW_1    3176.00   43.079 No_date   32:00   48.46  n/a
      [DT=30.00]  SUM=  01:N1     55746.00  158.805 No_date   34:00   39.31  n/a
 100:0076---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:N1     55746.00  158.805 No_date   34:00   39.31  n/a
      fname :C:\STORMS~1\H-N1.100
      remark:N1-fut
################################################################################
 100:0002--------------------------------------------------------------------------
      FINISH
--------------------------------------------------------------------------------
********************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
 001:0033 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 001:0051 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 001:0059 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 001:0068 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 005:0033 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 005:0051 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 005:0059 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 005:0068 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 100:0033 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 100:0051 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
```

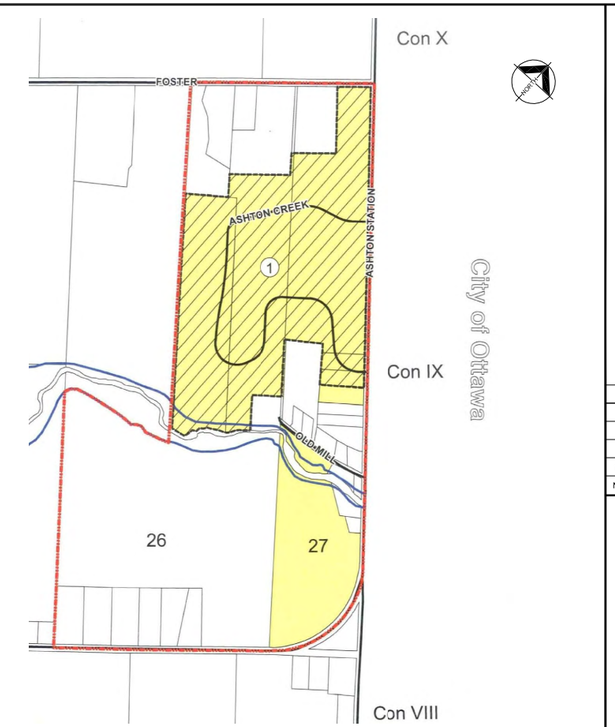
```
                  R.V. may be ok.  Peak flow could be off.
 100:0059 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                  R.V. may be ok.  Peak flow could be off.
 100:0068 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                  R.V. may be ok.  Peak flow could be off.
   Simulation ended on 2010-03-07     at 14:11:30
================================================================================
```



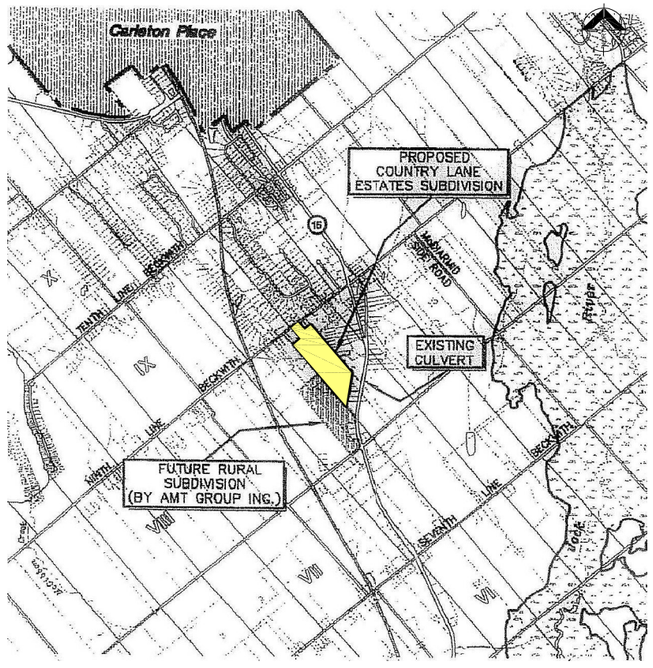
1 FRANKTOWN



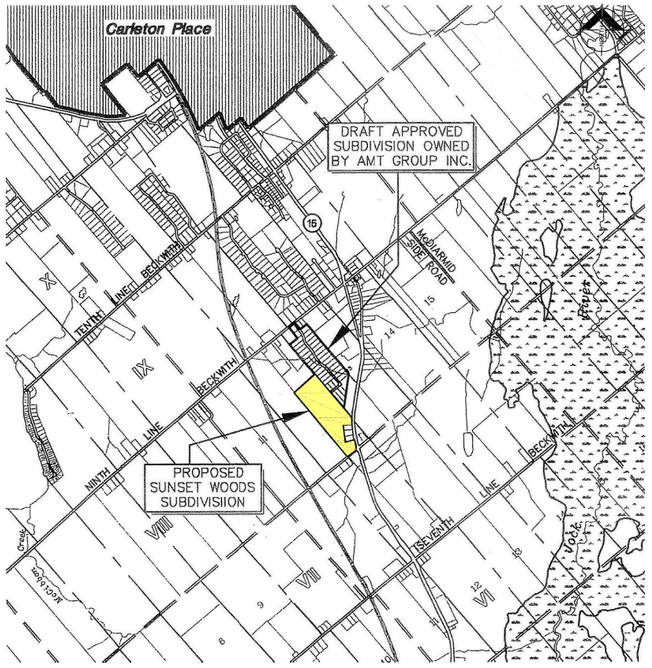
2 PROSPECT



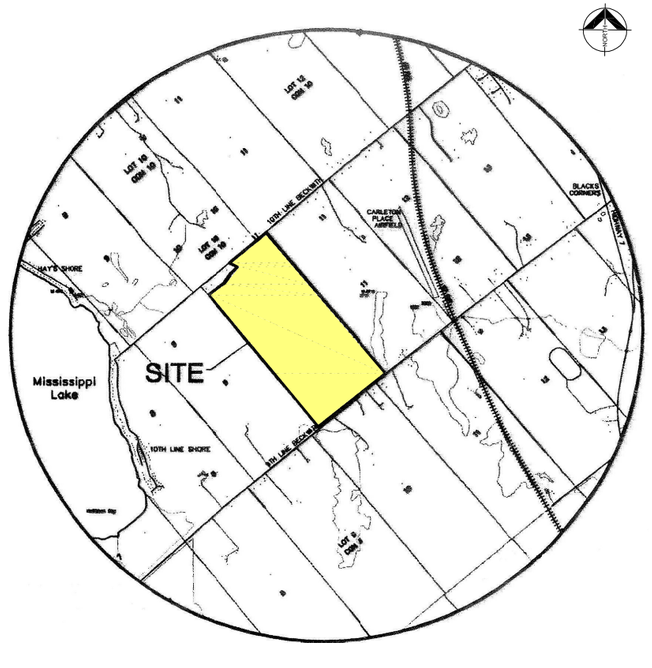
3 ASHTON



4 RICHARDSON



5 AMT GROUP



6 HAY FAMILY DEVELOPMENTS

No.	DATE	BY	ISSUES / REVISIONS
1			

AECOM

AECOM Canada Ltd.
1701 Hollis Street, Halifax, Nova Scotia, Canada B3J 3M8
T902.428.2021 F902.428.2031

MATTAMY HOMES

PROJECT:

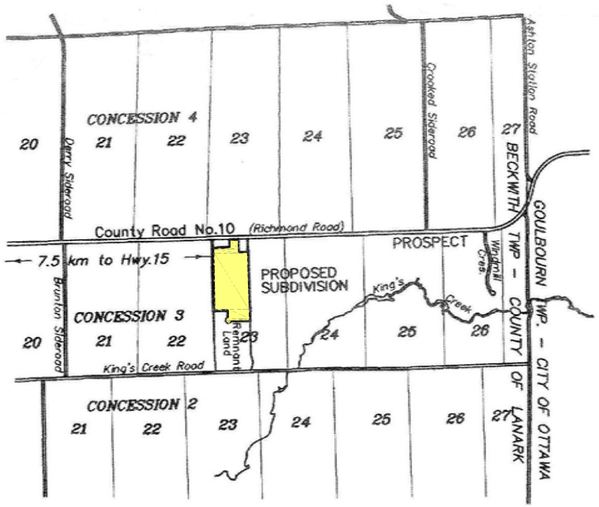
RICHMOND
-
-

DRAWING:

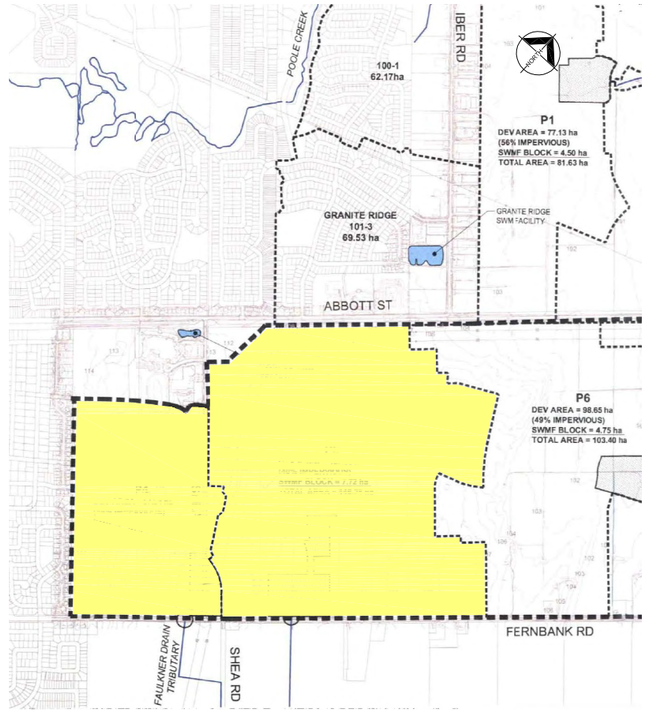
VACANT DEVELOPMENT LANDS IN BECKWITH AND OTTAWA UPSTREM OF EAGLESON ROAD

DRAWN BY:	CHECKED BY:	PROJECT No. :
S.A.E.		60117455
DESIGNED BY:	APPROVED BY:	DRAWING No.
		Fig. A1
	DATE:	
N.T.S.	Jan. 2010	

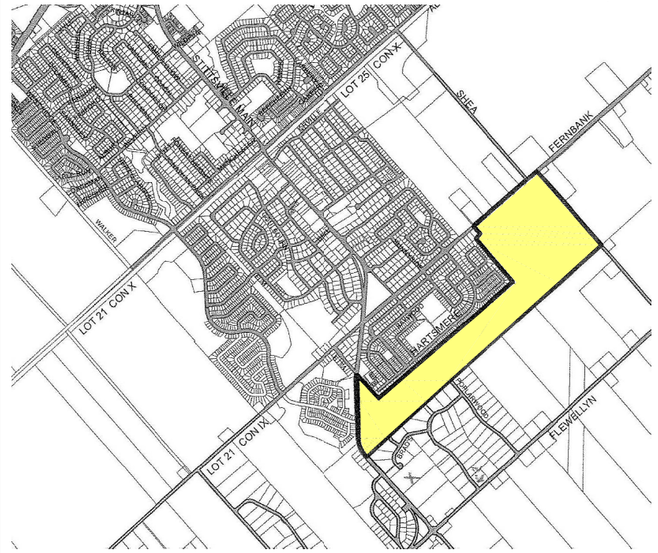
ID - C:\Projects\18\18-10000\100772 - Mattamy - Jock River\Cumulative Impact Analysis\development areas\60117455_Fig 1.dwg - Fri, 29 Jan 2010 - 11:24



7 1343791 ONTARIO LTD.



9 FERNBANK LANDS



10 HARTSMERE LANDS

No.	DATE	BY	ISSUES / REVISIONS
1			

AECOM Canada Ltd.
1701 Hollis Street, Halifax, Nova Scotia, Canada B3J 3M8
T902.428.2021 F902.428.2031

MATTAMY HOMES

PROJECT:
RICHMOND
-
-

DRAWING:
VACANT DEVELOPMENT LANDS IN BECKWITH AND OTTAWA UPSTREM OF EAGLESON ROAD

DRAWN BY:	CHECKED BY:	PROJECT No. :
S.A.E.		60117455
DESIGNED BY:	APPROVED BY:	DRAWING No.
		Fig. A2
N.T.S.	DATE: Jan. 2010	

ID - C:\Projects\18\18-100000\100072 - Mattamy - Jock River\Cumulative Impact Analysis\development areas\60117455_Fig 1.dwg - Fri, 29 Jan 2010 - 11:24

SWMHYMO – INPUT - EXISTING

```
20    Metric units / ID numbers OFF
*#*************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#*************************************************************************
*#  Project Name: [Jock River]    Project Number: [411-02]
*#  Date        : 06-06-2003
*#  Modeller    : [JoF]
*#  Company     : JFSAinc.
*#  License #   :  2549237
*#*************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ------------------------------------------------------------------------
*#
*#   EXISING SUMMER
*#
*#
*
*START               TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                    ["XAVG0315.STM"] average storm data a 15 minute time step
*                    The above rainf file is an average of the JFSA gauge data
*                    with the City of Ottawa rainfall data collected during
*                    the same period.
*%  2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1]
                   ["C:\STORMS-PF\C24SC002.stm"]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
READ STORM          STORM_FILENAME=["storm.001"]
*%-----------------|-------------------------------------------------------|
MODIFY STORM        ICASEms=[1],  NSHIFT=[96],
                    RedFACT=[1],
*%-----------------|-------------------------------------------------------|
COMPUTE API         APII=[50], APIK=[.85]/day
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD    1 NHYD=["JR_HW"], DT=[30]min, AREA=[3680](ha),
                    DWF=[0](cms),  CN/C=[64], IA=[2.5](mm),
                    N=[3.0], TP=[7.13]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD    2 NHYD=["SW_13"], DT=[30]min, AREA=[971](ha),
                    DWF=[0](cms),  CN/C=[61], IA=[2.5](mm),
                    N=[3.0], TP=[3.76]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD             1  NHYDsum=["S_N13"] NHYDs to add=1 2
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL         NHYDout=2  ["N13A"] ,  NHYDin=1 ,
                    RDT=[30](min),
                    CHLGTH=[9074](m),  CHSLOPE=[0.0220](%),
                                        FPSLOPE=[0.0220](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.0]
                          [15.5, 129.5]
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=1 ["JR_GWM"], DT=[30]min, AREA=[3161](ha),
                    DWF=[0](cms),  CN/C=[55], IA=[2.5](mm),
                    N=[3], TP=[11.33]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD             NHYDsum=1 ["SN13A"], NHYDs to add= 2 1 ["N13A"+"JR_GWM"]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR     NHYDout= 2 ["RES_GM"] ,NHYDin= 1 ,
                    RDT=[30](min),
```

