PRELIMINARY STORMWATER MANAGEMENT REPORT WINTERGREEN RIDGE SUBDIVISION

Project No.: CCO-22-0957

Prepared for:

Wintergreen Ridge Ltd.

Prepared by:

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Perth, Ontario
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September 2023

McINTOSH PERRY

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1.0 PURPOSE

McIntosh Perry Consulting Engineers Limited (McIntosh Perry) has been retained by Wintergreen Ridge Ltd., to prepare a Preliminary Stormwater Management Report in support of an application for Draft Plan Approval of the development at 400 Lanark Street, Carleton Place, ON, known as Wintergreen Ridge Subdivision.

The objective of this stormwater management report is to evaluate the drainage characteristics of the site under existing and proposed conditions and to advance an integrated approach to facilitate the proposed development with no adverse impacts to the receiving drainage systems and/or properties. The purpose is to provide a preliminary stormwater management design in accordance with the recommendations and guidelines provided by the Ministry of the Environment, Conservation and Parks (MECP). These guidelines encourage the implementation of Best Management Practices (BMPs) for treating and controlling stormwater runoff.

The servicing constraints, design criteria, municipal standards, and project specific quality and quantity control objectives were established based on those outlined by the Mississippi Valley Conservation Authority (MVCA), Ramsay Township, and Lanark County regulatory areas.

During the detailed design stage, further information will be provided regarding the post-development peak flow rates, stormwater management pond configuration and design specifications, stormwater management outlet control features, and specifically how the proposed stormwater management strategy will meet quality and quantity control objectives.

2.0 SITE DESCRIPTION

The proposed development is located in the Town of Carleton Place, Ontario. The legal description of the land is Lots 17, 20, 23, 26, 29 & 32, and Part of Lots 4 and 12, Registered Plan No. 787 (also known as Registered Plan No. 970), and Lots 89 to 94 Inclusive, Registered Plan No. 3469, Town of Carleton Place, County of Lanark. The subject site is bound by Townline Road East to the southeast, Lanark Street to the northeast, Edmund Street to the southwest, as well as industrial yards and vacant land to the northwest. It is currently occupied by a Christmas tree farm, which is primarily comprised of sections of woodlands, range, grass, and gravel. The location plan can be found in Appendix A.

The subject property is approximately 6.26 hectares in area and the owner wishes to develop the lands into 250 fully serviced residential dwelling units, consisting of medium density apartments, townhouses, and low density single detached homes. The lots will be accessed via a new residential street, with access points proposed on both Lanark Street and Edmund Street.

As per the topographic survey prepared by McIntosh Perry Surveying Inc. (April 2022), the subject property is moderately sloped. In addition, the digital elevation model of both the site and its surroundings was procured through LiDAR data sourced from the DRAPE (Digital Raster Acquisition Project Eastern Ontario) package. This LiDAR data was tailored to align with the topographic survey and facilitate the characterization of flow patterns in the external drainage area, enabling an assessment of the current drainage conditions. There is a local low

area oriented in a north-south direction close to the center of the property, which most of the surrounding lands slope down towards. The elevations range from approximately 137.0 to 145.5 metres above sea level.

2.1 SOIL CONDITIONS

As this preliminary design work is occurring concurrently with their work, for the purposes of this design, the Ontario GeoHub's soil survey complex was used to determine the underlying soil conditions and their respective hydrologic soil groups. Based on this information, the site is comprised of Farmington soil, which is classified as having a hydrological soil group 'B'.

Further investigations will be completed in the detailed design to optimize the site with regards to construction practices for the dwelling placements, road profiles, and stormwater management pond design placement and specifications.

3.0 DRAINAGE AREA CHARACTERIZATION

3.1 DESIGN CRITERIA

In Ontario, the watershed-level management and planning are typically done using watershed plans, sub-watershed plans and/or individual stormwater management plans, in that order. The subject property is not covered by any specific watershed or sub watershed plans and has no existing stormwater controls in place. As such, the subject site will require a site-specific stormwater management plan using the MECP Stormwater Management Planning and Design Manual (March 2003). This methodology promotes water management from an environmentally sustainable perspective. The intent of this stormwater management plan is to provide adequate stormwater treatment for both quantity and quality controls. Stormwater Best Management Practices (BMPs) will be implemented at the "Lot level", "Conveyance" and "End of Pipe" locations. To summarize, roof water will be directed to grass surfaces that in turn will be conveyed to a stormwater management facility prior to outletting from the development. Quantity and quality control objectives are expected to be achieved through the stormwater management pond which will provide temporary attenuation.

The following design criteria is established based on the Stormwater Management Manual, 2003:

- Stormwater quantity controls will be required to regulate the post-development peak flows to pre-development levels for all design storms including the 2-, 5-, 10-, 25-, 50-, and 100-year storm events,
- Stormwater quality controls will be required to achieve the "Enhanced" level of protection, which corresponds to 80% long term average removal of Total Suspended Solids (TSS) as recommended in the MECP SWMPD Manual, 2003; and
- To ensure a safe and acceptable outlet for all design storm events, the projected outflow rates from the proposed stormwater management facility must remain within the allocated outflow rates determined by the neighboring development.

3.2 METHODOLOGY

Runoff calculations were completed with the aid of a computer modelling program, Visual OTTHYMO (Version 6.0) (VO6). The proposed model was developed using NASHYD and STANDHYD hydrograph routines, which were established based on the imperviousness percentage of the catchment areas. The time of concentration for each of the drainage areas was derived using the recommended Bransby Williams Formula and/or Airport Formula based on the catchment runoff co-efficient. The time of concentration was used to estimate the time to peak through the relation that the time to peak occurs at approximately 67% of the time of concentration.

The following table contains the values that were used to develop a composite curve number and initial abstraction value for each drainage area. As described in Section 2.1, and as per the available Soil Survey Complex, the existing soils have generally been classified as Class B. The drainage areas and land classifications were delineated using AutoCAD Civil 3D and LiDAR data.

Table 1: Curve Numbers and Initial Abstraction Values

Land Use	Curve Number	Initial Abstraction (mm)
Meadow	69	8
Grass	69	5
Woods	60	8
Wetland	50	10
Gravel	85	2.5
Impervious	98	1.5

Typically for STANDHYD, which represent the urban catchments (imperviousness percentage >20%) the amount of runoff generated may vary depending on the actual percentage of directly connected impervious area within the overall impervious area. Directly connected impervious area refers to the fraction of the total impervious area which is hydraulically connected to the downstream drainage by a buried piped route. Based on the proposed development and the type of SWM feature, Sutherland's equation with average connectivity status below can used to determine the directly connected impervious area.

$$DCIA = 0.1(TIA)^{1.5}$$

Where,
DCIA – Directly connected impervious area (%)
TIA – Total imperious area (%)
Average Connectivity Status – Mostly storm sewered with curb and gutter, no dry wells or infiltration, residential rooftops not connected to the storm sewer or piped directly to the street curb

The MTO IDF curve lookup tool was used to acquire the rainfall intensity-duration values for the subject site, which were used to synthesise 6-hour, 12-hour, and 24-hour SCS design storm events. The SCS Type II distributions for 2-, 5-, 10-, 25-, 50- and 100-year storms (6-hour, 12-hour, and 24-hour) were simulated in VO6, and the results were reviewed in preparing the proposed design. As a conservative approach, the design storm with the maximum peak flow rate was used for design purposes. As such, SCS Type II 24-hour storm events are

the governing storms for the subject area with maximum flow rates and are considered to produce conservative results in this case.

3.3 PRE-DEVELOPMENT DRAINAGE

The pre-development property boundary encompasses two (2) drainage areas, noted as A1 and A2. There are five (5) external drainage areas which contribute to the overall site drainage, referred to as EXT1 through EXT5, that were included in the analyses under pre-development conditions. Appendix B includes the pre-development drainage plan, which illustrates the pre-development and external drainage areas and overland flow routes. Additionally, the supporting pre-development hydrologic parameter calculations and VO model output results are provided in Appendix C and Appendix D, respectively.

Pre-development drainage area A1 is comprised of the majority of the subject property. The runoff generated generally flows towards the local low area near the center of the property, followed by flowing in a northerly direction and outletting to Lanark Street. The land uses present in A1 include vegetated meadows (or range), grass, woodlands, and some gravel areas.

Pre-development drainage area A2 is located in the western corner of the subject site. The runoff generated generally flows in a southwesterly direction before outletting to Edmund Street. It is mainly comprised of range, woodlands, gravel, and some impervious area with existing building structures.

External drainage area EXT1 is located northwest of pre-development drainage area A2, and is comprised of woodlands. The runoff generated in EXT1 will drain in a southeast direction onto area A2 before outletting to Edmund Street. External drainage area EXT2 is located northwest of drainage area A1, and is comprised of woods and gravel. The runoff generated in this area will drain in a southeast direction onto area A1. External drainage area EXT3 is located north of area A1, and is comprised of grass, woods, and impervious area with building structures. The runoff generated in this area will drain in a southeast direction onto area A1. External drainage area EXT4 is located east of area A1, and is comprised of grass, woods, gravel, and impervious area with several existing residential dwellings. The runoff generated in this area will drain in a westerly direction onto area A1. External drainage area EXT5 is located south of area A1, and is also mainly comprised of grass, woods, gravel, and impervious area with some existing residential dwellings. The runoff generated in this area will drain northeast onto area A1.

The VO model input parameters and results have been summarized in the following tables, while the full detailed output results can be found in Appendix D.

Table 2: Pre-Development Input Parameters

Catchment ID	Area (ha)	CN[1]	Ia[2] (mm)	Tp[3] (hr)
NASHYD				
A1	5.35	65.9	7.5	0.25
A2	0.91	75.9	5.6	0.19
EXT1	0.07	60.0	8.0	0.18
EXT2	0.40	61.3	7.7	0.23
EXT3	0.19	69.3	5.9	0.13
EXT4	0.58	74.1	4.7	0.12
EXT5	0.69	70.8	5.4	0.14
Total:	8.19			

Notes:
1. CN refers to the average weighted curve number based on the land cover and land use.
2. Ia refers to the initial abstraction
3. Tp refers to time to peak

Table 3: Pre-Development VO Model Peak Flow Results (m^3/s)

Catchment	24- Hour SCS Type II	
	5-Year	100-Year
NASHYD		
A1	0.211	0.539
A2	0.066	0.149
EXT1	0.003	0.008
EXT2	0.015	0.040
EXT3	0.013	0.032
EXT4	0.053	0.120
EXT5	0.048	0.115

3.4 POST-DEVELOPMENT DRAINAGE

The preliminary post-development drainage scheme for the proposed development is comprised of one (1) drainage area, noted as B1. The development will see the addition of residential asphalt roadways, along with 250 fully serviced residential dwelling units, consisting of medium density apartments, townhouses, and low density single detached homes. Appendix B includes the post-development drainage plan, which illustrates the post-development and external drainage areas and overland flow routes. The external drainage areas EXT1 through EXT5 are to remain unchanged under post-development conditions. Supporting hydrologic parameter calculations and associated VO model output results can also be found in Appendix C and Appendix D, respectively.

Post-development drainage area B1 encompasses all of subject property and proposed development. Once developed, it will contain the asphalt roadways, residential dwellings, driveways, parking lot, as well as designated green spaces which are assumed to mainly consist of grass. There will be a proposed stormwater management pond on the northeast side of the property. Runoff generated within this catchment area will drain towards the stormwater management pond before outletting in a northeast direction to the neighboring Carleton Lanark Subdivision, across Lanark Street. Stormwater from the Carleton Lanark Subdivision will be

attenuated in a stormwater management facility before outletting to the northerly off-site roadside ditch along Industrial Avenue, which ultimately drains to the Mississippi River.

The external drainage areas will not be altered as a result of the development and will be comprised of their original land use covers. Runoff generated in all of the external areas will drain onto post-development area B1 before being collected by the proposed stormwater management pond.

The VO model input parameters and results have been summarized in the following tables, while the full detailed output results can be found in Appendix D.

Table 4: Post-Development Input Parameters

Catchment ID	Area (ha)	CN[1]	Ia[2] (mm)	Tp[3] (hr)
STANDHYD				
B1	6.26	69.0	5.0	0.18
NASHYD				
EXT1	0.07	60.0	8.0	0.18
EXT2	0.40	61.3	7.7	0.23
EXT3	0.19	69.3	5.9	0.13
EXT4	0.58	74.1	4.7	0.12
EXT5	0.69	70.8	5.4	0.14
Total:	8.19			

Notes:
1. CN refers to the average weighted curve number based on the land cover and land use.
2. Ia refers to the initial abstraction
3. Tp refers to time to peak

Table 5: Uncontrolled Post-Development VO Model Peak Flow Results (m^3/s)

Catchment	24- Hour SCS Type II	
	5-Year	100-Year
STANDHYD		
B1	0.443	0.898
NASHYD		
EXT1	0.003	0.008
EXT2	0.015	0.040
EXT3	0.013	0.032
EXT4	0.053	0.120
EXT5	0.048	0.115

4.0 STORMWATER MANAGEMENT

The proposed development leads to an increase of impervious surfaces, consequently causing an increase of runoff from the site under the proposed circumstances. As such, it becomes imperative to implement a stormwater management system to achieve the requisite quality and quantity regulations stipulated in Section 3.1, as mandated by statutory requirements.

4.1 STORMWATER QUANTITY CONTROL

The following is provided as a summary of pre-development peak flow rates in comparison to the uncontrolled post-development peak flow rates.

Table 6: Pre-Development and Uncontrolled Post-Development Peak Flow Results (m^3/s)

Design Storm (yr)	24-Hour SCS Type II		
	Pre.	Post.	Δ
A1+EXT2+EXT3+EXT4+EXT5 / B1+EXT1+EXT2+EXT3+EXT4+EXT5 (Lanark Street)			
5	0.321	0.496	0.175
100	0.797	1.164	0.367
A2+EXT1 (Edmund Street)			
5	0.069	0.000	-0.069
100	0.157	0.000	-0.157

Evidently from the results, the post-development peak flow rates for the runoff outletting in the direction of Lanark Street are increased compared to pre-development conditions and thus, stormwater management quantity controls will be required. Since none of the stormwater from the subject property will drain to Edmund Street under post-development conditions, no stormwater quantity controls will be necessary for this outlet.

The stormwater management pond to be constructed on-site will be equipped with permanent outlet control devices designed to restrict flows to specified flow rates and will examine both the 5- and 100-year design storm events. Detailed sizing of the outlet control structures will be provided during the detailed design stage; however, a preliminary estimate of the storage requirements has been performed in VO6 and are summarized in the table below.

Table 7: Quantity Control Storage Requirements

Outlet ID	5-Year Restricted Flow (m^3/s)	5-Year Required Storage (m^3)	100-Year Restricted Flow (m^3/s)	100-Year Required Storage (m^3)	100-Year Available Active Storage (m^3)
Lanark Street	0.251	1300	0.695	1600	1647

The exact location, geometry, and alignment of the pond will be confirmed during detailed design. According to the initial sizing of the stormwater management pond, it is verified that the proposed pond configuration possesses sufficient volume to fulfill the requisite quantity control. The precise discharge performance of the SWM pond at various stages under design storm events will be validated during the detailed design phase of the development.

4.2 POST-DEVELOPMENT PEAK FLOW RATES SUMMARY

Based on the storage requirements, the following table summarizes the anticipated peak flow rates from the subject property to the neighboring Carleton Lanark Subdivision under post-development conditions compared to pre-development levels. Full supporting calculations for the described storage conditions are provided in

Appendix E. The specifications of the flow control structures at the outlet will be determined during the comprehensive design phase of the development.

Table 8: Pre-Development and Controlled Post-Development Peak Flow Results (m^3/s)

Design Storm (yr)	24-Hour SCS Type II		
	Pre.	Post.	Δ
A1+EXT2+EXT3+EXT4+EXT5 / B1+EXT1+EXT2+EXT3+EXT4+EXT5 (Lanark Street)			
5	0.321	0.251	-0.070
100	0.797	0.695	-0.102

4.3 OUTLET CONFIGURATION - NEIGHBORING SUBDIVISION

The flow rates released from this development should be less than the allowable rates calculated in the 'Carleton/Lanark Residential Subdivision Servicing and Stormwater Management Report', prepared by Robinson Land Development (Dec 2022). The storm sewer system for the neighboring Carleton Lanark Subdivision was designed to include the 5-year pre-development flow from the subject property. As shown in the table above, the projected maximum outflow from the proposed stormwater management facility is 0.695 m^3/s, which is below the allotted capacity of 0.819 m^3/s found in the design of the neighboring subdivision. Consequently, our SWM facility is appropriately dimensioned to avoid any substantial impact on their stormwater management infrastructure.

That said, the storm sewer design sheet in the neighboring development SWM Report (Dec 2022) considers the outflow from our site, which directly connects to their stormwater management (SWM) facility. However, the storage calculations for their SWM facility appear to overlook this inflow from our site. It is advisable that the design of the relevant SWM facility be revised to encompass these flows or alternatively, a parallel bypass trunk sewer should be developed to mitigate the storage demands of the neighboring SWM facility. Additional collaboration with the design consultant of the neighboring development will be required to address these concerns and formulate a storm sewer infrastructure design with tie-ins that are mutually advantageous.

4.4 STORMWATER QUALITY CONTROL

The entire subdivision will employ Best Management Practices (BMPs) wherever possible. The intent of implementing stormwater BMPs throughout the entire development is to ensure that water quality and quantity concerns are addressed at all stages of the development. The stormwater BMPs will be implemented at the lot, conveyance, and end of pipe levels.

The lot grading in the subdivision conveys the overland sheet flow towards the proposed storm sewer network. The gradient of the system will be enough to ensure the continuous flow of stormwater, minimizing the amount for standing water.

The proposed stormwater management pond will serve as an end-of-pipe quality control measure and will be designed to achieve the "Enhanced" level of protection. A settling forebay will be included to provide sufficient length for the dispersion and settling of inflowing suspended sediments based on the MECP Stormwater Management Planning and Design Manual, 2003. Upon preliminary calculations based on the preliminary design, it was estimated that the forebay will need a length of approximately 36m and a width of 5m. The

preliminary forebay calculations are provided in Appendix E. Detailed calculations and layout of the forebay will be provided during the detailed design stage.

Based on the design criteria established in Section 3.1, an "Enhanced" level of protection which includes 80% TSS removal is required to achieve the necessary quality control. An estimate for the volume required to meet quality control objectives was calculated using the MECP Table 3.2 guidelines for a wet pond, as well as the anticipated impervious area of the catchment being treated by the pond, and is summarized in the table below. The storage volume available within the proposed SWM facility exceeds the total storage requirements for quality and quantity control.

Table 9: Quality Control Storage Requirements

Average Impervious Area (%)	Total Area (ha)	Quality Control Storage Volume (m^3/ha)	Quality Control Storage Volume (m^3)
54.6%	8.19	190.3	1560

4.5 MAJOR DRAINAGE ROUTES

The proposed storm sewers throughout the subdivision will be designed to handle minor storm events without overtopping. Under the circumstances of events greater than the design 5-year storm event or any obstruction, the storm runoff will surcharge and overtop the roadway. The overland lot layouts and road profiles will be designed to convey the overtop towards the SWM facility. The receiving outlet storm sewer from the SWM facility to the neighboring subdivision will be designed to safely convey all design storm outflows without overtopping Lanark Street. The preliminary storm sewer design sheet and drainage plan can be found in Appendix F. It is recommended that the Town of Carleton Place review the existing storm sewer system and assess the need to modify the elevations (if necessary) in support of this development.

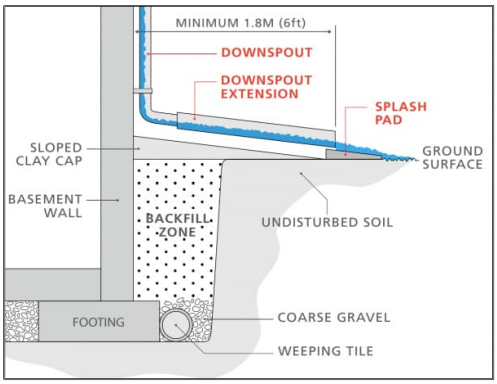
5.0 LOW IMPACT DEVELOPMENT

As the practice of SWM has evolved, increasing emphasis has been placed on treating the runoff as close as possible to the source using a sequence of treatment methods called "treatment train approach". As a result, Low Impact Development approaches were established to mimic the existing natural hydrologic environment and to allow the rainwater to infiltrate, filter and evaporate close to the source. Typical LID practices include Rainwater harvesting, green roofs, downspout disconnection, soak away pits, infiltration trenches and chambers, bio-retention, vegetated filter strips, enhanced grass swales and permeable pavements.

Based on the type of the proposed development and the existing geotechnical information, downspout disconnections are the most suitable LID features for the site, as shown in the figure below. Downspout disconnection involves directing the runoff from roof leader downspouts to a pervious area, which drains away from the building. This gives an opportunity for the runoff to infiltrate before it reaches the typical curb and gutter system on the street. This also prevents the stormwater runoff from directly entering the storm sewer system or flowing across a "connected" impervious surface such as driveways.

Alternative LID features, such as rainfall harvesting, green roofs, or soak away pits may not be suitable for the site. They require ongoing maintenance which may necessitate special operations and impose significant efforts to sustain their efficacy. Additionally, LID features on roadways, including permeable pavement or bioswales, may also present a challenge if they go unmaintained and can in turn be detrimental to the overall submission.

Figure 1 – Typical Downspout Disconnection (LID Planning and Design Guide, CVC 2011)



6.0 EROSION AND SEDIMENT CONTROL

A site-specific Erosion and Sediment Control Plan will be prepared during the design development stage of the application process, delineating the proposed features to be implemented on-site as temporary and permanent means of managing erosion and sediment control. Following Best Management Practices are recommended to be incorporated into the Erosion and Sediment Control plans.

6.1 TEMPORARY MEASURES

Before construction begins, applicable temporary light silt fence (OPSD 219.110), straw bale and rock flow check dams shall be installed at all natural runoff outlets from the property. It is crucial that these controls be maintained throughout construction and inspection of sediment and erosion control will be facilitated by the Contractor or Contract Administration staff throughout the construction period.

The Contractor, at their discretion or at the instruction of the Township, Conservation Authority or the Contract Administrator shall increase the quantity of sediment and erosion controls on-site to ensure that the site is

operating as intended and no additional sediment finds its way offsite or into the adjacent wetlands. Measures shall be inspected weekly and after all rainfall events. Care shall be taken to properly remove sediment from the fences and check dams as required.

Work through winter months shall be closely monitored for erosion along sloped areas. Should erosion be noted, the Contractor shall be alerted and shall take all necessary steps to rectify the situation. Should the Contractor's efforts fail at remediating the eroded areas, the Contractor shall contact the Conservation Authority to review the site conditions and determine the appropriate course of action.

6.2 PERMANENT MEASURES

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

It is expected that the Contractor will promptly ensure that all disturbed areas receive topsoil and seed/sod, and that grass be established as soon as possible. Any areas of excess fill shall be removed or levelled as soon as possible and must be located a sufficient distance from any outlet to ensure that no sediment is washed out into the existing storm sewer network. As the vegetation growth provides a key component to the control of sediment for the site, it must be properly maintained once established.

7.0 SUMMARY

- Runoff from the proposed development will be collected and conveyed via the internal storm sewer system to the end-of-pipe SWM facility. The proposed on-site storm sewers and overland conveyance systems will be adequately designed to safely convey both minor and major storm events.
- The quality control objective of reaching "Enhanced" level of protection will be achieved by implementing a settling forebay basin and extended detention in the proposed wet pond.
- Quantity control objectives will be achieved by the adequately sized active retention basin with flow control structures, which will also regulate the post-development peak flows to existing levels. Specifications of the flow control structures will be provided during the detailed design phase.
- The discharge from the proposed stormwater management facility will remain within the allocated capacity of the storm sewer infrastructure of the neighboring subdivision.
- Best Management Practices are provided to mitigate and minimize the temporary and permanent erosion and sediment transport during and after construction.

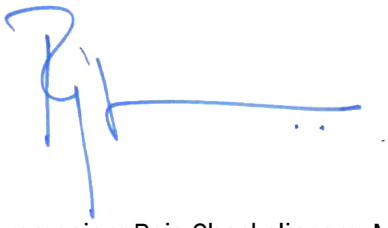
8.0 RECOMMENDATIONS

Based on the information presented in this report, we recommend that Beckwith Township and the Mississippi Valley Conservation Authority accept and approve this *Preliminary Stormwater Management Report* in support of the proposed development of Wintergreen Ridge Subdivision at 400 Lanark Street, Carleton Place, ON. It is

further recommended that the Town of Carleton Place review the receiving storm sewer system and assess the need to modify the existing elevations in support of this development.

Sincerely,
McIntosh Perry Consulting Engineers Ltd.

Prepared by:



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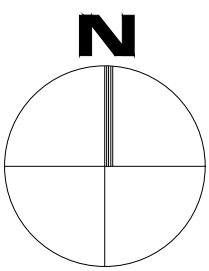
APPENDIX A
LOCATION PLAN

McINTOSH PERRY

North:



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Checked By:	Date: DEC.08.2022
Project Number: CCO-22-0957	

Client: WINTERGREEN RIDGE LTD.

Project: WINTERGREEN RIDGE SUBDIVISION
400 LANARK STREET, CARLETON PLACE, ON

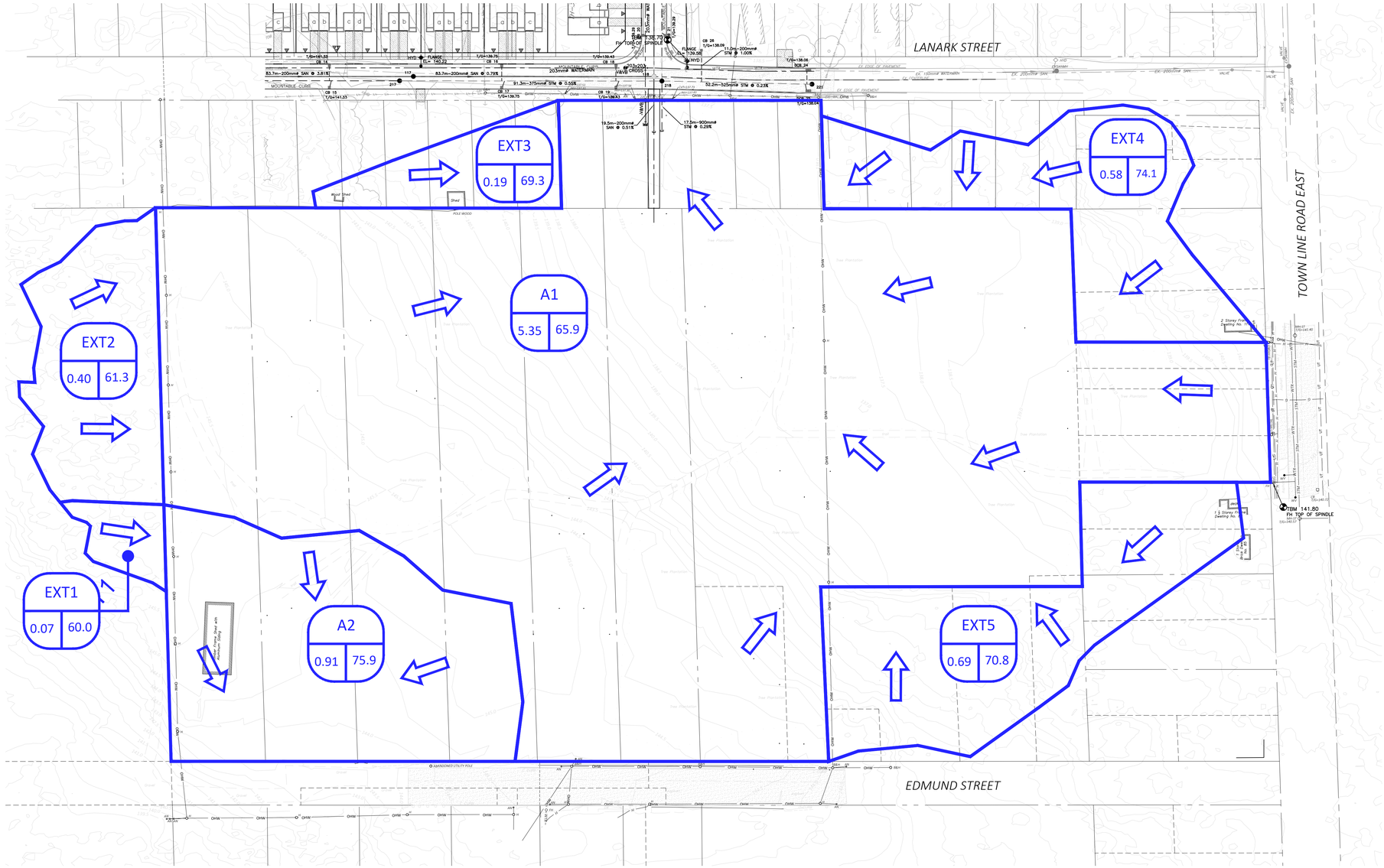
Title: LOCATION PLAN

No.	Revision / Issue	Date

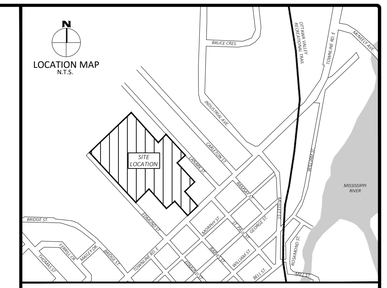
Drawing Number: LOC

APPENDIX B
PRE- AND POST-DEVELOPMENT DRAINAGE PLANS

McINTOSH PERRY



LOCATION MAP
N.T.S.



LEGEND

PRE-DEVELOPMENT OVERLAND FLOW DIRECTION

A1
1.00 | 90.0

CATCHMENT I.D.
CATCHMENT AREA (HECTARES)
CURVE NUMBER

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

SCALE 1 : 750
0 25 50 75 Metres

No.	Revision/Issue	Date

Check and verify all dimensions before proceeding with the work
Do not scale drawings

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North:

Stamp:

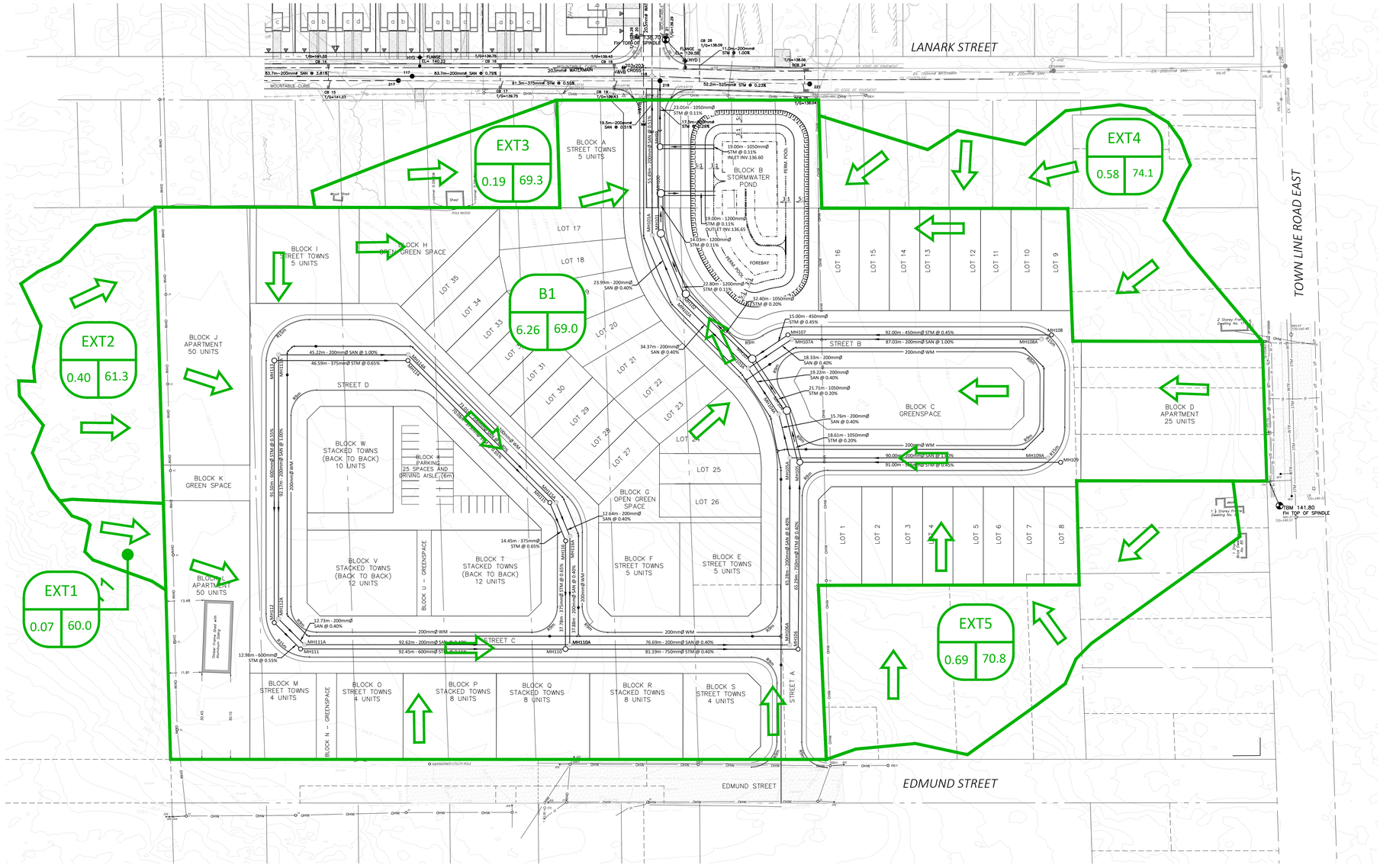
Client:
WINTERGREEN RIDGE LTD.

