

**STORMWATER MANAGEMENT REPORT
BRADFORD HIGHLAND JOINT VENTURE
RESIDENTIAL SUBDIVISION**

Town of Bradford West Gwillimbury

October 2023



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1.0 Introduction

KSGS Engineering has been retained by Bradford Highland Joint Venture (BHJV) to prepare a Stormwater Management Report for the BHJV lands located in the Town of Bradford West Gwillimbury. The subject area is located west of Inverness Way, north of 5th Line and the Canal, south of 6th Line and east of a point approximately 80m west of Brownlee Drive. The entire study site is located within the Holland River North Canal catchment.

The entire study area is comprised of proposed residential development with two parks, two stormwater management blocks and an environmental protection area. There are also existing estate residential lots that front on Brownlee Drive that will remain and are outside of the proposed development.

The development will consist of approximately 64 hectares of which 5.8 hectares will be environmental protection and compensation areas. The existing estate residential also makes up approximately 21 hectares. Although not part of the Bradford Highland Joint Venture, those lands will have an impact on the stormwater management analysis and report. The total site area is approximately 85 hectares of which BHJV makes up 60 Ha. **Figure 1** shows the general layout of the development site. The Draft plan is shown in **Appendix E** under a drawing entitled Draft Plan of Subdivision Part of Block 36, Plan 51M-221 and Part of Lot 13, Concession 5 Town of Bradford-West Gwillimbury.

The proposed stormwater management approach will be consistent with that set out in the following approved Plans and Reports:

- Approved *Town of Bradford West Gwillimbury Master Environmental Servicing Plan, Green Valley Community plan, June 2008*, prepared by R. J. Burnside and Associates Limited.
- A report entitled “Bradford Capital Residential Subdivision Part of Lot 14, Concession 3 Town of Bradford West Gwillimbury” dated October 2014, prepared by Sernas & Associates in support of the subdivision development east of Bradford Highland and west of Simcoe Road.
- A report entitled “Stormwater Management Report Bradford East Development Residential Subdivision Town of Bradford West Gwillimbury”, March 2016 was previously completed by GHD (2016) in support of the subdivision development east of this development site and east of Simcoe Road.

The above three reports deal with all the lands within the Holland River North Canal catchment east of BHJV. The north half of BHJV is tributary to this area as shown on **Figure 3** attached in **Appendix A**. The southern half of the BHJV development drains directly into the Canal.

The present land use of the Bradford Highlands Joint Venture is a former golf course.

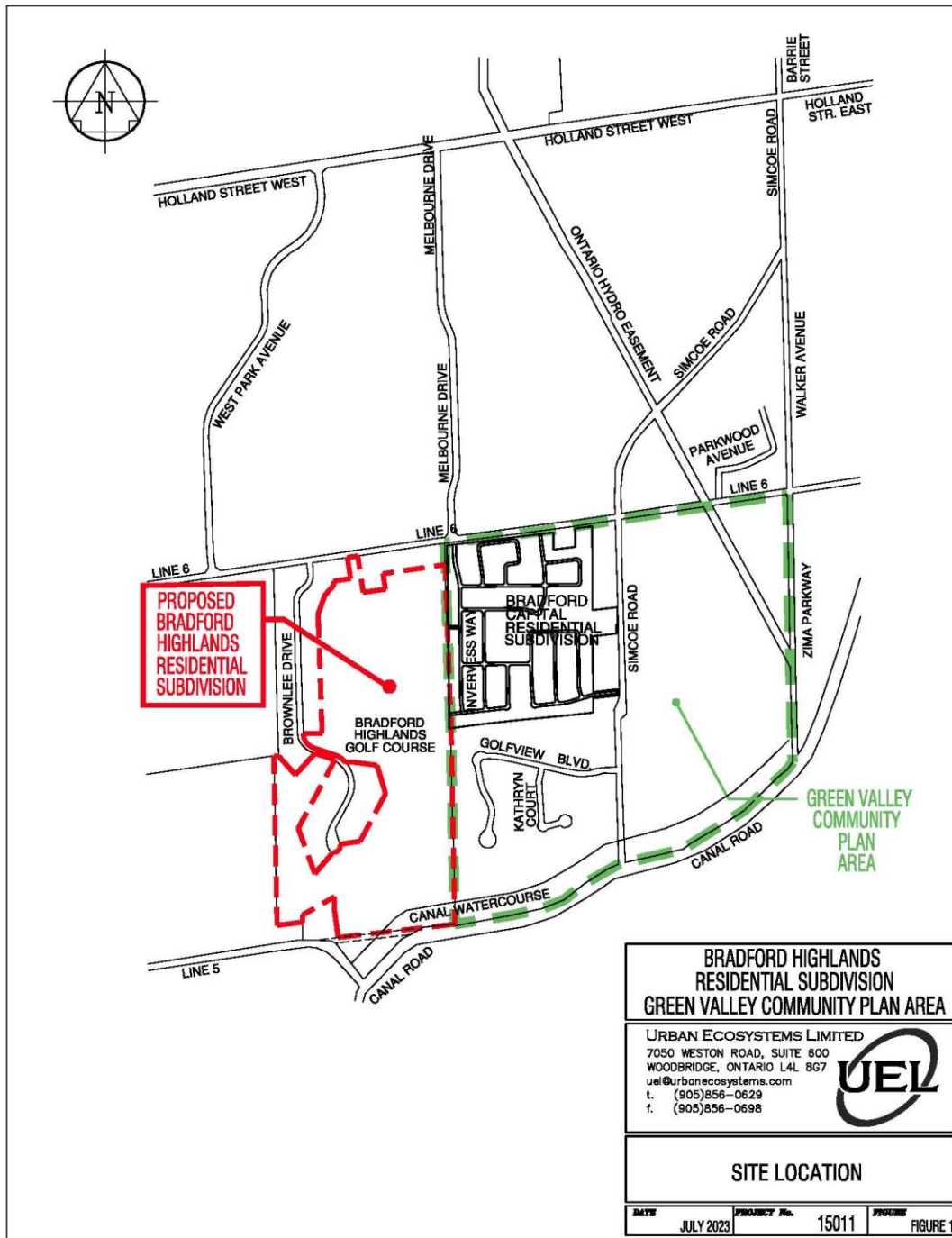


Figure 1 Bradford Highland Joint Venture Key Plan

The north half of BHJV lands was an external area that was included in the Sernas/GHD SWM reports. The Lake Simcoe Region Conservation Authority (LSRCA) has requested that the stormwater management submission for BHJV follow the LSRCA Technical Guidelines for Stormwater Management Submissions (2016). This report has been prepared in compliance with the LSRCA technical guidelines.

1.1 Background Information

The following background information has been reviewed in preparation of this SWM report for Bradford Highland Joint Venture:

- Town of Bradford West Gwillimbury Master Environmental Servicing Plan, Green Valley Community plan, June 2008, prepared by R. J. Burnside and Associates Limited.
- Stormwater Management Report Bradford East Developments Residential Subdivision Town of Bradford West Gwillimbury prepared by GHD Inc., March 2016
- Stormwater Management Report Bradford Capital Residential Subdivision Town of Bradford West Gwillimbury prepared by Sernas Associates, December 2014
- Lake Simcoe Protection Plan, June 2018
- Lake Simcoe Phosphorus Offsetting Policy (LSPOP), September 2017
- LSRCA Technical Guideline for Stormwater Management Submissions, September 2016
- CVC/TRCA Low Impact Development Stormwater Management Planning and Design Guide, 2010
- Phosphorous Budget Tool in Support of Sustainable Development for the Lake Simcoe Watershed Version 2, dated 2012, prepared by Hutchinson Environmental Services Ltd.

2.0 Stormwater Management

2.1 Existing Site Conditions

The BHJV developments lands are located south of 6th Line and east of a line approximately 80 m west of Brownlee Drive and drains from west to east towards the existing Bradford Capital residential development and from north to south towards the Holland River North Canal. As outlined above the north portion of these lands drain into the Bradford Capital and Bradford East Development Residential Subdivision and a portion of these lands drains towards the Holland River North Canal where no existing stormwater management plan exists.

There are two stormwater management facilities proposed for the BHJV development. One SWM facility will be for the north half of the lands and the second SWM Facility will be for the south half of these lands.

For the north portion of BHJV these flows are external to Bradford Capital and the Bradford Capital flows are external to Bradford East. Bradford Capital and Bradford East are now completed subdivisions (See **Figure 3** in **Appendix A**). Within Bradford Capital there is a constructed SWM Facility (SWM 702-2) that the north half of BHJV will drain into. Within Bradford East there are two SWM Facilities that BHJV will not drain into. However, based on the Burnside 2008 report there were target flows that discharges from all three developments were to meet at Point Q (flows at tributary and 6th Line). The location is shown on **Figure 3**. SWM Facility 703-1 is within the drainage area of Point Q at 6th Line. Within Bradford East development there is a second SWM Facility (SWM 701-1) that drains to a second target flow location as per the Burnside 2008 report at Point R at Zima Parkway. This point is mentioned here but does not affect BHJV.

The south half of BHJV drains to the Holland River North Canal directly. The south pond will drain to this outlet.

2.2 Design Criteria

The design criteria for stormwater management for the BHJV lands has been established previously in Burnside Master plan in 2008 and has been advanced by the Bradford Capital and Bradford East reports. For the south half of the BHJV site the criteria have been set by the Burnside Master Plan. Outline below are the criteria that will be followed:

- Water quality treatment to Level 1 Enhanced Protection as per MOE Stormwater Management Practices Planning and Design Manual (2003)
- Water quantity control to limit post-development peak flows to pre-development release rates for design storms ranging from 2-year to 100-year events. Based on the MESP report prepared by RJ Burnside & Associates (2008), consideration will be given to the 4-hour Chicago, 24-hour Chicago, 12-hour SCS and 24-hour SCS rainfall distributions for modeling the design storms. Flows will be checked at Point Q along 6th Line to ensure that they are following the RJ Burnside & Associates report Master Plan.

- Extended detention for runoff from the 25mm 4-hour Chicago storm and released over a 24 to 48-hour period.

There is an additional design criterion for the current submission for BHJV lands as the previous Burnside Master Plan, Bradford Capital and Bradford East reports were approved prior to implementation of the following LSRCA requirements. The most recent version of the LSRCA technical guidelines for Stormwater Management Submissions (2016) was approved and effective September 1, 2016. Volume control is a new requirement in the 2016 revision, and it states that all non-linear development creating more than 0.5 ha of impervious surface shall adhere to the following:

- Capture post-construction runoff volume and retain on-site from a 25mm rainfall event for the total impervious area. Depending on the groundwater conditions and feasibility of implementation, there is sliding scale that will be discussed under Runoff Volume Control.
- Revisions to the phosphorous loading calculations. Calculations are based on reducing phosphorous loading to predevelopment levels. Any release greater than the predevelopment level will be offset with a charge based on an offset ratio of 2.5:1 and an offset value of \$35,700 per kg/yr. plus a 15% surcharge.

For the proposed BHJVs development volume control requirement and phosphorus assessment must be undertaken.

2.3 Hydrological Modeling

2.3.1 North Portion of Bradford Highland Joint Venture

In the previously approved report, Visual OTTHYMO (VO2) was used to estimate existing and proposed flows for Bradford Capital and Bradford East Development Residential Subdivision. In the Bradford Capital report, a portion of the BHJV north lands were identified as part of drainage area 7010 and 7011. (See **Figure 3** from Urban Ecosystems Limited enclosed in **Appendix A**). In addition, the Bradford Capital report assumed that the two above mentioned external area (which include the north portion of BHJV would drain to SWM Facility 702-2 as predevelopment lands. Flows leaving SWM Facility 702-2 will cross over Simcoe Road and travel along an existing watercourse where flows from SWM Facility 703-1 within Bradford East) will combine with flows from SWM Facility 702-2 and drain towards 6th Line (Point Q).

The VO6 model will be used to simulate the flows from north portion of BHJV, contributing external areas west of BHJV and contributing existing estate residential along Brownlee Drive. These flows will pass through SWM Facility 600-1 within BHJV. Discharges from this SWM Facility will be picked up within the storm sewer pipes and overland flow routes within Bradford Capital and pass through existing SWM Facility 702-2. The combined discharge from 702-2 will cross Simcoe Street and combine with discharges from SWM Facility 703-1 (Bradford East) and flow to Point Q (6th Line). The flows at this point must meet the requirements set out in the Burnside Master Plan 2008.

Table 2.1 North Drainage Area

Drainage Area Identification	Area (Hectares)
6100 External	8.0
6200 Estate	4.41
6300 Estate	3.89
6400 Estate ⁽¹⁾	3.24
6500 Residential	25.72
6600 External East	1.21
6700 SWM 600-1	2.65
Total	49.12
Existing Drainage Areas	
7010	15.0
7011	34.0
Total	49.0

NOTES: (1) to bypass SWM Facility 600-1

2.3.2 South Portion of Bradford Highland Joint Venture

The south portion of BHJV was not previously covered by a detailed stormwater management report. The general guideline for this area is outlined in the Burnside Master Plan 2008. Similar criteria will be followed as per the north portion of the BHJV lands with the exception that discharge will outlet into the Holland River North Canal.

There are 5 external areas that drain into the south portion of BHJV as shown on **Figure 4** in **Appendix B1**. Three of these areas will drain through the site and feed the environmental protection area located at the south end of BHJV adjacent to the Canal. Two of the smaller external drainage areas will be picked up by the BHJV drainage system and taken to the SWM pond 800-1. The existing estate residential along Brownlee Drive that drains to the south and the BHJV development draining southerly will be taken into the SWM Facility.

The total drainage area draining south is approximately 79 hectares as shown in Figure 2. The drainage area is comprised of the following as shown in Table 2.2 below:

Table 2.2 South Drainage Area

Drainage Area Identification	Area (Hectares)
8100 External ⁽¹⁾	1.90
8200 External ⁽¹⁾	2.88
8300 External ⁽²⁾	8.15
8400 External ⁽²⁾	11.21
8500 External ⁽²⁾	11.81
8600 Estate ⁽¹⁾	10.27
8700 Residential ⁽¹⁾	2.22
8800 Residential ⁽¹⁾	18.91

8900 Estate ⁽¹⁾	2.39
10000 SWM 800-1	2.78
11000 External East ⁽¹⁾	0.9
12000 Park ⁽¹⁾	1.59
13000 Environmental Compensation & Ex, Estate ⁽³⁾	9.58
Total	84.59
Existing Drainage Area	
7100	79.0
NOTES: (1) contributes to SWM Facility 800-1	
(2) to bypass SWM Facility 800-1 and contributes to wetland	
(3) to bypass SWM Facility 800-1	

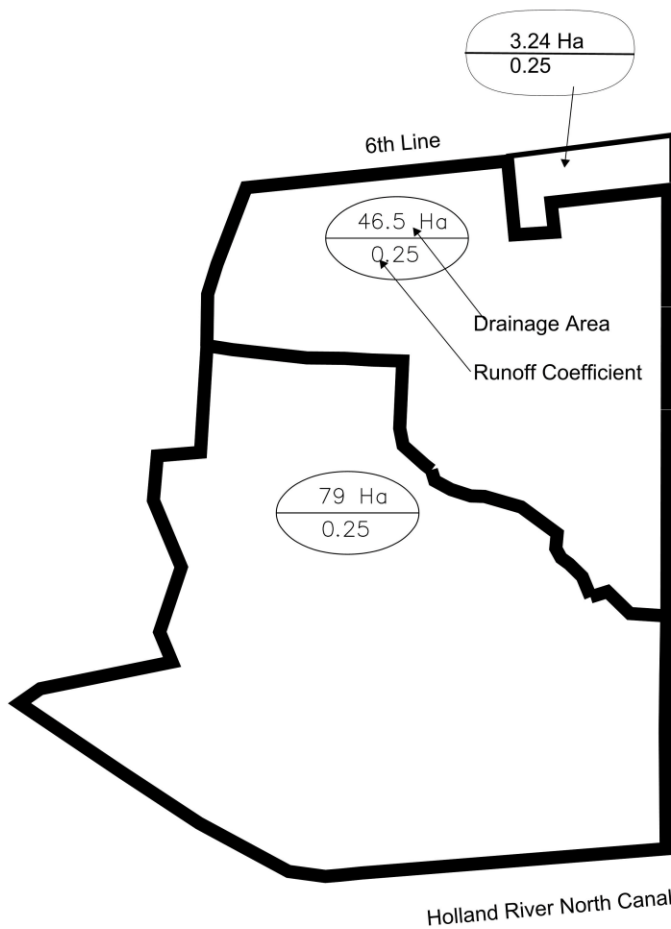


FIGURE 2:
Predevelopment Drainage Area
Bradford Highland Joint Venture

2.4 Stormwater Management

2.4.1 North Portion

As outlined in Table 2.1 within Section 2.3.1, a drainage area of just under 49 hectares will drain into the proposed SWM Facility within the north portion of BHJV. The following parameters were determined for the various land uses as shown in Table 2.3 below.

Table 2.3 Land Use Parameters North Drainage Areas

Drainage Area Identification	Area (Hectares)	TP (Hours)	Timp	Ximp
6100 External	8.0	0.55		
6200 Estate	4.41		0.21	0.1
6300 Estate	3.89		0.21	0.1
6400 Estate ⁽¹⁾	3.24			
6500 Residential	25.72		0.65	0.35
6600 External East	1.21		0.6	0.3
6700 SWM 600-1	2.65		0.5	0.5
Total	49.12			
Existing Drainage Areas				
7010	15.0	As per previous Reports		
7011	34.0			
Total	49.0			
NOTES: (1) to bypass SWM Facility 600-1				

2.4.1.1 Quality Control North Lands

For the quality design for SWM Facility 600-1 enhanced level control will be provided. Based on the information provided in Table 2.3 an overall imperviousness of the developed lands contributing to the SWM pond was 51.5 percent. The calculations are provided in **Appendix B2**. Using this information and the MECP guidelines for Enhanced Level protection the volume of permanent pool was calculated. Based on a developed tributary area to SWM Facility 600-1 of 41.12 hectares (8 hectares of non developed external area was excluded, an imperviousness of 51.5% and utilizing a wet pond a permanent pool volume of 5742 m³ was required. A wet pond volume of 181 m³ was calculated less 40 m³ for extended detention to arrive at 140 m³ per hectare. Based on 41.12 hectares the volume of 5742 m³ was calculated. The calculations are provided in **Appendix B2**.

Summarized below are the permanent pool volumes required and provided within SWM Facility 600-1:

Permanent Pool Required	5742 m ³ .
Permanent Pool Provided	6151 m ³ .

As noted from the numbers above SWM Facility 600-1 provides sufficient permanent pool to treat the BHJV lands and the existing estate residential. Calculations can be found in **Appendix B2**.

2.4.1.2 Extended Detention/Erosion Control North Lands

The VO6 model was run using a 25 mm Chicago storm to determine the amount of runoff from a 25 mm storm. The runoff 8.36 mm from the 25 mm storm for the 49.12 hectares drainage area resulted in an extended detention volume of 4107 m³. The calculations are provided in **Appendix B2**.

Summarized below are the permanent pool volumes required and provided within SWM Facility 600-1:

Extended Detention Volume Required	4107 m ³ .
Extended Detention Volume Provided	4449 m ³ .

As noted from the numbers above SWM Facility 600-1 provides sufficient extended detention volume for the BHJV lands and the existing estate residential lands.

2.4.1.3 Quantity Control North Lands

As outlined in Burnside Master Plan 2008, specific flow targets were to be met at specific locations within the Holland River North Canal drainage shed. The Bradford Capital and Bradford East SWM report complied with the targets, but both reports were downstream of the BHJV lands. The existing VO model for the watershed was used to analyze the BHJV north lands. The model downstream of BHJV was not changed based on the model's latest update. In this case it was the updated model created for the development of Block 170 in 2021 by KSGS Engineering Corp. (KSGS). In the 2021 update KSGS updated the model to take into consideration the development of Block 170 and the required modifications to SWM Facility 703-1 to accommodate Block 170 development.

The VO6 hydrology model was modified west of Bradford Capital as outlined below in Table 2.4.

Table 2.4 VO6 Model Modifications

Drainage Area Identification	Area (Hectares)	Activity	TP (Hours)	Timp	Ximp
6100 External	8.0	Added	0.55		
6200 Estate	4.41	Added		0.21	0.1
6300 Estate	3.89	Added		0.21	0.1
6400 Estate ⁽¹⁾	3.24	Not Added			
6500 Residential	25.72	Added		0.65	0.35
6600 External East	1.21	Added		0.6	0.3
6700 SWM 600-1	2.65	Added		0.5	0.5
Total	49.12				

Existing Drainage Areas					
7010	15.0	Removed			
7011	34.0	Removed			

Drainage area 6400 located at the north end is estate residential lands that do not drain into SWM Facility 600-1 and as such was not included in the sizing of the SWM 600-1.

Visual OTTHYMO (VO6) was used to update the proposed model in this report. Copies of the model’s input and output summary files are attached in **Appendix B2**. Shown below in **Table 2.5** is the peak flow into SWM 600-1, the controlled release rates and storage volumes for the various return storm for the four storms analyzed. The four storms were:

1. 4-hour Chicago
2. 24-hour Chicago
3. 12-hour SCS and
4. 24-hour SCS

Table 2.5 Pond 600-1 Peak Inflow, Controlled Release Rate and Storage Volume						
	Design Storm Rainfall Distribution					
Design Storm	4 Hour Chicago			24 Hour Chicago		
	Inflow (m³/s)	Discharge (m³/s)	Storage (m³)	Inflow (m³/s)	Discharge (m³/s)	Storage (m³)
2	2.52	0.177	5070	2.75	0.28	5620
5	3.67	0.477	6700	4.11	0.60	7950
10	4.57	0.625	8170	5.19	0.73	10050
25	5.73	0752	10475	5.66	1.33	13850
50	6.77	0.848	12440	7.82	1.54	14910
100	7.75	0.928	14290	9.02	2.41	15820

Table 2.5 Pond 600-1 Peak Inflow, Controlled Release Rates and Storage Volumes		
	Design Storm Rainfall Distribution	
	12Hour SCS	24 Hour SCS

Design Storm	Peak Inflow (m ³ /s)	Discharge (m ³ /s)	Storage (m ³)	Peak Inflow (m ³ /s)	Discharge (m ³ /s)	Storage (m ³)
2	1.76	0.245	5070	2.47	0.290	5390
5	2.45	0.585	6700	4.14	0.641	8580
10	3.18	0.719	8170	5.42	0.786	11160
25	4.20	0.868	10480	7.21	1.190	14560
50	5.06	1.512	12440	8.66	2.415	15820
100	5.93	2.486	14290	9.99	3.685	16660

Flows from the BHJV SWM Facility will pass through the already constructed Bradford Capital SWM Facility before out letting to a channel that crosses Simcoe Road towards Point Q at 6th Line. As a result, controlled flows from SWM Facility 600-1 within BHJV could impact the operation of the already operating SWM Facility 700-2 within Bradford Capital.

Shown in **Table 2.6** are the previous designed flows at SWM Facility 700-2 and the post flows with the development of BHJV has been updated to reflect the impacts on SWM Facility 700-2 because of the development of the BHJV lands.

Table 2.6 Previous and Post Development Flow Rates at SWM Facility 700-2								
Design Storm Rainfall Distribution								
Design Storm	4 Hour Chicago		24 Hour Chicago		24 Hour SCS		12 Hour SCS	
	Previous (m³/s)	Post (m³/s)	Previous (m³/s)	Post (m³/s)	Previous (m³/s)	Post (m³/s)	Previous (m³/s)	Post (m³/s)
2	0.100	0.049	0.197	0.171	0.209	0.182	0.183	0.153
5	0.385	0.299	0.807	0.584	1.072	0.665	0.727	0.537
10	0.888	0.634	1.573	0.926	2.042	1.032	1.532	0.895
25	1.677	1.017	2.637	1.333	3.351	1.656	2.328	1.283
50	2.328	1.270	3.539	1.967	4.441	1.748	2.633	1.929

100	2.919	1.508	4.339	2.787	5.736	3.770	2.919	2.855
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As can be seen from the above table, the development of BHJV has not resulted in an increase in flows at the SWM Facility 702-2 for the targeted largest release from the 24-hour SCS storm and as a matter of fact for all storms events and storm types.

A further check also needs to be made at Point Q at 6th Line. All flows are combined at 6th Line and compared to the targeted releases. Outlined below in **Table 2.7** is this comparison.

Table 2.7 Post Development and Target Flow Rates at Point Q (6 th Line)								
	Design Storm Rainfall Distribution							
Design Storm	4 Hour Chicago		24 Hour Chicago		24 Hour SCS		12 Hour SCS	
	Post (m ³ /s)	Target (m ³ /s)	Post (m ³ /s)	Target (m ³ /s)	Post (m ³ /s)	Target (m ³ /s)	Post (m ³ /s)	Target (m ³ /s)
2	0.274	0.99	0.399	1.39	0.473	1.09	0.376	1.29
5	0.564	1.96	0.824	2.72	1.022	2.17	0.748	2.60
10	0.812	2.75	1.188	3.76	1.547	3.01	1.097	3.63
25	1.283	3.87	1.806	5.23	2.417	4.16	1.682	5.09
50	1.665	4.80	2.589	6.03	3.611	5.06	2.507	6.31
100	2.052	5.68	3.630	7.54	4.997	6.00	3.664	7.51

As can be seen from **Table 2.7** above all flows at 6th line are at or below target.

2.4.2 South Portion of BHJV

As outlined in Table 2.2 within Section 2.3.2, a drainage area of approximately 84.5 hectares will drain into the proposed SWM Facility within the south portion of BHJV. The following parameters were determined for the various land uses as shown in **Table 2.8** below.

Table 2.8 Land Use Parameters South Drainage Area

Drainage Area Identification	Area (Hectares)	Tp (Hours)	TIMP	XIMP
8100 External ⁽¹⁾	1.90	0.54		
8200 External ⁽¹⁾	2.88	0.82		
8300 External ⁽²⁾	8.15	0.80		
8400 External ⁽²⁾	11.21	0.99		

8500 External ⁽²⁾	11.81	0.72		
8600 Estate ⁽¹⁾	10.27		0.21	0.1
8700 Residential ⁽¹⁾	2.22		0.6	0.3
8800 Residential ⁽¹⁾	18.91		0.65	0.35
8900 Estate ⁽¹⁾	2.39		0.21	0.1
10000 SWM 800-1	2.78		0.5	0.5
11000 External East ⁽¹⁾	0.9		0.5	0.25
12000 Park ⁽¹⁾	1.59		0.25	0.13
13000 Environmental Compensation & Ex, Estate ⁽³⁾	9.58	Not included in analysis		
Total	84.59			
Existing Drainage Area				
7100	79.0	1.15		
NOTES: (1) contributes to SWM Facility 800-1				
(2) to bypass SWM Facility 800-1 and contributes to wetland				
(3) to bypass SWM Facility 800-1				

2.4.2.1 Quality Control South Lands

For the quality design for SWM Facility 800-1 enhanced level control will be provided. Based on the information provided in **Table 2.8** an overall imperviousness of the developed lands contributing to the SWM pond was 51.5 percent. The calculations are provided in **Appendix C1**. Using this information and the MECP guidelines for Enhanced Level protection the volume of permanent pool was calculated. Based on a developed tributary area to SWM Facility 800-1 of 39.06 hectares (4.78 hectares of non developed external area was excluded, an imperviousness of 43% and utilizing a wet pond a permanent pool volume of 4726 m³ was required. A wet pond volume of 121 m³ was calculated less 40 m³ for extended detention to arrive at 140 m³ per hectare. Based on 41.12 hectares the volume of 4726 m³ was calculated. The calculations are provided in **Appendix C1**.

Summarized below are the permanent pool volumes required and provided within SWM Facility 800-1:

Permanent Pool Required	4726 m ³
Permanent Pool Provided	9233 m ³

As noted from the numbers above SWM Facility 800-1 provides sufficient permanent pool to treat the BHJV lands and the existing estate residential. Calculations can be found in **Appendix C1**.

2.4.2.2 Extended Detention/Erosion Control South Lands

The VO6 model was run using a 25 mm Chicago storm to determine the amount of runoff from a 25 mm storm. The runoff 12.92 mm from the 25 mm storm for the 43.84 hectares drainage area resulted in an extended detention volume of 5664 m³. The calculations are provided in **Appendix C2**.

Summarized below are the permanent pool volumes required and provided within SWM Facility 800-1:

Extended Detention Volume Required	5664 m ³ .
Extended Detention Volume Provided	6336 m ³ .

As noted from the numbers above SWM Facility 800-1 provides sufficient extended detention volume for the BHJV lands and the existing estate residential lands.

2.4.2.3 Quantity Control South Lands

As outlined in Burnside Master Plan 2008, specific flow targets were to be met at specific locations within the Holland River North Canal drainage shed. The Bradford Capital and Bradford East SWM report complied with the targets, but both reports were downstream of the BHJV lands. The existing VO model for the watershed was used to analyze the BHJV north ands. The model downstream of BHJV was not changed based on the model's latest update. In this case it was the updated model created for the development of Block 170 in 2021 by KSGS Engineering Corp. (KSGS). In the 2021 update KSGS updated the model to take into consideration the development of Block 170 and the required modifications to SWM Facility 703-1 to accommodate Block 170 development.

The VO6 hydrology model was modified west of Bradford Capital as outlined below in **Table 2.9**. VO6 Model Modifications.

Table 2.9 VO6 Model Modifications South Drainage Area

Drainage Area Identification	Area (Hectares)	Activity	Tp (Hours)	TIMP	XIMP
8100 External ⁽¹⁾	1.90	Added	0.54		
8200 External ⁽¹⁾	2.88	Added	0.82		
8300 External ⁽²⁾	8.15	Added	0.80		
8400 External ⁽²⁾	11.21	Added	0.99		
8500 External ⁽²⁾	11.81	Added	0.72		
8600 Estate ⁽¹⁾	10.27	Added		0.21	0.10
8700 Residential ⁽¹⁾	2.22	Added		0.60	0.30
8800 Residential ⁽¹⁾	18.91	Added		0.65	0.35
8900 Estate ⁽¹⁾	2.39	Added		0.21	0.10
10000 SWM 800-1	2.78	Added		0.50	0.50
11000 External East ⁽¹⁾	0.9	Added		0.50	0.25
12000 Park ⁽¹⁾	1.59	Added		0.25	0.13

Drainage Area Identification	Area (Hectares)	Activity	Tp (Hours)	TIMP	XIMP
13000 Environmental Compensation & Ex, Estate ⁽³⁾	9.58	Not Added	Not included in analysis		
Total	84.59				
Existing Drainage Area					
7100	79.0		1.21		
	69.42 ⁽⁴⁾		1.15		
NOTES: ⁽¹⁾ contributes to SWM Facility 800-1					
⁽²⁾ to bypass SWM Facility 800-1 and contributes to wetland					
⁽³⁾ to bypass SWM Facility 800-1					
⁽⁴⁾ Actual modelled existing area as Environ. Protect. Area not modelled					

Drainage area 13000 located at the south end is comprised of the Environmental Protection area, Compensation area and sever existing estate residential lots the drain directly into the Canal and does not drain to the SWM Facility 800-1. As such these areas were not included in the existing drainage area of the south portion of BHJV.

Visual OTTHYMO (VO6) was used to update the proposed model in this report. Copies of the model’s input and output summary files are attached in **Appendix C2**. Shown below in **Table 2.10** is the peak flow into SWM Facility 800-1, the controlled release rates, and storage volumes for the various return periods for the four storms analyzed. The four storms were:

1. 4-hour Chicago
2. 24-hour Chicago
3. 12-hour SCS and
4. 24-hour SCS

Table 2.10 Pond 800-1 Peak Inflow, Controlled Release Rate and Storage Volume						
Design Storm	Design Storm Rainfall Distribution					
	4 Hour Chicago			24 Hour Chicago		
	Inflow (m ³ /s)	Discharge (m ³ /s)	Storage (m ³)	Inflow (m ³ /s)	Discharge (m ³ /s)	Storage (m ³)
2	2.62	0.125	7330	2.86	0.186	8420
5	3.91	0.322	10260	4.30	0.410	11730
10	4.79	0.425	12240	5.36	0.485	14490

Table 2.10 Pond 800-1 Peak Inflow, Controlled Release Rate and Storage Volume						
25	6.01	0.504	15320	7.46	0.567	18340
50	7.79	0.558	17870	8.53	0.738	21200
100	8.85	0.602	20250	9.75	1.150	22800

Table 2.10 Pond 800-1 Peak Inflow, Controlled Release Rates and Storage Volumes						
Design Storm Rainfall Distribution						
Design Storm	12Hour SCS			24 Hour SCS		
	Peak Inflow (m³/s)	Discharge (m³/s)	Storage (m³)	Peak Inflow (m³/s)	Discharge (m³/s)	Storage (m³)
2	2.05	0.172	8420	2.75	0.187	8440
5	2.77	0.401	11440	4.47	0.426	13580
10	3.59	0.477	14150	5.71	0.507	15440
25	4.62	0.560	17980	7.38	0.593	19770
50	5.43	0.691	20990	9.16	0.978	22310
100	6.31	1.122	22720	10.55	1.526	23820

Flows from the BHJV SWM Facility 800-1 will be combined with external flows that did not pass through the pond before entering the Canal.

Shown in **Table 2.11** are the flows at SWM Facility 800-1 and the flows from the external areas that did not pass through the SWM Facility.

Table 2.11 SWM 800-1 Controlled Release, Uncontrolled flows, and Flow at South Limit								
Design Storm Rainfall Distribution								
Design Storm	4 Hour Chicago				24 Hour Chicago			
	External Flows (m ³ /s)	SWM 800-1 Discharge (m ³ /s)	Target Flow (m ³ /s)	Flow at South Limit (m ³ /s)	External Flows (m ³ /s)	SWM 800-1 Discharge (m ³ /s)	Target Flow (m ³ /s)	Flow at South Limit (m ³ /s)
2	0.27	0.125	0.60	0.36	0.37	0.186	0.78	0.48
5	0.51	0.322	1.05	0.74	0.65	0.410	1.36	1.04
10	0.69	0.425	1.39	1.07	0.91	0.485	1.8	1.36
25	0.94	0.504	1.85	1.40	1.23	0.567	2.37	1.76
50	1.15	0.558	2.23	1.66	1.49	0.738	2.73	2.07
100	1.33	0.602	2.54	1.89	1.74	1.150	3.24	2.86

Table 2. 11 SWM 800-1 Controlled Release, Uncontrolled flows, and Flow at South Limit								
Design Storm Rainfall Distribution								
Design Storm	12Hour SCS				24 Hour SCS			
	External Flows (m ³ /s)	SWM 800-1 Discharge (m ³ /s)	Target Flow (m ³ /s)	Flow at South Limit (m ³ /s)	External Flows (m ³ /s)	SWM 800-1 Discharge (m ³ /s)	Target Flow (m ³ /s)	Flow at South Limit (m ³ /s)
2	0.35	0.172	0.73	0.45	0.39	0.187	0.81	0.51
5	0.65	0.401	1.31	0.95	0.74	0.426	1.48	1.14
10	0.88	0.477	1.74	1.32	1.01	0.507	1.97	1.49
25	1.20	0.560	2.35	1.72	1.38	0.593	2.61	1.94
50	1.47	0.69	2.82	2.05	1.68	0.978	3.1	2.53

Table 2.11 SWM 800-1 Controlled Release, Uncontrolled flows, and Flow at South Limit								
100	1.74	1.122	3.32	2.87	1.95	1.526	3.58	3.44

As can be seen from the above table, the development of BHJV has not resulted in an increase in flows at the south limit into the Canal. The targeted largest release from the 24-hour SCS storm was met and as a matter of fact for all storms events and storm types. Outlined in **Appendix C2** is the preliminary layout of SWM Facility 800-1 along with Charts that outline the stage-storage-discharge relationship along with the design of the control structure.

2.4.3 SWM Facility 600-1 and 800-1 Details

Outlined below in **Table 2.12** are the details for SWM Facility 600-1 and 800-1.

Table 2.12 SWM Facility 600-1 and 800-1 Main Results		
PARAMETER	SWM 600-1	SMW 800-1
Drainage Area	49.12	43.84
Design Imperviousness (%)	51.5	43
Permanent Pool Volume Required (m ³)	5742	4726
Permanent Pool Volume Provided (m ³)	6151	9233
Permanent Pool Elevation (m)	225.6	220.3
Extended Detention Volume Required (m ³)	4106	5664
Extended Detention Volume Provided (m ³)	4449	6356
Extended Detention Elevation (m)	226.25	220.85
Extended Detention Max. Release Rate (l/s)	62	86
Extended Detention Drawdown Time (hr.)	24	24
Lower orifice size (mm) and invert (m)	200/225.6	250/220.3
Upper Orifice size (mm) and invert (m)	300/226.25	350 by 500/220.85

Table 2.12 SWM Facility 600-1 and 800-1 Main Results		
PARAMETER	SWM 600-1	SMW 800-1
Overflow Weir Size (m) and Elevation (m)	15.0/227.3	6.0/221.8
Max. Pond Elevation (m) and Volume (m ³)	227.6/17,800	222.3/29,880

3.0 Runoff Volume, Water Balance, & Phosphorus

3.1 Runoff Volume Control

Runoff Volume Control was not dealt with in the Bradford Capital and Bradford East reports. This requirement was implemented by LSRCA after those reports were finalized. Since the exact lotting types and final layout is not finalized, it is only possible to estimate the impervious area at this time. Based on the proposed unit types, the total impervious area for BHJV was calculated based on the proposed residential types. For the north portion there were 25.72 hectares of development with an average imperviousness of 65% or 16.72 hectares of impervious area. For the south portion there were 21.13 hectares of development with an average imperviousness of 64.5% or 13.62 hectares of impervious area for a total impervious area of 30.34 hectares.