```
                        TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [1.991, 2.144    ]
                                  [2.693, 39.826   ]
                                  [3.509, 81.697   ]
                                  [4.578, 318.774  ]
                                  [5.647, 594.947  ]
                                  [7.109, 910.219  ]
                                  [8.616, 1264.589  ]
                                  [10.371, 1658.057  ]
                                  [12.402, 2090.622 ]
                                  [22.056, 3462.487 ]
                                  [   -1  ,  -1  ]  (max twenty pts)
                        NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------|
*#
SAVE HYD            NHYD= 2 ,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_RESGM"]
                    HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout=1 ["N12"] ,NHYDin=2,
                    RDT=[30](min),
                    CHLGTH=[5926](m),  CHSLOPE=[0.0759](%),
                                        FPSLOPE=[0.0759](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=4 ["SW_11"], DT=[30]min, AREA=[500](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[1.24]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 2 ["JR_ASH"], DT=[30]min, AREA=[1781](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[3.91]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
```

```
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD             NHYDsum=1 ["S_N12"], NHYDs to add= 1 2 ["N12"+"JR_ASH"]
SAVE HYD            NHYD=1 ,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN12"]
                    HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout= 2 ["N11"] ,NHYDin= 1 ,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.0514](%),
                                        FPSLOPE=[0.0514](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL       NHYDout= 3 ["Dum11"] ,NHYDin= 1,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                        FPSLOPE=[0.054](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
```

```
*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 5 ["NN_CK"], DT=[30]min, AREA=[1917](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[5.29]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD             NHYDsum=1 ["S_N11"], NHYDs to add= 3 4 5 ["Dum11"+"SW_11"+"NN_CK"]
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL       NHYDout= 2 ["N10"] ,NHYDin= 1 ,
                    RDT=[30](min),
                    CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                        FPSLOPE=[0.1568](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                     [0.04,-52.82
                      0.1,-6.47
                      -0.05,6.47
                      0.1,45.36
                      0.04,423.88] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-226.24 ,112.50]
                          [-167.50 ,111.50]
                          [-106.81 ,111.00]
                          [-92.37 ,110.00]
                          [-52.82 ,109.00]
                          [-24.90, 109.00]
                          [-17.02, 108.50]
                          [-6.47, 108.00]
                          [6.47, 108.00]
                          [15.67, 108.50]
                          [18.95, 109.00]
                          [45.36, 109.50]
                          [120.79, 110.00]
                          [145.72, 111.00]
                          [181.56, 111.50]
                          [423.88, 112.50]
CONTINUOUS NASHYD   NHYD= 4 ["SW_10"], DT=[30]min, AREA=[5666](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
```

```
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD             NHYDsum= 1 ["S_N10"], NHYDs to add= 2 4 ["N10"+"SW_10"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN10"]
                    HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["KG_CK"], DT=[30]min, AREA=[8376](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[11.66]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD             NHYDsum=2 ["S_N10A"], NHYDs to add= 1 3 ["S_N10"+"KG_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL       NHYDout= 1 ["N9"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[3982](m),  CHSLOPE=[0.0753](%),
                                        FPSLOPE=[0.0753](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-30.27
                       0.05,-18.42
                      -0.05,18.42
                      0.04,131.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-446.74, 106.00]
                          [-415.68, 105.50]
                          [-285.40, 105.00]
                          [-173.77, 104.50]
                          [-144.95, 104.00]
                          [-111.18, 103.50]
                          [-94.06, 103.00]
                          [-71.02, 102.50]
                          [-30.27, 102.00]
                          [-19.33, 100.00]
                          [-18.42, 99.50]
                          [18.42, 99.50]
                          [20.77, 100.00]
                          [27.93, 101.00]
                          [52.29, 101.00]
                          [68.80, 101.50]
                          [79.66, 103.00]
                          [91.50, 103.50]
                          [131.58, 104.00]
```

```
*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_9"], DT=[30]min, AREA=[1132](ha),
                    DWF=[0](cms),  CN/C=[70], IA=[2.5](mm),
                    N=[3.0], TP=[2.51]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["NC_CK"], DT=[30]min, AREA=[4464](ha),
                    DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                    N=[3.0], TP=[11.32]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
*#
ADD HYD             NHYDsum= 2 ["S_N9"], NHYDs to add= 1 3 4 ["N9"+"SW_9"+"NC_CK"]
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL       NHYDout= 1 ["N8"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[2269](m),  CHSLOPE=[0.0882](%),
                                        FPSLOPE=[0.0882](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-17.99
                      -0.045,17.31
                      0.1,456.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-201.19,100.50]
                          [-135.21, 100.00]
                          [-94.83, 99.50]
                          [-67.05, 99.00]
                          [-17.99, 98.50]
                          [-16.02, 98.00]
                          [-13.95, 97.50]
                          [13.95, 97.50]
                          [15.64, 98.00]
                          [17.31, 98.50]
                          [162.02, 98.50]
                          [172.89 ,99.00]
                          [314.38, 99.00]
                          [343.78, 99.50]
```

```
                          [365.67, 100.00]
                          [376.68, 100.00 ]
                          [393.11, 99.50]
                          [404.97, 99.50]
                          [431.70, 100.00]
                          [456.58, 100.50 ]


*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_8"], DT=[30]min, AREA=[131](ha),
                    DWF=[0](cms),  CN/C=[63], IA=[2.5](mm),
                    N=[3.0], TP=[0.90]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["HB_DR"], DT=[30]min, AREA=[3854](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[8.42]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD             NHYDsum= 2 ["S_N8"], NHYDs to add= 1 3 4 ["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL       NHYDout= 1 ["N7"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[3750](m),  CHSLOPE=[0.0533](%),
                                        FPSLOPE=[0.0533](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.12,-18.11
                      -0.07,17.22
                      0.12,590.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-433.21, 102.00]
                          [-425.34, 101.50]
                          [-377.56, 101.50]
                          [-366.23, 101.00]
                          [-202.60, 100.50]
                          [-96.25, 99.50]
```

```
                          [-68.36 99.00]
                          [-18.11, 98.50]
                          [-13.81, 97.50]
                          [13.81, 97.50]
                          [17.22, 98.50]
                          [161.95, 98.50]
                          [173.11, 99.00]
                          [314.05, 99.00]
                          [365.52, 100.00]
                          [404.70, 99.50]
                          [476.74, 100.50]
                          [502.31, 101.00]
                          [584.69, 101.00]
                          [585.79, 101.00]
                          [590.05, 102.00]

*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_7"], DT=[30]min, AREA=[3197](ha),
                    DWF=[0](cms),  CN/C=[57], IA=[2.5](mm),
                    N=[3.0], TP=[6.65]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD             NHYDsum= 2 ["S_N7"], NHYDs to add= 1 3 ["N7"+"SW_7"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN7"]
                    HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR     NHYDout= 1 ["RES_RF"] ,NHYDin= 2
                    RDT=[30](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,     0.0 ]
                                    [0.9051,    2.40]
                                    [2.907,     4.13]
                                    [9.744,     9.18]
                                    [20.304,   14.96]
                                    [34.167,  310.21]
                                    [74.993,  605.46]
                                    [104.876, 900.71]
                                    [140.56, 2892.00]
                                    [225.00, 3615.63]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["      "] ,
```

```
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_ResRF"]
                    HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL       NHYDout= 2["N6"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.025,-70.8
                      0.1,-23.9
                      -0.05,23.9
                      0.06,39.8
                      0.05,96.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-100.8, 97.00]
                                      [-70.8, 96.50]
                                      [-52.0, 96.00]
                                      [-35.1, 95.50]
                                      [-30.6, 95.00]
                                      [-23.9, 94.54]
                                      [23.9, 94.54]
                                      [39.8, 95.00]
                                      [50.4, 95.50]
                                      [93.5, 96.00]
                                      [94.9, 96.50]
                                      [96.3, 97.00]

*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_6"], DT=[30]min, AREA=[165](ha),
                    DWF=[0](cms),  CN/C=[67], IA=[2.5](mm),
                    N=[3.0], TP=[4.18]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["VG_DR"], DT=[30]min, AREA=[1332](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[5.95]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
```

```
                    HYD_FILENAME=["H-VG_DR"]
                    HYD_COMMENT=["flow at Van Gaal Drain"]

*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD             NHYDsum= 1 ["S_N6"], NHYDs to add= 2 3 4 ["N6"+"SW_6"+"VG_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL       NHYDout= 2 ["N5"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[1852](m),  CHSLOPE=[0.0540](%),
                                        FPSLOPE=[0.0540](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.035,-131.59
                      -0.045,48.96
                      0.1,239.04] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                       [-686.30, 94.50]
                                       [-675.70, 94.00]
                                       [-492.52, 93.00]
                                       [-467.28, 94.00]
                                       [-131.59, 94.00]
                                       [-92.79, 92.50]
                                       [-18.06, 91.00]
                                       [18.06, 91.00]
                                       [43.47, 92.50]
                                       [48.96, 94.00]
                                       [177.43, 94.00]
                                       [239.04,94.50]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_5"], DT=[30]min, AREA=[224](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["FL_CK"], DT=[30]min, AREA=[4945](ha),
                    DWF=[0](cms),  CN/C=[74], IA=[2.5](mm),
                    N=[3.0], TP=[4.45]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
```

```
*#
ADD HYD             NHYDsum= 1 ["S_N5"], NHYDs to add= 2 3 4 ["N5"+"SW_5"+"FL_CK"]
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["N5ex"]
                    HYD_COMMENT=["flow at N5"]
SAVE HYD            NHYD=3,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["SW_5ex"]
                    HYD_COMMENT=["flow at SW_5"]
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["FL_CKex"]
                    HYD_COMMENT=["flow at FL_CK"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["S_N5ex"]
                    HYD_COMMENT=["flow at S_N5"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL       NHYDout= 2 ["N5A"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[556](m),  CHSLOPE=[0.0900](%),
                                        FPSLOPE=[0.0900](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-41.5
                      0.1,-14.0
                      -0.045,14.0
                      0.1,41.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-275.8, 93.00]
                                      [-248.6, 92.50]
                                      [-237.0, 92.00]
                                      [-219.3, 91.50]
                                      [-202.1, 91.50]
                                      [-186.0, 92.00]
                                      [-129.2, 92.00]
                                      [-117.6, 91.50]
                                      [-100.6, 91.00]
                                      [-41.5, 91.00]
                                      [-20.0, 91.00]
                                      [-14.0, 90.54]
                                      [14.0, 90.54]
                                      [15.3, 91.00]
                                      [17.3, 91.50]
                                      [38.4, 92.00]
                                      [39.8, 92.50]
                                      [41.1, 93.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_5A2"], DT=[30]min, AREA=[20](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[0.62]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["SW_5A1"], DT=[30]min, AREA=[1412](ha),
                    DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
```

```
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD             NHYDsum= 1 ["S_N5A"], NHYDs to add= 2 3 4 ["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL       NHYDout= 2["N4"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                        FPSLOPE=[0.0432](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.05,-28.2
                      -0.035,28.2
                      0.05,173.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                       [-38.9, 92.00]
                                       [-35.8, 91.50]
                                       [-33.3, 91.00]
                                       [-28.2, 90.50]
                                       [-15.0, 87.48]
                                       [-5.0, 88.34]
                                       [5.0, 86.20]
                                       [15.0, 88.55]
                                       [28.2, 90.50]
                                       [29.7, 91.00]
                                       [46.5, 91.00]
                                       [127.8, 91.00]
                                       [148.7, 91.50]
                                       [173.1, 92.00]

*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3["SW_4"], DT=[30]min, AREA=[585](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[1.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["LM_CK"], DT=[30]min, AREA=[1021](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                    N=[3.0], TP=[2.46]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
```

```
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|---------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD             NHYDsum= 1 ["S_N4"], NHYDs to add= 2 3 4 ["N4"+"SW_4"+"LM_CK"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["flow at S_N4"]
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL       NHYDout= 2 ["N2"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[1667](m),  CHSLOPE=[0.0600](%),
                                        FPSLOPE=[0.0600](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-28.0
                      -0.04,28.4
                      0.06,31.7
                      0.04,80.2] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                           [-36.3, 92.00]
                           [-32.6, 91.50]
                           [-30.2, 91.00]
                           [-28.0, 90.45]
                           [-15.0, 87.48]
                           [-5.0, 88.34]
                           [5.0, 86.20]
                           [15.0, 88.55]
                           [28.0, 90.45]
                           [28.4, 90.50]
                           [30.4, 91.00]
                           [31.7, 91.50]
                           [80.2, 92.00]
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_2"], DT=[30]min, AREA=[177](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["SM_DR"], DT=[30]min, AREA=[1122](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[3.25]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 5 ["MO_DR"], DT=[30]min, AREA=[2737](ha),
                    DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                    N=[3.0], TP=[3.03]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD             NHYDsum= 1 ["S_N2"], NHYDs to add= 2 3 4 5
                                          ["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN2"]
                    HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
ROUTE CHANNEL       NHYDout= 2 ["N1"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[10046](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-27.6
                      0.06,-15.0
                      -0.045,15.0
                      0.06,25.4
                      0.04,122.6] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-87.0, 91.50]
                                      [-32.4, 91.00]
                                      [-27.6, 90.50]
                                      [-25.0, 90.00]
                                      [-22.9, 89.57]
                                      [-15.0, 86.20]
                                      [-5.0, 84.83]
                                      [5.0, 84.83]
                                      [15.0, 88.11]
                                      [22.9, 89.57]
                                      [25.4, 90.00]
                                      [27.9, 90.50]
                                      [38.0, 91.00]
                                      [112.5, 91.00]
                                      [114.3, 90.50]
                                      [115.1, 90.26]
                                      [116.3, 90.50]
                                      [119.0, 91.00]
                                      [121.0, 91.50]
                                      [122.6, 92.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_1"], DT=[30]min, AREA=[3176](ha),
                    DWF=[0](cms),  CN/C=[78], IA=[2.5](mm),
                    N=[3.0], TP=[3.56]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
```

```
*#
*# Addition of Subwatershed 1 to Node 1
*#
ADD HYD             NHYDsum= 1["N1"], NHYDs to add= 2 3 ["N1"+"SW_1"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_FILENAME=["N1-ex"]
                    HYD_COMMENT=["total outflow of Jock River"]
*##############################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                   ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|