Project:
400 LANARK STREET
WINTERGREEN RIDGE SUBDIVISION
CARLETON PLACE ONTARIO

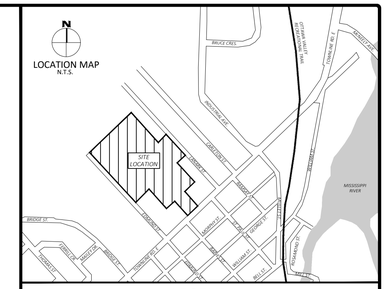
Drawing Title:
CONCEPTUAL PRE-DEVELOPMENT DRAINAGE PLAN

Scale:	1:750	Project Number:	CCO-22-0957
Drawn by:	S.H.		
Checked By:	R.C.	Drawing Number:	PRE
Designed By:	M.O.		

FILENAME: U:\Perth\MPCE (OBS)\MPCE Projects\2021\CCO\CCO-22-0957 - Wintergreen - Draft Plan of Subdivision - 400 Lanark Street\05 - Drawings\[CCO-22-0957 - 400 Lanark Street SWM.dwg
LAST SAVED: Thursday, August 31, 2023 LAST SAVED BY: m.owen
LAST PLOTTED: Thursday, August 31, 2023 CTB FILE USED: ---



LOCATION MAP
N.T.S.



LEGEND

POST-DEVELOPMENT OVERLAND FLOW DIRECTION

B1
1.00 | 90.0

CATCHMENT I.D.
CATCHMENT AREA (HECTARES)
CURVE NUMBER

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

SCALE 1 : 750
0 25 50 75 Metres

No.	Revision/Issue	Date

Check and verify all dimensions before proceeding with the work — Do not scale drawings

McINTOSH PERRY
3240 Drummond Cons 5A, R.R. #7, Perth, ON K7H 3C9
Tel: 613-267-6524 Fax: 613-267-7992
www.mcintoshperry.com

North:

Stamp:

Client:
WINTERGREEN RIDGE LTD.

Project:
400 LANARK STREET
WINTERGREEN RIDGE SUBDIVISION
CARLETON PLACE ONTARIO

Drawing Title:
CONCEPTUAL POST-DEVELOPMENT PLAN

Scale:	1:750	Project Number:	CCO-22-0957
Drawn by:	S.H.		
Checked By:	R.C.	Drawing Number:	POST
Designed By:	M.O.		

FILENAME: I:\Print\MPCS JOBS\MPCS Project\2022\CCO\CCO-22-0957 - Wintergreen - Draft Plan of Subdivision - 400 Lanark Street\05 - Drawings\CCO-22-0957 - 400 Lanark Street SWM.dwg
LAST SAVED: Friday, August 25, 2023 LAST SAVED BY: m.owin
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APPENDIX C
HYDROLOGIC PARAMETERS

McINTOSH PERRY

OUTPUTS

Hydrologic Parameters for A1

Project Name:	400 Lanark Street Subdivision	Designed By:	RC
Project Number:	22-0957	Checked By:	JS
Catchment ID:	A1	Date:	2023-08-14

Drainage Area	5.35	ha
Precent Impervious	0.0	%

Rainfall Data

Guage Station: Smiths Falls MTO Lookup

100 Year 12 HR Rainfall Depth: 94.4 mm

Slope, Landuse and Soil Type Identification

Agriculture		ha		
Range	2.34	ha		
Grass	0.40	ha		
Woods	2.34	ha		
Wetland		ha		
Gravel	0.27	ha		
Impervious		ha		
	5.350	0	0	0
Sum	5.35	ha		
Soil Name	Farmington			
Soil Type	B			
Composite C	0.17			

	Pervious Areas	Impervious Areas	
Length	145.17	0	m
US Elev.	144.10	0	m
DS Elev.	137.30	0	m
Slope	4.68		%
Terrain	Rolling		

Note:
Flat:0-2% slopes
Rolling:2-6% slopes
Hilly:>6% slopes

Composite Runoff and Curve Number Calculations

Parameter	Hydrologic Soil Group	Land Use							Composite Values	
		Agriculture	Range	Grass	Woods	Wetland	Gravel	Imperv.	Incl. Imperv. Nashyd	Not Incl. Imperv. Standhyd
Runoff Coefficient, C	RollingB	0.48	0.20	0.16	0.11	0.05	0.53	0.90	0.17	0.17
SCS Curve No., CN	B	78.00	69.00	69.00	60.00	50.00	85.00	98.00	65.87	65.87
Initial Abstraction, mm		5	8	5	8	10	2.5	1.5	7.5	7.5

Time of Concentration Calculations

Total Flow Length	US Elev.	DS Elev.	Avg. Slope	Terrain	Composite C	Airport Formula	Bransby Formula	Minimum	Tc (min)	Tp (hr)
145.17	144.10	137.3	4.68	Rolling	0.17	21.95	5.14	10	22.0	0.25

Hydrologic Parameters Summary

Catchment	5.35		ha
Impervious Percent	0.00		%
Slope	4.68		%
Runoff Co-efficient	0.17		
SCS Curve No:	65.87	65.87	
Modified CN*	64	64	
Initial Abstraction	7.5	7.5	mm
Time of Concentration, Tc	22.0		min
Time to Peak, Tp	0.25		hr

Notes:

1.Hydrologic Soil Group obtained from Design Chart H2-6A, M.T.O. Drainage Manual, 1980.

2.Runoff coefficient obtained from M.T.O. Design Chart 1.07, M.T.O. Drainage Management Manual, 1997, and Tables 4-5a to 4-5d, Maryland State Highway Administration.

3.SCS Curve No. obtained from M.T.O. Design Chart 1.09, M.T.O. Drainage Management Manual, 1997, and Table 2-2a, TR-55, page 2-5.

4.Use Airport Equation to calculate time of concentration for C < 0.40, and Bransby-Williams for C > 0.40.

OUTPUTS

Hydrologic Parameters for A2

Project Name:	400 Lanark Street Subdivision	Designed By:	RC
Project Number:	22-0957	Checked By:	JS
Catchment ID:	A2	Date:	2023-08-14

Drainage Area	0.91	ha
Precent Impervious	5.5	%

Rainfall Data

Guage Station: Smiths Falls MTO Lookup

100 Year 12 HR Rainfall Depth: 94.4 mm

Slope, Landuse and Soil Type Identification

Agriculture		ha		
Range	0.45	ha		
Grass		ha		
Woods	0.07	ha		
Wetland		ha		
Gravel	0.34	ha		
Impervious	0.05	ha		
	0.91	0	0	0
Sum	0.91	ha		
Soil Name	Farmington			
Soil Type	B			
Composite C	0.35			

	Pervious Areas	Impervious Areas	
Length	82.40	0	m
US Elev.	145.30	0	m
DS Elev.	143.50	0	m
Slope	2.18		%
Terrain	Rolling		

Note:
Flat:0-2% slopes
Rolling:2-6% slopes
Hilly:>6% slopes

Composite Runoff and Curve Number Calculations

Parameter	Hydrologic Soil Group	Land Use							Composite Values	
		Agriculture	Range	Grass	Woods	Wetland	Gravel	Imperv.	Incl. Imperv. Nashyd	Not Incl. Imperv. Standhyd
Runoff Coefficient, C	RollingB	0.48	0.20	0.16	0.11	0.05	0.53	0.90	0.35	0.32
SCS Curve No., CN	B	78.00	69.00	69.00	60.00	50.00	85.00	98.00	75.88	74.59
Initial Abstraction, mm		5	8	5	8	10	2.5	1.5	5.6	5.8

Time of Concentration Calculations

Total Flow Length	US Elev.	DS Elev.	Avg. Slope	Terrain	Composite C	Airport Formula	Bransby Formula	Minimum	Tc (min)	Tp (hr)
82.4	145.30	143.5	2.18	Rolling	0.35	17.16	4.06	10	17.2	0.19

Hydrologic Parameters Summary

Catchment	0.91		ha
Impervious Percent	5.5		%
Slope	2.18		%
Runoff Co-efficient	0.35		
SCS Curve No:	75.88	74.59	
Modified CN*	75	74	
Initial Abstraction	5.6	5.8	mm
Time of Concentration, Tc	17.2		min
Time to Peak, Tp	0.19		hr

Notes:

1.Hydrologic Soil Group obtained from Design Chart H2-6A, M.T.O. Drainage Manual, 1980.
2.Runoff coefficient obtained from M.T.O. Design Chart 1.07, M.T.O. Drainage Management Manual, 1997, and Tables 4-5a to 4-5d, Maryland State Highway Administration.
3.SCS Curve No. obtained from M.T.O. Design Chart 1.09, M.T.O. Drainage Management Manual, 1997, and Table 2-2a, TR-55, page 2-5.
4.Use Airport Equation to calculate time of concentration for C < 0.40, and Bransby-Williams for C > 0.40.

OUTPUTS

Hydrologic Parameters for B1

Project Name:	400 Lanark Street Subdivision	Designed By:	RC
Project Number:	22-0957	Checked By:	JS
Catchment ID:	B1	Date:	2023-08-14

Drainage Area	6.26	ha
Precent Impervious	67.9	%

Rainfall Data

Guage Station: Smiths Falls MTO Lookup

100 Year 12 HR Rainfall Depth: 94.4 mm

Slope, Landuse and Soil Type Identification

Agriculture		ha			
Range		ha			
Grass	2.01	ha			
Woods		ha			
Wetland		ha			
Gravel		ha			
Impervious	4.25	ha			
	6.26	0	0	0	
Sum	6.26	ha			
Soil Name	Farmington				
Soil Type	B				
Composite C	0.66				

	Pervious Areas	Impervious Areas	
Length	30.00	330	m
US Elev.	140.50	142.2	m
DS Elev.	139.20	137.2	m
Slope	4.33	1.52	%
Terrain	Rolling	Flat	

Note:
Flat:0-2% slopes
Rolling:2-6% slopes
Hilly:>6% slopes

Composite Runoff and Curve Number Calculations

Parameter	Hydrologic Soil Group	Land Use							Composite Values	
		Agriculture	Range	Grass	Woods	Wetland	Gravel	Imperv.	Incl. Imperv. Nashyd	Not Incl. Imperv. Standhyd
Runoff Coefficient, C	RollingB	0.48	0.20	0.16	0.11	0.05	0.53	0.90	0.66	0.16
SCS Curve No., CN	B	78.00	69.00	69.00	60.00	50.00	85.00	98.00	88.69	69.00
Initial Abstraction, mm		5	8	5	8	10	2.5	1.5	2.6	5.0

Time of Concentration Calculations

Total Flow Length	US Elev.	DS Elev.	Avg. Slope	Terrain	Composite C	Airport Formula	Bransby Formula	Minimum	Tc (min)	Tp (hr)
360.00	142.20	137.2	1.39	Flat	0.66	24.41	15.99	10	16.0	0.18

Hydrologic Parameters Summary

Catchment		6.26	ha
Impervious Percent		67.9	%
Slope		1.39	%
Runoff Co-efficient		0.66	
SCS Curve No:	88.69	69.00	
Modified CN*	87	67	
Initial Abstraction	2.6	5.0	mm
Time of Concentration, Tc		16.0	min
Time to Peak, Tp		0.18	hr

Notes:

1.Hydrologic Soil Group obtained from Design Chart H2-6A, M.T.O. Drainage Manual, 1980.
2.Runoff coefficient obtained from M.T.O. Design Chart 1.07, M.T.O. Drainage Management Manual, 1997, and Tables 4-5a to 4-5d, Maryland State Highway Administration.
3.SCS Curve No. obtained from M.T.O. Design Chart 1.09, M.T.O. Drainage Management Manual, 1997, and Table 2-2a, TR-55, page 2-5.
4.Use Airport Equation to calculate time of concentration for C < 0.40, and Bransby-Williams for C > 0.40.

OUTPUTS

Hydrologic Parameters for EXT1

Project Name:	400 Lanark Street Subdivision	Designed By:	RC
Project Number:	22-0957	Checked By:	JS
Catchment ID:	EXT1	Date:	2023-08-14

Drainage Area	0.07	ha
Precent Impervious	0.0	%

Rainfall Data

Guage Station: Smiths Falls MTO Lookup

100 Year 12 HR Rainfall Depth: 94.4 mm

Slope, Landuse and Soil Type Identification

Agriculture		ha		
Range		ha		
Grass		ha		
Woods	0.07	ha		
Wetland		ha		
Gravel		ha		
Impervious		ha		
	0.07	0	0	0
Sum	0.07	ha		
Soil Name	Farmington			
Soil Type	B			
Composite C	0.08			

	Pervious Areas	Impervious Areas	
Length	26.00	0	m
US Elev.	146.00	0	m
DS Elev.	145.70	0	m
Slope	1.15		%
Terrain	Flat		

Note:
Flat:0-2% slopes
Rolling:2-6% slopes
Hilly:>6% slopes

Composite Runoff and Curve Number Calculations

Parameter	Hydrologic Soil Group	Land Use							Composite Values	
		Agriculture	Range	Grass	Woods	Wetland	Gravel	Imperv.	Incl. Imperv. Nashyd	Not Incl. Imperv. Standhyd
Runoff Coefficient, C	FlatB	0.43	0.18	0.11	0.08	0.05	0.43	0.90	0.08	0.08
SCS Curve No., CN	B	78.00	69.00	69.00	60.00	50.00	85.00	98.00	60.00	60.00
Initial Abstraction, mm		5	8	5	8	10	2.5	1.5	8.0	8.0

Time of Concentration Calculations

Total Flow Length	US Elev.	DS Elev.	Avg. Slope	Terrain	Composite C	Airport Formula	Bransby Formula	Minimum	Tc (min)	Tp (hr)
26	146.00	145.7	1.15	Flat	0.08	16.19	1.88	10	16.2	0.18

Hydrologic Parameters Summary

Catchment	0.07		ha
Impervious Percent	0.0		%
Slope	1.15		%
Runoff Co-efficient	0.08		
SCS Curve No:	60.00	60.00	
Modified CN*	60	60	
Initial Abstraction	8.0	8.0	mm
Time of Concentration, Tc	16.2		min
Time to Peak, Tp	0.18		hr

Notes:

1.Hydrologic Soil Group obtained from Design Chart H2-6A, M.T.O. Drainage Manual, 1980.
2.Runoff coefficient obtained from M.T.O. Design Chart 1.07, M.T.O. Drainage Management Manual, 1997, and Tables 4-5a to 4-5d, Maryland State Highway Administration.
3.SCS Curve No. obtained from M.T.O. Design Chart 1.09, M.T.O. Drainage Management Manual, 1997, and Table 2-2a, TR-55, page 2-5.
4.Use Airport Equation to calculate time of concentration for C < 0.40, and Bransby-Williams for C > 0.40.

OUTPUTS

Hydrologic Parameters for EXT2

Project Name:	400 Lanark Street Subdivision	Designed By:	RC
Project Number:	22-0957	Checked By:	JS
Catchment ID:	EXT2	Date:	2023-08-14

Drainage Area	0.40	ha
Precent Impervious	0.0	%

Rainfall Data

Guage Station: Smiths Falls MTO Lookup

100 Year 12 HR Rainfall Depth: 94.4 mm

Slope, Landuse and Soil Type Identification

					Pervious Areas	Impervious Areas	
Agriculture		ha			Length	45.90	0	m
Range		ha			US Elev.	145.50	0	m
Grass		ha			DS Elev.	144.90	0	m
Woods	0.38	ha			Slope	1.31		%
Wetland		ha			Terrain	Flat		
Gravel	0.02	ha						
Impervious		ha						
	0.40	0	0	0				
Sum	0.40	ha						
Soil Name	Farmington							
Soil Type	B							
Composite C	0.10							

Note:
Flat:0-2% slopes
Rolling:2-6% slopes
Hilly:>6% slopes

Composite Runoff and Curve Number Calculations

Parameter	Hydrologic Soil Group	Land Use							Composite Values	
		Agriculture	Range	Grass	Woods	Wetland	Gravel	Imperv.	Incl. Imperv. Nashyd	Not Incl. Imperv. Standhyd
Runoff Coefficient, C	FlatB	0.43	0.18	0.11	0.08	0.05	0.43	0.90	0.10	0.10
SCS Curve No., CN	B	78.00	69.00	69.00	60.00	50.00	85.00	98.00	61.25	61.25
Initial Abstraction, mm		5	8	5	8	10	2.5	1.5	7.7	7.7

Time of Concentration Calculations

Total Flow Length	US Elev.	DS Elev.	Avg. Slope	Terrain	Composite C	Airport Formula	Bransby Formula	Minimum	Tc (min)	Tp (hr)
45.9	145.50	144.9	1.31	Flat	0.10	20.20	2.72	10	20.2	0.23

Hydrologic Parameters Summary

Catchment	0.40		ha
Impervious Percent	0.0		%
Slope	1.31		%
Runoff Co-efficient	0.10		
SCS Curve No:	61.25	61.25	
Modified CN*	61	61	
Initial Abstraction	7.7	7.7	mm
Time of Concentration, Tc	20.2		min
Time to Peak, Tp	0.23		hr

Notes:

1.Hydrologic Soil Group obtained from Design Chart H2-6A, M.T.O. Drainage Manual, 1980.
2.Runoff coefficient obtained from M.T.O. Design Chart 1.07, M.T.O. Drainage Management Manual, 1997, and Tables 4-5a to 4-5d, Maryland State Highway Administration.
3.SCS Curve No. obtained from M.T.O. Design Chart 1.09, M.T.O. Drainage Management Manual, 1997, and Table 2-2a, TR-55, page 2-5.
4.Use Airport Equation to calculate time of concentration for C < 0.40, and Bransby-Williams for C > 0.40.

OUTPUTS

Hydrologic Parameters for EXT3

Project Name:	400 Lanark Street Subdivision	Designed By:	RC
Project Number:	22-0957	Checked By:	JS
Catchment ID:	EXT3	Date:	2023-08-14

Drainage Area	0.19	ha
Precent Impervious	18.0	%

Rainfall Data

Guage Station: Smiths Falls MTO Lookup

100 Year 12 HR Rainfall Depth: 94.4 mm

Slope, Landuse and Soil Type Identification

Agriculture		ha		
Range		ha		
Grass	0.07	ha		
Woods	0.09	ha		
Wetland		ha		
Gravel		ha		
Impervious	0.03	ha		
	0.19	0	0	0
Sum	0.19	ha		
Soil Name	Farmington			
Soil Type	B			
Composite C	0.25			

	Pervious Areas	Impervious Areas	
Length	33.80	21.9	m
US Elev.	140.50	141.51	m
DS Elev.	138.50	140.5	m
Slope	5.92	4.61	%
Terrain	Rolling	Rolling	

Note:
Flat:0-2% slopes
Rolling:2-6% slopes
Hilly:>6% slopes

Composite Runoff and Curve Number Calculations

Parameter	Hydrologic Soil Group	Land Use							Composite Values	
		Agriculture	Range	Grass	Woods	Wetland	Gravel	Imperv.	Incl. Imperv. Nashyd	Not Incl. Imperv. Standhyd
Runoff Coefficient, C	RollingB	0.48	0.20	0.16	0.11	0.05	0.53	0.90	0.25	0.13
SCS Curve No., CN	B	78.00	69.00	69.00	60.00	50.00	85.00	98.00	69.32	63.94
Initial Abstraction, mm		5	8	5	8	10	2.5	1.5	5.9	6.7

Time of Concentration Calculations

Total Flow Length	US Elev.	DS Elev.	Avg. Slope	Terrain	Composite C	Airport Formula	Bransby Formula	Minimum	Tc (min)	Tp (hr)
55.7	141.51	138.5	5.40	Rolling	0.25	11.85	2.68	10	11.9	0.13

Hydrologic Parameters Summary

Catchment	0.19		ha
Impervious Percent	18.0		%
Slope	5.40		%
Runoff Co-efficient	0.25		
SCS Curve No:	69.32	63.94	
Modified CN*	67	61	
Initial Abstraction	5.9	6.7	mm
Time of Concentration, Tc	11.9		min
Time to Peak, Tp	0.13		hr

Notes:

1.Hydrologic Soil Group obtained from Design Chart H2-6A, M.T.O. Drainage Manual, 1980.

2.Runoff coefficient obtained from M.T.O. Design Chart 1.07, M.T.O. Drainage Management Manual, 1997, and Tables 4-5a to 4-5d, Maryland State Highway Administration.

3.SCS Curve No. obtained from M.T.O. Design Chart 1.09, M.T.O. Drainage Management Manual, 1997, and Table 2-2a, TR-55, page 2-5.

4.Use Airport Equation to calculate time of concentration for C < 0.40, and Bransby-Williams for C > 0.40.

OUTPUTS

Hydrologic Parameters for EXT4

Project Name:	400 Lanark Street Subdivision	Designed By:	RC
Project Number:	22-0957	Checked By:	JS
Catchment ID:	EXT4	Date:	2023-08-14

Drainage Area	0.58	ha
Precent Impervious	19.0	%

Rainfall Data

Guage Station: Smiths Falls MTO Lookup

100 Year 12 HR Rainfall Depth: 94.4 mm

Slope, Landuse and Soil Type Identification

Agriculture		ha		
Range		ha		
Grass	0.33	ha		
Woods	0.1	ha		
Wetland		ha		
Gravel	0.04	ha		
Impervious	0.11	ha		
	0.580	0	0	0
Sum	0.58	ha		
Soil Name	Farmington			
Soil Type	B			
Composite C	0.32			

	Pervious Areas	Impervious Areas	
Length	28.53	20.03	m
US Elev.	140.00	140.64	m
DS Elev.	138.50	140	m
Slope	5.26	3.20	%
Terrain	Rolling	Rolling	

Note:
Flat:0-2% slopes
Rolling:2-6% slopes
Hilly:>6% slopes

Composite Runoff and Curve Number Calculations

Parameter	Hydrologic Soil Group	Land Use							Composite Values	
		Agriculture	Range	Grass	Woods	Wetland	Gravel	Imperv.	Incl. Imperv. Nashyd	Not Incl. Imperv. Standhyd
Runoff Coefficient, C	RollingB	0.48	0.20	0.16	0.11	0.05	0.53	0.90	0.32	0.18
SCS Curve No., CN	B	78.00	69.00	69.00	60.00	50.00	85.00	98.00	74.05	68.45
Initial Abstraction, mm		5	8	5	8	10	2.5	1.5	4.7	5.4

Time of Concentration Calculations

Total Flow Length	US Elev.	DS Elev.	Avg. Slope	Terrain	Composite C	Airport Formula	Bransby Formula	Minimum	Tc (min)	Tp (hr)
48.56	140.64	138.5	4.41	Rolling	0.32	10.86	2.17	10	10.9	0.12

Hydrologic Parameters Summary

Catchment	0.58		ha
Impervious Percent	19.0		%
Slope	4.41		%
Runoff Co-efficient	0.32		
SCS Curve No:	74.05	68.45	
Modified CN*	73	66	
Initial Abstraction	4.7	5.4	mm
Time of Concentration, Tc	10.9		min
Time to Peak, Tp	0.12		hr

Notes:

1.Hydrologic Soil Group obtained from Design Chart H2-6A, M.T.O. Drainage Manual, 1980.
2.Runoff coefficient obtained from M.T.O. Design Chart 1.07, M.T.O. Drainage Management Manual, 1997, and Tables 4-5a to 4-5d, Maryland State Highway Administration.
3.SCS Curve No. obtained from M.T.O. Design Chart 1.09, M.T.O. Drainage Management Manual, 1997, and Table 2-2a, TR-55, page 2-5.
4.Use Airport Equation to calculate time of concentration for C < 0.40, and Bransby-Williams for C > 0.40.

OUTPUTS

Hydrologic Parameters for EXT5

Project Name:	400 Lanark Street Subdivision	Designed By:	RC
Project Number:	22-0957	Checked By:	JS
Catchment ID:	EXT5	Date:	2023-08-14

Drainage Area	0.69	ha
Precent Impervious	11.6	%

Rainfall Data

Guage Station: Smiths Falls MTO Lookup

100 Year 12 HR Rainfall Depth: 94.4 mm

Slope, Landuse and Soil Type Identification

Agriculture		ha		
Range		ha		
Grass	0.27	ha		
Woods	0.260	ha		
Wetland		ha		
Gravel	0.08	ha		
Impervious	0.08	ha		
	0.69	0	0	0
Sum	0.69	ha		
Soil Name	Farmington			
Soil Type	B			
Composite C	0.27			

	Pervious Areas	Impervious Areas	
Length	48.90	12.4	m
US Elev.	140.10	141	m
DS Elev.	137.70	140.1	m
Slope	4.91	7.26	%
Terrain	Rolling	Hilly	

Note:
Flat:0-2% slopes
Rolling:2-6% slopes
Hilly:>6% slopes

Composite Runoff and Curve Number Calculations

Parameter	Hydrologic Soil Group	Land Use							Composite Values	
		Agriculture	Range	Grass	Woods	Wetland	Gravel	Imperv.	Incl. Imperv. Nashyd	Not Incl. Imperv. Standhyd
Runoff Coefficient, C	RollingB	0.48	0.20	0.16	0.11	0.05	0.53	0.90	0.27	0.19
SCS Curve No., CN	B	78.00	69.00	69.00	60.00	50.00	85.00	98.00	70.83	67.26
Initial Abstraction, mm		5	8	5	8	10	2.5	1.5	5.4	6.0

Time of Concentration Calculations

Total Flow Length	US Elev.	DS Elev.	Avg. Slope	Terrain	Composite C	Airport Formula	Bransby Formula	Minimum	Tc (min)	Tp (hr)
61.3	141.00	137.7	5.38	Rolling	0.27	12.16	2.59	10	12.2	0.14

Hydrologic Parameters Summary

Catchment	0.69		ha
Impervious Percent	11.6		%
Slope	5.38		%
Runoff Co-efficient	0.27		
SCS Curve No:	70.83	67.26	
Modified CN*	68	64	
Initial Abstraction	5.4	6.0	mm
Time of Concentration, Tc	12.2		min
Time to Peak, Tp	0.14		hr

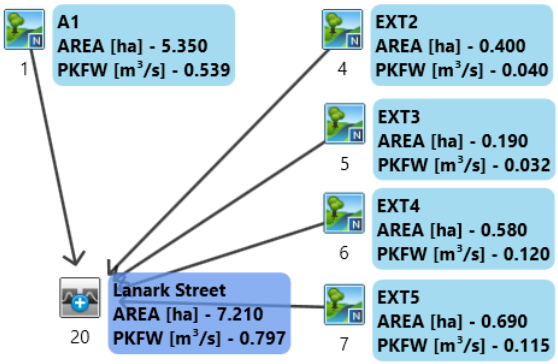
Notes:

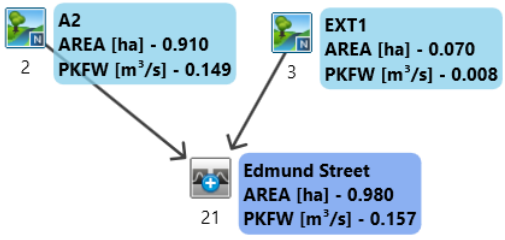
1.Hydrologic Soil Group obtained from Design Chart H2-6A, M.T.O. Drainage Manual, 1980.
2.Runoff coefficient obtained from M.T.O. Design Chart 1.07, M.T.O. Drainage Management Manual, 1997, and Tables 4-5a to 4-5d, Maryland State Highway Administration.
3.SCS Curve No. obtained from M.T.O. Design Chart 1.09, M.T.O. Drainage Management Manual, 1997, and Table 2-2a, TR-55, page 2-5.
4.Use Airport Equation to calculate time of concentration for C < 0.40, and Bransby-Williams for C > 0.40.

APPENDIX D
PRE- AND POST-DEVELOPMENT VO MODELLING SCHEMATIC & RESULTS

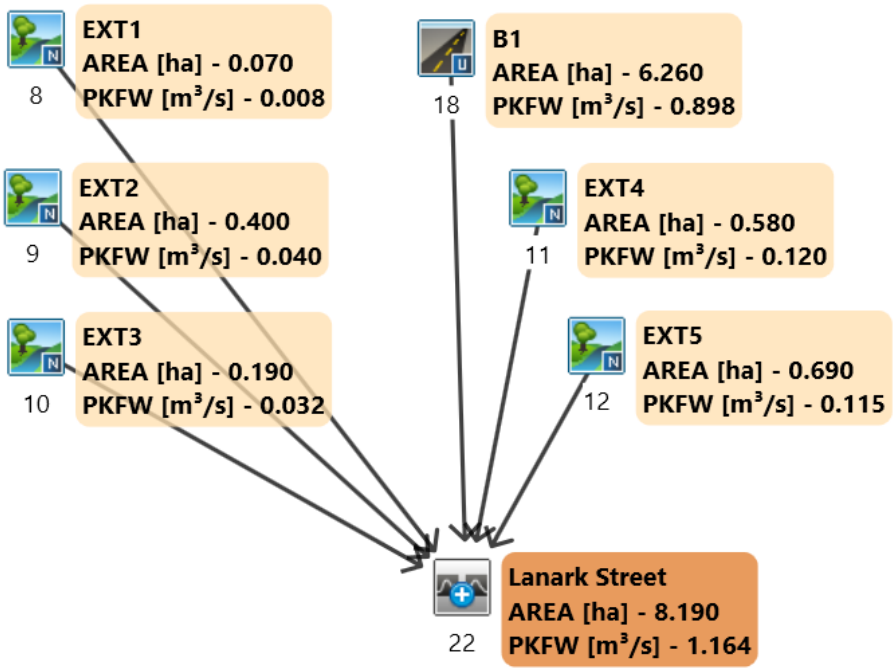
McINTOSH PERRY

Pre-Development VO Model Schematic

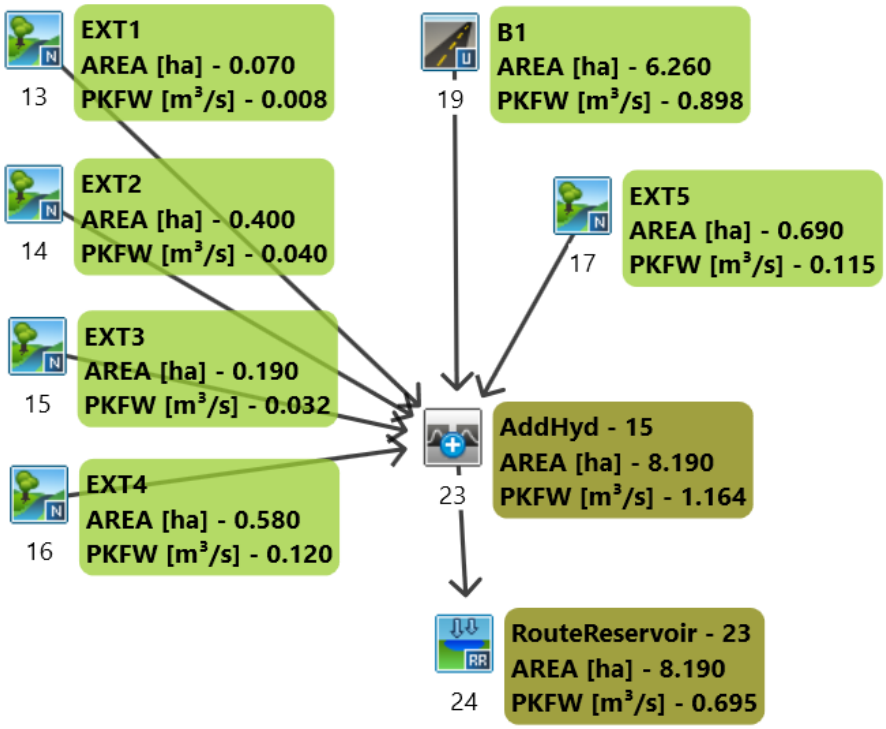




Post-Development Uncontrolled VO Model Schematic



Post-Development Controlled VO Model Schematic



```
**********
** SIMULATION:100yr 12hr 5min SCS **
**********

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\95c509a2
| Ptotal= 94.80 mm |    Comments: 100yr 12hr 5min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	3.17	3.79	6.25	17.06	9.33	3.32
0.17	2.37	3.25	3.79	6.33	17.06	9.42	3.32
0.25	2.37	3.33	3.79	6.42	17.06	9.50	3.32
0.33	2.37	3.42	3.79	6.50	17.06	9.58	3.32
0.42	2.37	3.50	3.79	6.58	17.06	9.67	3.32
0.50	2.37	3.58	3.79	6.67	7.58	9.75	3.32
0.58	2.37	3.67	3.79	6.75	7.58	9.83	3.32
0.67	2.37	3.75	3.79	6.83	7.58	9.92	3.32
0.75	2.37	3.83	3.79	6.92	7.58	10.00	3.32
0.83	2.37	3.92	3.79	7.00	7.58	10.08	3.32
0.92	2.37	4.00	3.79	7.08	7.58	10.17	1.90
1.00	2.37	4.08	3.79	7.17	5.69	10.25	1.90
1.08	2.37	4.17	5.69	7.25	5.69	10.33	1.90
1.17	2.37	4.25	5.69	7.33	5.69	10.42	1.90
1.25	2.37	4.33	5.69	7.42	5.69	10.50	1.90
1.33	2.37	4.42	5.69	7.50	5.69	10.58	1.90
1.42	2.37	4.50	5.69	7.58	5.69	10.67	1.90
1.50	2.37	4.58	5.69	7.67	5.69	10.75	1.90
1.58	2.37	4.67	7.58	7.75	5.69	10.83	1.90
1.67	2.37	4.75	7.58	7.83	5.69	10.92	1.90
1.75	2.37	4.83	7.58	7.92	5.69	11.00	1.90
1.83	2.37	4.92	7.58	8.00	5.69	11.08	1.90
1.92	2.37	5.00	7.58	8.08	5.69	11.17	1.90
2.00	2.37	5.08	7.58	8.17	3.32	11.25	1.90
2.08	2.37	5.17	11.38	8.25	3.32	11.33	1.90
2.17	2.84	5.25	11.38	8.33	3.32	11.42	1.90
2.25	2.84	5.33	11.38	8.42	3.32	11.50	1.90
2.33	2.84	5.42	11.38	8.50	3.32	11.58	1.90
2.42	2.84	5.50	11.38	8.58	3.32	11.67	1.90
2.50	2.84	5.58	11.38	8.67	3.32	11.75	1.90
2.58	2.84	5.67	45.50	8.75	3.32	11.83	1.90
2.67	2.84	5.75	45.50	8.83	3.32	11.92	1.90
2.75	2.84	5.83	45.50	8.92	3.32	12.00	1.90
2.83	2.84	5.92	125.14	9.00	3.32	12.08	1.90
2.92	2.84	6.00	125.14	9.08	3.32		
3.00	2.84	6.08	125.14	9.17	3.32		
3.08	2.84	6.17	17.06	9.25	3.32		