The intent of volume control is to collect the first 25 mm of rainfall from the impervious areas and delay its release to the watershed. Based on an impervious area of 30.34 hectares and 25 mm, a volume of 7585 m³ will need to be released in a delayed manner.

WSP GOLDER (WSP) in their September 5, 2023 report entitled “Preliminary Hydrogeological Assessment Proposed Residential Subdivision, Bradford Highland Golf Course” undertook a number of infiltration tests and determined a calculated geometric mean hydraulic conductivity of 1×10^{-5} cm/s. The WSP report is included in **Appendix D1**. In addition, there is a second WSP report entitled “Water Balance Assessment Bradford Highlands Golf Course Redevelopment” dated October 2022. This report shows locations of boreholes and monitoring well throughout the site. Based on a review of “Table A Groundwater Level Measurements” in the WSP report, it shows a fluctuating water table with spring readings near or at the ground surface at many locations.

Based on the hydraulic conductivity rate, the in-situ infiltration rate can be calculated using Table C1 in Appendix C from the CVC/TRCA “Low Impact Development Stormwater Management Planning and Design Guide”. The percolation rate was calculated to be 30 mm/hr. Since the soils are homogeneous in this area a factor of safety of 2.5 will be used. This results in a percolation rate of 12 mm/hr. The percolation rate calculation is shown in **Appendix D2**.

Runoff Control requirement for LSRCA is to provide 25 mm runoff volume control, for the increase in impervious area. The requirement is required when the development impervious area is greater than 0.5 hectares. BHJV will increase development impervious area by 30.34 hectares, runoff volume control is required.

BHJV will be a freehold townhouse, semi-detached, and single-family residential development with tightly spaced lots, tight grading behind the townhouses, and large slopes and retaining walls throughout the site.

A review of the WSP report indicates that they provided a number of boreholes with monitoring wells. Water level measurements taken periodically from March 2016 to August 2022 indicate water level fluctuates within the monitoring wells throughout the year with the maximum levels occurring during the spring. The maximum elevations are

shown in **Table 3.1** below for the monitoring wells. Detailed readings for these monitoring wells are enclosed in **Appendix D1** within the WSP report. In reviewing the water elevations and the proposed road grades, infiltration along the road will not likely be possible. Shown in **Figure 2** in the WSP report are the monitoring well locations and maximum water elevations. Based on the need for frost protection over the pipe and a clearance of 1 m above the maximum water table, the water table is too high within most the site to allow for infiltration. Even though the site has a particularly good percolation rate, the high-water table limits the area available for infiltration.

Table 3.1 Maximum Water Level (From WSP Report)

Monitoring Well	Maximum Elevation (m)	Ground Surface (m)
BH22-03	Artesian	231.5
BH22-05	221.05	224
BH22-06	220.31	220.7
BH22-09	230.68	231.6
BH2	245.49	245.7
BH3	245.14	245.4
BH4	244.8	245.2
BH8	236.43	236.9
BH9	235.90	236.2
BH11	232.94	233.2
BH14	220.43	220.3
BH16	230.65	231.7
BH18	236.81	237.0

Although the water balance and runoff control can be provided within some areas within BHJV, it will be very difficult due to the high-water table and many freehold townhouses to provide the required 25 mm runoff control.

A review of the WSP water levels and preliminary grading of the site identified certain areas that may allow for infiltration of runoff. Shown in **Appendix D3** are four sketches that show possible areas for infiltration. For the areas with possible rear lot infiltration roof runoff will be collected. It is proposed that a combination of roof collection system (third pipe system to discharge into infiltration trenches in the park) be installed along the new road and rear lot infiltration along some larger lots be utilized to provide runoff volume control.

As shown in **Appendix D3** The areas available for infiltration and assuming that 45 mm of roof runoff is collected, the site will only achieve 3.1 mm of runoff volume control. This value is still below the minimum for LSRCA’s **Alternative 2**.

In reviewing the LSRCA’s technical guideline site constraints limits the ability to provide full runoff control treatment for 25 mm. The flexible treatment identified in the LSRCA’s technical guidelines as “**Alternative 2**” will be examined. This alternative is to achieve volumes to the maximum extent practical (with a preference of a minimum of 5 mm from

impervious surfaces). Further refinement of the site grading and discussions with LSRCA may provide up to the 5 mm runoff volume control.

Based on the high-water level measured it is possible to install infiltration trenches only on portions of the development. The third pipe system will collect roof runoff from lots to feed the infiltration trenches in the park blocks. Runoff volume control will be comprise of two components. They are:

1. A collector system to collect roof runoff from nearby lots in sufficient quantity to feed the infiltration trenches in the park block. The number of roofs to be collected will be determined at a later stage once the extent of infiltration trenches is finalized.
2. Individual site infiltration for Lots 1 to 13, 42, 43, 272 to 396, and 401 to 407. These lots are shown on the sketches in **Appendix D3**.

The rear lot and park infiltration trench will allow for infiltration of the first 45 mm of collected rainfall. Summarized below in **Table 3.2** is the Runoff Volume for this development. Calculations are included in **Appendix D3**.

Table 3.2 Runoff Volume Summary

Rear Lot Infiltration			Trench Infiltration		
Lots	Roof Runoff Volume (m ³)	Storage Volume Provided (m ³)	Infiltration Pipe Length (m)	Roof Runoff Volume (m ³)	Storage Volume Provided (m ³)
42, 43, 48 to 59	107.1	261.1			
1 to 13	99.5	186.4			
372 to 398, 401 to 407	229.5	391			
North Park			242 m	484.2	484.2
South Park			159.5	319	319
Totals	436.1	501.8	401.5	321	803.2
Total Volume provided is 1239.3 m³ for impervious area of 30.34 hectares or 4.0 mm of runoff volume control					

It is proposed that all rear yard trenches be installed, with a width of 2 m and a depth of 1.0 m and for park blocks the trench width be 5.0 m and a depth of 1 m be used to provide runoff volume control. With a homogeneous sandy silty clayey, an infiltration safety factor of 2.5 will be used as per CVC/TRCA's LID SWM Planning and Design Guide (2010). Based on testing undertaken by WSP in their report a percolation rate of 12 mm/hr. (with factor of safety included) was obtained. Following the design steps within Appendix C of the guide (CVC/TRCA, 2010), it will take less than 2 days to drain the collected runoff. Using the combination of infiltration and filtration, the runoff volume

control cannot be attained even for the 5 mm situation. The calculations are provided in **Appendix D3**.

3.2 Water Balance

Based on the WSP report a water balance calculation was completed for pre- and post-development conditions. A separate water balance calculation was completed by WSP for BHJV. The calculation in their report enclosed in **Appendix D1** shows a deficit for BHJV of 27,400 m³/year.

Additional water infiltration has been proposed for BHJV as discussed in Section 3.1. As such, based on the anticipated infiltration proposed for volume control, the additional infiltration would result in the entire BHJV development meeting the water balance requirement outlined in the WSP Water Balance report.

As outlined in Section 3.1, infiltration will be provided on lots 1 to 13, 42, 43, 48 to 59, 372 to 398, and lots 401 to 407 along with 618.5.4m of infiltration trenches along the park blocks. Based on the contributing area of 44337 m², collecting 44% of yearly precipitation will provide the required infiltration.

Infiltration calculations have been based on collecting the first 25 mm of rainfall or about 93% of total yearly rainfall, which will be more than the 62% required. All infiltration areas will have at least 1.2 m of cover. Calculation for water balance is shown in **Appendix D4**.

3.3 Phosphorus Budget

The BHJV has a development area of 51.68 ha and a Phosphorus generate rate for “High Intensity Residential”, a P coefficient of 1.32 kg/ha was obtained from the Hutchinson Environmental Sciences Ltd report entitled, “Phosphorus Budget Tool in Support of Sustainable Development for the Lake Simcoe Watershed” Version 2 Report (2012). It is the intent to install rear yard infiltration galleries at the rear of Lots 1 to 13, 42, 43, 48 to 59, 372 to 398, and lots 401 to 407 along with 618.5.4m of infiltration trenches along the park blocks. This will allow infiltration of storm runoff before leaving the site. Flows from all areas that are not infiltrated will pass through the existing SWM ponds 600-1 and 800-1.

Based on the above information, a phosphorus load was calculated for BHJV and determined to be 23.3 kg/yr. The existing condition phosphorous loading is based on a P coefficient of 0.24 for golf course land use which results in a P Loading of 12.4 kg/yr. Shown in **Appendix D5** are the material used to obtain the P-Loading values and removal efficiency of the BMP.

Since the LSPOP requires a post to pre control of phosphorus, an offset cost is required for the phosphorus deficit. Based on the offset ratio of 2.5:1, the offset requirement is 10.9 kg/yr. Using the offset value of \$35,700 per kg/yr. plus 15% administration fee, the required payment would be \$1,128,084.66. The calculations are attached in **Appendix D5**.

4.0 Conclusions and Recommendations

This design brief outlines the various measures that can be implemented to mitigate impacts from the development of BHJV.

The following conclusions and recommendations are provided:

- The percentage of impervious coverage used for BHJV was 43 percent for the south and 51.5 percent for the north.
- The permanent pool requirement for BHJV is provided for in SWM Facility 600-1 and 800-1
- The extended detention requirement for BHJV is provided in the SWM Facility 600-1 and 800-1
- The quantity control requirement for the BHJV is provided for in SWM Facility 600-1 and 800-1
- A check of flows at Point Q (6th Line) downstream of the SWM facility 600-1 indicates that there is no increase in peak flows for storms ranging from 2- year to the 100-year.
- Due to the high-water table along most of the site, the full 25mm runoff volume control cannot be provided. **Alternative 2** (provision of 5 mm) is presently not achievable.
- A water balance was provided in the WSP report for BHJV Residential Development. With additional rear lot infiltration and infiltration within park blocks a water balance can be achieved by infiltrating the first 25 mm of storm runoff.
- The phosphorous budget was undertaken to reflect the recent guidelines. With a requirement of post to pre control of phosphorous, the calculated offset cost for BHJV was calculated to be \$1,128,084.65.
- With the implementation of the various measures outlined in this report. it is recommended that development of BHJV be permitted to proceed.



September 28, 2023

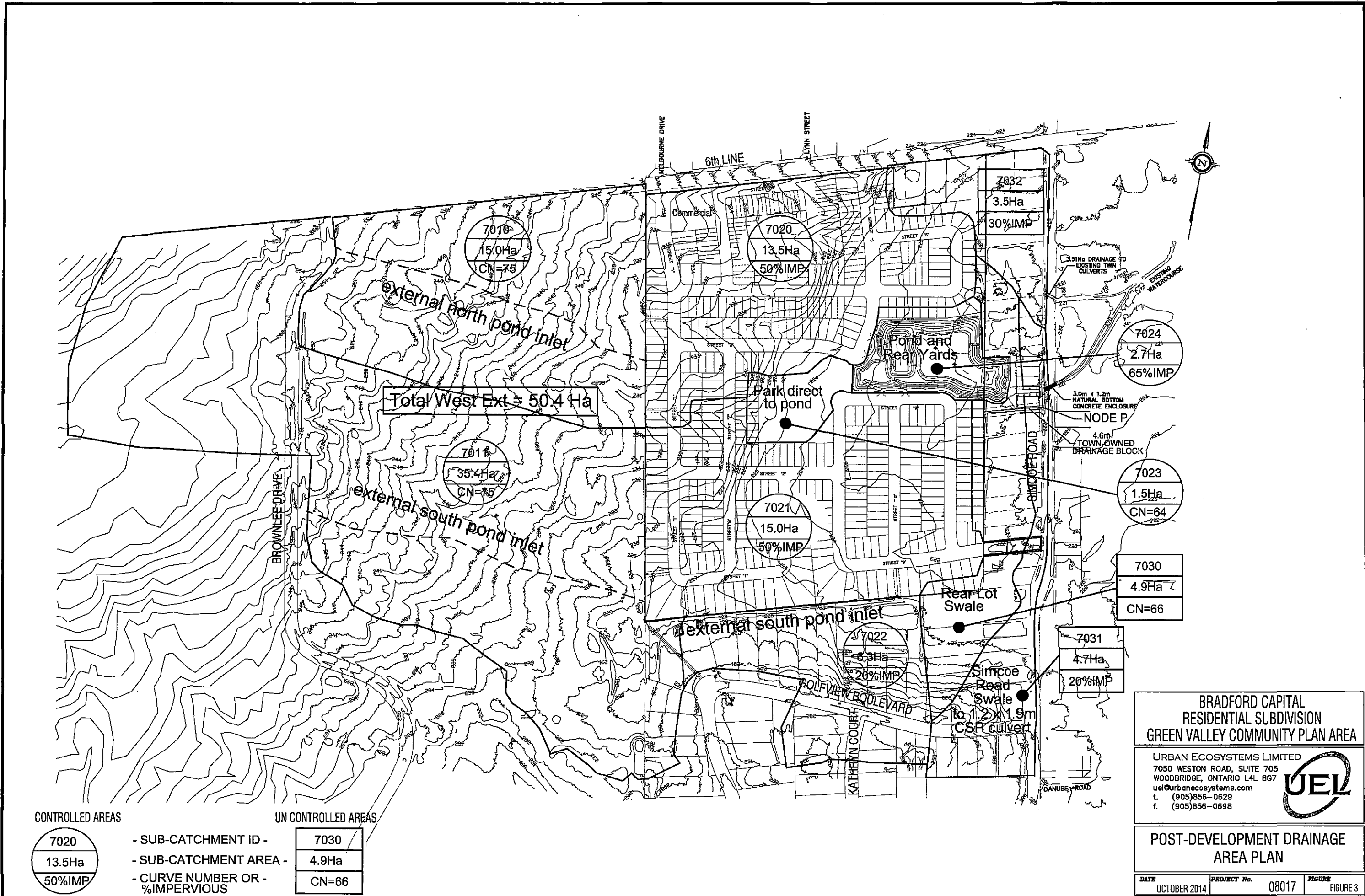
Ken Chow, P. Eng.,
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APPENDIX A

FIGURE 3 (FROM UEL) EXISTING DRAINAGE AREA BRADFORD EAST SUBDIVISION



Total West Ext = 50.4 Ha

CONTROLLED AREAS

7020
13.5Ha
50%IMP

- SUB-CATCHMENT ID -
- SUB-CATCHMENT AREA -
- CURVE NUMBER OR -
%IMPERVIOUS

UN CONTROLLED AREAS

7030
4.9Ha
CN=66

BRADFORD CAPITAL
RESIDENTIAL SUBDIVISION
GREEN VALLEY COMMUNITY PLAN AREA

URBAN ECOSYSTEMS LIMITED
7050 WESTON ROAD, SUITE 705
WOODBRIDGE, ONTARIO L4L 8G7
uel@urbaneosystems.com
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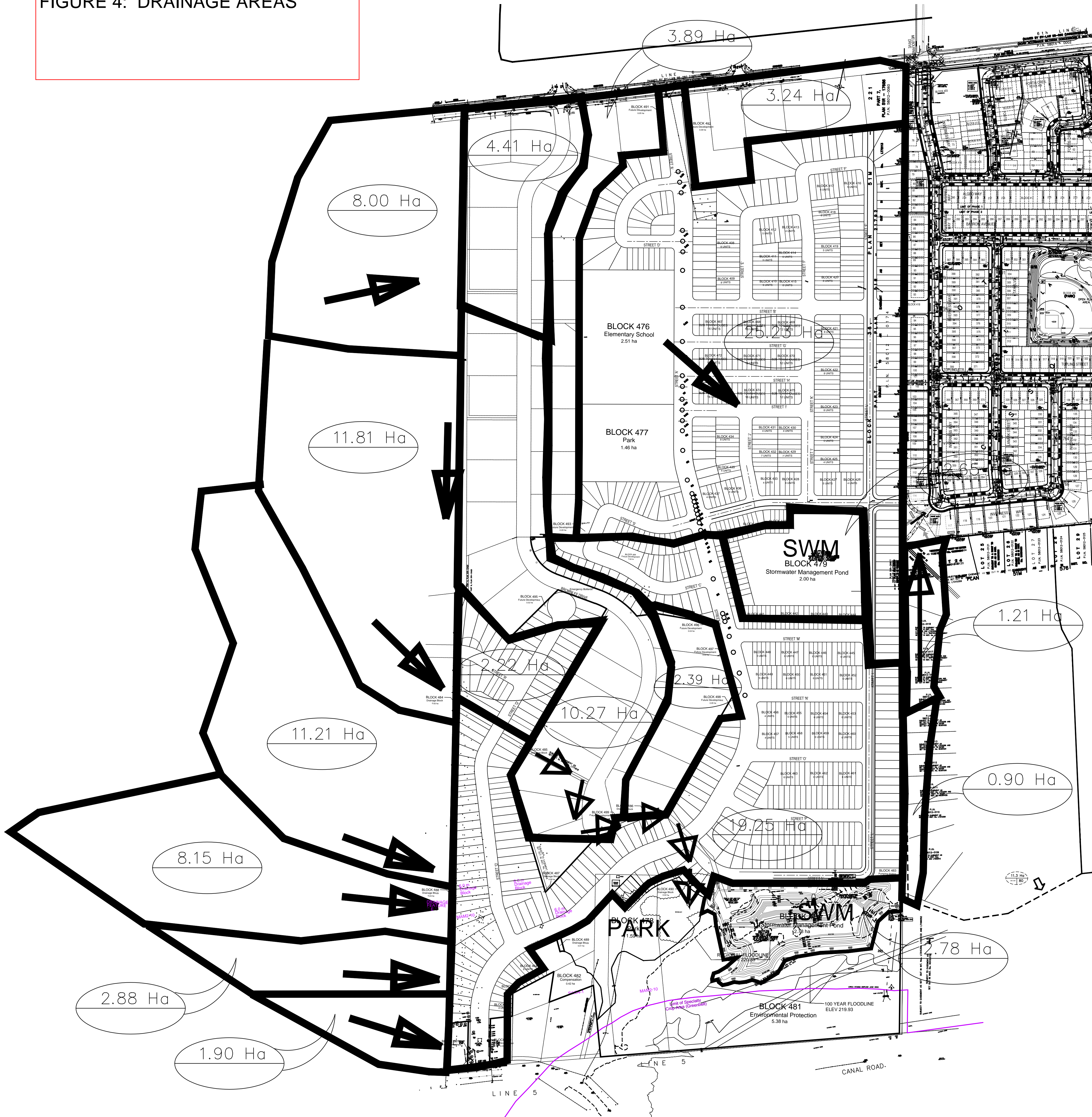


POST-DEVELOPMENT DRAINAGE
AREA PLAN

DATE	PROJECT No.	FIGURE
OCTOBER 2014	08017	FIGURE 3

APPENDIX B1
Figure 4 Drainage Areas

FIGURE 4: DRAINAGE AREAS



APPENDIX B2
VO Schematic North, VO Output and SWM
Facility 600-1

Project Name:	Bradford Highland
Project No.:	22016
Description:	Runoff Coefficient North

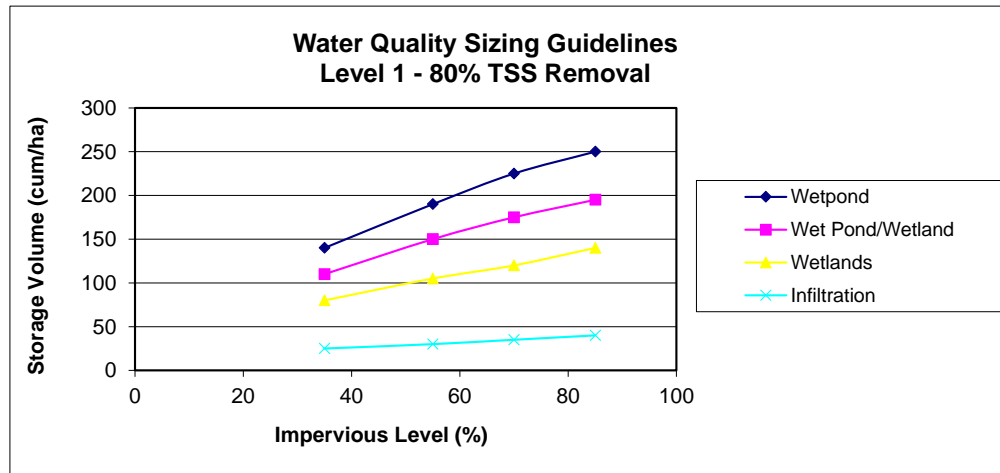
Area ID	Description	Drainage Area (Ha.)	Total Percent Impervious (%)	Area x Impervious
6100	External Undeveloped West of Bradfird Highland	8	N/A	0.0
6200	Internal Existing Residential West of Brownlee	4.41	21	0.93
6300	Internal Existing Residential East of Brownlee	3.89	21	0.82
6400	Internal Existing Residential South of Line 6	3.24	21	0.68
6500	Bradford Highland Residential + Park and School	25.72	65	16.72
6600	External East Residential Contributing	1.21	60	0.73
6700	SWM Facility 600-1	2.65	50	1.33
	Total Contributing area to SWM 600-1	49.12		
	Total Non Developed External	8		
	Total Area Analyzed	41.12	51.5	21.19

Project Name:	Bradford Highland	
Project No.:	22016	
Description:	Permanent Pool Storage Requirements SWM 600-1	

Drainage Area	41.12	ha
Protection Level	1	(MOE Level 1, 2 or 3)
Imperviousness	51.5	
SWMP Type	WP	(Infiltration (I), Wetlands (WL), Hybrid (H), Wet Pond (WP))

Storage Requirements - Level 1 80% TSS Removal				
Impervious	Wetpond	Wet Pond/Wetland	Wetlands	Infiltration
35	140	110	80	25
55	190	150	105	30
70	225	175	120	35
85	250	195	140	40

*Table 3.2, MOE SWM Planning and Design Manual, March 2003



Actual Impervious	Actual Storage Requirement (m ³ /ha)			
	Wetpond	Wet Pond/Wetland	Wetlands	Infiltration
52	180	141	100	30

Level 1	WP	140	m³/ha
----------------	-----------	------------	-------------------------

5742 m3

*Does not include Extended Detention Storage (40 m³/ha)

Project Name:	Bradford Highland
Project No.:	22016
Description:	North Pond Outlet Design SWM Facility 600-1

Incremental Depth(m) =	0.05	Weir: $Q=2/3 \cdot Cd \cdot (2 \cdot g)^{0.5} \cdot L \cdot H^{3/2}$						Extended Detention	
Orifice: $Q=CA(2gH)^{0.5}$			Orifice 1	Orifice 2	Orifice 3	Length (m)=	15.00	Length (m)=	Weir 2
Contraction coeff, C=	0.60	0.60	0.60	Coef.C _d =	0.62	Coef.C _d =	0.62	Coef.C _d =	0.62
Rectangular Orifice width =		1000		Rect'lr (y/n) =	y	Rect'lr (y/n) =	n	Rect'lr (y/n) =	n
Orifice Diameter/height (mm) =	200	300	100	Crest Hght (m)=		Crest Hght (m)=	0.20	Crest Hght (m)=	0.20
Area of Orifice(m ²), A=	0.0314	0.3000	0.0079	Crest EL (m)=	227.30	Crest EL (m)=	240.00	Crest EL (m)=	240.00
Horizontal Orifice	n	y	n						
Invert (m) =	225.60	226.25	250.00						
Top Elevation (m) =	225.80	226.55	250.10						

Hw/D	Water E.L.	Depth (m)	Depth Orifice 2 (m)	Head 1 (m)	Orifice 1 Q (mid-orifice)	Head 2 (m)	Orifice 2 Q (mid-orifice)	Weir Length (m)	Cd	Cw	Cd Ven Te Chow	Weir 1 Q (m ³ /s)	Total Q (m ³ /s)	Total Storage	Elevation (m)
0.25	225.65	0.05		0.03	13.31								0.013	300	225.65
0.50	225.70	0.10		0.05	18.83								0.019	608	225.70
0.75	225.75	0.15		0.08	23.06								0.023	922	225.75
1.00	225.80	0.20		0.10	26.62								0.027	1243	225.80
1.25	225.85	0.25		0.15	32.61								0.033	1571	225.85
1.50	225.90	0.30		0.20	37.65								0.038	1906	225.90
1.75	225.95	0.35		0.25	42.09								0.042	2248	225.95
2.00	226.00	0.40		0.30	46.11								0.046	2597	226.00
2.25	226.05	0.45		0.35	49.81								0.050	2954	226.05
2.50	226.10	0.50		0.40	53.25								0.053	3317	226.10
2.75	226.15	0.55		0.45	56.48								0.056	3687	226.15
3.00	226.20	0.60		0.50	59.53								0.060	4065	226.20
3.25	226.25	0.65	0.00	0.55	62.44								0.062	4449	226.25
3.50	226.30	0.70	0.05	0.60	65.21	0.05	180.06						0.245	4840	226.30
3.75	226.35	0.75	0.10	0.65	67.87	0.10	253.39						0.321	5239	226.35
4.00	226.40	0.80	0.15	0.70	70.44	0.15	309.82						0.380	5644	226.40
4.25	226.45	0.85	0.20	0.75	72.91	0.20	357.45						0.430	6057	226.45
4.50	226.50	0.90	0.25	0.80	75.30	0.25	399.45						0.475	6477	226.50
4.75	226.55	0.95	0.30	0.85	77.62	0.30	437.43						0.515	6903	226.55
5.00	226.60	1.00	0.35	0.90	79.87	0.35	472.36						0.552	7337	226.60
5.25	226.65	1.05	0.40	0.95	82.06	0.40	504.89						0.587	7778	226.65
5.50	226.70	1.10	0.45	1.00	84.19	0.45	535.44						0.620	8225	226.70
5.75	226.75	1.15	0.50	1.05	86.27	0.50	564.34						0.651	8681	226.75
6.00	226.80	1.20	0.55	1.10	88.30	0.55	591.83						0.680	9146	226.80
6.25	226.85	1.25	0.60	1.15	90.28	0.60	618.10						0.708	9619	226.85
6.50	226.90	1.30	0.65	1.20	92.22	0.65	643.30						0.736	10102	226.90
6.75	226.95	1.35	0.70	1.25	94.13	0.70	667.55						0.762	10593	226.95
7.00	227.00	1.40	0.75	1.30	95.99	0.75	690.94						0.787	11094	227.00
7.25	227.05	1.45	0.80	1.35	97.82	0.80	713.57						0.811	11603	227.05
7.50	227.10	1.50	0.85	1.40	99.61	0.85	735.51						0.835	12121	227.10
7.75	227.15	1.55	0.90	1.45	101.38	0.90	756.81						0.858	12648	227.15
8.00	227.20	1.60	0.95	1.50	103.11	0.95	777.52						0.881	13185	227.20
8.25	227.25	1.65	1.00	1.55	104.81	1.00	797.70						0.903	13730	227.25
8.50	227.30	1.70	1.05	1.60	106.49	1.05	817.38	15.000	0.62	1.83	1.36		0.924	14284	227.30
8.75	227.35	1.75	1.10	1.65	108.14	1.10	836.60	14.99	0.62	1.83	1.36	0.316	1.261	14846	227.35
9.00	227.40	1.80	1.15	1.70	109.77	1.15	855.38	14.980	0.62	1.83	1.36	0.880	1.845	15418	227.40

Project Name:	Bradford Highland
Project No.:	22016
Description:	North Pond Outlet Design SWM Facility 600-1

Incremental Depth(m) =	0.05				Weir: $Q=2/3 \cdot Cd \cdot (2 \cdot g)^{0.5} \cdot L \cdot H^{3/2}$			Extended Detention	
Orifice: $Q=CA(2gH)^{0.5}$								Weir 1	Weir 2
	Orifice 1	Orifice 2	Orifice 3		Length (m)=	15.00		Length (m)=	
Contraction coeff, C=	0.60	0.60	0.60		Coef. C_d =	0.62		Coef. C_d =	0.62
Rectangular Orifice width =		1000			Rect'lr (y/n) =	y		Rect'lr (y/n) =	n
Orifice Diameter/height (mm) =	200	300	100		Crest Hght (m)=			Crest Hght (m)=	0.20
Area of Orifice(m ²), A=	0.0314	0.3000	0.0079		Crest EL (m)=	227.30		Crest EL (m)=	240.00
Horizontal Orifice	n	y	n						
Invert (m) =	225.60	226.25	250.00						
Top Elevation (m) =	225.80	226.55	250.10						

Hw/D	Water E.L.	Depth (m)	Depth Orifice 2 (m)	Head 1 (m)	Orifice 1 Q (mid-orifice)	Head 2 (m)	Orifice 2 Q (mid-orifice)	Weir Length (m)	Cd	Cw	Cd Ven Te Chow	Weir 1 Q (m ³ /s)	Total Q (m ³ /s)	Total Storage	Elevation (m)
9.25	227.45	1.85	1.20	1.75	111.37	1.20	873.76	14.97	0.62	1.83	1.36	1.608	2.593	15999	227.45
9.50	227.50	1.90	1.25	1.80	112.95	1.25	891.77	14.960	0.62	1.83	1.36	2.468	3.473	16589	227.50
9.75	227.55	1.95	1.30	1.85	114.51	1.30	909.41	14.95	0.62	1.83	1.36	3.442	4.466	17187	227.55
10.00	227.60	2.00	1.35	1.90	116.05	1.35	926.72	14.940	0.62	1.83	1.36	4.517	5.560	17795	227.60
10.25	227.65	2.05	1.40	1.95	117.56	1.40	943.72	14.93	0.62	1.83	1.36	5.684	6.745	18412	227.65
10.50	227.70	2.10	1.45	2.00	119.06	1.45	960.41	14.920	0.62	1.83	1.36	6.936	8.016	19041	227.70
10.75	227.75	2.15	1.50	2.05	120.54	1.50	976.82	14.91	0.62	1.83	1.36	8.268	9.365	19680	227.75
11.00	227.80	2.20	1.55	2.10	122.00	1.55	992.95	14.900	0.62	1.83	1.36	9.674	10.789	20330	227.80
11.25	227.85	2.25	1.60	2.15	123.44	1.60	1008.83	14.89	0.62	1.83	1.36	11.150	12.282	20991	227.85
11.50	227.90	2.30	1.65	2.20	124.87	1.65	1024.46	14.880	0.62	1.83	1.36	12.693	13.842	21663	227.90

Project Name:	Bradford Highland		
Project No.:	22016		
Date:	1-Jul-23	Revision:	13-Jul-23
Description:	SWM Facility 600-1 Stage-Volume Information		

		Depth (m)	Surface Area (m ²)	Incr. Area (m ²)	
Bottom of Pond	223.1	223.10	475	37.6	Bottom of forebay
Depth Increment (m)	0.05	223.90	1077	43.3	
Perm. Pool Vol. Req'd (m ³)	5742	224.60	1683	961.2	Top of Pond
Permanent Pool Elevation (m)	225.60	224.70	3606	130.2	
Permanent Pool Vol. (m ³)	6151	225.70	6210	140.8	
Permanent Pool Elevation (m)	225.60	226.70	9026	178.6	
Extended Detention Volume Required(m3)	5000	227.60	12240	218.3	
Max. Pond Elevation (m)	222.30	227.90	13550		
Extended Detention Elevation (m)	220.70				
Extended Detention Vol. (m ³)	4445				

South Pond		Depth (m)	Incr. Area (m ²)	Incremental	Cumulative		
Elevation (m)	Surface Area (m ²)			Volume (m ³)	Volume (m ³)		
217.8	3590	0.001	1.6	3590			
156.6	5571	-61.2	120.5	280327	280327		
158	7980	-60.2	134.5	6776	273551		
158.60	10670	-59.2	840.0	9325	264226		
158.7	12350	-59.1	159.0	1151	263075		
159.70	15530.0	-58.1	131.7	13940	249135		
160.60	17900.0	-57.2	131.7	15044	234092		

Project Name:	Bradford Highland		
Project No.:	22016		
Date:	1-Jul-23	Revision:	13-Jul-23
Description:	SWM Facility 600-1 Stage-Volume Information		

Elevation (m)	Depth (m)	Area (m ²)	Incremental Volume (m ³)	Cum. Volume (m ³)	Active Storage Volume (m ³)	Ext. Det. Volume (m ³)	Elevation (m)
223.10		475					223.10
223.15	0.05	513	25	25			223.15
223.20	0.10	550	27	51			223.20
223.25	0.15	588	28	80			223.25
223.30	0.20	625	30	110			223.30
223.35	0.25	663	32	142			223.35
223.40	0.30	701	34	176			223.40
223.45	0.35	738	36	212			223.45
223.50	0.40	776	38	250			223.50
223.55	0.45	813	40	290			223.55
223.60	0.50	851	42	331			223.60
223.65	0.55	889	43	375			223.65
223.70	0.60	926	45	420			223.70
223.75	0.65	964	47	468			223.75
223.80	0.70	1001	49	517			223.80
223.85	0.75	1039	51	568			223.85
223.90	0.80	1077	53	621			223.90
223.95	0.85	1120	55	675			223.95
224.00	0.90	1163	57	733			224.00
224.05	0.95	1207	59	792			224.05
224.10	1.00	1250	61	853			224.10
224.15	1.05	1293	64	917			224.15
224.20	1.10	1337	66	983			224.20
224.25	1.15	1380	68	1050			224.25
224.30	1.20	1423	70	1121			224.30
224.35	1.25	1467	72	1193			224.35
224.40	1.30	1510	74	1267			224.40
224.45	1.35	1553	77	1344			224.45
224.50	1.40	1597	79	1423			224.50
224.55	1.45	1640	81	1503			224.55
224.60	1.50	1683	83	1586			224.60
224.65	1.55	2644	108	1695			224.65
224.70	1.60	3606	156	1851			224.70
224.75	1.65	3736	184	2034			224.75
224.80	1.70	3866	190	2225			224.80
224.85	1.75	3996	197	2421			224.85
224.90	1.80	4127	203	2624			224.90
224.95	1.85	4257	210	2834			224.95
225.00	1.90	4387	216	3050			225.00
225.05	1.95	4517	223	3272			225.05
225.10	2.00	4647	229	3502			225.10
225.15	2.05	4778	236	3737			225.15

Project Name:	Bradford Highland		
Project No.:	22016		
Date:	1-Jul-23	Revision:	13-Jul-23
Description:	SWM Facility 600-1 Stage-Volume Information		

225.20	2.10	4908	242	3979			225.20	
225.25	2.15	5038	249	4228			225.25	
225.30	2.20	5168	255	4483			225.30	
225.35	2.25	5298	262	4745			225.35	
225.40	2.30	5429	268	5013			225.40	
225.45	2.35	5559	275	5288			225.45	
225.50	2.40	5689	281	5569			225.50	
225.55	2.45	5819	288	5856			225.55	
225.60	2.50	5949	294	6151			225.60	Permanent Pool Required
225.65	2.55	6080	301	6451	300	300	225.65	5742.4
225.70	2.60	6210	307	6759	608	608	225.70	
225.75	2.65	6351	314	7073	922	922	225.75	
225.80	2.70	6491	321	7394	1243	1243	225.80	
225.85	2.75	6632	328	7722	1571	1571	225.85	
225.90	2.80	6773	335	8057	1906	1906	225.90	
225.95	2.85	6914	342	8399	2248	2248	225.95	
226.00	2.90	7055	349	8748	2597	2597	226.00	
226.05	2.95	7195	356	9105	2954	2954	226.05	
226.10	3.00	7336	363	9468	3317	3317	226.10	
226.15	3.05	7477	370	9838	3687	3687	226.15	
226.20	3.10	7618	377	10216	4065	4065	226.20	
226.25	3.15	7758	384	10600	4449	4449	226.25	Extended Detention
226.30	3.20	7899	391	10991	4840	4840	226.30	4106.4
226.35	3.25	8040	398	11390	5239	5239	226.35	
226.40	3.30	8181	406	11795	5644	5644	226.40	
226.45	3.35	8322	413	12208	6057	6057	226.45	
226.50	3.40	8462	420	12628	6477	6477	226.50	
226.55	3.45	8603	427	13054	6903	6903	226.55	
226.60	3.50	8744	434	13488	7337	7337	226.60	
226.65	3.55	8885	441	13929	7778	7778	226.65	
226.70	3.60	9026	448	14376	8225	8225	226.70	
226.75	3.65	9204	456	14832	8681	8681	226.75	
226.80	3.70	9383	465	15297	9146	9146	226.80	
226.85	3.75	9561	474	15770	9619	9619	226.85	
226.90	3.80	9740	483	16253	10102	10102	226.90	
226.95	3.85	9918	491	16744	10593	10593	226.95	
227.00	3.90	10097	500	17245	11094	11094	227.00	
227.05	3.95	10276	509	17754	11603	11603	227.05	
227.10	4.00	10454	518	18272	12121	12121	227.10	
227.15	4.05	10633	527	18799	12648	12648	227.15	
227.20	4.10	10811	536	19336	13185	13185	227.20	
227.25	4.15	10990	545	19881	13730	13730	227.25	
227.30	4.20	11169	554	20435	14284	14284	227.30	
227.35	4.25	11347	563	20997	14846	14846	227.35	

Project Name:	Bradford Highland		
Project No.:	22016		
Date:	1-Jul-23	Revision:	13-Jul-23
Description:	SWM Facility 600-1 Stage-Volume Information		

227.40	4.30	11526	572	21569	15418	15418	227.40
227.45	4.35	11704	581	22150	15999	15999	227.45
227.50	4.40	11883	590	22740	16589	16589	227.50
227.55	4.45	12062	599	23338	17187	17187	227.55
227.60	4.50	12240	608	23946	17795	17795	227.60