*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

SWMHYMO – OUTPUT - EXISTING

```
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------------
#
#   EXISING SUMMER
#
#
 RUN:COMMAND#
 001:0001-------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   1 ]
 001:0002-------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
 001:0003-------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
 001:0004-------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00    6.065 No_date   37:00   11.44 .251
      [CN= 64.0: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    2.154 No_date   32:30   10.72 .236
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00    6.065 No_date   37:00   11.44  n/a
                      +  02:SW_13    971.00    2.154 No_date   32:30   10.72  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00    7.713 No_date   35:30   11.29  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
```

```
 001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00    7.713 No_date   35:30   11.29  n/a
      [RDT=30.00] out<- 02:N13A    4651.00    6.154 No_date   39:30   11.29  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .427:Dmax= 2.537}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00    3.203 No_date   39:30    9.41 .207
      [CN= 55.0: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00    6.154 No_date   39:30   11.29  n/a
                      +  01:SN13A   3161.00    3.203 No_date   39:30    9.41  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00    9.357 No_date   39:30   10.53  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00    9.357 No_date   39:30   10.53  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
     {MxStoUsed=.3547E+02}
#
 001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
      fname :C:\STORMS~1\H_RESGM.001
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
      [RDT=30.00] out<- 01:N12     7812.00    2.604 No_date   58:00   10.53  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .501:Dmax= 1.328}
 001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00    2.663 No_date   29:00   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
 001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00    5.417 No_date   32:30   13.91 .306
      [CN= 72.0: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    2.604 No_date   58:00   10.53  n/a
                      +  02:JR_ASH  1781.00    5.417 No_date   32:30   13.91  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
 001:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      fname :C:\STORMS~1\H_SN12.001
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
```

```
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 001:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      [RDT=30.00] out<- 02:N11     9593.00    7.323 No_date   33:00   11.16  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .580:Dmax= 2.120}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 001:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00    7.326 No_date   33:00   11.16  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .589:Dmax= 2.098}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00    3.966 No_date   34:30   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 001:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00    7.326 No_date   33:00   11.16  n/a
                      +  04:SW_11    500.00    2.663 No_date   29:00   11.95  n/a
                      +  05:NN_CK   1917.00    3.966 No_date   34:30   11.95  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   11.957 No_date   33:00   11.32  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 001:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   11.957 No_date   33:00   11.32  n/a
      [RDT=30.00] out<- 02:N10    12010.00    8.226 No_date   39:30   11.32  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .460:Dmax=  .881}
 001:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   10.936 No_date   38:00   13.91 .306
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 001:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00    8.226 No_date   39:30   11.32  n/a
                      +  04:SW_10   5666.00   10.936 No_date   38:00   13.91  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
 001:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
      fname :C:\STORMS~1\H_SN10.001
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 001:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   10.656 No_date   39:30   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp=11.66:DT=30.00]
```

```
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 001:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
                      +  03:KG_CK   8376.00   10.656 No_date   39:30   11.95  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   29.632 No_date   39:30   12.08  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 001:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   29.632 No_date   39:30   12.08  n/a
      [RDT=30.00] out<- 01:N9     26052.00   28.892 No_date   39:30   12.08  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .591:Dmax= 1.193}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 001:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00    4.365 No_date   30:30   13.32 .293
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 001:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00    5.312 No_date   39:30   10.96 .241
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 001:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   28.892 No_date   39:30   12.08  n/a
                      +  03:SW_9    1132.00    4.365 No_date   30:30   13.32  n/a
                      +  04:NC_CK   4464.00    5.312 No_date   39:30   10.96  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00   35.499 No_date   39:30   11.97  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 001:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00   35.499 No_date   39:30   11.97  n/a
      [RDT=30.00] out<- 01:N8     31648.00   33.315 No_date   40:00   11.97  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .420:Dmax= 1.270}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00     .770 No_date   28:30   11.20 .246
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 001:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00    6.083 No_date   38:30   11.95 .263
      [CN= 66.0: N= 3.00]
```

```
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 001:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00   33.315 No_date   40:00   11.97  n/a
                    +  03:SW_8     131.00     .770 No_date   28:30   11.20  n/a
                    +  04:HB_DR   3854.00    6.083 No_date   38:30   11.95  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00   39.371 No_date   39:30   11.96  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 001:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00   39.371 No_date   39:30   11.96  n/a
      [RDT=30.00] out<- 01:N7     35633.00   32.183 No_date   44:00   11.96  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .209:Dmax= 1.635}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 001:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00    4.557 No_date   36:30    9.83 .216
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 001:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00   32.183 No_date   44:00   11.96  n/a
                    +  03:SW_7    3197.00    4.557 No_date   36:30    9.83  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
 001:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
      fname :C:\STORMS~1\H_SN7.001
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 001:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
     {MxStoUsed=.7407E+02}
 001:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
      fname :C:\STORMS~1\H_ResRF.001
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 001:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
      [RDT=30.00] out<- 02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .431:Dmax=  .805}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
```

```
 001:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00     .407 No_date   33:00   12.21 .268
      [CN= 67.0: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
 001:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00    3.083 No_date   35:00   13.91 .306
      [CN= 72.0: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
 001:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    3.083 No_date   35:00   13.91  n/a
      fname :C:\STORMS~1\H-VG_DR.001
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 001:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
                      +  03:SW_6     165.00     .407 No_date   33:00   12.21  n/a
                      +  04:VG_DR   1332.00    3.083 No_date   35:00   13.91  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   23.227 No_date   39:30   11.86  n/a
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 001:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   23.227 No_date   39:30   11.86  n/a
      [RDT=30.00] out<- 02:N5     40327.01   23.175 No_date   55:00   11.86  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .378:Dmax=  .915}
 001:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    2.527 No_date   28:30   15.88 .349
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
 001:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   14.579 No_date   33:00   14.54 .319
      [CN= 74.0: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 001:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   23.175 No_date   55:00   11.86  n/a
                      +  03:SW_5     224.00    2.527 No_date   28:30   15.88  n/a
                      +  04:FL_CK   4945.00   14.579 No_date   33:00   14.54  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   32.982 No_date   37:00   12.17  n/a
 001:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   23.175 No_date   55:00   11.86  n/a
      fname :C:\STORMS~1\N5ex.001
      remark:flow at N5
 001:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    2.527 No_date   28:30   15.88  n/a
      fname :C:\STORMS~1\SW_5ex.001
      remark:flow at SW_5
```

```
 001:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   14.579 No_date   33:00   14.54  n/a
      fname :C:\STORMS~1\FL_CKex.001
      remark:flow at FL_CK
 001:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   32.982 No_date   37:00   12.17  n/a
      fname :C:\STORMS~1\S_N5ex.001
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 001:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   32.982 No_date   37:00   12.17  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   32.930 No_date   37:00   12.17  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .443:Dmax=  .935}
 001:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00     .287 No_date   28:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
 001:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    3.007 No_date   38:00   15.19 .334
      [CN= 75.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 001:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   32.930 No_date   37:00   12.17  n/a
                      +  03:SW_5A2    20.00     .287 No_date   28:30   17.76  n/a
                      +  04:SW_5A1  1412.00    3.007 No_date   38:00   15.19  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   35.948 No_date   37:00   12.26  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 001:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   35.948 No_date   37:00   12.26  n/a
      [RDT=30.00] out<- 02:N4     46928.01   35.073 No_date   39:00   12.26  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .693:Dmax= 2.837}
 001:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00    4.232 No_date   29:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 001:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00    5.667 No_date   30:30   17.36 .382
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 001:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   35.073 No_date   39:00   12.26  n/a
                      +  03:SW_4     585.00    4.232 No_date   29:30   17.76  n/a
```

```
                    +  04:LM_CK   1021.00    5.667 No_date   30:30   17.36  n/a
     [DT=30.00]  SUM=  01:S_N4   48534.01   37.407 No_date   38:30   12.44  n/a
 001:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   37.407 No_date   38:30   12.44  n/a
      fname :C:\STORMS~1\H-S_N4.001
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 001:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   37.407 No_date   38:30   12.44  n/a
      [RDT=30.00] out<- 02:N2     48534.01   37.307 No_date   39:00   12.44  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .714:Dmax= 2.841}
 001:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    1.996 No_date   28:30   15.88 .349
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 001:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00    5.257 No_date   31:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 001:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   11.338 No_date   31:30   15.53 .341
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 001:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   37.307 No_date   39:00   12.44  n/a
                    +  03:SW_2     177.00    1.996 No_date   28:30   15.88  n/a
                    +  04:SM_DR   1122.00    5.257 No_date   31:30   17.76  n/a
                    +  05:MO_DR   2737.00   11.338 No_date   31:30   15.53  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01   45.692 No_date   33:30   12.72  n/a
 001:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01   45.692 No_date   33:30   12.72  n/a
      fname :C:\STORMS~1\H_SN2.001
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 001:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01   45.692 No_date   33:30   12.72  n/a
      [RDT=30.00] out<- 02:N1     52570.01   42.616 No_date   39:30   12.72  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax=  .767:Dmax= 2.662}
 001:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   12.490 No_date   32:00   16.23 .357
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 001:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01   42.616 No_date   39:30   12.72  n/a
                    +  03:SW_1    3176.00   12.490 No_date   32:00   16.23  n/a
```

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      [DT=30.00]  SUM=  01:N1     55746.00   49.180 No_date   36:30   12.92  n/a
 001:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            01:N1     55746.00   49.180 No_date   36:30   12.92  n/a
      fname :C:\STORMS~1\H-N1.001
      remark:N1-ex
###############################################################################
  ** END OF RUN :   4

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




 RUN:COMMAND#
 005:0001---------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   5 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------------
#
#   EXISING SUMMER
#
#
 005:0002---------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
 005:0003---------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
 005:0004---------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 90.83: APIavg= 60.09: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 005:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00    9.169 No_date   37:00   16.38 .287
      [CN= 64.0: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 005:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    3.350 No_date   32:30   15.27 .267
      [CN= 61.0: N= 3.00]
```

```
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 005:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00    9.169 No_date   37:00   16.38  n/a
                    +  02:SW_13    971.00    3.350 No_date   32:30   15.27  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00   11.688 No_date   35:30   16.15  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
 005:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00   11.688 No_date   35:30   16.15  n/a
      [RDT=30.00] out<- 02:N13A    4651.00    9.343 No_date   39:30   16.15  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .475:Dmax= 2.992}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00    4.639 No_date   39:30   13.20 .231
      [CN= 55.0: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 005:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00    9.343 No_date   39:30   16.15  n/a
                    +  01:SN13A   3161.00    4.639 No_date   39:30   13.20  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00   13.982 No_date   39:30   14.96  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 005:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00   13.982 No_date   39:30   14.96  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
     {MxStoUsed=.6269E+02}
#
 005:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
      fname :C:\STORMS~1\H_RESGM.005
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 005:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
      [RDT=30.00] out<- 01:N12     7812.00    3.129 No_date   60:30   14.96  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .526:Dmax= 1.427}
 005:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00    4.260 No_date   29:00   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
 005:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00    8.382 No_date   32:30   20.09 .352
      [CN= 72.0: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
```

```
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 005:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    3.129 No_date   60:30   14.96  n/a
                    +  02:JR_ASH  1781.00    8.382 No_date   32:30   20.09  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
 005:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      fname :C:\STORMS~1\H_SN12.005
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 005:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      [RDT=30.00] out<- 02:N11     9593.00   10.235 No_date   33:00   15.91  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .634:Dmax= 2.418}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 005:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00   10.246 No_date   33:00   15.91  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .645:Dmax= 2.393}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00    6.085 No_date   34:00   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 005:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00   10.246 No_date   33:00   15.91  n/a
                    +  04:SW_11    500.00    4.260 No_date   29:00   17.15  n/a
                    +  05:NN_CK   1917.00    6.085 No_date   34:00   17.15  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   17.319 No_date   33:00   16.16  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 005:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   17.319 No_date   33:00   16.16  n/a
      [RDT=30.00] out<- 02:N10    12010.00   11.909 No_date   38:30   16.16  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .462:Dmax= 1.078}
 005:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   16.454 No_date   38:00   20.09 .352
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
```

```
 005:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00   11.909 No_date   38:30   16.16  n/a
                      +  04:SW_10   5666.00   16.454 No_date   38:00   20.09  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
 005:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
      fname :C:\STORMS~1\H_SN10.005
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 005:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   15.668 No_date   39:30   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 005:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
                      +  03:KG_CK   8376.00   15.668 No_date   39:30   17.15  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   43.598 No_date   39:30   17.33  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 005:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   43.598 No_date   39:30   17.33  n/a
      [RDT=30.00] out<- 01:N9     26052.00   42.453 No_date   39:30   17.33  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .663:Dmax= 1.480}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 005:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00    6.854 No_date   30:30   19.22 .336
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 005:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00    7.795 No_date   39:30   15.63 .274
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 005:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   42.453 No_date   39:30   17.33  n/a
                      +  03:SW_9    1132.00    6.854 No_date   30:30   19.22  n/a
                      +  04:NC_CK   4464.00    7.795 No_date   39:30   15.63  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00   52.078 No_date   39:30   17.16  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 005:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00   52.078 No_date   39:30   17.16  n/a
      [RDT=30.00] out<- 01:N8     31648.00   48.443 No_date   40:00   17.16  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .371:Dmax= 1.510}
```

```
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00    1.239 No_date   28:30   16.00 .280
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 005:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00    9.126 No_date   38:30   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 005:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00   48.443 No_date   40:00   17.16  n/a
                    +  03:SW_8     131.00    1.239 No_date   28:30   16.00  n/a
                    +  04:HB_DR   3854.00    9.126 No_date   38:30   17.15  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00   57.182 No_date   39:30   17.16  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 005:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00   57.182 No_date   39:30   17.16  n/a
      [RDT=30.00] out<- 01:N7     35633.00   46.901 No_date   45:00   17.16  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .207:Dmax= 1.840}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 005:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00    6.873 No_date   36:00   13.87 .243
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 005:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00   46.901 No_date   45:00   17.16  n/a
                    +  03:SW_7    3197.00    6.873 No_date   36:00   13.87  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
 005:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
      fname :C:\STORMS~1\H_SN7.005
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 005:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
     {MxStoUsed=.1714E+03}
 005:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
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     SAVE HYD           01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
      fname :C:\STORMS~1\H_ResRF.005
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 005:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
      [RDT=30.00] out<- 02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .458:Dmax=  .889}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 005:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00     .630 No_date   33:00   17.55 .307
      [CN= 67.0: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
 005:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00    4.700 No_date   35:00   20.09 .352
      [CN= 72.0: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
 005:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    4.700 No_date   35:00   20.09  n/a
      fname :C:\STORMS~1\H-VG_DR.005
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 005:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
                      +  03:SW_6     165.00     .630 No_date   33:00   17.55  n/a
                      +  04:VG_DR   1332.00    4.700 No_date   35:00   20.09  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   27.692 No_date   59:30   16.99  n/a
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 005:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   27.692 No_date   59:30   16.99  n/a
      [RDT=30.00] out<- 02:N5     40327.01   27.656 No_date   59:30   16.99  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .396:Dmax=  .997}
 005:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    3.985 No_date   28:30   22.94 .402
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
 005:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   22.432 No_date   33:00   21.01 .368
      [CN= 74.0: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
```