```
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.032 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  30.373
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.320

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

--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.026 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  36.563
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.386

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

--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.099 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  43.520
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.459

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

--------------------
```

```
| CALIB           |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.094 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  37.967
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.400

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.443 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  33.084
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.349

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

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     5.35   0.443     6.17    33.08
      + ID2= 2 (  0004):     0.40   0.032     6.17    30.37
        ================================================
        ID = 3 (  0020):     5.75   0.475     6.17    32.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     5.75   0.475     6.17    32.90
      + ID2= 2 (  0005):     0.19   0.026     6.08    36.56
        ================================================
        ID = 1 (  0020):     5.94   0.496     6.17    33.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0020):     5.94   0.496     6.17    33.01
      + ID2= 2 (  0006):     0.58   0.099     6.08    43.52
        ================================================
        ID = 3 (  0020):     6.52   0.573     6.17    33.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     6.52   0.573     6.17    33.95
      + ID2= 2 (  0007):     0.69   0.094     6.08    37.97
        ================================================
        ID = 1 (  0020):     7.21   0.656     6.17    34.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.126 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  45.656
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.482

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18
```

```
     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  29.325
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.309

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.91   0.126     6.17    45.66
     + ID2= 2 (  0003):     0.07   0.006     6.17    29.33
       ================================================
       ID = 3 (  0021):     0.98   0.132     6.17    44.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.026 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  36.563
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.386

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.032 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  30.373
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.320

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.099 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  43.520
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.459

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  29.325
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.309

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.094 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  37.967
     TOTAL RAINFALL   (mm)=  94.800
     RUNOFF COEFFICIENT   =   0.400
```

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=     105.23       147.25
               over (min)       20.00        25.00
     Storage Coeff.  (min)=      17.99 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.69         0.20          0.786 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.92           6.25
     RUNOFF VOLUME    (mm)=      93.80        69.46          83.09
     TOTAL RAINFALL   (mm)=      94.80        94.80          94.80
     RUNOFF COEFFICIENT   =       0.99         0.73           0.88


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):     0.19   0.026     6.08    36.56
      + ID2= 2 (  0011):     0.58   0.099     6.08    43.52
        ================================================
        ID = 3 (  0022):     0.77   0.126     6.08    41.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     0.77   0.126     6.08    41.80
      + ID2= 2 (  0012):     0.69   0.094     6.08    37.97
        ================================================
        ID = 1 (  0022):     1.46   0.220     6.08    39.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     1.46   0.220     6.08    39.99
      + ID2= 2 (  0018):     6.26   0.786     6.25    83.09
        ================================================
        ID = 3 (  0022):     7.72   0.921     6.17    74.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     7.72   0.921     6.17    74.94
      + ID2= 2 (  0008):     0.07   0.006     6.17    29.33
        ================================================
        ID = 1 (  0022):     7.79   0.927     6.17    74.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     7.79   0.927     6.17    74.53
      + ID2= 2 (  0009):     0.40   0.032     6.17    30.37
        ================================================
        ID = 3 (  0022):     8.19   0.959     6.17    72.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185
```

```
     PEAK FLOW      (cms)=   0.099 (i)
     TIME TO PEAK   (hrs)=   6.083
     RUNOFF VOLUME   (mm)=  43.520
     TOTAL RAINFALL  (mm)=  94.800
     RUNOFF COEFFICIENT  =   0.459

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW      (cms)=   0.006 (i)
     TIME TO PEAK   (hrs)=   6.167
     RUNOFF VOLUME   (mm)=  29.325
     TOTAL RAINFALL  (mm)=  94.800
     RUNOFF COEFFICIENT  =   0.309

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW      (cms)=   0.032 (i)
     TIME TO PEAK   (hrs)=   6.167
     RUNOFF VOLUME   (mm)=  30.373
     TOTAL RAINFALL  (mm)=  94.800
     RUNOFF COEFFICIENT  =   0.320

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW      (cms)=   0.026 (i)
     TIME TO PEAK   (hrs)=   6.083
     RUNOFF VOLUME   (mm)=  36.563
     TOTAL RAINFALL  (mm)=  94.800
     RUNOFF COEFFICIENT  =   0.386

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW      (cms)=   0.094 (i)
     TIME TO PEAK   (hrs)=   6.083
     RUNOFF VOLUME   (mm)=  37.967
     TOTAL RAINFALL  (mm)=  94.800
     RUNOFF COEFFICIENT  =   0.400

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

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--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=     105.23       147.25
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      17.99 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.69         0.20          0.786 (iii)
     TIME TO PEAK   (hrs)=       6.25         6.92           6.25
     RUNOFF VOLUME   (mm)=      93.80        69.46          83.09
     TOTAL RAINFALL  (mm)=      94.80        94.80          94.80
     RUNOFF COEFFICIENT  =       0.99         0.73           0.88


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0013):		0.07	0.006	6.17	29.33
+ ID2= 2 (0014):		0.40	0.032	6.17	30.37
ID = 3 (0023):		0.47	0.038	6.17	30.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0023):		0.47	0.038	6.17	30.22
+ ID2= 2 (0015):		0.19	0.026	6.08	36.56
ID = 1 (0023):		0.66	0.060	6.17	32.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0023):		0.66	0.060	6.17	32.04
+ ID2= 2 (0016):		0.58	0.099	6.08	43.52
ID = 3 (0023):		1.24	0.159	6.08	37.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0023):		1.24	0.159	6.08	37.41
+ ID2= 2 (0017):		0.69	0.094	6.08	37.97
ID = 1 (0023):		1.93	0.254	6.08	37.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0023):		1.93	0.254	6.08	37.61
+ ID2= 2 (0019):		6.26	0.786	6.25	83.09
ID = 3 (0023):		8.19	0.959	6.17	72.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0024)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 5.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.7970	0.1600
		0.3210	0.1300	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0023)	8.190	0.959	6.17	72.37
OUTFLOW: ID= 1 (0024)	8.190	0.615	6.58	72.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 64.05
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.1488

****
** SIMULATION:100yr 24hr 5min SCS **
****

READ STORM	Filename: C:\Users\m.orwin\AppData\Local\Temp\d5546b1a-54a6-497b-a8a5-5a1feca7b397\d0592b46
Ptotal=115.20 mm	Comments: 100yr 24hr 5min SCS

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.08	0.00	6.17	2.07	12.25	16.59	18.33	2.07
0.17	1.27	6.25	2.07	12.33	16.59	18.42	2.07
0.25	1.27	6.33	2.07	12.42	16.59	18.50	2.07
0.33	1.27	6.42	2.07	12.50	16.59	18.58	2.07
0.42	1.27	6.50	2.07	12.58	16.59	18.67	2.07
0.50	1.27	6.58	2.07	12.67	8.52	18.75	2.07
0.58	1.27	6.67	2.07	12.75	8.52	18.83	2.07
0.67	1.27	6.75	2.07	12.83	8.52	18.92	2.07
0.75	1.27	6.83	2.07	12.92	8.52	19.00	2.07

0.83	1.27	6.92	2.07	13.00	8.52	19.08	2.07
0.92	1.27	7.00	2.07	13.08	8.52	19.17	2.07
1.00	1.27	7.08	2.07	13.17	6.22	19.25	2.07
1.08	1.27	7.17	2.53	13.25	6.22	19.33	2.07
1.17	1.27	7.25	2.53	13.33	6.22	19.42	2.07
1.25	1.27	7.33	2.53	13.42	6.22	19.50	2.07
1.33	1.27	7.42	2.53	13.50	6.22	19.58	2.07
1.42	1.27	7.50	2.53	13.58	6.22	19.67	2.07
1.50	1.27	7.58	2.53	13.67	4.84	19.75	2.07
1.58	1.27	7.67	2.53	13.75	4.84	19.83	2.07
1.67	1.27	7.75	2.53	13.83	4.84	19.92	2.07
1.75	1.27	7.83	2.53	13.92	4.84	20.00	2.07
1.83	1.27	7.92	2.53	14.00	4.84	20.08	2.07
1.92	1.27	8.00	2.53	14.08	4.84	20.17	1.38
2.00	1.27	8.08	2.53	14.17	3.46	20.25	1.38
2.08	1.27	8.17	3.00	14.25	3.46	20.33	1.38
2.17	1.50	8.25	3.00	14.33	3.46	20.42	1.38
2.25	1.50	8.33	3.00	14.42	3.46	20.50	1.38
2.33	1.50	8.42	3.00	14.50	3.46	20.58	1.38
2.42	1.50	8.50	3.00	14.58	3.46	20.67	1.38
2.50	1.50	8.58	3.00	14.67	3.46	20.75	1.38
2.58	1.50	8.67	3.23	14.75	3.46	20.83	1.38
2.67	1.50	8.75	3.23	14.83	3.46	20.92	1.38
2.75	1.50	8.83	3.23	14.92	3.46	21.00	1.38
2.83	1.50	8.92	3.23	15.00	3.46	21.08	1.38
2.92	1.50	9.00	3.23	15.08	3.46	21.17	1.38
3.00	1.50	9.08	3.23	15.17	3.46	21.25	1.38
3.08	1.50	9.17	3.69	15.25	3.46	21.33	1.38
3.17	1.50	9.25	3.69	15.33	3.46	21.42	1.38
3.25	1.50	9.33	3.69	15.42	3.46	21.50	1.38
3.33	1.50	9.42	3.69	15.50	3.46	21.58	1.38
3.42	1.50	9.50	3.69	15.58	3.46	21.67	1.38
3.50	1.50	9.58	3.69	15.67	3.46	21.75	1.38
3.58	1.50	9.67	4.15	15.75	3.46	21.83	1.38
3.67	1.50	9.75	4.15	15.83	3.46	21.92	1.38
3.75	1.50	9.83	4.15	15.92	3.46	22.00	1.38
3.83	1.50	9.92	4.15	16.00	3.46	22.08	1.38
3.92	1.50	10.00	4.15	16.08	3.46	22.17	1.38
4.00	1.50	10.08	4.15	16.17	2.07	22.25	1.38
4.08	1.50	10.17	5.30	16.25	2.07	22.33	1.38
4.17	1.84	10.25	5.30	16.33	2.07	22.42	1.38
4.25	1.84	10.33	5.30	16.42	2.07	22.50	1.38
4.33	1.84	10.42	5.30	16.50	2.07	22.58	1.38
4.42	1.84	10.50	5.30	16.58	2.07	22.67	1.38
4.50	1.84	10.58	5.30	16.67	2.07	22.75	1.38
4.58	1.84	10.67	7.14	16.75	2.07	22.83	1.38
4.67	1.84	10.75	7.14	16.83	2.07	22.92	1.38
4.75	1.84	10.83	7.14	16.92	2.07	23.00	1.38
4.83	1.84	10.92	7.14	17.00	2.07	23.08	1.38
4.92	1.84	11.00	7.14	17.08	2.07	23.17	1.38
5.00	1.84	11.08	7.14	17.17	2.07	23.25	1.38
5.08	1.84	11.17	11.06	17.25	2.07	23.33	1.38
5.17	1.84	11.25	11.06	17.33	2.07	23.42	1.38
5.25	1.84	11.33	11.06	17.42	2.07	23.50	1.38
5.33	1.84	11.42	11.06	17.50	2.07	23.58	1.38
5.42	1.84	11.50	11.06	17.58	2.07	23.67	1.38
5.50	1.84	11.58	11.06	17.67	2.07	23.75	1.38
5.58	1.84	11.67	34.10	17.75	2.07	23.83	1.38
5.67	1.84	11.75	34.10	17.83	2.07	23.92	1.38
5.75	1.84	11.83	34.10	17.92	2.07	24.00	1.38
5.83	1.84	11.92	141.00	18.00	2.07	24.08	1.38
5.92	1.84	12.00	141.00	18.08	2.07		
6.00	1.84	12.08	141.00	18.17	2.07		
6.08	1.84	12.17	16.59	18.25	2.07		

CALIB					
NASHYD (0004)	Area (ha)=	0.40	Curve Number (CN)=	61.0	
ID= 1 DT= 5.0 min	Ia (mm)=	7.70	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.23			

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.040 (i)
TIME TO PEAK (hrs)= 12.167
RUNOFF VOLUME (mm)= 42.769
TOTAL RAINFALL (mm)= 115.200
RUNOFF COEFFICIENT = 0.371

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

CALIB					
NASHYD (0005)	Area (ha)=	0.19	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.90	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.13			

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.032 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 50.459
TOTAL RAINFALL (mm)= 115.200
RUNOFF COEFFICIENT = 0.438

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

CALIB					
NASHYD (0006)	Area (ha)=	0.58	Curve Number (CN)=	73.0	

```
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.120 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  58.926
     TOTAL RAINFALL   (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.512

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.115 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  52.176
     TOTAL RAINFALL   (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.453

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.539 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  46.253
     TOTAL RAINFALL   (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.402

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

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--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.539    12.17    46.25
     + ID2= 2 (  0004):     0.40   0.040    12.17    42.77
       ================================================
       ID = 3 (  0020):     5.75   0.579    12.17    46.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.579    12.17    46.01
     + ID2= 2 (  0005):     0.19   0.032    12.08    50.46
       ================================================
       ID = 1 (  0020):     5.94   0.605    12.17    46.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.605    12.17    46.15
     + ID2= 2 (  0006):     0.58   0.120    12.08    58.93
       ================================================
       ID = 3 (  0020):     6.52   0.697    12.17    47.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     6.52   0.697    12.17    47.29
     + ID2= 2 (  0007):     0.69   0.115    12.08    52.18
       ================================================
       ID = 1 (  0020):     7.21   0.797    12.17    47.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183
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     PEAK FLOW      (cms)=   0.149 (i)
     TIME TO PEAK   (hrs)=  12.167
     RUNOFF VOLUME   (mm)=  61.689
     TOTAL RAINFALL  (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.535

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

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-------------------
| CALIB           |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW      (cms)=   0.008 (i)
     TIME TO PEAK   (hrs)=  12.167
     RUNOFF VOLUME   (mm)=  41.433
     TOTAL RAINFALL  (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.360

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

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-------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0002):     0.91   0.149    12.17    61.69
      + ID2= 2 (  0003):     0.07   0.008    12.17    41.43
        ================================================
        ID = 3 (  0021):     0.98   0.157    12.17    60.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW      (cms)=   0.032 (i)
     TIME TO PEAK   (hrs)=  12.083
     RUNOFF VOLUME   (mm)=  50.459
     TOTAL RAINFALL  (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.438

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW      (cms)=   0.040 (i)
     TIME TO PEAK   (hrs)=  12.167
     RUNOFF VOLUME   (mm)=  42.769
     TOTAL RAINFALL  (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.371

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW      (cms)=   0.120 (i)
     TIME TO PEAK   (hrs)=  12.083
     RUNOFF VOLUME   (mm)=  58.926
     TOTAL RAINFALL  (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.512

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW      (cms)=   0.008 (i)
     TIME TO PEAK   (hrs)=  12.167
     RUNOFF VOLUME   (mm)=  41.433
     TOTAL RAINFALL  (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.360

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.115 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  52.176
     TOTAL RAINFALL   (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.453

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

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--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=     141.00       170.62
               over (min)        15.00        20.00
     Storage Coeff.  (min)=      16.00 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.07         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.81         0.22          0.898 (iii)
     TIME TO PEAK    (hrs)=      12.17        12.92          12.17
     RUNOFF VOLUME    (mm)=     114.20        88.69         102.97
     TOTAL RAINFALL   (mm)=     115.20       115.20         115.20
     RUNOFF COEFFICIENT   =       0.99         0.77           0.89


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):     0.19   0.032    12.08    50.46
      + ID2= 2 (  0011):     0.58   0.120    12.08    58.93
        ================================================
        ID = 3 (  0022):     0.77   0.152    12.08    56.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     0.77   0.152    12.08    56.84
      + ID2= 2 (  0012):     0.69   0.115    12.08    52.18
        ================================================
        ID = 1 (  0022):     1.46   0.267    12.08    54.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     1.46   0.267    12.08    54.63
      + ID2= 2 (  0018):     6.26   0.898    12.17   102.97
        ================================================
        ID = 3 (  0022):     7.72   1.117    12.17    93.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     7.72   1.117    12.17    93.83
      + ID2= 2 (  0008):     0.07   0.008    12.17    41.43
        ================================================
        ID = 1 (  0022):     7.79   1.125    12.17    93.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
      ID1= 1 (  0022):     7.79   1.125    12.17    93.36
    + ID2= 2 (  0009):     0.40   0.040    12.17    42.77
      ================================================
      ID = 3 (  0022):     8.19   1.164    12.17    90.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB           |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.120 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  58.926
     TOTAL RAINFALL   (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.512

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

```
| CALIB           |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.008 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  41.433
     TOTAL RAINFALL   (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.360

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

```
| CALIB           |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.040 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  42.769
     TOTAL RAINFALL   (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.371

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

```
| CALIB           |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.032 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  50.459
     TOTAL RAINFALL   (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.438

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

```
| CALIB           |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.115 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  52.176
     TOTAL RAINFALL   (mm)= 115.200
     RUNOFF COEFFICIENT   =   0.453

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

```
| CALIB           |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25          2.01
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.52          4.33
     Length            (m)=     330.00         30.00
     Mannings n           =      0.130         0.250
```

```
     Max.Eff.Inten.(mm/hr)=     141.00       170.62
               over (min)        15.00        20.00
     Storage Coeff.  (min)=      16.00 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.07         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.81         0.22         0.898 (iii)
     TIME TO PEAK    (hrs)=      12.17        12.92         12.17
     RUNOFF VOLUME    (mm)=     114.20        88.69        102.97
     TOTAL RAINFALL   (mm)=     115.20       115.20        115.20
     RUNOFF COEFFICIENT   =       0.99         0.77          0.89


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0013):     0.07   0.008    12.17    41.43
      + ID2= 2 (  0014):     0.40   0.040    12.17    42.77
        ================================================
        ID = 3 (  0023):     0.47   0.047    12.17    42.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     0.47   0.047    12.17    42.57
      + ID2= 2 (  0015):     0.19   0.032    12.08    50.46
        ================================================
        ID = 1 (  0023):     0.66   0.074    12.17    44.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     0.66   0.074    12.17    44.84
      + ID2= 2 (  0016):     0.58   0.120    12.08    58.93
        ================================================
        ID = 3 (  0023):     1.24   0.194    12.08    51.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     1.24   0.194    12.08    51.43
      + ID2= 2 (  0017):     0.69   0.115    12.08    52.18
        ================================================
        ID = 1 (  0023):     1.93   0.309    12.08    51.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     1.93   0.309    12.08    51.70
      + ID2= 2 (  0019):     6.26   0.898    12.17   102.97
        ================================================
        ID = 3 (  0023):     8.19   1.164    12.17    90.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7970      0.1600
                         0.3210     0.1300   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)      8.190      1.164     12.17      90.89
   OUTFLOW: ID= 1 (  0024)      8.190      0.695     12.42      90.88

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 59.69
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1539

--------------------------------------------------------------------------------
**********************************
** SIMULATION:100yr 6hr 5min SCS **
**********************************

-------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
```

| | ata\Local\Temp\
| | d5546b1a-54a6-497b-a8a5-5a1feca7b397\174114a3
| Ptotal= 76.80 mm | Comments: 100yr 6hr 5min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	1.67	7.68	3.25	16.90	4.83	4.61
0.17	3.07	1.75	7.68	3.33	16.90	4.92	4.61
0.25	3.07	1.83	7.68	3.42	16.90	5.00	4.61
0.33	3.07	1.92	7.68	3.50	16.90	5.08	4.61
0.42	3.07	2.00	7.68	3.58	16.90	5.17	3.07
0.50	3.07	2.08	7.68	3.67	7.68	5.25	3.07
0.58	3.07	2.17	9.22	3.75	7.68	5.33	3.07
0.67	4.61	2.25	9.22	3.83	7.68	5.42	3.07
0.75	4.61	2.33	9.22	3.92	7.68	5.50	3.07
0.83	4.61	2.42	9.22	4.00	7.68	5.58	3.07
0.92	4.61	2.50	9.22	4.08	7.68	5.67	3.07
1.00	4.61	2.58	9.22	4.17	6.14	5.75	3.07
1.08	4.61	2.67	46.08	4.25	6.14	5.83	3.07
1.17	4.61	2.75	46.08	4.33	6.14	5.92	3.07
1.25	4.61	2.83	46.08	4.42	6.14	6.00	3.07
1.33	4.61	2.92	119.81	4.50	6.14	6.08	3.07
1.42	4.61	3.00	119.81	4.58	6.14		
1.50	4.61	3.08	119.81	4.67	4.61		
1.58	4.61	3.17	16.90	4.75	4.61		

CALIB	
NASHYD (0004)	Area (ha)= 0.40 Curve Number (CN)= 61.0
ID= 1 DT= 5.0 min	Ia (mm)= 7.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.23

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 3.167
RUNOFF VOLUME (mm)= 20.602
TOTAL RAINFALL (mm)= 76.800
RUNOFF COEFFICIENT = 0.268

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

CALIB	
NASHYD (0005)	Area (ha)= 0.19 Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.13

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.021 (i)
TIME TO PEAK (hrs)= 3.083
RUNOFF VOLUME (mm)= 25.390
TOTAL RAINFALL (mm)= 76.800
RUNOFF COEFFICIENT = 0.331

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

CALIB	
NASHYD (0006)	Area (ha)= 0.58 Curve Number (CN)= 73.0
ID= 1 DT= 5.0 min	Ia (mm)= 4.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.12

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.083 (i)
TIME TO PEAK (hrs)= 3.083
RUNOFF VOLUME (mm)= 30.889
TOTAL RAINFALL (mm)= 76.800
RUNOFF COEFFICIENT = 0.402

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

CALIB	
NASHYD (0007)	Area (ha)= 0.69 Curve Number (CN)= 68.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.14

Unit Hyd Qpeak (cms)= 0.188

PEAK FLOW (cms)= 0.077 (i)
TIME TO PEAK (hrs)= 3.083
RUNOFF VOLUME (mm)= 26.500
TOTAL RAINFALL (mm)= 76.800
RUNOFF COEFFICIENT = 0.345

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

CALIB	
NASHYD (0001)	Area (ha)= 5.35 Curve Number (CN)= 64.0
ID= 1 DT= 5.0 min	Ia (mm)= 7.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.25

Unit Hyd Qpeak (cms)= 0.817

```
     PEAK FLOW      (cms)=   0.346 (i)
     TIME TO PEAK   (hrs)=   3.250
     RUNOFF VOLUME   (mm)=  22.616
     TOTAL RAINFALL  (mm)=  76.800
     RUNOFF COEFFICIENT  =   0.294

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.346     3.25    22.62
     + ID2= 2 (  0004):     0.40   0.025     3.17    20.60
       ================================================
       ID = 3 (  0020):     5.75   0.371     3.17    22.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.371     3.17    22.48
     + ID2= 2 (  0005):     0.19   0.021     3.08    25.39
       ================================================
       ID = 1 (  0020):     5.94   0.389     3.17    22.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.389     3.17    22.57
     + ID2= 2 (  0006):     0.58   0.083     3.08    30.89
       ================================================
       ID = 3 (  0020):     6.52   0.454     3.17    23.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     6.52   0.454     3.17    23.31
     + ID2= 2 (  0007):     0.69   0.077     3.08    26.50
       ================================================
       ID = 1 (  0020):     7.21   0.523     3.17    23.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW      (cms)=   0.105 (i)
     TIME TO PEAK   (hrs)=   3.167
     RUNOFF VOLUME   (mm)=  32.448
     TOTAL RAINFALL  (mm)=  76.800
     RUNOFF COEFFICIENT  =   0.423

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW      (cms)=   0.005 (i)
     TIME TO PEAK   (hrs)=   3.167
     RUNOFF VOLUME   (mm)=  19.812
     TOTAL RAINFALL  (mm)=  76.800
     RUNOFF COEFFICIENT  =   0.258

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.91   0.105     3.17    32.45
     + ID2= 2 (  0003):     0.07   0.005     3.17    19.81
       ================================================
       ID = 3 (  0021):     0.98   0.110     3.17    31.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
```

```
| CALIB           |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  25.390
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.331

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.025 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  20.602
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.268

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.083 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  30.889
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.402

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  19.812
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.258

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.077 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  26.500
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.345

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25          2.01
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.52          4.33
     Length            (m)=     330.00         30.00
     Mannings n           =      0.130         0.250

     Max.Eff.Inten.(mm/hr)=     101.38        134.64
               over (min)        20.00         25.00
     Storage Coeff.  (min)=      18.26 (ii)    60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00         60.00
     Unit Hyd. peak  (cms)=       0.06          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.66          0.18          0.737 (iii)
     TIME TO PEAK    (hrs)=       3.25          3.92           3.25
```

```
     RUNOFF VOLUME    (mm)=      75.80        52.87          65.71
     TOTAL RAINFALL   (mm)=      76.80        76.80          76.80
     RUNOFF COEFFICIENT   =       0.99         0.69           0.86


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):     0.19   0.021     3.08    25.39
      + ID2= 2 (  0011):     0.58   0.083     3.08    30.89
        ================================================
        ID = 3 (  0022):     0.77   0.104     3.08    29.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     0.77   0.104     3.08    29.53
      + ID2= 2 (  0012):     0.69   0.077     3.08    26.50
        ================================================
        ID = 1 (  0022):     1.46   0.181     3.08    28.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     1.46   0.181     3.08    28.10
      + ID2= 2 (  0018):     6.26   0.737     3.25    65.71
        ================================================
        ID = 3 (  0022):     7.72   0.846     3.17    58.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     7.72   0.846     3.17    58.59
      + ID2= 2 (  0008):     0.07   0.005     3.17    19.81
        ================================================
        ID = 1 (  0022):     7.79   0.850     3.17    58.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     7.79   0.850     3.17    58.24
      + ID2= 2 (  0009):     0.40   0.025     3.17    20.60
        ================================================
        ID = 3 (  0022):     8.19   0.876     3.17    56.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.083 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  30.889
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.402

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

```
--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  19.812
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.258

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

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.025 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  20.602
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.268

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  25.390
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.331

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.077 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  26.500
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.345

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

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=     101.38       134.64
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      18.26 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.66         0.18          0.737 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.92           3.25
     RUNOFF VOLUME    (mm)=      75.80        52.87          65.71
     TOTAL RAINFALL   (mm)=      76.80        76.80          76.80
     RUNOFF COEFFICIENT   =       0.99         0.69           0.86


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):     0.07   0.005     3.17    19.81
     + ID2= 2 (  0014):     0.40   0.025     3.17    20.60
       ================================================
       ID = 3 (  0023):     0.47   0.030     3.17    20.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.030     3.17    20.48
     + ID2= 2 (  0015):     0.19   0.021     3.08    25.39
```

```
       ================================================
       ID = 1 (  0023):     0.66   0.048     3.17    21.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.048     3.17    21.90
     + ID2= 2 (  0016):     0.58   0.083     3.08    30.89
       ================================================
       ID = 3 (  0023):     1.24   0.130     3.08    26.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.130     3.08    26.10
     + ID2= 2 (  0017):     0.69   0.077     3.08    26.50
       ================================================
       ID = 1 (  0023):     1.93   0.207     3.08    26.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.207     3.08    26.24
     + ID2= 2 (  0019):     6.26   0.737     3.25    65.71
       ================================================
       ID = 3 (  0023):     8.19   0.876     3.17    56.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)     8.190      0.876      3.17      56.41

  OUTFLOW: ID= 1 (  0024)      8.190      0.517      3.67      56.39

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 59.04
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1425

--------------------------------------------------------------------------------
**********************************
** SIMULATION:10yr 12hr 5min SCS **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\f808367d
| Ptotal= 66.00 mm |    Comments: 10yr 12hr 5min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	3.17	2.64	6.25	11.88	9.33	2.31
0.17	1.65	3.25	2.64	6.33	11.88	9.42	2.31
0.25	1.65	3.33	2.64	6.42	11.88	9.50	2.31
0.33	1.65	3.42	2.64	6.50	11.88	9.58	2.31
0.42	1.65	3.50	2.64	6.58	11.88	9.67	2.31
0.50	1.65	3.58	2.64	6.67	5.28	9.75	2.31
0.58	1.65	3.67	2.64	6.75	5.28	9.83	2.31
0.67	1.65	3.75	2.64	6.83	5.28	9.92	2.31
0.75	1.65	3.83	2.64	6.92	5.28	10.00	2.31
0.83	1.65	3.92	2.64	7.00	5.28	10.08	2.31
0.92	1.65	4.00	2.64	7.08	5.28	10.17	1.32
1.00	1.65	4.08	2.64	7.17	3.96	10.25	1.32
1.08	1.65	4.17	3.96	7.25	3.96	10.33	1.32
1.17	1.65	4.25	3.96	7.33	3.96	10.42	1.32
1.25	1.65	4.33	3.96	7.42	3.96	10.50	1.32
1.33	1.65	4.42	3.96	7.50	3.96	10.58	1.32
1.42	1.65	4.50	3.96	7.58	3.96	10.67	1.32
1.50	1.65	4.58	3.96	7.67	3.96	10.75	1.32
1.58	1.65	4.67	5.28	7.75	3.96	10.83	1.32
1.67	1.65	4.75	5.28	7.83	3.96	10.92	1.32
1.75	1.65	4.83	5.28	7.92	3.96	11.00	1.32
1.83	1.65	4.92	5.28	8.00	3.96	11.08	1.32
1.92	1.65	5.00	5.28	8.08	3.96	11.17	1.32
2.00	1.65	5.08	5.28	8.17	2.31	11.25	1.32
2.08	1.65	5.17	7.92	8.25	2.31	11.33	1.32
2.17	1.98	5.25	7.92	8.33	2.31	11.42	1.32
2.25	1.98	5.33	7.92	8.42	2.31	11.50	1.32
2.33	1.98	5.42	7.92	8.50	2.31	11.58	1.32
2.42	1.98	5.50	7.92	8.58	2.31	11.67	1.32
2.50	1.98	5.58	7.92	8.67	2.31	11.75	1.32
2.58	1.98	5.67	31.68	8.75	2.31	11.83	1.32
2.67	1.98	5.75	31.68	8.83	2.31	11.92	1.32
2.75	1.98	5.83	31.68	8.92	2.31	12.00	1.32

```
                2.83    1.98 |  5.92   87.12 |  9.00    2.31 | 12.08    1.32
                2.92    1.98 |  6.00   87.12 |  9.08    2.31 |
                3.00    1.98 |  6.08   87.12 |  9.17    2.31 |
                3.08    1.98 |  6.17   11.88 |  9.25    2.31 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.016 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  15.383
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.233

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.014 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  19.309
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.293

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.054 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  23.881
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.362

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.050 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  20.234
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.307

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.222 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  16.981
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.257

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.222     6.17    16.98
     + ID2= 2 (  0004):     0.40   0.016     6.17    15.38
       ================================================
       ID = 3 (  0020):     5.75   0.238     6.17    16.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.238     6.17    16.87
     + ID2= 2 (  0005):     0.19   0.014     6.08    19.31
       ================================================
       ID = 1 (  0020):     5.94   0.249     6.17    16.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.249     6.17    16.95
     + ID2= 2 (  0006):     0.58   0.054     6.08    23.88
       ================================================
       ID = 3 (  0020):     6.52   0.292     6.17    17.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     6.52   0.292     6.17    17.56
     + ID2= 2 (  0007):     0.69   0.050     6.08    20.23
       ================================================
       ID = 1 (  0020):     7.21   0.336     6.17    17.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.069 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  25.089
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.380

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  14.749
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.223

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

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.91   0.069     6.17    25.09
     + ID2= 2 (  0003):     0.07   0.003     6.17    14.75
       ================================================
       ID = 3 (  0021):     0.98   0.072     6.17    24.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.014 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  19.309
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23
```

```
     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.016 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  15.383
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.233

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.054 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  23.881
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.362

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  14.749
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.223

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.050 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  20.234
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.307

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      73.26        93.48
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      20.79 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.05         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.45         0.12          0.510 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.92           6.25
     RUNOFF VOLUME    (mm)=      65.00        43.16          55.38
     TOTAL RAINFALL   (mm)=      66.00        66.00          66.00
     RUNOFF COEFFICIENT   =       0.98         0.65           0.84


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     0.19   0.014     6.08    19.31
     + ID2= 2 (  0011):     0.58   0.054     6.08    23.88
       ================================================
       ID = 3 (  0022):     0.77   0.068     6.08    22.75
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0022):	0.77	0.068	6.08	22.75
	+ ID2= 2 (0012):	0.69	0.050	6.08	20.23
	ID = 1 (0022):	1.46	0.118	6.08	21.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0022):	1.46	0.118	6.08	21.56
	+ ID2= 2 (0018):	6.26	0.510	6.25	55.38
	ID = 3 (0022):	7.72	0.575	6.25	48.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0022):	7.72	0.575	6.25	48.99
	+ ID2= 2 (0008):	0.07	0.003	6.17	14.75
	ID = 1 (0022):	7.79	0.577	6.25	48.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0022):	7.79	0.577	6.25	48.68
	+ ID2= 2 (0009):	0.40	0.016	6.17	15.38
	ID = 3 (0022):	8.19	0.593	6.17	47.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0016)	Area (ha)=	0.58	Curve Number (CN)=	73.0
ID= 1 DT= 5.0 min	Ia (mm)=	4.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.12		

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.054 (i)
TIME TO PEAK (hrs)= 6.083
RUNOFF VOLUME (mm)= 23.881
TOTAL RAINFALL (mm)= 66.000
RUNOFF COEFFICIENT = 0.362

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

CALIB				
NASHYD (0013)	Area (ha)=	0.07	Curve Number (CN)=	60.0
ID= 1 DT= 5.0 min	Ia (mm)=	8.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.18		

Unit Hyd Qpeak (cms)= 0.015

PEAK FLOW (cms)= 0.003 (i)
TIME TO PEAK (hrs)= 6.167
RUNOFF VOLUME (mm)= 14.749
TOTAL RAINFALL (mm)= 66.000
RUNOFF COEFFICIENT = 0.223

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

CALIB				
NASHYD (0014)	Area (ha)=	0.40	Curve Number (CN)=	61.0
ID= 1 DT= 5.0 min	Ia (mm)=	7.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.23		

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.016 (i)
TIME TO PEAK (hrs)= 6.167
RUNOFF VOLUME (mm)= 15.383
TOTAL RAINFALL (mm)= 66.000
RUNOFF COEFFICIENT = 0.233

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

CALIB