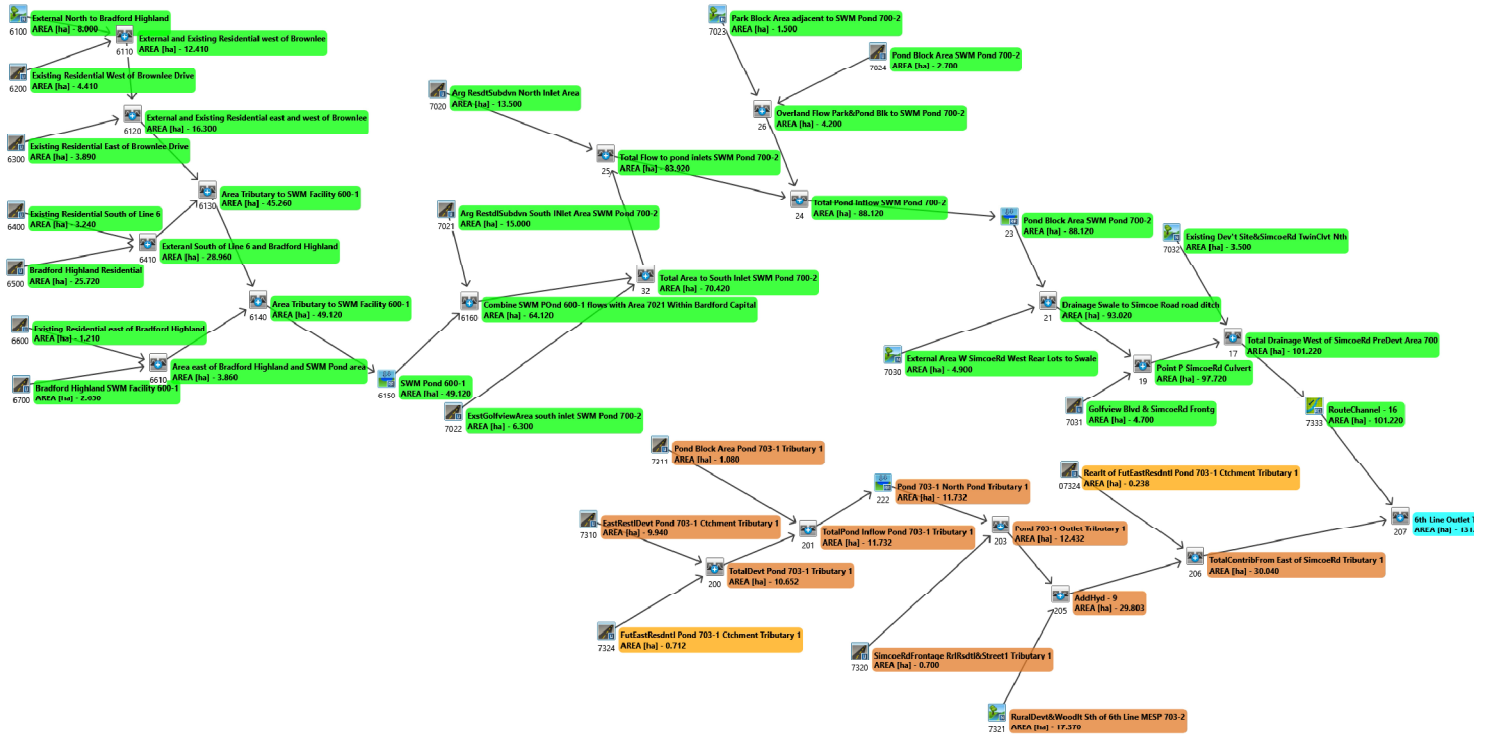
POND 600-1 PEAK RUNOFF RATES

DESIGN STORM (Years)	Design Storm Rainfall Distribution									
	4hr Chicago									
	Discharge (cms) Storage (Ha-m)									
	600-1			702-2 (23)		703-1 (222)		6th Line	6th Line	6th Line Target
Inflow	Controlled	Storage	Previous	Design	Previous	Design	Previous	Design		
2	2.515	0.177	0.5072	0.385	0.049	0.012	0.012	0.567	0.274	0.99
5	3.669	0.477	0.6699		0.299	0.024	0.024		0.564	1.96
10	4.574	0.615	0.8168	0.888	0.634	0.054	0.054	1.075	0.812	2.75
25	5.728	0.752	1.0475	1.677	1.017	0.1	0.1	2.012	1.283	3.87
50	6.771	0.848	1.2437	2.328	1.27	0.142	0.142	2.81	1.665	4.8
100	7.754	0.928	1.4288	2.919	1.508	0.183	0.183	3.547	2.052	5.68

DESIGN STORM (Years)	Design Storm Rai									
	12hr SCS									
	Discharge (cms) Storage (Ha-m)									
	600-1(6150)			702-2 (23)		703-1 (222)		6th Line	6th Line	6th Line Target
Inflow	Controlled	Storage	Previous	Design	Previous	Design	Previous	Design		
2	1.758	0.245	0.5439	0.183	0.153	0.013	0.013	0.377	0.376	1.29
5	2.454	0.585	0.778	0.727	0.537	0.044	0.044	0.866	0.748	2.6
10	3.182	0.719	0.9874	1.532	0.895	0.083	0.083	1.777	1.097	3.63
25	4.195	0.868	1.2916	2.328	1.283	0.142	0.149	2.81	1.682	5.09
50	5.059	1.512	1.4889	2.633	1.929	0.149	0.213	3.122	2.507	6.31
100	5.933	2.486	1.589	2.919	2.855	0.183	0.282	3.547	3.664	7.51

Design Storm Rainfall Distribution									
24hr Chicago									
Discharge (cms) Storage (Ha-m)									
600-1(6150)			702-2 (23)		703-1 (222)		6th Line	6th Line	6th Line
Inflow	Controlled	Storage	Previous	Design	Previous	Design	Previous	Design	Target
2.722	0.277	0.5616	0.197	0.171	0.013	0.013	0.4	0.399	1.39
4.105	0.598	0.7947	0.807	0.584	0.047	0.047	0.967	0.824	2.72
5.186	0.73	1.0054	1.573	0.926	0.088	0.088	1.86	1.188	3.76
5.655	1.333	1.3852	2.637	1.333	0.155	0.155	3.152	1.806	5.23
7.822	1.535	1.4912	3.539	1.967	0.213	0.216	4.272	2.589	6.03
9.018	2.414	1.5815	4.339	2.787	0.278	0.278	5.325	3.63	7.54

Rainfall Distribution									
24hr SCS									
Discharge (cms) Storage (Ha-m)									
600-1(6150)			702-2 (23)		703-1 (222)		6th Line	6th Line	6th Line
Inflow	Controlled	Storage	Previous	Design	Previous	Design	Previous	Design	Target
2.466	0.29	0.5386	0.209	0.182	0.013	0.013	0.472	0.473	1.09
4.135	0.641	0.8575	1.072	0.665	0.055	0.055	1.238	1.022	2.17
5.423	0.786	1.1157	2.042	1.032	0.107	0.107	2.358	1.547	3.01
7.208	1.19	1.4557	3.351	1.656	0.192	0.192	3.987	2.417	4.16
8.663	2.415	1.5817	4.441	2.748	0.272	0.272	5.405	3.611	5.06
9.991	3.685	1.6664	5.736	3.77	0.349	0.349	6.871	4.997	6



**APPENDIX C1 –
SWM Facility 800-1**

Project Name:	Btadford Highland
Project No.:	22016
Description:	South Pond Outlet Design SWM Facility 800-1

Incremental Depth(m) =	0.05
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Orifice: $Q=CA(2gH)^{0.5}$			
	Orifice 1	Orifice 2	Orifice 3
Contraction coeff, C=	0.60	0.60	0.60
Orifice Diameter/height (mm) =	250	350	150
Area of Orifice(m ²), A=	0.0491	0.1750	0.1950
Horizontal Orifice	n	y	y
Width of Opening (mm) =		500	
Invert (m) =	220.30	220.85	250.00
Top Elevation (m) =	220.55	221.20	250.15

Weir: $Q=2/3*Cd*(2*g)^{0.5}*L*H^{3/2}$				Extended Detention	
			Weir 1		Weir 2
	Length (m)=	6.00		Length (m)=	
	Coef. Cd =	0.62		Coef. Cd =	0.62
	Rect'Ir (y/n) =	y		Rect'Ir (y/n) =	n
	Crest Hght (m)=			Crest Hght (m)=	0.20
	Crest EL (m)=	221.80		Crest EL (m)=	240.00

Water E.L.	Depth (m)	Depth Orifice 2 (m)	Head 1 (m)	Orifice 1 Q (mid-orifice)	Head 2 (m)	Orifice 2 Q (mid-orifice)	Weir Length (m)	Weir Length (m)	Cd	Cw	Cd Ven Te Chow	Weir 1 Q (m ³ /s)	Total Q (m ³ /s)	Total Storage	Elevation (m)
220.35	0.05		0.03	20.80									0.021	510	220.35
220.40	0.10		0.05	29.41									0.029	1033	220.40
220.45	0.15		0.08	36.02									0.036	1569	220.45
220.50	0.20		0.10	41.60									0.042	2118	220.50
220.55	0.25		0.13	46.51									0.047	2680	220.55
220.60	0.30		0.18	55.03									0.055	3255	220.60
220.65	0.35		0.23	62.40									0.062	3843	220.65
220.70	0.40		0.28	68.98									0.069	4445	220.70
220.75	0.45		0.33	74.99									0.075	5059	220.75
220.80	0.50		0.38	80.55									0.081	5687	220.80
220.85	0.55	0.00	0.43	85.76									0.086	6326	220.85
220.90	0.60	0.05	0.48	90.66	0.05	15.00							0.106	6976	220.90
220.95	0.65	0.10	0.53	95.31	0.10	42.23							0.138	7635	220.95
221.00	0.70	0.15	0.58	99.75	0.15	77.46							0.177	8304	221.00
221.05	0.75	0.20	0.63	103.99	0.20	119.15							0.223	8985	221.05
221.10	0.80	0.25	0.68	108.07	0.25	166.44							0.275	9677	221.10
221.15	0.85	0.30	0.73	112.01	0.30	218.71							0.331	10381	221.15
221.20	0.90	0.35	0.78	115.80	0.35	275.54							0.391	11096	221.20
221.25	0.95	0.40	0.83	119.48	0.40	294.52							0.414	11824	221.25
221.30	1.00	0.45	0.88	123.05	0.45	312.34							0.435	12563	221.30
221.35	1.05	0.50	0.93	126.51	0.50	329.20							0.456	13314	221.35
221.40	1.10	0.55	0.98	129.89	0.55	345.23							0.475	14077	221.40
221.45	1.15	0.60	1.03	133.18	0.60	360.56							0.494	14851	221.45
221.50	1.20	0.65	1.08	136.39	0.65	375.26							0.512	15638	221.50
221.55	1.25	0.70	1.13	139.52	0.70	389.40							0.529	16436	221.55
221.60	1.30	0.75	1.18	142.59	0.75	403.05							0.546	17245	221.60
221.65	1.35	0.80	1.23	145.59	0.80	416.25							0.562	18067	221.65
221.70	1.40	0.85	1.28	148.53	0.85	429.05							0.578	18900	221.70
221.75	1.45	0.90	1.33	151.42	0.90	441.47							0.593	19745	221.75
221.80	1.50	0.95	1.38	154.25	0.95	453.55	6.00	6.000	0.62	1.83	1.36		0.608	20602	221.80
221.85	1.55	1.00	1.43	157.03	1.00	465.32	6.00	5.99	0.62	1.83	1.36	0.126	0.749	21471	221.85
221.90	1.60	1.05	1.48	159.76	1.05	476.80	6.00	5.980	0.62	1.83	1.36	0.351	0.988	22351	221.90
221.95	1.65	1.10	1.53	162.44	1.10	488.01	6.00	5.97	0.62	1.83	1.36	0.641	1.292	23243	221.95
222.00	1.70	1.15	1.58	165.09	1.15	498.97	6.00	5.960	0.62	1.83	1.36	0.983	1.647	24147	222.00
222.05	1.75	1.20	1.63	167.69	1.20	509.69	6.00	5.95	0.62	1.83	1.36	1.370	2.047	25065	222.05

Project Name:	Btadford Highland
Project No.:	22016
Description:	South Pond Outlet Design SWM Facility 800-1

Incremental Depth(m) =		0.05					Weir: $Q=2/3 \cdot Cd \cdot (2 \cdot g)^{0.5} \cdot L \cdot H^{3/2}$				Extended Detention	
Orifice: $Q=CA(2gH)^{0.5}$							Weir 1				Weir 2	
		Orifice 1	Orifice 2	Orifice 3			Length (m)=	6.00			Length (m)=	
							Coef. C_d =	0.62			Coef. C_d =	0.62
	Contraction coeff, C=	0.60	0.60	0.60			Rect'lr (y/n) =	y			Rect'lr (y/n) =	n
	Orifice Diameter/height (mm) =	250	350	150			Crest Hght (m)=				Crest Hght (m)=	0.20
	Area of Orifice(m^2), A=	0.0491	0.1750	0.1950			Crest EL (m)=	221.80			Crest EL (m)=	240.00
	Horizontal Orifice	n	y	y								
	Width of Opening (mm) =		500									
	Invert (m) =	220.30	220.85	250.00								
	Top Elevation (m) =	220.55	221.20	250.15								

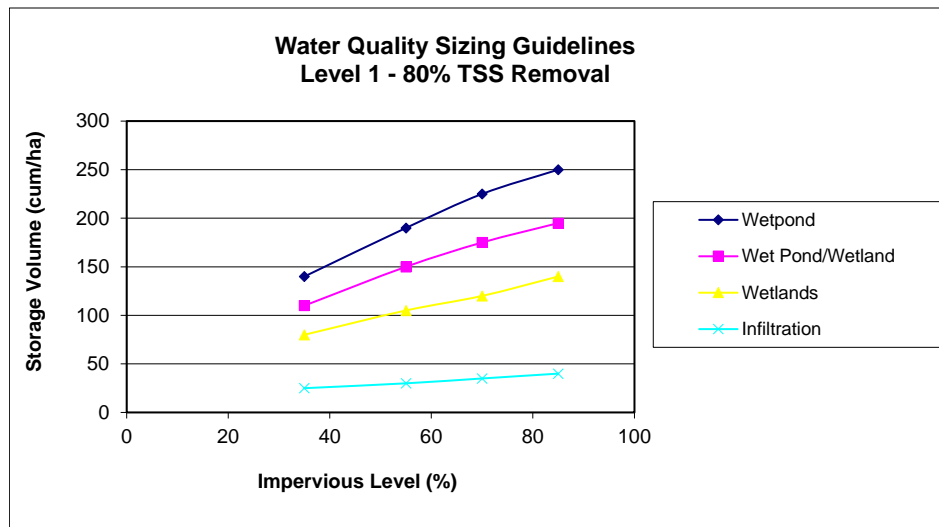
Water E.L.	Depth (m)	Depth Orifice 2 (m)	Head 1 (m)	Orifice 1 Q (mid-orifice)	Head 2 (m)	Orifice 2 Q (mid-orifice)	Weir Length (m)	Weir Length (m)	Cd	Cw	Cd Ven Te Chow	Weir 1 Q (m^3/s)	Total Q (m^3/s)	Total Storage	Elevation (m)
222.10	1.80	1.25	1.68	170.25	1.25	520.20	6.00	5.940	0.62	1.83	1.36	1.796	2.486	25997	222.10
222.15	1.85	1.30	1.73	172.77	1.30	530.49	6.00	5.93	0.62	1.83	1.36	2.258	2.961	26944	222.15
222.20	1.90	1.35	1.78	175.25	1.35	540.59	6.00	5.920	0.62	1.83	1.36	2.752	3.468	27907	222.20
222.25	1.95	1.40	1.83	177.71	1.40	550.50	6.00	5.91	0.62	1.83	1.36	3.277	4.005	28884	222.25
222.30	2.00	1.45	1.88	180.12	1.45	560.24	6.00	5.900	0.62	1.83	1.36	3.830	4.571	29877	222.30

Project Name:	Bradford Highland	
Project No.:	22016	
Description:	Permanent Pool Storage Requirements	

Drainage Area	39.06	ha
Protection Level	1	(MOE Level 1, 2 or 3)
Imperviousness	43%	
SWMP Type	WP	(Infiltration (I), Wetlands (WL), Hybrid (H), Wet Pond (WP))

Storage Requirements - Level 1 80% TSS Removal				
Impervious	Wetpond	Wet Pond/Wetland	Wetlands	Infiltration
35	140	110	80	25
55	190	150	105	30
70	225	175	120	35
85	250	195	140	40

*Table 3.2, MOE SWM Planning and Design Manual, March 2003



Actual Impervious	Actual Storage Requirement (m ³ /ha)			
	Wetpond	Wet Pond/Wetland	Wetlands	Infiltration
43	161	127	90	27

Level 1	WP	121	m³/ha
----------------	-----------	------------	-------------------------

*Does not include Extended Detention Storage (40 m³/ha)

4726 m3

Required

9233 m3

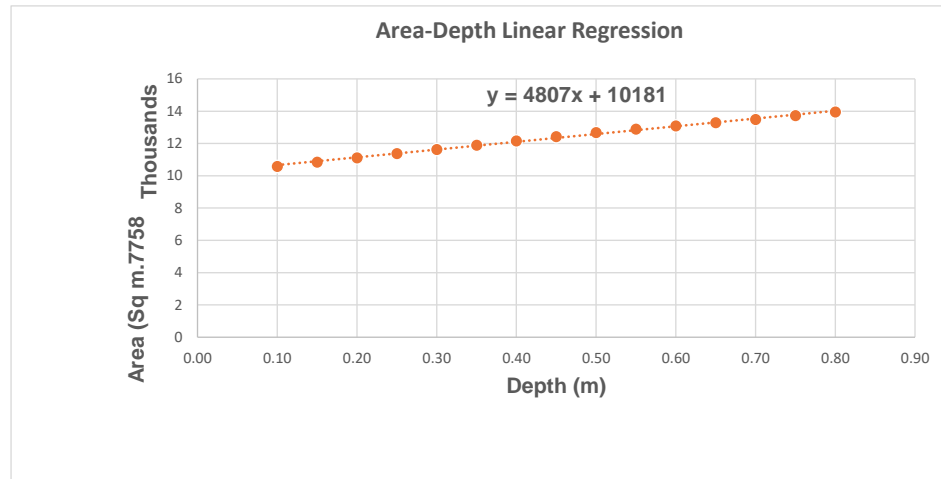
Provided at Elevation

220.30 m

Project Name:	Btadford Highland
Project No.:	22016
Description:	South Pond 800-1 Extended Detention Time

220.30	0.00	#N/A
220.35	0.05	10323
220.40	0.10	10586
220.45	0.15	10848
220.50	0.20	11111
220.55	0.25	11373
220.60	0.30	11635
220.65	0.35	11898
220.70	0.40	12160
220.75	0.45	12423
220.80	0.50	12685
220.85	0.55	12886
220.90	0.60	13087
220.95	0.65	13288
221.00	0.70	13490
221.05	0.75	13725
221.10	0.80	13960

start



Equation 4.11 from SWM Planning & Design Manual (MECP, 2003)

Runoff from 25 mm storm **12.92** mm
Tributary Area **43.84** Hectares
Extended Detention **5664.1** m3
Extended Detention Provided **6326** m3

$$\text{Drawdown Time } t = \frac{((0.66 \cdot C2 \cdot (h^{1.5})) + 2 \cdot C3 \cdot (h^{0.5}))}{(2.75 \cdot A_o)}$$

C2 = Slope coefficient from above graph 4807
C3 = intercept from above graph 10181
h = Maximum water elevation above orifice 0.3
A_o = Cross Sectional Area of orifice 0.04909

Orifice = 250 mm
Extended Detention Range = 220.30 to 230.85 m

$$t = \frac{86480.6 \text{ s}}{24.0 \text{ hours}}$$

Project Name:	Bradford Highland		
Project No.:	22016		
Date:	1-Jul-23	Revision:	13-Jul-23
Description:	SWM Facility 800-1 Stage-Volume Information		

		Depth (m)	Surface Area (m ²)	Incr. Area (m ²)	
Bottom of Pond	217.8	217.80	597	45.5	Bottom of forebay
Depth Increment (m)	0.05	219.00	1689	339.3	
Perm. Pool Vol. Req'd (m ³)	4726	220.00	2.20	8475	264.3
Permanent Pool Elevation (m)	220.30	220.30	2.50	10061	262.4
Permanent Pool Vol. (m ³)	9233	220.80	3.00	12685	201.1
Permanent Pool Elevation (m)	220.30	221.00	3.20	13490	235.3
Extended Detention Volume Required(m3)	5664	222.00	4.2	18196	300.7
Max. Pond Elevation (m)	222.30	222.30	4.50	20000	Top of Pond
Extended Detention Elevation (m)	220.85				
Extendd Detention Vol. Provided (m ³)	6326				
Max. Pond Elevation (m)	222.30	222.30	4.50	20696	Top of Pond

South Pond		Depth (m)	Incr. Area (m2)	Incremental	Cumulative	
Elevation (m)	Surface Area (m ²)			Volume (m3)	Volume (m3)	
217.8	3590	0.001	1.6	3590		
156.6	5571	-61.2	120.5	280327	280327	
158	7980	-60.2	134.5	6776	273551	
158.60	10670	-59.2	840.0	9325	264226	
158.7	12350	-59.1	159.0	1151	263075	
159.70	15530.0	-58.1	131.7	13940	249135	
160.60	17900.0	-57.2	131.7	15044	234092	

Project Name:	Bradford Highland		
Project No.:	22016		
Date:	1-Jul-23	Revision:	13-Jul-23
Description:	SWM Facility 800-1 Stage-Volume Information		

Elevation (m)	Depth (m)	Area (m ²)	Incremental Volume (m ³)	Cum. Volume (m ³)	Active Storage Volume (m ³)	Ext. Det. Volume (m ³)
217.80		597				
217.85	0.05	642	31	31		
217.90	0.10	688	33	64		
217.95	0.15	733	36	100		
218.00	0.20	779	38	138		
218.05	0.25	824	40	178		
218.10	0.30	870	42	220		
218.15	0.35	915	45	265		
218.20	0.40	961	47	311		
218.25	0.45	1006	49	361		
218.30	0.50	1052	51	412		
218.35	0.55	1097	54	466		
218.40	0.60	1143	56	522		
218.45	0.65	1188	58	580		
218.50	0.70	1234	61	641		
218.55	0.75	1279	63	703		
218.60	0.80	1325	65	768		
218.65	0.85	1370	67	836		
218.70	0.90	1416	70	905		
218.75	0.95	1461	72	977		
218.80	1.00	1507	74	1052		
218.85	1.05	1552	76	1128		
218.90	1.10	1598	79	1207		
218.95	1.15	1643	81	1288		
219.00	1.20	1689	83	1371		
219.05	1.25	2028	93	1464		
219.10	1.30	2367	110	1574		
219.15	1.35	2707	127	1701		
219.20	1.40	3046	144	1845		
219.25	1.45	3385	161	2005		
219.30	1.50	3725	178	2183		
219.35	1.55	4064	195	2378		
219.40	1.60	4403	212	2589		
219.45	1.65	4743	229	2818		
219.50	1.70	5082	246	3064		
219.55	1.75	5421	263	3326		
219.60	1.80	5761	280	3606		

Project Name:	Bradford Highland		
Project No.:	22016		
Date:	1-Jul-23	Revision:	13-Jul-23
Description:	SWM Facility 800-1 Stage-Volume Information		

219.65	1.85	6100	297	3902		
219.70	1.90	6439	313	4216		
219.75	1.95	6779	330	4546		
219.80	2.00	7118	347	4894		
219.85	2.05	7457	364	5258		
219.90	2.10	7797	381	5639		
219.95	2.15	8136	398	6038		
220.00	2.20	8475	415	6453		
220.05	2.25	8740	430	6883		
220.10	2.30	9004	444	7327		
220.15	2.35	9268	457	7784		
220.20	2.40	9532	470	8254		
220.25	2.45	9797	483	8737		
220.30	2.50	10061	496	9233	0	0
220.35	2.55	10323	510	9743	510	510
220.40	2.60	10586	523	10266	1033	1033
220.45	2.65	10848	536	10802	1569	1569
220.50	2.70	11111	549	11351	2118	2118
220.55	2.75	11373	562	11913	2680	2680
220.60	2.80	11635	575	12488	3255	3255
220.65	2.85	11898	588	13076	3843	3843
220.70	2.90	12160	601	13678	4445	4445
220.75	2.95	12423	615	14292	5059	5059
220.80	3.00	12685	628	14920	5687	5687
220.85	3.05	12886	639	15559	6326	6326
220.90	3.10	13087	649	16209	6976	6976
220.95	3.15	13288	659	16868	7635	7635
221.00	3.20	13490	669	17537	8304	8304
221.05	3.25	13725	680	18218	8985	8985
221.10	3.30	13960	692	18910	9677	9677
221.15	3.35	14196	704	19614	10381	10381
221.20	3.40	14431	716	20329	11096	11096
221.25	3.45	14666	727	21057	11824	11824
221.30	3.50	14902	739	21796	12563	12563
221.35	3.55	15137	751	22547	13314	13314
221.40	3.60	15372	763	23310	14077	14077
221.45	3.65	15607	774	24084	14851	14851
221.50	3.70	15843	786	24871	15638	15638
221.55	3.75	16078	798	25669	16436	16436
221.60	3.80	16313	810	26478	17245	17245

Permanent Pool Required
4726.2

Extended Detention Required
5664.1

Project Name:	Bradford Highland		
Project No.:	22016		
Date:	1-Jul-23	Revision:	13-Jul-23
Description:	SWM Facility 800-1 Stage-Volume Information		

221.65	3.85	16549	822	27300	18067	18067
221.70	3.90	16784	833	28133	18900	18900
221.75	3.95	17019	845	28978	19745	19745
221.80	4.00	17255	857	29835	20602	20602
221.85	4.05	17490	869	30704	21471	21471
221.90	4.10	17725	880	31584	22351	22351
221.95	4.15	17961	892	32476	23243	23243
222.00	4.20	18196	904	33380	24147	24147
222.05	4.25	18497	917	34298	25065	25065
222.10	4.30	18797	932	35230	25997	25997
222.15	4.35	19098	947	36177	26944	26944
222.20	4.40	19399	962	37140	27907	27907
222.25	4.45	19699	977	38117	28884	28884
222.30	4.50	20000	992	39110	29877	29877

Project Name:	Bradford Highland
Project No.:	22016
Description:	Runoff Coefficient South

Existing Estate Residential into SWM Facility

Area ID	Description	Drainage Area (Ha.)	Total Percent Impervious (%)
8100	External Undeveloped most Southerly	1.9	N/A
8200	External Undeveloped 2nd most Southerly	2.88	N/A
8300	External Undeveloped middle	8.15	N/A
8400	External Undeveloped 2nd most Northerly	11.21	N/A
8500	External Undeveloped most Northerly	11.81	N/A
8600	Internal Existing Residential Contributing	10.27	0.21
8700	Internal Residential Contributing	2.22	0.6
8800	Internal Residential Contributing	18.91	0.65
8900	Internal Existing Residential Contributing	2.39	0.21
10000	External East Residential Contributing	0.9	0.5
11000	SWM Facility 800-1	2.78	0.5
12000	Park Contributing	1.59	0.5
13000	Environmental Protection and Compensation Lands Non Contributing (Not Analyzed)	9.58	N/A
	External Undeveloped Non Contributing	31.17	
	Existing Residential Contributing	12.66	
	Internal Non Contributing	9.58	
	Internal and East Contributing	26.4	0.62
	Total Contributing area to SWM 800-1	43.84	0.43
	South Total	84.59	
	Total Non Contributing	40.75	
	Total Non Contributing included in Analysis	31.17	
	Total Area Analyzed	75.01	
	Area contributing to permanent pool	39.06	
	Development Area	25.5	

EXISTING AND PROPOSED CONDITION FLOWS SOUTH (ESTATE INTO 800-1)

RETURN PERIOD	CHICAGO									
	4 HR					24 HR				
	Existing (cms)	SWM 800-1 Inflow (cms)	SWM 800-1 Outlet (cms)	Non Pond Flows (cms)	South Limit (cms)	Existing (cms)	SWM 800-1 Inflow (cms)	SWM 800-1 Outlet (cms)	Non Pond Flows (cms)	South Limit (cms)
								43.84	31.17	
2	0.60	2.62	0.125	0.27	0.36	0.78	2.86	0.186	0.37	0.48
5	1.05	3.91	0.322	0.51	0.74	1.36	4.30	0.410	0.65	1.04
10	1.39	4.79	0.425	0.69	1.07	1.80	5.36	0.485	0.91	1.36
25	1.85	6.01	0.504	0.94	1.40	2.37	7.46	0.567	1.23	1.76
50	2.23	7.79	0.558	1.15	1.66	2.73	8.59	0.738	1.49	2.07
100	2.54	8.85	0.602	1.33	1.89	3.24	9.75	1.150	1.74	2.86
25 mm			12.92							

			Storage Ha-m					Storage Ha-m		
2			0.733					0.8423		
5			1.0257					1.1732		
10			1.2237					1.4485		
25			1.5318					1.8343		
50			1.7867					2.12		
100			2.025					2.2795		
25 mm			0.3711							

APPENDIX C2

VO Schematic South and VO Output

=====

V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

000 TTTTT TTTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\VO2\voim.dat
Output filename:
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dc-47fb-40ac-bd97-1ca59ee7e049\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\b209a9
dc-47fb-40ac-bd97-1ca59ee7e049\scenar

DATE: 07-12-2023 TIME: 10:44:37

USER:

COMMENTS: _____

** SIMULATION : 10 Year 4 Hour Chicago **

| READ STORM |

Filename: C:\Users\kchow\AppData\Local\Temp\

140cea51-eb03-4b45-81b6-ecb346f6d6e5\6a4a373a
 Ptotal= 54.69 mm | Comments: 10 Year 4 Hour Chicago

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	3.42	1.00	29.04	2.00	8.42	3.00	4.14
0.17	3.94	1.17	121.64	2.17	7.12	3.17	3.84
0.33	4.66	1.33	38.46	2.33	6.19	3.33	3.58
0.50	5.77	1.50	20.02	2.50	5.49	3.50	3.35
0.67	7.68	1.67	13.60	2.67	4.94	3.67	3.16
0.83	11.84	1.83	10.37	2.83	4.50	3.83	2.99

CALIB
 NASHYD (8500) | Area (ha)= 11.81 Curve Number (CN)= 75.0
 ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= 0.72

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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14
0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58
0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.290 (i)
 TIME TO PEAK (hrs)= 2.250
 RUNOFF VOLUME (mm)= 18.379
 TOTAL RAINFALL (mm)= 54.693
 RUNOFF COEFFICIENT = 0.336

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

```

-----
| CALIB                                     |
| NASHYD ( 8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.99

```

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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14
0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58
0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.220 (i)
 TIME TO PEAK (hrs)= 2.583
 RUNOFF VOLUME (mm)= 18.379
 TOTAL RAINFALL (mm)= 54.693
 RUNOFF COEFFICIENT = 0.336

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

```

-----
| CALIB                                     |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.80

```

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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14

0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58
0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.186 (i)

TIME TO PEAK (hrs)= 2.333

RUNOFF VOLUME (mm)= 18.379

TOTAL RAINFALL (mm)= 54.693

RUNOFF COEFFICIENT = 0.336

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

```

-----
| ADD HYD ( 8310) |
| 1 + 2 = 3      |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.186	2.33	18.38
+ ID2= 2 (8400):	11.21	0.220	2.58	18.38
=====				
ID = 3 (8310):	19.36	0.402	2.42	18.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8320) |
| 1 + 2 = 3      |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8310):	19.36	0.402	2.42	18.38
+ ID2= 2 (8500):	11.81	0.290	2.25	18.38
=====				
ID = 3 (8320):	31.17	0.685	2.33	18.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| CALIB          |
| NASHYD ( 8200) |
| ID= 1 DT= 5.0 min |
-----

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Area (ha)=	2.88	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00

----- U.H. Tp(hrs)= 1.21

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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14
0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58
0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.049 (i)

TIME TO PEAK (hrs)= 2.833

RUNOFF VOLUME (mm)= 18.378

TOTAL RAINFALL (mm)= 54.693

RUNOFF COEFFICIENT = 0.336

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

CALIB			
NASHYD (8100)	Area (ha)=	1.90	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.54	

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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14
0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58

0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.057 (i)
 TIME TO PEAK (hrs)= 2.000
 RUNOFF VOLUME (mm)= 18.378
 TOTAL RAINFALL (mm)= 54.693
 RUNOFF COEFFICIENT = 0.336

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

ADD HYD (8110)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.057	2.00	18.38
+ ID2= 2 (8200):	2.88	0.049	2.83	18.38
=====				
ID = 3 (8110):	4.78	0.092	2.25	18.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area	(ha)=	2.22
STANDHYD (8700)	Total Imp(%)=	60.00	Dir. Conn.(%)= 30.00
ID= 1 DT= 5.0 min			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14

0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58
0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Max.Eff.Inten.(mm/hr)= 121.64 143.35
over (min) 5.00 10.00
Storage Coeff. (min)= 2.66 (ii) 8.77 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.29 0.12

TOTALS

PEAK FLOW (cms)= 0.22 0.24 0.422 (iii)
TIME TO PEAK (hrs)= 1.33 1.42 1.33
RUNOFF VOLUME (mm)= 53.69 36.48 41.64
TOTAL RAINFALL (mm)= 54.69 54.69 54.69
RUNOFF COEFFICIENT = 0.98 0.67 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (8800) |
| ID= 1 DT= 5.0 min |

Area (ha)= 18.91
Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14
0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58
0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Max.Eff.Inten.(mm/hr)= 121.64 155.89
over (min) 5.00 15.00
Storage Coeff. (min)= 5.05 (ii) 10.96 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.21 0.09

TOTALS

PEAK FLOW (cms)= 1.99 1.66 2.952 (iii)
TIME TO PEAK (hrs)= 1.33 1.50 1.33
RUNOFF VOLUME (mm)= 53.69 37.22 42.98
TOTAL RAINFALL (mm)= 54.69 54.69 54.69
RUNOFF COEFFICIENT = 0.98 0.68 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.

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-----
| ADD HYD ( 8710) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8700):	2.22	0.422	1.33	41.64
+ ID2= 2 (8800):	18.91	2.952	1.33	42.98
=====				
ID = 3 (8710):	21.13	3.374	1.33	42.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8120) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
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ID1= 1 (8110):	4.78	0.092	2.25	18.38
+ ID2= 2 (8710):	21.13	3.374	1.33	42.84
=====				
ID = 3 (8120):	25.91	3.384	1.33	38.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8600)	Area (ha)=	10.27	
ID= 1 DT= 5.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		2.16	8.11
Dep. Storage (mm)=		1.00	1.50
Average Slope (%)=		2.00	2.00
Length (m)=		261.66	250.00
Mannings n =		0.013	0.250

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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14
0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58
0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Max.Eff.Inten.(mm/hr)=	121.64	36.93
over (min)	5.00	35.00
Storage Coeff. (min)=	3.42 (ii)	34.98 (ii)
Unit Hyd. Tpeak (min)=	5.00	35.00
Unit Hyd. peak (cms)=	0.26	0.03

			TOTALS
PEAK FLOW (cms)=	0.33	0.49	0.533 (iii)
TIME TO PEAK (hrs)=	1.33	1.83	1.83
RUNOFF VOLUME (mm)=	53.69	30.73	33.02
TOTAL RAINFALL (mm)=	54.69	54.69	54.69
RUNOFF COEFFICIENT =	0.98	0.56	0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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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-----
| CALIB |
| STANDHYD ( 8900) | Area (ha)= 2.39
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00
-----
  
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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   3.42 | 1.083 29.04 | 2.083   8.42 | 3.08   4.14
0.167   3.42 | 1.167 29.04 | 2.167   8.42 | 3.17   4.14
0.250   3.94 | 1.250 121.64 | 2.250   7.12 | 3.25   3.84
0.333   3.94 | 1.333 121.64 | 2.333   7.12 | 3.33   3.84
0.417   4.66 | 1.417  38.46 | 2.417   6.19 | 3.42   3.58
0.500   4.66 | 1.500  38.46 | 2.500   6.19 | 3.50   3.58
0.583   5.77 | 1.583  20.02 | 2.583   5.49 | 3.58   3.35
0.667   5.77 | 1.667  20.02 | 2.667   5.49 | 3.67   3.35
0.750   7.68 | 1.750  13.60 | 2.750   4.94 | 3.75   3.16
0.833   7.68 | 1.833  13.60 | 2.833   4.94 | 3.83   3.16
0.917  11.84 | 1.917  10.37 | 2.917   4.50 | 3.92   2.99
1.000  11.84 | 2.000  10.37 | 3.000   4.50 | 4.00   2.99
  
```

Max.Eff.Inten.(mm/hr)=	121.64	53.24
over (min)	5.00	25.00
Storage Coeff. (min)=	2.72 (ii)	20.71 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.29	0.05

TOTALS

PEAK FLOW (cms)=	0.08	0.16	0.174 (iii)
TIME TO PEAK (hrs)=	1.33	1.67	1.67

RUNOFF VOLUME	(mm)=	53.69	30.73	33.02
TOTAL RAINFALL	(mm)=	54.69	54.69	54.69
RUNOFF COEFFICIENT	=	0.98	0.56	0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8600):  10.27  0.533    1.83    33.02
+ ID2= 2 ( 8900):  2.39  0.174    1.67    33.02
=====
ID = 3 ( 8610):  12.66  0.683    1.83    33.02
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8130) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8120):  25.91  3.384    1.33    38.33
+ ID2= 2 ( 8610):  12.66  0.683    1.83    33.02
=====
ID = 3 ( 8130):  38.57  3.943    1.33    36.59
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB
| STANDHYD ( 11000) |
| ID= 1 DT= 5.0 min |
-----
Area    (ha)=  0.90
Total Imp(%)= 50.00  Dir. Conn.(%)= 25.00
  
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14
0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58
0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Max.Eff.Inten.(mm/hr)= 121.64 114.71
over (min) 5.00 10.00
Storage Coeff. (min)= 2.03 (ii) 8.71 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.31 0.12