```
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 005:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             02:N5     40327.01   27.656 No_date   59:30   16.99  n/a
                       +  03:SW_5     224.00    3.985 No_date   28:30   22.94  n/a
                       +  04:FL_CK   4945.00   22.432 No_date   33:00   21.01  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   43.205 No_date   35:00   17.46  n/a
 005:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            02:N5     40327.01   27.656 No_date   59:30   16.99  n/a
      fname :C:\STORMS~1\N5ex.005
      remark:flow at N5
 005:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            03:SW_5     224.00    3.985 No_date   28:30   22.94  n/a
      fname :C:\STORMS~1\SW_5ex.005
      remark:flow at SW_5
 005:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            04:FL_CK   4945.00   22.432 No_date   33:00   21.01  n/a
      fname :C:\STORMS~1\FL_CKex.005
      remark:flow at FL_CK
 005:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            01:S_N5   45496.01   43.205 No_date   35:00   17.46  n/a
      fname :C:\STORMS~1\S_N5ex.005
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 005:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   43.205 No_date   35:00   17.46  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   43.167 No_date   35:30   17.46  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .464:Dmax= 1.057}
 005:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00     .448 No_date   28:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
 005:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    4.515 No_date   37:30   21.96 .384
      [CN= 75.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 005:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             02:N5A    45496.01   43.167 No_date   35:30   17.46  n/a
                       +  03:SW_5A2    20.00     .448 No_date   28:30   25.59  n/a
                       +  04:SW_5A1  1412.00    4.515 No_date   37:30   21.96  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   47.522 No_date   35:30   17.60  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 005:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   47.522 No_date   35:30   17.60  n/a
      [RDT=30.00] out<- 02:N4     46928.01   45.859 No_date   37:30   17.60  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .753:Dmax= 3.105}
 005:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00    6.551 No_date   29:30   25.59 .448
      [CN= 81.0: N= 3.00]
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      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 005:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00    8.738 No_date   30:30   25.04 .438
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 005:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   45.859 No_date   37:30   17.60  n/a
                    +  03:SW_4     585.00     6.551 No_date   29:30   25.59  n/a
                    +  04:LM_CK   1021.00     8.738 No_date   30:30   25.04  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   50.003 No_date   36:30   17.85  n/a
 005:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   50.003 No_date   36:30   17.85  n/a
      fname :C:\STORMS~1\H-S_N4.005
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 005:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   50.003 No_date   36:30   17.85  n/a
      [RDT=30.00] out<- 02:N2     48534.01   49.892 No_date   37:00   17.85  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .780:Dmax= 3.124}
 005:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    3.149 No_date   28:30   22.94 .402
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 005:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00    8.043 No_date   31:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 005:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   17.548 No_date   31:30   22.44 .393
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 005:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   49.892 No_date   37:00   17.85  n/a
                    +  03:SW_2     177.00     3.149 No_date   28:30   22.94  n/a
                    +  04:SM_DR   1122.00     8.043 No_date   31:30   25.59  n/a
                    +  05:MO_DR   2737.00    17.548 No_date   31:30   22.44  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01   66.308 No_date   33:00   18.27  n/a
 005:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01   66.308 No_date   33:00   18.27  n/a
      fname :C:\STORMS~1\H_SN2.005
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 005:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01   66.308 No_date   33:00   18.27  n/a
```

```
      [RDT=30.00] out<- 02:N1     52570.01   59.710 No_date   37:00   18.27  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax=  .861:Dmax= 3.202}
 005:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   19.206 No_date   32:00   23.45 .411
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 005:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01   59.710 No_date   37:00   18.27  n/a
                      +  03:SW_1    3176.00   19.206 No_date   32:00   23.45  n/a
      [DT=30.00]  SUM=  01:N1     55746.00   72.094 No_date   35:00   18.57  n/a
 005:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:N1     55746.00   72.094 No_date   35:00   18.57  n/a
      fname :C:\STORMS~1\H-N1.005
      remark:N1-ex
###############################################################################
  ** END OF RUN :  99

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




 RUN:COMMAND#
 100:0001---------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 100 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------------
#
#   EXISING SUMMER
#
#
 100:0002---------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
 100:0003---------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
 100:0004---------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax=119.84: APIavg= 69.19: APImin= 44.87}
```

```
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 100:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00   21.054 No_date   36:30   35.15 .397
      [CN= 64.0: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 100:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    8.058 No_date   32:30   32.81 .370
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 100:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00   21.054 No_date   36:30   35.15  n/a
                      +  02:SW_13    971.00    8.058 No_date   32:30   32.81  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00   27.020 No_date   35:00   34.66  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
 100:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00   27.020 No_date   35:00   34.66  n/a
      [RDT=30.00] out<- 02:N13A    4651.00   22.149 No_date   38:30   34.66  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .594:Dmax= 4.138}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00   10.266 No_date   39:30   28.27 .319
      [CN= 55.0: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 100:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00   22.149 No_date   38:30   34.66  n/a
                      +  01:SN13A   3161.00   10.266 No_date   39:30   28.27  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00   32.270 No_date   39:30   32.08  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 100:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00   32.270 No_date   39:30   32.08  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
     {MxStoUsed=.1788E+03}
#
 100:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
      fname :C:\STORMS~1\H_RESGM.100
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 100:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
      [RDT=30.00] out<- 01:N12     7812.00    3.943 No_date   66:30   32.08  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .560:Dmax= 1.559}
 100:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00   10.499 No_date   29:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
 100:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00   19.356 No_date   32:30   42.46 .479
      [CN= 72.0: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 100:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    3.943 No_date   66:30   32.08  n/a
                      +  02:JR_ASH  1781.00   19.356 No_date   32:30   42.46  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
 100:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      fname :C:\STORMS~1\H_SN12.100
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 100:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      [RDT=30.00] out<- 02:N11     9593.00   21.120 No_date   33:00   34.00  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .760:Dmax= 3.206}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 100:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00   21.116 No_date   32:30   34.00  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .774:Dmax= 3.175}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00   14.197 No_date   34:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 100:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00   21.116 No_date   32:30   34.00  n/a
                      +  04:SW_11    500.00   10.499 No_date   29:00   36.74  n/a
                      +  05:NN_CK   1917.00   14.197 No_date   34:00   36.74  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   37.438 No_date   33:00   34.55  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
```

```
#
 100:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   37.438 No_date   33:00   34.55  n/a
      [RDT=30.00] out<- 02:N10    12010.00   23.324 No_date   39:00   34.55  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .484:Dmax= 1.483}
 100:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   36.560 No_date   37:30   42.46 .479
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 100:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00   23.324 No_date   39:00   34.55  n/a
                      +  04:SW_10   5666.00   36.560 No_date   37:30   42.46  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
 100:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
      fname :C:\STORMS~1\H_SN10.100
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 100:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   34.456 No_date   39:30   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 100:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
                      +  03:KG_CK   8376.00   34.456 No_date   39:30   36.74  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   93.257 No_date   39:30   36.98  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 100:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   93.257 No_date   39:30   36.98  n/a
      [RDT=30.00] out<- 01:N9     26052.00   91.386 No_date   39:30   36.98  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .769:Dmax= 2.125}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 100:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00   16.257 No_date   30:30   40.80 .461
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 100:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00   17.270 No_date   39:30   33.59 .379
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
```

```
#
 100:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   91.386 No_date   39:30   36.98  n/a
                      +  03:SW_9    1132.00   16.257 No_date   30:30   40.80  n/a
                      +  04:NC_CK   4464.00   17.270 No_date   39:30   33.59  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00  112.276 No_date   39:30   36.63  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 100:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00  112.276 No_date   39:30   36.63  n/a
      [RDT=30.00] out<- 01:N8     31648.00  106.477 No_date   40:00   36.63  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .372:Dmax= 1.905}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00    3.096 No_date   28:30   34.37 .388
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 100:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00   20.590 No_date   38:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 100:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00  106.477 No_date   40:00   36.63  n/a
                      +  03:SW_8     131.00    3.096 No_date   28:30   34.37  n/a
                      +  04:HB_DR   3854.00   20.590 No_date   38:00   36.74  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00  126.247 No_date   39:30   36.64  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 100:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00  126.247 No_date   39:30   36.64  n/a
      [RDT=30.00] out<- 01:N7     35633.00  108.774 No_date   44:30   36.64  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .236:Dmax= 2.384}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 100:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00   16.027 No_date   36:00   29.76 .336
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 100:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00  108.774 No_date   44:30   36.64  n/a
                      +  03:SW_7    3197.00   16.027 No_date   36:00   29.76  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
 100:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
     SAVE HYD           02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
      fname :C:\STORMS~1\H_SN7.100
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 100:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
     {MxStoUsed=.5014E+03}
 100:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
      fname :C:\STORMS~1\H_ResRF.100
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 100:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
      [RDT=30.00] out<- 02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .553:Dmax= 1.353}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
 100:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00    1.482 No_date   33:00   37.54 .424
      [CN= 67.0: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
 100:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00   10.635 No_date   35:00   42.46 .479
      [CN= 72.0: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
 100:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00   10.635 No_date   35:00   42.46  n/a
      fname :C:\STORMS~1\H-VG_DR.100
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 100:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
                      +  03:SW_6     165.00    1.482 No_date   33:00   37.54  n/a
                      +  04:VG_DR   1332.00   10.635 No_date   35:00   42.46  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   60.507 No_date   59:30   36.29  n/a
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 100:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   60.507 No_date   59:30   36.29  n/a
      [RDT=30.00] out<- 02:N5     40327.01   60.393 No_date   60:30   36.29  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .490:Dmax= 1.451}
 100:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
  *  CONTINUOUS NASHYD  03:SW_5     224.00    9.294 No_date   28:30   47.59 .537
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
 100:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   51.121 No_date   33:00   44.15 .498
      [CN= 74.0: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 100:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   60.393 No_date   60:30   36.29  n/a
                    +  03:SW_5     224.00    9.294 No_date   28:30   47.59  n/a
                    +  04:FL_CK   4945.00   51.121 No_date   33:00   44.15  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   79.896 No_date   34:00   37.20  n/a
 100:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   60.393 No_date   60:30   36.29  n/a
      fname :C:\STORMS~1\N5ex.100
      remark:flow at N5
 100:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    9.294 No_date   28:30   47.59  n/a
      fname :C:\STORMS~1\SW_5ex.100
      remark:flow at SW_5
 100:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   51.121 No_date   33:00   44.15  n/a
      fname :C:\STORMS~1\FL_CKex.100
      remark:flow at FL_CK
 100:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   79.896 No_date   34:00   37.20  n/a
      fname :C:\STORMS~1\S_N5ex.100
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 100:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   79.896 No_date   34:00   37.20  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   79.822 No_date   34:00   37.20  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .544:Dmax= 1.346}
 100:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00    1.014 No_date   28:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
 100:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    9.884 No_date   37:30   45.85 .518
      [CN= 75.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 100:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   79.822 No_date   34:00   37.20  n/a
```

```
                    +  03:SW_5A2    20.00    1.014 No_date   28:30   52.03  n/a
                    +  04:SW_5A1  1412.00    9.884 No_date   37:30   45.85  n/a
     [DT=30.00]  SUM=  01:S_N5A  46928.01   88.624 No_date   34:30   37.46  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 100:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   88.624 No_date   34:30   37.46  n/a
      [RDT=30.00] out<- 02:N4     46928.01   84.961 No_date   36:00   37.46  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .901:Dmax= 3.849}
 100:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00   14.684 No_date   29:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 100:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00   19.515 No_date   30:30   51.13 .577
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 100:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   84.961 No_date   36:00   37.46  n/a
                    +  03:SW_4     585.00   14.684 No_date   29:30   52.03  n/a
                    +  04:LM_CK   1021.00   19.515 No_date   30:30   51.13  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   95.703 No_date   34:30   37.93  n/a
 100:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   95.703 No_date   34:30   37.93  n/a
      fname :C:\STORMS~1\H-S_N4.100
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 100:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   95.703 No_date   34:30   37.93  n/a
      [RDT=30.00] out<- 02:N2     48534.01   95.351 No_date   35:00   37.93  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .942:Dmax= 3.915}
 100:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    7.344 No_date   28:30   47.59 .537
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 100:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00   17.710 No_date   31:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 100:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   40.026 No_date   31:00   46.72 .527
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 100:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
     ADD HYD            02:N2     48534.01   95.351 No_date   35:00   37.93  n/a
                      +  03:SW_2     177.00    7.344 No_date   28:30   47.59  n/a
                      +  04:SM_DR   1122.00   17.710 No_date   31:30   52.03  n/a
                      +  05:MO_DR   2737.00   40.026 No_date   31:00   46.72  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01  141.440 No_date   32:30   38.72  n/a
 100:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01  141.440 No_date   32:30   38.72  n/a
      fname :C:\STORMS~1\H_SN2.100
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 100:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01  141.440 No_date   32:30   38.72  n/a
      [RDT=30.00] out<- 02:N1     52570.01  124.317 No_date   35:00   38.72  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax= 1.091:Dmax= 4.554}
 100:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   43.079 No_date   32:00   48.46 .547
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 100:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01  124.317 No_date   35:00   38.72  n/a
                      +  03:SW_1    3176.00   43.079 No_date   32:00   48.46  n/a
      [DT=30.00]  SUM=  01:N1     55746.00  158.436 No_date   34:00   39.27  n/a
 100:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:N1     55746.00  158.436 No_date   34:00   39.27  n/a
      fname :C:\STORMS~1\H-N1.100
      remark:N1-ex
###############################################################################
 100:0002-------------------------------------------------------------------------
      FINISH
-------------------------------------------------------------------------------
*******************************************************************************
```

SWMHYMO – INPUT - FUTURE