```
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.014 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  19.309
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.293

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

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.050 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  20.234
     TOTAL RAINFALL   (mm)=  66.000
     RUNOFF COEFFICIENT   =   0.307

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

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      4.25         2.01
     Dep. Storage     (mm)=      1.00         1.50
     Average Slope     (%)=      1.52         4.33
     Length            (m)=    330.00        30.00
     Mannings n           =     0.130        0.250

     Max.Eff.Inten.(mm/hr)=     73.26        93.48
               over (min)       20.00        25.00
     Storage Coeff.  (min)=     20.79 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=     20.00        60.00
     Unit Hyd. peak  (cms)=      0.05         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.45         0.12         0.510 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.92          6.25
     RUNOFF VOLUME    (mm)=     65.00        43.16         55.38
     TOTAL RAINFALL   (mm)=     66.00        66.00         66.00
     RUNOFF COEFFICIENT   =      0.98         0.65          0.84

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):     0.07   0.003     6.17    14.75
     + ID2= 2 (  0014):     0.40   0.016     6.17    15.38
       ================================================
       ID = 3 (  0023):     0.47   0.019     6.17    15.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.019     6.17    15.29
     + ID2= 2 (  0015):     0.19   0.014     6.08    19.31
       ================================================
       ID = 1 (  0023):     0.66   0.031     6.17    16.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.031     6.17    16.45
     + ID2= 2 (  0016):     0.58   0.054     6.08    23.88
       ================================================
       ID = 3 (  0023):     1.24   0.085     6.08    19.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     1.24   0.085     6.08    19.92
      + ID2= 2 (  0017):     0.69   0.050     6.08    20.23
        ================================================
        ID = 1 (  0023):     1.93   0.134     6.08    20.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     1.93   0.134     6.08    20.03
      + ID2= 2 (  0019):     6.26   0.510     6.25    55.38
        ================================================
        ID = 3 (  0023):     8.19   0.593     6.17    47.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)     8.190      0.593      6.17      47.05
   OUTFLOW: ID= 1 (  0024)     8.190      0.280      6.92      47.04

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.12
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1133

--------------------------------------------------------------------------------
**********************************
** SIMULATION:10yr 24hr 5min SCS **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\9dae4b2c
| Ptotal= 81.60 mm |    Comments: 10yr 24hr 5min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    0.00 |  6.17    1.47 | 12.25   11.75 | 18.33    1.47
                0.17    0.90 |  6.25    1.47 | 12.33   11.75 | 18.42    1.47
                0.25    0.90 |  6.33    1.47 | 12.42   11.75 | 18.50    1.47
                0.33    0.90 |  6.42    1.47 | 12.50   11.75 | 18.58    1.47
                0.42    0.90 |  6.50    1.47 | 12.58   11.75 | 18.67    1.47
                0.50    0.90 |  6.58    1.47 | 12.67    6.04 | 18.75    1.47
                0.58    0.90 |  6.67    1.47 | 12.75    6.04 | 18.83    1.47
                0.67    0.90 |  6.75    1.47 | 12.83    6.04 | 18.92    1.47
                0.75    0.90 |  6.83    1.47 | 12.92    6.04 | 19.00    1.47
                0.83    0.90 |  6.92    1.47 | 13.00    6.04 | 19.08    1.47
                0.92    0.90 |  7.00    1.47 | 13.08    6.04 | 19.17    1.47
                1.00    0.90 |  7.08    1.47 | 13.17    4.41 | 19.25    1.47
                1.08    0.90 |  7.17    1.80 | 13.25    4.41 | 19.33    1.47
                1.17    0.90 |  7.25    1.80 | 13.33    4.41 | 19.42    1.47
                1.25    0.90 |  7.33    1.80 | 13.42    4.41 | 19.50    1.47
                1.33    0.90 |  7.42    1.80 | 13.50    4.41 | 19.58    1.47
                1.42    0.90 |  7.50    1.80 | 13.58    4.41 | 19.67    1.47
                1.50    0.90 |  7.58    1.80 | 13.67    3.43 | 19.75    1.47
                1.58    0.90 |  7.67    1.80 | 13.75    3.43 | 19.83    1.47
                1.67    0.90 |  7.75    1.80 | 13.83    3.43 | 19.92    1.47
                1.75    0.90 |  7.83    1.80 | 13.92    3.43 | 20.00    1.47
                1.83    0.90 |  7.92    1.80 | 14.00    3.43 | 20.08    1.47
                1.92    0.90 |  8.00    1.80 | 14.08    3.43 | 20.17    0.98
                2.00    0.90 |  8.08    1.80 | 14.17    2.45 | 20.25    0.98
                2.08    0.90 |  8.17    2.12 | 14.25    2.45 | 20.33    0.98
                2.17    1.06 |  8.25    2.12 | 14.33    2.45 | 20.42    0.98
                2.25    1.06 |  8.33    2.12 | 14.42    2.45 | 20.50    0.98
                2.33    1.06 |  8.42    2.12 | 14.50    2.45 | 20.58    0.98
                2.42    1.06 |  8.50    2.12 | 14.58    2.45 | 20.67    0.98
                2.50    1.06 |  8.58    2.12 | 14.67    2.45 | 20.75    0.98
                2.58    1.06 |  8.67    2.28 | 14.75    2.45 | 20.83    0.98
                2.67    1.06 |  8.75    2.28 | 14.83    2.45 | 20.92    0.98
                2.75    1.06 |  8.83    2.28 | 14.92    2.45 | 21.00    0.98
                2.83    1.06 |  8.92    2.28 | 15.00    2.45 | 21.08    0.98
                2.92    1.06 |  9.00    2.28 | 15.08    2.45 | 21.17    0.98
                3.00    1.06 |  9.08    2.28 | 15.17    2.45 | 21.25    0.98
                3.08    1.06 |  9.17    2.61 | 15.25    2.45 | 21.33    0.98
                3.17    1.06 |  9.25    2.61 | 15.33    2.45 | 21.42    0.98
                3.25    1.06 |  9.33    2.61 | 15.42    2.45 | 21.50    0.98
                3.33    1.06 |  9.42    2.61 | 15.50    2.45 | 21.58    0.98
                3.42    1.06 |  9.50    2.61 | 15.58    2.45 | 21.67    0.98
                3.50    1.06 |  9.58    2.61 | 15.67    2.45 | 21.75    0.98
                3.58    1.06 |  9.67    2.94 | 15.75    2.45 | 21.83    0.98
                3.67    1.06 |  9.75    2.94 | 15.83    2.45 | 21.92    0.98
                3.75    1.06 |  9.83    2.94 | 15.92    2.45 | 22.00    0.98
                3.83    1.06 |  9.92    2.94 | 16.00    2.45 | 22.08    0.98
                3.92    1.06 | 10.00    2.94 | 16.08    2.45 | 22.17    0.98
                4.00    1.06 | 10.08    2.94 | 16.17    1.47 | 22.25    0.98
                4.08    1.06 | 10.17    3.75 | 16.25    1.47 | 22.33    0.98
                4.17    1.31 | 10.25    3.75 | 16.33    1.47 | 22.42    0.98
                4.25    1.31 | 10.33    3.75 | 16.42    1.47 | 22.50    0.98
                4.33    1.31 | 10.42    3.75 | 16.50    1.47 | 22.58    0.98
                4.42    1.31 | 10.50    3.75 | 16.58    1.47 | 22.67    0.98
                4.50    1.31 | 10.58    3.75 | 16.67    1.47 | 22.75    0.98
```

```
 4.58    1.31 | 10.67    5.06 | 16.75    1.47 | 22.83    0.98
 4.67    1.31 | 10.75    5.06 | 16.83    1.47 | 22.92    0.98
 4.75    1.31 | 10.83    5.06 | 16.92    1.47 | 23.00    0.98
 4.83    1.31 | 10.92    5.06 | 17.00    1.47 | 23.08    0.98
 4.92    1.31 | 11.00    5.06 | 17.08    1.47 | 23.17    0.98
 5.00    1.31 | 11.08    5.06 | 17.17    1.47 | 23.25    0.98
 5.08    1.31 | 11.17    7.83 | 17.25    1.47 | 23.33    0.98
 5.17    1.31 | 11.25    7.83 | 17.33    1.47 | 23.42    0.98
 5.25    1.31 | 11.33    7.83 | 17.42    1.47 | 23.50    0.98
 5.33    1.31 | 11.42    7.83 | 17.50    1.47 | 23.58    0.98
 5.42    1.31 | 11.50    7.83 | 17.58    1.47 | 23.67    0.98
 5.50    1.31 | 11.58    7.83 | 17.67    1.47 | 23.75    0.98
 5.58    1.31 | 11.67   24.15 | 17.75    1.47 | 23.83    0.98
 5.67    1.31 | 11.75   24.15 | 17.83    1.47 | 23.92    0.98
 5.75    1.31 | 11.83   24.15 | 17.92    1.47 | 24.00    0.98
 5.83    1.31 | 11.92   99.88 | 18.00    1.47 | 24.08    0.98
 5.92    1.31 | 12.00   99.88 | 18.08    1.47 |
 6.00    1.31 | 12.08   99.88 | 18.17    1.47 |
 6.08    1.31 | 12.17   11.75 | 18.25    1.47 |
```

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--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  23.086
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.283

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

```
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  28.253
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.346
```

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

```
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.069 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  34.151
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.419

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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```
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.064 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  29.443
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.361

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.288 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  25.286
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.310
```

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     5.35   0.288    12.17    25.29
      + ID2= 2 (  0004):     0.40   0.021    12.17    23.09
        ====================================================
        ID = 3 (  0020):     5.75   0.309    12.17    25.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     5.75   0.309    12.17    25.13
      + ID2= 2 (  0005):     0.19   0.018    12.08    28.25
        ====================================================
        ID = 1 (  0020):     5.94   0.324    12.17    25.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0020):     5.94   0.324    12.17    25.23
      + ID2= 2 (  0006):     0.58   0.069    12.08    34.15
        ====================================================
        ID = 3 (  0020):     6.52   0.377    12.17    26.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     6.52   0.377    12.17    26.03
      + ID2= 2 (  0007):     0.69   0.064    12.08    29.44
        ====================================================
        ID = 1 (  0020):     7.21   0.434    12.17    26.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------

| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.086 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  35.866
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.440

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  22.229
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.272

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0002):     0.91   0.086    12.17    35.87
      + ID2= 2 (  0003):     0.07   0.004    12.17    22.23
        ====================================================
        ID = 3 (  0021):     0.98   0.090    12.17    34.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056
```

```
     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  28.253
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.346

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  23.086
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.283

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.069 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  34.151
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.419

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  22.229
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.272

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.064 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  29.443
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.361

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25          2.01
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.52          4.33
     Length            (m)=     330.00         30.00
     Mannings n           =      0.130         0.250

     Max.Eff.Inten.(mm/hr)=      80.95        112.17
               over (min)        20.00         25.00
     Storage Coeff.  (min)=      19.98 (ii)    60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00         60.00
     Unit Hyd. peak  (cms)=       0.06          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.49          0.14          0.560 (iii)
     TIME TO PEAK    (hrs)=      12.25         12.92          12.25
     RUNOFF VOLUME    (mm)=      80.60         57.25          70.32
     TOTAL RAINFALL   (mm)=      81.60         81.60          81.60
     RUNOFF COEFFICIENT   =       0.99          0.70           0.86


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
          CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0010):		0.19	0.018	12.08	28.25
+ ID2= 2 (0011):		0.58	0.069	12.08	34.15
ID = 3 (0022):		0.77	0.087	12.08	32.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0022):		0.77	0.087	12.08	32.70
+ ID2= 2 (0012):		0.69	0.064	12.08	29.44
ID = 1 (0022):		1.46	0.151	12.08	31.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0022):		1.46	0.151	12.08	31.16
+ ID2= 2 (0018):		6.26	0.560	12.25	70.32
ID = 3 (0022):		7.72	0.641	12.25	62.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0022):		7.72	0.641	12.25	62.91
+ ID2= 2 (0008):		0.07	0.004	12.17	22.23
ID = 1 (0022):		7.79	0.644	12.25	62.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0022):		7.79	0.644	12.25	62.55
+ ID2= 2 (0009):		0.40	0.021	12.17	23.09
ID = 3 (0022):		8.19	0.665	12.17	60.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0016)	Area (ha)= 0.58	Curve Number (CN)= 73.0			
ID= 1 DT= 5.0 min	Ia (mm)= 4.70	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.12				

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.069 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 34.151
TOTAL RAINFALL (mm)= 81.600
RUNOFF COEFFICIENT = 0.419

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

CALIB					
NASHYD (0013)	Area (ha)= 0.07	Curve Number (CN)= 60.0			
ID= 1 DT= 5.0 min	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.18				

Unit Hyd Qpeak (cms)= 0.015

PEAK FLOW (cms)= 0.004 (i)
TIME TO PEAK (hrs)= 12.167
RUNOFF VOLUME (mm)= 22.229
TOTAL RAINFALL (mm)= 81.600
RUNOFF COEFFICIENT = 0.272

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

CALIB					
NASHYD (0014)	Area (ha)= 0.40	Curve Number (CN)= 61.0			
ID= 1 DT= 5.0 min	Ia (mm)= 7.70	# of Linear Res.(N)= 3.00			

```
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  23.086
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.283

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  28.253
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.346

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.064 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  29.443
     TOTAL RAINFALL   (mm)=  81.600
     RUNOFF COEFFICIENT   =   0.361

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
```

```
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      80.95       112.17
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      19.98 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.49         0.14          0.560 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.92          12.25
     RUNOFF VOLUME    (mm)=      80.60        57.25          70.32
     TOTAL RAINFALL   (mm)=      81.60        81.60          81.60
     RUNOFF COEFFICIENT   =       0.99         0.70           0.86


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):     0.07   0.004    12.17    22.23
     + ID2= 2 (  0014):     0.40   0.021    12.17    23.09
       ================================================
       ID = 3 (  0023):     0.47   0.025    12.17    22.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.025    12.17    22.96
     + ID2= 2 (  0015):     0.19   0.018    12.08    28.25
       ================================================
       ID = 1 (  0023):     0.66   0.040    12.17    24.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     0.66   0.040    12.17    24.48
      + ID2= 2 (  0016):     0.58   0.069    12.08    34.15
        ================================================
        ID = 3 (  0023):     1.24   0.109    12.08    29.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     1.24   0.109    12.08    29.00
      + ID2= 2 (  0017):     0.69   0.064    12.08    29.44
        ================================================
        ID = 1 (  0023):     1.93   0.173    12.08    29.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     1.93   0.173    12.08    29.16
      + ID2= 2 (  0019):     6.26   0.560    12.25    70.32
        ================================================
        ID = 3 (  0023):     8.19   0.665    12.17    60.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)     8.190      0.665     12.17      60.62
   OUTFLOW: ID= 1 (  0024)     8.190      0.304     12.92      60.61

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.69
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1232
```

```
--------------------------------------------------------------------------------
********************************
** SIMULATION:10yr 6hr 5min SCS **
********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\ccbb5ea8
| Ptotal= 53.40 mm |    Comments: 10yr 6hr 5min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	1.67	5.34	3.25	11.75	4.83	3.20
0.17	2.14	1.75	5.34	3.33	11.75	4.92	3.20
0.25	2.14	1.83	5.34	3.42	11.75	5.00	3.20
0.33	2.14	1.92	5.34	3.50	11.75	5.08	3.20
0.42	2.14	2.00	5.34	3.58	11.75	5.17	2.14
0.50	2.14	2.08	5.34	3.67	5.34	5.25	2.14
0.58	2.14	2.17	6.41	3.75	5.34	5.33	2.14
0.67	3.20	2.25	6.41	3.83	5.34	5.42	2.14
0.75	3.20	2.33	6.41	3.92	5.34	5.50	2.14
0.83	3.20	2.42	6.41	4.00	5.34	5.58	2.14
0.92	3.20	2.50	6.41	4.08	5.34	5.67	2.14
1.00	3.20	2.58	6.41	4.17	4.27	5.75	2.14
1.08	3.20	2.67	32.04	4.25	4.27	5.83	2.14
1.17	3.20	2.75	32.04	4.33	4.27	5.92	2.14
1.25	3.20	2.83	32.04	4.42	4.27	6.00	2.14
1.33	3.20	2.92	83.30	4.50	4.27	6.08	2.14
1.42	3.20	3.00	83.30	4.58	4.27		
1.50	3.20	3.08	83.30	4.67	3.20		
1.58	3.20	3.17	11.75	4.75	3.20		

```
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.012 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  10.024
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.188

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

--------------------------------------------------------------------------------
```

```
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.011 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  12.941
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.242

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.044 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  16.404
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.307

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.039 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  13.649
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.256

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.167 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  11.151
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.209

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.167     3.25    11.15
     + ID2= 2 (  0004):     0.40   0.012     3.17    10.02
       ================================================
       ID = 3 (  0020):     5.75   0.179     3.25    11.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.179     3.25    11.07
     + ID2= 2 (  0005):     0.19   0.011     3.08    12.94
       ================================================
       ID = 1 (  0020):     5.94   0.186     3.17    11.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.186     3.17    11.13
     + ID2= 2 (  0006):     0.58   0.044     3.08    16.40
       ================================================
       ID = 3 (  0020):     6.52   0.221     3.17    11.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     6.52   0.221     3.17    11.60
      + ID2= 2 (  0007):     0.69   0.039     3.08    13.65
        ================================================
        ID = 1 (  0020):     7.21   0.256     3.17    11.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.055 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  17.208
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.322

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   9.562
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.179

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0002):     0.91   0.055     3.17    17.21
      + ID2= 2 (  0003):     0.07   0.002     3.17     9.56
        ================================================
        ID = 3 (  0021):     0.98   0.057     3.17    16.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.011 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  12.941
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.242

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.012 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  10.024
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.188

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.044 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  16.404
     TOTAL RAINFALL   (mm)=  53.400
```

```
     RUNOFF COEFFICIENT   =   0.307

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   9.562
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.179

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.039 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  13.649
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.256

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      70.49        83.68
               over (min)        20.00        30.00
     Storage Coeff.  (min)=      21.12 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.05         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.43         0.11          0.476 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.92           3.25
     RUNOFF VOLUME    (mm)=      52.40        32.18          43.50
     TOTAL RAINFALL   (mm)=      53.40        53.40          53.40
     RUNOFF COEFFICIENT   =       0.98         0.60           0.81

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     0.19   0.011     3.08    12.94
     + ID2= 2 (  0011):     0.58   0.044     3.08    16.40
       ================================================
       ID = 3 (  0022):     0.77   0.055     3.08    15.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     0.77   0.055     3.08    15.55
     + ID2= 2 (  0012):     0.69   0.039     3.08    13.65
       ================================================
       ID = 1 (  0022):     1.46   0.094     3.08    14.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.094     3.08    14.65
     + ID2= 2 (  0018):     6.26   0.476     3.25    43.50
       ================================================
       ID = 3 (  0022):     7.72   0.530     3.25    38.04
```

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     7.72   0.530     3.25    38.04
      + ID2= 2 (  0008):     0.07   0.002     3.17     9.56
        ====================================================
        ID = 1 (  0022):     7.79   0.532     3.25    37.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     7.79   0.532     3.25    37.79
      + ID2= 2 (  0009):     0.40   0.012     3.17    10.02
        ================================================
        ID = 3 (  0022):     8.19   0.544     3.25    36.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.044 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  16.404
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.307

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   9.562
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.179

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.012 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  10.024
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.188

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.011 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  12.941
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.242

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.039 (i)
```

```
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  13.649
     TOTAL RAINFALL   (mm)=  53.400
     RUNOFF COEFFICIENT   =   0.256

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      70.49        83.68
               over (min)        20.00        30.00
     Storage Coeff.  (min)=      21.12 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.05         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.43         0.11          0.476 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.92           3.25
     RUNOFF VOLUME    (mm)=      52.40        32.18          43.50
     TOTAL RAINFALL   (mm)=      53.40        53.40          53.40
     RUNOFF COEFFICIENT   =       0.98         0.60           0.81


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):     0.07   0.002     3.17     9.56
     + ID2= 2 (  0014):     0.40   0.012     3.17    10.02
       ================================================
       ID = 3 (  0023):     0.47   0.014     3.17     9.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.014     3.17     9.95
     + ID2= 2 (  0015):     0.19   0.011     3.08    12.94
       ================================================
       ID = 1 (  0023):     0.66   0.023     3.17    10.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.023     3.17    10.81
     + ID2= 2 (  0016):     0.58   0.044     3.08    16.40
       ================================================
       ID = 3 (  0023):     1.24   0.067     3.08    13.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.067     3.08    13.43
     + ID2= 2 (  0017):     0.69   0.039     3.08    13.65
       ================================================
       ID = 1 (  0023):     1.93   0.106     3.08    13.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.106     3.08    13.51
     + ID2= 2 (  0019):     6.26   0.476     3.25    43.50
       ================================================
       ID = 3 (  0023):     8.19   0.544     3.25    36.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
```

```
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)     8.190     0.544      3.25      36.43
   OUTFLOW: ID= 1 (  0024)     8.190     0.252      4.00      36.42

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.44
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1023

--------------------------------------------------------------------------------
**********************************
** SIMULATION:25yr 12hr 5min SCS **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\219f8a83
| Ptotal= 76.80 mm |    Comments: 25yr 12hr 5min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    0.00 |  3.17    3.07 |  6.25   13.82 |  9.33    2.69
                0.17    1.92 |  3.25    3.07 |  6.33   13.82 |  9.42    2.69
                0.25    1.92 |  3.33    3.07 |  6.42   13.82 |  9.50    2.69
                0.33    1.92 |  3.42    3.07 |  6.50   13.82 |  9.58    2.69
                0.42    1.92 |  3.50    3.07 |  6.58   13.82 |  9.67    2.69
                0.50    1.92 |  3.58    3.07 |  6.67    6.14 |  9.75    2.69
                0.58    1.92 |  3.67    3.07 |  6.75    6.14 |  9.83    2.69
                0.67    1.92 |  3.75    3.07 |  6.83    6.14 |  9.92    2.69
                0.75    1.92 |  3.83    3.07 |  6.92    6.14 | 10.00    2.69
                0.83    1.92 |  3.92    3.07 |  7.00    6.14 | 10.08    2.69
                0.92    1.92 |  4.00    3.07 |  7.08    6.14 | 10.17    1.54
                1.00    1.92 |  4.08    3.07 |  7.17    4.61 | 10.25    1.54
                1.08    1.92 |  4.17    4.61 |  7.25    4.61 | 10.33    1.54
                1.17    1.92 |  4.25    4.61 |  7.33    4.61 | 10.42    1.54
                1.25    1.92 |  4.33    4.61 |  7.42    4.61 | 10.50    1.54
                1.33    1.92 |  4.42    4.61 |  7.50    4.61 | 10.58    1.54
                1.42    1.92 |  4.50    4.61 |  7.58    4.61 | 10.67    1.54
                1.50    1.92 |  4.58    4.61 |  7.67    4.61 | 10.75    1.54
                1.58    1.92 |  4.67    6.14 |  7.75    4.61 | 10.83    1.54
                1.67    1.92 |  4.75    6.14 |  7.83    4.61 | 10.92    1.54
                1.75    1.92 |  4.83    6.14 |  7.92    4.61 | 11.00    1.54
                1.83    1.92 |  4.92    6.14 |  8.00    4.61 | 11.08    1.54
                1.92    1.92 |  5.00    6.14 |  8.08    4.61 | 11.17    1.54
                2.00    1.92 |  5.08    6.14 |  8.17    2.69 | 11.25    1.54
                2.08    1.92 |  5.17    9.22 |  8.25    2.69 | 11.33    1.54
                2.17    2.30 |  5.25    9.22 |  8.33    2.69 | 11.42    1.54
                2.25    2.30 |  5.33    9.22 |  8.42    2.69 | 11.50    1.54
                2.33    2.30 |  5.42    9.22 |  8.50    2.69 | 11.58    1.54
                2.42    2.30 |  5.50    9.22 |  8.58    2.69 | 11.67    1.54
                2.50    2.30 |  5.58    9.22 |  8.67    2.69 | 11.75    1.54
                2.58    2.30 |  5.67   36.86 |  8.75    2.69 | 11.83    1.54
                2.67    2.30 |  5.75   36.86 |  8.83    2.69 | 11.92    1.54
                2.75    2.30 |  5.83   36.86 |  8.92    2.69 | 12.00    1.54
                2.83    2.30 |  5.92  101.38 |  9.00    2.69 | 12.08    1.54
                2.92    2.30 |  6.00  101.38 |  9.08    2.69 |
                3.00    2.30 |  6.08  101.38 |  9.17    2.69 |
                3.08    2.30 |  6.17   13.82 |  9.25    2.69 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  20.602
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.268

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  25.391
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.331

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
```

```
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.071 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  30.888
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.402

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.066 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  26.500
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.345

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.299 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  22.617
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.294

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.299     6.17    22.62
     + ID2= 2 (  0004):     0.40   0.022     6.17    20.60
       ================================================
       ID = 3 (  0020):     5.75   0.320     6.17    22.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.320     6.17    22.48
     + ID2= 2 (  0005):     0.19   0.018     6.08    25.39
       ================================================
       ID = 1 (  0020):     5.94   0.335     6.17    22.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.335     6.17    22.57
     + ID2= 2 (  0006):     0.58   0.071     6.08    30.89
       ================================================
       ID = 3 (  0020):     6.52   0.390     6.17    23.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     6.52   0.390     6.17    23.31
     + ID2= 2 (  0007):     0.69   0.066     6.08    26.50
       ================================================
       ID = 1 (  0020):     7.21   0.448     6.17    23.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.089 (i)
```

```
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  32.448
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.423

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  19.812
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.258

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0002):     0.91   0.089     6.17    32.45
      + ID2= 2 (  0003):     0.07   0.004     6.17    19.81
        ================================================
        ID = 3 (  0021):     0.98   0.093     6.17    31.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  25.391
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.331

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  20.602
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.268

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.071 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  30.888
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.402

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  19.812
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.258

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

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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.066 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  26.500
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.345

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      85.25       113.54
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      19.57 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.54         0.15         0.612 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.92          6.25
     RUNOFF VOLUME    (mm)=      75.80        52.87         65.71
     TOTAL RAINFALL   (mm)=      76.80        76.80         76.80
     RUNOFF COEFFICIENT   =       0.99         0.69          0.86

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
```

```
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     0.19   0.018     6.08    25.39
     + ID2= 2 (  0011):     0.58   0.071     6.08    30.89
       ================================================
       ID = 3 (  0022):     0.77   0.089     6.08    29.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     0.77   0.089     6.08    29.53
     + ID2= 2 (  0012):     0.69   0.066     6.08    26.50
       ================================================
       ID = 1 (  0022):     1.46   0.154     6.08    28.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.154     6.08    28.10
     + ID2= 2 (  0018):     6.26   0.612     6.25    65.71
       ================================================
       ID = 3 (  0022):     7.72   0.701     6.17    58.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     7.72   0.701     6.17    58.59
     + ID2= 2 (  0008):     0.07   0.004     6.17    19.81
       ================================================
       ID = 1 (  0022):     7.79   0.705     6.17    58.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     7.79   0.705     6.17    58.24
```

```
 + ID2= 2 (  0009):     0.40   0.022     6.17    20.60
   ==================================================
   ID = 3 (  0022):     8.19   0.727     6.17    56.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.071 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  30.888
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.402

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  19.812
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.258

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  20.602
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.268

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  25.391
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.331

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.066 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  26.500
     TOTAL RAINFALL   (mm)=  76.800
     RUNOFF COEFFICIENT   =   0.345

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      85.25       113.54
```

```
              over (min)       20.00        25.00
     Storage Coeff.  (min)=    19.57 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=    20.00        60.00
     Unit Hyd. peak  (cms)=     0.06         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=     0.54         0.15          0.612 (iii)
     TIME TO PEAK    (hrs)=     6.25         6.92           6.25
     RUNOFF VOLUME    (mm)=    75.80        52.87          65.71
     TOTAL RAINFALL   (mm)=    76.80        76.80          76.80
     RUNOFF COEFFICIENT   =     0.99         0.69           0.86


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):     0.07   0.004     6.17    19.81
     + ID2= 2 (  0014):     0.40   0.022     6.17    20.60
       ================================================
       ID = 3 (  0023):     0.47   0.026     6.17    20.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.026     6.17    20.48
     + ID2= 2 (  0015):     0.19   0.018     6.08    25.39
       ================================================
       ID = 1 (  0023):     0.66   0.041     6.17    21.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.041     6.17    21.90
     + ID2= 2 (  0016):     0.58   0.071     6.08    30.89
       ================================================
       ID = 3 (  0023):     1.24   0.111     6.08    26.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.111     6.08    26.10
     + ID2= 2 (  0017):     0.69   0.066     6.08    26.50
       ================================================
       ID = 1 (  0023):     1.93   0.177     6.08    26.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.177     6.08    26.24
     + ID2= 2 (  0019):     6.26   0.612     6.25    65.71
       ================================================
       ID = 3 (  0023):     8.19   0.727     6.17    56.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)      8.190      0.727      6.17      56.41
   OUTFLOW: ID= 1 (  0024)      8.190      0.374      6.83      56.39

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.47
                 TIME SHIFT OF PEAK FLOW         (min)= 40.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.1334

--------------------------------------------------------------------------------
**********************************
** SIMULATION:25yr 24hr 5min SCS **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
```

	d5546b1a-54a6-497b-a8a5-5a1feca7b397\f6442e92
Ptotal= 96.00 mm	Comments: 25yr 24hr 5min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	6.17	1.73	12.25	13.82	18.33	1.73
0.17	1.06	6.25	1.73	12.33	13.82	18.42	1.73
0.25	1.06	6.33	1.73	12.42	13.82	18.50	1.73
0.33	1.06	6.42	1.73	12.50	13.82	18.58	1.73
0.42	1.06	6.50	1.73	12.58	13.82	18.67	1.73
0.50	1.06	6.58	1.73	12.67	7.10	18.75	1.73
0.58	1.06	6.67	1.73	12.75	7.10	18.83	1.73
0.67	1.06	6.75	1.73	12.83	7.10	18.92	1.73
0.75	1.06	6.83	1.73	12.92	7.10	19.00	1.73
0.83	1.06	6.92	1.73	13.00	7.10	19.08	1.73
0.92	1.06	7.00	1.73	13.08	7.10	19.17	1.73
1.00	1.06	7.08	1.73	13.17	5.18	19.25	1.73
1.08	1.06	7.17	2.11	13.25	5.18	19.33	1.73
1.17	1.06	7.25	2.11	13.33	5.18	19.42	1.73
1.25	1.06	7.33	2.11	13.42	5.18	19.50	1.73
1.33	1.06	7.42	2.11	13.50	5.18	19.58	1.73
1.42	1.06	7.50	2.11	13.58	5.18	19.67	1.73
1.50	1.06	7.58	2.11	13.67	4.03	19.75	1.73
1.58	1.06	7.67	2.11	13.75	4.03	19.83	1.73
1.67	1.06	7.75	2.11	13.83	4.03	19.92	1.73
1.75	1.06	7.83	2.11	13.92	4.03	20.00	1.73
1.83	1.06	7.92	2.11	14.00	4.03	20.08	1.73
1.92	1.06	8.00	2.11	14.08	4.03	20.17	1.15
2.00	1.06	8.08	2.11	14.17	2.88	20.25	1.15
2.08	1.06	8.17	2.50	14.25	2.88	20.33	1.15
2.17	1.25	8.25	2.50	14.33	2.88	20.42	1.15
2.25	1.25	8.33	2.50	14.42	2.88	20.50	1.15
2.33	1.25	8.42	2.50	14.50	2.88	20.58	1.15
2.42	1.25	8.50	2.50	14.58	2.88	20.67	1.15
2.50	1.25	8.58	2.50	14.67	2.88	20.75	1.15
2.58	1.25	8.67	2.69	14.75	2.88	20.83	1.15
2.67	1.25	8.75	2.69	14.83	2.88	20.92	1.15
2.75	1.25	8.83	2.69	14.92	2.88	21.00	1.15
2.83	1.25	8.92	2.69	15.00	2.88	21.08	1.15
2.92	1.25	9.00	2.69	15.08	2.88	21.17	1.15
3.00	1.25	9.08	2.69	15.17	2.88	21.25	1.15
3.08	1.25	9.17	3.07	15.25	2.88	21.33	1.15
3.17	1.25	9.25	3.07	15.33	2.88	21.42	1.15
3.25	1.25	9.33	3.07	15.42	2.88	21.50	1.15
3.33	1.25	9.42	3.07	15.50	2.88	21.58	1.15
3.42	1.25	9.50	3.07	15.58	2.88	21.67	1.15
3.50	1.25	9.58	3.07	15.67	2.88	21.75	1.15
3.58	1.25	9.67	3.46	15.75	2.88	21.83	1.15
3.67	1.25	9.75	3.46	15.83	2.88	21.92	1.15
3.75	1.25	9.83	3.46	15.92	2.88	22.00	1.15
3.83	1.25	9.92	3.46	16.00	2.88	22.08	1.15
3.92	1.25	10.00	3.46	16.08	2.88	22.17	1.15
4.00	1.25	10.08	3.46	16.17	1.73	22.25	1.15
4.08	1.25	10.17	4.42	16.25	1.73	22.33	1.15
4.17	1.54	10.25	4.42	16.33	1.73	22.42	1.15
4.25	1.54	10.33	4.42	16.42	1.73	22.50	1.15
4.33	1.54	10.42	4.42	16.50	1.73	22.58	1.15
4.42	1.54	10.50	4.42	16.58	1.73	22.67	1.15
4.50	1.54	10.58	4.42	16.67	1.73	22.75	1.15
4.58	1.54	10.67	5.95	16.75	1.73	22.83	1.15
4.67	1.54	10.75	5.95	16.83	1.73	22.92	1.15
4.75	1.54	10.83	5.95	16.92	1.73	23.00	1.15
4.83	1.54	10.92	5.95	17.00	1.73	23.08	1.15
4.92	1.54	11.00	5.95	17.08	1.73	23.17	1.15
5.00	1.54	11.08	5.95	17.17	1.73	23.25	1.15
5.08	1.54	11.17	9.22	17.25	1.73	23.33	1.15
5.17	1.54	11.25	9.22	17.33	1.73	23.42	1.15
5.25	1.54	11.33	9.22	17.42	1.73	23.50	1.15
5.33	1.54	11.42	9.22	17.50	1.73	23.58	1.15
5.42	1.54	11.50	9.22	17.58	1.73	23.67	1.15
5.50	1.54	11.58	9.22	17.67	1.73	23.75	1.15
5.58	1.54	11.67	28.42	17.75	1.73	23.83	1.15
5.67	1.54	11.75	28.42	17.83	1.73	23.92	1.15
5.75	1.54	11.83	28.42	17.92	1.73	24.00	1.15
5.83	1.54	11.92	117.50	18.00	1.73	24.08	1.15
5.92	1.54	12.00	117.50	18.08	1.73		
6.00	1.54	12.08	117.50	18.17	1.73		
6.08	1.54	12.17	13.82	18.25	1.73		

CALIB			
NASHYD (0004)	Area (ha)=	0.40	Curve Number (CN)= 61.0
ID= 1 DT= 5.0 min	Ia (mm)=	7.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.23	

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.028 (i)
TIME TO PEAK (hrs)= 12.167
RUNOFF VOLUME (mm)= 31.066
TOTAL RAINFALL (mm)= 96.000
RUNOFF COEFFICIENT = 0.324

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

CALIB			
NASHYD (0005)	Area (ha)=	0.19	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.13	