TOTALS

PEAK FLOW (cms)= 0.08 0.10 0.157 (iii)
TIME TO PEAK (hrs)= 1.33 1.42 1.33
RUNOFF VOLUME (mm)= 53.69 34.50 39.29
TOTAL RAINFALL (mm)= 54.69 54.69 54.69
RUNOFF COEFFICIENT = 0.98 0.63 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00

Length (m)= 102.96 40.00
 Mannings n = 0.013 0.250

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	3.42	1.083	29.04	2.083	8.42	3.08	4.14
0.167	3.42	1.167	29.04	2.167	8.42	3.17	4.14
0.250	3.94	1.250	121.64	2.250	7.12	3.25	3.84
0.333	3.94	1.333	121.64	2.333	7.12	3.33	3.84
0.417	4.66	1.417	38.46	2.417	6.19	3.42	3.58
0.500	4.66	1.500	38.46	2.500	6.19	3.50	3.58
0.583	5.77	1.583	20.02	2.583	5.49	3.58	3.35
0.667	5.77	1.667	20.02	2.667	5.49	3.67	3.35
0.750	7.68	1.750	13.60	2.750	4.94	3.75	3.16
0.833	7.68	1.833	13.60	2.833	4.94	3.83	3.16
0.917	11.84	1.917	10.37	2.917	4.50	3.92	2.99
1.000	11.84	2.000	10.37	3.000	4.50	4.00	2.99

Max.Eff.Inten.(mm/hr)= 121.64 77.73
 over (min) 5.00 15.00
 Storage Coeff. (min)= 2.40 (ii) 10.21 (ii)
 Unit Hyd. Tpeak (min)= 5.00 15.00
 Unit Hyd. peak (cms)= 0.30 0.09

TOTALS

PEAK FLOW (cms)= 0.07 0.16 0.178 (iii)
 TIME TO PEAK (hrs)= 1.33 1.50 1.50
 RUNOFF VOLUME (mm)= 53.69 30.98 33.93
 TOTAL RAINFALL (mm)= 54.69 54.69 54.69
 RUNOFF COEFFICIENT = 0.98 0.57 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (11010) |
1 + 2 = 3

AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)

```

ID1= 1 ( 11000):    0.90   0.157   1.33   39.29
+ ID2= 2 ( 12000):    1.59   0.178   1.50   33.93
=====
ID = 3 ( 11010):    2.49   0.311   1.33   35.87

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

| ADD HYD ( 8140) |
| 1 + 2 = 3 |
-----
| AREA      QPEAK    TPEAK    R.V.
| (ha)      (cms)     (hrs)    (mm)
| ID1= 1 ( 11010):    2.49   0.311   1.33   35.87
| + ID2= 2 ( 8130):   38.57   3.943   1.33   36.59
| =====
| ID = 3 ( 8140):    41.06   4.254   1.33   36.54

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

| CALIB
| STANDHYD ( 10000) |
| ID= 1 DT= 5.0 min |
-----
| Area      (ha)=    2.78
| Total Imp(%)= 50.00  Dir. Conn.(%)= 50.00

```

```

| IMPERVIOUS  PERVIOUS (i)
| Surface Area (ha)=    1.39    1.39
| Dep. Storage (mm)=    1.00    1.50
| Average Slope (%)=    1.00    2.00
| Length (m)=    136.14   40.00
| Mannings n =    0.013   0.250

```

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   3.42 | 1.083   29.04 | 2.083   8.42 | 3.08    4.14
| 0.167   3.42 | 1.167   29.04 | 2.167   8.42 | 3.17    4.14
| 0.250   3.94 | 1.250  121.64 | 2.250   7.12 | 3.25    3.84
| 0.333   3.94 | 1.333  121.64 | 2.333   7.12 | 3.33    3.84
| 0.417   4.66 | 1.417   38.46 | 2.417   6.19 | 3.42    3.58
| 0.500   4.66 | 1.500   38.46 | 2.500   6.19 | 3.50    3.58
| 0.583   5.77 | 1.583   20.02 | 2.583   5.49 | 3.58    3.35
| 0.667   5.77 | 1.667   20.02 | 2.667   5.49 | 3.67    3.35
| 0.750   7.68 | 1.750   13.60 | 2.750   4.94 | 3.75    3.16
| 0.833   7.68 | 1.833   13.60 | 2.833   4.94 | 3.83    3.16
| 0.917  11.84 | 1.917   10.37 | 2.917   4.50 | 3.92    2.99
| 1.000  11.84 | 2.000   10.37 | 3.000   4.50 | 4.00    2.99

```

Max.Eff.Inten.(mm/hr)=	121.64	61.44	
over (min)	5.00	15.00	
Storage Coeff. (min)=	2.84 (ii)	11.42 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.28	0.09	
			TOTALS
PEAK FLOW (cms)=	0.46	0.14	0.532 (iii)
TIME TO PEAK (hrs)=	1.33	1.50	1.33
RUNOFF VOLUME (mm)=	53.69	28.87	41.28
TOTAL RAINFALL (mm)=	54.69	54.69	54.69
RUNOFF COEFFICIENT =	0.98	0.53	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 10010) |
| 1 + 2 = 3 |
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 10000):  2.78    0.532    1.33    41.28
+ ID2= 2 ( 8140): 41.06    4.254    1.33    36.54
=====
ID = 3 ( 10010): 43.84    4.786    1.33    36.84

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| RESERVOIR( 10020) | 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    |    0.4750    1.4077
0.0360    0.1569    |    0.5120    1.5638
0.0550    0.3255    |    0.5460    1.7245
0.0620    0.3843    |    0.5780    1.8900
0.0810    0.5687    |    0.6080    2.0600
0.1060    0.6976    |    0.9880    2.2351
0.1770    0.8304    |    1.6470    2.4147
0.2750    0.9677    |    2.9610    2.6944
0.3910    1.1096    |    4.5710    2.9877
0.4350    1.2563    |    0.0000    0.0000
                AREA    QPEAK    TPEAK    R.V.

```


		(ha)	(cms)	(hrs)	(mm)
INFLOW :	ID= 2 (10010)	43.840	4.786	1.33	36.84
OUTFLOW:	ID= 1 (10020)	43.840	0.425	3.83	36.82

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.88
 TIME SHIFT OF PEAK FLOW (min)=150.00
 MAXIMUM STORAGE USED (ha.m.)= 1.2237

```
-----
| ADD HYD ( 10030) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 10020):  43.84  0.425    3.83    36.82
+ ID2= 2 ( 8320):  31.17  0.685    2.33    18.38
=====
ID = 3 ( 10030):  75.01  1.071    2.42    29.16
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

V  V  I  SSSSS  U  U  A  L          (v 6.2.2014)
V  V  I  SS    U  U  A  A  L
V  V  I  SS    U  U  AAAAA  L
V  V  I  SS    U  U  A  A  L
  VV  I  SSSSS  UUUUU  A  A  LLLLL

000  TTTTT  TTTTT  H  H  Y  Y  M  M  000  TM
0  0  T  T  H  H  Y  Y  MM  MM  0  0
0  0  T  T  H  H  Y  M  M  0  0
000  T  T  H  H  Y  M  M  000
```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\71b4a7
 00-cef9-4ee9-b29a-82829283d8bf\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\71b4a7
 00-cef9-4ee9-b29a-82829283d8bf\scenar

DATE: 07-12-2023

TIME: 10:44:37

USER:

COMMENTS: _____

 ** SIMULATION : 100 Year 4 Hour Chicago **

READ STORM	Filename: C:\Users\kchow\AppData\Local\Temp\140cea51-eb03-4b45-81b6-ecb346f6d6e5\d0e0dcc0
Ptotal= 80.75 mm	Comments: 100 Year 4 Hour Chicago

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	5.50	1.00	41.68	2.00	12.91	3.00	6.59
0.17	6.29	1.17	174.11	2.17	11.02	3.17	6.13
0.33	7.38	1.33	54.66	2.33	9.66	3.33	5.74
0.50	9.03	1.50	29.24	2.50	8.62	3.50	5.40
0.67	11.83	1.67	20.29	2.67	7.80	3.67	5.10
0.83	17.80	1.83	15.71	2.83	7.14	3.83	4.84

CALIB	Area (ha)= 11.81	Curve Number (CN)= 75.0
NASHYD (8500)	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp(hrs)= 0.72	

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	5.50	1.083	41.68	2.083	12.91	3.08	6.59
0.167	5.50	1.167	41.68	2.167	12.91	3.17	6.59
0.250	6.29	1.250	174.11	2.250	11.02	3.25	6.13

0.333	6.29	1.333	174.11	2.333	11.02	3.33	6.13
0.417	7.38	1.417	54.66	2.417	9.66	3.42	5.74
0.500	7.38	1.500	54.66	2.500	9.66	3.50	5.74
0.583	9.03	1.583	29.24	2.583	8.62	3.58	5.40
0.667	9.03	1.667	29.24	2.667	8.62	3.67	5.40
0.750	11.83	1.750	20.29	2.750	7.80	3.75	5.10
0.833	11.83	1.833	20.29	2.833	7.80	3.83	5.10
0.917	17.80	1.917	15.71	2.917	7.14	3.92	4.84
1.000	17.80	2.000	15.71	3.000	7.14	4.00	4.84

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.566 (i)
 TIME TO PEAK (hrs)= 2.167
 RUNOFF VOLUME (mm)= 35.766
 TOTAL RAINFALL (mm)= 80.745
 RUNOFF COEFFICIENT = 0.443

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

CALIB			
NASHYD (8400)			
ID= 1 DT= 5.0 min	Area (ha)= 11.21	Curve Number (CN)= 75.0	
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.99		

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	5.50	1.083	41.68	2.083	12.91	3.08	6.59
0.167	5.50	1.167	41.68	2.167	12.91	3.17	6.59
0.250	6.29	1.250	174.11	2.250	11.02	3.25	6.13
0.333	6.29	1.333	174.11	2.333	11.02	3.33	6.13
0.417	7.38	1.417	54.66	2.417	9.66	3.42	5.74
0.500	7.38	1.500	54.66	2.500	9.66	3.50	5.74
0.583	9.03	1.583	29.24	2.583	8.62	3.58	5.40
0.667	9.03	1.667	29.24	2.667	8.62	3.67	5.40
0.750	11.83	1.750	20.29	2.750	7.80	3.75	5.10
0.833	11.83	1.833	20.29	2.833	7.80	3.83	5.10
0.917	17.80	1.917	15.71	2.917	7.14	3.92	4.84
1.000	17.80	2.000	15.71	3.000	7.14	4.00	4.84

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.428 (i)
 TIME TO PEAK (hrs)= 2.583

RUNOFF VOLUME (mm)= 35.766
 TOTAL RAINFALL (mm)= 80.745
 RUNOFF COEFFICIENT = 0.443

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

```

-----
| CALIB |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.80
  
```

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    5.50 | 1.083   41.68 | 2.083   12.91 | 3.08     6.59
0.167    5.50 | 1.167   41.68 | 2.167   12.91 | 3.17     6.59
0.250    6.29 | 1.250  174.11 | 2.250   11.02 | 3.25     6.13
0.333    6.29 | 1.333  174.11 | 2.333   11.02 | 3.33     6.13
0.417    7.38 | 1.417   54.66 | 2.417    9.66 | 3.42     5.74
0.500    7.38 | 1.500   54.66 | 2.500    9.66 | 3.50     5.74
0.583    9.03 | 1.583   29.24 | 2.583    8.62 | 3.58     5.40
0.667    9.03 | 1.667   29.24 | 2.667    8.62 | 3.67     5.40
0.750   11.83 | 1.750   20.29 | 2.750    7.80 | 3.75     5.10
0.833   11.83 | 1.833   20.29 | 2.833    7.80 | 3.83     5.10
0.917   17.80 | 1.917   15.71 | 2.917    7.14 | 3.92     4.84
1.000   17.80 | 2.000   15.71 | 3.000    7.14 | 4.00     4.84
  
```

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.362 (i)
 TIME TO PEAK (hrs)= 2.333
 RUNOFF VOLUME (mm)= 35.766
 TOTAL RAINFALL (mm)= 80.745
 RUNOFF COEFFICIENT = 0.443

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

```

-----
| ADD HYD ( 8310) |
| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
----- (ha) (cms) (hrs) (mm)
      ID1= 1 ( 8300): 8.15 0.362 2.33 35.77
      + ID2= 2 ( 8400): 11.21 0.428 2.58 35.77
  
```

=====

ID = 3 (8310): 19.36 0.783 2.42 35.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8320)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):	19.36	0.783	2.42	35.77
+ ID2= 2 (8500):	11.81	0.566	2.17	35.77
=====				
ID = 3 (8320):	31.17	1.334	2.33	35.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (8200)	Area (ha)=	2.88	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
-----	U.H. Tp(hrs)=	1.21	

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	5.50	1.083	41.68	2.083	12.91	3.08	6.59
0.167	5.50	1.167	41.68	2.167	12.91	3.17	6.59
0.250	6.29	1.250	174.11	2.250	11.02	3.25	6.13
0.333	6.29	1.333	174.11	2.333	11.02	3.33	6.13
0.417	7.38	1.417	54.66	2.417	9.66	3.42	5.74
0.500	7.38	1.500	54.66	2.500	9.66	3.50	5.74
0.583	9.03	1.583	29.24	2.583	8.62	3.58	5.40
0.667	9.03	1.667	29.24	2.667	8.62	3.67	5.40
0.750	11.83	1.750	20.29	2.750	7.80	3.75	5.10
0.833	11.83	1.833	20.29	2.833	7.80	3.83	5.10
0.917	17.80	1.917	15.71	2.917	7.14	3.92	4.84
1.000	17.80	2.000	15.71	3.000	7.14	4.00	4.84

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.095 (i)

TIME TO PEAK (hrs)= 2.833

RUNOFF VOLUME (mm)= 35.765

TOTAL RAINFALL (mm)= 80.745

RUNOFF COEFFICIENT = 0.443

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

```

-----
| CALIB |
| NASHYD ( 8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.54

```

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 5.50 | 1.083 41.68 | 2.083 12.91 | 3.08 6.59
0.167 5.50 | 1.167 41.68 | 2.167 12.91 | 3.17 6.59
0.250 6.29 | 1.250 174.11 | 2.250 11.02 | 3.25 6.13
0.333 6.29 | 1.333 174.11 | 2.333 11.02 | 3.33 6.13
0.417 7.38 | 1.417 54.66 | 2.417 9.66 | 3.42 5.74
0.500 7.38 | 1.500 54.66 | 2.500 9.66 | 3.50 5.74
0.583 9.03 | 1.583 29.24 | 2.583 8.62 | 3.58 5.40
0.667 9.03 | 1.667 29.24 | 2.667 8.62 | 3.67 5.40
0.750 11.83 | 1.750 20.29 | 2.750 7.80 | 3.75 5.10
0.833 11.83 | 1.833 20.29 | 2.833 7.80 | 3.83 5.10
0.917 17.80 | 1.917 15.71 | 2.917 7.14 | 3.92 4.84
1.000 17.80 | 2.000 15.71 | 3.000 7.14 | 4.00 4.84

```

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.111 (i)

TIME TO PEAK (hrs)= 1.917

RUNOFF VOLUME (mm)= 35.764

TOTAL RAINFALL (mm)= 80.745

RUNOFF COEFFICIENT = 0.443

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

```

-----
| ADD HYD ( 8110) |
| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
| | (ha) (cms) (hrs) (mm)
-----
ID1= 1 ( 8100): 1.90 0.111 1.92 35.76
+ ID2= 2 ( 8200): 2.88 0.095 2.83 35.77
=====
ID = 3 ( 8110): 4.78 0.178 2.25 35.76

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB |
| STANDHYD ( 8700) | Area (ha)= 2.22
| ID= 1 DT= 5.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 30.00
-----

```

```

                IMPERVIOUS      PERVIOUS (i)
Surface Area   (ha)=          1.33          0.89
Dep. Storage   (mm)=          1.00          1.50
Average Slope  (%)=          1.00          2.00
Length         (m)=         121.66         40.00
Mannings n    =             0.013         0.250

```

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    5.50 | 1.083   41.68 | 2.083   12.91 | 3.08    6.59
0.167    5.50 | 1.167   41.68 | 2.167   12.91 | 3.17    6.59
0.250    6.29 | 1.250  174.11 | 2.250   11.02 | 3.25    6.13
0.333    6.29 | 1.333  174.11 | 2.333   11.02 | 3.33    6.13
0.417    7.38 | 1.417   54.66 | 2.417    9.66 | 3.42    5.74
0.500    7.38 | 1.500   54.66 | 2.500    9.66 | 3.50    5.74
0.583    9.03 | 1.583   29.24 | 2.583    8.62 | 3.58    5.40
0.667    9.03 | 1.667   29.24 | 2.667    8.62 | 3.67    5.40
0.750   11.83 | 1.750   20.29 | 2.750    7.80 | 3.75    5.10
0.833   11.83 | 1.833   20.29 | 2.833    7.80 | 3.83    5.10
0.917   17.80 | 1.917   15.71 | 2.917    7.14 | 3.92    4.84
1.000   17.80 | 2.000   15.71 | 3.000    7.14 | 4.00    4.84

```

```

Max.Eff.Inten.(mm/hr)= 174.11      235.97
      over (min)      5.00      10.00
Storage Coeff. (min)= 2.30 (ii)    7.31 (ii)
Unit Hyd. Tpeak (min)= 5.00      10.00
Unit Hyd. peak (cms)= 0.30      0.13

```

```

                *TOTALS*
PEAK FLOW      (cms)= 0.32      0.41      0.690 (iii)
TIME TO PEAK   (hrs)= 1.33      1.42      1.33
RUNOFF VOLUME  (mm)= 79.74      60.49      66.27
TOTAL RAINFALL (mm)= 80.74      80.74      80.74
RUNOFF COEFFICIENT = 0.99      0.75      0.82

```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

```

-----
| CALIB |
| STANDHYD ( 8800) | Area (ha)= 18.91
| ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00
-----

```

```

                IMPERVIOUS      PERVIOUS (i)
Surface Area    (ha)=      12.29      6.62
Dep. Storage    (mm)=       1.00      1.50
Average Slope   (%)=       1.00      2.00
Length          (m)=     355.06     40.00
Mannings n      =         0.013     0.250

```

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    5.50 | 1.083   41.68 | 2.083   12.91 | 3.08    6.59
0.167    5.50 | 1.167   41.68 | 2.167   12.91 | 3.17    6.59
0.250    6.29 | 1.250  174.11 | 2.250   11.02 | 3.25    6.13
0.333    6.29 | 1.333  174.11 | 2.333   11.02 | 3.33    6.13
0.417    7.38 | 1.417   54.66 | 2.417    9.66 | 3.42    5.74
0.500    7.38 | 1.500   54.66 | 2.500    9.66 | 3.50    5.74
0.583    9.03 | 1.583   29.24 | 2.583    8.62 | 3.58    5.40
0.667    9.03 | 1.667   29.24 | 2.667    8.62 | 3.67    5.40
0.750   11.83 | 1.750   20.29 | 2.750    7.80 | 3.75    5.10
0.833   11.83 | 1.833   20.29 | 2.833    7.80 | 3.83    5.10
0.917   17.80 | 1.917   15.71 | 2.917    7.14 | 3.92    4.84
1.000   17.80 | 2.000   15.71 | 3.000    7.14 | 4.00    4.84

```

```

Max.Eff.Inten.(mm/hr)= 174.11      254.88
over (min)           5.00          10.00
Storage Coeff. (min)= 4.38 (ii)    9.23 (ii)
Unit Hyd. Tpeak (min)= 5.00          10.00
Unit Hyd. peak (cms)= 0.23          0.12

```

TOTALS

```

PEAK FLOW (cms)= 2.95      3.07      5.612 (iii)
TIME TO PEAK (hrs)= 1.33      1.42      1.33
RUNOFF VOLUME (mm)= 79.74     61.40     67.82
TOTAL RAINFALL (mm)= 80.74     80.74     80.74
RUNOFF COEFFICIENT = 0.99      0.76      0.84

```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(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 (8710)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):		2.22	0.690	1.33	66.27
+ ID2= 2 (8800):		18.91	5.612	1.33	67.82
=====					
ID = 3 (8710):		21.13	6.302	1.33	67.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):		4.78	0.178	2.25	35.76
+ ID2= 2 (8710):		21.13	6.302	1.33	67.66
=====					
ID = 3 (8120):		25.91	6.326	1.33	61.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	(ha)=	10.27
STANDHYD (8600)		Total Imp(%)=	21.00	Dir. Conn.(%)= 10.00
ID= 1 DT= 5.0 min				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	5.50	1.083	41.68	2.083	12.91	3.08	6.59
0.167	5.50	1.167	41.68	2.167	12.91	3.17	6.59
0.250	6.29	1.250	174.11	2.250	11.02	3.25	6.13

0.333	6.29	1.333	174.11	2.333	11.02	3.33	6.13
0.417	7.38	1.417	54.66	2.417	9.66	3.42	5.74
0.500	7.38	1.500	54.66	2.500	9.66	3.50	5.74
0.583	9.03	1.583	29.24	2.583	8.62	3.58	5.40
0.667	9.03	1.667	29.24	2.667	8.62	3.67	5.40
0.750	11.83	1.750	20.29	2.750	7.80	3.75	5.10
0.833	11.83	1.833	20.29	2.833	7.80	3.83	5.10
0.917	17.80	1.917	15.71	2.917	7.14	3.92	4.84
1.000	17.80	2.000	15.71	3.000	7.14	4.00	4.84

Max.Eff.Inten.(mm/hr)= 174.11 77.88
over (min) 5.00 30.00
Storage Coeff. (min)= 2.96 (ii) 26.38 (ii)
Unit Hyd. Tpeak (min)= 5.00 30.00
Unit Hyd. peak (cms)= 0.28 0.04

TOTALS

PEAK FLOW (cms)= 0.48 1.02 1.080 (iii)
TIME TO PEAK (hrs)= 1.33 1.75 1.75
RUNOFF VOLUME (mm)= 79.74 53.12 55.78
TOTAL RAINFALL (mm)= 80.74 80.74 80.74
RUNOFF COEFFICIENT = 0.99 0.66 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

| CALIB |
| STANDHYD (8900) | Area (ha)= 2.39
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	5.50	1.083	41.68	2.083	12.91	3.08	6.59
0.167	5.50	1.167	41.68	2.167	12.91	3.17	6.59
0.250	6.29	1.250	174.11	2.250	11.02	3.25	6.13
0.333	6.29	1.333	174.11	2.333	11.02	3.33	6.13
0.417	7.38	1.417	54.66	2.417	9.66	3.42	5.74
0.500	7.38	1.500	54.66	2.500	9.66	3.50	5.74
0.583	9.03	1.583	29.24	2.583	8.62	3.58	5.40
0.667	9.03	1.667	29.24	2.667	8.62	3.67	5.40
0.750	11.83	1.750	20.29	2.750	7.80	3.75	5.10
0.833	11.83	1.833	20.29	2.833	7.80	3.83	5.10
0.917	17.80	1.917	15.71	2.917	7.14	3.92	4.84
1.000	17.80	2.000	15.71	3.000	7.14	4.00	4.84

Max.Eff.Inten.(mm/hr)= 174.11 103.82
over (min) 5.00 20.00
Storage Coeff. (min)= 2.35 (ii) 16.13 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.30 0.06

TOTALS

PEAK FLOW (cms)= 0.11 0.32 0.343 (iii)
TIME TO PEAK (hrs)= 1.33 1.58 1.58
RUNOFF VOLUME (mm)= 79.74 53.12 55.78
TOTAL RAINFALL (mm)= 80.74 80.74 80.74
RUNOFF COEFFICIENT = 0.99 0.66 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8600):	10.27	1.080	1.75	55.78
+ ID2= 2 (8900):	2.39	0.343	1.58	55.78
=====				
ID = 3 (8610):	12.66	1.356	1.75	55.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8130) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8120):	25.91	6.326	1.33	61.77
+ ID2= 2 (8610):	12.66	1.356	1.75	55.78
=====				
ID = 3 (8130):	38.57	7.336	1.33	59.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB |
| STANDHYD ( 11000) |
| ID= 1 DT= 5.0 min |
-----

```

Area (ha)= 0.90
 Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.45	0.45
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	77.46	40.00
Mannings n =	0.013	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	5.50	1.083	41.68	2.083	12.91	3.08	6.59
0.167	5.50	1.167	41.68	2.167	12.91	3.17	6.59
0.250	6.29	1.250	174.11	2.250	11.02	3.25	6.13
0.333	6.29	1.333	174.11	2.333	11.02	3.33	6.13
0.417	7.38	1.417	54.66	2.417	9.66	3.42	5.74
0.500	7.38	1.500	54.66	2.500	9.66	3.50	5.74
0.583	9.03	1.583	29.24	2.583	8.62	3.58	5.40
0.667	9.03	1.667	29.24	2.667	8.62	3.67	5.40
0.750	11.83	1.750	20.29	2.750	7.80	3.75	5.10
0.833	11.83	1.833	20.29	2.833	7.80	3.83	5.10
0.917	17.80	1.917	15.71	2.917	7.14	3.92	4.84
1.000	17.80	2.000	15.71	3.000	7.14	4.00	4.84

Max.Eff.Inten.(mm/hr)=	174.11	192.30
over (min)	5.00	10.00
Storage Coeff. (min)=	1.76 (ii)	7.19 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.32	0.14

TOTALS

PEAK FLOW (cms)=	0.11	0.17	0.262 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33

RUNOFF VOLUME	(mm)=	79.74	58.01	63.44
TOTAL RAINFALL	(mm)=	80.74	80.74	80.74
RUNOFF COEFFICIENT	=	0.99	0.72	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

 | CALIB |
 | STANDHYD (12000) | Area (ha)= 1.59
 | ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

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	5.50	1.083	41.68	2.083	12.91	3.08	6.59
0.167	5.50	1.167	41.68	2.167	12.91	3.17	6.59
0.250	6.29	1.250	174.11	2.250	11.02	3.25	6.13
0.333	6.29	1.333	174.11	2.333	11.02	3.33	6.13
0.417	7.38	1.417	54.66	2.417	9.66	3.42	5.74
0.500	7.38	1.500	54.66	2.500	9.66	3.50	5.74
0.583	9.03	1.583	29.24	2.583	8.62	3.58	5.40
0.667	9.03	1.667	29.24	2.667	8.62	3.67	5.40
0.750	11.83	1.750	20.29	2.750	7.80	3.75	5.10
0.833	11.83	1.833	20.29	2.833	7.80	3.83	5.10
0.917	17.80	1.917	15.71	2.917	7.14	3.92	4.84
1.000	17.80	2.000	15.71	3.000	7.14	4.00	4.84

Max.Eff.Inten.(mm/hr)=	174.11	134.56
over (min)	5.00	10.00
Storage Coeff. (min)=	2.08 (ii)	8.35 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.31	0.12

TOTALS

PEAK FLOW	(cms)=	0.10	0.31	0.360 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	79.74	53.45	56.87
TOTAL RAINFALL	(mm)=	80.74	80.74	80.74
RUNOFF COEFFICIENT	=	0.99	0.66	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.262	1.33	63.44
+ ID2= 2 (12000):	1.59	0.360	1.33	56.87
=====				
ID = 3 (11010):	2.49	0.622	1.33	59.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8140) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11010):	2.49	0.622	1.33	59.24
+ ID2= 2 (8130):	38.57	7.336	1.33	59.81
=====				
ID = 3 (8140):	41.06	7.957	1.33	59.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB |
| STANDHYD ( 10000) |
| ID= 1 DT= 5.0 min |
-----

```

Area	(ha)=	2.78		
Total Imp	(%)=	50.00	Dir. Conn.(%)=	50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)= 1.39	1.39
Dep. Storage	(mm)= 1.00	1.50
Average Slope	(%)= 1.00	2.00

Length (m)= 136.14 40.00
 Mannings n = 0.013 0.250

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	5.50	1.083	41.68	2.083	12.91	3.08	6.59
0.167	5.50	1.167	41.68	2.167	12.91	3.17	6.59
0.250	6.29	1.250	174.11	2.250	11.02	3.25	6.13
0.333	6.29	1.333	174.11	2.333	11.02	3.33	6.13
0.417	7.38	1.417	54.66	2.417	9.66	3.42	5.74
0.500	7.38	1.500	54.66	2.500	9.66	3.50	5.74
0.583	9.03	1.583	29.24	2.583	8.62	3.58	5.40
0.667	9.03	1.667	29.24	2.667	8.62	3.67	5.40
0.750	11.83	1.750	20.29	2.750	7.80	3.75	5.10
0.833	11.83	1.833	20.29	2.833	7.80	3.83	5.10
0.917	17.80	1.917	15.71	2.917	7.14	3.92	4.84
1.000	17.80	2.000	15.71	3.000	7.14	4.00	4.84

Max.Eff.Inten.(mm/hr)= 174.11 108.45
 over (min) 5.00 10.00
 Storage Coeff. (min)= 2.46 (ii) 9.30 (ii)
 Unit Hyd. Tpeak (min)= 5.00 10.00
 Unit Hyd. peak (cms)= 0.30 0.12

TOTALS

PEAK FLOW (cms)= 0.66 0.28 0.893 (iii)
 TIME TO PEAK (hrs)= 1.33 1.42 1.33
 RUNOFF VOLUME (mm)= 79.74 50.62 65.18
 TOTAL RAINFALL (mm)= 80.74 80.74 80.74
 RUNOFF COEFFICIENT = 0.99 0.63 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 (10010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10000):	2.78	0.893	1.33	65.18
+ ID2= 2 (8140):	41.06	7.957	1.33	59.77

```

=====
ID = 3 ( 10010):    43.84    8.850    1.33    60.11

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| RESERVOIR( 10020)|
| IN= 2---> OUT= 1 |
| DT= 5.0 min      |
-----

```

OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4750	1.4077
0.0360	0.1569	0.5120	1.5638
0.0550	0.3255	0.5460	1.7245
0.0620	0.3843	0.5780	1.8900
0.0810	0.5687	0.6080	2.0600
0.1060	0.6976	0.9880	2.2351
0.1770	0.8304	1.6470	2.4147
0.2750	0.9677	2.9610	2.6944
0.3910	1.1096	4.5710	2.9877
0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	8.850	1.33	60.11
OUTFLOW: ID= 1 (10020)	43.840	0.602	4.00	60.09

```

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.80
TIME SHIFT OF PEAK FLOW (min)=160.00
MAXIMUM STORAGE USED (ha.m.)= 2.0250

```

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-----
| ADD HYD ( 10030)|
| 1 + 2 = 3      |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.602	4.00	60.09
+ ID2= 2 (8320):	31.17	1.334	2.33	35.77
=====				
ID = 3 (10030):	75.01	1.889	2.33	49.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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=====
V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L

```



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      VV      I      SSSSS  UUUUU  A  A  LLLLL

      000      TTTTT  TTTTT  H  H  Y  Y  M  M  000  TM
      0  0      T      T  H  H  Y  Y  MM MM  0  0
      0  0      T      T  H  H  Y  M  M  0  0
      000      T      T  H  H  Y  M  M  000

```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\a4cbe9
 79-57ab-4780-b39b-83d4ee676133\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\a4cbe9
 79-57ab-4780-b39b-83d4ee676133\scenar

DATE: 07-12-2023

TIME: 10:44:37

USER:

COMMENTS: _____

 ** SIMULATION : 2 Year 4 Hour Chicago **

READ STORM	Filename: C:\Users\kchow\AppData\Local\Temp\140cea51-eb03-4b45-81b6-ecb346f6d6e5\d8267507
Ptotal= 33.97 mm	Comments: 2 Year 4 Hour Chicago

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	1.92	1.00	18.22	2.00	4.95	3.00	2.35
0.17	2.23	1.17	79.72	2.17	4.15	3.17	2.17

0.33	2.66	1.33	24.38	2.33	3.58	3.33	2.02
0.50	3.32	1.50	12.31	2.50	3.16	3.50	1.88
0.67	4.49	1.67	8.20	2.67	2.83	3.67	1.77
0.83	7.09	1.83	6.16	2.83	2.56	3.83	1.67

CALIB			
NASHYD (8500)	Area (ha)= 11.81	Curve Number (CN)= 75.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.72		

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77
0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.116 (i)

TIME TO PEAK (hrs)= 2.250

RUNOFF VOLUME (mm)= 7.383

TOTAL RAINFALL (mm)= 33.965

RUNOFF COEFFICIENT = 0.217

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

CALIB			
NASHYD (8400)	Area (ha)= 11.21	Curve Number (CN)= 75.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.99		

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77
0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.088 (i)
 TIME TO PEAK (hrs)= 2.583
 RUNOFF VOLUME (mm)= 7.383
 TOTAL RAINFALL (mm)= 33.965
 RUNOFF COEFFICIENT = 0.217

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

CALIB			
NASHYD (8300)	Area (ha)=	8.15	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.80	

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77

0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.074 (i)

TIME TO PEAK (hrs)= 2.333

RUNOFF VOLUME (mm)= 7.383

TOTAL RAINFALL (mm)= 33.965

RUNOFF COEFFICIENT = 0.217

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

ADD HYD (8310)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8300):		8.15	0.074	2.33	7.38
+ ID2= 2 (8400):		11.21	0.088	2.58	7.38
=====					
ID = 3 (8310):		19.36	0.161	2.50	7.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8320)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):		19.36	0.161	2.50	7.38
+ ID2= 2 (8500):		11.81	0.116	2.25	7.38
=====					
ID = 3 (8320):		31.17	0.273	2.42	7.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	Curve Number
NASHYD (8200)		(ha)= 2.88	(CN)= 75.0
ID= 1 DT= 5.0 min		Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
		U.H. Tp(hrs)= 1.21	

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77
0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.020 (i)
 TIME TO PEAK (hrs)= 2.917
 RUNOFF VOLUME (mm)= 7.382
 TOTAL RAINFALL (mm)= 33.965
 RUNOFF COEFFICIENT = 0.217

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

CALIB		Area (ha)= 1.90		Curve Number (CN)= 75.0	
NASHYD (8100)		Ia (mm)= 5.00		# of Linear Res.(N)= 3.00	
ID= 1 DT= 5.0 min		U.H. Tp(hrs)= 0.54			

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77
0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.023 (i)
TIME TO PEAK (hrs)= 2.000
RUNOFF VOLUME (mm)= 7.382
TOTAL RAINFALL (mm)= 33.965
RUNOFF COEFFICIENT = 0.217

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

ADD HYD (8110)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.023	2.00	7.38
+ ID2= 2 (8200):	2.88	0.020	2.92	7.38
=====				
ID = 3 (8110):	4.78	0.037	2.25	7.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area	(ha)=	2.22
STANDHYD (8700)	Total Imp(%)=	60.00	Dir. Conn.(%)= 30.00
ID= 1 DT= 5.0 min			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77

0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Max.Eff.Inten.(mm/hr)= 79.72 74.32
over (min) 5.00 15.00
Storage Coeff. (min)= 3.15 (ii) 11.09 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.09

TOTALS

PEAK FLOW (cms)= 0.14 0.11 0.199 (iii)
TIME TO PEAK (hrs)= 1.33 1.50 1.33
RUNOFF VOLUME (mm)= 32.96 18.67 22.95
TOTAL RAINFALL (mm)= 33.96 33.96 33.96
RUNOFF COEFFICIENT = 0.97 0.55 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (8800) | Area (ha)= 18.91
| ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88

0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77
0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Max.Eff.Inten.(mm/hr)=	79.72	81.57
over (min)	5.00	15.00
Storage Coeff. (min)=	5.98 (ii)	13.64 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.19	0.08

				TOTALS
PEAK FLOW (cms)=	1.25	0.79	1.660 (iii)	
TIME TO PEAK (hrs)=	1.33	1.50	1.33	
RUNOFF VOLUME (mm)=	32.96	19.19	24.01	
TOTAL RAINFALL (mm)=	33.96	33.96	33.96	
RUNOFF COEFFICIENT =	0.97	0.56	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.

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-----
| ADD HYD ( 8710) |
| 1 + 2 = 3 |
-----

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	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):	2.22	0.199	1.33	22.95
+ ID2= 2 (8800):	18.91	1.660	1.33	24.01
=====				
ID = 3 (8710):	21.13	1.860	1.33	23.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8120) |
| 1 + 2 = 3 |
-----

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	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):	4.78	0.037	2.25	7.38
+ ID2= 2 (8710):	21.13	1.860	1.33	23.90
=====				
ID = 3 (8120):	25.91	1.863	1.33	20.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.