```
20    Metric units / ID numbers OFF
*#************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#************************************************************************
*#  Project Name: [Jock River]    Project Number: [411-02]
*#  Date        : 06-06-2003
*#  Modeller    : [JoF]
*#  Company     : JFSAinc.
*#  License #   :  2549237
*#************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ------------------------------------------------------------------------
*#
*#   FUTURE SUMMER - Cumulative Development
*#
*#
*
*START               TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                    ["XAVG0315.STM"] average storm data a 15 minute time step
*                    The above rainf file is an average of the JFSA gauge data
*                    with the City of Ottawa rainfall data collected during
*                    the same period.
*%  2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1]
                   ["C:\STORMS-PF\C24SC002.stm"]
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
READ STORM          STORM_FILENAME=["storm.001"]
*%-----------------|------------------------------------------------------------|
MODIFY STORM        ICASEms=[1],  NSHIFT=[96],
                    RedFACT=[1],
*%-----------------|------------------------------------------------------------|
COMPUTE API         APII=[50], APIK=[.85]/day
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*# mod CN
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD    1 NHYD=["JR_HW"], DT=[30]min, AREA=[3680](ha),
                    DWF=[0](cms),  CN/C=[64.5], IA=[2.5](mm),
                    N=[3.0], TP=[7.13]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD    2 NHYD=["SW_13"], DT=[30]min, AREA=[971](ha),
                    DWF=[0](cms),  CN/C=[61], IA=[2.5](mm),
                    N=[3.0], TP=[3.76]hrs,
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD             1  NHYDsum=["S_N13"] NHYDs to add=1 2
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL         NHYDout=2  ["N13A"] ,  NHYDin=1 ,
                    RDT=[30](min),
                    CHLGTH=[9074](m),  CHSLOPE=[0.0220](%),
                                        FPSLOPE=[0.0220](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.0]
                          [15.5, 129.5]
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*#mod CN
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=1 ["JR_GWM"], DT=[30]min, AREA=[3161](ha),
                    DWF=[0](cms),  CN/C=[55.8], IA=[2.5](mm),
                    N=[3], TP=[11.33]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD             NHYDsum=1 ["SN13A"], NHYDs to add= 2 1 ["N13A"+"JR_GWM"]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
```

```
ROUTE RESERVOIR     NHYDout= 2 ["RES_GM"] ,NHYDin= 1 ,
                    RDT=[30](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [1.991, 2.144    ]
                                   [2.693, 39.826   ]
                                   [3.509, 81.697   ]
                                   [4.578, 318.774  ]
                                   [5.647, 594.947  ]
                                   [7.109, 910.219  ]
                                   [8.616, 1264.589  ]
                                   [10.371, 1658.057  ]
                                   [12.402, 2090.622 ]
                                   [22.056, 3462.487 ]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------|
*#
SAVE HYD            NHYD= 2 ,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_RESGM"]
                    HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout=1 ["N12"] ,NHYDin=2,
                    RDT=[30](min),
                    CHLGTH=[5926](m),  CHSLOPE=[0.0759](%),
                                        FPSLOPE=[0.0759](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=4 ["SW_11"], DT=[30]min, AREA=[500](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[1.24]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*#mod CN
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 2 ["JR_ASH"], DT=[30]min, AREA=[1781](ha),
                    DWF=[0](cms),  CN/C=[72.3], IA=[2.5](mm),
                    N=[3.0], TP=[3.91]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD             NHYDsum=1 ["S_N12"], NHYDs to add= 1 2 ["N12"+"JR_ASH"]
SAVE HYD            NHYD=1 ,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN12"]
                    HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout= 2 ["N11"] ,NHYDin= 1 ,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.0514](%),
                                        FPSLOPE=[0.0514](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL       NHYDout= 3 ["Dum11"] ,NHYDin= 1,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                        FPSLOPE=[0.054](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
```

```
                        [10, 127.5]
                        [11.5, 128.00]
                        [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 5 ["NN_CK"], DT=[30]min, AREA=[1917](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[5.29]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD             NHYDsum=1 ["S_N11"], NHYDs to add= 3 4 5 ["Dum11"+"SW_11"+"NN_CK"]
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL       NHYDout= 2 ["N10"] ,NHYDin= 1 ,
                    RDT=[30](min),
                    CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                        FPSLOPE=[0.1568](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                     [0.04,-52.82
                      0.1,-6.47
                      -0.05,6.47
                      0.1,45.36
                      0.04,423.88] NSEG times
                   ( DISTANCE (m), ELEVATION (m))=
                        [-226.24 ,112.50]
                        [-167.50 ,111.50]
                        [-106.81 ,111.00]
                        [-92.37 ,110.00]
                        [-52.82 ,109.00]
                        [-24.90, 109.00]
                        [-17.02, 108.50]
                        [-6.47, 108.00]
                        [6.47, 108.00]
                        [15.67, 108.50]
                        [18.95, 109.00]
                        [45.36, 109.50]
                        [120.79, 110.00]
                        [145.72, 111.00]
                        [181.56, 111.50]
                        [423.88, 112.50]
CONTINUOUS NASHYD   NHYD= 4 ["SW_10"], DT=[30]min, AREA=[5666](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
```

```
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD             NHYDsum= 1 ["S_N10"], NHYDs to add= 2 4 ["N10"+"SW_10"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN10"]
                    HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*#mod CN
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["KG_CK"], DT=[30]min, AREA=[8376](ha),
                    DWF=[0](cms),  CN/C=[66.3], IA=[2.5](mm),
                    N=[3.0], TP=[11.66]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD             NHYDsum=2 ["S_N10A"], NHYDs to add= 1 3 ["S_N10"+"KG_CK"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL       NHYDout= 1 ["N9"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[3982](m),  CHSLOPE=[0.0753](%),
                                        FPSLOPE=[0.0753](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-30.27
                       0.05,-18.42
                      -0.05,18.42
                      0.04,131.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-446.74, 106.00]
                          [-415.68, 105.50]
                          [-285.40, 105.00]
                          [-173.77, 104.50]
                          [-144.95, 104.00]
                          [-111.18, 103.50]
                          [-94.06, 103.00]
                          [-71.02, 102.50]
                          [-30.27, 102.00]
                          [-19.33, 100.00]
                          [-18.42, 99.50]
                          [18.42, 99.50]
                          [20.77, 100.00]
                          [27.93, 101.00]
                          [52.29, 101.00]
```

```
                        [68.80, 101.50]
                        [79.66, 103.00]
                        [91.50, 103.50]
                        [131.58, 104.00]

*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_9"], DT=[30]min, AREA=[1132](ha),
                    DWF=[0](cms),  CN/C=[70], IA=[2.5](mm),
                    N=[3.0], TP=[2.51]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["NC_CK"], DT=[30]min, AREA=[4464](ha),
                    DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                    N=[3.0], TP=[11.32]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
*#
ADD HYD             NHYDsum= 2 ["S_N9"], NHYDs to add= 1 3 4 ["N9"+"SW_9"+"NC_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL       NHYDout= 1 ["N8"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[2269](m),  CHSLOPE=[0.0882](%),
                                        FPSLOPE=[0.0882](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-17.99
                      -0.045,17.31
                      0.1,456.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-201.19,100.50]
                          [-135.21, 100.00]
                          [-94.83, 99.50]
                          [-67.05, 99.00]
                          [-17.99, 98.50]
                          [-16.02, 98.00]
                          [-13.95, 97.50]
                          [13.95, 97.50]
                          [15.64, 98.00]
                          [17.31, 98.50]
```

```
                        [162.02, 98.50]
                        [172.89 ,99.00]
                        [314.38, 99.00]
                        [343.78, 99.50]
                        [365.67, 100.00]
                        [376.68, 100.00 ]
                        [393.11, 99.50]
                        [404.97, 99.50]
                        [431.70, 100.00]
                        [456.58, 100.50 ]


*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_8"], DT=[30]min, AREA=[131](ha),
                    DWF=[0](cms),  CN/C=[63], IA=[2.5](mm),
                    N=[3.0], TP=[0.90]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["HB_DR"], DT=[30]min, AREA=[3854](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[8.42]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD             NHYDsum= 2 ["S_N8"], NHYDs to add= 1 3 4 ["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL       NHYDout= 1 ["N7"] ,NHYDin= 2
                    RDT=[30](min),
                    CHLGTH=[3750](m),  CHSLOPE=[0.0533](%),
                                        FPSLOPE=[0.0533](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.12,-18.11
                      -0.07,17.22
                      0.12,590.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-433.21, 102.00]
                          [-425.34, 101.50]
```

```
                          [-377.56, 101.50]
                          [-366.23, 101.00]
                          [-202.60, 100.50]
                          [-96.25, 99.50]
                          [-68.36 99.00]
                          [-18.11, 98.50]
                          [-13.81, 97.50]
                          [13.81, 97.50]
                          [17.22, 98.50]
                          [161.95, 98.50]
                          [173.11, 99.00]
                          [314.05, 99.00]
                          [365.52, 100.00]
                          [404.70, 99.50]
                          [476.74, 100.50]
                          [502.31, 101.00]
                          [584.69, 101.00]
                          [585.79, 101.00]
                          [590.05, 102.00]

*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_7"], DT=[30]min, AREA=[3197](ha),
                    DWF=[0](cms),  CN/C=[57], IA=[2.5](mm),
                    N=[3.0], TP=[6.65]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD             NHYDsum= 2 ["S_N7"], NHYDs to add= 1 3 ["N7"+"SW_7"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN7"]
                    HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR     NHYDout= 1 ["RES_RF"] ,NHYDin= 2
                    RDT=[30](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                    [   0.0 ,     0.0 ]
                                    [0.9051,    2.40]
                                    [2.907,     4.13]
                                    [9.744,     9.18]
                                    [20.304,   14.96]
                                    [34.167,  310.21]
                                    [74.993,  605.46]
                                    [104.876, 900.71]
```

```
                                  [140.56, 2892.00]
                                  [225.00, 3615.63]
                                  [   -1  ,  -1  ]  (max twenty pts)
                         NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_ResRF"]
                    HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL       NHYDout= 2["N6"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.025,-70.8
                      0.1,-23.9
                      -0.05,23.9
                      0.06,39.8
                      0.05,96.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-100.8, 97.00]
                                    [-70.8, 96.50]
                                    [-52.0, 96.00]
                                    [-35.1, 95.50]
                                    [-30.6, 95.00]
                                    [-23.9, 94.54]
                                    [23.9, 94.54]
                                    [39.8, 95.00]
                                    [50.4, 95.50]
                                    [93.5, 96.00]
                                    [94.9, 96.50]
                                    [96.3, 97.00]
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["N6"]
                    HYD_COMMENT=["flow at N6 u/s of Richmond"]

*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*#mod CN - Tp reduced by 25%
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_6"], DT=[30]min, AREA=[165](ha),
                    DWF=[0](cms),  CN/C=[70.3], IA=[2.5](mm),
                    N=[3.0], TP=[4.18]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*# mod CN
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["VG_DR"], DT=[30]min, AREA=[1332](ha),
                    DWF=[0](cms),  CN/C=[73.8], IA=[2.5](mm),
                    N=[3.0], TP=[5.95]hrs,
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H-VG_DR"]
                    HYD_COMMENT=["flow at Van Gaal Drain"]

*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD             NHYDsum= 1 ["S_N6"], NHYDs to add= 2 3 4 ["N6"+"SW_6"+"VG_DR"]
SAVE HYD            NHYD=3,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["SW_6"]
                    HYD_COMMENT=["flow from SW_6"]
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["VG_DR"]
                    HYD_COMMENT=["flow from VG_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL       NHYDout= 2 ["N5"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[1852](m),  CHSLOPE=[0.0540](%),
                                        FPSLOPE=[0.0540](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.035,-131.59
                      -0.045,48.96
                      0.1,239.04] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-686.30, 94.50]
                                      [-675.70, 94.00]
                                      [-492.52, 93.00]
                                      [-467.28, 94.00]
                                      [-131.59, 94.00]
                                      [-92.79, 92.50]
                                      [-18.06, 91.00]
                                      [18.06, 91.00]
                                      [43.47, 92.50]
                                      [48.96, 94.00]
                                      [177.43, 94.00]
                                      [239.04,94.50]
*%-----------------|-------------------------------------------------------------|
*# mod CN
CONTINUOUS NASHYD   NHYD= 3 ["SW_5"], DT=[30]min, AREA=[224](ha),
                    DWF=[0](cms),  CN/C=[79.1], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
```

```
*# mod CN
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["FL_CK"], DT=[30]min, AREA=[4945](ha),
                    DWF=[0](cms),  CN/C=[74.6], IA=[2.5](mm),
                    N=[3.0], TP=[4.45]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD             NHYDsum= 1 ["S_N5"], NHYDs to add= 2 3 4 ["N5"+"SW_5"+"FL_CK"]
SAVE HYD            NHYD=2,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["N5"]
                    HYD_COMMENT=["flow at N5"]
SAVE HYD            NHYD=3,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["SW_5"]
                    HYD_COMMENT=["flow at SW_5"]
SAVE HYD            NHYD=4,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["FL_CK"]
                    HYD_COMMENT=["flow at FL_CK"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["S_N5"]
                    HYD_COMMENT=["flow at S_N5"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL       NHYDout= 2 ["N5A"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[556](m),  CHSLOPE=[0.0900](%),
                                        FPSLOPE=[0.0900](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-41.5
                      0.1,-14.0
                      -0.045,14.0
                      0.1,41.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-275.8, 93.00]
                                      [-248.6, 92.50]
                                      [-237.0, 92.00]
                                      [-219.3, 91.50]
                                      [-202.1, 91.50]
                                      [-186.0, 92.00]
                                      [-129.2, 92.00]
                                      [-117.6, 91.50]
                                      [-100.6, 91.00]
                                      [-41.5, 91.00]
                                      [-20.0, 91.00]
                                      [-14.0, 90.54]
                                      [14.0, 90.54]
                                      [15.3, 91.00]
                                      [17.3, 91.50]
                                      [38.4, 92.00]
                                      [39.8, 92.50]
                                      [41.1, 93.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_5A2"], DT=[30]min, AREA=[20](ha),
```

```
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[0.62]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*# mod CN
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["SW_5A1"], DT=[30]min, AREA=[1412](ha),
                    DWF=[0](cms),  CN/C=[75.3], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD             NHYDsum= 1 ["S_N5A"], NHYDs to add= 2 3 4 ["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL       NHYDout= 2["N4"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                        FPSLOPE=[0.0432](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.05,-28.2
                      -0.035,28.2
                      0.05,173.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-38.9, 92.00]
                                      [-35.8, 91.50]
                                      [-33.3, 91.00]
                                      [-28.2, 90.50]
                                      [-15.0, 87.48]
                                      [-5.0, 88.34]
                                      [5.0, 86.20]
                                      [15.0, 88.55]
                                      [28.2, 90.50]
                                      [29.7, 91.00]
                                      [46.5, 91.00]
                                      [127.8, 91.00]
                                      [148.7, 91.50]
                                      [173.1, 92.00]