```
     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.024 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  37.348
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.389

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.090 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  44.397
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.462

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.085 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  38.770
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.404

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.390 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  33.824
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.352

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

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--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.390    12.17    33.82
     + ID2= 2 (  0004):     0.40   0.028    12.17    31.07
       ================================================
       ID = 3 (  0020):     5.75   0.418    12.17    33.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.418    12.17    33.63
     + ID2= 2 (  0005):     0.19   0.024    12.08    37.35
       ================================================
       ID = 1 (  0020):     5.94   0.438    12.17    33.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.438    12.17    33.75
     + ID2= 2 (  0006):     0.58   0.090    12.08    44.40
       ================================================
       ID = 3 (  0020):     6.52   0.507    12.17    34.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     6.52   0.507    12.17    34.70
```

```
      + ID2= 2 (  0007):     0.69   0.085    12.08    38.77
        ====================================================
        ID = 1 (  0020):     7.21   0.582    12.17    35.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.113 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  46.571
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.485

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  30.000
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.313

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

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--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0002):     0.91   0.113    12.17    46.57
      + ID2= 2 (  0003):     0.07   0.006    12.17    30.00
        ====================================================
        ID = 3 (  0021):     0.98   0.118    12.17    45.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.024 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  37.348
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.389

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.028 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  31.066
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.324

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.090 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  44.397
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.462

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

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```
| CALIB           |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  30.000
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.313

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.085 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  38.770
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.404

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      4.25         2.01
     Dep. Storage     (mm)=      1.00         1.50
     Average Slope     (%)=      1.52         4.33
     Length            (m)=    330.00        30.00
     Mannings n           =     0.130        0.250

     Max.Eff.Inten.(mm/hr)=     95.23       137.17
               over (min)       20.00        25.00
     Storage Coeff.  (min)=     18.72 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=     20.00        60.00
     Unit Hyd. peak  (cms)=      0.06         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.60         0.17         0.681 (iii)
     TIME TO PEAK    (hrs)=     12.25        12.92         12.25
     RUNOFF VOLUME    (mm)=     95.00        70.58         84.25
     TOTAL RAINFALL   (mm)=     96.00        96.00         96.00
     RUNOFF COEFFICIENT   =      0.99         0.74          0.88

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     0.19   0.024    12.08    37.35
     + ID2= 2 (  0011):     0.58   0.090    12.08    44.40
       ================================================
       ID = 3 (  0022):     0.77   0.114    12.08    42.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     0.77   0.114    12.08    42.66
     + ID2= 2 (  0012):     0.69   0.085    12.08    38.77
       ================================================
       ID = 1 (  0022):     1.46   0.199    12.08    40.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.199    12.08    40.82
     + ID2= 2 (  0018):     6.26   0.681    12.25    84.25
       ================================================
       ID = 3 (  0022):     7.72   0.792    12.17    76.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD  (  0022)|
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```
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     7.72   0.792    12.17    76.04
     + ID2= 2 (  0008):     0.07   0.006    12.17    30.00
       ================================================
       ID = 1 (  0022):     7.79   0.798    12.17    75.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     7.79   0.798    12.17    75.62
     + ID2= 2 (  0009):     0.40   0.028    12.17    31.07
       ================================================
       ID = 3 (  0022):     8.19   0.826    12.17    73.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.090 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  44.397
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.462

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  30.000
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.313

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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```
-------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.028 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  31.066
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.324

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

```
-------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.024 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  37.348
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.389

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

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-------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.085 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  38.770
     TOTAL RAINFALL   (mm)=  96.000
     RUNOFF COEFFICIENT   =   0.404

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

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      95.23       137.17
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      18.72 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.60         0.17          0.681 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.92          12.25
     RUNOFF VOLUME    (mm)=      95.00        70.58          84.25
     TOTAL RAINFALL   (mm)=      96.00        96.00          96.00
     RUNOFF COEFFICIENT   =       0.99         0.74           0.88


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0013):     0.07   0.006    12.17    30.00
      + ID2= 2 (  0014):     0.40   0.028    12.17    31.07
        ================================================
        ID = 3 (  0023):     0.47   0.034    12.17    30.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     0.47   0.034    12.17    30.91
      + ID2= 2 (  0015):     0.19   0.024    12.08    37.35
        ================================================
        ID = 1 (  0023):     0.66   0.054    12.17    32.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     0.66   0.054    12.17    32.76
      + ID2= 2 (  0016):     0.58   0.090    12.08    44.40
        ================================================
        ID = 3 (  0023):     1.24   0.144    12.08    38.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     1.24   0.144    12.08    38.20
      + ID2= 2 (  0017):     0.69   0.085    12.08    38.77
        ================================================
        ID = 1 (  0023):     1.93   0.229    12.08    38.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     1.93   0.229    12.08    38.41
      + ID2= 2 (  0019):     6.26   0.681    12.25    84.25
        ================================================
        ID = 3 (  0023):     8.19   0.826    12.17    73.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
```

```
   INFLOW : ID= 2 (  0023)      8.190      0.826     12.17      73.45
   OUTFLOW: ID= 1 (  0024)      8.190      0.461     12.67      73.44

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.85
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1389

--------------------------------------------------------------------------------
**********************************
** SIMULATION:25yr 6hr 5min SCS **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\703dde9e
| Ptotal= 63.00 mm |    Comments: 25yr 6hr 5min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    0.00 |  1.67    6.30 |  3.25   13.86 |  4.83    3.78
                0.17    2.52 |  1.75    6.30 |  3.33   13.86 |  4.92    3.78
                0.25    2.52 |  1.83    6.30 |  3.42   13.86 |  5.00    3.78
                0.33    2.52 |  1.92    6.30 |  3.50   13.86 |  5.08    3.78
                0.42    2.52 |  2.00    6.30 |  3.58   13.86 |  5.17    2.52
                0.50    2.52 |  2.08    6.30 |  3.67    6.30 |  5.25    2.52
                0.58    2.52 |  2.17    7.56 |  3.75    6.30 |  5.33    2.52
                0.67    3.78 |  2.25    7.56 |  3.83    6.30 |  5.42    2.52
                0.75    3.78 |  2.33    7.56 |  3.92    6.30 |  5.50    2.52
                0.83    3.78 |  2.42    7.56 |  4.00    6.30 |  5.58    2.52
                0.92    3.78 |  2.50    7.56 |  4.08    6.30 |  5.67    2.52
                1.00    3.78 |  2.58    7.56 |  4.17    5.04 |  5.75    2.52
                1.08    3.78 |  2.67   37.80 |  4.25    5.04 |  5.83    2.52
                1.17    3.78 |  2.75   37.80 |  4.33    5.04 |  5.92    2.52
                1.25    3.78 |  2.83   37.80 |  4.42    5.04 |  6.00    2.52
                1.33    3.78 |  2.92   98.28 |  4.50    5.04 |  6.08    2.52
                1.42    3.78 |  3.00   98.28 |  4.58    5.04 |
                1.50    3.78 |  3.08   98.28 |  4.67    3.78 |
                1.58    3.78 |  3.17   13.86 |  4.75    3.78 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.017 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  14.031
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.223

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.015 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  17.715
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.281

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.059 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  22.027
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.350

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.054 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  18.590
```

```
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.295

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.235 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  15.515
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.246

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     5.35   0.235     3.25    15.51
      + ID2= 2 (  0004):     0.40   0.017     3.17    14.03
        ================================================
        ID = 3 (  0020):     5.75   0.252     3.25    15.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     5.75   0.252     3.25    15.41
      + ID2= 2 (  0005):     0.19   0.015     3.08    17.72
        ================================================
        ID = 1 (  0020):     5.94   0.263     3.17    15.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0020):     5.94   0.263     3.17    15.49
      + ID2= 2 (  0006):     0.58   0.059     3.08    22.03
        ================================================
        ID = 3 (  0020):     6.52   0.310     3.17    16.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     6.52   0.310     3.17    16.07
      + ID2= 2 (  0007):     0.69   0.054     3.08    18.59
        ================================================
        ID = 1 (  0020):     7.21   0.358     3.17    16.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.074 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  23.137
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.367

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  13.440
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.213

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

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--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.91   0.074     3.17    23.14
     + ID2= 2 (  0003):     0.07   0.003     3.17    13.44
       ================================================
       ID = 3 (  0021):     0.98   0.078     3.17    22.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.015 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  17.715
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.281

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.017 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  14.031
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.223

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.059 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  22.027
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.350

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  13.440
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.213

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.054 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  18.590
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.295

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                            IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      83.16       104.39
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      19.77 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.52         0.13         0.581 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.92          3.25
     RUNOFF VOLUME    (mm)=      62.00        40.51         52.54
     TOTAL RAINFALL   (mm)=      63.00        63.00         63.00
     RUNOFF COEFFICIENT   =       0.98         0.64          0.83


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     0.19   0.015     3.08    17.72
     + ID2= 2 (  0011):     0.58   0.059     3.08    22.03
       ================================================
       ID = 3 (  0022):     0.77   0.074     3.08    20.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     0.77   0.074     3.08    20.96
     + ID2= 2 (  0012):     0.69   0.054     3.08    18.59
       ================================================
       ID = 1 (  0022):     1.46   0.128     3.08    19.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.128     3.08    19.84
     + ID2= 2 (  0018):     6.26   0.581     3.25    52.54
       ================================================
       ID = 3 (  0022):     7.72   0.654     3.25    46.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     7.72   0.654     3.25    46.35
     + ID2= 2 (  0008):     0.07   0.003     3.17    13.44
       ================================================
       ID = 1 (  0022):     7.79   0.657     3.25    46.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     7.79   0.657     3.25    46.06
     + ID2= 2 (  0009):     0.40   0.017     3.17    14.03
       ================================================
       ID = 3 (  0022):     8.19   0.673     3.25    44.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.059 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  22.027
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.350

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

```
--------------------
```

```
| CALIB           |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  13.440
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.213

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.017 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  14.031
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.223

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.015 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  17.715
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.281

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.054 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  18.590
     TOTAL RAINFALL   (mm)=  63.000
     RUNOFF COEFFICIENT   =   0.295

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      83.16       104.39
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      19.77 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.52         0.13          0.581 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.92           3.25
     RUNOFF VOLUME    (mm)=      62.00        40.51          52.54
     TOTAL RAINFALL   (mm)=      63.00        63.00          63.00
     RUNOFF COEFFICIENT   =       0.98         0.64           0.83


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
```

```
       ID1= 1 (  0013):     0.07   0.003     3.17    13.44
     + ID2= 2 (  0014):     0.40   0.017     3.17    14.03
       ================================================
       ID = 3 (  0023):     0.47   0.020     3.17    13.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.020     3.17    13.94
     + ID2= 2 (  0015):     0.19   0.015     3.08    17.72
       ================================================
       ID = 1 (  0023):     0.66   0.033     3.17    15.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.033     3.17    15.03
     + ID2= 2 (  0016):     0.58   0.059     3.08    22.03
       ================================================
       ID = 3 (  0023):     1.24   0.091     3.08    18.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.091     3.08    18.30
     + ID2= 2 (  0017):     0.69   0.054     3.08    18.59
       ================================================
       ID = 1 (  0023):     1.93   0.145     3.08    18.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.145     3.08    18.40
     + ID2= 2 (  0019):     6.26   0.581     3.25    52.54
       ================================================
       ID = 3 (  0023):     8.19   0.673     3.25    44.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)      8.190      0.673      3.25      44.49
   OUTFLOW: ID= 1 (  0024)      8.190      0.308      3.92      44.48

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.82
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1250

--------------------------------------------------------------------------------
**********
** SIMULATION:2yr 12hr 5min SCS **
**********

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\b9b99edc
| Ptotal= 43.20 mm |    Comments: 2yr 12hr 5min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    0.00 |  3.17    1.73 |  6.25    7.78 |  9.33    1.51
                0.17    1.08 |  3.25    1.73 |  6.33    7.78 |  9.42    1.51
                0.25    1.08 |  3.33    1.73 |  6.42    7.78 |  9.50    1.51
                0.33    1.08 |  3.42    1.73 |  6.50    7.78 |  9.58    1.51
                0.42    1.08 |  3.50    1.73 |  6.58    7.78 |  9.67    1.51
                0.50    1.08 |  3.58    1.73 |  6.67    3.46 |  9.75    1.51
                0.58    1.08 |  3.67    1.73 |  6.75    3.46 |  9.83    1.51
                0.67    1.08 |  3.75    1.73 |  6.83    3.46 |  9.92    1.51
                0.75    1.08 |  3.83    1.73 |  6.92    3.46 | 10.00    1.51
                0.83    1.08 |  3.92    1.73 |  7.00    3.46 | 10.08    1.51
                0.92    1.08 |  4.00    1.73 |  7.08    3.46 | 10.17    0.86
                1.00    1.08 |  4.08    1.73 |  7.17    2.59 | 10.25    0.86
                1.08    1.08 |  4.17    2.59 |  7.25    2.59 | 10.33    0.86
                1.17    1.08 |  4.25    2.59 |  7.33    2.59 | 10.42    0.86
                1.25    1.08 |  4.33    2.59 |  7.42    2.59 | 10.50    0.86
                1.33    1.08 |  4.42    2.59 |  7.50    2.59 | 10.58    0.86
                1.42    1.08 |  4.50    2.59 |  7.58    2.59 | 10.67    0.86
                1.50    1.08 |  4.58    2.59 |  7.67    2.59 | 10.75    0.86
                1.58    1.08 |  4.67    3.46 |  7.75    2.59 | 10.83    0.86
```

1.67	1.08	4.75	3.46	7.83	2.59	10.92	0.86
1.75	1.08	4.83	3.46	7.92	2.59	11.00	0.86
1.83	1.08	4.92	3.46	8.00	2.59	11.08	0.86
1.92	1.08	5.00	3.46	8.08	2.59	11.17	0.86
2.00	1.08	5.08	3.46	8.17	1.51	11.25	0.86
2.08	1.08	5.17	5.18	8.25	1.51	11.33	0.86
2.17	1.30	5.25	5.18	8.33	1.51	11.42	0.86
2.25	1.30	5.33	5.18	8.42	1.51	11.50	0.86
2.33	1.30	5.42	5.18	8.50	1.51	11.58	0.86
2.42	1.30	5.50	5.18	8.58	1.51	11.67	0.86
2.50	1.30	5.58	5.18	8.67	1.51	11.75	0.86
2.58	1.30	5.67	20.74	8.75	1.51	11.83	0.86
2.67	1.30	5.75	20.74	8.83	1.51	11.92	0.86
2.75	1.30	5.83	20.74	8.92	1.51	12.00	0.86
2.83	1.30	5.92	57.02	9.00	1.51	12.08	0.86
2.92	1.30	6.00	57.02	9.08	1.51		
3.00	1.30	6.08	57.02	9.17	1.51		
3.08	1.30	6.17	7.78	9.25	1.51		

CALIB					
NASHYD (0004)	Area	(ha)=	0.40	Curve Number (CN)=	61.0
ID= 1 DT= 5.0 min	Ia	(mm)=	7.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.23		

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.006 (i)
TIME TO PEAK (hrs)= 6.167
RUNOFF VOLUME (mm)= 6.360
TOTAL RAINFALL (mm)= 43.200
RUNOFF COEFFICIENT = 0.147

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

CALIB					
NASHYD (0005)	Area	(ha)=	0.19	Curve Number (CN)=	67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.90	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.13		

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.006 (i)
TIME TO PEAK (hrs)= 6.083
RUNOFF VOLUME (mm)= 8.481
TOTAL RAINFALL (mm)= 43.200
RUNOFF COEFFICIENT = 0.196

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

CALIB					
NASHYD (0006)	Area	(ha)=	0.58	Curve Number (CN)=	73.0
ID= 1 DT= 5.0 min	Ia	(mm)=	4.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.12		

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 6.083
RUNOFF VOLUME (mm)= 11.042
TOTAL RAINFALL (mm)= 43.200
RUNOFF COEFFICIENT = 0.256

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

CALIB					
NASHYD (0007)	Area	(ha)=	0.69	Curve Number (CN)=	68.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.40	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.14		

Unit Hyd Qpeak (cms)= 0.188

PEAK FLOW (cms)= 0.022 (i)
TIME TO PEAK (hrs)= 6.083
RUNOFF VOLUME (mm)= 9.013
TOTAL RAINFALL (mm)= 43.200
RUNOFF COEFFICIENT = 0.209

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

CALIB					
NASHYD (0001)	Area	(ha)=	5.35	Curve Number (CN)=	64.0
ID= 1 DT= 5.0 min	Ia	(mm)=	7.50	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.25		

Unit Hyd Qpeak (cms)= 0.817

PEAK FLOW (cms)= 0.090 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 7.131
TOTAL RAINFALL (mm)= 43.200
RUNOFF COEFFICIENT = 0.165

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

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--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.090     6.25     7.13
     + ID2= 2 (  0004):     0.40   0.006     6.17     6.36
       ================================================
       ID = 3 (  0020):     5.75   0.096     6.25     7.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.096     6.25     7.08
     + ID2= 2 (  0005):     0.19   0.006     6.08     8.48
       ================================================
       ID = 1 (  0020):     5.94   0.100     6.17     7.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.100     6.17     7.12
     + ID2= 2 (  0006):     0.58   0.025     6.08    11.04
       ================================================
       ID = 3 (  0020):     6.52   0.120     6.17     7.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     6.52   0.120     6.17     7.47
     + ID2= 2 (  0007):     0.69   0.022     6.08     9.01
       ================================================
       ID = 1 (  0020):     7.21   0.139     6.17     7.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.031 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  11.536
     TOTAL RAINFALL   (mm)=  43.200
     RUNOFF COEFFICIENT   =   0.267

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.001 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=   6.035
     TOTAL RAINFALL   (mm)=  43.200
     RUNOFF COEFFICIENT   =   0.140

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.91   0.031     6.17    11.54
     + ID2= 2 (  0003):     0.07   0.001     6.17     6.03
       ================================================
       ID = 3 (  0021):     0.98   0.032     6.17    11.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056
```

```
     PEAK FLOW      (cms)=   0.006 (i)
     TIME TO PEAK   (hrs)=   6.083
     RUNOFF VOLUME   (mm)=   8.481
     TOTAL RAINFALL  (mm)=  43.200
     RUNOFF COEFFICIENT  =   0.196

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW      (cms)=   0.006 (i)
     TIME TO PEAK   (hrs)=   6.167
     RUNOFF VOLUME   (mm)=   6.360
     TOTAL RAINFALL  (mm)=  43.200
     RUNOFF COEFFICIENT  =   0.147

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW      (cms)=   0.025 (i)
     TIME TO PEAK   (hrs)=   6.083
     RUNOFF VOLUME   (mm)=  11.042
     TOTAL RAINFALL  (mm)=  43.200
     RUNOFF COEFFICIENT  =   0.256

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW      (cms)=   0.001 (i)
     TIME TO PEAK   (hrs)=   6.167
     RUNOFF VOLUME   (mm)=   6.035
     TOTAL RAINFALL  (mm)=  43.200
     RUNOFF COEFFICIENT  =   0.140

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW      (cms)=   0.022 (i)
     TIME TO PEAK   (hrs)=   6.083
     RUNOFF VOLUME   (mm)=   9.013
     TOTAL RAINFALL  (mm)=  43.200
     RUNOFF COEFFICIENT  =   0.209

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      42.51        52.34
               over (min)        25.00        35.00
     Storage Coeff.  (min)=      25.85 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.26         0.07          0.294 (iii)
     TIME TO PEAK   (hrs)=       6.33         6.92           6.33
     RUNOFF VOLUME   (mm)=      42.20        23.70          34.05
     TOTAL RAINFALL  (mm)=      43.20        43.20          43.20
     RUNOFF COEFFICIENT  =       0.98         0.55           0.79


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0010):		0.19	0.006	6.08	8.48
+ ID2= 2 (0011):		0.58	0.025	6.08	11.04
ID = 3 (0022):		0.77	0.031	6.08	10.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0022):		0.77	0.031	6.08	10.41
+ ID2= 2 (0012):		0.69	0.022	6.08	9.01
ID = 1 (0022):		1.46	0.053	6.08	9.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0022):		1.46	0.053	6.08	9.75
+ ID2= 2 (0018):		6.26	0.294	6.33	34.05
ID = 3 (0022):		7.72	0.313	6.33	29.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0022):		7.72	0.313	6.33	29.46
+ ID2= 2 (0008):		0.07	0.001	6.17	6.03
ID = 1 (0022):		7.79	0.314	6.33	29.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0022)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0022):		7.79	0.314	6.33	29.25
+ ID2= 2 (0009):		0.40	0.006	6.17	6.36
ID = 3 (0022):		8.19	0.320	6.33	28.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0016)	Area	(ha)=	0.58	Curve Number	(CN)= 73.0
ID= 1 DT= 5.0 min	Ia	(mm)=	4.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.12		

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 6.083
RUNOFF VOLUME (mm)= 11.042
TOTAL RAINFALL (mm)= 43.200
RUNOFF COEFFICIENT = 0.256

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

CALIB					
NASHYD (0013)	Area	(ha)=	0.07	Curve Number	(CN)= 60.0
ID= 1 DT= 5.0 min	Ia	(mm)=	8.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.18		

Unit Hyd Qpeak (cms)= 0.015

PEAK FLOW (cms)= 0.001 (i)
TIME TO PEAK (hrs)= 6.167
RUNOFF VOLUME (mm)= 6.035
TOTAL RAINFALL (mm)= 43.200
RUNOFF COEFFICIENT = 0.140

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

CALIB					
NASHYD (0014)	Area	(ha)=	0.40	Curve Number	(CN)= 61.0
ID= 1 DT= 5.0 min	Ia	(mm)=	7.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.23		

```
     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=   6.360
     TOTAL RAINFALL   (mm)=  43.200
     RUNOFF COEFFICIENT   =   0.147

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=   8.481
     TOTAL RAINFALL   (mm)=  43.200
     RUNOFF COEFFICIENT   =   0.196

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=   9.013
     TOTAL RAINFALL   (mm)=  43.200
     RUNOFF COEFFICIENT   =   0.209

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      42.51        52.34
               over (min)        25.00        35.00
     Storage Coeff.  (min)=      25.85 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.26         0.07          0.294 (iii)
     TIME TO PEAK    (hrs)=       6.33         6.92           6.33
     RUNOFF VOLUME    (mm)=      42.20        23.70          34.05
     TOTAL RAINFALL   (mm)=      43.20        43.20          43.20
     RUNOFF COEFFICIENT   =       0.98         0.55           0.79


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0013):     0.07   0.001     6.17     6.03
      + ID2= 2 (  0014):     0.40   0.006     6.17     6.36
        ================================================
        ID = 3 (  0023):     0.47   0.008     6.17     6.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     0.47   0.008     6.17     6.31
      + ID2= 2 (  0015):     0.19   0.006     6.08     8.48
        ================================================
        ID = 1 (  0023):     0.66   0.013     6.17     6.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

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```

```
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.013     6.17     6.94
     + ID2= 2 (  0016):     0.58   0.025     6.08    11.04
       ================================================
       ID = 3 (  0023):     1.24   0.037     6.08     8.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.037     6.08     8.86
     + ID2= 2 (  0017):     0.69   0.022     6.08     9.01
       ================================================
       ID = 1 (  0023):     1.93   0.059     6.08     8.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.059     6.08     8.91
     + ID2= 2 (  0019):     6.26   0.294     6.33    34.05
       ================================================
       ID = 3 (  0023):     8.19   0.320     6.33    28.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)     8.190      0.320      6.33      28.13
   OUTFLOW: ID= 1 (  0024)     8.190      0.167      7.08      28.12

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.17
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0676

--------------------------------------------------------------------------------
```

```
*********************************
** SIMULATION:2yr 24hr 5min SCS **
*********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\862fbbb9
| Ptotal= 52.80 mm |    Comments: 2yr 24hr 5min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	6.17	0.95	12.25	7.60	18.33	0.95
0.17	0.58	6.25	0.95	12.33	7.60	18.42	0.95
0.25	0.58	6.33	0.95	12.42	7.60	18.50	0.95
0.33	0.58	6.42	0.95	12.50	7.60	18.58	0.95
0.42	0.58	6.50	0.95	12.58	7.60	18.67	0.95
0.50	0.58	6.58	0.95	12.67	3.91	18.75	0.95
0.58	0.58	6.67	0.95	12.75	3.91	18.83	0.95
0.67	0.58	6.75	0.95	12.83	3.91	18.92	0.95
0.75	0.58	6.83	0.95	12.92	3.91	19.00	0.95
0.83	0.58	6.92	0.95	13.00	3.91	19.08	0.95
0.92	0.58	7.00	0.95	13.08	3.91	19.17	0.95
1.00	0.58	7.08	0.95	13.17	2.85	19.25	0.95
1.08	0.58	7.17	1.16	13.25	2.85	19.33	0.95
1.17	0.58	7.25	1.16	13.33	2.85	19.42	0.95
1.25	0.58	7.33	1.16	13.42	2.85	19.50	0.95
1.33	0.58	7.42	1.16	13.50	2.85	19.58	0.95
1.42	0.58	7.50	1.16	13.58	2.85	19.67	0.95
1.50	0.58	7.58	1.16	13.67	2.22	19.75	0.95
1.58	0.58	7.67	1.16	13.75	2.22	19.83	0.95
1.67	0.58	7.75	1.16	13.83	2.22	19.92	0.95
1.75	0.58	7.83	1.16	13.92	2.22	20.00	0.95
1.83	0.58	7.92	1.16	14.00	2.22	20.08	0.95
1.92	0.58	8.00	1.16	14.08	2.22	20.17	0.63
2.00	0.58	8.08	1.16	14.17	1.58	20.25	0.63
2.08	0.58	8.17	1.37	14.25	1.58	20.33	0.63
2.17	0.69	8.25	1.37	14.33	1.58	20.42	0.63
2.25	0.69	8.33	1.37	14.42	1.58	20.50	0.63
2.33	0.69	8.42	1.37	14.50	1.58	20.58	0.63
2.42	0.69	8.50	1.37	14.58	1.58	20.67	0.63
2.50	0.69	8.58	1.37	14.67	1.58	20.75	0.63
2.58	0.69	8.67	1.48	14.75	1.58	20.83	0.63
2.67	0.69	8.75	1.48	14.83	1.58	20.92	0.63
2.75	0.69	8.83	1.48	14.92	1.58	21.00	0.63
2.83	0.69	8.92	1.48	15.00	1.58	21.08	0.63
2.92	0.69	9.00	1.48	15.08	1.58	21.17	0.63
3.00	0.69	9.08	1.48	15.17	1.58	21.25	0.63
3.08	0.69	9.17	1.69	15.25	1.58	21.33	0.63
3.17	0.69	9.25	1.69	15.33	1.58	21.42	0.63
3.25	0.69	9.33	1.69	15.42	1.58	21.50	0.63
3.33	0.69	9.42	1.69	15.50	1.58	21.58	0.63

3.42	0.69	9.50	1.69	15.58	1.58	21.67	0.63
3.50	0.69	9.58	1.69	15.67	1.58	21.75	0.63
3.58	0.69	9.67	1.90	15.75	1.58	21.83	0.63
3.67	0.69	9.75	1.90	15.83	1.58	21.92	0.63
3.75	0.69	9.83	1.90	15.92	1.58	22.00	0.63
3.83	0.69	9.92	1.90	16.00	1.58	22.08	0.63
3.92	0.69	10.00	1.90	16.08	1.58	22.17	0.63
4.00	0.69	10.08	1.90	16.17	0.95	22.25	0.63
4.08	0.69	10.17	2.43	16.25	0.95	22.33	0.63
4.17	0.84	10.25	2.43	16.33	0.95	22.42	0.63
4.25	0.84	10.33	2.43	16.42	0.95	22.50	0.63
4.33	0.84	10.42	2.43	16.50	0.95	22.58	0.63
4.42	0.84	10.50	2.43	16.58	0.95	22.67	0.63
4.50	0.84	10.58	2.43	16.67	0.95	22.75	0.63
4.58	0.84	10.67	3.27	16.75	0.95	22.83	0.63
4.67	0.84	10.75	3.27	16.83	0.95	22.92	0.63
4.75	0.84	10.83	3.27	16.92	0.95	23.00	0.63
4.83	0.84	10.92	3.27	17.00	0.95	23.08	0.63
4.92	0.84	11.00	3.27	17.08	0.95	23.17	0.63
5.00	0.84	11.08	3.27	17.17	0.95	23.25	0.63
5.08	0.84	11.17	5.07	17.25	0.95	23.33	0.63
5.17	0.84	11.25	5.07	17.33	0.95	23.42	0.63
5.25	0.84	11.33	5.07	17.42	0.95	23.50	0.63
5.33	0.84	11.42	5.07	17.50	0.95	23.58	0.63
5.42	0.84	11.50	5.07	17.58	0.95	23.67	0.63
5.50	0.84	11.58	5.07	17.67	0.95	23.75	0.63
5.58	0.84	11.67	15.63	17.75	0.95	23.83	0.63
5.67	0.84	11.75	15.63	17.83	0.95	23.92	0.63
5.75	0.84	11.83	15.63	17.92	0.95	24.00	0.63
5.83	0.84	11.92	64.63	18.00	0.95	24.08	0.63
5.92	0.84	12.00	64.63	18.08	0.95		
6.00	0.84	12.08	64.63	18.17	0.95		
6.08	0.84	12.17	7.60	18.25	0.95		

CALIB					
NASHYD (0004)	Area (ha)=	0.40	Curve Number (CN)=	61.0	
ID= 1 DT= 5.0 min	Ia (mm)=	7.70	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.23			

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.009 (i)
TIME TO PEAK (hrs)= 12.167
RUNOFF VOLUME (mm)= 9.790
TOTAL RAINFALL (mm)= 52.800
RUNOFF COEFFICIENT = 0.185

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

CALIB					
NASHYD (0005)	Area (ha)=	0.19	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.90	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.13			

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.008 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 12.660
TOTAL RAINFALL (mm)= 52.800
RUNOFF COEFFICIENT = 0.240

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

CALIB					
NASHYD (0006)	Area (ha)=	0.58	Curve Number (CN)=	73.0	
ID= 1 DT= 5.0 min	Ia (mm)=	4.70	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.12			

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.032 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 16.070
TOTAL RAINFALL (mm)= 52.800
RUNOFF COEFFICIENT = 0.304

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

CALIB					
NASHYD (0007)	Area (ha)=	0.69	Curve Number (CN)=	68.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.40	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.14			

Unit Hyd Qpeak (cms)= 0.188

PEAK FLOW (cms)= 0.028 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 13.358
TOTAL RAINFALL (mm)= 52.800
RUNOFF COEFFICIENT = 0.253

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

```
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.119 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=  10.896
     TOTAL RAINFALL   (mm)=  52.800
     RUNOFF COEFFICIENT   =   0.206

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

```
--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     5.35   0.119    12.25    10.90
      + ID2= 2 (  0004):     0.40   0.009    12.17     9.79
        ================================================
        ID = 3 (  0020):     5.75   0.127    12.17    10.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     5.75   0.127    12.17    10.82
      + ID2= 2 (  0005):     0.19   0.008    12.08    12.66
        ================================================
        ID = 1 (  0020):     5.94   0.134    12.17    10.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0020):     5.94   0.134    12.17    10.88
      + ID2= 2 (  0006):     0.58   0.032    12.08    16.07
        ================================================
        ID = 3 (  0020):     6.52   0.159    12.17    11.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     6.52   0.159    12.17    11.34
      + ID2= 2 (  0007):     0.69   0.028    12.08    13.36
        ================================================
        ID = 1 (  0020):     7.21   0.185    12.17    11.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.040 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  16.855
     TOTAL RAINFALL   (mm)=  52.800
     RUNOFF COEFFICIENT   =   0.319

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

```
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=   9.337
     TOTAL RAINFALL   (mm)=  52.800
     RUNOFF COEFFICIENT   =   0.177