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-----
| CALIB |
| STANDHYD ( 8600) |
| ID= 1 DT= 5.0 min |
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Area (ha)= 10.27
Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

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                IMPERVIOUS      PERVIOUS (i)
Surface Area   (ha)=          2.16          8.11
Dep. Storage   (mm)=          1.00          1.50
Average Slope  (%)=          2.00          2.00
Length         (m)=        261.66        250.00
Mannings n     =           0.013         0.250

```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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                ----- TRANSFORMED HYETOGRAPH -----
TIME    RAIN | TIME    RAIN | TIME    RAIN | TIME    RAIN
  hrs   mm/hr |  hrs   mm/hr |  hrs   mm/hr |  hrs   mm/hr
0.083   1.92 | 1.083  18.22 | 2.083   4.95 | 3.08   2.35
0.167   1.92 | 1.167  18.22 | 2.167   4.95 | 3.17   2.35
0.250   2.23 | 1.250  79.72 | 2.250   4.15 | 3.25   2.17
0.333   2.23 | 1.333  79.72 | 2.333   4.15 | 3.33   2.17
0.417   2.66 | 1.417  24.38 | 2.417   3.58 | 3.42   2.02
0.500   2.66 | 1.500  24.38 | 2.500   3.58 | 3.50   2.02
0.583   3.32 | 1.583  12.31 | 2.583   3.16 | 3.58   1.88
0.667   3.32 | 1.667  12.31 | 2.667   3.16 | 3.67   1.88
0.750   4.49 | 1.750   8.20 | 2.750   2.83 | 3.75   1.77
0.833   4.49 | 1.833   8.20 | 2.833   2.83 | 3.83   1.77
0.917   7.09 | 1.917   6.16 | 2.917   2.56 | 3.92   1.67
1.000   7.09 | 2.000   6.16 | 3.000   2.56 | 4.00   1.67

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Max.Eff.Inten.(mm/hr)= 79.72      15.35
over (min)             5.00      50.00
Storage Coeff. (min)= 4.05 (ii)  48.90 (ii)
Unit Hyd. Tpeak (min)= 5.00      50.00
Unit Hyd. peak (cms)= 0.24       0.02

```

TOTALS

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PEAK FLOW (cms)= 0.21      0.19      0.233 (iii)
TIME TO PEAK (hrs)= 1.33      2.17      1.33
RUNOFF VOLUME (mm)= 32.96     14.81     16.62
TOTAL RAINFALL (mm)= 33.96     33.96     33.96
RUNOFF COEFFICIENT = 0.97      0.44      0.49

```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(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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-----
| CALIB |
| STANDHYD ( 8900) | Area (ha)= 2.39
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00
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                IMPERVIOUS    PERVIOUS (i)
Surface Area    (ha)=         0.50         1.89
Dep. Storage    (mm)=         1.00         1.50
Average Slope   (%)=         1.00         2.00
Length          (m)=        126.23        125.00
Mannings n      =           0.013         0.250
  
```

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77
0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

```

Max.Eff.Inten.(mm/hr)= 79.72      20.31
over (min)            5.00        30.00
Storage Coeff. (min)= 3.22 (ii)   29.67 (ii)
Unit Hyd. Tpeak (min)= 5.00        30.00
Unit Hyd. peak (cms)= 0.27         0.04
  
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                *TOTALS*
PEAK FLOW (cms)= 0.05      0.06      0.068 (iii)
TIME TO PEAK (hrs)= 1.33    1.75      1.75
RUNOFF VOLUME (mm)= 32.96   14.81     16.61
TOTAL RAINFALL (mm)= 33.96   33.96     33.96
RUNOFF COEFFICIENT = 0.97    0.44      0.49
  
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

0.083	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77
0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Max.Eff.Inten.(mm/hr)= 79.72 58.04
over (min) 5.00 15.00
Storage Coeff. (min)= 2.40 (ii) 11.17 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.30 0.09

TOTALS
0.071 (iii)

PEAK FLOW (cms)= 0.05 0.04
TIME TO PEAK (hrs)= 1.33 1.50
RUNOFF VOLUME (mm)= 32.96 17.29
TOTAL RAINFALL (mm)= 33.96 33.96
RUNOFF COEFFICIENT = 0.97 0.51 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	102.96	40.00
Mannings n =	0.013	0.250

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77
0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Max.Eff.Inten.(mm/hr)= 79.72 30.42
over (min) 5.00 15.00
Storage Coeff. (min)= 2.85 (ii) 14.21 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.28 0.08

TOTALS

PEAK FLOW (cms)= 0.04 0.07 0.080 (iii)
TIME TO PEAK (hrs)= 1.33 1.50 1.50
RUNOFF VOLUME (mm)= 32.96 14.97 17.30
TOTAL RAINFALL (mm)= 33.96 33.96 33.96
RUNOFF COEFFICIENT = 0.97 0.44 0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
-----

```

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11000):	0.90	0.071	1.33	21.20
+ ID2= 2 (12000):	1.59	0.080	1.50	17.30
=====				
ID = 3 (11010):	2.49	0.148	1.33	18.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):	2.49	0.148	1.33	18.71
+ ID2= 2 (8130):	38.57	2.160	1.33	19.46
=====				
ID = 3 (8140):	41.06	2.308	1.33	19.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area	(ha)=	2.78
STANDHYD (10000)	Total Imp(%)=	50.00	Dir. Conn.(%)= 50.00
ID= 1 DT= 5.0 min			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.39	1.39
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	136.14	40.00
Mannings n =	0.013	0.250

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	1.92	1.083	18.22	2.083	4.95	3.08	2.35
0.167	1.92	1.167	18.22	2.167	4.95	3.17	2.35
0.250	2.23	1.250	79.72	2.250	4.15	3.25	2.17
0.333	2.23	1.333	79.72	2.333	4.15	3.33	2.17
0.417	2.66	1.417	24.38	2.417	3.58	3.42	2.02
0.500	2.66	1.500	24.38	2.500	3.58	3.50	2.02
0.583	3.32	1.583	12.31	2.583	3.16	3.58	1.88
0.667	3.32	1.667	12.31	2.667	3.16	3.67	1.88
0.750	4.49	1.750	8.20	2.750	2.83	3.75	1.77
0.833	4.49	1.833	8.20	2.833	2.83	3.83	1.77
0.917	7.09	1.917	6.16	2.917	2.56	3.92	1.67
1.000	7.09	2.000	6.16	3.000	2.56	4.00	1.67

Max.Eff.Inten.(mm/hr)=	79.72	23.55
over (min)	5.00	20.00
Storage Coeff. (min)=	3.37 (ii)	15.95 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.07

PEAK FLOW (cms)= 0.30 0.05 *TOTALS* 0.314 (iii)

TIME TO PEAK	(hrs)=	1.33	1.58	1.33
RUNOFF VOLUME	(mm)=	32.96	13.64	23.30
TOTAL RAINFALL	(mm)=	33.96	33.96	33.96
RUNOFF COEFFICIENT	=	0.97	0.40	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 10010) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 10000):  2.78    0.314    1.33    23.30
+ ID2= 2 ( 8140): 41.06    2.308    1.33    19.42
=====
ID = 3 ( 10010): 43.84    2.623    1.33    19.66

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| RESERVOIR( 10020) | 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    0.4750    1.4077
0.0360    0.1569    0.5120    1.5638
0.0550    0.3255    0.5460    1.7245
0.0620    0.3843    0.5780    1.8900
0.0810    0.5687    0.6080    2.0600
0.1060    0.6976    0.9880    2.2351
0.1770    0.8304    1.6470    2.4147
0.2750    0.9677    2.9610    2.6944
0.3910    1.1096    4.5710    2.9877
0.4350    1.2563    0.0000    0.0000

          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
INFLOW : ID= 2 ( 10010) 43.840    2.623    1.33    19.66
OUTFLOW: ID= 1 ( 10020) 43.840    0.125    4.25    19.64

```

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.76
TIME SHIFT OF PEAK FLOW (min)=175.00
MAXIMUM STORAGE USED (ha.m.)= 0.7330

```

-----
| ADD HYD ( 10030) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.125	4.25	19.64
+ ID2= 2 (8320):	31.17	0.273	2.42	7.38
=====				
ID = 3 (10030):	75.01	0.360	2.50	14.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
=====
=====
V   V   I   SSSSS U   U   A   L           (v 6.2.2014)
V   V   I   SS    U   U   A A  L
V   V   I   SS    U   U   AAAAA L
V   V   I   SS    U   U   A   A  L
  VV    I   SSSSS UUUUU A   A  LLLLL
000  TTTTT TTTTT H   H   Y   Y   M   M   000  TM
0 0  T   T   H   H   Y   Y   MM MM 0 0
0 0  T   T   H   H   Y   M   M 0 0
000  T   T   H   H   Y   M   M 000

```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\e32d0e
 ed-5a52-4c5c-b167-784b7df990a3\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\e32d0e
 ed-5a52-4c5c-b167-784b7df990a3\scenar

DATE: 07-12-2023

TIME: 10:44:38

USER:

COMMENTS: _____

 ** SIMULATION : 25 Year 4 Hour Chicago **

READ STORM	Filename: C:\Users\kchow\AppData\Local\Temp\140cea51-eb03-4b45-81b6-ecb346f6d6e5\463182a6
Ptotal= 65.28 mm	Comments: 25 Year 4 Hour Chicago

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	4.20	1.00	34.60	2.00	10.23	3.00	5.07
0.17	4.83	1.17	142.50	2.17	8.67	3.17	4.70
0.33	5.70	1.33	45.67	2.33	7.55	3.33	4.39
0.50	7.04	1.50	24.00	2.50	6.70	3.50	4.12
0.67	9.33	1.67	16.40	2.67	6.04	3.67	3.89
0.83	14.31	1.83	12.55	2.83	5.51	3.83	3.68

CALIB	Area (ha)= 11.81	Curve Number (CN)= 75.0
NASHYD (8500)	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp(hrs)= 0.72	

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89

0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.397 (i)
 TIME TO PEAK (hrs)= 2.167
 RUNOFF VOLUME (mm)= 25.069
 TOTAL RAINFALL (mm)= 65.280
 RUNOFF COEFFICIENT = 0.384

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

```

-----
| CALIB |
| NASHYD ( 8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.99

```

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.301 (i)
 TIME TO PEAK (hrs)= 2.583
 RUNOFF VOLUME (mm)= 25.069
 TOTAL RAINFALL (mm)= 65.280
 RUNOFF COEFFICIENT = 0.384

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

```

-----
| CALIB |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
U.H. Tp(hrs)= 0.80

```

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.255 (i)
 TIME TO PEAK (hrs)= 2.333
 RUNOFF VOLUME (mm)= 25.069
 TOTAL RAINFALL (mm)= 65.280
 RUNOFF COEFFICIENT = 0.384

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

```

-----
| ADD HYD ( 8310) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8300):    8.15    0.255    2.33    25.07
+ ID2= 2 ( 8400):   11.21    0.301    2.58    25.07
=====
ID = 3 ( 8310):   19.36    0.550    2.42    25.07

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8320)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):		19.36	0.550	2.42	25.07
+ ID2= 2 (8500):		11.81	0.397	2.17	25.07
=====					
ID = 3 (8320):		31.17	0.938	2.33	25.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	(ha)=	2.88	Curve Number	(CN)=	75.0
NASHYD (8200)		Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00	
ID= 1 DT= 5.0 min		U.H. Tp	(hrs)=	1.21			

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.067 (i)

TIME TO PEAK (hrs)= 2.833

RUNOFF VOLUME (mm)= 25.068

TOTAL RAINFALL (mm)= 65.280

RUNOFF COEFFICIENT = 0.384

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

CALIB		Area	(ha)=	1.90	Curve Number	(CN)=	75.0
NASHYD (8100)		Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00	
ID= 1 DT= 5.0 min							

----- U.H. Tp(hrs)= 0.54

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.078 (i)
 TIME TO PEAK (hrs)= 2.000
 RUNOFF VOLUME (mm)= 25.068
 TOTAL RAINFALL (mm)= 65.280
 RUNOFF COEFFICIENT = 0.384

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

ADD HYD (8110)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.078	2.00	25.07
+ ID2= 2 (8200):	2.88	0.067	2.83	25.07
=====				
ID = 3 (8110):	4.78	0.125	2.25	25.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)=	2.22		
STANDHYD (8700)	Total Imp(%)=	60.00	Dir. Conn.(%)=	30.00
ID= 1 DT= 5.0 min				

IMPERVIOUS PERVIOUS (i)

Surface Area	(ha)=	1.33	0.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.66	40.00
Mannings n	=	0.013	0.250

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Max.Eff.Inten.(mm/hr)=	142.50	179.92
over (min)	5.00	10.00
Storage Coeff. (min)=	2.49 (ii)	8.07 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.13

TOTALS

PEAK FLOW (cms)=	0.26	0.31	0.526 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	64.28	46.10	51.55
TOTAL RAINFALL (mm)=	65.28	65.28	65.28
RUNOFF COEFFICIENT =	0.98	0.71	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB			
STANDHYD (8800)		Area (ha)= 18.91	
ID= 1 DT= 5.0 min		Total Imp(%)= 65.00	Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Max.Eff.Inten.(mm/hr)=	142.50	195.04
over (min)	5.00	15.00
Storage Coeff. (min)=	4.74 (ii)	10.15 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.22	0.10

TOTALS

PEAK FLOW (cms)=	2.37	2.14	3.648 (iii)
TIME TO PEAK (hrs)=	1.33	1.50	1.33
RUNOFF VOLUME (mm)=	64.28	46.91	52.99
TOTAL RAINFALL (mm)=	65.28	65.28	65.28
RUNOFF COEFFICIENT =	0.98	0.72	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 (8710)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):		2.22	0.526	1.33	51.55
+ ID2= 2 (8800):		18.91	3.648	1.33	52.99
=====					
ID = 3 (8710):		21.13	4.174	1.33	52.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):		4.78	0.125	2.25	25.07
+ ID2= 2 (8710):		21.13	4.174	1.33	52.84
=====					
ID = 3 (8120):		25.91	4.189	1.33	47.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)=	Total Imp(%)=	Dir. Conn.(%)=
STANDHYD (8600)		10.27	21.00	10.00
ID= 1 DT= 5.0 min				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89

0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Max.Eff.Inten.(mm/hr)=	142.50	52.57
over (min)	5.00	35.00
Storage Coeff. (min)=	3.21 (ii)	30.62 (ii)
Unit Hyd. Tpeak (min)=	5.00	35.00
Unit Hyd. peak (cms)=	0.27	0.04

TOTALS

PEAK FLOW (cms)=	0.39	0.69	0.734 (iii)
TIME TO PEAK (hrs)=	1.33	1.83	1.83
RUNOFF VOLUME (mm)=	64.28	39.60	42.07
TOTAL RAINFALL (mm)=	65.28	65.28	65.28
RUNOFF COEFFICIENT =	0.98	0.61	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

 | CALIB |
 | STANDHYD (8900) | Area (ha)= 2.39
 | ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39

0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Max.Eff.Inten.(mm/hr)= 142.50 68.14
over (min) 5.00 20.00
Storage Coeff. (min)= 2.55 (ii) 18.85 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.29 0.06

TOTALS
PEAK FLOW (cms)= 0.09 0.22 0.241 (iii)
TIME TO PEAK (hrs)= 1.33 1.58 1.58
RUNOFF VOLUME (mm)= 64.28 39.60 42.07
TOTAL RAINFALL (mm)= 65.28 65.28 65.28
RUNOFF COEFFICIENT = 0.98 0.61 0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (8610)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8600):	10.27	0.734	1.83	42.07
+ ID2= 2 (8900):	2.39	0.241	1.58	42.07
=====				
ID = 3 (8610):	12.66	0.916	1.83	42.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):	25.91	4.189	1.33	47.72
+ ID2= 2 (8610):	12.66	0.916	1.83	42.07
=====				

ID = 3 (8130): 38.57 4.911 1.33 45.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| STANDHYD ( 11000) | Area (ha)= 0.90
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Max. Eff. Inten. (mm/hr)=	142.50	145.21
over (min)	5.00	10.00
Storage Coeff. (min)=	1.90 (ii)	7.98 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.32	0.13

TOTALS

PEAK FLOW (cms)=	0.09	0.13	0.197 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	64.28	43.88	48.98
TOTAL RAINFALL (mm)=	65.28	65.28	65.28
RUNOFF COEFFICIENT =	0.98	0.67	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(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.

CALIB			
STANDHYD (12000)	Area (ha)=	1.59	
ID= 1 DT= 5.0 min	Total Imp(%)=	25.00	Dir. Conn.(%)= 13.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	102.96	40.00
Mannings n =	0.013	0.250

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Max.Eff.Inten.(mm/hr)=	142.50	99.88
over (min)	5.00	10.00
Storage Coeff. (min)=	2.26 (ii)	9.32 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.12

			TOTALS
PEAK FLOW (cms)=	0.08	0.22	0.261 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	64.28	39.89	43.06
TOTAL RAINFALL (mm)=	65.28	65.28	65.28
RUNOFF COEFFICIENT =	0.98	0.61	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3       |
-----
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.197	1.33	48.98
+ ID2= 2 (12000):	1.59	0.261	1.33	43.06
=====				
ID = 3 (11010):	2.49	0.459	1.33	45.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8140) |
| 1 + 2 = 3       |
-----
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11010):	2.49	0.459	1.33	45.20
+ ID2= 2 (8130):	38.57	4.911	1.33	45.86
=====				
ID = 3 (8140):	41.06	5.370	1.33	45.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| CALIB          |
| STANDHYD ( 10000) |
| ID= 1 DT= 5.0 min |
-----
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Area (ha)=	2.78		
Total Imp(%)=	50.00	Dir. Conn.(%)=	50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

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	4.20	1.083	34.60	2.083	10.23	3.08	5.07
0.167	4.20	1.167	34.60	2.167	10.23	3.17	5.07
0.250	4.83	1.250	142.50	2.250	8.67	3.25	4.70
0.333	4.83	1.333	142.50	2.333	8.67	3.33	4.70
0.417	5.70	1.417	45.67	2.417	7.55	3.42	4.39
0.500	5.70	1.500	45.67	2.500	7.55	3.50	4.39
0.583	7.04	1.583	24.00	2.583	6.70	3.58	4.12
0.667	7.04	1.667	24.00	2.667	6.70	3.67	4.12
0.750	9.33	1.750	16.40	2.750	6.04	3.75	3.89
0.833	9.33	1.833	16.40	2.833	6.04	3.83	3.89
0.917	14.31	1.917	12.55	2.917	5.51	3.92	3.68
1.000	14.31	2.000	12.55	3.000	5.51	4.00	3.68

Max.Eff.Inten.(mm/hr)= 142.50 79.66
over (min) 5.00 15.00
Storage Coeff. (min)= 2.67 (ii) 10.40 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.29 0.09

TOTALS

PEAK FLOW (cms)= 0.54 0.18 0.642 (iii)
TIME TO PEAK (hrs)= 1.33 1.50 1.33
RUNOFF VOLUME (mm)= 64.28 37.46 50.87
TOTAL RAINFALL (mm)= 65.28 65.28 65.28
RUNOFF COEFFICIENT = 0.98 0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 (10010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10000):	2.78	0.642	1.33	50.87
+ ID2= 2 (8140):	41.06	5.370	1.33	45.82
=====				
ID = 3 (10010):	43.84	6.012	1.33	46.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR(10020) | OVERFLOW IS OFF

| IN= 2---> OUT= 1 |
 | DT= 5.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4750	1.4077
0.0360	0.1569	0.5120	1.5638
0.0550	0.3255	0.5460	1.7245
0.0620	0.3843	0.5780	1.8900
0.0810	0.5687	0.6080	2.0600
0.1060	0.6976	0.9880	2.2351
0.1770	0.8304	1.6470	2.4147
0.2750	0.9677	2.9610	2.6944
0.3910	1.1096	4.5710	2.9877
0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	6.012	1.33	46.14
OUTFLOW: ID= 1 (10020)	43.840	0.504	3.92	46.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.39
 TIME SHIFT OF PEAK FLOW (min)=155.00
 MAXIMUM STORAGE USED (ha.m.)= 1.5318

| ADD HYD (10030) |
 | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.504	3.92	46.12
+ ID2= 2 (8320):	31.17	0.938	2.33	25.07
=====				
ID = 3 (10030):	75.01	1.399	2.42	37.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

=====
 =====
 =====
 =====

V V I SSSSS U U A L (v 6.2.2014)
 V V I SS U U A A L
 V V I SS U U AAAAA L
 V V I SS U U A A L
 VV I SSSSS UUUU A A LLLLL

```

      000   TTTT   TTTT   H   H   Y   Y   M   M   000   TM
      0   0   T     T   H   H   Y   Y   MM  MM  0   0
      0   0   T     T   H   H   Y     M   M   0   0
      000   T     T   H   H   Y     M   M   000

```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\VO2\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\c15a6d
 d9-ff18-47f2-95ac-5cb32ba85307\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\c15a6d
 d9-ff18-47f2-95ac-5cb32ba85307\scenar

DATE: 07-12-2023

TIME: 10:44:38

USER:

COMMENTS: _____

 ** SIMULATION : 5 Year 4 Hour Chicago **

```

-----
| READ STORM | Filename: C:\Users\kchow\AppData
|             | ata\Local\Temp\
|             | 140cea51-eb03-4b45-81b6-ecb346f6d6e5\87518c91
| Ptotal= 46.39 mm | Comments: 5 Year 4 Hour Chicago
-----

```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	2.83	1.00	24.66	2.00	7.03	3.00	3.43
0.17	3.26	1.17	104.90	2.17	5.94	3.17	3.17
0.33	3.87	1.33	32.75	2.33	5.15	3.33	2.96
0.50	4.80	1.50	16.91	2.50	4.56	3.50	2.77

0.67	6.41	1.67	11.43	2.67	4.10	3.67	2.61
0.83	9.94	1.83	8.68	2.83	3.73	3.83	2.47

```

-----
| CALIB |
| NASHYD ( 8500) | Area (ha)= 11.81 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.72

```

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 2.83 | 1.083 24.66 | 2.083 7.03 | 3.08 3.43
0.167 2.83 | 1.167 24.66 | 2.167 7.03 | 3.17 3.43
0.250 3.26 | 1.250 104.90 | 2.250 5.94 | 3.25 3.17
0.333 3.26 | 1.333 104.90 | 2.333 5.94 | 3.33 3.17
0.417 3.87 | 1.417 32.75 | 2.417 5.15 | 3.42 2.96
0.500 3.87 | 1.500 32.75 | 2.500 5.15 | 3.50 2.96
0.583 4.80 | 1.583 16.91 | 2.583 4.56 | 3.58 2.77
0.667 4.80 | 1.667 16.91 | 2.667 4.56 | 3.67 2.77
0.750 6.41 | 1.750 11.43 | 2.750 4.10 | 3.75 2.61
0.833 6.41 | 1.833 11.43 | 2.833 4.10 | 3.83 2.61
0.917 9.94 | 1.917 8.68 | 2.917 3.73 | 3.92 2.47
1.000 9.94 | 2.000 8.68 | 3.000 3.73 | 4.00 2.47

```

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.214 (i)
 TIME TO PEAK (hrs)= 2.250
 RUNOFF VOLUME (mm)= 13.592
 TOTAL RAINFALL (mm)= 46.393
 RUNOFF COEFFICIENT = 0.293

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

```

-----
| CALIB |
| NASHYD ( 8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.99

```

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47
1.000	9.94	2.000	8.68	3.000	3.73	4.00	2.47

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.162 (i)
 TIME TO PEAK (hrs)= 2.583
 RUNOFF VOLUME (mm)= 13.592
 TOTAL RAINFALL (mm)= 46.393
 RUNOFF COEFFICIENT = 0.293

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

 | CALIB |
 | NASHYD (8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

 U.H. Tp(hrs)= 0.80

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47

1.000 9.94 | 2.000 8.68 | 3.000 3.73 | 4.00 2.47

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.137 (i)
 TIME TO PEAK (hrs)= 2.333
 RUNOFF VOLUME (mm)= 13.592
 TOTAL RAINFALL (mm)= 46.393
 RUNOFF COEFFICIENT = 0.293

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

```

-----
| ADD HYD ( 8310) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8300):    8.15    0.137    2.33    13.59
+ ID2= 2 ( 8400):   11.21    0.162    2.58    13.59
=====
ID = 3 ( 8310):   19.36    0.296    2.50    13.59
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8320) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8310):   19.36    0.296    2.50    13.59
+ ID2= 2 ( 8500):   11.81    0.214    2.25    13.59
=====
ID = 3 ( 8320):   31.17    0.505    2.33    13.59
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB
| NASHYD ( 8200) | Area (ha)= 2.88 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
          U.H. Tp(hrs)= 1.21
  
```

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   2.83 | 1.083   24.66 | 2.083   7.03 | 3.08    3.43
  
```

0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47
1.000	9.94	2.000	8.68	3.000	3.73	4.00	2.47

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.036 (i)
 TIME TO PEAK (hrs)= 2.917
 RUNOFF VOLUME (mm)= 13.591
 TOTAL RAINFALL (mm)= 46.393
 RUNOFF COEFFICIENT = 0.293

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

 | CALIB |
 | NASHYD (8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 ----- U.H. Tp(hrs)= 0.54

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47
1.000	9.94	2.000	8.68	3.000	3.73	4.00	2.47

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.042 (i)
 TIME TO PEAK (hrs)= 2.000
 RUNOFF VOLUME (mm)= 13.591
 TOTAL RAINFALL (mm)= 46.393
 RUNOFF COEFFICIENT = 0.293

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

ADD HYD (8110)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.042	2.00	13.59
+ ID2= 2 (8200):	2.88	0.036	2.92	13.59
=====				
ID = 3 (8110):	4.78	0.068	2.25	13.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8700)			
ID= 1 DT= 5.0 min			

Area	(ha)=	2.22	
Total Imp(%)	=	60.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.33	0.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.66	40.00
Mannings n	=	0.013	0.250

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47

1.000 9.94 | 2.000 8.68 | 3.000 3.73 | 4.00 2.47

Max.Eff.Inten.(mm/hr)=	104.90	114.94	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.82 (ii)	9.49 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.28	0.12	
			TOTALS
PEAK FLOW (cms)=	0.19	0.18	0.342 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	45.39	29.14	34.02
TOTAL RAINFALL (mm)=	46.39	46.39	46.39
RUNOFF COEFFICIENT =	0.98	0.63	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB	
STANDHYD (8800)	Area (ha)= 18.91
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61

0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47
1.000	9.94	2.000	8.68	3.000	3.73	4.00	2.47

Max.Eff.Inten.(mm/hr)=	104.90	125.39
over (min)	5.00	15.00
Storage Coeff. (min)=	5.36 (ii)	11.81 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.21	0.09

			TOTALS
PEAK FLOW (cms)=	1.69	1.30	2.417 (iii)
TIME TO PEAK (hrs)=	1.33	1.50	1.33
RUNOFF VOLUME (mm)=	45.39	29.81	35.26
TOTAL RAINFALL (mm)=	46.39	46.39	46.39
RUNOFF COEFFICIENT =	0.98	0.64	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 ( 8710) |
| 1 + 2 = 3      |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8700):	2.22	0.342	1.33	34.02
+ ID2= 2 (8800):	18.91	2.417	1.33	35.26
=====				
ID = 3 (8710):	21.13	2.759	1.33	35.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8120) |
| 1 + 2 = 3      |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8110):	4.78	0.068	2.25	13.59
+ ID2= 2 (8710):	21.13	2.759	1.33	35.13
=====				
ID = 3 (8120):	25.91	2.766	1.33	31.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB          |
-----

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| STANDHYD (8600) | Area (ha)= 10.27
 | ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47
1.000	9.94	2.000	8.68	3.000	3.73	4.00	2.47

Max.Eff.Inten.(mm/hr)=	104.90	29.12
over (min)	5.00	40.00
Storage Coeff. (min)=	3.63 (ii)	38.34 (ii)
Unit Hyd. Tpeak (min)=	5.00	40.00
Unit Hyd. peak (cms)=	0.25	0.03

			TOTALS
PEAK FLOW	(cms)=	0.28	0.36
TIME TO PEAK	(hrs)=	1.33	1.92
RUNOFF VOLUME	(mm)=	45.39	26.20
TOTAL RAINFALL	(mm)=	46.39	46.39
RUNOFF COEFFICIENT	=	0.98	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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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-----
| CALIB |
| STANDHYD ( 8900) |
| ID= 1 DT= 5.0 min |
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Area (ha)= 2.39
Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

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                IMPERVIOUS      PERVIOUS (i)
Surface Area (ha)= 0.50          1.89
Dep. Storage (mm)= 1.00          1.50
Average Slope (%)= 1.00          2.00
Length (m)= 126.23              125.00
Mannings n = 0.013              0.250

```

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47
1.000	9.94	2.000	8.68	3.000	3.73	4.00	2.47

```

Max.Eff.Inten.(mm/hr)= 104.90          41.91
over (min)              5.00          25.00
Storage Coeff. (min)= 2.88 (ii)        22.68 (ii)
Unit Hyd. Tpeak (min)= 5.00          25.00
Unit Hyd. peak (cms)= 0.28           0.05

```

TOTALS

```

PEAK FLOW (cms)= 0.07          0.12          0.131 (iii)
TIME TO PEAK (hrs)= 1.33          1.67          1.67
RUNOFF VOLUME (mm)= 45.39          24.07          26.20
TOTAL RAINFALL (mm)= 46.39          46.39          46.39
RUNOFF COEFFICIENT = 0.98          0.52          0.56

```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(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 (8610)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8600):		10.27	0.387	1.92	26.20
+ ID2= 2 (8900):		2.39	0.131	1.67	26.20
=====					
ID = 3 (8610):		12.66	0.491	1.92	26.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):		25.91	2.766	1.33	31.16
+ ID2= 2 (8610):		12.66	0.491	1.92	26.20
=====					
ID = 3 (8130):		38.57	3.212	1.33	29.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	(ha)=	0.90
STANDHYD (11000)		Total Imp(%)=	50.00	Dir. Conn.(%)= 25.00
ID= 1 DT= 5.0 min				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43

0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47
1.000	9.94	2.000	8.68	3.000	3.73	4.00	2.47

Max.Eff.Inten.(mm/hr)= 104.90 91.23
over (min) 5.00 10.00
Storage Coeff. (min)= 2.15 (ii) 9.47 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.31 0.12

TOTALS

PEAK FLOW (cms)= 0.07 0.07 0.126 (iii)
TIME TO PEAK (hrs)= 1.33 1.42 1.33
RUNOFF VOLUME (mm)= 45.39 27.37 31.87
TOTAL RAINFALL (mm)= 46.39 46.39 46.39
RUNOFF COEFFICIENT = 0.98 0.59 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47
1.000	9.94	2.000	8.68	3.000	3.73	4.00	2.47

Max.Eff.Inten.(mm/hr)= 104.90 60.94
over (min) 5.00 15.00
Storage Coeff. (min)= 2.55 (ii) 11.15 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.29 0.09

TOTALS
0.137 (iii)

PEAK FLOW (cms)= 0.06 0.12
TIME TO PEAK (hrs)= 1.33 1.50
RUNOFF VOLUME (mm)= 45.39 24.29
TOTAL RAINFALL (mm)= 46.39 46.39
RUNOFF COEFFICIENT = 0.98 0.52 0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (11010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11000):	0.90	0.126	1.33	31.87
+ ID2= 2 (12000):	1.59	0.137	1.50	27.03
=====				
ID = 3 (11010):	2.49	0.248	1.33	28.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):		2.49	0.248	1.33	28.78
+ ID2= 2 (8130):		38.57	3.212	1.33	29.53
=====					
ID = 3 (8140):		41.06	3.460	1.33	29.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)=	2.78
STANDHYD (10000)		Total Imp(%)=	50.00
ID= 1 DT= 5.0 min		Dir. Conn.(%)=	50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.39	1.39
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	136.14	40.00
Mannings n =	0.013	0.250

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	2.83	1.083	24.66	2.083	7.03	3.08	3.43
0.167	2.83	1.167	24.66	2.167	7.03	3.17	3.43
0.250	3.26	1.250	104.90	2.250	5.94	3.25	3.17
0.333	3.26	1.333	104.90	2.333	5.94	3.33	3.17
0.417	3.87	1.417	32.75	2.417	5.15	3.42	2.96
0.500	3.87	1.500	32.75	2.500	5.15	3.50	2.96
0.583	4.80	1.583	16.91	2.583	4.56	3.58	2.77
0.667	4.80	1.667	16.91	2.667	4.56	3.67	2.77
0.750	6.41	1.750	11.43	2.750	4.10	3.75	2.61
0.833	6.41	1.833	11.43	2.833	4.10	3.83	2.61
0.917	9.94	1.917	8.68	2.917	3.73	3.92	2.47
1.000	9.94	2.000	8.68	3.000	3.73	4.00	2.47

Max.Eff.Inten.(mm/hr)=	104.90	47.76
over (min)	5.00	15.00
Storage Coeff. (min)=	3.02 (ii)	12.50 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.08

TOTALS

PEAK FLOW (cms)=	0.39	0.10	0.446 (iii)
TIME TO PEAK (hrs)=	1.33	1.50	1.33
RUNOFF VOLUME (mm)=	45.39	22.46	33.93

TOTAL RAINFALL (mm)= 46.39 46.39 46.39
 RUNOFF COEFFICIENT = 0.98 0.48 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 (10010)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (10000):	2.78	0.446	1.33	33.93
+ ID2= 2 (8140):	41.06	3.460	1.33	29.48
=====				
ID = 3 (10010):	43.84	3.906	1.33	29.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(10020)	OVERFLOW IS OFF			
IN= 2---> OUT= 1	OUTFLOW		STORAGE	
DT= 5.0 min	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.4750	1.4077
	0.0360	0.1569	0.5120	1.5638
	0.0550	0.3255	0.5460	1.7245
	0.0620	0.3843	0.5780	1.8900
	0.0810	0.5687	0.6080	2.0600
	0.1060	0.6976	0.9880	2.2351
	0.1770	0.8304	1.6470	2.4147
	0.2750	0.9677	2.9610	2.6944
	0.3910	1.1096	4.5710	2.9877
	0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	3.906	1.33	29.77
OUTFLOW: ID= 1 (10020)	43.840	0.322	4.00	29.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.25
 TIME SHIFT OF PEAK FLOW (min)=160.00
 MAXIMUM STORAGE USED (ha.m.)= 1.0257

```

-----
| ADD HYD ( 10030)|
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.322	4.00	29.74
+ ID2= 2 (8320):	31.17	0.505	2.33	13.59
=====				
ID = 3 (10030):	75.01	0.742	2.58	23.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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=====
=====
V   V   I   SSSSS  U   U   A   L           (v 6.2.2014)
V   V   I   SS    U   U   A A  L
V   V   I   SS    U   U   AAAAA L
V   V   I   SS    U   U   A   A  L
  VV    I   SSSSS  UUUUU  A   A  LLLLL
000  TTTTT  TTTTT  H   H   Y   Y  M   M  000  TM
0  0  T    T    H   H   Y Y  MM MM  0  0
0  0  T    T    H   H   Y   M   M  0  0
000  T    T    H   H   Y   M   M  000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\VO2\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\c27a56
 09-416d-42a0-bc83-3cd222977a75\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\c27a56
 09-416d-42a0-bc83-3cd222977a75\scenar

DATE: 07-12-2023

TIME: 10:44:38

USER:

COMMENTS: _____

 ** SIMULATION : 50 Year 4 Hour Chicago **

READ STORM	Filename: C:\Users\kchow\AppData\Local\Temp\140cea51-eb03-4b45-81b6-ecb346f6d6e5\84e67081
Ptotal= 73.42 mm	Comments: 50 Year 4 Hour Chicago

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	4.82	1.00	38.87	2.00	11.64	3.00	5.81
0.17	5.53	1.17	158.06	2.17	9.88	3.17	5.39
0.33	6.53	1.33	51.19	2.33	8.62	3.33	5.04
0.50	8.04	1.50	27.08	2.50	7.66	3.50	4.73
0.67	10.63	1.67	18.58	2.67	6.91	3.67	4.46
0.83	16.23	1.83	14.26	2.83	6.31	3.83	4.23

CALIB	Area (ha)= 11.81	Curve Number (CN)= 75.0
NASHYD (8500)	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp(hrs)= 0.72	

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	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.485 (i)
TIME TO PEAK (hrs)= 2.167
RUNOFF VOLUME (mm)= 30.577
TOTAL RAINFALL (mm)= 73.417
RUNOFF COEFFICIENT = 0.416

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

| CALIB |
| NASHYD (8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 0.99

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	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.368 (i)
TIME TO PEAK (hrs)= 2.583
RUNOFF VOLUME (mm)= 30.577
TOTAL RAINFALL (mm)= 73.417
RUNOFF COEFFICIENT = 0.416

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

| CALIB |

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| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
U.H. Tp(hrs)= 0.80

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.311 (i)
TIME TO PEAK (hrs)= 2.333
RUNOFF VOLUME (mm)= 30.577
TOTAL RAINFALL (mm)= 73.417
RUNOFF COEFFICIENT = 0.416

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

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-----
| ADD HYD ( 8310) |
| 1 + 2 = 3 |
-----

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	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8300):	8.15	0.311	2.33	30.58
+ ID2= 2 (8400):	11.21	0.368	2.58	30.58
=====				
ID = 3 (8310):	19.36	0.672	2.42	30.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8320) |
| 1 + 2 = 3 |
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	AREA	QPEAK	TPEAK	R.V.
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	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):	19.36	0.672	2.42	30.58
+ ID2= 2 (8500):	11.81	0.485	2.17	30.58
=====				
ID = 3 (8320):	31.17	1.145	2.33	30.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)= 2.88		Curve Number (CN)= 75.0	
NASHYD (8200)		Ia (mm)= 5.00		# of Linear Res.(N)= 3.00	
ID= 1 DT= 5.0 min		U.H. Tp(hrs)= 1.21			

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	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.082 (i)
 TIME TO PEAK (hrs)= 2.833
 RUNOFF VOLUME (mm)= 30.576
 TOTAL RAINFALL (mm)= 73.417
 RUNOFF COEFFICIENT = 0.416

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

CALIB		Area (ha)= 1.90		Curve Number (CN)= 75.0	
NASHYD (8100)		Ia (mm)= 5.00		# of Linear Res.(N)= 3.00	
ID= 1 DT= 5.0 min		U.H. Tp(hrs)= 0.54			

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	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.095 (i)
 TIME TO PEAK (hrs)= 2.000
 RUNOFF VOLUME (mm)= 30.575
 TOTAL RAINFALL (mm)= 73.417
 RUNOFF COEFFICIENT = 0.416

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

ADD HYD (8110)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.095	2.00	30.58
+ ID2= 2 (8200):	2.88	0.082	2.83	30.58
=====				
ID = 3 (8110):	4.78	0.153	2.25	30.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area	(ha)=	2.22
STANDHYD (8700)	Total Imp(%)=	60.00	Dir. Conn.(%)= 30.00
ID= 1 DT= 5.0 min			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50

Average Slope (%)= 1.00 2.00
 Length (m)= 121.66 40.00
 Mannings n = 0.013 0.250

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	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Max.Eff.Inten.(mm/hr)= 158.06 207.85
 over (min) 5.00 10.00
 Storage Coeff. (min)= 2.39 (ii) 7.66 (ii)
 Unit Hyd. Tpeak (min)= 5.00 10.00
 Unit Hyd. peak (cms)= 0.30 0.13