*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3["SW_4"], DT=[30]min, AREA=[585](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[1.75]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["LM_CK"], DT=[30]min, AREA=[1021](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                    N=[3.0], TP=[2.46]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD             NHYDsum= 1 ["S_N4"], NHYDs to add= 2 3 4 ["N4"+"SW_4"+"LM_CK"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["flow at S_N4"]
*%-----------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL       NHYDout= 2 ["N2"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[1667](m),  CHSLOPE=[0.0600](%),
                                        FPSLOPE=[0.0600](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-28.0
                      -0.04,28.4
                      0.06,31.7
                      0.04,80.2] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                           [-36.3, 92.00]
                           [-32.6, 91.50]
                           [-30.2, 91.00]
                           [-28.0, 90.45]
                           [-15.0, 87.48]
                           [-5.0, 88.34]
                           [5.0, 86.20]
                           [15.0, 88.55]
                           [28.0, 90.45]
                           [28.4, 90.50]
                           [30.4, 91.00]
                           [31.7, 91.50]
                           [80.2, 92.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_2"], DT=[30]min, AREA=[177](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
```

```
                    VHydCond=[0.055](mm/hr),   END=-1
*%------------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 4 ["SM_DR"], DT=[30]min, AREA=[1122](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[3.25]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%------------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 5 ["MO_DR"], DT=[30]min, AREA=[2737](ha),
                    DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                    N=[3.0], TP=[3.03]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%------------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD             NHYDsum= 1 ["S_N2"], NHYDs to add= 2 3 4 5
                                         ["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%------------------|-------------------------------------------------------|
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN2"]
                    HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%------------------|-------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
ROUTE CHANNEL       NHYDout= 2 ["N1"] ,NHYDin= 1
                    RDT=[30](min),
                    CHLGTH=[10046](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-27.6
                      0.06,-15.0
                      -0.045,15.0
                      0.06,25.4
                      0.04,122.6] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                       [-87.0, 91.50]
                                       [-32.4, 91.00]
                                       [-27.6, 90.50]
                                       [-25.0, 90.00]
                                       [-22.9, 89.57]
                                       [-15.0, 86.20]
                                       [-5.0, 84.83]
                                       [5.0, 84.83]
                                       [15.0, 88.11]
                                       [22.9, 89.57]
                                       [25.4, 90.00]
                                       [27.9, 90.50]
                                       [38.0, 91.00]
                                       [112.5, 91.00]
                                       [114.3, 90.50]
```

```
                                    [115.1, 90.26]
                                    [116.3, 90.50]
                                    [119.0, 91.00]
                                    [121.0, 91.50]
                                    [122.6, 92.00]
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD= 3 ["SW_1"], DT=[30]min, AREA=[3176](ha),
                    DWF=[0](cms),  CN/C=[78], IA=[2.5](mm),
                    N=[3.0], TP=[3.56]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# Addition of Subwatershed 1 to Node 1
*#
ADD HYD             NHYDsum= 1["N1"], NHYDs to add= 2 3 ["N1"+"SW_1"]
SAVE HYD            NHYD=1,  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_FILENAME=["N1-fut"]
                    HYD_COMMENT=["total outflow of Jock River"]
*#########################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                   ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|