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

```
--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
      ID1= 1 (  0002):     0.91   0.040    12.17    16.85
    + ID2= 2 (  0003):     0.07   0.002    12.17     9.34
      ================================================
      ID = 3 (  0021):     0.98   0.042    12.17    16.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB           |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.13

    Unit Hyd Qpeak  (cms)=   0.056

    PEAK FLOW       (cms)=   0.008 (i)
    TIME TO PEAK    (hrs)=  12.083
    RUNOFF VOLUME    (mm)=  12.660
    TOTAL RAINFALL   (mm)=  52.800
    RUNOFF COEFFICIENT   =   0.240

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

```
| CALIB           |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.23

    Unit Hyd Qpeak  (cms)=   0.066

    PEAK FLOW       (cms)=   0.009 (i)
    TIME TO PEAK    (hrs)=  12.167
    RUNOFF VOLUME    (mm)=   9.790
    TOTAL RAINFALL   (mm)=  52.800
    RUNOFF COEFFICIENT   =   0.185

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

```
| CALIB           |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.12

    Unit Hyd Qpeak  (cms)=   0.185

    PEAK FLOW       (cms)=   0.032 (i)
    TIME TO PEAK    (hrs)=  12.083
    RUNOFF VOLUME    (mm)=  16.070
    TOTAL RAINFALL   (mm)=  52.800
    RUNOFF COEFFICIENT   =   0.304

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

```
| CALIB           |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.18

    Unit Hyd Qpeak  (cms)=   0.015

    PEAK FLOW       (cms)=   0.002 (i)
    TIME TO PEAK    (hrs)=  12.167
    RUNOFF VOLUME    (mm)=   9.337
    TOTAL RAINFALL   (mm)=  52.800
    RUNOFF COEFFICIENT   =   0.177

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

```
| CALIB           |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.14

    Unit Hyd Qpeak  (cms)=   0.188

    PEAK FLOW       (cms)=   0.028 (i)
    TIME TO PEAK    (hrs)=  12.083
    RUNOFF VOLUME    (mm)=  13.358
    TOTAL RAINFALL   (mm)=  52.800
    RUNOFF COEFFICIENT   =   0.253

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

```
| CALIB           |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       4.25         2.01
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope     (%)=       1.52         4.33
    Length            (m)=     330.00        30.00
    Mannings n           =      0.130        0.250
```

```
     Max.Eff.Inten.(mm/hr)=      45.03        63.12
               over (min)        25.00        30.00
     Storage Coeff.  (min)=      25.26 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.08          0.316 (iii)
     TIME TO PEAK    (hrs)=      12.33        12.92          12.33
     RUNOFF VOLUME    (mm)=      51.80        31.67          42.94
     TOTAL RAINFALL   (mm)=      52.80        52.80          52.80
     RUNOFF COEFFICIENT   =       0.98         0.60           0.81


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):     0.19   0.008    12.08    12.66
      + ID2= 2 (  0011):     0.58   0.032    12.08    16.07
        ================================================
        ID = 3 (  0022):     0.77   0.040    12.08    15.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     0.77   0.040    12.08    15.23
      + ID2= 2 (  0012):     0.69   0.028    12.08    13.36
        ================================================
        ID = 1 (  0022):     1.46   0.068    12.08    14.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     1.46   0.068    12.08    14.34
      + ID2= 2 (  0018):     6.26   0.316    12.33    42.94
        ================================================
        ID = 3 (  0022):     7.72   0.340    12.33    37.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     7.72   0.340    12.33    37.53
      + ID2= 2 (  0008):     0.07   0.002    12.17     9.34
        ================================================
        ID = 1 (  0022):     7.79   0.341    12.33    37.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     7.79   0.341    12.33    37.28
      + ID2= 2 (  0009):     0.40   0.009    12.17     9.79
        ================================================
        ID = 3 (  0022):     8.19   0.348    12.33    35.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.032 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  16.070
     TOTAL RAINFALL   (mm)=  52.800
     RUNOFF COEFFICIENT   =   0.304

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

```
-------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015
```

```
     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=   9.337
     TOTAL RAINFALL   (mm)=  52.800
     RUNOFF COEFFICIENT   =   0.177

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.009 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=   9.790
     TOTAL RAINFALL   (mm)=  52.800
     RUNOFF COEFFICIENT   =   0.185

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.008 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  12.660
     TOTAL RAINFALL   (mm)=  52.800
     RUNOFF COEFFICIENT   =   0.240

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.028 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  13.358
     TOTAL RAINFALL   (mm)=  52.800
     RUNOFF COEFFICIENT   =   0.253

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25          2.01
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.52          4.33
     Length            (m)=     330.00         30.00
     Mannings n           =      0.130         0.250

     Max.Eff.Inten.(mm/hr)=      45.03         63.12
               over (min)        25.00         30.00
     Storage Coeff.  (min)=      25.26 (ii)    60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00         60.00
     Unit Hyd. peak  (cms)=       0.04          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.28          0.08          0.316 (iii)
     TIME TO PEAK    (hrs)=      12.33         12.92          12.33
     RUNOFF VOLUME    (mm)=      51.80         31.67          42.94
     TOTAL RAINFALL   (mm)=      52.80         52.80          52.80
     RUNOFF COEFFICIENT   =       0.98          0.60           0.81


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):      0.07   0.002    12.17     9.34
     + ID2= 2 (  0014):      0.40   0.009    12.17     9.79
       ================================================
       ID = 3 (  0023):      0.47   0.010    12.17     9.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.010    12.17     9.72
     + ID2= 2 (  0015):     0.19   0.008    12.08    12.66
       ================================================
       ID = 1 (  0023):     0.66   0.017    12.17    10.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.017    12.17    10.57
     + ID2= 2 (  0016):     0.58   0.032    12.08    16.07
       ================================================
       ID = 3 (  0023):     1.24   0.049    12.08    13.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.049    12.08    13.14
     + ID2= 2 (  0017):     0.69   0.028    12.08    13.36
       ================================================
       ID = 1 (  0023):     1.93   0.077    12.08    13.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.077    12.08    13.22
     + ID2= 2 (  0019):     6.26   0.316    12.33    42.94
       ================================================
       ID = 3 (  0023):     8.19   0.348    12.33    35.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)      8.190      0.348     12.33      35.94
   OUTFLOW: ID= 1 (  0024)      8.190      0.179     13.08      35.92

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.50
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0726

--------------------------------------------------------------------------------
*********************************
** SIMULATION:2yr 6hr 5min SCS **
*********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\043d8f03
| Ptotal= 34.80 mm |    Comments: 2yr 6hr 5min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	1.67	3.48	3.25	7.66	4.83	2.09
0.17	1.39	1.75	3.48	3.33	7.66	4.92	2.09
0.25	1.39	1.83	3.48	3.42	7.66	5.00	2.09
0.33	1.39	1.92	3.48	3.50	7.66	5.08	2.09
0.42	1.39	2.00	3.48	3.58	7.66	5.17	1.39
0.50	1.39	2.08	3.48	3.67	3.48	5.25	1.39
0.58	1.39	2.17	4.18	3.75	3.48	5.33	1.39
0.67	2.09	2.25	4.18	3.83	3.48	5.42	1.39
0.75	2.09	2.33	4.18	3.92	3.48	5.50	1.39
0.83	2.09	2.42	4.18	4.00	3.48	5.58	1.39
0.92	2.09	2.50	4.18	4.08	3.48	5.67	1.39
1.00	2.09	2.58	4.18	4.17	2.78	5.75	1.39
1.08	2.09	2.67	20.88	4.25	2.78	5.83	1.39
1.17	2.09	2.75	20.88	4.33	2.78	5.92	1.39
1.25	2.09	2.83	20.88	4.42	2.78	6.00	1.39
1.33	2.09	2.92	54.29	4.50	2.78	6.08	1.39
1.42	2.09	3.00	54.29	4.58	2.78		
1.50	2.09	3.08	54.29	4.67	2.09		
1.58	2.09	3.17	7.66	4.75	2.09		

```
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
```

```
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=   3.870
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.111

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

---------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   5.368
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.154

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

---------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.019 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   7.206
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.207

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

---------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.016 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   5.760
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.166

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

---------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.063 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=   4.376
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.126

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

---------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.063     3.25     4.38
     + ID2= 2 (  0004):     0.40   0.004     3.25     3.87
       ================================================
       ID = 3 (  0020):     5.75   0.067     3.25     4.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
---------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.067     3.25     4.34
     + ID2= 2 (  0005):     0.19   0.004     3.08     5.37
       ================================================
       ID = 1 (  0020):     5.94   0.070     3.25     4.37
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0020):		5.94	0.070	3.25	4.37
+ ID2= 2 (0006):		0.58	0.019	3.08	7.21
ID = 3 (0020):		6.52	0.083	3.17	4.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0020):		6.52	0.083	3.17	4.63
+ ID2= 2 (0007):		0.69	0.016	3.08	5.76
ID = 1 (0020):		7.21	0.098	3.17	4.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0002)	Area	(ha)=	0.91	Curve Number	(CN)= 75.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.60	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.19		

Unit Hyd Qpeak (cms)= 0.183

PEAK FLOW (cms)= 0.023 (i)
TIME TO PEAK (hrs)= 3.167
RUNOFF VOLUME (mm)= 7.470
TOTAL RAINFALL (mm)= 34.800
RUNOFF COEFFICIENT = 0.215

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

CALIB					
NASHYD (0003)	Area	(ha)=	0.07	Curve Number	(CN)= 60.0
ID= 1 DT= 5.0 min	Ia	(mm)=	8.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.18		

Unit Hyd Qpeak (cms)= 0.015

PEAK FLOW (cms)= 0.001 (i)
TIME TO PEAK (hrs)= 3.167
RUNOFF VOLUME (mm)= 3.644
TOTAL RAINFALL (mm)= 34.800
RUNOFF COEFFICIENT = 0.105

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

ADD HYD (0021)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0002):		0.91	0.023	3.17	7.47
+ ID2= 2 (0003):		0.07	0.001	3.17	3.64
ID = 3 (0021):		0.98	0.024	3.17	7.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0010)	Area	(ha)=	0.19	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.90	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.13		

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.004 (i)
TIME TO PEAK (hrs)= 3.083
RUNOFF VOLUME (mm)= 5.368
TOTAL RAINFALL (mm)= 34.800
RUNOFF COEFFICIENT = 0.154

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

CALIB					
NASHYD (0009)	Area	(ha)=	0.40	Curve Number	(CN)= 61.0
ID= 1 DT= 5.0 min	Ia	(mm)=	7.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.23		

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.004 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 3.870
TOTAL RAINFALL (mm)= 34.800
RUNOFF COEFFICIENT = 0.111

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

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.019 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   7.206
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.207

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.001 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   3.644
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.105

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.016 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   5.760
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.166

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

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      40.92        45.31
               over (min)        25.00        35.00
     Storage Coeff.  (min)=      26.25 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.25         0.06         0.272 (iii)
     TIME TO PEAK    (hrs)=       3.33         4.00          3.33
     RUNOFF VOLUME    (mm)=      33.80        17.11         26.45
     TOTAL RAINFALL   (mm)=      34.80        34.80         34.80
     RUNOFF COEFFICIENT   =       0.97         0.49          0.76


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):     0.19   0.004     3.08     5.37
      + ID2= 2 (  0011):     0.58   0.019     3.08     7.21
        ================================================
        ID = 3 (  0022):     0.77   0.023     3.08     6.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     0.77   0.023     3.08     6.75
      + ID2= 2 (  0012):     0.69   0.016     3.08     5.76
```

```
       ================================================
       ID = 1 (  0022):     1.46   0.040     3.08     6.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.040     3.08     6.28
     + ID2= 2 (  0018):     6.26   0.272     3.33    26.45
       ================================================
       ID = 3 (  0022):     7.72   0.288     3.33    22.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     7.72   0.288     3.33    22.64
     + ID2= 2 (  0008):     0.07   0.001     3.17     3.64
       ================================================
       ID = 1 (  0022):     7.79   0.289     3.33    22.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     7.79   0.289     3.33    22.47
     + ID2= 2 (  0009):     0.40   0.004     3.25     3.87
       ================================================
       ID = 3 (  0022):     8.19   0.293     3.33    21.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.019 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   7.206
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.207

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

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.001 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   3.644
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.105

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

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=   3.870
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.111

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

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   5.368
     TOTAL RAINFALL   (mm)=  34.800
```

```
     RUNOFF COEFFICIENT   =   0.154

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.016 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   5.760
     TOTAL RAINFALL   (mm)=  34.800
     RUNOFF COEFFICIENT   =   0.166

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      40.92        45.31
               over (min)        25.00        35.00
     Storage Coeff.  (min)=      26.25 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00        60.00
     Unit Hyd. peak  (cms)=       0.04         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.25         0.06         0.272 (iii)
     TIME TO PEAK    (hrs)=       3.33         4.00          3.33
     RUNOFF VOLUME    (mm)=      33.80        17.11         26.45
     TOTAL RAINFALL   (mm)=      34.80        34.80         34.80
     RUNOFF COEFFICIENT   =       0.97         0.49          0.76


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):     0.07   0.001     3.17     3.64
     + ID2= 2 (  0014):     0.40   0.004     3.25     3.87
       ================================================
       ID = 3 (  0023):     0.47   0.005     3.17     3.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.005     3.17     3.84
     + ID2= 2 (  0015):     0.19   0.004     3.08     5.37
       ================================================
       ID = 1 (  0023):     0.66   0.009     3.17     4.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.009     3.17     4.28
     + ID2= 2 (  0016):     0.58   0.019     3.08     7.21
       ================================================
       ID = 3 (  0023):     1.24   0.028     3.08     5.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.028     3.08     5.65
     + ID2= 2 (  0017):     0.69   0.016     3.08     5.76
       ================================================
       ID = 1 (  0023):     1.93   0.044     3.08     5.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.044     3.08     5.69
     + ID2= 2 (  0019):     6.26   0.272     3.33    26.45
       ================================================
       ID = 3 (  0023):     8.19   0.293     3.33    21.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7970      0.1600
                         0.3210     0.1300   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)     8.190      0.293      3.33      21.56
   OUTFLOW: ID= 1 (  0024)     8.190      0.150      4.08      21.55

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.15
                 TIME SHIFT OF PEAK FLOW         (min)= 45.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0606

--------------------------------------------------------------------------------
**********************************
** SIMULATION:50yr 12hr 5min SCS **
**********************************

-------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\6a8fa9a2
| Ptotal= 86.40 mm |    Comments: 50yr 12hr 5min SCS
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    0.00 |  3.17    3.46 |  6.25   15.55 |  9.33    3.02
                0.17    2.16 |  3.25    3.46 |  6.33   15.55 |  9.42    3.02
                0.25    2.16 |  3.33    3.46 |  6.42   15.55 |  9.50    3.02
                0.33    2.16 |  3.42    3.46 |  6.50   15.55 |  9.58    3.02
                0.42    2.16 |  3.50    3.46 |  6.58   15.55 |  9.67    3.02
                0.50    2.16 |  3.58    3.46 |  6.67    6.91 |  9.75    3.02
                0.58    2.16 |  3.67    3.46 |  6.75    6.91 |  9.83    3.02
                0.67    2.16 |  3.75    3.46 |  6.83    6.91 |  9.92    3.02
                0.75    2.16 |  3.83    3.46 |  6.92    6.91 | 10.00    3.02
                0.83    2.16 |  3.92    3.46 |  7.00    6.91 | 10.08    3.02
                0.92    2.16 |  4.00    3.46 |  7.08    6.91 | 10.17    1.73
                1.00    2.16 |  4.08    3.46 |  7.17    5.18 | 10.25    1.73
                1.08    2.16 |  4.17    5.18 |  7.25    5.18 | 10.33    1.73
                1.17    2.16 |  4.25    5.18 |  7.33    5.18 | 10.42    1.73
                1.25    2.16 |  4.33    5.18 |  7.42    5.18 | 10.50    1.73
                1.33    2.16 |  4.42    5.18 |  7.50    5.18 | 10.58    1.73
                1.42    2.16 |  4.50    5.18 |  7.58    5.18 | 10.67    1.73
                1.50    2.16 |  4.58    5.18 |  7.67    5.18 | 10.75    1.73
                1.58    2.16 |  4.67    6.91 |  7.75    5.18 | 10.83    1.73
                1.67    2.16 |  4.75    6.91 |  7.83    5.18 | 10.92    1.73
                1.75    2.16 |  4.83    6.91 |  7.92    5.18 | 11.00    1.73
                1.83    2.16 |  4.92    6.91 |  8.00    5.18 | 11.08    1.73
                1.92    2.16 |  5.00    6.91 |  8.08    5.18 | 11.17    1.73
                2.00    2.16 |  5.08    6.91 |  8.17    3.02 | 11.25    1.73
                2.08    2.16 |  5.17   10.37 |  8.25    3.02 | 11.33    1.73
                2.17    2.59 |  5.25   10.37 |  8.33    3.02 | 11.42    1.73
                2.25    2.59 |  5.33   10.37 |  8.42    3.02 | 11.50    1.73
                2.33    2.59 |  5.42   10.37 |  8.50    3.02 | 11.58    1.73
                2.42    2.59 |  5.50   10.37 |  8.58    3.02 | 11.67    1.73
                2.50    2.59 |  5.58   10.37 |  8.67    3.02 | 11.75    1.73
                2.58    2.59 |  5.67   41.47 |  8.75    3.02 | 11.83    1.73
                2.67    2.59 |  5.75   41.47 |  8.83    3.02 | 11.92    1.73
                2.75    2.59 |  5.83   41.47 |  8.92    3.02 | 12.00    1.73
                2.83    2.59 |  5.92  114.05 |  9.00    3.02 | 12.08    1.73
                2.92    2.59 |  6.00  114.05 |  9.08    3.02 |
                3.00    2.59 |  6.08  114.05 |  9.17    3.02 |
                3.08    2.59 |  6.17   15.55 |  9.25    3.02 |

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.027 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  25.661
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.297

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

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056
```

```
     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  31.204
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.361

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.086 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  37.494
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.434

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.081 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  32.473
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.376

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.373 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  28.048
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.325

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.373     6.17    28.05
     + ID2= 2 (  0004):     0.40   0.027     6.17    25.66
       ================================================
       ID = 3 (  0020):     5.75   0.400     6.17    27.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.400     6.17    27.88
     + ID2= 2 (  0005):     0.19   0.022     6.08    31.20
       ================================================
       ID = 1 (  0020):     5.94   0.419     6.17    27.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.419     6.17    27.99
     + ID2= 2 (  0006):     0.58   0.086     6.08    37.49
       ================================================
       ID = 3 (  0020):     6.52   0.485     6.17    28.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     6.52   0.485     6.17    28.83
     + ID2= 2 (  0007):     0.69   0.081     6.08    32.47
```

```
       ================================================
       ID = 1 (  0020):     7.21   0.556     6.17    29.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.108 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  39.364
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.456

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  24.735
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.286

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.91   0.108     6.17    39.36
     + ID2= 2 (  0003):     0.07   0.005     6.17    24.73
       ================================================
       ID = 3 (  0021):     0.98   0.114     6.17    38.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
```

```
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  31.204
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.361

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.027 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  25.661
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.297

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.086 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  37.494
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.434

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
```

```
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  24.735
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.286

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

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.081 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  32.473
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.376

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

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      4.25         2.01
     Dep. Storage     (mm)=      1.00         1.50
     Average Slope     (%)=      1.52         4.33
     Length            (m)=    330.00        30.00
     Mannings n           =     0.130        0.250

     Max.Eff.Inten.(mm/hr)=     95.90       131.49
               over (min)       20.00        25.00
     Storage Coeff.  (min)=     18.67 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=     20.00        60.00
     Unit Hyd. peak  (cms)=      0.06         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.62         0.18         0.704 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.92          6.25
     RUNOFF VOLUME    (mm)=     85.40        61.67         74.95
     TOTAL RAINFALL   (mm)=     86.40        86.40         86.40
     RUNOFF COEFFICIENT   =      0.99         0.71          0.87

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     0.19   0.022     6.08    31.20
     + ID2= 2 (  0011):     0.58   0.086     6.08    37.49
       ================================================
       ID = 3 (  0022):     0.77   0.108     6.08    35.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     0.77   0.108     6.08    35.94
     + ID2= 2 (  0012):     0.69   0.081     6.08    32.47
       ================================================
       ID = 1 (  0022):     1.46   0.188     6.08    34.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.188     6.08    34.30
     + ID2= 2 (  0018):     6.26   0.704     6.25    74.95
       ================================================
       ID = 3 (  0022):     7.72   0.817     6.17    67.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     7.72   0.817     6.17    67.26
      + ID2= 2 (  0008):     0.07   0.005     6.17    24.73
        ================================================
        ID = 1 (  0022):     7.79   0.822     6.17    66.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     7.79   0.822     6.17    66.88
      + ID2= 2 (  0009):     0.40   0.027     6.17    25.66
        ================================================
        ID = 3 (  0022):     8.19   0.849     6.17    64.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.086 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  37.494
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.434

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  24.735
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.286

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.027 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  25.661
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.297

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  31.204
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.361

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.081 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  32.473
     TOTAL RAINFALL   (mm)=  86.400
     RUNOFF COEFFICIENT   =   0.376

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

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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      95.90       131.49
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      18.67 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.62         0.18          0.704 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.92           6.25
     RUNOFF VOLUME    (mm)=      85.40        61.67          74.95
     TOTAL RAINFALL   (mm)=      86.40        86.40          86.40
     RUNOFF COEFFICIENT   =       0.99         0.71           0.87


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0013):     0.07   0.005     6.17    24.73
      + ID2= 2 (  0014):     0.40   0.027     6.17    25.66
        ================================================
        ID = 3 (  0023):     0.47   0.032     6.17    25.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     0.47   0.032     6.17    25.52
      + ID2= 2 (  0015):     0.19   0.022     6.08    31.20
        ================================================
        ID = 1 (  0023):     0.66   0.051     6.17    27.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     0.66   0.051     6.17    27.16
      + ID2= 2 (  0016):     0.58   0.086     6.08    37.49
        ================================================
        ID = 3 (  0023):     1.24   0.136     6.08    31.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     1.24   0.136     6.08    31.99
      + ID2= 2 (  0017):     0.69   0.081     6.08    32.47
        ================================================
        ID = 1 (  0023):     1.93   0.217     6.08    32.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     1.93   0.217     6.08    32.16
      + ID2= 2 (  0019):     6.26   0.704     6.25    74.95
        ================================================
        ID = 3 (  0023):     8.19   0.849     6.17    64.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)      8.190      0.849      6.17      64.87
```

```
   OUTFLOW: ID= 1 (  0024)      8.190      0.505      6.67      64.86

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 59.52
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1418

--------------------------------------------------------------------------------
**********************************
** SIMULATION:50yr 24hr 5min SCS **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\90d0c80b
| Ptotal=105.60 mm |    Comments: 50yr 24hr 5min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	6.17	1.90	12.25	15.21	18.33	1.90
0.17	1.16	6.25	1.90	12.33	15.21	18.42	1.90
0.25	1.16	6.33	1.90	12.42	15.21	18.50	1.90
0.33	1.16	6.42	1.90	12.50	15.21	18.58	1.90
0.42	1.16	6.50	1.90	12.58	15.21	18.67	1.90
0.50	1.16	6.58	1.90	12.67	7.81	18.75	1.90
0.58	1.16	6.67	1.90	12.75	7.81	18.83	1.90
0.67	1.16	6.75	1.90	12.83	7.81	18.92	1.90
0.75	1.16	6.83	1.90	12.92	7.81	19.00	1.90
0.83	1.16	6.92	1.90	13.00	7.81	19.08	1.90
0.92	1.16	7.00	1.90	13.08	7.81	19.17	1.90
1.00	1.16	7.08	1.90	13.17	5.70	19.25	1.90
1.08	1.16	7.17	2.32	13.25	5.70	19.33	1.90
1.17	1.16	7.25	2.32	13.33	5.70	19.42	1.90
1.25	1.16	7.33	2.32	13.42	5.70	19.50	1.90
1.33	1.16	7.42	2.32	13.50	5.70	19.58	1.90
1.42	1.16	7.50	2.32	13.58	5.70	19.67	1.90
1.50	1.16	7.58	2.32	13.67	4.44	19.75	1.90
1.58	1.16	7.67	2.32	13.75	4.44	19.83	1.90
1.67	1.16	7.75	2.32	13.83	4.44	19.92	1.90
1.75	1.16	7.83	2.32	13.92	4.44	20.00	1.90
1.83	1.16	7.92	2.32	14.00	4.44	20.08	1.90
1.92	1.16	8.00	2.32	14.08	4.44	20.17	1.27
2.00	1.16	8.08	2.32	14.17	3.17	20.25	1.27
2.08	1.16	8.17	2.75	14.25	3.17	20.33	1.27
2.17	1.37	8.25	2.75	14.33	3.17	20.42	1.27
2.25	1.37	8.33	2.75	14.42	3.17	20.50	1.27
2.33	1.37	8.42	2.75	14.50	3.17	20.58	1.27
2.42	1.37	8.50	2.75	14.58	3.17	20.67	1.27
2.50	1.37	8.58	2.75	14.67	3.17	20.75	1.27
2.58	1.37	8.67	2.96	14.75	3.17	20.83	1.27
2.67	1.37	8.75	2.96	14.83	3.17	20.92	1.27
2.75	1.37	8.83	2.96	14.92	3.17	21.00	1.27
2.83	1.37	8.92	2.96	15.00	3.17	21.08	1.27
2.92	1.37	9.00	2.96	15.08	3.17	21.17	1.27
3.00	1.37	9.08	2.96	15.17	3.17	21.25	1.27
3.08	1.37	9.17	3.38	15.25	3.17	21.33	1.27
3.17	1.37	9.25	3.38	15.33	3.17	21.42	1.27
3.25	1.37	9.33	3.38	15.42	3.17	21.50	1.27
3.33	1.37	9.42	3.38	15.50	3.17	21.58	1.27
3.42	1.37	9.50	3.38	15.58	3.17	21.67	1.27
3.50	1.37	9.58	3.38	15.67	3.17	21.75	1.27
3.58	1.37	9.67	3.80	15.75	3.17	21.83	1.27
3.67	1.37	9.75	3.80	15.83	3.17	21.92	1.27
3.75	1.37	9.83	3.80	15.92	3.17	22.00	1.27
3.83	1.37	9.92	3.80	16.00	3.17	22.08	1.27
3.92	1.37	10.00	3.80	16.08	3.17	22.17	1.27
4.00	1.37	10.08	3.80	16.17	1.90	22.25	1.27
4.08	1.37	10.17	4.86	16.25	1.90	22.33	1.27
4.17	1.69	10.25	4.86	16.33	1.90	22.42	1.27
4.25	1.69	10.33	4.86	16.42	1.90	22.50	1.27
4.33	1.69	10.42	4.86	16.50	1.90	22.58	1.27
4.42	1.69	10.50	4.86	16.58	1.90	22.67	1.27
4.50	1.69	10.58	4.86	16.67	1.90	22.75	1.27
4.58	1.69	10.67	6.55	16.75	1.90	22.83	1.27
4.67	1.69	10.75	6.55	16.83	1.90	22.92	1.27
4.75	1.69	10.83	6.55	16.92	1.90	23.00	1.27
4.83	1.69	10.92	6.55	17.00	1.90	23.08	1.27
4.92	1.69	11.00	6.55	17.08	1.90	23.17	1.27
5.00	1.69	11.08	6.55	17.17	1.90	23.25	1.27
5.08	1.69	11.17	10.14	17.25	1.90	23.33	1.27
5.17	1.69	11.25	10.14	17.33	1.90	23.42	1.27
5.25	1.69	11.33	10.14	17.42	1.90	23.50	1.27
5.33	1.69	11.42	10.14	17.50	1.90	23.58	1.27
5.42	1.69	11.50	10.14	17.58	1.90	23.67	1.27
5.50	1.69	11.58	10.14	17.67	1.90	23.75	1.27
5.58	1.69	11.67	31.26	17.75	1.90	23.83	1.27
5.67	1.69	11.75	31.26	17.83	1.90	23.92	1.27
5.75	1.69	11.83	31.26	17.92	1.90	24.00	1.27
5.83	1.69	11.92	129.25	18.00	1.90	24.08	1.27
5.92	1.69	12.00	129.25	18.08	1.90		
6.00	1.69	12.08	129.25	18.17	1.90		
6.08	1.69	12.17	15.21	18.25	1.90		

```
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.034 (i)
```

```
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  36.780
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.348

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.028 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  43.777
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.415

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.105 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  51.553
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.488

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.100 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  45.350
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.429

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.463 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  39.904
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.378

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.463    12.17    39.90
     + ID2= 2 (  0004):     0.40   0.034    12.17    36.78
       ================================================
       ID = 3 (  0020):     5.75   0.497    12.17    39.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.497    12.17    39.69
     + ID2= 2 (  0005):     0.19   0.028    12.08    43.78
       ================================================
       ID = 1 (  0020):     5.94   0.519    12.17    39.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0020):     5.94   0.519    12.17    39.82
      + ID2= 2 (  0006):     0.58   0.105    12.08    51.55
        ================================================
        ID = 3 (  0020):     6.52   0.600    12.17    40.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     6.52   0.600    12.17    40.86
      + ID2= 2 (  0007):     0.69   0.100    12.08    45.35
        ================================================
        ID = 1 (  0020):     7.21   0.687    12.17    41.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.131 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  54.026
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.512

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.007 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  35.576
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.337

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

--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0002):     0.91   0.131    12.17    54.03
      + ID2= 2 (  0003):     0.07   0.007    12.17    35.58
        ================================================
        ID = 3 (  0021):     0.98   0.137    12.17    52.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.028 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  43.777
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.415

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.034 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  36.780
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.348

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
```

```
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.105 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  51.553
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.488

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.007 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  35.576
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.337

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.100 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  45.350
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.429

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
```

```
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=     104.76       153.89
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      18.02 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.67         0.20          0.763 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.92          12.25
     RUNOFF VOLUME    (mm)=     104.60        79.60          93.59
     TOTAL RAINFALL   (mm)=     105.60       105.60         105.60
     RUNOFF COEFFICIENT   =       0.99         0.75           0.89


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     0.19   0.028    12.08    43.78
     + ID2= 2 (  0011):     0.58   0.105    12.08    51.55
       ================================================
       ID = 3 (  0022):     0.77   0.133    12.08    49.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     0.77   0.133    12.08    49.63
     + ID2= 2 (  0012):     0.69   0.100    12.08    45.35
       ================================================
       ID = 1 (  0022):     1.46   0.233    12.08    47.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.233    12.08    47.61
     + ID2= 2 (  0018):     6.26   0.763    12.25    93.59
       ================================================
       ID = 3 (  0022):     7.72   0.897    12.17    84.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     7.72   0.897    12.17    84.90
     + ID2= 2 (  0008):     0.07   0.007    12.17    35.58
       ================================================
       ID = 1 (  0022):     7.79   0.903    12.17    84.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     7.79   0.903    12.17    84.45
     + ID2= 2 (  0009):     0.40   0.034    12.17    36.78
       ================================================
       ID = 3 (  0022):     8.19   0.937    12.17    82.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

    Unit Hyd Qpeak  (cms)=   0.185

    PEAK FLOW       (cms)=   0.105 (i)
    TIME TO PEAK    (hrs)=  12.083
    RUNOFF VOLUME    (mm)=  51.553
    TOTAL RAINFALL   (mm)= 105.600
    RUNOFF COEFFICIENT   =   0.488

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

    Unit Hyd Qpeak  (cms)=   0.015

    PEAK FLOW       (cms)=   0.007 (i)
    TIME TO PEAK    (hrs)=  12.167
    RUNOFF VOLUME    (mm)=  35.576
    TOTAL RAINFALL   (mm)= 105.600
    RUNOFF COEFFICIENT   =   0.337

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

    Unit Hyd Qpeak  (cms)=   0.066

    PEAK FLOW       (cms)=   0.034 (i)
    TIME TO PEAK    (hrs)=  12.167
    RUNOFF VOLUME    (mm)=  36.780
    TOTAL RAINFALL   (mm)= 105.600
    RUNOFF COEFFICIENT   =   0.348

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

    Unit Hyd Qpeak  (cms)=   0.056

    PEAK FLOW       (cms)=   0.028 (i)
    TIME TO PEAK    (hrs)=  12.083
    RUNOFF VOLUME    (mm)=  43.777
    TOTAL RAINFALL   (mm)= 105.600
    RUNOFF COEFFICIENT   =   0.415

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

--------------------------------------------------------------------------------
--------------------
```

```
| CALIB           |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.100 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  45.350
     TOTAL RAINFALL   (mm)= 105.600
     RUNOFF COEFFICIENT   =   0.429

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      4.25         2.01
     Dep. Storage     (mm)=      1.00         1.50
     Average Slope     (%)=      1.52         4.33
     Length            (m)=    330.00        30.00
     Mannings n           =     0.130        0.250

     Max.Eff.Inten.(mm/hr)=    104.76       153.89
               over (min)       20.00        25.00
     Storage Coeff.  (min)=     18.02 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=     20.00        60.00
     Unit Hyd. peak  (cms)=      0.06         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.67         0.20         0.763 (iii)
     TIME TO PEAK    (hrs)=     12.25        12.92         12.25
     RUNOFF VOLUME    (mm)=    104.60        79.60         93.59
     TOTAL RAINFALL   (mm)=    105.60       105.60        105.60
     RUNOFF COEFFICIENT   =      0.99         0.75          0.89

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):     0.07   0.007    12.17    35.58
     + ID2= 2 (  0014):     0.40   0.034    12.17    36.78
       ================================================
       ID = 3 (  0023):     0.47   0.040    12.17    36.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.040    12.17    36.60
     + ID2= 2 (  0015):     0.19   0.028    12.08    43.78
       ================================================
       ID = 1 (  0023):     0.66   0.063    12.17    38.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.063    12.17    38.67
     + ID2= 2 (  0016):     0.58   0.105    12.08    51.55
       ================================================
       ID = 3 (  0023):     1.24   0.168    12.08    44.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.168    12.08    44.69
     + ID2= 2 (  0017):     0.69   0.100    12.08    45.35
       ================================================
       ID = 1 (  0023):     1.93   0.268    12.08    44.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.268    12.08    44.93
     + ID2= 2 (  0019):     6.26   0.763    12.25    93.59
       ================================================
```

```
       ID = 3 (  0023):     8.19   0.937    12.17    82.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)     8.190      0.937     12.17      82.13
   OUTFLOW: ID= 1 (  0024)     8.190      0.575     12.58      82.11

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 61.35
                  TIME SHIFT OF PEAK FLOW         (min)= 25.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1461

--------------------------------------------------------------------------------
*********************************
** SIMULATION:50yr 6hr 5min SCS **
*********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\187a93ab
| Ptotal= 69.60 mm |    Comments: 50yr 6hr 5min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    0.00 |  1.67    6.96 |  3.25   15.31 |  4.83    4.18
                0.17    2.78 |  1.75    6.96 |  3.33   15.31 |  4.92    4.18
                0.25    2.78 |  1.83    6.96 |  3.42   15.31 |  5.00    4.18
                0.33    2.78 |  1.92    6.96 |  3.50   15.31 |  5.08    4.18
                0.42    2.78 |  2.00    6.96 |  3.58   15.31 |  5.17    2.78
                0.50    2.78 |  2.08    6.96 |  3.67    6.96 |  5.25    2.78
                0.58    2.78 |  2.17    8.35 |  3.75    6.96 |  5.33    2.78
                0.67    4.18 |  2.25    8.35 |  3.83    6.96 |  5.42    2.78
                0.75    4.18 |  2.33    8.35 |  3.92    6.96 |  5.50    2.78
                0.83    4.18 |  2.42    8.35 |  4.00    6.96 |  5.58    2.78
                0.92    4.18 |  2.50    8.35 |  4.08    6.96 |  5.67    2.78
                1.00    4.18 |  2.58    8.35 |  4.17    5.57 |  5.75    2.78
                1.08    4.18 |  2.67   41.76 |  4.25    5.57 |  5.83    2.78
                1.17    4.18 |  2.75   41.76 |  4.33    5.57 |  5.92    2.78
                1.25    4.18 |  2.83   41.76 |  4.42    5.57 |  6.00    2.78
                1.33    4.18 |  2.92  108.58 |  4.50    5.57 |  6.08    2.78
                1.42    4.18 |  3.00  108.58 |  4.58    5.57 |
                1.50    4.18 |  3.08  108.58 |  4.67    4.18 |
                1.58    4.18 |  3.17   15.31 |  4.75    4.18 |

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  17.063
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.245

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  21.276
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.306

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.070 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  26.162
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.376
```