TOTALS

PEAK FLOW (cms)= 0.29 0.36 0.607 (iii)
 TIME TO PEAK (hrs)= 1.33 1.42 1.33
 RUNOFF VOLUME (mm)= 72.42 53.63 59.26
 TOTAL RAINFALL (mm)= 73.42 73.42 73.42
 RUNOFF COEFFICIENT = 0.99 0.73 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

 | CALIB |
 | STANDHYD (8800) |
ID= 1 DT= 5.0 min

Area (ha)= 18.91
 Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

IMPERVIOUS PERVIOUS (i)

Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Max.Eff.Inten.(mm/hr)=	158.06	224.86
over (min)	5.00	10.00
Storage Coeff. (min)=	4.55 (ii)	9.65 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.23	0.11

TOTALS

PEAK FLOW (cms)=	2.66	2.67	4.945 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	72.42	54.49	60.77
TOTAL RAINFALL (mm)=	73.42	73.42	73.42
RUNOFF COEFFICIENT =	0.99	0.74	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 (8710) |
| 1 + 2 = 3 |

AREA QPEAK TPEAK R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):	2.22	0.607	1.33	59.26
+ ID2= 2 (8800):	18.91	4.945	1.33	60.77
=====				
ID = 3 (8710):	21.13	5.553	1.33	60.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):	4.78	0.153	2.25	30.58
+ ID2= 2 (8710):	21.13	5.553	1.33	60.61
=====				
ID = 3 (8120):	25.91	5.572	1.33	55.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (8600)				
ID= 1 DT= 5.0 min				
Area	(ha)=	10.27		
Total Imp(%)	=	21.00	Dir. Conn.(%)=	10.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.16	8.11
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	2.00	2.00
Length (m)=	261.66	250.00
Mannings n =	0.013	0.250

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	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Max.Eff.Inten.(mm/hr)=	158.06	68.76	
over (min)	5.00	30.00	
Storage Coeff. (min)=	3.08 (ii)	27.70 (ii)	
Unit Hyd. Tpeak (min)=	5.00	30.00	
Unit Hyd. peak (cms)=	0.27	0.04	
			TOTALS
PEAK FLOW (cms)=	0.44	0.87	0.929 (iii)
TIME TO PEAK (hrs)=	1.33	1.75	1.75
RUNOFF VOLUME (mm)=	72.42	46.65	49.22
TOTAL RAINFALL (mm)=	73.42	73.42	73.42
RUNOFF COEFFICIENT =	0.99	0.64	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

 | CALIB |
 | STANDHYD (8900) | Area (ha)= 2.39
 | ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73

0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Max.Eff.Inten.(mm/hr)= 158.06 90.96
over (min) 5.00 20.00
Storage Coeff. (min)= 2.45 (ii) 16.97 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.30 0.06

TOTALS

PEAK FLOW (cms)= 0.10 0.28 0.296 (iii)
TIME TO PEAK (hrs)= 1.33 1.58 1.58
RUNOFF VOLUME (mm)= 72.42 46.65 49.22
TOTAL RAINFALL (mm)= 73.42 73.42 73.42
RUNOFF COEFFICIENT = 0.99 0.64 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8600):	10.27	0.929	1.75	49.22
+ ID2= 2 (8900):	2.39	0.296	1.58	49.22
=====				
ID = 3 (8610):	12.66	1.173	1.75	49.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8130) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8120):	25.91	5.572	1.33	55.07
+ ID2= 2 (8610):	12.66	1.173	1.75	49.22
=====				
ID = 3 (8130):	38.57	6.457	1.33	53.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (11000)	Area (ha)=	0.90	
ID= 1 DT= 5.0 min	Total Imp(%)=	50.00	Dir. Conn.(%)= 25.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.45	0.45
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	77.46	40.00
Mannings n =	0.013	0.250

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	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Max.Eff.Inten.(mm/hr)=	158.06	168.66
over (min)	5.00	10.00
Storage Coeff. (min)=	1.82 (ii)	7.55 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.32	0.13

			TOTALS
PEAK FLOW (cms)=	0.10	0.15	0.229 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	72.42	51.26	56.55
TOTAL RAINFALL (mm)=	73.42	73.42	73.42
RUNOFF COEFFICIENT =	0.99	0.70	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00
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                IMPERVIOUS      PERVIOUS (i)
Surface Area    (ha)=          0.40          1.19
Dep. Storage    (mm)=          1.00          1.50
Average Slope   (%)=          1.00          2.00
Length          (m)=        102.96          40.00
Mannings n     =           0.013          0.250
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----
      TIME    RAIN | TIME    RAIN | TIME    RAIN | TIME    RAIN
      hrs    mm/hr | hrs    mm/hr | hrs    mm/hr | hrs    mm/hr
0.083    4.82 | 1.083   38.87 | 2.083   11.64 | 3.08    5.81
0.167    4.82 | 1.167   38.87 | 2.167   11.64 | 3.17    5.81
0.250    5.53 | 1.250  158.06 | 2.250    9.88 | 3.25    5.39
0.333    5.53 | 1.333  158.06 | 2.333    9.88 | 3.33    5.39
0.417    6.53 | 1.417   51.19 | 2.417    8.62 | 3.42    5.04
0.500    6.53 | 1.500   51.19 | 2.500    8.62 | 3.50    5.04
0.583    8.04 | 1.583   27.08 | 2.583    7.66 | 3.58    4.73
0.667    8.04 | 1.667   27.08 | 2.667    7.66 | 3.67    4.73
0.750   10.63 | 1.750   18.58 | 2.750    6.91 | 3.75    4.46
0.833   10.63 | 1.833   18.58 | 2.833    6.91 | 3.83    4.46
0.917   16.23 | 1.917   14.26 | 2.917    6.31 | 3.92    4.23
1.000   16.23 | 2.000   14.26 | 3.000    6.31 | 4.00    4.23
  
```

```

Max.Eff.Inten.(mm/hr)= 158.06      117.12
over (min)            5.00         10.00
Storage Coeff. (min)= 2.16 (ii)    8.79 (ii)
Unit Hyd. Tpeak (min)= 5.00         10.00
Unit Hyd. peak (cms)= 0.31          0.12
  
```

TOTALS

```

PEAK FLOW (cms)= 0.09      0.26      0.310 (iii)
TIME TO PEAK (hrs)= 1.33    1.42      1.33
RUNOFF VOLUME (mm)= 72.42   46.96   50.27
TOTAL RAINFALL (mm)= 73.42   73.42   73.42
RUNOFF COEFFICIENT = 0.99    0.64    0.68
  
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

0.083	4.82	1.083	38.87	2.083	11.64	3.08	5.81
0.167	4.82	1.167	38.87	2.167	11.64	3.17	5.81
0.250	5.53	1.250	158.06	2.250	9.88	3.25	5.39
0.333	5.53	1.333	158.06	2.333	9.88	3.33	5.39
0.417	6.53	1.417	51.19	2.417	8.62	3.42	5.04
0.500	6.53	1.500	51.19	2.500	8.62	3.50	5.04
0.583	8.04	1.583	27.08	2.583	7.66	3.58	4.73
0.667	8.04	1.667	27.08	2.667	7.66	3.67	4.73
0.750	10.63	1.750	18.58	2.750	6.91	3.75	4.46
0.833	10.63	1.833	18.58	2.833	6.91	3.83	4.46
0.917	16.23	1.917	14.26	2.917	6.31	3.92	4.23
1.000	16.23	2.000	14.26	3.000	6.31	4.00	4.23

Max.Eff.Inten.(mm/hr)= 158.06 93.95
over (min) 5.00 10.00
Storage Coeff. (min)= 2.56 (ii) 9.80 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.29 0.11

TOTALS

PEAK FLOW (cms)= 0.60 0.23 0.793 (iii)
TIME TO PEAK (hrs)= 1.33 1.42 1.33
RUNOFF VOLUME (mm)= 72.42 44.30 58.36
TOTAL RAINFALL (mm)= 73.42 73.42 73.42
RUNOFF COEFFICIENT = 0.99 0.60 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 10010) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 10000):  2.78    0.793    1.33    58.36
+ ID2= 2 ( 8140): 41.06    6.996    1.33    53.11
=====
ID = 3 ( 10010): 43.84    7.789    1.33    53.44

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| RESERVOIR( 10020) | 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	0.4750	1.4077
0.0360	0.1569	0.5120	1.5638
0.0550	0.3255	0.5460	1.7245
0.0620	0.3843	0.5780	1.8900
0.0810	0.5687	0.6080	2.0600
0.1060	0.6976	0.9880	2.2351
0.1770	0.8304	1.6470	2.4147
0.2750	0.9677	2.9610	2.6944
0.3910	1.1096	4.5710	2.9877
0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	7.789	1.33	53.44
OUTFLOW: ID= 1 (10020)	43.840	0.558	4.00	53.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.16
 TIME SHIFT OF PEAK FLOW (min)=160.00
 MAXIMUM STORAGE USED (ha.m.)= 1.7867

ADD HYD (10030)				
1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.558	4.00	53.42
+ ID2= 2 (8320):	31.17	1.145	2.33	30.58
=====				
ID = 3 (10030):	75.01	1.660	2.33	43.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

000 TTTTT TTTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\V02\voin.dat
Output filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\80ea07
d1-a83e-4d14-9089-345be774f355\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\80ea07
d1-a83e-4d14-9089-345be774f355\scenar

DATE: 07-12-2023 TIME: 10:45:44

USER:

COMMENTS: _____

** SIMULATION : 10 Year 12 Hour SCS **

| READ STORM | Filename: C:\Users\kchow\AppData
| | ata\Local\Temp\

| Ptotal= 68.16 mm |

61a7af16-9004-4fb5-99f9-32bc32492ea1\10fcb708

Comments: 10 Year 12 Hour SCS

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.46	3.00	2.76	6.00	10.13	9.00	2.30
0.17	0.92	3.17	2.76	6.17	7.83	9.17	1.84
0.33	1.38	3.33	2.76	6.33	5.53	9.33	1.38
0.50	1.38	3.50	3.22	6.50	5.07	9.50	1.38
0.67	1.38	3.67	3.69	6.67	4.61	9.67	1.38
0.83	1.38	3.83	4.15	6.83	4.15	9.83	1.38
1.00	1.38	4.00	4.61	7.00	4.15	10.00	1.38
1.17	1.38	4.17	5.07	7.17	4.15	10.17	1.38
1.33	1.38	4.33	5.53	7.33	4.15	10.33	1.38
1.50	1.84	4.50	6.45	7.50	3.69	10.50	1.38
1.67	2.30	4.67	7.37	7.67	3.22	10.67	1.38
1.83	2.76	4.83	8.29	7.83	2.76	10.83	1.38
2.00	2.76	5.00	26.26	8.00	2.76	11.00	1.38
2.17	2.76	5.17	44.22	8.17	2.76	11.17	1.38
2.33	2.76	5.33	62.19	8.33	2.76	11.33	1.38
2.50	2.76	5.50	45.61	8.50	2.76		
2.67	2.76	5.67	29.02	8.67	2.76		
2.83	2.76	5.83	12.44	8.83	2.76		

 | CALIB
 | NASHYD (8500)
 | ID= 1 DT= 5.0 min |

Area (ha)= 11.81 Curve Number (CN)= 75.0
 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= 0.72

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38

1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.371 (i)

TIME TO PEAK (hrs)= 6.333

RUNOFF VOLUME (mm)= 26.987

TOTAL RAINFALL (mm)= 68.163

RUNOFF COEFFICIENT = 0.396

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

CALIB			
NASHYD (8400)	Area (ha)= 11.21	Curve Number (CN)= 75.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.99		

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76

0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.281 (i)

TIME TO PEAK (hrs)= 6.667

RUNOFF VOLUME (mm)= 26.987

TOTAL RAINFALL (mm)= 68.163

RUNOFF COEFFICIENT = 0.396

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

CALIB			
NASHYD (8300)	Area (ha)=	8.15	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.80	

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.238 (i)
 TIME TO PEAK (hrs)= 6.417
 RUNOFF VOLUME (mm)= 26.987
 TOTAL RAINFALL (mm)= 68.163
 RUNOFF COEFFICIENT = 0.396

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

ADD HYD (8310)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8300):	8.15	0.238	6.42	26.99
+ ID2= 2 (8400):	11.21	0.281	6.67	26.99
=====				
ID = 3 (8310):	19.36	0.515	6.50	26.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8320)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):	19.36	0.515	6.50	26.99
+ ID2= 2 (8500):	11.81	0.371	6.33	26.99
=====				
ID = 3 (8320):	31.17	0.878	6.42	26.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (8200)				
ID= 1 DT= 5.0 min				

Area	(ha)=	2.88	Curve Number	(CN)= 75.0
Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp	(hrs)=	1.21		

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38

1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.062 (i)
 TIME TO PEAK (hrs)= 6.917
 RUNOFF VOLUME (mm)= 26.987
 TOTAL RAINFALL (mm)= 68.163
 RUNOFF COEFFICIENT = 0.396

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

CALIB			
NASHYD (8100)	Area (ha)=	1.90	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.54	

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76

0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.072 (i)

TIME TO PEAK (hrs)= 6.083

RUNOFF VOLUME (mm)= 26.986

TOTAL RAINFALL (mm)= 68.163

RUNOFF COEFFICIENT = 0.396

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

 | ADD HYD (8110) |
1 + 2 = 3

AREA QPEAK TPEAK R.V.
 (ha) (cms) (hrs) (mm)

ID1= 1 (8100):	1.90	0.072	6.08	26.99
+ ID2= 2 (8200):	2.88	0.062	6.92	26.99
=====				
ID = 3 (8110):	4.78	0.119	6.33	26.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8700)	Area (ha)=	2.22	
ID= 1 DT= 5.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.33	0.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.66	40.00
Mannings n	=	0.013	0.250

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38

2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Max.Eff.Inten.(mm/hr)= 62.19 86.58
over (min) 5.00 15.00
Storage Coeff. (min)= 3.47 (ii) 10.95 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.26 0.09

TOTALS

PEAK FLOW (cms)= 0.11 0.17 0.255 (iii)
TIME TO PEAK (hrs)= 5.50 5.67 5.67
RUNOFF VOLUME (mm)= 67.16 48.75 54.27
TOTAL RAINFALL (mm)= 68.16 68.16 68.16
RUNOFF COEFFICIENT = 0.99 0.72 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (8800) |
| ID= 1 DT= 5.0 min |

Area (ha)= 18.91
Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Max.Eff.Inten.(mm/hr)=	62.19	93.42
over (min)	5.00	15.00
Storage Coeff. (min)=	6.61 (ii)	13.86 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.18	0.08

			TOTALS
PEAK FLOW (cms)=	1.05	1.27	2.155 (iii)
TIME TO PEAK (hrs)=	5.50	5.67	5.67
RUNOFF VOLUME (mm)=	67.16	49.59	55.74
TOTAL RAINFALL (mm)=	68.16	68.16	68.16
RUNOFF COEFFICIENT =	0.99	0.73	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 (8710)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):		2.22	0.255	5.67	54.27
+ ID2= 2 (8800):		18.91	2.155	5.67	55.74
=====					
ID = 3 (8710):		21.13	2.410	5.67	55.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):		4.78	0.119	6.33	26.99
+ ID2= 2 (8710):		21.13	2.410	5.67	55.58
=====					
ID = 3 (8120):		25.91	2.468	5.67	50.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	(ha)=	10.27
STANDHYD (8600)		Total Imp(%)=	21.00	Dir. Conn.(%)= 10.00
ID= 1 DT= 5.0 min				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76

0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Max.Eff.Inten.(mm/hr)=	62.19	37.14
over (min)	5.00	40.00
Storage Coeff. (min)=	4.47 (ii)	35.97 (ii)
Unit Hyd. Tpeak (min)=	5.00	40.00
Unit Hyd. peak (cms)=	0.23	0.03

TOTALS

PEAK FLOW (cms)=	0.17	0.52	0.553 (iii)
TIME TO PEAK (hrs)=	5.50	6.17	6.08
RUNOFF VOLUME (mm)=	67.16	42.08	44.59
TOTAL RAINFALL (mm)=	68.16	68.16	68.16
RUNOFF COEFFICIENT =	0.99	0.62	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

CALIB	
STANDHYD (8900)	Area (ha)= 2.39
ID= 1 DT= 5.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	1.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	126.23	125.00
Mannings n =	0.013	0.250

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38

2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Max.Eff.Inten.(mm/hr)= 62.19 43.76
over (min) 5.00 25.00
Storage Coeff. (min)= 3.55 (ii) 23.01 (ii)
Unit Hyd. Tpeak (min)= 5.00 25.00
Unit Hyd. peak (cms)= 0.26 0.05

TOTALS

PEAK FLOW (cms)= 0.04 0.15 0.173 (iii)
TIME TO PEAK (hrs)= 5.50 5.92 5.83
RUNOFF VOLUME (mm)= 67.16 42.08 44.58
TOTAL RAINFALL (mm)= 68.16 68.16 68.16
RUNOFF COEFFICIENT = 0.99 0.62 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8600):	10.27	0.553	6.08	44.59
+ ID2= 2 (8900):	2.39	0.173	5.83	44.58
=====				
ID = 3 (8610):	12.66	0.700	6.08	44.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8130) |
| 1 + 2 = 3 |
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	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):	25.91	2.468	5.67	50.31
+ ID2= 2 (8610):	12.66	0.700	6.08	44.58
=====				
ID = 3 (8130):	38.57	3.045	5.67	48.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (11000)	Area (ha)=	0.90		
ID= 1 DT= 5.0 min	Total Imp(%)=	50.00	Dir. Conn.(%)=	25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38

2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Max.Eff.Inten.(mm/hr)= 62.19 70.74
over (min) 5.00 15.00
Storage Coeff. (min)= 2.65 (ii) 10.76 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.29 0.09

TOTALS

PEAK FLOW (cms)= 0.04 0.07 0.099 (iii)
TIME TO PEAK (hrs)= 5.50 5.67 5.67
RUNOFF VOLUME (mm)= 67.16 46.48 51.65
TOTAL RAINFALL (mm)= 68.16 68.16 68.16
RUNOFF COEFFICIENT = 0.99 0.68 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00
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	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	102.96	40.00
Mannings n =	0.013	0.250

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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Max.Eff.Inten.(mm/hr)= 62.19 49.70
over (min) 5.00 15.00
Storage Coeff. (min)= 3.14 (ii) 12.48 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.08

TOTALS

PEAK FLOW (cms)= 0.04 0.13 0.152 (iii)
TIME TO PEAK (hrs)= 5.50 5.67 5.67
RUNOFF VOLUME (mm)= 67.16 42.38 45.60
TOTAL RAINFALL (mm)= 68.16 68.16 68.16
RUNOFF COEFFICIENT = 0.99 0.62 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3       |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.099	5.67	51.65
+ ID2= 2 (12000):	1.59	0.152	5.67	45.60
=====				
ID = 3 (11010):	2.49	0.251	5.67	47.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD ( 8140) |
| 1 + 2 = 3       |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11010):	2.49	0.251	5.67	47.78
+ ID2= 2 (8130):	38.57	3.045	5.67	48.43
=====				
ID = 3 (8140):	41.06	3.296	5.67	48.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB          |
| STANDHYD ( 10000) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	2.78		
Total Imp(%)=	50.00	Dir. Conn.(%)=	50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	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	0.46	3.000	2.76	5.917	12.44	8.83	2.76
0.167	0.46	3.083	2.76	6.000	12.44	8.92	2.76
0.250	0.92	3.167	2.76	6.083	10.13	9.00	2.76
0.333	0.92	3.250	2.76	6.167	10.13	9.08	2.30
0.417	1.38	3.333	2.76	6.250	7.83	9.17	2.30
0.500	1.38	3.417	2.76	6.333	7.83	9.25	1.84
0.583	1.38	3.500	2.76	6.417	5.53	9.33	1.84
0.667	1.38	3.583	3.22	6.500	5.53	9.42	1.38
0.750	1.38	3.667	3.22	6.583	5.07	9.50	1.38
0.833	1.38	3.750	3.69	6.667	5.07	9.58	1.38
0.917	1.38	3.833	3.69	6.750	4.61	9.67	1.38
1.000	1.38	3.917	4.15	6.833	4.61	9.75	1.38
1.083	1.38	4.000	4.15	6.917	4.15	9.83	1.38
1.167	1.38	4.083	4.61	7.000	4.15	9.92	1.38
1.250	1.38	4.167	4.61	7.083	4.15	10.00	1.38
1.333	1.38	4.250	5.07	7.167	4.15	10.08	1.38
1.417	1.38	4.333	5.07	7.250	4.15	10.17	1.38
1.500	1.38	4.417	5.53	7.333	4.15	10.25	1.38
1.583	1.84	4.500	5.53	7.417	4.15	10.33	1.38
1.667	1.84	4.583	6.45	7.500	4.15	10.42	1.38
1.750	2.30	4.667	6.45	7.583	3.69	10.50	1.38
1.833	2.30	4.750	7.37	7.667	3.69	10.58	1.38
1.917	2.76	4.833	7.37	7.750	3.22	10.67	1.38
2.000	2.76	4.917	8.29	7.833	3.22	10.75	1.38
2.083	2.76	5.000	8.29	7.917	2.76	10.83	1.38
2.167	2.76	5.083	26.26	8.000	2.76	10.92	1.38
2.250	2.76	5.167	26.26	8.083	2.76	11.00	1.38
2.333	2.76	5.250	44.22	8.167	2.76	11.08	1.38
2.417	2.76	5.333	44.22	8.250	2.76	11.17	1.38
2.500	2.76	5.417	62.19	8.333	2.76	11.25	1.38
2.583	2.76	5.500	62.19	8.417	2.76	11.33	1.38
2.667	2.76	5.583	45.61	8.500	2.76	11.42	1.38
2.750	2.76	5.667	45.61	8.583	2.76	11.50	1.38
2.833	2.76	5.750	29.02	8.667	2.76		
2.917	2.76	5.833	29.02	8.750	2.76		

Max.Eff.Inten.(mm/hr)=	62.19	37.47
over (min)	5.00	15.00
Storage Coeff. (min)=	3.72 (ii)	14.17 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.25	0.08

TOTALS

PEAK FLOW (cms)=	0.24	0.11	0.318 (iii)
TIME TO PEAK (hrs)=	5.50	5.75	5.50
RUNOFF VOLUME (mm)=	67.16	39.86	53.51
TOTAL RAINFALL (mm)=	68.16	68.16	68.16
RUNOFF COEFFICIENT =	0.99	0.58	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 10010) |
| 1 + 2 = 3       |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10000):	2.78	0.318	5.50	53.51
+ ID2= 2 (8140):	41.06	3.296	5.67	48.39
=====				
ID = 3 (10010):	43.84	3.589	5.67	48.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR( 10020) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min       |
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OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4750	1.4077
0.0360	0.1569	0.5120	1.5638
0.0550	0.3255	0.5460	1.7245
0.0620	0.3843	0.5780	1.8900
0.0810	0.5687	0.6080	2.0600
0.1060	0.6976	0.9880	2.2351
0.1770	0.8304	1.6470	2.4147
0.2750	0.9677	2.9610	2.6944
0.3910	1.1096	4.5710	2.9877
0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	3.589	5.67	48.72
OUTFLOW: ID= 1 (10020)	43.840	0.477	7.83	48.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.28
 TIME SHIFT OF PEAK FLOW (min)=130.00
 MAXIMUM STORAGE USED (ha.m.)= 1.4146

```
-----
| ADD HYD ( 10030) |

```

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.477	7.83	48.69
+ ID2= 2 (8320):	31.17	0.878	6.42	26.99
=====				
ID = 3 (10030):	75.01	1.318	6.50	39.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

```

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000 TTTTT TTTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\V02\voin.dat
Output filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\4c0455
88-874d-49ba-a05f-9b638b92151f\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\4c0455
88-874d-49ba-a05f-9b638b92151f\scenar

DATE: 07-12-2023

TIME: 10:45:44

USER:

COMMENTS: _____

 ** SIMULATION : 100 Year 12 Hour SCS **

```

-----
|   READ STORM   |   Filename: C:\Users\kchow\AppData
|                 |   ata\Local\Temp\
|                 |   61a7af16-9004-4fb5-99f9-32bc32492ea1\31a73271
| Ptotal=103.11 mm |   Comments: 100 Year 12 Hour SCS
-----
  
```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.70	3.00	4.18	6.00	15.33	9.00	3.48
0.17	1.39	3.17	4.18	6.17	11.84	9.17	2.79
0.33	2.09	3.33	4.18	6.33	8.36	9.33	2.09
0.50	2.09	3.50	4.88	6.50	7.66	9.50	2.09
0.67	2.09	3.67	5.57	6.67	6.97	9.67	2.09
0.83	2.09	3.83	6.27	6.83	6.27	9.83	2.09
1.00	2.09	4.00	6.97	7.00	6.27	10.00	2.09
1.17	2.09	4.17	7.66	7.17	6.27	10.17	2.09
1.33	2.09	4.33	8.36	7.33	6.27	10.33	2.09
1.50	2.79	4.50	9.75	7.50	5.57	10.50	2.09
1.67	3.48	4.67	11.15	7.67	4.88	10.67	2.09
1.83	4.18	4.83	12.54	7.83	4.18	10.83	2.09
2.00	4.18	5.00	39.71	8.00	4.18	11.00	2.09
2.17	4.18	5.17	66.88	8.17	4.18	11.17	2.09
2.33	4.18	5.33	94.05	8.33	4.18	11.33	2.09
2.50	4.18	5.50	68.97	8.50	4.18		
2.67	4.18	5.67	43.89	8.67	4.18		
2.83	4.18	5.83	18.81	8.83	4.18		

```

-----
| CALIB          |
| NASHYD ( 8500) |   Area (ha)= 11.81   Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min |   Ia (mm)= 5.00    # of Linear Res.(N)= 3.00
|                 |   U.H. Tp(hrs)= 0.72
-----
  
```

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	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18

0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.735 (i)

TIME TO PEAK (hrs)= 6.333

RUNOFF VOLUME (mm)= 52.660

TOTAL RAINFALL (mm)= 103.107

RUNOFF COEFFICIENT = 0.511

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

CALIB			
NASHYD (8400)	Area (ha)=	11.21	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.99	

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	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.559 (i)
 TIME TO PEAK (hrs)= 6.583
 RUNOFF VOLUME (mm)= 52.660
 TOTAL RAINFALL (mm)= 103.107
 RUNOFF COEFFICIENT = 0.511

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

CALIB			
NASHYD (8300)	Area (ha)=	8.15	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.80	

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	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.472 (i)
TIME TO PEAK (hrs)= 6.417
RUNOFF VOLUME (mm)= 52.660
TOTAL RAINFALL (mm)= 103.107
RUNOFF COEFFICIENT = 0.511

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

```
-----  
-----  
| ADD HYD ( 8310) |  
| 1 + 2 = 3 |  
-----  
          AREA    QPEAK    TPEAK    R.V.  
          (ha)    (cms)    (hrs)    (mm)  
ID1= 1 ( 8310):  8.15  0.472  6.42  52.66  
+ ID2= 2 ( 8400): 11.21  0.559  6.58  52.66  
=====
```

ID = 3 (8310): 19.36 1.022 6.50 52.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-----  
-----  
| ADD HYD ( 8320) |  
| 1 + 2 = 3 |  
-----  
          AREA    QPEAK    TPEAK    R.V.  
          (ha)    (cms)    (hrs)    (mm)  
ID1= 1 ( 8310): 19.36 1.022 6.50 52.66  
+ ID2= 2 ( 8500): 11.81 0.735 6.33 52.66  
=====
```

ID = 3 (8320): 31.17 1.743 6.42 52.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-----  
-----  
| CALIB  
| NASHYD ( 8200) | Area (ha)= 2.88 Curve Number (CN)= 75.0  
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
-----  
U.H. Tp(hrs)= 1.21
```

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 0.70 | 3.000 4.18 | 5.917 18.81 | 8.83 4.18  
0.167 0.70 | 3.083 4.18 | 6.000 18.81 | 8.92 4.18
```

0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.124 (i)

TIME TO PEAK (hrs)= 6.833

RUNOFF VOLUME (mm)= 52.659

TOTAL RAINFALL (mm)= 103.107

RUNOFF COEFFICIENT = 0.511

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

 | CALIB |
 | NASHYD (8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

 U.H. Tp(hrs)= 0.54

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	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.143 (i)

TIME TO PEAK (hrs)= 6.083

RUNOFF VOLUME (mm)= 52.658

TOTAL RAINFALL (mm)= 103.107

RUNOFF COEFFICIENT = 0.511

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

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| ADD HYD ( 8110) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8100):	1.90	0.143	6.08	52.66
+ ID2= 2 (8200):	2.88	0.124	6.83	52.66
=====				
ID = 3 (8110):	4.78	0.236	6.33	52.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| STANDHYD ( 8700) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	2.22		
Total Imp(%)=	60.00	Dir. Conn.(%)=	30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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          ----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09

1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Max.Eff.Inten.(mm/hr)= 94.05 144.29
over (min) 5.00 10.00
Storage Coeff. (min)= 2.95 (ii) 9.04 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.28 0.12

TOTALS

PEAK FLOW (cms)= 0.17 0.30 0.449 (iii)
TIME TO PEAK (hrs)= 5.50 5.58 5.50
RUNOFF VOLUME (mm)= 102.11 81.77 87.87
TOTAL RAINFALL (mm)= 103.11 103.11 103.11
RUNOFF COEFFICIENT = 0.99 0.79 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (8800) | Area (ha)= 18.91
| ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00

Length (m)= 355.06 40.00
 Mannings n = 0.013 0.250

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	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Max.Eff.Inten.(mm/hr)= 94.05 154.76
 over (min) 5.00 15.00
 Storage Coeff. (min)= 5.60 (ii) 11.53 (ii)
 Unit Hyd. Tpeak (min)= 5.00 15.00
 Unit Hyd. peak (cms)= 0.20 0.09

				TOTALS
PEAK FLOW	(cms)=	1.63	2.22	3.552 (iii)
TIME TO PEAK	(hrs)=	5.50	5.67	5.67
RUNOFF VOLUME	(mm)=	102.11	82.77	89.54
TOTAL RAINFALL	(mm)=	103.11	103.11	103.11
RUNOFF COEFFICIENT	=	0.99	0.80	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 (8710)					
1 + 2 = 3					
		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8700):	2.22	0.449	5.50	87.87
	+ ID2= 2 (8800):	18.91	3.552	5.67	89.54
	=====				
	ID = 3 (8710):	21.13	3.967	5.67	89.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)					
1 + 2 = 3					
		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (8110):	4.78	0.236	6.33	52.66
	+ ID2= 2 (8710):	21.13	3.967	5.67	89.36
	=====				
	ID = 3 (8120):	25.91	4.090	5.67	82.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (8600)				
ID= 1 DT= 5.0 min				
	Area	(ha)=	10.27	
	Total Imp(%)=	21.00	Dir. Conn.(%)=	10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Max.Eff.Inten.(mm/hr)= 94.05 71.66
over (min) 5.00 30.00
Storage Coeff. (min)= 3.79 (ii) 28.00 (ii)
Unit Hyd. Tpeak (min)= 5.00 30.00
Unit Hyd. peak (cms)= 0.25 0.04

TOTALS

PEAK FLOW (cms)= 0.26 1.05 1.132 (iii)

TIME TO PEAK	(hrs)=	5.50	5.92	5.83
RUNOFF VOLUME	(mm)=	102.11	73.41	76.28
TOTAL RAINFALL	(mm)=	103.11	103.11	103.11
RUNOFF COEFFICIENT	=	0.99	0.71	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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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| CALIB |
| STANDHYD ( 8900) | Area (ha)= 2.39
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09

1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Max.Eff.Inten.(mm/hr)= 94.05 75.64
over (min) 5.00 20.00
Storage Coeff. (min)= 3.01 (ii) 18.65 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.28 0.06

TOTALS

PEAK FLOW (cms)= 0.06 0.30 0.327 (iii)
TIME TO PEAK (hrs)= 5.50 5.83 5.75
RUNOFF VOLUME (mm)= 102.11 73.41 76.28
TOTAL RAINFALL (mm)= 103.11 103.11 103.11
RUNOFF COEFFICIENT = 0.99 0.71 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ADD HYD (8610)				
1 + 2 = 3				
ID1= 1 (8600):	10.27	1.132	5.83	76.28
+ ID2= 2 (8900):	2.39	0.327	5.75	76.28

=====

ID = 3 (8610): 12.66 1.457 5.83 76.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):	25.91	4.090	5.67	82.59
+ ID2= 2 (8610):	12.66	1.457	5.83	76.28
=====				
ID = 3 (8130):	38.57	5.385	5.67	80.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (11000)	Area (ha)=	0.90	
ID= 1 DT= 5.0 min	Total Imp(%)=	50.00	Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09

1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Max.Eff.Inten.(mm/hr)= 94.05 119.87
over (min) 5.00 10.00
Storage Coeff. (min)= 2.25 (ii) 8.81 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.30 0.12

TOTALS

PEAK FLOW (cms)= 0.06 0.13 0.175 (iii)
TIME TO PEAK (hrs)= 5.50 5.58 5.50
RUNOFF VOLUME (mm)= 102.11 78.99 84.76
TOTAL RAINFALL (mm)= 103.11 103.11 103.11
RUNOFF COEFFICIENT = 0.99 0.77 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.40 1.19
Dep. Storage (mm)= 1.00 1.50

Average Slope (%)= 1.00 2.00
 Length (m)= 102.96 40.00
 Mannings n = 0.013 0.250

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	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Max.Eff.Inten.(mm/hr)= 94.05 86.86
 over (min) 5.00 15.00
 Storage Coeff. (min)= 2.66 (ii) 10.13 (ii)
 Unit Hyd. Tpeak (min)= 5.00 15.00

Unit Hyd. peak (cms)=	0.29	0.10	
			TOTALS
PEAK FLOW (cms)=	0.05	0.23	0.272 (iii)
TIME TO PEAK (hrs)=	5.50	5.67	5.67
RUNOFF VOLUME (mm)=	102.11	73.80	77.48
TOTAL RAINFALL (mm)=	103.11	103.11	103.11
RUNOFF COEFFICIENT =	0.99	0.72	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 11000):  0.90    0.175    5.50    84.76
+ ID2= 2 ( 12000):  1.59    0.272    5.67    77.48
=====
ID = 3 ( 11010):  2.49    0.436    5.67    80.11
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8140) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 11010):  2.49    0.436    5.67    80.11
+ ID2= 2 ( 8130):  38.57    5.385    5.67    80.52
=====
ID = 3 ( 8140):  41.06    5.820    5.67    80.49
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB
| STANDHYD ( 10000) |
| ID= 1 DT= 5.0 min |
-----
Area (ha)= 2.78
Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00
  
```

Surface Area (ha)=	IMPERVIOUS	PERVIOUS (i)
	1.39	1.39

Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

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	0.70	3.000	4.18	5.917	18.81	8.83	4.18
0.167	0.70	3.083	4.18	6.000	18.81	8.92	4.18
0.250	1.39	3.167	4.18	6.083	15.33	9.00	4.18
0.333	1.39	3.250	4.18	6.167	15.33	9.08	3.48
0.417	2.09	3.333	4.18	6.250	11.84	9.17	3.48
0.500	2.09	3.417	4.18	6.333	11.84	9.25	2.79
0.583	2.09	3.500	4.18	6.417	8.36	9.33	2.79
0.667	2.09	3.583	4.88	6.500	8.36	9.42	2.09
0.750	2.09	3.667	4.88	6.583	7.66	9.50	2.09
0.833	2.09	3.750	5.57	6.667	7.66	9.58	2.09
0.917	2.09	3.833	5.57	6.750	6.97	9.67	2.09
1.000	2.09	3.917	6.27	6.833	6.97	9.75	2.09
1.083	2.09	4.000	6.27	6.917	6.27	9.83	2.09
1.167	2.09	4.083	6.97	7.000	6.27	9.92	2.09
1.250	2.09	4.167	6.97	7.083	6.27	10.00	2.09
1.333	2.09	4.250	7.66	7.167	6.27	10.08	2.09
1.417	2.09	4.333	7.66	7.250	6.27	10.17	2.09
1.500	2.09	4.417	8.36	7.333	6.27	10.25	2.09
1.583	2.79	4.500	8.36	7.417	6.27	10.33	2.09
1.667	2.79	4.583	9.75	7.500	6.27	10.42	2.09
1.750	3.48	4.667	9.75	7.583	5.57	10.50	2.09
1.833	3.48	4.750	11.15	7.667	5.57	10.58	2.09
1.917	4.18	4.833	11.15	7.750	4.88	10.67	2.09
2.000	4.18	4.917	12.54	7.833	4.88	10.75	2.09
2.083	4.18	5.000	12.54	7.917	4.18	10.83	2.09
2.167	4.18	5.083	39.71	8.000	4.18	10.92	2.09
2.250	4.18	5.167	39.71	8.083	4.18	11.00	2.09
2.333	4.18	5.250	66.88	8.167	4.18	11.08	2.09
2.417	4.18	5.333	66.88	8.250	4.18	11.17	2.09
2.500	4.18	5.417	94.05	8.333	4.18	11.25	2.09
2.583	4.18	5.500	94.05	8.417	4.18	11.33	2.09
2.667	4.18	5.583	68.97	8.500	4.18	11.42	2.09
2.750	4.18	5.667	68.97	8.583	4.18	11.50	2.09
2.833	4.18	5.750	43.89	8.667	4.18		
2.917	4.18	5.833	43.89	8.750	4.18		

Max.Eff.Inten.(mm/hr)=	94.05	71.52
over (min)	5.00	15.00
Storage Coeff. (min)=	3.15 (ii)	11.22 (ii)

Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.27	0.09	
			TOTALS
PEAK FLOW (cms)=	0.36	0.22	0.526 (iii)
TIME TO PEAK (hrs)=	5.50	5.67	5.50
RUNOFF VOLUME (mm)=	102.11	70.50	86.30
TOTAL RAINFALL (mm)=	103.11	103.11	103.11
RUNOFF COEFFICIENT =	0.99	0.68	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 10010) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 10000):  2.78      0.526      5.50      86.30
+ ID2= 2 ( 8140): 41.06      5.820      5.67      80.49
=====
ID = 3 ( 10010): 43.84      6.307      5.67      80.86

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| RESERVOIR( 10020) | 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      0.4750      1.4077
0.0360      0.1569      0.5120      1.5638
0.0550      0.3255      0.5460      1.7245
0.0620      0.3843      0.5780      1.8900
0.0810      0.5687      0.6080      2.0600
0.1060      0.6976      0.9880      2.2351
0.1770      0.8304      1.6470      2.4147
0.2750      0.9677      2.9610      2.6944
0.3910      1.1096      4.5710      2.9877
0.4350      1.2563      0.0000      0.0000