*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

SWMHYMO – OUTPUT - FUTURE

```
================================================================================

 SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
 S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
 SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9 Ver. 4.02
     S   W W   M   M  H   H    Y    M   M  O   O       9999   9999 July 1999
 SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9 =========
                                                      9   9  9   9 # 1915185
      StormWater Management HYdrologic Model           999    999  =========

 ****************************************************************************
 *************************** SWMHYMO-99 Ver/4.02 ****************************
 *******  A single event and continuous hydrologic simulation model  *******
 *******     based on the principles of HYMO and its successors      *******
 *******                  OTTHYMO-83 and OTTHYMO-89.                  *******
 ****************************************************************************
 ******* Distributed by:  J.F. Sabourin and Associates Inc.          *******
 *******                   Ottawa,  Ontario: (613) 727-5199          *******
 *******                   Gatineau, Quebec: (819) 243-6858          *******
 *******                   E-Mail: swmhymo@jfsa.Com                  *******
 ****************************************************************************

 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++ Licensed user: TSH Ottawa                                    +++++++
 +++++++                Ottawa               SERIAL#:1915185        +++++++
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

 ****************************************************************************
 *******           ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *******
 *******           Maximum value for ID numbers  :     10           *******
 *******           Max. number of rainfall points:  15000           *******
 *******           Max. number of flow points    :  15000           *******
 ****************************************************************************

 *** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) ***
 ***------------------------------------------------------------------------***
 ***    ID:  Hydrograph IDentification numbers, (1-10).                   ***
 ***  NHYD:  Hydrograph reference numbers, (6 digits or characters).      ***
 ***  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).    ***
 *** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).      ***
 *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
 ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         ***
 ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         ***
 ***     *:  see WARNING or NOTE message printed at end of run.           ***
 ***    **:  see  ERROR  message printed at end of run.                   ***
 ****************************************************************************
 ****************************************************************************

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

 *********************   S U M M A R Y   O U T P U T   *********************
 ****************************************************************************
 *       DATE: 2010-03-07     TIME: 14:11:29     RUN COUNTER: 000645       *
 ****************************************************************************
 * Input   filename: C:\STORMS~1\R2V2-A~1.DAT                               *
 * Output  filename: C:\STORMS~1\R2V2-A~1.out                               *
 * Summary filename: C:\STORMS~1\R2V2-A~1.sum                               *
 * User comments:                                                           *
 * 1:_______________________________________________________________________*
 * 2:_______________________________________________________________________*
 * 3:_______________________________________________________________________*
 ****************************************************************************


#*******************************************************************************
```

```
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ----------------------------------------------------------------------------
#
#   FUTURE SUMMER - Cumulative Development
#
#
 RUN:COMMAND#
 001:0001-------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   1 ]
 001:0002-------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
 001:0003-------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
 001:0004-------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
# mod CN
 001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00    6.065 No_date   37:00   11.44 .251
      [CN= 64.5: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    2.154 No_date   32:30   10.72 .236
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00    6.065 No_date   37:00   11.44  n/a
                      +  02:SW_13    971.00    2.154 No_date   32:30   10.72  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00    7.713 No_date   35:30   11.29  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
```

```
#
 001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00    7.713 No_date   35:30   11.29  n/a
      [RDT=30.00] out<- 02:N13A    4651.00    6.154 No_date   39:30   11.29  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .427:Dmax= 2.537}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
#mod CN
 001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00    3.203 No_date   39:30    9.41 .207
      [CN= 55.8: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00    6.154 No_date   39:30   11.29  n/a
                      +  01:SN13A   3161.00    3.203 No_date   39:30    9.41  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00    9.357 No_date   39:30   10.53  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00    9.357 No_date   39:30   10.53  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
     {MxStoUsed=.3547E+02}
#
 001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
      fname :C:\STORMS~1\H_RESGM.001
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    2.612 No_date   55:30   10.53  n/a
      [RDT=30.00] out<- 01:N12     7812.00    2.604 No_date   58:00   10.53  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .501:Dmax= 1.328}
 001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00    2.663 No_date   29:00   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#mod CN
 001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00    5.417 No_date   32:30   13.91 .306
      [CN= 72.3: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    2.604 No_date   58:00   10.53  n/a
                      +  02:JR_ASH  1781.00    5.417 No_date   32:30   13.91  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
 001:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      fname :C:\STORMS~1\H_SN12.001
      remark:flow at S_N12 near Ashton
```

```
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 001:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      [RDT=30.00] out<- 02:N11     9593.00    7.323 No_date   33:00   11.16  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .580:Dmax= 2.120}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 001:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00    7.377 No_date   32:30   11.16  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00    7.326 No_date   33:00   11.16  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .589:Dmax= 2.098}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00    3.966 No_date   34:30   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 001:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00    7.326 No_date   33:00   11.16  n/a
                      +  04:SW_11    500.00    2.663 No_date   29:00   11.95  n/a
                      +  05:NN_CK   1917.00    3.966 No_date   34:30   11.95  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   11.957 No_date   33:00   11.32  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 001:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   11.957 No_date   33:00   11.32  n/a
      [RDT=30.00] out<- 02:N10    12010.00    8.226 No_date   39:30   11.32  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .460:Dmax=  .881}
 001:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   10.936 No_date   38:00   13.91 .306
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 001:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00    8.226 No_date   39:30   11.32  n/a
                      +  04:SW_10   5666.00   10.936 No_date   38:00   13.91  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
 001:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
      fname :C:\STORMS~1\H_SN10.001
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN
```

```
 001:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   10.656 No_date   39:30   11.95 .263
      [CN= 66.3: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 001:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   19.109 No_date   38:30   12.15  n/a
                      +  03:KG_CK   8376.00   10.656 No_date   39:30   11.95  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   29.632 No_date   39:30   12.08  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 001:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   29.632 No_date   39:30   12.08  n/a
      [RDT=30.00] out<- 01:N9     26052.00   28.892 No_date   39:30   12.08  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .591:Dmax= 1.193}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 001:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00    4.365 No_date   30:30   13.32 .293
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 001:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00    5.312 No_date   39:30   10.96 .241
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 001:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   28.892 No_date   39:30   12.08  n/a
                      +  03:SW_9    1132.00    4.365 No_date   30:30   13.32  n/a
                      +  04:NC_CK   4464.00    5.312 No_date   39:30   10.96  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00   35.499 No_date   39:30   11.97  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 001:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00   35.499 No_date   39:30   11.97  n/a
      [RDT=30.00] out<- 01:N8     31648.00   33.315 No_date   40:00   11.97  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .420:Dmax= 1.270}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 001:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00     .770 No_date   28:30   11.20 .246
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
```

```
# of 1.65
 001:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00    6.083 No_date   38:30   11.95 .263
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 001:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00   33.315 No_date   40:00   11.97  n/a
                      +  03:SW_8     131.00     .770 No_date   28:30   11.20  n/a
                      +  04:HB_DR   3854.00    6.083 No_date   38:30   11.95  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00   39.371 No_date   39:30   11.96  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 001:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00   39.371 No_date   39:30   11.96  n/a
      [RDT=30.00] out<- 01:N7     35633.00   32.183 No_date   44:00   11.96  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .209:Dmax= 1.635}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 001:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00    4.557 No_date   36:30    9.83 .216
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 001:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00   32.183 No_date   44:00   11.96  n/a
                      +  03:SW_7    3197.00    4.557 No_date   36:30    9.83  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
 001:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
      fname :C:\STORMS~1\H_SN7.001
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 001:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00   34.359 No_date   43:00   11.79  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
     {MxStoUsed=.7407E+02}
 001:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
      fname :C:\STORMS~1\H_ResRF.001
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 001:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   23.079 No_date   54:30   11.79  n/a
      [RDT=30.00] out<- 02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
      [L/S/n= 3056./ .082/.025]
```

```
      {Vmax=  .431:Dmax=  .805}
 001:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
      fname :C:\STORMS~1\N6.001
      remark:flow at N6 u/s of Richmond
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN - Tp reduced by 25%
 001:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00     .454 No_date   33:00   13.32 .293
      [CN= 70.3: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
# mod CN
 001:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00    3.164 No_date   35:00   14.22 .312
      [CN= 73.8: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 38.18: SMAX=254.55: SK= .010]
      [InterEventTime=  12.00]
 001:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    3.164 No_date   35:00   14.22  n/a
      fname :C:\STORMS~1\H-VG_DR.001
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 001:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   23.056 No_date   56:00   11.79  n/a
                      +  03:SW_6     165.00     .454 No_date   33:00   13.32  n/a
                      +  04:VG_DR   1332.00    3.164 No_date   35:00   14.22  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   23.312 No_date   39:30   11.88  n/a
 001:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_6     165.00     .454 No_date   33:00   13.32  n/a
      fname :C:\STORMS~1\SW_6.001
      remark:flow from SW_6
 001:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    3.164 No_date   35:00   14.22  n/a
      fname :C:\STORMS~1\VG_DR.001
      remark:flow from VG_DR
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 001:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   23.312 No_date   39:30   11.88  n/a
      [RDT=30.00] out<- 02:N5     40327.01   23.176 No_date   55:30   11.88  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .378:Dmax=  .916}
# mod CN
 001:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    2.773 No_date   28:30   16.98 .373
      [CN= 79.1: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 27.47: SMAX=183.15: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
# mod CN
 001:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   14.579 No_date   33:00   14.54 .319
```

```
      [CN= 74.6: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 001:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   23.176 No_date   55:30   11.88  n/a
                    +  03:SW_5     224.00    2.773 No_date   28:30   16.98  n/a
                    +  04:FL_CK   4945.00   14.579 No_date   33:00   14.54  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   33.109 No_date   37:00   12.19  n/a
 001:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   23.176 No_date   55:30   11.88  n/a
      fname :C:\STORMS~1\N5.001
      remark:flow at N5
 001:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    2.773 No_date   28:30   16.98  n/a
      fname :C:\STORMS~1\SW_5.001
      remark:flow at SW_5
 001:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   14.579 No_date   33:00   14.54  n/a
      fname :C:\STORMS~1\FL_CK.001
      remark:flow at FL_CK
 001:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   33.109 No_date   37:00   12.19  n/a
      fname :C:\STORMS~1\S_N5.001
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 001:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   33.109 No_date   37:00   12.19  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   33.059 No_date   37:00   12.19  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .443:Dmax=  .937}
 001:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00     .287 No_date   28:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
# mod CN
 001:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    3.007 No_date   38:00   15.19 .334
      [CN= 75.3: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 001:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   33.059 No_date   37:00   12.19  n/a
                    +  03:SW_5A2    20.00     .287 No_date   28:30   17.76  n/a
                    +  04:SW_5A1  1412.00    3.007 No_date   38:00   15.19  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   36.077 No_date   37:00   12.28  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 001:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   36.077 No_date   37:00   12.28  n/a
```

```
      [RDT=30.00] out<- 02:N4     46928.01   35.195 No_date   39:00   12.28  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .694:Dmax= 2.840}
 001:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00    4.232 No_date   29:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 001:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00    5.667 No_date   30:30   17.36 .382
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 001:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   35.195 No_date   39:00   12.28  n/a
                    +  03:SW_4     585.00    4.232 No_date   29:30   17.76  n/a
                    +  04:LM_CK   1021.00    5.667 No_date   30:30   17.36  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   37.533 No_date   38:30   12.46  n/a
 001:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   37.533 No_date   38:30   12.46  n/a
      fname :C:\STORMS~1\H-S_N4.001
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 001:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   37.533 No_date   38:30   12.46  n/a
      [RDT=30.00] out<- 02:N2     48534.01   37.433 No_date   39:00   12.46  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .715:Dmax= 2.844}
 001:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    1.996 No_date   28:30   15.88 .349
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 001:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00    5.257 No_date   31:30   17.76 .390
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 001:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   11.338 No_date   31:30   15.53 .341
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 001:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   37.433 No_date   39:00   12.46  n/a
                    +  03:SW_2     177.00    1.996 No_date   28:30   15.88  n/a
                    +  04:SM_DR   1122.00    5.257 No_date   31:30   17.76  n/a
                    +  05:MO_DR   2737.00   11.338 No_date   31:30   15.53  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01   45.832 No_date   33:30   12.74  n/a
 001:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01   45.832 No_date   33:30   12.74  n/a
      fname :C:\STORMS~1\H_SN2.001
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
```

```
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 001:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01   45.832 No_date   33:30   12.74  n/a
      [RDT=30.00] out<- 02:N1     52570.01   42.743 No_date   39:30   12.74  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax=  .768:Dmax= 2.667}
 001:0074---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   12.490 No_date   32:00   16.23 .357
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 001:0075---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             02:N1     52570.01   42.743 No_date   39:30   12.74  n/a
                       +  03:SW_1    3176.00   12.490 No_date   32:00   16.23  n/a
      [DT=30.00]  SUM=  01:N1     55746.00   49.310 No_date   36:30   12.94  n/a
 001:0076---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            01:N1     55746.00   49.310 No_date   36:30   12.94  n/a
      fname :C:\STORMS~1\H-N1.001
      remark:N1-fut
###############################################################################
  ** END OF RUN :   4

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




 RUN:COMMAND#
 005:0001---------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   5 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------------
#
#   FUTURE SUMMER - Cumulative Development
#
#
 005:0002---------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
 005:0003---------------------------------------------------------------------
     MODIFY STORM
```

```
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
 005:0004-------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 90.83: APIavg= 60.09: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
# mod CN
 005:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00    9.169 No_date   37:00   16.38 .287
      [CN= 64.5: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 005:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    3.350 No_date   32:30   15.27 .267
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 005:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00    9.169 No_date   37:00   16.38  n/a
                    +  02:SW_13    971.00    3.350 No_date   32:30   15.27  n/a
      [DT=30.00]  SUM=  01:S_N13   4651.00   11.688 No_date   35:30   16.15  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
 005:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00   11.688 No_date   35:30   16.15  n/a
      [RDT=30.00] out<- 02:N13A    4651.00    9.343 No_date   39:30   16.15  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .475:Dmax= 2.992}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
#mod CN
 005:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00    4.639 No_date   39:30   13.20 .231
      [CN= 55.8: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 005:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00    9.343 No_date   39:30   16.15  n/a
                    +  01:SN13A   3161.00    4.639 No_date   39:30   13.20  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00   13.982 No_date   39:30   14.96  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 005:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00   13.982 No_date   39:30   14.96  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
     {MxStoUsed=.6269E+02}
#
```

```
 005:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
      fname :C:\STORMS~1\H_RESGM.005
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 005:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    3.139 No_date   58:00   14.96  n/a
      [RDT=30.00] out<- 01:N12     7812.00    3.129 No_date   60:30   14.96  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .526:Dmax= 1.427}
 005:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00    4.260 No_date   29:00   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#mod CN
 005:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00    8.382 No_date   32:30   20.09 .352
      [CN= 72.3: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 005:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    3.129 No_date   60:30   14.96  n/a
                     +  02:JR_ASH  1781.00    8.382 No_date   32:30   20.09  n/a
      [DT=30.00]  SUM=  01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
 005:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      fname :C:\STORMS~1\H_SN12.005
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 005:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      [RDT=30.00] out<- 02:N11     9593.00   10.235 No_date   33:00   15.91  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .634:Dmax= 2.418}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 005:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   10.366 No_date   32:30   15.91  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00   10.246 No_date   33:00   15.91  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .645:Dmax= 2.393}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00    6.085 No_date   34:00   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 005:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00   10.246 No_date   33:00   15.91  n/a
```

```
                    +  04:SW_11    500.00    4.260 No_date   29:00   17.15  n/a
                    +  05:NN_CK   1917.00    6.085 No_date   34:00   17.15  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   17.319 No_date   33:00   16.16  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 005:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   17.319 No_date   33:00   16.16  n/a
      [RDT=30.00] out<- 02:N10    12010.00   11.909 No_date   38:30   16.16  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .462:Dmax= 1.078}
 005:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   16.454 No_date   38:00   20.09 .352
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 005:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00   11.909 No_date   38:30   16.16  n/a
                    +  04:SW_10   5666.00   16.454 No_date   38:00   20.09  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
 005:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
      fname :C:\STORMS~1\H_SN10.005
      remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN
 005:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   15.668 No_date   39:30   17.15 .300
      [CN= 66.3: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 005:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   28.349 No_date   38:00   17.42  n/a
                    +  03:KG_CK   8376.00   15.668 No_date   39:30   17.15  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   43.598 No_date   39:30   17.33  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 005:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   43.598 No_date   39:30   17.33  n/a
      [RDT=30.00] out<- 01:N9     26052.00   42.453 No_date   39:30   17.33  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .663:Dmax= 1.480}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 005:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00    6.854 No_date   30:30   19.22 .336
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
```

```
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 005:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00    7.795 No_date   39:30   15.63 .274
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 005:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   42.453 No_date   39:30   17.33  n/a
                      +  03:SW_9    1132.00    6.854 No_date   30:30   19.22  n/a
                      +  04:NC_CK   4464.00    7.795 No_date   39:30   15.63  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00   52.078 No_date   39:30   17.16  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 005:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00   52.078 No_date   39:30   17.16  n/a
      [RDT=30.00] out<- 01:N8     31648.00   48.443 No_date   40:00   17.16  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .371:Dmax= 1.510}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 005:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00    1.239 No_date   28:30   16.00 .280
      [CN= 63.0: N= 3.00]
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 005:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00    9.126 No_date   38:30   17.15 .300
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 005:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00   48.443 No_date   40:00   17.16  n/a
                      +  03:SW_8     131.00    1.239 No_date   28:30   16.00  n/a
                      +  04:HB_DR   3854.00    9.126 No_date   38:30   17.15  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00   57.182 No_date   39:30   17.16  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 005:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00   57.182 No_date   39:30   17.16  n/a
      [RDT=30.00] out<- 01:N7     35633.00   46.901 No_date   45:00   17.16  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .207:Dmax= 1.840}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 005:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00    6.873 No_date   36:00   13.87 .243
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
```

```
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 005:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00   46.901 No_date   45:00   17.16  n/a