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.064 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  22.265
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.320

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.287 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  18.799
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.270

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.287     3.25    18.80
     + ID2= 2 (  0004):     0.40   0.021     3.17    17.06
       ================================================
       ID = 3 (  0020):     5.75   0.307     3.25    18.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.307     3.25    18.68
     + ID2= 2 (  0005):     0.19   0.018     3.08    21.28
       ================================================
       ID = 1 (  0020):     5.94   0.321     3.17    18.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.321     3.17    18.76
     + ID2= 2 (  0006):     0.58   0.070     3.08    26.16
       ================================================
       ID = 3 (  0020):     6.52   0.377     3.17    19.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     6.52   0.377     3.17    19.42
     + ID2= 2 (  0007):     0.69   0.064     3.08    22.26
       ================================================
       ID = 1 (  0020):     7.21   0.434     3.17    19.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.089 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  27.487
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.395

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
```

```
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  16.377
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.235

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

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.91   0.089     3.17    27.49
     + ID2= 2 (  0003):     0.07   0.004     3.17    16.38
       ================================================
       ID = 3 (  0021):     0.98   0.093     3.17    26.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  21.276
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.306

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

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  17.063
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.245

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

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.070 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  26.162
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.376

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

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  16.377
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.235

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

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.064 (i)
```

```
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  22.265
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.320

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

```
-------------------
| CALIB           |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      91.87       118.80
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      18.99 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.59         0.15         0.655 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.92          3.25
     RUNOFF VOLUME    (mm)=      68.60        46.37         58.81
     TOTAL RAINFALL   (mm)=      69.60        69.60         69.60
     RUNOFF COEFFICIENT   =       0.99         0.67          0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     0.19   0.018     3.08    21.28
     + ID2= 2 (  0011):     0.58   0.070     3.08    26.16
       ================================================
       ID = 3 (  0022):     0.77   0.088     3.08    24.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     0.77   0.088     3.08    24.96
     + ID2= 2 (  0012):     0.69   0.064     3.08    22.26
       ================================================
       ID = 1 (  0022):     1.46   0.153     3.08    23.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.153     3.08    23.68
     + ID2= 2 (  0018):     6.26   0.655     3.25    58.81
       ================================================
       ID = 3 (  0022):     7.72   0.744     3.17    52.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     7.72   0.744     3.17    52.17
     + ID2= 2 (  0008):     0.07   0.004     3.17    16.38
       ================================================
       ID = 1 (  0022):     7.79   0.748     3.17    51.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     7.79   0.748     3.17    51.85
     + ID2= 2 (  0009):     0.40   0.021     3.17    17.06
       ================================================
       ID = 3 (  0022):     8.19   0.768     3.17    50.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB           |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
```

```
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.070 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  26.162
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.376

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  16.377
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.235

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  17.063
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.245

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  21.276
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.306

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.064 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  22.265
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.320

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      91.87       118.80
               over (min)        20.00        25.00
     Storage Coeff.  (min)=      18.99 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      20.00        60.00
     Unit Hyd. peak  (cms)=       0.06         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.59         0.15          0.655 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.92           3.25
     RUNOFF VOLUME    (mm)=      68.60        46.37          58.81
     TOTAL RAINFALL   (mm)=      69.60        69.60          69.60
     RUNOFF COEFFICIENT   =       0.99         0.67           0.85
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):     0.07   0.004     3.17    16.38
     + ID2= 2 (  0014):     0.40   0.021     3.17    17.06
       ================================================
       ID = 3 (  0023):     0.47   0.025     3.17    16.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.025     3.17    16.96
     + ID2= 2 (  0015):     0.19   0.018     3.08    21.28
       ================================================
       ID = 1 (  0023):     0.66   0.040     3.17    18.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.040     3.17    18.20
     + ID2= 2 (  0016):     0.58   0.070     3.08    26.16
       ================================================
       ID = 3 (  0023):     1.24   0.109     3.08    21.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.109     3.08    21.93
     + ID2= 2 (  0017):     0.69   0.064     3.08    22.26
       ================================================
       ID = 1 (  0023):     1.93   0.174     3.08    22.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.174     3.08    22.05
     + ID2= 2 (  0019):     6.26   0.655     3.25    58.81
       ================================================
       ID = 3 (  0023):     8.19   0.768     3.17    50.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)      8.190      0.768      3.17      50.15
   OUTFLOW: ID= 1 (  0024)      8.190      0.407      3.75      50.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.97
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1356

--------------------------------------------------------------------------------
**********************************
** SIMULATION:5yr 12hr 5min SCS **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\402813db
| Ptotal= 56.40 mm |    Comments: 5yr 12hr 5min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    0.00 |  3.17    2.26 |  6.25   10.15 |  9.33    1.97
                0.17    1.41 |  3.25    2.26 |  6.33   10.15 |  9.42    1.97
                0.25    1.41 |  3.33    2.26 |  6.42   10.15 |  9.50    1.97
                0.33    1.41 |  3.42    2.26 |  6.50   10.15 |  9.58    1.97
                0.42    1.41 |  3.50    2.26 |  6.58   10.15 |  9.67    1.97
```

0.50	1.41	3.58	2.26	6.67	4.51	9.75	1.97
0.58	1.41	3.67	2.26	6.75	4.51	9.83	1.97
0.67	1.41	3.75	2.26	6.83	4.51	9.92	1.97
0.75	1.41	3.83	2.26	6.92	4.51	10.00	1.97
0.83	1.41	3.92	2.26	7.00	4.51	10.08	1.97
0.92	1.41	4.00	2.26	7.08	4.51	10.17	1.13
1.00	1.41	4.08	2.26	7.17	3.38	10.25	1.13
1.08	1.41	4.17	3.38	7.25	3.38	10.33	1.13
1.17	1.41	4.25	3.38	7.33	3.38	10.42	1.13
1.25	1.41	4.33	3.38	7.42	3.38	10.50	1.13
1.33	1.41	4.42	3.38	7.50	3.38	10.58	1.13
1.42	1.41	4.50	3.38	7.58	3.38	10.67	1.13
1.50	1.41	4.58	3.38	7.67	3.38	10.75	1.13
1.58	1.41	4.67	4.51	7.75	3.38	10.83	1.13
1.67	1.41	4.75	4.51	7.83	3.38	10.92	1.13
1.75	1.41	4.83	4.51	7.92	3.38	11.00	1.13
1.83	1.41	4.92	4.51	8.00	3.38	11.08	1.13
1.92	1.41	5.00	4.51	8.08	3.38	11.17	1.13
2.00	1.41	5.08	4.51	8.17	1.97	11.25	1.13
2.08	1.41	5.17	6.77	8.25	1.97	11.33	1.13
2.17	1.69	5.25	6.77	8.33	1.97	11.42	1.13
2.25	1.69	5.33	6.77	8.42	1.97	11.50	1.13
2.33	1.69	5.42	6.77	8.50	1.97	11.58	1.13
2.42	1.69	5.50	6.77	8.58	1.97	11.67	1.13
2.50	1.69	5.58	6.77	8.67	1.97	11.75	1.13
2.58	1.69	5.67	27.07	8.75	1.97	11.83	1.13
2.67	1.69	5.75	27.07	8.83	1.97	11.92	1.13
2.75	1.69	5.83	27.07	8.92	1.97	12.00	1.13
2.83	1.69	5.92	74.45	9.00	1.97	12.08	1.13
2.92	1.69	6.00	74.45	9.08	1.97		
3.00	1.69	6.08	74.45	9.17	1.97		
3.08	1.69	6.17	10.15	9.25	1.97		

CALIB					
NASHYD	(0004)	Area	(ha)= 0.40	Curve Number	(CN)= 61.0
ID= 1 DT= 5.0 min		Ia	(mm)= 7.70	# of Linear Res.(N)= 3.00	
		U.H. Tp(hrs)= 0.23			

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.011 (i)
TIME TO PEAK (hrs)= 6.167
RUNOFF VOLUME (mm)= 11.221
TOTAL RAINFALL (mm)= 56.400
RUNOFF COEFFICIENT = 0.199

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

CALIB					
NASHYD	(0005)	Area	(ha)= 0.19	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min		Ia	(mm)= 5.90	# of Linear Res.(N)= 3.00	
		U.H. Tp(hrs)= 0.13			

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.010 (i)
TIME TO PEAK (hrs)= 6.083
RUNOFF VOLUME (mm)= 14.377
TOTAL RAINFALL (mm)= 56.400
RUNOFF COEFFICIENT = 0.255

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

CALIB					
NASHYD	(0006)	Area	(ha)= 0.58	Curve Number	(CN)= 73.0
ID= 1 DT= 5.0 min		Ia	(mm)= 4.70	# of Linear Res.(N)= 3.00	
		U.H. Tp(hrs)= 0.12			

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.041 (i)
TIME TO PEAK (hrs)= 6.083
RUNOFF VOLUME (mm)= 18.107
TOTAL RAINFALL (mm)= 56.400
RUNOFF COEFFICIENT = 0.321

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

CALIB					
NASHYD	(0007)	Area	(ha)= 0.69	Curve Number	(CN)= 68.0
ID= 1 DT= 5.0 min		Ia	(mm)= 5.40	# of Linear Res.(N)= 3.00	
		U.H. Tp(hrs)= 0.14			

Unit Hyd Qpeak (cms)= 0.188

PEAK FLOW (cms)= 0.037 (i)
TIME TO PEAK (hrs)= 6.083
RUNOFF VOLUME (mm)= 15.138
TOTAL RAINFALL (mm)= 56.400
RUNOFF COEFFICIENT = 0.268

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

```
| CALIB           |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.160 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  12.459
     TOTAL RAINFALL   (mm)=  56.400
     RUNOFF COEFFICIENT   =   0.221

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

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     5.35   0.160     6.17    12.46
      + ID2= 2 (  0004):     0.40   0.011     6.17    11.22
        ================================================
        ID = 3 (  0020):     5.75   0.172     6.17    12.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     5.75   0.172     6.17    12.37
      + ID2= 2 (  0005):     0.19   0.010     6.08    14.38
        ================================================
        ID = 1 (  0020):     5.94   0.180     6.17    12.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0020):     5.94   0.180     6.17    12.44
      + ID2= 2 (  0006):     0.58   0.041     6.08    18.11
        ================================================
        ID = 3 (  0020):     6.52   0.213     6.17    12.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     6.52   0.213     6.17    12.94
      + ID2= 2 (  0007):     0.69   0.037     6.08    15.14
        ================================================
        ID = 1 (  0020):     7.21   0.246     6.17    13.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.052 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  19.005
     TOTAL RAINFALL   (mm)=  56.400
     RUNOFF COEFFICIENT   =   0.337

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

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  10.719
     TOTAL RAINFALL   (mm)=  56.400
     RUNOFF COEFFICIENT   =   0.190

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

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0002):     0.91   0.052     6.17    19.01
```

```
 + ID2= 2 (  0003):     0.07   0.002     6.17    10.72
   ====================================================
   ID = 3 (  0021):     0.98   0.054     6.17    18.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.010 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  14.377
     TOTAL RAINFALL   (mm)=  56.400
     RUNOFF COEFFICIENT   =   0.255

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.011 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  11.221
     TOTAL RAINFALL   (mm)=  56.400
     RUNOFF COEFFICIENT   =   0.199

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.041 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  18.107
     TOTAL RAINFALL   (mm)=  56.400
     RUNOFF COEFFICIENT   =   0.321

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=  10.719
     TOTAL RAINFALL   (mm)=  56.400
     RUNOFF COEFFICIENT   =   0.190

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.037 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  15.138
     TOTAL RAINFALL   (mm)=  56.400
     RUNOFF COEFFICIENT   =   0.268

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      55.50        75.89
```

```
              over (min)       25.00        30.00
     Storage Coeff.  (min)=    23.24 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=    25.00        60.00
     Unit Hyd. peak  (cms)=     0.05         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=     0.35         0.10        0.407 (iii)
     TIME TO PEAK    (hrs)=     6.33         6.92         6.33
     RUNOFF VOLUME    (mm)=    55.40        34.76        46.31
     TOTAL RAINFALL   (mm)=    56.40        56.40        56.40
     RUNOFF COEFFICIENT   =     0.98         0.62         0.82


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):     0.19   0.010     6.08    14.38
      + ID2= 2 (  0011):     0.58   0.041     6.08    18.11
        ================================================
        ID = 3 (  0022):     0.77   0.051     6.08    17.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     0.77   0.051     6.08    17.19
      + ID2= 2 (  0012):     0.69   0.037     6.08    15.14
        ================================================
        ID = 1 (  0022):     1.46   0.088     6.08    16.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     1.46   0.088     6.08    16.22
      + ID2= 2 (  0018):     6.26   0.407     6.33    46.31
        ================================================
        ID = 3 (  0022):     7.72   0.439     6.33    40.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     7.72   0.439     6.33    40.62
      + ID2= 2 (  0008):     0.07   0.002     6.17    10.72
        ================================================
        ID = 1 (  0022):     7.79   0.441     6.33    40.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     7.79   0.441     6.33    40.35
      + ID2= 2 (  0009):     0.40   0.011     6.17    11.22
        ================================================
        ID = 3 (  0022):     8.19   0.450     6.33    38.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.041 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=  18.107
     TOTAL RAINFALL   (mm)=  56.400
     RUNOFF COEFFICIENT   =   0.321

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

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015
```

```
     PEAK FLOW      (cms)=   0.002 (i)
     TIME TO PEAK   (hrs)=   6.167
     RUNOFF VOLUME   (mm)=  10.719
     TOTAL RAINFALL  (mm)=  56.400
     RUNOFF COEFFICIENT  =   0.190

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW      (cms)=   0.011 (i)
     TIME TO PEAK   (hrs)=   6.167
     RUNOFF VOLUME   (mm)=  11.221
     TOTAL RAINFALL  (mm)=  56.400
     RUNOFF COEFFICIENT  =   0.199

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW      (cms)=   0.010 (i)
     TIME TO PEAK   (hrs)=   6.083
     RUNOFF VOLUME   (mm)=  14.377
     TOTAL RAINFALL  (mm)=  56.400
     RUNOFF COEFFICIENT  =   0.255

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW      (cms)=   0.037 (i)
     TIME TO PEAK   (hrs)=   6.083
     RUNOFF VOLUME   (mm)=  15.138
     TOTAL RAINFALL  (mm)=  56.400
     RUNOFF COEFFICIENT  =   0.268

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      55.50        75.89
               over (min)        25.00        30.00
     Storage Coeff.  (min)=      23.24 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00        60.00
     Unit Hyd. peak  (cms)=       0.05         0.02
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.35         0.10          0.407 (iii)
     TIME TO PEAK   (hrs)=       6.33         6.92           6.33
     RUNOFF VOLUME   (mm)=      55.40        34.76          46.31
     TOTAL RAINFALL  (mm)=      56.40        56.40          56.40
     RUNOFF COEFFICIENT  =       0.98         0.62           0.82


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0013):     0.07   0.002     6.17    10.72
      + ID2= 2 (  0014):     0.40   0.011     6.17    11.22
        ================================================
        ID = 3 (  0023):     0.47   0.014     6.17    11.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.014     6.17    11.15
     + ID2= 2 (  0015):     0.19   0.010     6.08    14.38
       ================================================
       ID = 1 (  0023):     0.66   0.022     6.17    12.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.022     6.17    12.08
     + ID2= 2 (  0016):     0.58   0.041     6.08    18.11
       ================================================
       ID = 3 (  0023):     1.24   0.063     6.08    14.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.063     6.08    14.90
     + ID2= 2 (  0017):     0.69   0.037     6.08    15.14
       ================================================
       ID = 1 (  0023):     1.93   0.100     6.08    14.98

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.100     6.08    14.98
     + ID2= 2 (  0019):     6.26   0.407     6.33    46.31
       ================================================
       ID = 3 (  0023):     8.19   0.450     6.33    38.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)      8.190     0.450      6.33      38.93
   OUTFLOW: ID= 1 (  0024)      8.190     0.231      7.00      38.92

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.42
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0939

--------------------------------------------------------------------------------
**********
** SIMULATION:5yr 24hr 5min SCS **
**********

--------------------
|    READ STORM    |    Filename: C:\Users\m.orwin\AppD
|                  |              ata\Local\Temp\
|                  |              d5546b1a-54a6-497b-a8a5-5a1feca7b397\0bf85659
| Ptotal= 69.60 mm |    Comments: 5yr 24hr 5min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	6.17	1.25	12.25	10.02	18.33	1.25
0.17	0.77	6.25	1.25	12.33	10.02	18.42	1.25
0.25	0.77	6.33	1.25	12.42	10.02	18.50	1.25
0.33	0.77	6.42	1.25	12.50	10.02	18.58	1.25
0.42	0.77	6.50	1.25	12.58	10.02	18.67	1.25
0.50	0.77	6.58	1.25	12.67	5.15	18.75	1.25
0.58	0.77	6.67	1.25	12.75	5.15	18.83	1.25
0.67	0.77	6.75	1.25	12.83	5.15	18.92	1.25
0.75	0.77	6.83	1.25	12.92	5.15	19.00	1.25
0.83	0.77	6.92	1.25	13.00	5.15	19.08	1.25
0.92	0.77	7.00	1.25	13.08	5.15	19.17	1.25
1.00	0.77	7.08	1.25	13.17	3.76	19.25	1.25
1.08	0.77	7.17	1.53	13.25	3.76	19.33	1.25
1.17	0.77	7.25	1.53	13.33	3.76	19.42	1.25
1.25	0.77	7.33	1.53	13.42	3.76	19.50	1.25
1.33	0.77	7.42	1.53	13.50	3.76	19.58	1.25
1.42	0.77	7.50	1.53	13.58	3.76	19.67	1.25
1.50	0.77	7.58	1.53	13.67	2.92	19.75	1.25
1.58	0.77	7.67	1.53	13.75	2.92	19.83	1.25
1.67	0.77	7.75	1.53	13.83	2.92	19.92	1.25
1.75	0.77	7.83	1.53	13.92	2.92	20.00	1.25
1.83	0.77	7.92	1.53	14.00	2.92	20.08	1.25
1.92	0.77	8.00	1.53	14.08	2.92	20.17	0.84
2.00	0.77	8.08	1.53	14.17	2.09	20.25	0.84
2.08	0.77	8.17	1.81	14.25	2.09	20.33	0.84
2.17	0.90	8.25	1.81	14.33	2.09	20.42	0.84

2.25	0.90	8.33	1.81	14.42	2.09	20.50	0.84
2.33	0.90	8.42	1.81	14.50	2.09	20.58	0.84
2.42	0.90	8.50	1.81	14.58	2.09	20.67	0.84
2.50	0.90	8.58	1.81	14.67	2.09	20.75	0.84
2.58	0.90	8.67	1.95	14.75	2.09	20.83	0.84
2.67	0.90	8.75	1.95	14.83	2.09	20.92	0.84
2.75	0.90	8.83	1.95	14.92	2.09	21.00	0.84
2.83	0.90	8.92	1.95	15.00	2.09	21.08	0.84
2.92	0.90	9.00	1.95	15.08	2.09	21.17	0.84
3.00	0.90	9.08	1.95	15.17	2.09	21.25	0.84
3.08	0.90	9.17	2.23	15.25	2.09	21.33	0.84
3.17	0.90	9.25	2.23	15.33	2.09	21.42	0.84
3.25	0.90	9.33	2.23	15.42	2.09	21.50	0.84
3.33	0.90	9.42	2.23	15.50	2.09	21.58	0.84
3.42	0.90	9.50	2.23	15.58	2.09	21.67	0.84
3.50	0.90	9.58	2.23	15.67	2.09	21.75	0.84
3.58	0.90	9.67	2.51	15.75	2.09	21.83	0.84
3.67	0.90	9.75	2.51	15.83	2.09	21.92	0.84
3.75	0.90	9.83	2.51	15.92	2.09	22.00	0.84
3.83	0.90	9.92	2.51	16.00	2.09	22.08	0.84
3.92	0.90	10.00	2.51	16.08	2.09	22.17	0.84
4.00	0.90	10.08	2.51	16.17	1.25	22.25	0.84
4.08	0.90	10.17	3.20	16.25	1.25	22.33	0.84
4.17	1.11	10.25	3.20	16.33	1.25	22.42	0.84
4.25	1.11	10.33	3.20	16.42	1.25	22.50	0.84
4.33	1.11	10.42	3.20	16.50	1.25	22.58	0.84
4.42	1.11	10.50	3.20	16.58	1.25	22.67	0.84
4.50	1.11	10.58	3.20	16.67	1.25	22.75	0.84
4.58	1.11	10.67	4.32	16.75	1.25	22.83	0.84
4.67	1.11	10.75	4.32	16.83	1.25	22.92	0.84
4.75	1.11	10.83	4.32	16.92	1.25	23.00	0.84
4.83	1.11	10.92	4.32	17.00	1.25	23.08	0.84
4.92	1.11	11.00	4.32	17.08	1.25	23.17	0.84
5.00	1.11	11.08	4.32	17.17	1.25	23.25	0.84
5.08	1.11	11.17	6.68	17.25	1.25	23.33	0.84
5.17	1.11	11.25	6.68	17.33	1.25	23.42	0.84
5.25	1.11	11.33	6.68	17.42	1.25	23.50	0.84
5.33	1.11	11.42	6.68	17.50	1.25	23.58	0.84
5.42	1.11	11.50	6.68	17.58	1.25	23.67	0.84
5.50	1.11	11.58	6.68	17.67	1.25	23.75	0.84
5.58	1.11	11.67	20.60	17.75	1.25	23.83	0.84
5.67	1.11	11.75	20.60	17.83	1.25	23.92	0.84
5.75	1.11	11.83	20.60	17.92	1.25	24.00	0.84
5.83	1.11	11.92	85.19	18.00	1.25	24.08	0.84
5.92	1.11	12.00	85.19	18.08	1.25		
6.00	1.11	12.08	85.19	18.17	1.25		
6.08	1.11	12.17	10.02	18.25	1.25		

CALIB

NASHYD (0004)	Area (ha)= 0.40	Curve Number (CN)= 61.0
ID= 1 DT= 5.0 min	Ia (mm)= 7.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.23	

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.015 (i)
TIME TO PEAK (hrs)= 12.167
RUNOFF VOLUME (mm)= 17.063
TOTAL RAINFALL (mm)= 69.600
RUNOFF COEFFICIENT = 0.245

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

CALIB

NASHYD (0005)	Area (ha)= 0.19	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.13	

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.013 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 21.277
TOTAL RAINFALL (mm)= 69.600
RUNOFF COEFFICIENT = 0.306

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

CALIB

NASHYD (0006)	Area (ha)= 0.58	Curve Number (CN)= 73.0
ID= 1 DT= 5.0 min	Ia (mm)= 4.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.12	

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.053 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 26.162
TOTAL RAINFALL (mm)= 69.600
RUNOFF COEFFICIENT = 0.376

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

CALIB

NASHYD (0007)	Area (ha)= 0.69	Curve Number (CN)= 68.0

```
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.048 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  22.265
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.320

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

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.211 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  18.799
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.270

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

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.211    12.17    18.80
     + ID2= 2 (  0004):     0.40   0.015    12.17    17.06
       ================================================
       ID = 3 (  0020):     5.75   0.227    12.17    18.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     5.75   0.227    12.17    18.68
     + ID2= 2 (  0005):     0.19   0.013    12.08    21.28
       ================================================
       ID = 1 (  0020):     5.94   0.238    12.17    18.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0020):     5.94   0.238    12.17    18.76
     + ID2= 2 (  0006):     0.58   0.053    12.08    26.16
       ================================================
       ID = 3 (  0020):     6.52   0.279    12.17    19.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     6.52   0.279    12.17    19.42
     + ID2= 2 (  0007):     0.69   0.048    12.08    22.26
       ================================================
       ID = 1 (  0020):     7.21   0.321    12.17    19.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.066 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  27.487
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.395

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

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015
```

```
     PEAK FLOW      (cms)=   0.003 (i)
     TIME TO PEAK   (hrs)=  12.167
     RUNOFF VOLUME   (mm)=  16.376
     TOTAL RAINFALL  (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.235

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.91   0.066    12.17    27.49
     + ID2= 2 (  0003):     0.07   0.003    12.17    16.38
       ================================================
       ID = 3 (  0021):     0.98   0.069    12.17    26.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW      (cms)=   0.013 (i)
     TIME TO PEAK   (hrs)=  12.083
     RUNOFF VOLUME   (mm)=  21.277
     TOTAL RAINFALL  (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.306

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW      (cms)=   0.015 (i)
     TIME TO PEAK   (hrs)=  12.167
     RUNOFF VOLUME   (mm)=  17.063
     TOTAL RAINFALL  (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.245

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW      (cms)=   0.053 (i)
     TIME TO PEAK   (hrs)=  12.083
     RUNOFF VOLUME   (mm)=  26.162
     TOTAL RAINFALL  (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.376

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW      (cms)=   0.003 (i)
     TIME TO PEAK   (hrs)=  12.167
     RUNOFF VOLUME   (mm)=  16.376
     TOTAL RAINFALL  (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.235

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW      (cms)=   0.048 (i)
     TIME TO PEAK   (hrs)=  12.083
     RUNOFF VOLUME   (mm)=  22.265
     TOTAL RAINFALL  (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.320

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

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      59.35        91.50
               over (min)        25.00        30.00
     Storage Coeff.  (min)=      22.62 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00        60.00
     Unit Hyd. peak  (cms)=       0.05         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.38         0.11          0.443 (iii)
     TIME TO PEAK    (hrs)=      12.33        12.92          12.33
     RUNOFF VOLUME    (mm)=      68.60        46.37          58.81
     TOTAL RAINFALL   (mm)=      69.60        69.60          69.60
     RUNOFF COEFFICIENT   =       0.99         0.67           0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):     0.19   0.013    12.08    21.28
      + ID2= 2 (  0011):     0.58   0.053    12.08    26.16
        ================================================
        ID = 3 (  0022):     0.77   0.066    12.08    24.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     0.77   0.066    12.08    24.96
      + ID2= 2 (  0012):     0.69   0.048    12.08    22.26
        ================================================
        ID = 1 (  0022):     1.46   0.114    12.08    23.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     1.46   0.114    12.08    23.68
      + ID2= 2 (  0018):     6.26   0.443    12.33    58.81
        ================================================
        ID = 3 (  0022):     7.72   0.482    12.33    52.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0022):     7.72   0.482    12.33    52.17
      + ID2= 2 (  0008):     0.07   0.003    12.17    16.38
        ================================================
        ID = 1 (  0022):     7.79   0.484    12.33    51.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0022):     7.79   0.484    12.33    51.85
      + ID2= 2 (  0009):     0.40   0.015    12.17    17.06
        ================================================
        ID = 3 (  0022):     8.19   0.496    12.33    50.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.053 (i)
     TIME TO PEAK    (hrs)=  12.083
```

```
     RUNOFF VOLUME    (mm)=  26.162
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.376

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  16.376
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.235

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.015 (i)
     TIME TO PEAK    (hrs)=  12.167
     RUNOFF VOLUME    (mm)=  17.063
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.245

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.013 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  21.277
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.306

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.048 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  22.265
     TOTAL RAINFALL   (mm)=  69.600
     RUNOFF COEFFICIENT   =   0.320

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25          2.01
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.52          4.33
     Length            (m)=     330.00         30.00
     Mannings n           =      0.130         0.250

     Max.Eff.Inten.(mm/hr)=      59.35         91.50
               over (min)        25.00         30.00
     Storage Coeff.  (min)=      22.62 (ii)    60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00         60.00
     Unit Hyd. peak  (cms)=       0.05          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.38          0.11          0.443 (iii)
     TIME TO PEAK    (hrs)=      12.33         12.92          12.33
     RUNOFF VOLUME    (mm)=      68.60         46.37          58.81
     TOTAL RAINFALL   (mm)=      69.60         69.60          69.60
     RUNOFF COEFFICIENT   =       0.99          0.67           0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

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

ADD HYD (0023)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0013):		0.07	0.003	12.17	16.38
+ ID2= 2 (0014):		0.40	0.015	12.17	17.06
ID = 3 (0023):		0.47	0.018	12.17	16.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0023):		0.47	0.018	12.17	16.96
+ ID2= 2 (0015):		0.19	0.013	12.08	21.28
ID = 1 (0023):		0.66	0.029	12.17	18.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0023):		0.66	0.029	12.17	18.20
+ ID2= 2 (0016):		0.58	0.053	12.08	26.16
ID = 3 (0023):		1.24	0.082	12.08	21.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0023):		1.24	0.082	12.08	21.93
+ ID2= 2 (0017):		0.69	0.048	12.08	22.26
ID = 1 (0023):		1.93	0.130	12.08	22.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0023):		1.93	0.130	12.08	22.05
+ ID2= 2 (0019):		6.26	0.443	12.33	58.81
ID = 3 (0023):		8.19	0.496	12.33	50.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0024)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.7970	0.1600
	0.3210	0.1300	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0023)	8.190	0.496	12.33	50.15
OUTFLOW: ID= 1 (0024)	8.190	0.251	13.00	50.14

PEAK FLOW REDUCTION [Qout/Qin](%)= 50.61
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.1019