```

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (10010)	43.840	6.307	5.67	80.86
OUTFLOW: ID= 1 (10020)	43.840	1.122	7.00	80.84

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.79
 TIME SHIFT OF PEAK FLOW (min)= 80.00
 MAXIMUM STORAGE USED (ha.m.)= 2.2718

```
-----
| ADD HYD ( 10030) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 10020):  43.84    1.122    7.00    80.84
+ ID2= 2 ( 8320):  31.17    1.743    6.42    52.66
=====
ID = 3 ( 10030):  75.01    2.685    6.67    69.13
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
=====
V  V  I  SSSSS  U  U  A  L  (v 6.2.2014)
V  V  I  SS    U  U  A  A  L
V  V  I  SS    U  U  AAAAA L
V  V  I  SS    U  U  A  A  L
  VV  I  SSSSS  UUUUU  A  A  LLLLL
000  TTTTT  TTTTT  H  H  Y  Y  M  M  000  TM
0  0  T  T  H  H  Y  Y  MM  MM  0  0
0  0  T  T  H  H  Y  M  M  0  0
000  T  T  H  H  Y  M  M  000
```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\c2578c
 17-cd53-4712-8ec3-852f32f4cd6f\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\c2578c
 17-cd53-4712-8ec3-852f32f4cd6f\scenar

DATE: 07-12-2023

TIME: 10:45:45

USER:

COMMENTS: _____

```

*****
** SIMULATION : 2 Year 12 Hour SCS          **
*****

```

```

-----
| READ STORM | Filename: C:\Users\kchow\AppData
|            |   ata\Local\Temp\
|            |   61a7af16-9004-4fb5-99f9-32bc32492ea1\5839de61
| Ptotal= 41.39 mm | Comments: 2 Year 12 Hour SCS
-----

```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.84	3.00	1.67	6.00	3.34	9.00	0.84
0.50	0.84	3.50	2.51	6.50	2.51	9.50	0.84
1.00	0.84	4.00	3.34	7.00	2.51	10.00	0.84
1.50	1.67	4.50	5.02	7.50	1.67	10.50	0.84
2.00	1.67	5.00	37.62	8.00	1.67	11.00	0.84
2.50	1.67	5.50	7.52	8.50	1.67		

```

-----
| CALIB |
| NASHYD ( 8500) | Area (ha)= 11.81 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.72

```

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84

0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.147 (i)

TIME TO PEAK (hrs)= 6.167

RUNOFF VOLUME (mm)= 10.939

TOTAL RAINFALL (mm)= 41.390

RUNOFF COEFFICIENT = 0.264

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

CALIB			
NASHYD (8400)	Area (ha)=	11.21	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.99	

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.111 (i)

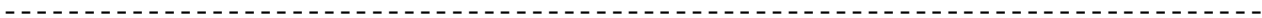
TIME TO PEAK (hrs)= 6.500

RUNOFF VOLUME (mm)= 10.939

TOTAL RAINFALL (mm)= 41.390

RUNOFF COEFFICIENT = 0.264

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



CALIB			
NASHYD (8300)	Area (ha)=	8.15	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.80	

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.094 (i)
 TIME TO PEAK (hrs)= 6.250
 RUNOFF VOLUME (mm)= 10.939
 TOTAL RAINFALL (mm)= 41.390
 RUNOFF COEFFICIENT = 0.264

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

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-----
| ADD HYD ( 8310) |
| 1 + 2 = 3      |
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
    ID1= 1 ( 8300):    8.15    0.094    6.25    10.94
    + ID2= 2 ( 8400):   11.21    0.111    6.50    10.94
    =====
    ID = 3 ( 8310):   19.36    0.202    6.33    10.94
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8320) |
| 1 + 2 = 3      |
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
    ID1= 1 ( 8310):   19.36    0.202    6.33    10.94
    + ID2= 2 ( 8500):   11.81    0.147    6.17    10.94
    =====
    ID = 3 ( 8320):   31.17    0.346    6.25    10.94
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| CALIB          |
| NASHYD ( 8200) | Area (ha)= 2.88 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
                U.H. Tp(hrs)= 1.21
  
```

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    0.84 | 3.000    1.67 | 5.917    7.52 | 8.83    1.67
    0.167    0.84 | 3.083    1.67 | 6.000    7.52 | 8.92    1.67
    0.250    0.84 | 3.167    1.67 | 6.083    3.34 | 9.00    1.67
    0.333    0.84 | 3.250    1.67 | 6.167    3.34 | 9.08    0.84
    0.417    0.84 | 3.333    1.67 | 6.250    3.34 | 9.17    0.84
  
```

0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.024 (i)

TIME TO PEAK (hrs)= 6.750

RUNOFF VOLUME (mm)= 10.938

TOTAL RAINFALL (mm)= 41.390

RUNOFF COEFFICIENT = 0.264

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

 | CALIB |
 | NASHYD (8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

 U.H. Tp(hrs)= 0.54

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.029 (i)

TIME TO PEAK (hrs)= 5.917

RUNOFF VOLUME (mm)= 10.938

TOTAL RAINFALL (mm)= 41.390

RUNOFF COEFFICIENT = 0.264

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

ADD HYD (8110)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.029	5.92	10.94
+ ID2= 2 (8200):	2.88	0.024	6.75	10.94
=====				
ID = 3 (8110):	4.78	0.047	6.17	10.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8700)			
ID= 1 DT= 5.0 min	Area (ha)=	2.22	
	Total Imp(%)=	60.00	Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84

1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Max.Eff.Inten.(mm/hr)= 37.62 48.81
over (min) 5.00 15.00
Storage Coeff. (min)= 4.25 (ii) 13.65 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.24 0.08

TOTALS

PEAK FLOW (cms)= 0.07 0.09 0.159 (iii)
TIME TO PEAK (hrs)= 5.50 5.58 5.50
RUNOFF VOLUME (mm)= 40.39 24.84 29.50
TOTAL RAINFALL (mm)= 41.39 41.39 41.39
RUNOFF COEFFICIENT = 0.98 0.60 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (8800) |
ID= 1 DT= 5.0 min

Area (ha)= 18.91
Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	12.29	6.62
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	355.06	40.00
Mannings n =	0.013	0.250

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Max. Eff. Inten. (mm/hr)=	37.62	52.87
over (min)	10.00	20.00
Storage Coeff. (min)=	8.08 (ii)	17.19 (ii)
Unit Hyd. Tpeak (min)=	10.00	20.00
Unit Hyd. peak (cms)=	0.13	0.06

TOTALS

PEAK FLOW (cms)=	0.67	0.66	1.275 (iii)
TIME TO PEAK (hrs)=	5.50	5.58	5.50

RUNOFF VOLUME	(mm)=	40.39	25.45	30.68
TOTAL RAINFALL	(mm)=	41.39	41.39	41.39
RUNOFF COEFFICIENT	=	0.98	0.61	0.74

- (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 ( 8710) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 8700):   2.22   0.159   5.50   29.50
+ ID2= 2 ( 8800): 18.91   1.275   5.50   30.68
=====
ID = 3 ( 8710):  21.13   1.434   5.50   30.55

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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8120) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 8110):   4.78   0.047   6.17   10.94
+ ID2= 2 ( 8710): 21.13   1.434   5.50   30.55
=====
ID = 3 ( 8120):  25.91   1.455   5.50   26.93

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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| CALIB
| STANDHYD ( 8600) |
| ID= 1 DT= 5.0 min |
-----
Area      (ha)= 10.27
Total Imp(%)= 21.00   Dir. Conn.(%)= 10.00

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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Max.Eff.Inten.(mm/hr)=	37.62	16.71
over (min)	5.00	50.00
Storage Coeff. (min)=	5.46 (ii)	48.82 (ii)
Unit Hyd. Tpeak (min)=	5.00	50.00
Unit Hyd. peak (cms)=	0.20	0.02

TOTALS

PEAK FLOW (cms)=	0.11	0.21	0.226 (iii)
TIME TO PEAK (hrs)=	5.50	6.17	6.08
RUNOFF VOLUME (mm)=	40.39	20.22	22.23
TOTAL RAINFALL (mm)=	41.39	41.39	41.39

RUNOFF COEFFICIENT = 0.98 0.49 0.54

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

| CALIB |
| STANDHYD (8900) | Area (ha)= 2.39
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84

1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Max.Eff.Inten.(mm/hr)= 37.62 23.48
over (min) 5.00 30.00
Storage Coeff. (min)= 4.34 (ii) 29.31 (ii)
Unit Hyd. Tpeak (min)= 5.00 30.00
Unit Hyd. peak (cms)= 0.23 0.04

TOTALS

PEAK FLOW (cms)= 0.02 0.07 0.074 (iii)
TIME TO PEAK (hrs)= 5.50 5.83 5.83
RUNOFF VOLUME (mm)= 40.39 20.22 22.23
TOTAL RAINFALL (mm)= 41.39 41.39 41.39
RUNOFF COEFFICIENT = 0.98 0.49 0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8600):	10.27	0.226	6.08	22.23
+ ID2= 2 (8900):	2.39	0.074	5.83	22.23
=====				
ID = 3 (8610):	12.66	0.291	6.00	22.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)				
1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8120):	25.91	1.455	5.50	26.93
+ ID2= 2 (8610):	12.66	0.291	6.00	22.23
=====				
ID = 3 (8130):	38.57	1.718	5.50	25.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (11000)			
ID= 1 DT= 5.0 min	Area (ha)=	0.90	
	Total Imp(%)=	50.00	Dir. Conn.(%)= 25.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.45	0.45
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	77.46	40.00
Mannings n =	0.013	0.250

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84

1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Max.Eff.Inten.(mm/hr)= 37.62 38.37
over (min) 5.00 15.00
Storage Coeff. (min)= 3.24 (ii) 13.59 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.08

TOTALS

PEAK FLOW (cms)= 0.02 0.04 0.060 (iii)
TIME TO PEAK (hrs)= 5.50 5.58 5.50
RUNOFF VOLUME (mm)= 40.39 23.21 27.50
TOTAL RAINFALL (mm)= 41.39 41.39 41.39
RUNOFF COEFFICIENT = 0.98 0.56 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (12000) |
ID= 1 DT= 5.0 min

Area (ha)= 1.59
Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Max. Eff. Inten. (mm/hr)=	37.62	26.30
over (min)	5.00	20.00
Storage Coeff. (min)=	3.84 (ii)	15.88 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.07

TOTALS

PEAK FLOW (cms)=	0.02	0.06	0.077 (iii)
TIME TO PEAK (hrs)=	5.50	5.67	5.50

RUNOFF VOLUME	(mm)=	40.39	20.42	23.01
TOTAL RAINFALL	(mm)=	41.39	41.39	41.39
RUNOFF COEFFICIENT	=	0.98	0.49	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (11010)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11000):	0.90	0.060	5.50	27.50
+ ID2= 2 (12000):	1.59	0.077	5.50	23.01
=====				
ID = 3 (11010):	2.49	0.136	5.50	24.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):	2.49	0.136	5.50	24.63
+ ID2= 2 (8130):	38.57	1.718	5.50	25.39
=====				
ID = 3 (8140):	41.06	1.854	5.50	25.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (10000)				
ID= 1 DT= 5.0 min				
	Area	(ha)=	2.78	
	Total Imp(%)=	50.00	Dir. Conn.(%)=	50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

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	0.84	3.000	1.67	5.917	7.52	8.83	1.67
0.167	0.84	3.083	1.67	6.000	7.52	8.92	1.67
0.250	0.84	3.167	1.67	6.083	3.34	9.00	1.67
0.333	0.84	3.250	1.67	6.167	3.34	9.08	0.84
0.417	0.84	3.333	1.67	6.250	3.34	9.17	0.84
0.500	0.84	3.417	1.67	6.333	3.34	9.25	0.84
0.583	0.84	3.500	1.67	6.417	3.34	9.33	0.84
0.667	0.84	3.583	2.51	6.500	3.34	9.42	0.84
0.750	0.84	3.667	2.51	6.583	2.51	9.50	0.84
0.833	0.84	3.750	2.51	6.667	2.51	9.58	0.84
0.917	0.84	3.833	2.51	6.750	2.51	9.67	0.84
1.000	0.84	3.917	2.51	6.833	2.51	9.75	0.84
1.083	0.84	4.000	2.51	6.917	2.51	9.83	0.84
1.167	0.84	4.083	3.34	7.000	2.51	9.92	0.84
1.250	0.84	4.167	3.34	7.083	2.51	10.00	0.84
1.333	0.84	4.250	3.34	7.167	2.51	10.08	0.84
1.417	0.84	4.333	3.34	7.250	2.51	10.17	0.84
1.500	0.84	4.417	3.34	7.333	2.51	10.25	0.84
1.583	1.67	4.500	3.34	7.417	2.51	10.33	0.84
1.667	1.67	4.583	5.02	7.500	2.51	10.42	0.84
1.750	1.67	4.667	5.02	7.583	1.67	10.50	0.84
1.833	1.67	4.750	5.02	7.667	1.67	10.58	0.84
1.917	1.67	4.833	5.02	7.750	1.67	10.67	0.84
2.000	1.67	4.917	5.02	7.833	1.67	10.75	0.84
2.083	1.67	5.000	5.02	7.917	1.67	10.83	0.84
2.167	1.67	5.083	37.62	8.000	1.67	10.92	0.84
2.250	1.67	5.167	37.62	8.083	1.67	11.00	0.84
2.333	1.67	5.250	37.62	8.167	1.67	11.08	0.84
2.417	1.67	5.333	37.62	8.250	1.67	11.17	0.84
2.500	1.67	5.417	37.62	8.333	1.67	11.25	0.84
2.583	1.67	5.500	37.62	8.417	1.67	11.33	0.84
2.667	1.67	5.583	7.52	8.500	1.67	11.42	0.84
2.750	1.67	5.667	7.52	8.583	1.67	11.50	0.84
2.833	1.67	5.750	7.52	8.667	1.67		
2.917	1.67	5.833	7.52	8.750	1.67		

Max.Eff.Inten.(mm/hr)= 37.62 20.93
over (min) 5.00 20.00
Storage Coeff. (min)= 4.55 (ii) 17.74 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.23 0.06

TOTALS

PEAK FLOW (cms)= 0.15 0.05 0.193 (iii)

TIME TO PEAK	(hrs)=	5.50	5.67	5.50
RUNOFF VOLUME	(mm)=	40.39	18.78	29.58
TOTAL RAINFALL	(mm)=	41.39	41.39	41.39
RUNOFF COEFFICIENT	=	0.98	0.45	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 10010) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 10000):  2.78    0.193    5.50    29.58
+ ID2= 2 ( 8140): 41.06    1.854    5.50    25.35
=====
ID = 3 ( 10010): 43.84    2.047    5.50    25.61

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| RESERVOIR( 10020) | 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    0.4750    1.4077
0.0360    0.1569    0.5120    1.5638
0.0550    0.3255    0.5460    1.7245
0.0620    0.3843    0.5780    1.8900
0.0810    0.5687    0.6080    2.0600
0.1060    0.6976    0.9880    2.2351
0.1770    0.8304    1.6470    2.4147
0.2750    0.9677    2.9610    2.6944
0.3910    1.1096    4.5710    2.9877
0.4350    1.2563    0.0000    0.0000

          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
INFLOW : ID= 2 ( 10010) 43.840    2.047    5.50    25.61
OUTFLOW: ID= 1 ( 10020) 43.840    0.172    9.08    25.59

```

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.40
TIME SHIFT OF PEAK FLOW (min)=215.00
MAXIMUM STORAGE USED (ha.m.)= 0.8212

 | ADD HYD (10030)|
 | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.172	9.08	25.59
+ ID2= 2 (8320):	31.17	0.346	6.25	10.94
=====				
ID = 3 (10030):	75.01	0.445	6.33	19.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 =====
 =====
 V V I SSSSS U U A L (v 6.2.2014)
 V V I SS U U A A L
 V V I SS U U AAAAA L
 V V I SS U U A A L
 VV I SSSSS UUUUU A A LLLLL

000 TTTTT TTTTT H H Y Y M M 000 TM
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\7d7b24
 b4-d8d0-4b50-909e-9ca7e2e13cbb\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\7d7b24
 b4-d8d0-4b50-909e-9ca7e2e13cbb\scenar

DATE: 07-12-2023

TIME: 10:45:44

USER:

COMMENTS: _____

 ** SIMULATION : 25 Year 12 Hour SCS **

READ STORM	Filename: C:\Users\kchow\AppData\Local\Temp\61a7af16-9004-4fb5-99f9-32bc32492ea1\0ac37e21
Ptotal= 81.89 mm	Comments: 25 Year 12 Hour SCS

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.55	3.00	3.32	6.00	12.17	9.00	2.77
0.17	1.11	3.17	3.32	6.17	9.41	9.17	2.21
0.33	1.66	3.33	3.32	6.33	6.60	9.33	1.66
0.50	1.66	3.50	3.87	6.50	6.09	9.50	1.66
0.67	1.66	3.67	4.43	6.67	5.53	9.67	1.66
0.83	1.66	3.83	4.98	6.83	4.98	9.83	1.66
1.00	1.66	4.00	5.53	7.00	4.98	10.00	1.66
1.17	1.66	4.17	6.09	7.17	4.98	10.17	1.66
1.33	1.66	4.33	6.64	7.33	4.98	10.33	1.66
1.50	2.21	4.50	7.75	7.50	4.43	10.50	1.66
1.67	2.77	4.67	8.85	7.67	3.87	10.67	1.66
1.83	3.32	4.83	9.96	7.83	3.32	10.83	1.66
2.00	3.32	5.00	31.54	8.00	3.32	11.00	1.66
2.17	3.32	5.17	53.12	8.17	3.32	11.17	1.66
2.33	3.32	5.33	74.70	8.33	3.32	11.33	1.66
2.50	3.32	5.50	54.78	8.50	3.32		
2.67	3.32	5.67	34.86	8.67	3.32		
2.83	3.32	5.83	14.94	8.83	3.32		

CALIB	
NASHYD (8500)	Area (ha)= 11.81 Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.72

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.507 (i)

TIME TO PEAK (hrs)= 6.333

RUNOFF VOLUME (mm)= 36.591

TOTAL RAINFALL (mm)= 81.887

RUNOFF COEFFICIENT = 0.447

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

CALIB			
NASHYD (8400)		Area (ha)= 11.21	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min		Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
-----		U.H. Tp(hrs)= 0.99	

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.385 (i)

TIME TO PEAK (hrs)= 6.583
 RUNOFF VOLUME (mm)= 36.592
 TOTAL RAINFALL (mm)= 81.887
 RUNOFF COEFFICIENT = 0.447

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

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| CALIB |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.80
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66

2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.326 (i)

TIME TO PEAK (hrs)= 6.417

RUNOFF VOLUME (mm)= 36.592

TOTAL RAINFALL (mm)= 81.887

RUNOFF COEFFICIENT = 0.447

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

ADD HYD (8310)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.326	6.42	36.59
+ ID2= 2 (8400):	11.21	0.385	6.58	36.59
=====				
ID = 3 (8310):	19.36	0.704	6.50	36.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8320)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8310):	19.36	0.704	6.50	36.59
+ ID2= 2 (8500):	11.81	0.507	6.33	36.59
=====				
ID = 3 (8320):	31.17	1.201	6.42	36.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (8200)	Area (ha)=	2.88	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.21	

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.085 (i)

TIME TO PEAK (hrs)= 6.833

RUNOFF VOLUME (mm)= 36.591

TOTAL RAINFALL (mm)= 81.887

RUNOFF COEFFICIENT = 0.447

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



CALIB			
NASHYD (8100)	Area (ha)=	1.90	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.54	

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.098 (i)
 TIME TO PEAK (hrs)= 6.083
 RUNOFF VOLUME (mm)= 36.590
 TOTAL RAINFALL (mm)= 81.887
 RUNOFF COEFFICIENT = 0.447

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

ADD HYD (8110)					
1 + 2 = 3					
	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (8100):	1.90	0.098	6.08	36.59	
+ ID2= 2 (8200):	2.88	0.085	6.83	36.59	
=====					
ID = 3 (8110):	4.78	0.162	6.33	36.59	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (8700)					
ID= 1 DT= 5.0 min					

Area	(ha)=	2.22			
Total Imp(%)	=	60.00	Dir. Conn.(%)	=	30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.33	0.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.66	40.00
Mannings n	=	0.013	0.250

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66

1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Max.Eff.Inten.(mm/hr)= 74.70 109.15
over (min) 5.00 15.00
Storage Coeff. (min)= 3.23 (ii) 10.04 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.10

TOTALS

PEAK FLOW (cms)= 0.14 0.22 0.320 (iii)
TIME TO PEAK (hrs)= 5.50 5.67 5.67
RUNOFF VOLUME (mm)= 80.89 61.57 67.36
TOTAL RAINFALL (mm)= 81.89 81.89 81.89
RUNOFF COEFFICIENT = 0.99 0.75 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (8800) | Area (ha)= 18.91
| ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Max.Eff.Inten.(mm/hr)=	74.70	117.44	
over (min)	5.00	15.00	
Storage Coeff. (min)=	6.14 (ii)	12.76 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.19	0.08	
			TOTALS
PEAK FLOW (cms)=	1.28	1.64	2.700 (iii)
TIME TO PEAK (hrs)=	5.50	5.67	5.67
RUNOFF VOLUME (mm)=	80.89	62.48	68.92
TOTAL RAINFALL (mm)=	81.89	81.89	81.89
RUNOFF COEFFICIENT =	0.99	0.76	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 (8710)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):	2.22	0.320	5.67	67.36
+ ID2= 2 (8800):	18.91	2.700	5.67	68.92
=====				
ID = 3 (8710):	21.13	3.020	5.67	68.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):	4.78	0.162	6.33	36.59
+ ID2= 2 (8710):	21.13	3.020	5.67	68.76
=====				
ID = 3 (8120):	25.91	3.101	5.67	62.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8600)	Area (ha)=	10.27	
ID= 1 DT= 5.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 10.00

IMPERVIOUS PERVIOUS (i)

Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Max.Eff.Inten.(mm/hr)=	74.70	50.38
over (min)	5.00	35.00

Storage Coeff. (min)=	4.15 (ii)	32.03 (ii)	
Unit Hyd. Tpeak (min)=	5.00	35.00	
Unit Hyd. peak (cms)=	0.24	0.03	
			TOTALS
PEAK FLOW (cms)=	0.21	0.72	0.767 (iii)
TIME TO PEAK (hrs)=	5.50	6.08	6.00
RUNOFF VOLUME (mm)=	80.89	54.13	56.81
TOTAL RAINFALL (mm)=	81.89	81.89	81.89
RUNOFF COEFFICIENT =	0.99	0.66	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

 | CALIB |
 | STANDHYD (8900) | Area (ha)= 2.39
 | ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66

1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Max.Eff.Inten.(mm/hr)=	74.70	56.12
over (min)	5.00	25.00
Storage Coeff. (min)=	3.30 (ii)	20.92 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.27	0.05

TOTALS

PEAK FLOW (cms)=	0.05	0.21	0.230 (iii)
TIME TO PEAK (hrs)=	5.50	5.83	5.83
RUNOFF VOLUME (mm)=	80.89	54.13	56.80
TOTAL RAINFALL (mm)=	81.89	81.89	81.89
RUNOFF COEFFICIENT =	0.99	0.66	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (8610)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8600):		10.27	0.767	6.00	56.81
+ ID2= 2 (8900):		2.39	0.230	5.83	56.80
=====					
ID = 3 (8610):		12.66	0.975	6.00	56.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):		25.91	3.101	5.67	62.82
+ ID2= 2 (8610):		12.66	0.975	6.00	56.81
=====					
ID = 3 (8130):		38.57	3.925	5.67	60.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)=	0.90
STANDHYD (11000)		Total Imp(%)=	50.00
ID= 1 DT= 5.0 min		Dir. Conn.(%)=	25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66

0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Max.Eff.Inten.(mm/hr)=	74.70	89.89
over (min)	5.00	10.00
Storage Coeff. (min)=	2.46 (ii)	9.83 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.11

TOTALS

PEAK FLOW (cms)=	0.05	0.09	0.130 (iii)
TIME TO PEAK (hrs)=	5.50	5.58	5.50
RUNOFF VOLUME (mm)=	80.89	59.07	64.52
TOTAL RAINFALL (mm)=	81.89	81.89	81.89
RUNOFF COEFFICIENT =	0.99	0.72	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB	
STANDHYD (12000)	Area (ha)= 1.59

|ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		
2.917	3.32	5.833	34.86	8.750	3.32		

Max.Eff.Inten.(mm/hr)=	74.70	64.07	
over (min)	5.00	15.00	
Storage Coeff. (min)=	2.92 (ii)	11.36 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.28	0.09	
			TOTALS
PEAK FLOW (cms)=	0.04	0.17	0.198 (iii)
TIME TO PEAK (hrs)=	5.50	5.67	5.67
RUNOFF VOLUME (mm)=	80.89	54.48	57.90
TOTAL RAINFALL (mm)=	81.89	81.89	81.89
RUNOFF COEFFICIENT =	0.99	0.67	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (11010)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
-----	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11000):	0.90	0.130	5.50	64.52
+ ID2= 2 (12000):	1.59	0.198	5.67	57.90
=====				
ID = 3 (11010):	2.49	0.322	5.67	60.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
-----	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):	2.49	0.322	5.67	60.29
+ ID2= 2 (8130):	38.57	3.925	5.67	60.85
=====				
ID = 3 (8140):	41.06	4.247	5.67	60.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 | CALIB |

| STANDHYD (10000) | Area (ha)= 2.78
 | ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.39	1.39
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	136.14	40.00
Mannings n =	0.013	0.250

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	0.55	3.000	3.32	5.917	14.94	8.83	3.32
0.167	0.55	3.083	3.32	6.000	14.94	8.92	3.32
0.250	1.11	3.167	3.32	6.083	12.17	9.00	3.32
0.333	1.11	3.250	3.32	6.167	12.17	9.08	2.77
0.417	1.66	3.333	3.32	6.250	9.41	9.17	2.77
0.500	1.66	3.417	3.32	6.333	9.41	9.25	2.21
0.583	1.66	3.500	3.32	6.417	6.60	9.33	2.21
0.667	1.66	3.583	3.87	6.500	6.60	9.42	1.66
0.750	1.66	3.667	3.87	6.583	6.09	9.50	1.66
0.833	1.66	3.750	4.43	6.667	6.09	9.58	1.66
0.917	1.66	3.833	4.43	6.750	5.53	9.67	1.66
1.000	1.66	3.917	4.98	6.833	5.53	9.75	1.66
1.083	1.66	4.000	4.98	6.917	4.98	9.83	1.66
1.167	1.66	4.083	5.53	7.000	4.98	9.92	1.66
1.250	1.66	4.167	5.53	7.083	4.98	10.00	1.66
1.333	1.66	4.250	6.09	7.167	4.98	10.08	1.66
1.417	1.66	4.333	6.09	7.250	4.98	10.17	1.66
1.500	1.66	4.417	6.64	7.333	4.98	10.25	1.66
1.583	2.21	4.500	6.64	7.417	4.98	10.33	1.66
1.667	2.21	4.583	7.75	7.500	4.98	10.42	1.66
1.750	2.77	4.667	7.75	7.583	4.43	10.50	1.66
1.833	2.77	4.750	8.85	7.667	4.43	10.58	1.66
1.917	3.32	4.833	8.85	7.750	3.87	10.67	1.66
2.000	3.32	4.917	9.96	7.833	3.87	10.75	1.66
2.083	3.32	5.000	9.96	7.917	3.32	10.83	1.66
2.167	3.32	5.083	31.54	8.000	3.32	10.92	1.66
2.250	3.32	5.167	31.54	8.083	3.32	11.00	1.66
2.333	3.32	5.250	53.12	8.167	3.32	11.08	1.66
2.417	3.32	5.333	53.12	8.250	3.32	11.17	1.66
2.500	3.32	5.417	74.70	8.333	3.32	11.25	1.66
2.583	3.32	5.500	74.70	8.417	3.32	11.33	1.66
2.667	3.32	5.583	54.78	8.500	3.32	11.42	1.66
2.750	3.32	5.667	54.78	8.583	3.32	11.50	1.66
2.833	3.32	5.750	34.86	8.667	3.32		

2.917 3.32 | 5.833 34.86 | 8.750 3.32 |

Max.Eff.Inten.(mm/hr)=	74.70	52.21	
over (min)	5.00	15.00	
Storage Coeff. (min)=	3.45 (ii)	12.61 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.26	0.08	
			TOTALS
PEAK FLOW (cms)=	0.28	0.15	0.398 (iii)
TIME TO PEAK (hrs)=	5.50	5.67	5.50
RUNOFF VOLUME (mm)=	80.89	51.61	66.25
TOTAL RAINFALL (mm)=	81.89	81.89	81.89
RUNOFF COEFFICIENT =	0.99	0.63	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 10010) |
| 1 + 2 = 3       |
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 10000):  2.78    0.398    5.50    66.25
+ ID2= 2 ( 8140): 41.06    4.247    5.67    60.81
=====
ID = 3 ( 10010): 43.84    4.616    5.67    61.16

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| RESERVOIR( 10020) | 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    0.4750    1.4077
                0.0360    0.1569    0.5120    1.5638
                0.0550    0.3255    0.5460    1.7245
                0.0620    0.3843    0.5780    1.8900
                0.0810    0.5687    0.6080    2.0600
                0.1060    0.6976    0.9880    2.2351
                0.1770    0.8304    1.6470    2.4147
                0.2750    0.9677    2.9610    2.6944
                0.3910    1.1096    4.5710    2.9877
                0.4350    1.2563    0.0000    0.0000

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	4.616	5.67	61.16
OUTFLOW: ID= 1 (10020)	43.840	0.560	7.83	61.13

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.13
 TIME SHIFT OF PEAK FLOW (min)=130.00
 MAXIMUM STORAGE USED (ha.m.)= 1.7976

```

-----
| ADD HYD ( 10030) |
| 1 + 2 = 3 |
-----
          AREA   QPEAK   TPEAK   R.V.
          (ha)   (cms)   (hrs)   (mm)
ID1= 1 ( 10020):  43.84  0.560   7.83   61.13
+ ID2= 2 ( 8320):  31.17  1.201   6.42   36.59
=====
ID = 3 ( 10030):  75.01  1.723   6.42   50.94
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

V  V  I  SSSSS  U  U  A  L          (v 6.2.2014)
V  V  I  SS    U  U  A  A  L
V  V  I  SS    U  U  AAAAA  L
V  V  I  SS    U  U  A  A  L
  VV  I  SSSSS  UUUUU  A  A  LLLLL

  000  TTTTT  TTTTT  H  H  Y  Y  M  M  000  TM
  O  O  T  T  H  H  Y  Y  MM  MM  O  O
  O  O  T  T  H  H  Y  M  M  O  O
  000  T  T  H  H  Y  M  M  000
  
```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\d19a25
 3a-03a2-41bf-a300-605cee58c0b2\scenar
 Summary filename:

C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\d19a253a-03a2-41bf-a300-605cee58c0b2\scenar

DATE: 07-12-2023

TIME: 10:45:45

USER:

COMMENTS: _____

** SIMULATION : 5 Year 12 Hour SCS **

READ STORM	Filename: C:\Users\kchow\AppData\Local\Temp\61a7af16-9004-4fb5-99f9-32bc32492ea1\ueb31e5e
Ptotal= 57.42 mm	Comments: 5 Year 12 Hour SCS

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.39	3.00	2.33	6.00	8.54	9.00	1.94
0.17	0.78	3.17	2.33	6.17	6.60	9.17	1.55
0.33	1.16	3.33	2.33	6.33	4.66	9.33	1.16
0.50	1.16	3.50	2.72	6.50	4.27	9.50	1.16
0.67	1.16	3.67	3.10	6.67	3.88	9.67	1.16
0.83	1.16	3.83	3.49	6.83	3.49	9.83	1.16
1.00	1.16	4.00	3.88	7.00	3.49	10.00	1.16
1.17	1.16	4.17	4.27	7.17	3.49	10.17	1.16
1.33	1.16	4.33	4.66	7.33	3.49	10.33	1.16
1.50	1.55	4.50	5.43	7.50	3.10	10.50	1.16
1.67	1.94	4.67	6.21	7.67	2.72	10.67	1.16
1.83	2.33	4.83	6.98	7.83	2.33	10.83	1.16
2.00	2.33	5.00	22.12	8.00	2.33	11.00	1.16
2.17	2.33	5.17	37.25	8.17	2.33	11.17	1.16
2.33	2.33	5.33	52.38	8.33	2.33	11.33	1.16
2.50	2.33	5.50	38.41	8.50	2.33		
2.67	2.33	5.67	24.44	8.67	2.33		
2.83	2.33	5.83	10.48	8.83	2.33		

CALIB			
NASHYD (8500)		Area (ha)= 11.81	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min		Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
-----		U.H. Tp(hrs)= 0.72	

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	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.273 (i)

TIME TO PEAK (hrs)= 6.333
 RUNOFF VOLUME (mm)= 20.043
 TOTAL RAINFALL (mm)= 57.418
 RUNOFF COEFFICIENT = 0.349

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