                    +  03:SW_7    3197.00    6.873 No_date   36:00   13.87  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
 005:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
      fname :C:\STORMS~1\H_SN7.005
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 005:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00   50.132 No_date   43:30   16.89  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
     {MxStoUsed=.1714E+03}
 005:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
      fname :C:\STORMS~1\H_ResRF.005
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
 005:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   27.650 No_date   59:00   16.89  n/a
      [RDT=30.00] out<- 02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .458:Dmax=  .889}
 005:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
      fname :C:\STORMS~1\N6.005
      remark:flow at N6 u/s of Richmond
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN - Tp reduced by 25%
 005:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00     .702 No_date   33:00   19.22 .336
      [CN= 70.3: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
# mod CN
 005:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00    4.821 No_date   35:00   20.55 .360
      [CN= 73.8: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 38.18: SMAX=254.55: SK= .010]
      [InterEventTime=  12.00]
 005:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    4.821 No_date   35:00   20.55  n/a
      fname :C:\STORMS~1\H-VG_DR.005
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
```

```
#
 005:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   27.619 No_date   60:00   16.89  n/a
                      +  03:SW_6     165.00     .702 No_date   33:00   19.22  n/a
                      +  04:VG_DR   1332.00    4.821 No_date   35:00   20.55  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   27.694 No_date   59:30   17.02  n/a
 005:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_6     165.00     .702 No_date   33:00   19.22  n/a
      fname :C:\STORMS~1\SW_6.005
      remark:flow from SW_6
 005:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00    4.821 No_date   35:00   20.55  n/a
      fname :C:\STORMS~1\VG_DR.005
      remark:flow from VG_DR
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 005:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   27.694 No_date   59:30   17.02  n/a
      [RDT=30.00] out<- 02:N5     40327.01   27.667 No_date   60:30   17.02  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .396:Dmax=  .997}
# mod CN
 005:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    4.345 No_date   28:30   24.50 .429
      [CN= 79.1: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 27.47: SMAX=183.15: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
# mod CN
 005:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   22.432 No_date   33:00   21.01 .368
      [CN= 74.6: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 005:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   27.667 No_date   60:30   17.02  n/a
                      +  03:SW_5     224.00    4.345 No_date   28:30   24.50  n/a
                      +  04:FL_CK   4945.00   22.432 No_date   33:00   21.01  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   43.412 No_date   35:00   17.49  n/a
 005:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   27.667 No_date   60:30   17.02  n/a
      fname :C:\STORMS~1\N5.005
      remark:flow at N5
 005:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    4.345 No_date   28:30   24.50  n/a
      fname :C:\STORMS~1\SW_5.005
      remark:flow at SW_5
 005:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   22.432 No_date   33:00   21.01  n/a
      fname :C:\STORMS~1\FL_CK.005
      remark:flow at FL_CK
 005:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   43.412 No_date   35:00   17.49  n/a
      fname :C:\STORMS~1\S_N5.005
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
```

```
#
 005:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   43.412 No_date   35:00   17.49  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   43.373 No_date   35:30   17.49  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .464:Dmax= 1.059}
 005:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00     .448 No_date   28:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
# mod CN
 005:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    4.515 No_date   37:30   21.96 .384
      [CN= 75.3: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 005:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   43.373 No_date   35:30   17.49  n/a
                      +  03:SW_5A2    20.00     .448 No_date   28:30   25.59  n/a
                      +  04:SW_5A1  1412.00    4.515 No_date   37:30   21.96  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   47.728 No_date   35:30   17.62  n/a
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 005:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   47.728 No_date   35:30   17.62  n/a
      [RDT=30.00] out<- 02:N4     46928.01   46.060 No_date   37:00   17.62  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .754:Dmax= 3.110}
 005:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00    6.551 No_date   29:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 005:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00    8.738 No_date   30:30   25.04 .438
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 005:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   46.060 No_date   37:00   17.62  n/a
                      +  03:SW_4     585.00    6.551 No_date   29:30   25.59  n/a
                      +  04:LM_CK   1021.00    8.738 No_date   30:30   25.04  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   50.229 No_date   36:30   17.88  n/a
 005:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   50.229 No_date   36:30   17.88  n/a
      fname :C:\STORMS~1\H-S_N4.005
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
```

```
 005:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4    48534.01   50.229 No_date   36:30   17.88  n/a
      [RDT=30.00] out<- 02:N2     48534.01   50.109 No_date   37:00   17.88  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .781:Dmax= 3.129}
 005:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    3.149 No_date   28:30   22.94 .402
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 005:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00    8.043 No_date   31:30   25.59 .448
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 005:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   17.548 No_date   31:30   22.44 .393
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 005:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   50.109 No_date   37:00   17.88  n/a
                      +  03:SW_2     177.00    3.149 No_date   28:30   22.94  n/a
                      +  04:SM_DR   1122.00    8.043 No_date   31:30   25.59  n/a
                      +  05:MO_DR   2737.00   17.548 No_date   31:30   22.44  n/a
      [DT=30.00]  SUM=  01:S_N2   52570.01   66.504 No_date   33:00   18.30  n/a
 005:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01   66.504 No_date   33:00   18.30  n/a
      fname :C:\STORMS~1\H_SN2.005
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 005:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01   66.504 No_date   33:00   18.30  n/a
      [RDT=30.00] out<- 02:N1     52570.01   59.921 No_date   37:00   18.30  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax=  .862:Dmax= 3.206}
 005:0074---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   19.206 No_date   32:00   23.45 .411
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 005:0075---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01   59.921 No_date   37:00   18.30  n/a
                      +  03:SW_1    3176.00   19.206 No_date   32:00   23.45  n/a
      [DT=30.00]  SUM=  01:N1     55746.00   72.279 No_date   35:00   18.59  n/a
 005:0076---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:N1     55746.00   72.279 No_date   35:00   18.59  n/a
      fname :C:\STORMS~1\H-N1.005
      remark:N1-fut
###############################################################################
  ** END OF RUN :  99

*******************************************************************************
```

```
 RUN:COMMAND#
 100:0001--------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 100 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the Cit
# Use data collected from May 1st to July 14, 2003
# -----------------------------------------------------------------------------
#
#   FUTURE SUMMER - Cumulative Development
#
#
 100:0002--------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
 100:0003--------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
 100:0004--------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax=119.84: APIavg= 69.19: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
# mod CN
 100:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_HW   3680.00   21.054 No_date   36:30   35.15 .397
      [CN= 64.5: N= 3.00]
      [Tp= 7.13:DT=30.00]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
 100:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_13    971.00    8.058 No_date   32:30   32.81 .370
      [CN= 61.0: N= 3.00]
      [Tp= 3.76:DT=30.00]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
 100:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N13   3680.00   21.054 No_date   36:30   35.15  n/a
                      +  02:SW_13    971.00    8.058 No_date   32:30   32.81  n/a
```

```
      [DT=30.00]  SUM=  01:S_N13   4651.00   27.020 No_date   35:00   34.66  n/a
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
 100:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N13   4651.00   27.020 No_date   35:00   34.66  n/a
      [RDT=30.00] out<- 02:N13A    4651.00   22.149 No_date   38:30   34.66  n/a
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .594:Dmax= 4.138}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
#mod CN
 100:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  01:JR_GWM  3161.00   10.266 No_date   39:30   28.27 .319
      [CN= 55.8: N= 3.00]
      [Tp=11.33:DT=30.00]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
 100:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N13A    4651.00   22.149 No_date   38:30   34.66  n/a
                      +  01:SN13A   3161.00   10.266 No_date   39:30   28.27  n/a
      [DT=30.00]  SUM=  01:SN13A   7812.00   32.270 No_date   39:30   32.08  n/a
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
 100:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 01:SN13A   7812.00   32.270 No_date   39:30   32.08  n/a
      [RDT=30.00] out<- 02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
     {MxStoUsed=.1788E+03}
#
 100:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
      fname :C:\STORMS~1\H_RESGM.100
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 100:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:RES_GM  7812.00    3.947 No_date   63:30   32.08  n/a
      [RDT=30.00] out<- 01:N12     7812.00    3.943 No_date   66:30   32.08  n/a
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .560:Dmax= 1.559}
 100:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_11    500.00   10.499 No_date   29:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 1.24:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#mod CN
 100:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:JR_ASH  1781.00   19.356 No_date   32:30   42.46 .479
      [CN= 72.3: N= 3.00]
      [Tp= 3.91:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
 100:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N12   7812.00    3.943 No_date   66:30   32.08  n/a
                      +  02:JR_ASH  1781.00   19.356 No_date   32:30   42.46  n/a
```

```
      [DT=30.00]  SUM=  01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
 100:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      fname :C:\STORMS~1\H_SN12.100
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
 100:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      [RDT=30.00] out<- 02:N11     9593.00   21.120 No_date   33:00   34.00  n/a
      [L/S/n=  972./ .051/.040]
      {Vmax=  .760:Dmax= 3.206}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
 100:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N12   9593.00   21.415 No_date   32:30   34.00  n/a
      [RDT=30.00] out<- 03:Dum11   9593.00   21.116 No_date   32:30   34.00  n/a
      [L/S/n=  972./ .054/.040]
      {Vmax=  .774:Dmax= 3.175}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:NN_CK   1917.00   14.197 No_date   34:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 5.29:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
 100:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            03:Dum11   9593.00   21.116 No_date   32:30   34.00  n/a
                      +  04:SW_11    500.00   10.499 No_date   29:00   36.74  n/a
                      +  05:NN_CK   1917.00   14.197 No_date   34:00   36.74  n/a
      [DT=30.00]  SUM=  01:S_N11  12010.00   37.438 No_date   33:00   34.55  n/a
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
 100:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N11  12010.00   37.438 No_date   33:00   34.55  n/a
      [RDT=30.00] out<- 02:N10    12010.00   23.324 No_date   39:00   34.55  n/a
      [L/S/n=14028./ .157/.040]
      {Vmax=  .484:Dmax= 1.483}
 100:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_10   5666.00   36.560 No_date   37:30   42.46 .479
      [CN= 72.0: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 10 to Node 10
#
 100:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N10    12010.00   23.324 No_date   39:00   34.55  n/a
                      +  04:SW_10   5666.00   36.560 No_date   37:30   42.46  n/a
      [DT=30.00]  SUM=  01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
 100:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
      fname :C:\STORMS~1\H_SN10.100
```

```
     remark:flow at S_N10: N10 + SW_10
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN
 100:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:KG_CK   8376.00   34.456 No_date   39:30   36.74 .415
      [CN= 66.3: N= 3.00]
      [Tp=11.66:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
# Addition of Kings Creek to S_N10
#
 100:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:S_N10  17676.00   59.680 No_date   38:00   37.09  n/a
                      +  03:KG_CK   8376.00   34.456 No_date   39:30   36.74  n/a
      [DT=30.00]  SUM=  02:S_N10A 26052.00   93.257 No_date   39:30   36.98  n/a
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
 100:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N10A 26052.00   93.257 No_date   39:30   36.98  n/a
      [RDT=30.00] out<- 01:N9     26052.00   91.386 No_date   39:30   36.98  n/a
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .769:Dmax= 2.125}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
 100:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_9    1132.00   16.257 No_date   30:30   40.80 .461
      [CN= 70.0: N= 3.00]
      [Tp= 2.51:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 100:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:NC_CK   4464.00   17.270 No_date   39:30   33.59 .379
      [CN= 62.0: N= 3.00]
      [Tp=11.32:DT=30.00]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
 100:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N9     26052.00   91.386 No_date   39:30   36.98  n/a
                      +  03:SW_9    1132.00   16.257 No_date   30:30   40.80  n/a
                      +  04:NC_CK   4464.00   17.270 No_date   39:30   33.59  n/a
      [DT=30.00]  SUM=  02:S_N9   31648.00  112.276 No_date   39:30   36.63  n/a
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
 100:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N9   31648.00  112.276 No_date   39:30   36.63  n/a
      [RDT=30.00] out<- 01:N8     31648.00  106.477 No_date   40:00   36.63  n/a
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .372:Dmax= 1.905}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
 100:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_8     131.00    3.096 No_date   28:30   34.37 .388
      [CN= 63.0: N= 3.00]
```

```
      [Tp=  .90:DT=30.00]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
 100:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:HB_DR   3854.00   20.590 No_date   38:00   36.74 .415
      [CN= 66.0: N= 3.00]
      [Tp= 8.42:DT=30.00]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
 100:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N8     31648.00  106.477 No_date   40:00   36.63  n/a
                      +  03:SW_8     131.00    3.096 No_date   28:30   34.37  n/a
                      +  04:HB_DR   3854.00   20.590 No_date   38:00   36.74  n/a
      [DT=30.00]  SUM=  02:S_N8   35633.00  126.247 No_date   39:30   36.64  n/a
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
 100:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 02:S_N8   35633.00  126.247 No_date   39:30   36.64  n/a
      [RDT=30.00] out<- 01:N7     35633.00  108.774 No_date   44:30   36.64  n/a
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .236:Dmax= 2.384}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
 100:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_7    3197.00   16.027 No_date   36:00   29.76 .336
      [CN= 57.0: N= 3.00]
      [Tp= 6.65:DT=30.00]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 7 to Node 7
#
 100:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N7     35633.00  108.774 No_date   44:30   36.64  n/a
                      +  03:SW_7    3197.00   16.027 No_date   36:00   29.76  n/a
      [DT=30.00]  SUM=  02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
 100:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
      fname :C:\STORMS~1\H_SN7.100
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
 100:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:S_N7   38830.00  117.367 No_date   43:30   36.07  n/a
      [RDT=30.00] out<- 01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
     {MxStoUsed=.5014E+03}
 100:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
      fname :C:\STORMS~1\H_ResRF.100
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
```

```
#
 100:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:RES_RF 38830.00   60.603 No_date   58:30   36.07  n/a
      [RDT=30.00] out<- 02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .553:Dmax= 1.353}
 100:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
      fname :C:\STORMS~1\N6.100
      remark:flow at N6 u/s of Richmond
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
#mod CN - Tp reduced by 25%
 100:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_6     165.00    1.630 No_date   32:30   40.80 .461
      [CN= 70.3: N= 3.00]
      [Tp= 4.18:DT=30.00]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
# mod CN
 100:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:VG_DR   1332.00   10.866 No_date   35:00   43.30 .489
      [CN= 73.8: N= 3.00]
      [Tp= 5.95:DT=30.00]
      [IaREC= 4.00: SMIN= 38.18: SMAX=254.55: SK= .010]
      [InterEventTime=  12.00]
 100:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00   10.866 No_date   35:00   43.30  n/a
      fname :C:\STORMS~1\H-VG_DR.100
      remark:flow at Van Gaal Drain
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
 100:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N6     38830.00   60.346 No_date   60:00   36.07  n/a
                      +  03:SW_6     165.00    1.630 No_date   32:30   40.80  n/a
                      +  04:VG_DR   1332.00   10.866 No_date   35:00   43.30  n/a
      [DT=30.00]  SUM=  01:S_N6   40327.01   60.510 No_date   59:30   36.33  n/a
 100:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_6     165.00    1.630 No_date   32:30   40.80  n/a
      fname :C:\STORMS~1\SW_6.100
      remark:flow from SW_6
 100:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:VG_DR   1332.00   10.866 No_date   35:00   43.30  n/a
      fname :C:\STORMS~1\VG_DR.100
      remark:flow from VG_DR
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
 100:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N6   40327.01   60.510 No_date   59:30   36.33  n/a
      [RDT=30.00] out<- 02:N5     40327.01   60.396 No_date   60:30   36.33  n/a
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .490:Dmax= 1.451}
# mod CN
 100:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5     224.00    9.957 No_date   28:30   50.23 .567
      [CN= 79.1: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 27.47: SMAX=183.15: SK= .010]
      [InterEventTime=  12.00]
#
```

```
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
# mod CN
 100:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:FL_CK   4945.00   51.121 No_date   33:00   44.15 .498
      [CN= 74.6: N= 3.00]
      [Tp= 4.45:DT=30.00]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
 100:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5     40327.01   60.396 No_date   60:30   36.33  n/a
                      +  03:SW_5     224.00    9.957 No_date   28:30   50.23  n/a
                      +  04:FL_CK   4945.00   51.121 No_date   33:00   44.15  n/a
      [DT=30.00]  SUM=  01:S_N5   45496.01   80.280 No_date   34:00   37.25  n/a
 100:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           02:N5     40327.01   60.396 No_date   60:30   36.33  n/a
      fname :C:\STORMS~1\N5.100
      remark:flow at N5
 100:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SW_5     224.00    9.957 No_date   28:30   50.23  n/a
      fname :C:\STORMS~1\SW_5.100
      remark:flow at SW_5
 100:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:FL_CK   4945.00   51.121 No_date   33:00   44.15  n/a
      fname :C:\STORMS~1\FL_CK.100
      remark:flow at FL_CK
 100:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N5   45496.01   80.280 No_date   34:00   37.25  n/a
      fname :C:\STORMS~1\S_N5.100
      remark:flow at S_N5
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
 100:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5   45496.01   80.280 No_date   34:00   37.25  n/a
      [RDT=30.00] out<- 02:N5A    45496.01   80.210 No_date   34:00   37.25  n/a
      [L/S/n=  556./ .090/.040]
      {Vmax=  .545:Dmax= 1.349}
 100:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_5A2    20.00    1.014 No_date   28:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp=  .62:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
# mod CN
 100:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SW_5A1  1412.00    9.884 No_date   37:30   45.85 .518
      [CN= 75.3: N= 3.00]
      [Tp= 8.00:DT=30.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
 100:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N5A    45496.01   80.210 No_date   34:00   37.25  n/a
                      +  03:SW_5A2    20.00    1.014 No_date   28:30   52.03  n/a
                      +  04:SW_5A1  1412.00    9.884 No_date   37:30   45.85  n/a
      [DT=30.00]  SUM=  01:S_N5A  46928.01   89.005 No_date   34:30   37.51  n/a
#
```

```
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
 100:0062---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N5A  46928.01   89.005 No_date   34:30   37.51  n/a
      [RDT=30.00] out<- 02:N4     46928.01   85.339 No_date   36:00   37.51  n/a
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .902:Dmax= 3.855}
 100:0063---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_4     585.00   14.684 No_date   29:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp= 1.75:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 100:0064---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:LM_CK   1021.00   19.515 No_date   30:30   51.13 .577
      [CN= 80.0: N= 3.00]
      [Tp= 2.46:DT=30.00]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
 100:0065---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N4     46928.01   85.339 No_date   36:00   37.51  n/a
                      +  03:SW_4     585.00   14.684 No_date   29:30   52.03  n/a
                      +  04:LM_CK   1021.00   19.515 No_date   30:30   51.13  n/a
      [DT=30.00]  SUM=  01:S_N4   48534.01   96.093 No_date   34:30   37.97  n/a
 100:0066---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N4   48534.01   96.093 No_date   34:30   37.97  n/a
      fname :C:\STORMS~1\H-S_N4.100
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
 100:0067---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N4   48534.01   96.093 No_date   34:30   37.97  n/a
      [RDT=30.00] out<- 02:N2     48534.01   95.740 No_date   35:00   37.97  n/a
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .943:Dmax= 3.921}
 100:0068---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
  *  CONTINUOUS NASHYD  03:SW_2     177.00    7.344 No_date   28:30   47.59 .537
      [CN= 77.0: N= 3.00]
      [Tp=  .75:DT=30.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 100:0069---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  04:SM_DR   1122.00   17.710 No_date   31:30   52.03 .587
      [CN= 81.0: N= 3.00]
      [Tp= 3.25:DT=30.00]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
 100:0070---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  05:MO_DR   2737.00   40.026 No_date   31:00   46.72 .527
      [CN= 76.0: N= 3.00]
      [Tp= 3.03:DT=30.00]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
 100:0071---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N2     48534.01   95.740 No_date   35:00   37.97  n/a
                      +  03:SW_2     177.00    7.344 No_date   28:30   47.59  n/a
                      +  04:SM_DR   1122.00   17.710 No_date   31:30   52.03  n/a
                      +  05:MO_DR   2737.00   40.026 No_date   31:00   46.72  n/a
```

```
      [DT=30.00]  SUM=  01:S_N2   52570.01  141.818 No_date   32:30   38.76  n/a
 100:0072---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:S_N2   52570.01  141.818 No_date   32:30   38.76  n/a
      fname :C:\STORMS~1\H_SN2.100
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
 100:0073---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52570.01  141.818 No_date   32:30   38.76  n/a
      [RDT=30.00] out<- 02:N1     52570.01  124.692 No_date   35:00   38.76  n/a
      [L/S/n=10046./ .050/.040]
      {Vmax= 1.092:Dmax= 4.559}
 100:0074---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  03:SW_1    3176.00   43.079 No_date   32:00   48.46 .547
      [CN= 78.0: N= 3.00]
      [Tp= 3.56:DT=30.00]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Addition of Subwatershed 1 to Node 1
#
 100:0075---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            02:N1     52570.01  124.692 No_date   35:00   38.76  n/a
                    +  03:SW_1    3176.00   43.079 No_date   32:00   48.46  n/a
      [DT=30.00]  SUM=  01:N1     55746.00  158.805 No_date   34:00   39.31  n/a
 100:0076---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           01:N1     55746.00  158.805 No_date   34:00   39.31  n/a
      fname :C:\STORMS~1\H-N1.100
      remark:N1-fut
################################################################################
 100:0002--------------------------------------------------------------------------
      FINISH
--------------------------------------------------------------------------------
********************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
 001:0033 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 001:0051 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 001:0059 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 001:0068 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 005:0033 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 005:0051 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 005:0059 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 005:0068 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 100:0033 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                   R.V. may be ok.  Peak flow could be off.
 100:0051 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
```

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                  R.V. may be ok.  Peak flow could be off.
 100:0059 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                  R.V. may be ok.  Peak flow could be off.
 100:0068 CONTINUOUS NASHYD
      *** WARNING: Time step is too large for value of TP.
                  R.V. may be ok.  Peak flow could be off.
   Simulation ended on 2010-03-07     at 14:11:30
================================================================================
```