****
** SIMULATION:5yr 6hr 5min SCS **
****

READ STORM	Filename: C:\Users\m.orwin\AppData\Local\Temp\d5546b1a-54a6-497b-a8a5-5a1feca7b397\831e63dd
Ptotal= 46.20 mm	Comments: 5yr 6hr 5min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	0.00	1.67	4.62	3.25	10.16	4.83	2.77
0.17	1.85	1.75	4.62	3.33	10.16	4.92	2.77
0.25	1.85	1.83	4.62	3.42	10.16	5.00	2.77
0.33	1.85	1.92	4.62	3.50	10.16	5.08	2.77
0.42	1.85	2.00	4.62	3.58	10.16	5.17	1.85
0.50	1.85	2.08	4.62	3.67	4.62	5.25	1.85
0.58	1.85	2.17	5.54	3.75	4.62	5.33	1.85
0.67	2.77	2.25	5.54	3.83	4.62	5.42	1.85
0.75	2.77	2.33	5.54	3.92	4.62	5.50	1.85
0.83	2.77	2.42	5.54	4.00	4.62	5.58	1.85
0.92	2.77	2.50	5.54	4.08	4.62	5.67	1.85

```
                1.00    2.77 |  2.58    5.54 |  4.17    3.70 |  5.75    1.85
                1.08    2.77 |  2.67   27.72 |  4.25    3.70 |  5.83    1.85
                1.17    2.77 |  2.75   27.72 |  4.33    3.70 |  5.92    1.85
                1.25    2.77 |  2.83   27.72 |  4.42    3.70 |  6.00    1.85
                1.33    2.77 |  2.92   72.07 |  4.50    3.70 |  6.08    1.85
                1.42    2.77 |  3.00   72.07 |  4.58    3.70 |
                1.50    2.77 |  3.08   72.07 |  4.67    2.77 |
                1.58    2.77 |  3.17   10.16 |  4.75    2.77 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.009 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   7.369
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.159

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.008 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   9.721
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.210

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.034 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  12.545
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.272

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.029 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  10.304
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.223

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.122 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=   8.242
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.178

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     5.35   0.122     3.25     8.24
     + ID2= 2 (  0004):     0.40   0.009     3.17     7.37
       ================================================
```

```
        ID = 3 (  0020):     5.75   0.131     3.25     8.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     5.75   0.131     3.25     8.18
      + ID2= 2 (  0005):     0.19   0.008     3.08     9.72
        ================================================
        ID = 1 (  0020):     5.94   0.135     3.25     8.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0020):     5.94   0.135     3.25     8.23
      + ID2= 2 (  0006):     0.58   0.034     3.08    12.54
        ================================================
        ID = 3 (  0020):     6.52   0.162     3.17     8.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     6.52   0.162     3.17     8.61
      + ID2= 2 (  0007):     0.69   0.029     3.08    10.30
        ================================================
        ID = 1 (  0020):     7.21   0.188     3.17     8.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

     Unit Hyd Qpeak  (cms)=   0.183

     PEAK FLOW       (cms)=   0.042 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=  13.128
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.284

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

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   7.004
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.152

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0021)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0002):     0.91   0.042     3.17    13.13
      + ID2= 2 (  0003):     0.07   0.002     3.17     7.00
        ================================================
        ID = 3 (  0021):     0.98   0.043     3.17    12.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.008 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   9.721
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.210

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

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```
| CALIB           |
| NASHYD   (  0009)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.23

     Unit Hyd Qpeak  (cms)=   0.066

     PEAK FLOW       (cms)=   0.009 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   7.369
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.159

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0011)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

     Unit Hyd Qpeak  (cms)=   0.185

     PEAK FLOW       (cms)=   0.034 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  12.545
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.272

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0008)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

     Unit Hyd Qpeak  (cms)=   0.015

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   7.004
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.152

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.029 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  10.304
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.223

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

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
-------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.25         2.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.52         4.33
     Length            (m)=     330.00        30.00
     Mannings n           =      0.130        0.250

     Max.Eff.Inten.(mm/hr)=      54.33        68.46
               over (min)        25.00        30.00
     Storage Coeff.  (min)=      23.44 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=      25.00        60.00
     Unit Hyd. peak  (cms)=       0.05         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.34         0.09          0.385 (iii)
     TIME TO PEAK    (hrs)=       3.33         3.92           3.33
     RUNOFF VOLUME    (mm)=      45.20        26.15          36.81
     TOTAL RAINFALL   (mm)=      46.20        46.20          46.20
     RUNOFF COEFFICIENT   =       0.98         0.57           0.80


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
```

```
       ID1= 1 (  0010):     0.19   0.008     3.08     9.72
     + ID2= 2 (  0011):     0.58   0.034     3.08    12.54
       ================================================
       ID = 3 (  0022):     0.77   0.042     3.08    11.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     0.77   0.042     3.08    11.85
     + ID2= 2 (  0012):     0.69   0.029     3.08    10.30
       ================================================
       ID = 1 (  0022):     1.46   0.071     3.08    11.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.071     3.08    11.12
     + ID2= 2 (  0018):     6.26   0.385     3.33    36.81
       ================================================
       ID = 3 (  0022):     7.72   0.413     3.33    31.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     7.72   0.413     3.33    31.95
     + ID2= 2 (  0008):     0.07   0.002     3.17     7.00
       ================================================
       ID = 1 (  0022):     7.79   0.414     3.33    31.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     7.79   0.414     3.33    31.73
     + ID2= 2 (  0009):     0.40   0.009     3.17     7.37
       ================================================
       ID = 3 (  0022):     8.19   0.421     3.33    30.54
```

```
    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.12

    Unit Hyd Qpeak  (cms)=   0.185

    PEAK FLOW       (cms)=   0.034 (i)
    TIME TO PEAK    (hrs)=   3.083
    RUNOFF VOLUME    (mm)=  12.545
    TOTAL RAINFALL   (mm)=  46.200
    RUNOFF COEFFICIENT   =   0.272

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

    Unit Hyd Qpeak  (cms)=   0.015

    PEAK FLOW       (cms)=   0.002 (i)
    TIME TO PEAK    (hrs)=   3.167
    RUNOFF VOLUME    (mm)=   7.004
    TOTAL RAINFALL   (mm)=  46.200
    RUNOFF COEFFICIENT   =   0.152

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0014)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

    Unit Hyd Qpeak  (cms)=   0.066

    PEAK FLOW       (cms)=   0.009 (i)
    TIME TO PEAK    (hrs)=   3.167
    RUNOFF VOLUME    (mm)=   7.369
    TOTAL RAINFALL   (mm)=  46.200
    RUNOFF COEFFICIENT   =   0.159

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

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   0.19   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.056

     PEAK FLOW       (cms)=   0.008 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   9.721
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.210

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

     Unit Hyd Qpeak  (cms)=   0.188

     PEAK FLOW       (cms)=   0.029 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  10.304
     TOTAL RAINFALL   (mm)=  46.200
     RUNOFF COEFFICIENT   =   0.223

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0019)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      4.25         2.01
     Dep. Storage     (mm)=      1.00         1.50
     Average Slope     (%)=      1.52         4.33
     Length            (m)=    330.00        30.00
     Mannings n           =     0.130        0.250

     Max.Eff.Inten.(mm/hr)=     54.33        68.46
               over (min)       25.00        30.00
     Storage Coeff.  (min)=     23.44 (ii)   60.00 (ii)
     Unit Hyd. Tpeak (min)=     25.00        60.00
     Unit Hyd. peak  (cms)=      0.05         0.02

                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.34         0.09          0.385 (iii)
     TIME TO PEAK    (hrs)=      3.33         3.92           3.33
     RUNOFF VOLUME    (mm)=     45.20        26.15          36.81
     TOTAL RAINFALL   (mm)=     46.20        46.20          46.20
     RUNOFF COEFFICIENT   =      0.98         0.57           0.80

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0013):     0.07   0.002     3.17     7.00
     + ID2= 2 (  0014):     0.40   0.009     3.17     7.37
       ================================================
       ID = 3 (  0023):     0.47   0.010     3.17     7.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     0.47   0.010     3.17     7.31
     + ID2= 2 (  0015):     0.19   0.008     3.08     9.72
       ================================================
       ID = 1 (  0023):     0.66   0.017     3.17     8.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     0.66   0.017     3.17     8.01
     + ID2= 2 (  0016):     0.58   0.034     3.08    12.54
       ================================================
       ID = 3 (  0023):     1.24   0.050     3.08    10.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

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--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0023):     1.24   0.050     3.08    10.13
     + ID2= 2 (  0017):     0.69   0.029     3.08    10.30
       ================================================
       ID = 1 (  0023):     1.93   0.079     3.08    10.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0023):     1.93   0.079     3.08    10.19
     + ID2= 2 (  0019):     6.26   0.385     3.33    36.81
       ================================================
       ID = 3 (  0023):     8.19   0.421     3.33    30.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)     8.190      0.421      3.33      30.54
   OUTFLOW: ID= 1 (  0024)     8.190      0.212      4.08      30.53

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 50.34
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0860

--------------------------------------------------------------------------------
**************************************
** SIMULATION:New Chicago Design Storm **
**************************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 405.000
| Ptotal= 24.91 mm |                          B=   3.000
--------------------                          C=   0.760
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

   TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
    hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
   0.17    1.76 |  1.17   11.75 |  2.17    3.88 |  3.17    2.07
   0.33    2.00 |  1.33   57.66 |  2.33    3.35 |  3.33    1.93
   0.50    2.32 |  1.50   15.20 |  2.50    2.96 |  3.50    1.81
   0.67    2.81 |  1.67    8.31 |  2.67    2.66 |  3.67    1.71
   0.83    3.61 |  1.83    5.91 |  2.83    2.42 |  3.83    1.62
   1.00    5.28 |  2.00    4.66 |  3.00    2.23 |  4.00    1.54

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   0.40   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.23

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
   TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
    hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
  0.083    1.76 | 1.083   11.75 | 2.083    3.88 |  3.08    2.07
  0.167    1.76 | 1.167   11.75 | 2.167    3.88 |  3.17    2.07
  0.250    2.00 | 1.250   57.66 | 2.250    3.35 |  3.25    1.93
  0.333    2.00 | 1.333   57.66 | 2.333    3.35 |  3.33    1.93
  0.417    2.32 | 1.417   15.20 | 2.417    2.96 |  3.42    1.81
  0.500    2.32 | 1.500   15.20 | 2.500    2.96 |  3.50    1.81
  0.583    2.81 | 1.583    8.31 | 2.583    2.66 |  3.58    1.71
  0.667    2.81 | 1.667    8.31 | 2.667    2.66 |  3.67    1.71
  0.750    3.61 | 1.750    5.91 | 2.750    2.42 |  3.75    1.62
  0.833    3.61 | 1.833    5.91 | 2.833    2.42 |  3.83    1.62
  0.917    5.28 | 1.917    4.66 | 2.917    2.23 |  3.92    1.54
  1.000    5.28 | 2.000    4.66 | 3.000    2.23 |  4.00    1.54

    Unit Hyd Qpeak  (cms)=   0.066

    PEAK FLOW       (cms)=   0.001 (i)
    TIME TO PEAK    (hrs)=   1.667
    RUNOFF VOLUME    (mm)=   1.646
    TOTAL RAINFALL   (mm)=  24.906
    RUNOFF COEFFICIENT   =   0.066

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
```

| NASHYD (0005)| Area (ha)= 0.19 Curve Number (CN)= 67.0
|ID= 1 DT= 5.0 min | Ia (mm)= 5.90 # of Linear Res.(N)= 3.00
--- U.H. Tp(hrs)= 0.13

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.001 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 2.480
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.100

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

| CALIB |
| NASHYD (0006)| Area (ha)= 0.58 Curve Number (CN)= 73.0
|ID= 1 DT= 5.0 min | Ia (mm)= 4.70 # of Linear Res.(N)= 3.00
--- U.H. Tp(hrs)= 0.12

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.007 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 3.529
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.142

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

| CALIB |
| NASHYD (0007)| Area (ha)= 0.69 Curve Number (CN)= 68.0
|ID= 1 DT= 5.0 min | Ia (mm)= 5.40 # of Linear Res.(N)= 3.00
--- U.H. Tp(hrs)= 0.14

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.188

PEAK FLOW (cms)= 0.005 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 2.716
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.109

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

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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   5.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    1.76 | 1.083   11.75 | 2.083    3.88 |  3.08    2.07
             0.167    1.76 | 1.167   11.75 | 2.167    3.88 |  3.17    2.07
             0.250    2.00 | 1.250   57.66 | 2.250    3.35 |  3.25    1.93
             0.333    2.00 | 1.333   57.66 | 2.333    3.35 |  3.33    1.93
             0.417    2.32 | 1.417   15.20 | 2.417    2.96 |  3.42    1.81
             0.500    2.32 | 1.500   15.20 | 2.500    2.96 |  3.50    1.81
             0.583    2.81 | 1.583    8.31 | 2.583    2.66 |  3.58    1.71
             0.667    2.81 | 1.667    8.31 | 2.667    2.66 |  3.67    1.71
             0.750    3.61 | 1.750    5.91 | 2.750    2.42 |  3.75    1.62
             0.833    3.61 | 1.833    5.91 | 2.833    2.42 |  3.83    1.62
             0.917    5.28 | 1.917    4.66 | 2.917    2.23 |  3.92    1.54
             1.000    5.28 | 2.000    4.66 | 3.000    2.23 |  4.00    1.54

     Unit Hyd Qpeak  (cms)=   0.817

     PEAK FLOW       (cms)=   0.020 (i)
     TIME TO PEAK    (hrs)=   1.667
     RUNOFF VOLUME    (mm)=   1.889
     TOTAL RAINFALL   (mm)=  24.906
     RUNOFF COEFFICIENT   =   0.076

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

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     5.35   0.020     1.67     1.89
      + ID2= 2 (  0004):     0.40   0.001     1.67     1.65
        ================================================
        ID = 3 (  0020):     5.75   0.021     1.67     1.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     5.75   0.021     1.67     1.87
      + ID2= 2 (  0005):     0.19   0.001     1.42     2.48
        ================================================
        ID = 1 (  0020):     5.94   0.022     1.67     1.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0020):     5.94   0.022     1.67     1.89
      + ID2= 2 (  0006):     0.58   0.007     1.42     3.53
        ================================================
        ID = 3 (  0020):     6.52   0.026     1.58     2.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     6.52   0.026     1.58     2.04
      + ID2= 2 (  0007):     0.69   0.005     1.42     2.72
        ================================================
        ID = 1 (  0020):     7.21   0.031     1.58     2.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   0.91   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.19

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    1.76 | 1.083   11.75 | 2.083    3.88 |  3.08    2.07
             0.167    1.76 | 1.167   11.75 | 2.167    3.88 |  3.17    2.07
             0.250    2.00 | 1.250   57.66 | 2.250    3.35 |  3.25    1.93
             0.333    2.00 | 1.333   57.66 | 2.333    3.35 |  3.33    1.93
             0.417    2.32 | 1.417   15.20 | 2.417    2.96 |  3.42    1.81
             0.500    2.32 | 1.500   15.20 | 2.500    2.96 |  3.50    1.81
```

0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.183

PEAK FLOW (cms)= 0.008 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 3.576
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.144

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

CALIB			
NASHYD (0003)	Area (ha)=	0.07	Curve Number (CN)= 60.0
ID= 1 DT= 5.0 min	Ia (mm)=	8.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.18	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.015

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 1.523
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.061

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

ADD HYD (0021)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0002):	0.91	0.008	1.50	3.58
	+ ID2= 2 (0003):	0.07	0.000	1.58	1.52
	ID = 3 (0021):	0.98	0.008	1.50	3.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0010)	Area (ha)=	0.19	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.13	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.001 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 2.480
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.100

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

CALIB

| NASHYD (0009)| Area (ha)= 0.40 Curve Number (CN)= 61.0
|ID= 1 DT= 5.0 min | Ia (mm)= 7.70 # of Linear Res.(N)= 3.00
--- U.H. Tp(hrs)= 0.23

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.001 (i)
TIME TO PEAK (hrs)= 1.667
RUNOFF VOLUME (mm)= 1.646
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.066

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

| CALIB | NASHYD (0011)| Area (ha)= 0.58 Curve Number (CN)= 73.0
|ID= 1 DT= 5.0 min | Ia (mm)= 4.70 # of Linear Res.(N)= 3.00
--- U.H. Tp(hrs)= 0.12

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.185

PEAK FLOW (cms)= 0.007 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 3.529
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.142

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

| CALIB | NASHYD (0008)| Area (ha)= 0.07 Curve Number (CN)= 60.0
|ID= 1 DT= 5.0 min | Ia (mm)= 8.00 # of Linear Res.(N)= 3.00
--- U.H. Tp(hrs)= 0.18

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.015

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 1.523
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.061

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

```
--------------------
| CALIB            |
| NASHYD   (  0012)|   Area    (ha)=   0.69   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.14

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

```
    Unit Hyd Qpeak  (cms)=   0.188

    PEAK FLOW       (cms)=   0.005 (i)
    TIME TO PEAK    (hrs)=   1.417
    RUNOFF VOLUME    (mm)=   2.716
    TOTAL RAINFALL   (mm)=  24.906
    RUNOFF COEFFICIENT   =   0.109

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

```
--------------------
| CALIB            |
| STANDHYD (  0018)|   Area    (ha)=   6.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=  67.90   Dir. Conn.(%)=  56.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       4.25         2.01
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope     (%)=       1.52         4.33
    Length            (m)=     330.00        30.00
    Mannings n           =      0.130        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

```
    Max.Eff.Inten.(mm/hr)=      28.20        28.88
              over (min)        30.00        40.00
    Storage Coeff.  (min)=    30.46 (ii)   60.00 (ii)
    Unit Hyd. Tpeak (min)=      30.00        60.00
    Unit Hyd. peak  (cms)=       0.04         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.17         0.03          0.188 (iii)
    TIME TO PEAK    (hrs)=       1.75         2.33           1.75
    RUNOFF VOLUME    (mm)=      23.91        10.03          17.80
    TOTAL RAINFALL   (mm)=      24.91        24.91          24.91
    RUNOFF COEFFICIENT   =       0.96         0.40           0.71

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     0.19   0.001     1.42     2.48
     + ID2= 2 (  0011):     0.58   0.007     1.42     3.53
       ================================================
       ID = 3 (  0022):     0.77   0.008     1.42     3.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0022)|
```

```
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     0.77   0.008     1.42     3.27
     + ID2= 2 (  0012):     0.69   0.005     1.42     2.72
       ================================================
       ID = 1 (  0022):     1.46   0.014     1.42     3.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     1.46   0.014     1.42     3.01
     + ID2= 2 (  0018):     6.26   0.188     1.75    17.80
       ================================================
       ID = 3 (  0022):     7.72   0.195     1.75    15.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0022):     7.72   0.195     1.75    15.00
     + ID2= 2 (  0008):     0.07   0.000     1.58     1.52
       ================================================
       ID = 1 (  0022):     7.79   0.195     1.75    14.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0022)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):     7.79   0.195     1.75    14.88
     + ID2= 2 (  0009):     0.40   0.001     1.67     1.65
       ================================================
       ID = 3 (  0022):     8.19   0.196     1.75    14.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.58   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.12

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

```
    Unit Hyd Qpeak  (cms)=   0.185

    PEAK FLOW       (cms)=   0.007 (i)
    TIME TO PEAK    (hrs)=   1.417
    RUNOFF VOLUME    (mm)=   3.529
    TOTAL RAINFALL   (mm)=  24.906
    RUNOFF COEFFICIENT   =   0.142

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

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0013)|   Area    (ha)=   0.07   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.18

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54

1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.015

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 1.523
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.061

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

CALIB					
NASHYD (0014)	Area (ha)=	0.40	Curve Number (CN)=	61.0	
ID= 1 DT= 5.0 min	Ia (mm)=	7.70	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.23			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.001 (i)
TIME TO PEAK (hrs)= 1.667
RUNOFF VOLUME (mm)= 1.646
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.066

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

CALIB					
NASHYD (0015)	Area (ha)=	0.19	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.90	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.13			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.056

PEAK FLOW (cms)= 0.001 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 2.480
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.100

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

CALIB					
NASHYD (0017)	Area (ha)=	0.69	Curve Number (CN)=	68.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.40	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.14			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71

0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Unit Hyd Qpeak (cms)= 0.188

PEAK FLOW (cms)= 0.005 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 2.716
TOTAL RAINFALL (mm)= 24.906
RUNOFF COEFFICIENT = 0.109

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

CALIB
STANDHYD (0019)
ID= 1 DT= 5.0 min

Area (ha)= 6.26
Total Imp(%)= 67.90 Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.25	2.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.52	4.33
Length	(m)=	330.00	30.00
Mannings n	=	0.130	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.76	1.083	11.75	2.083	3.88	3.08	2.07
0.167	1.76	1.167	11.75	2.167	3.88	3.17	2.07
0.250	2.00	1.250	57.66	2.250	3.35	3.25	1.93
0.333	2.00	1.333	57.66	2.333	3.35	3.33	1.93
0.417	2.32	1.417	15.20	2.417	2.96	3.42	1.81
0.500	2.32	1.500	15.20	2.500	2.96	3.50	1.81
0.583	2.81	1.583	8.31	2.583	2.66	3.58	1.71
0.667	2.81	1.667	8.31	2.667	2.66	3.67	1.71
0.750	3.61	1.750	5.91	2.750	2.42	3.75	1.62
0.833	3.61	1.833	5.91	2.833	2.42	3.83	1.62
0.917	5.28	1.917	4.66	2.917	2.23	3.92	1.54
1.000	5.28	2.000	4.66	3.000	2.23	4.00	1.54

Max.Eff.Inten.(mm/hr)=	28.20	28.88	
over (min)	30.00	40.00	
Storage Coeff. (min)=	30.46 (ii)	60.00 (ii)	
Unit Hyd. Tpeak (min)=	30.00	60.00	
Unit Hyd. peak (cms)=	0.04	0.02	

			TOTALS
PEAK FLOW (cms)=	0.17	0.03	0.188 (iii)
TIME TO PEAK (hrs)=	1.75	2.33	1.75
RUNOFF VOLUME (mm)=	23.91	10.03	17.80
TOTAL RAINFALL (mm)=	24.91	24.91	24.91
RUNOFF COEFFICIENT =	0.96	0.40	0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0013):	0.07	0.000	1.58	1.52
+ ID2= 2 (0014):	0.40	0.001	1.67	1.65
ID = 3 (0023):	0.47	0.002	1.67	1.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0023):	0.47	0.002	1.67	1.63
+ ID2= 2 (0015):	0.19	0.001	1.42	2.48
ID = 1 (0023):	0.66	0.003	1.50	1.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0023)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0023):	0.66	0.003	1.50	1.87
+ ID2= 2 (0016):	0.58	0.007	1.42	3.53
ID = 3 (0023):	1.24	0.009	1.42	2.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ADD HYD  (  0023)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0023):     1.24   0.009     1.42     2.65
      + ID2= 2 (  0017):     0.69   0.005     1.42     2.72
        ================================================
        ID = 1 (  0023):     1.93   0.015     1.42     2.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0023)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0023):     1.93   0.015     1.42     2.67
      + ID2= 2 (  0019):     6.26   0.188     1.75    17.80
        ================================================
        ID = 3 (  0023):     8.19   0.196     1.75    14.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0024)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7970      0.1600
                          0.3210     0.1300   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0023)      8.190      0.196      1.75      14.23
   OUTFLOW: ID= 1 (  0024)      8.190      0.100      2.58      14.22

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.14
                  TIME SHIFT OF PEAK FLOW         (min)= 50.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0407

--------------------------------------------------------------------------------
```

APPENDIX E
STORMWATER MANAGEMENT FACILITY CALCULATIONS

McINTOSH PERRY

CCO-22-0957 - WINTERGREEN SUBDIVISION - STORMWATER MANAGEMENT POND CLEANOUT FREQUENCY

Catchment Imperviousness	Annual Loading (kg/ha)	Wet Density (kg/m^3)	Annual Loading (m^3/ha)
35%	770	1,230	0.6
55%	2,300	1,230	1.9
70%	3,495	1,230	2.8
85%	4,680	1,230	3.8

Requirements		Pond 1	Units
Catchment Imperviousness	=	54.6%	
Sediment Loading Per 1-Year	=	1.9	m^3/ha
Total Area to Pond	=	8.190	ha
Yearly Sediment to Pond	=	15.3	m^3
Initial Removal Efficiency	=	80%	
Yearly Accumulation in Pond	=	12.3	m^3
Required Quality Volume	=	*190.3*	m^3/ha
Required Permanent Pool Volume [(203.9 - 80 Extended Detention) x Total Area]	=	903.4	m^3
Permanent Pool Volume Provided	**=**	**1,560.0**	**m^3**
Required Quality Volume @ 5% less Efficient	=	*180.8*	m^3/ha
Required Permanent Pool Volume @ 5% less Efficient [(193.7 - 80 Extended Detention) x Total Area]	=	825.4	m^3
Total Sediment Accumlation Allowed Before Removal Required (Provided - Max Allowed 5% Reduction)	=	734.6	m^3
Total Approximate Number of Years Before Sediment Removal is Required	**=**	**60**	**years**

3240 Drummond Concession 5A, R.R.7 Perth, Ontario K7H 3C9 Tel.: 613.267.6524 Fax: 613.267.7992
info@mcintoshperry.com www.mcintoshperry.com

CCO-22-0957 - WINTERGREEN SUBDIVISION - STORMWATER MANAGEMENT POND FOREBAY AND PERMANENT POOL STORAGE VOLUME

1. Forebay Storage Volumes

A conservative estimate for forebay volume is equal to or greater than ten (10) years of sediment accumulation.
The conservative estimate for minimum forebay volume based on ten (10) times the sediment accumulation is 123 m3.

2. Permanent Pool Storage Volumes

Total Permanent Pool Volume Required =	**1,559**	**m^3**
Total Permanent Pool Volume Provided =	**1,560**	**m^3**

Therefore, the permanent pool volume provided is greater than the required volume.

3. Settling Length

Distance = $\frac{rQ_p}{V_s}$ Equation 4.5 : Settling Length, MECP SMPDM, March 2003

Length-to-Width Ratio --->	r =	2		(recommended)
Peak Flow Rate --->	Q_p =	0.196	m^3/s	(quality storm outflow --- 25mm Chicago storm event)
Settling Velocity --->	V_s =	0.0003	m/s	(recommended)

Distance = 36 m Settling Length (based on settling particles of approx. 0.15mm diameter)

4. Dispersion Length

Distance = $\frac{(8Q)}{dV_f}$ Equation 4.6 : Dispersion Length, MECP SMPDM March 2003

Inlet Flow Rate --->	Q =	0.496	m^3/s	(5 year Post)
Depth of Permanent Pool --->	d =	1.85	m	(in Forebay)
Settling Velocity --->	V_f =	0.5	m/s	(recommended)

Distance = 4 m Length of dispersion (based on pipe full flow capacity)

The forebay should be 36 m long to settle particles and for pipe full flow dispersion.
The forebay length provided in the proposed pond design is 40 m long for particle settlement and dispersion.
Therefore, the forebay length meets the minimum requirements for particle settlement and dispersion

5. Forebay Width

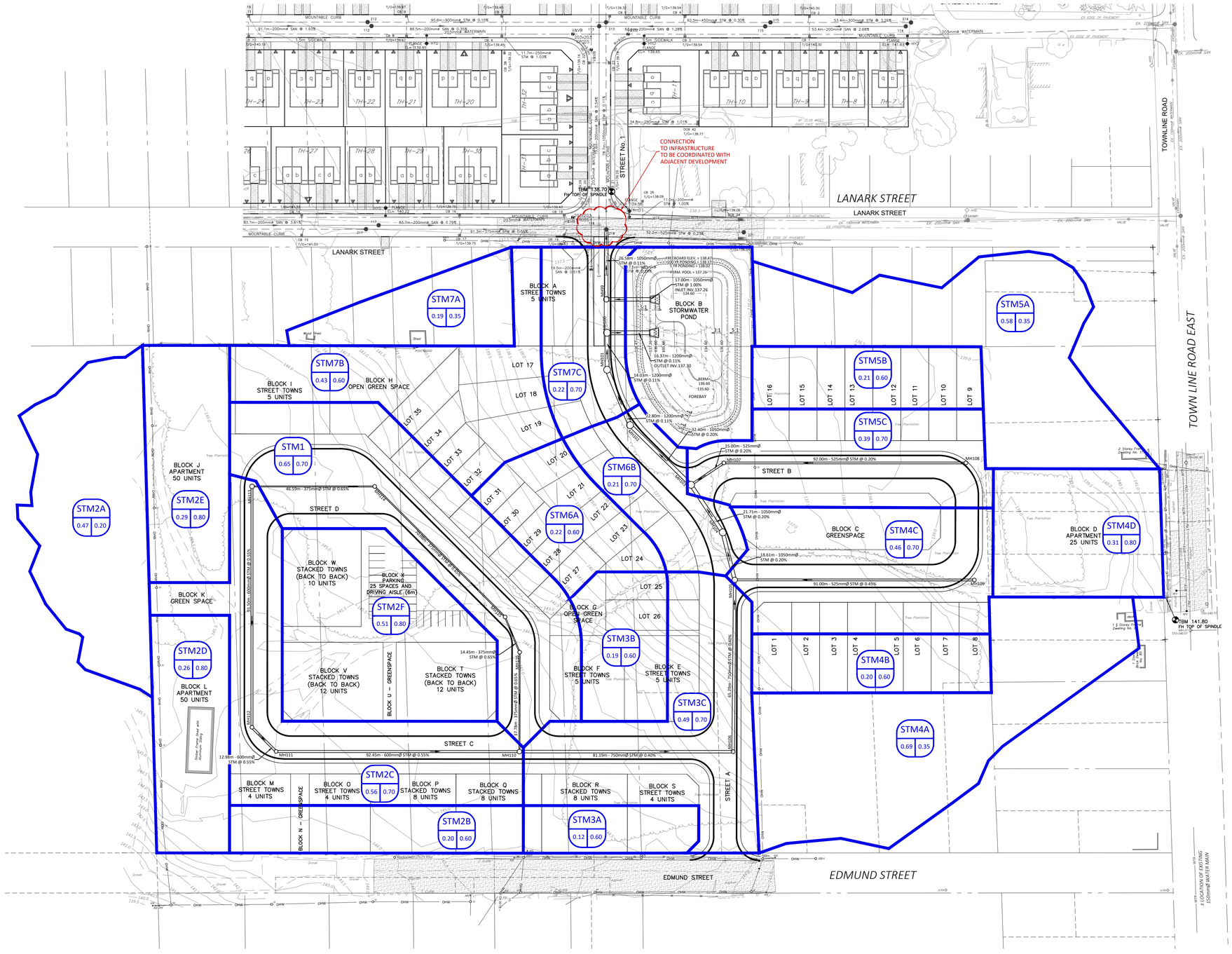
Width = $\frac{\text{Dist.}}{8}$ Equation 4.7 : Minimum Forebay Bottom Width

Width = $\frac{36}{8}$ = 5 m

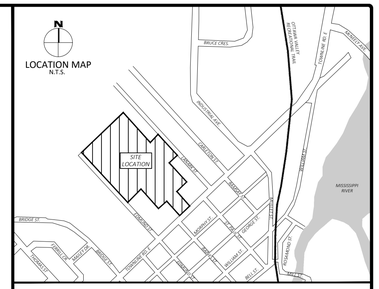
The forebay deep zone should be at least 5 m wide.
The forebay deep zone width provided in the proposed pond design is 5 m wide.
Therefore, the forebay deep zone provided meets the minimum requirements for bottom width.

APPENDIX F
STORM SEWER DESIGN SHEET AND DRAINAGE PLAN

McINTOSH PERRY



LOCATION MAP
N.T.S.



LEGEND

AREA I.D
STM1
1.00 0.50
AREA SIZE (HECTARES)
RUNOFF COEFFICIENT

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

SCALE 1 : 750
0 25 50 75 Metres

No.	Revision/Issue	Date
0	ISSUED FOR REVIEW	SEPT.08.2023

Check and verify all dimensions before proceeding with the work
Do not scale drawings

McINTOSH PERRY
3240 Drummond Cons 5A, R.R. #7, Perth, ON K7H 3C9
Tel: 613-267-6524 Fax: 613-267-7992
www.mcintoshperry.com

North:

Stamp:

Client:
WINTERGREEN RIDGE LTD.

Project:
400 LANARK STREET
WINTERGREEN RIDGE SUBDIVISION
CARLETON PLACE ONTARIO

Drawing Title:
CONCEPTUAL STORM SERVICING PLAN

Scale: 1:750	Project Number: CCO-22-0957
Drawn by:	Drawing Number: STM
Checked By:	
Designed By:	

FILENAME: U:\Perth\MMCE JOBS\MMCE Projects\2022\(CCO)CCO-22-0957 - Wintergreen - Draft Plan of Subdivision - 400 Lanark Street\05 - Drawings\(CCO-22-0957 - 400 Lanark Street Conceptual Design.dwg
LAST SAVED: Thursday, September 07, 2023 LAST SAVED BY: s.hall
LAST PLOTTED: Thursday, September 07, 2023 CTB FILE USED: ----

STORM SEWER DESIGN SHEET

PROJECT: Wintergreen Ridge Subdivision
LOCATION: Carleton Place
CLIENT: Wintergreen Ridge Ltd.

VACANT EX RY PR RY FY APT POND

LOCATION				CONTRIBUTING AREA (ha)								RATIONAL DESIGN FLOW										SEWER DATA								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
STREET	AREA ID	FROM MH	TO MH	C-VALUE 0.20	0.35	0.60	0.70	0.80	1.00	INDIV AC	CUMUL AC	INLET (min)	TIME IN PIPE	TOTAL (min)	i (5) (mm/hr)	i (10) (mm/hr)	i (100) (mm/hr)	5yr PEAK FLOW (L/s)	10yr PEAK FLOW (L/s)	100yr PEAK FLOW (L/s)	FIXED FLOW (L/s)	DESIGN FLOW (L/s)	CAPACITY (L/s)	LENGTH (m)	PIPE SIZE (mm) DIA	W	H	SLOPE (%)	VELOCITY (m/s)	AVAIL CAP (5yr) (L/s)	(%)
	STM1	MH113	MH110				0.65			0.46	0.46	10.00	2.18	12.18	104.19	122.14	178.56	131.79				131.79	147.47	169.00	375			0.65	1.293	15.67	10.63%
	STM2	MH113	MH110	0.47		0.20	0.56	1.06		1.45	1.45	10.00	2.02	12.02	104.19	122.14	178.56	421.16				421.16	475.05	197.00	600			0.55	1.628	53.89	11.34%
	STM3	MH110	MH105			0.31	0.49			0.53	2.44	12.18	1.52	12.18	93.94	110.07	160.83	636.72				636.72	734.54	147.00	750			0.40	1.611	97.82	13.32%
	STM4	MH109	MH105		0.69	0.20	0.46	0.31		0.93	0.93	10.00	1.13	11.13	104.19	122.14	178.56	269.82				269.82	300.97	91.00	525			0.45	1.347	31.15	10.35%
	STM5	MH108	MH103		0.58	0.21	0.39			0.60	0.60	10.00	1.99	11.99	104.19	122.14	178.56	174.37				174.37	200.65	107.00	525			0.20	0.898	26.27	13.09%
	STM6	MH105	MH102			0.22	0.21			0.28	4.25	12.18	0.85	13.03	93.94	110.07	160.83	1,110.08				1,110.08	1,274.02	73.00	1050			0.20	1.425	163.94	12.87%
	STM7	MH103	POND		0.19	0.43	0.22			0.48	4.73	13.03	0.79	13.82	90.51	106.03	154.90	1,189.89				1,189.89	1,348.97	55.00	1200			0.11	1.155	159.08	11.79%

Definitions:
Q = 2.78CiA, where:
Q = Peak Flow in Litres per Second (L/s)
A = Area in Hectares (ha)
i = Rainfall intensity in millimeters per hour (mm/hr)
[i = 998.071 / (TC+6.053)^0.814] 5 YEAR
[i = 1174.184 / (TC+6.014)^0.816] 10 YEAR
[i = 1735.688 / (TC+6.014)^0.820] 100 YEAR

Notes:
1. Mannings coefficient (n) = 0.013

Designed: SH
Checked: PK
Project No.: CCO-22-0957

No.	Revision	Date
1.	ISSUED FOR REVIEW	Sept.08.2023

Sheet No: 1 of 1