```

-----
| CALIB |
| NASHYD ( 8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.99
  
```

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	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16

2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.207 (i)
 TIME TO PEAK (hrs)= 6.667
 RUNOFF VOLUME (mm)= 20.043
 TOTAL RAINFALL (mm)= 57.418
 RUNOFF COEFFICIENT = 0.349

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

CALIB					
NASHYD (8300)	Area (ha)=	8.15	Curve Number (CN)=	75.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.80			

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	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16

1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.175 (i)
 TIME TO PEAK (hrs)= 6.417
 RUNOFF VOLUME (mm)= 20.043
 TOTAL RAINFALL (mm)= 57.418
 RUNOFF COEFFICIENT = 0.349

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

ADD HYD (8310)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8300):	8.15	0.175	6.42	20.04
+ ID2= 2 (8400):	11.21	0.207	6.67	20.04
=====				
ID = 3 (8310):	19.36	0.379	6.50	20.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8320)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):	19.36	0.379	6.50	20.04
+ ID2= 2 (8500):	11.81	0.273	6.33	20.04
=====				
ID = 3 (8320):	31.17	0.646	6.42	20.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (8200)	Area (ha)=	2.88	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.21	

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	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.046 (i)
 TIME TO PEAK (hrs)= 6.917
 RUNOFF VOLUME (mm)= 20.043
 TOTAL RAINFALL (mm)= 57.418
 RUNOFF COEFFICIENT = 0.349

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

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-----
| CALIB |
| NASHYD ( 8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.54
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16

2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.053 (i)
 TIME TO PEAK (hrs)= 6.083
 RUNOFF VOLUME (mm)= 20.042
 TOTAL RAINFALL (mm)= 57.418
 RUNOFF COEFFICIENT = 0.349

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

ADD HYD (8110)					
1 + 2 = 3					
	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (8100):	1.90	0.053	6.08	20.04	
+ ID2= 2 (8200):	2.88	0.046	6.92	20.04	
=====					
ID = 3 (8110):	4.78	0.087	6.33	20.04	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8700)			
ID= 1 DT= 5.0 min	Area (ha)=	Total Imp(%)=	Dir. Conn.(%)=
	2.22	60.00	30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33

0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Max.Eff.Inten.(mm/hr)= 52.38 69.11
over (min) 5.00 15.00
Storage Coeff. (min)= 3.72 (ii) 11.90 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.25 0.09

TOTALS

PEAK FLOW (cms)= 0.09 0.13 0.204 (iii)
TIME TO PEAK (hrs)= 5.50 5.67 5.67
RUNOFF VOLUME (mm)= 56.42 38.93 44.17
TOTAL RAINFALL (mm)= 57.42 57.42 57.42
RUNOFF COEFFICIENT = 0.98 0.68 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(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.

CALIB			
STANDHYD (8800)	Area (ha)=	18.91	
ID= 1 DT= 5.0 min	Total Imp(%)=	65.00	Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16

2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Max.Eff.Inten.(mm/hr)= 52.38 74.79
over (min) 5.00 20.00
Storage Coeff. (min)= 7.08 (ii) 15.00 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.17 0.07

TOTALS

PEAK FLOW (cms)= 0.87 0.98 1.670 (iii)
TIME TO PEAK (hrs)= 5.50 5.75 5.67
RUNOFF VOLUME (mm)= 56.42 39.69 45.54
TOTAL RAINFALL (mm)= 57.42 57.42 57.42
RUNOFF COEFFICIENT = 0.98 0.69 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.

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-----
| ADD HYD ( 8710) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8700):	2.22	0.204	5.67	44.17
+ ID2= 2 (8800):	18.91	1.670	5.67	45.54
=====				
ID = 3 (8710):	21.13	1.874	5.67	45.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8120) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8110):	4.78	0.087	6.33	20.04
+ ID2= 2 (8710):	21.13	1.874	5.67	45.40
=====				
ID = 3 (8120):	25.91	1.915	5.67	40.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| STANDHYD ( 8600) | Area (ha)= 10.27
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00
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                IMPERVIOUS      PERVIOUS (i)
Surface Area   (ha)=          2.16          8.11
Dep. Storage   (mm)=          1.00          1.50
Average Slope  (%)=          2.00          2.00
Length         (m)=        261.66        250.00
Mannings n     =           0.013         0.250

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16

2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Max.Eff.Inten.(mm/hr)= 52.38 29.01
over (min) 5.00 40.00
Storage Coeff. (min)= 4.79 (ii) 39.55 (ii)
Unit Hyd. Tpeak (min)= 5.00 40.00
Unit Hyd. peak (cms)= 0.22 0.03

TOTALS
PEAK FLOW (cms)= 0.14 0.39 0.417 (iii)
TIME TO PEAK (hrs)= 5.50 6.17 6.17
RUNOFF VOLUME (mm)= 56.42 32.97 35.32
TOTAL RAINFALL (mm)= 57.42 57.42 57.42
RUNOFF COEFFICIENT = 0.98 0.57 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

| CALIB |
| STANDHYD (8900) | Area (ha)= 2.39
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33

0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Max.Eff.Inten.(mm/hr)=	52.38	32.20
over (min)	5.00	30.00
Storage Coeff. (min)=	3.81 (ii)	25.81 (ii)
Unit Hyd. Tpeak (min)=	5.00	30.00
Unit Hyd. peak (cms)=	0.25	0.04

TOTALS

PEAK FLOW (cms)=	0.03	0.11	0.123 (iii)
TIME TO PEAK (hrs)=	5.50	6.00	5.83
RUNOFF VOLUME (mm)=	56.42	32.98	35.31
TOTAL RAINFALL (mm)=	57.42	57.42	57.42
RUNOFF COEFFICIENT =	0.98	0.57	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (8610)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8600):		10.27	0.417	6.17	35.32
+ ID2= 2 (8900):		2.39	0.123	5.83	35.31
=====					
ID = 3 (8610):		12.66	0.531	6.08	35.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):		25.91	1.915	5.67	40.72
+ ID2= 2 (8610):		12.66	0.531	6.08	35.32
=====					
ID = 3 (8130):		38.57	2.343	5.67	38.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	(ha)=	0.90
STANDHYD (11000)		Total Imp(%)=	50.00	Dir. Conn.(%)= 25.00
ID= 1 DT= 5.0 min				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	0.39	3.000	2.33	5.917	10.48	8.83	2.33

0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Max.Eff.Inten.(mm/hr)=	52.38	56.02
over (min)	5.00	15.00
Storage Coeff. (min)=	2.84 (ii)	11.74 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.09

			TOTALS
PEAK FLOW (cms)=	0.03	0.05	0.079 (iii)
TIME TO PEAK (hrs)=	5.50	5.67	5.67
RUNOFF VOLUME (mm)=	56.42	36.88	41.76
TOTAL RAINFALL (mm)=	57.42	57.42	57.42
RUNOFF COEFFICIENT =	0.98	0.64	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(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.

CALIB			
STANDHYD (12000)	Area (ha)=	1.59	
ID= 1 DT= 5.0 min	Total Imp(%)=	25.00	Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

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	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16
2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16

2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Max.Eff.Inten.(mm/hr)= 52.38 36.23
over (min) 5.00 15.00
Storage Coeff. (min)= 3.37 (ii) 13.96 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.26 0.08

TOTALS

PEAK FLOW (cms)= 0.03 0.09 0.117 (iii)
TIME TO PEAK (hrs)= 5.50 5.75 5.67
RUNOFF VOLUME (mm)= 56.42 33.24 36.25
TOTAL RAINFALL (mm)= 57.42 57.42 57.42
RUNOFF COEFFICIENT = 0.98 0.58 0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.079	5.67	41.76
+ ID2= 2 (12000):	1.59	0.117	5.67	36.25
=====				
ID = 3 (11010):	2.49	0.195	5.67	38.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8140) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
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ID1= 1 (11010):	2.49	0.195	5.67	38.24
+ ID2= 2 (8130):	38.57	2.343	5.67	38.95
=====				
ID = 3 (8140):	41.06	2.538	5.67	38.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| CALIB |
| STANDHYD ( 10000) |
| ID= 1 DT= 5.0 min |
-----
Area (ha)= 2.78
Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.39	3.000	2.33	5.917	10.48	8.83	2.33
0.167	0.39	3.083	2.33	6.000	10.48	8.92	2.33
0.250	0.78	3.167	2.33	6.083	8.54	9.00	2.33
0.333	0.78	3.250	2.33	6.167	8.54	9.08	1.94
0.417	1.16	3.333	2.33	6.250	6.60	9.17	1.94
0.500	1.16	3.417	2.33	6.333	6.60	9.25	1.55
0.583	1.16	3.500	2.33	6.417	4.66	9.33	1.55
0.667	1.16	3.583	2.72	6.500	4.66	9.42	1.16
0.750	1.16	3.667	2.72	6.583	4.27	9.50	1.16
0.833	1.16	3.750	3.10	6.667	4.27	9.58	1.16
0.917	1.16	3.833	3.10	6.750	3.88	9.67	1.16
1.000	1.16	3.917	3.49	6.833	3.88	9.75	1.16
1.083	1.16	4.000	3.49	6.917	3.49	9.83	1.16
1.167	1.16	4.083	3.88	7.000	3.49	9.92	1.16
1.250	1.16	4.167	3.88	7.083	3.49	10.00	1.16
1.333	1.16	4.250	4.27	7.167	3.49	10.08	1.16
1.417	1.16	4.333	4.27	7.250	3.49	10.17	1.16
1.500	1.16	4.417	4.66	7.333	3.49	10.25	1.16
1.583	1.55	4.500	4.66	7.417	3.49	10.33	1.16
1.667	1.55	4.583	5.43	7.500	3.49	10.42	1.16
1.750	1.94	4.667	5.43	7.583	3.10	10.50	1.16
1.833	1.94	4.750	6.21	7.667	3.10	10.58	1.16
1.917	2.33	4.833	6.21	7.750	2.72	10.67	1.16
2.000	2.33	4.917	6.98	7.833	2.72	10.75	1.16
2.083	2.33	5.000	6.98	7.917	2.33	10.83	1.16

2.167	2.33	5.083	22.12	8.000	2.33	10.92	1.16
2.250	2.33	5.167	22.12	8.083	2.33	11.00	1.16
2.333	2.33	5.250	37.25	8.167	2.33	11.08	1.16
2.417	2.33	5.333	37.25	8.250	2.33	11.17	1.16
2.500	2.33	5.417	52.38	8.333	2.33	11.25	1.16
2.583	2.33	5.500	52.38	8.417	2.33	11.33	1.16
2.667	2.33	5.583	38.41	8.500	2.33	11.42	1.16
2.750	2.33	5.667	38.41	8.583	2.33	11.50	1.16
2.833	2.33	5.750	24.44	8.667	2.33		
2.917	2.33	5.833	24.44	8.750	2.33		

Max.Eff.Inten.(mm/hr)= 52.38 29.09
over (min) 5.00 20.00
Storage Coeff. (min)= 3.98 (ii) 15.55 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.24 0.07

TOTALS

PEAK FLOW (cms)= 0.20 0.08 0.249 (iii)
TIME TO PEAK (hrs)= 5.50 5.83 5.50
RUNOFF VOLUME (mm)= 56.42 31.04 43.73
TOTAL RAINFALL (mm)= 57.42 57.42 57.42
RUNOFF COEFFICIENT = 0.98 0.54 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 10010) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10000):	2.78	0.249	5.50	43.73
+ ID2= 2 (8140):	41.06	2.538	5.67	38.90
=====				
ID = 3 (10010):	43.84	2.768	5.67	39.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| RESERVOIR( 10020) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min |
-----

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OVERFLOW IS OFF	
OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000
OUTFLOW (cms)	STORAGE (ha.m.)
0.4750	1.4077

0.0360	0.1569	0.5120	1.5638
0.0550	0.3255	0.5460	1.7245
0.0620	0.3843	0.5780	1.8900
0.0810	0.5687	0.6080	2.0600
0.1060	0.6976	0.9880	2.2351
0.1770	0.8304	1.6470	2.4147
0.2750	0.9677	2.9610	2.6944
0.3910	1.1096	4.5710	2.9877
0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	2.768	5.67	39.21
OUTFLOW: ID= 1 (10020)	43.840	0.401	7.83	39.19

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.49
 TIME SHIFT OF PEAK FLOW (min)=130.00
 MAXIMUM STORAGE USED (ha.m.)= 1.1437

 | ADD HYD (10030) |
 | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.401	7.83	39.19
+ ID2= 2 (8320):	31.17	0.646	6.42	20.04
=====				
ID = 3 (10030):	75.01	0.985	6.58	31.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 =====
 =====
 V V I SSSSS U U A L (v 6.2.2014)
 V V I SS U U A A L
 V V I SS U U AAAAA L
 V V I SS U U A A L
 VV I SSSSS UUUUU A A LLLLL

OOO TTTTT TTTTT H H Y Y M M OOO TM
 O O T T H H Y Y MM MM O O
 O O T T H H Y M M O O
 OOO T T H H Y M M OOO

***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO 6.2\V02\voim.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\f358c0d2-5a8e-455b-adad-8c7cf274dbc5\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\f358c0d2-5a8e-455b-adad-8c7cf274dbc5\scenar

DATE: 07-12-2023

TIME: 10:45:45

USER:

COMMENTS: _____

 ** SIMULATION : 50 Year 12 Hour SCS **

READ STORM	Filename: C:\Users\kchow\AppData\Local\Temp\61a7af16-9004-4fb5-99f9-32bc32492ea1\ef3fffb0a
Ptotal= 92.66 mm	Comments: 50 Year 12 Hour SCS

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.63	3.00	3.76	6.00	13.77	9.00	3.13
0.17	1.25	3.17	3.76	6.17	10.64	9.17	2.50
0.33	1.88	3.33	3.76	6.33	7.51	9.33	1.88
0.50	1.88	3.50	4.38	6.50	6.89	9.50	1.88
0.67	1.88	3.67	5.01	6.67	6.26	9.67	1.88
0.83	1.88	3.83	5.63	6.83	5.63	9.83	1.88
1.00	1.88	4.00	6.26	7.00	5.63	10.00	1.88
1.17	1.88	4.17	6.89	7.17	5.63	10.17	1.88
1.33	1.88	4.33	7.51	7.33	5.63	10.33	1.88
1.50	2.50	4.50	8.76	7.50	5.01	10.50	1.88
1.67	3.13	4.67	10.02	7.67	4.38	10.67	1.88
1.83	3.76	4.83	11.27	7.83	3.76	10.83	1.88
2.00	3.76	5.00	35.68	8.00	3.76	11.00	1.88

2.17	3.76	5.17	60.10	8.17	3.76	11.17	1.88
2.33	3.76	5.33	84.51	8.33	3.76	11.33	1.88
2.50	3.76	5.50	61.97	8.50	3.76		
2.67	3.76	5.67	39.44	8.67	3.76		
2.83	3.76	5.83	16.90	8.83	3.76		

 | CALIB
 | NASHYD (8500)
ID= 1 DT= 5.0 min

Area (ha)= 11.81 Curve Number (CN)= 75.0
 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= 0.72

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88

2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.620 (i)
 TIME TO PEAK (hrs)= 6.333
 RUNOFF VOLUME (mm)= 44.592
 TOTAL RAINFALL (mm)= 92.662
 RUNOFF COEFFICIENT = 0.481

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

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| CALIB |
| NASHYD ( 8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.99

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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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88

1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.471 (i)
 TIME TO PEAK (hrs)= 6.583
 RUNOFF VOLUME (mm)= 44.592
 TOTAL RAINFALL (mm)= 92.662
 RUNOFF COEFFICIENT = 0.481

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

CALIB			
NASHYD (8300)	Area (ha)= 8.15	Curve Number (CN)= 75.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.80		

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88

1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.399 (i)
 TIME TO PEAK (hrs)= 6.417
 RUNOFF VOLUME (mm)= 44.592
 TOTAL RAINFALL (mm)= 92.662
 RUNOFF COEFFICIENT = 0.481

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

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-----
| ADD HYD ( 8310) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.399	6.42	44.59
+ ID2= 2 (8400):	11.21	0.471	6.58	44.59
=====				
ID = 3 (8310):	19.36	0.862	6.50	44.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD ( 8320) |

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1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8310):	19.36	0.862	6.50	44.59
+ ID2= 2 (8500):	11.81	0.620	6.33	44.59
=====				
ID = 3 (8320):	31.17	1.470	6.42	44.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)=	Curve Number (CN)=
NASHYD (8200)	2.88	75.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.21	

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88

2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.104 (i)
 TIME TO PEAK (hrs)= 6.833
 RUNOFF VOLUME (mm)= 44.592
 TOTAL RAINFALL (mm)= 92.662
 RUNOFF COEFFICIENT = 0.481

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

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| CALIB |
| NASHYD ( 8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.54

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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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88

1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.120 (i)
 TIME TO PEAK (hrs)= 6.083
 RUNOFF VOLUME (mm)= 44.590
 TOTAL RAINFALL (mm)= 92.662
 RUNOFF COEFFICIENT = 0.481

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

ADD HYD (8110)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (8100):	1.90	0.120	6.08	44.59
+ ID2= 2 (8200):	2.88	0.104	6.83	44.59
=====				
ID = 3 (8110):	4.78	0.199	6.33	44.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)	Total Imp(%)	Dir. Conn.(%)
STANDHYD (8700)	2.22	60.00	30.00
ID= 1 DT= 5.0 min			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Max.Eff.Inten.(mm/hr)= 84.51 126.95
over (min) 5.00 10.00
Storage Coeff. (min)= 3.07 (ii) 9.49 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.27 0.12

TOTALS

PEAK FLOW (cms)= 0.15 0.26 0.393 (iii)

TIME TO PEAK	(hrs)=	5.50	5.58	5.50
RUNOFF VOLUME	(mm)=	91.66	71.78	77.74
TOTAL RAINFALL	(mm)=	92.66	92.66	92.66
RUNOFF COEFFICIENT	=	0.99	0.77	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB	Area	(ha)=	18.91	
STANDHYD (8800)	Total Imp(%)=	65.00	Dir. Conn.(%)=	35.00
ID= 1 DT= 5.0 min				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88

1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Max.Eff.Inten.(mm/hr)= 84.51 136.35
over (min) 5.00 15.00
Storage Coeff. (min)= 5.84 (ii) 12.08 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.20 0.09

TOTALS

PEAK FLOW (cms)= 1.46 1.93 3.131 (iii)
TIME TO PEAK (hrs)= 5.50 5.67 5.67
RUNOFF VOLUME (mm)= 91.66 72.74 79.36
TOTAL RAINFALL (mm)= 92.66 92.66 92.66
RUNOFF COEFFICIENT = 0.99 0.79 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 (8710)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):	2.22	0.393	5.50	77.74
+ ID2= 2 (8800):	18.91	3.131	5.67	79.36
=====				
ID = 3 (8710):	21.13	3.497	5.67	79.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):	4.78	0.199	6.33	44.59
+ ID2= 2 (8710):	21.13	3.497	5.67	79.19
=====				
ID = 3 (8120):	25.91	3.600	5.67	72.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8600)			
ID= 1 DT= 5.0 min			
Area	(ha)=	10.27	
Total Imp(%)	=	21.00	Dir. Conn.(%)= 10.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.16	8.11
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	2.00	2.00
Length (m)=	261.66	250.00
Mannings n =	0.013	0.250

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88

1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Max.Eff.Inten.(mm/hr)= 84.51 59.49
over (min) 5.00 35.00
Storage Coeff. (min)= 3.95 (ii) 30.04 (ii)
Unit Hyd. Tpeak (min)= 5.00 35.00
Unit Hyd. peak (cms)= 0.24 0.04

TOTALS

PEAK FLOW (cms)= 0.24 0.87 0.928 (iii)
TIME TO PEAK (hrs)= 5.50 6.00 6.00
RUNOFF VOLUME (mm)= 91.66 63.84 66.62
TOTAL RAINFALL (mm)= 92.66 92.66 92.66
RUNOFF COEFFICIENT = 0.99 0.69 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

| CALIB |
| STANDHYD (8900) | Area (ha)= 2.39
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Max.Eff.Inten.(mm/hr)= 84.51 65.98
over (min) 5.00 20.00
Storage Coeff. (min)= 3.14 (ii) 19.66 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.27 0.06

TOTALS

PEAK FLOW (cms)= 0.06 0.25 0.280 (iii)

TIME TO PEAK	(hrs)=	5.50	5.83	5.75
RUNOFF VOLUME	(mm)=	91.66	63.84	66.62
TOTAL RAINFALL	(mm)=	92.66	92.66	92.66
RUNOFF COEFFICIENT	=	0.99	0.69	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8600):  10.27  0.928    6.00    66.62
+ ID2= 2 ( 8900):   2.39  0.280    5.75    66.62
=====
ID = 3 ( 8610):  12.66  1.166    5.92    66.62
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8130) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8120):  25.91  3.600    5.67    72.81
+ ID2= 2 ( 8610):  12.66  1.166    5.92    66.62
=====
ID = 3 ( 8130):  38.57  4.619    5.67    70.78
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB
| STANDHYD ( 11000) |
| ID= 1 DT= 5.0 min |
-----
Area (ha)= 0.90
Total Imp(%)= 50.00    Dir. Conn.(%)= 25.00
  
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00

Mannings n = 0.013 0.250

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Max.Eff.Inten.(mm/hr)= 84.51 105.06
over (min) 5.00 10.00
Storage Coeff. (min)= 2.34 (ii) 9.26 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.30 0.12

TOTALS

PEAK FLOW	(cms)=	0.05	0.11	0.153 (iii)
TIME TO PEAK	(hrs)=	5.50	5.58	5.50
RUNOFF VOLUME	(mm)=	91.66	69.13	74.75
TOTAL RAINFALL	(mm)=	92.66	92.66	92.66
RUNOFF COEFFICIENT	=	0.99	0.75	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

```

-----
| CALIB |
| STANDHYD ( 12000) |
| ID= 1 DT= 5.0 min |
-----
Area (ha)= 1.59
Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88
1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88

1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Max.Eff.Inten.(mm/hr)= 84.51 75.56
over (min) 5.00 15.00
Storage Coeff. (min)= 2.78 (ii) 10.68 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.28 0.09

TOTALS
PEAK FLOW (cms)= 0.05 0.20 0.235 (iii)
TIME TO PEAK (hrs)= 5.50 5.67 5.67
RUNOFF VOLUME (mm)= 91.66 64.21 67.78
TOTAL RAINFALL (mm)= 92.66 92.66 92.66
RUNOFF COEFFICIENT = 0.99 0.69 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.153	5.50	74.75
+ ID2= 2 (12000):	1.59	0.235	5.67	67.78

=====

ID = 3 (11010): 2.49 0.380 5.67 70.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):		2.49	0.380	5.67	70.30
+ ID2= 2 (8130):		38.57	4.619	5.67	70.78
=====					
ID = 3 (8140):		41.06	4.999	5.67	70.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	(ha)=	2.78
STANDHYD (10000)		Total Imp(%)=	50.00	Dir. Conn.(%)= 50.00
ID= 1 DT= 5.0 min				

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.39	1.39
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	136.14	40.00
Mannings n =	0.013	0.250

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	0.63	3.000	3.76	5.917	16.90	8.83	3.76
0.167	0.63	3.083	3.76	6.000	16.90	8.92	3.76
0.250	1.25	3.167	3.76	6.083	13.77	9.00	3.76
0.333	1.25	3.250	3.76	6.167	13.77	9.08	3.13
0.417	1.88	3.333	3.76	6.250	10.64	9.17	3.13
0.500	1.88	3.417	3.76	6.333	10.64	9.25	2.50
0.583	1.88	3.500	3.76	6.417	7.51	9.33	2.50
0.667	1.88	3.583	4.38	6.500	7.51	9.42	1.88
0.750	1.88	3.667	4.38	6.583	6.89	9.50	1.88
0.833	1.88	3.750	5.01	6.667	6.89	9.58	1.88
0.917	1.88	3.833	5.01	6.750	6.26	9.67	1.88
1.000	1.88	3.917	5.63	6.833	6.26	9.75	1.88
1.083	1.88	4.000	5.63	6.917	5.63	9.83	1.88
1.167	1.88	4.083	6.26	7.000	5.63	9.92	1.88
1.250	1.88	4.167	6.26	7.083	5.63	10.00	1.88
1.333	1.88	4.250	6.89	7.167	5.63	10.08	1.88

1.417	1.88	4.333	6.89	7.250	5.63	10.17	1.88
1.500	1.88	4.417	7.51	7.333	5.63	10.25	1.88
1.583	2.50	4.500	7.51	7.417	5.63	10.33	1.88
1.667	2.50	4.583	8.76	7.500	5.63	10.42	1.88
1.750	3.13	4.667	8.76	7.583	5.01	10.50	1.88
1.833	3.13	4.750	10.02	7.667	5.01	10.58	1.88
1.917	3.76	4.833	10.02	7.750	4.38	10.67	1.88
2.000	3.76	4.917	11.27	7.833	4.38	10.75	1.88
2.083	3.76	5.000	11.27	7.917	3.76	10.83	1.88
2.167	3.76	5.083	35.68	8.000	3.76	10.92	1.88
2.250	3.76	5.167	35.68	8.083	3.76	11.00	1.88
2.333	3.76	5.250	60.10	8.167	3.76	11.08	1.88
2.417	3.76	5.333	60.10	8.250	3.76	11.17	1.88
2.500	3.76	5.417	84.51	8.333	3.76	11.25	1.88
2.583	3.76	5.500	84.51	8.417	3.76	11.33	1.88
2.667	3.76	5.583	61.97	8.500	3.76	11.42	1.88
2.750	3.76	5.667	61.97	8.583	3.76	11.50	1.88
2.833	3.76	5.750	39.44	8.667	3.76		
2.917	3.76	5.833	39.44	8.750	3.76		

Max.Eff.Inten.(mm/hr)= 84.51 61.93
over (min) 5.00 15.00
Storage Coeff. (min)= 3.29 (ii) 11.84 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.09

TOTALS
PEAK FLOW (cms)= 0.32 0.19 0.462 (iii)
TIME TO PEAK (hrs)= 5.50 5.67 5.50
RUNOFF VOLUME (mm)= 91.66 61.11 76.39
TOTAL RAINFALL (mm)= 92.66 92.66 92.66
RUNOFF COEFFICIENT = 0.99 0.66 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 10010) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10000):	2.78	0.462	5.50	76.39
+ ID2= 2 (8140):	41.06	4.999	5.67	70.75
=====				
ID = 3 (10010):	43.84	5.427	5.67	71.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| RESERVOIR( 10020) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min      |
-----

```

OVERFLOW IS OFF

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4750	1.4077
	0.0360	0.1569	0.5120	1.5638
	0.0550	0.3255	0.5460	1.7245
	0.0620	0.3843	0.5780	1.8900
	0.0810	0.5687	0.6080	2.0600
	0.1060	0.6976	0.9880	2.2351
	0.1770	0.8304	1.6470	2.4147
	0.2750	0.9677	2.9610	2.6944
	0.3910	1.1096	4.5710	2.9877
	0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	5.427	5.67	71.11
OUTFLOW: ID= 1 (10020)	43.840	0.691	7.75	71.08

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.74
 TIME SHIFT OF PEAK FLOW (min)=125.00
 MAXIMUM STORAGE USED (ha.m.)= 2.0986

```

-----
| ADD HYD ( 10030) |
| 1 + 2 = 3      |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.691	7.75	71.08
+ ID2= 2 (8320):	31.17	1.470	6.42	44.59
=====				
ID = 3 (10030):	75.01	2.048	6.42	60.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

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=====

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V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

000 TTTTT TTTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\V02\voin.dat
Output filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\4eb4f2
16-edc5-40f1-b4be-b38b870c6515\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\4eb4f2
16-edc5-40f1-b4be-b38b870c6515\scenar

DATE: 07-06-2023 TIME: 01:00:22

USER:

COMMENTS: _____

** SIMULATION : 10 Year 24 Hour Chicago **

| READ STORM | Filename: C:\Users\kchow\AppData\Local\Temp\
| |

| Ptotal= 79.59 mm |

adaa2742-1e28-4470-bea7-d4631a29b055\1a3a751c
 Comments: 10 Year 24 Hour Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.68	6.00	2.30	12.00	2.05	18.00	0.98
0.17	0.69	6.17	2.49	12.17	1.98	18.17	0.97
0.33	0.71	6.33	2.74	12.33	1.92	18.33	0.95
0.50	0.72	6.50	3.04	12.50	1.86	18.50	0.94
0.67	0.73	6.67	3.42	12.67	1.81	18.67	0.93
0.83	0.75	6.83	3.94	12.83	1.76	18.83	0.92
1.00	0.76	7.00	4.66	13.00	1.71	19.00	0.91
1.17	0.78	7.17	5.77	13.17	1.67	19.17	0.89
1.33	0.80	7.33	7.68	13.33	1.62	19.33	0.88
1.50	0.81	7.50	11.84	13.50	1.58	19.50	0.87
1.67	0.83	7.67	29.04	13.67	1.54	19.67	0.86
1.83	0.85	7.83	121.64	13.83	1.51	19.83	0.85
2.00	0.87	8.00	38.46	14.00	1.48	20.00	0.85
2.17	0.89	8.17	20.02	14.17	1.44	20.17	0.83
2.33	0.91	8.33	13.60	14.33	1.41	20.33	0.83
2.50	0.94	8.50	10.37	14.50	1.38	20.50	0.82
2.67	0.96	8.67	8.42	14.67	1.36	20.67	0.81
2.83	0.99	8.83	7.12	14.83	1.33	20.83	0.80
3.00	1.01	9.00	6.19	15.00	1.30	21.00	0.79
3.17	1.04	9.17	5.49	15.17	1.28	21.17	0.78
3.33	1.08	9.33	4.94	15.33	1.25	21.33	0.78
3.50	1.11	9.50	4.50	15.50	1.23	21.50	0.77
3.67	1.15	9.67	4.14	15.67	1.21	21.67	0.76
3.83	1.19	9.83	3.84	15.83	1.19	21.83	0.75
4.00	1.23	10.00	3.58	16.00	1.17	22.00	0.75
4.17	1.27	10.17	3.35	16.17	1.15	22.17	0.74
4.33	1.33	10.33	3.16	16.33	1.13	22.33	0.73
4.50	1.38	10.50	2.99	16.50	1.12	22.50	0.73
4.67	1.44	10.67	2.84	16.67	1.10	22.67	0.72
4.83	1.51	10.83	2.70	16.83	1.08	22.83	0.71
5.00	1.58	11.00	2.58	17.00	1.07	23.00	0.71
5.17	1.67	11.17	2.47	17.17	1.05	23.17	0.70
5.33	1.76	11.33	2.37	17.33	1.03	23.33	0.69
5.50	1.87	11.50	2.28	17.50	1.02	23.50	0.69
5.67	1.99	11.67	2.19	17.67	1.00	23.67	0.68
5.83	2.13	11.83	2.12	17.83	0.99	23.83	0.68

 | CALIB
 | STANDHYD (10000)
 | ID= 1 DT= 5.0 min |

Area (ha)= 2.78
 Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

IMPERVIOUS PERVIOUS (i)

Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

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	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79

3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Max.Eff.Inten.(mm/hr)=	121.64	74.90
over (min)	5.00	15.00
Storage Coeff. (min)=	2.84 (ii)	10.77 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.09

TOTALS

PEAK FLOW (cms)=	0.46	0.17	0.562 (iii)
TIME TO PEAK (hrs)=	8.00	8.17	8.00
RUNOFF VOLUME (mm)=	78.59	49.61	64.10
TOTAL RAINFALL (mm)=	79.59	79.59	79.59
RUNOFF COEFFICIENT =	0.99	0.62	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(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.

CALIB			
STANDHYD (11000)	Area (ha)=	0.90	
ID= 1 DT= 5.0 min	Total Imp(%)=	50.00	Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85

2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Max.Eff.Inten.(mm/hr)= 121.64 133.50
over (min) 5.00 10.00
Storage Coeff. (min)= 2.03 (ii) 8.31 (ii)

Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.13	
			TOTALS
PEAK FLOW (cms)=	0.08	0.11	0.177 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	78.59	56.94	62.34
TOTAL RAINFALL (mm)=	79.59	79.59	79.59
RUNOFF COEFFICIENT =	0.99	0.72	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91

1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70

5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Max.Eff.Inten.(mm/hr)= 121.64 93.13
over (min) 5.00 10.00
Storage Coeff. (min)= 2.40 (ii) 9.67 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.30 0.11

TOTALS

PEAK FLOW (cms)= 0.07 0.20 0.241 (iii)
TIME TO PEAK (hrs)= 8.00 8.08 8.00
RUNOFF VOLUME (mm)= 78.59 52.42 55.82
TOTAL RAINFALL (mm)= 79.59 79.59 79.59
RUNOFF COEFFICIENT = 0.99 0.66 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.177	8.00	62.34
+ ID2= 2 (12000):	1.59	0.241	8.00	55.82
=====				
ID = 3 (11010):	2.49	0.418	8.00	58.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8200) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	2.88	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	1.21		

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	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77

3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.064 (i)

TIME TO PEAK (hrs)= 9.417

RUNOFF VOLUME (mm)= 34.932

TOTAL RAINFALL (mm)= 79.587

RUNOFF COEFFICIENT = 0.439

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

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| CALIB |
| NASHYD ( 8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.54

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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	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75

4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.076 (i)
 TIME TO PEAK (hrs)= 8.583
 RUNOFF VOLUME (mm)= 34.931
 TOTAL RAINFALL (mm)= 79.587
 RUNOFF COEFFICIENT = 0.439

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

ADD HYD (8110)				
1 + 2 = 3				

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.076	8.58	34.93
+ ID2= 2 (8200):	2.88	0.064	9.42	34.93
=====				
ID = 3 (8110):	4.78	0.122	8.83	34.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 | CALIB |

| STANDHYD (8700) | Area (ha)= 2.22
 | ID= 1 DT= 5.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81

2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Max.Eff.Inten.(mm/hr)=	121.64	164.07
over (min)	5.00	10.00
Storage Coeff. (min)=	2.66 (ii)	8.45 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.12

			TOTALS
PEAK FLOW (cms)=	0.22	0.27	0.467 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	78.59	59.40	65.16
TOTAL RAINFALL (mm)=	79.59	79.59	79.59
RUNOFF COEFFICIENT =	0.99	0.75	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 8800) | Area (ha)= 18.91
| ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86

1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Max.Eff.Inten.(mm/hr)=	121.64	177.31	
over (min)	5.00	15.00	
Storage Coeff. (min)=	5.05 (ii)	10.67 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.21	0.09	
			TOTALS
PEAK FLOW (cms)=	1.99	1.90	3.205 (iii)
TIME TO PEAK (hrs)=	8.00	8.17	8.00
RUNOFF VOLUME (mm)=	78.59	60.30	66.70
TOTAL RAINFALL (mm)=	79.59	79.59	79.59
RUNOFF COEFFICIENT =	0.99	0.76	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 (8710)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):	2.22	0.467	8.00	65.16
+ ID2= 2 (8800):	18.91	3.205	8.00	66.70
=====				
ID = 3 (8710):	21.13	3.672	8.00	66.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):	4.78	0.122	8.83	34.93
+ ID2= 2 (8710):	21.13	3.672	8.00	66.54
=====				
ID = 3 (8120):	25.91	3.696	8.00	60.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (8900)				
ID= 1 DT= 5.0 min	Area (ha)=	2.39		
	Total Imp(%)=	21.00	Dir. Conn.(%)=	10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79

3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Max.Eff.Inten.(mm/hr)=	121.64	62.10
over (min)	5.00	20.00
Storage Coeff. (min)=	2.72 (ii)	19.63 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.29	0.06

			TOTALS
PEAK FLOW (cms)=	0.08	0.20	0.220 (iii)
TIME TO PEAK (hrs)=	8.00	8.25	8.25
RUNOFF VOLUME (mm)=	78.59	52.09	54.73
TOTAL RAINFALL (mm)=	79.59	79.59	79.59
RUNOFF COEFFICIENT =	0.99	0.65	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%

YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

CALIB	
STANDHYD (8600)	Area (ha)= 10.27
ID= 1 DT= 5.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.16	8.11
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	2.00	2.00
Length (m)=	261.66	250.00
Mannings n =	0.013	0.250

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	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85

2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Max.Eff.Inten.(mm/hr)=	121.64	47.41	
over (min)	5.00	35.00	
Storage Coeff. (min)=	3.42 (ii)	31.98 (ii)	
Unit Hyd. Tpeak (min)=	5.00	35.00	
Unit Hyd. peak (cms)=	0.26	0.03	
			TOTALS
PEAK FLOW (cms)=	0.33	0.63	0.673 (iii)
TIME TO PEAK (hrs)=	8.00	8.50	8.50
RUNOFF VOLUME (mm)=	78.59	52.08	54.74
TOTAL RAINFALL (mm)=	79.59	79.59	79.59
RUNOFF COEFFICIENT =	0.99	0.65	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3      |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8600):  10.27  0.673    8.50    54.74
+ ID2= 2 ( 8900):   2.39  0.220    8.25    54.73
=====
ID = 3 ( 8610):  12.66  0.835    8.50    54.73
  
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8130) |
| 1 + 2 = 3      |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8120):  25.91  3.696    8.00    60.71
+ ID2= 2 ( 8610):  12.66  0.835    8.50    54.73
=====
ID = 3 ( 8130):  38.57  4.377    8.00    58.75
  
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD ( 8140) |
  
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1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11010):	2.49	0.418	8.00	58.18
+ ID2= 2 (8130):	38.57	4.377	8.00	58.75
=====				
ID = 3 (8140):	41.06	4.795	8.00	58.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10010)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10000):		2.78	0.562	8.00	64.10
+ ID2= 2 (8140):		41.06	4.795	8.00	58.71
=====					
ID = 3 (10010):		43.84	5.357	8.00	59.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(10020)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4750	1.4077
	0.0360	0.1569	0.5120	1.5638
	0.0550	0.3255	0.5460	1.7245
	0.0620	0.3843	0.5780	1.8900
	0.0810	0.5687	0.6080	2.0600
	0.1060	0.6976	0.9880	2.2351
	0.1770	0.8304	1.6470	2.4147
	0.2750	0.9677	2.9610	2.6944
	0.3910	1.1096	4.5710	2.9877
	0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	5.357	8.00	59.05
OUTFLOW: ID= 1 (10020)	43.840	0.485	10.25	59.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.05
 TIME SHIFT OF PEAK FLOW (min)=135.00
 MAXIMUM STORAGE USED (ha.m.)= 1.4485

CALIB	NASHYD (8400)	Area (ha)=	Curve Number (CN)=
		11.21	75.0

|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 ----- U.H. Tp(hrs)= 0.99

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	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78

3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.290 (i)

TIME TO PEAK (hrs)= 9.167

RUNOFF VOLUME (mm)= 34.933

TOTAL RAINFALL (mm)= 79.587

RUNOFF COEFFICIENT = 0.439

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

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| CALIB |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.80

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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	0.68	6.083	2.30	12.083	2.05	18.08	0.98	
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98	
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97	
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97	
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95	
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95	
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94	
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94	
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93	
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93	
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92	
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92	
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91	
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91	
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89	
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89	
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88	
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88	
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87	
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87	
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86	
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86	
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85	
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85	
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85	
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85	
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83	
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83	
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83	
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83	
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82	
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82	
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81	
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81	
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80	
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80	
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79	
3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79	
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78	
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78	
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78	
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78	
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77	
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77	
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76	

3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.246 (i)

TIME TO PEAK (hrs)= 8.917

RUNOFF VOLUME (mm)= 34.932

TOTAL RAINFALL (mm)= 79.587

RUNOFF COEFFICIENT = 0.439

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

ADD HYD (8310)				
1 + 2 = 3				

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8300):	8.15	0.246	8.92	34.93
+ ID2= 2 (8400):	11.21	0.290	9.17	34.93
=====				
ID = 3 (8310):	19.36	0.531	9.00	34.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8500) | Area (ha)= 11.81 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.72

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.68	6.083	2.30	12.083	2.05	18.08	0.98
0.167	0.68	6.167	2.30	12.167	2.05	18.17	0.98
0.250	0.69	6.250	2.49	12.250	1.98	18.25	0.97
0.333	0.69	6.333	2.49	12.333	1.98	18.33	0.97
0.417	0.71	6.417	2.74	12.417	1.92	18.42	0.95
0.500	0.71	6.500	2.74	12.500	1.92	18.50	0.95
0.583	0.72	6.583	3.04	12.583	1.86	18.58	0.94
0.667	0.72	6.667	3.04	12.667	1.86	18.67	0.94
0.750	0.73	6.750	3.42	12.750	1.81	18.75	0.93
0.833	0.73	6.833	3.42	12.833	1.81	18.83	0.93
0.917	0.75	6.917	3.94	12.917	1.76	18.92	0.92
1.000	0.75	7.000	3.94	13.000	1.76	19.00	0.92
1.083	0.76	7.083	4.66	13.083	1.71	19.08	0.91
1.167	0.76	7.167	4.66	13.167	1.71	19.17	0.91
1.250	0.78	7.250	5.77	13.250	1.67	19.25	0.89
1.333	0.78	7.333	5.77	13.333	1.67	19.33	0.89
1.417	0.80	7.417	7.68	13.417	1.62	19.42	0.88
1.500	0.80	7.500	7.68	13.500	1.62	19.50	0.88
1.583	0.81	7.583	11.84	13.583	1.58	19.58	0.87
1.667	0.81	7.667	11.84	13.667	1.58	19.67	0.87
1.750	0.83	7.750	29.04	13.750	1.54	19.75	0.86
1.833	0.83	7.833	29.05	13.833	1.54	19.83	0.86
1.917	0.85	7.917	121.64	13.917	1.51	19.92	0.85
2.000	0.85	8.000	121.63	14.000	1.51	20.00	0.85
2.083	0.87	8.083	38.46	14.083	1.48	20.08	0.85
2.167	0.87	8.167	38.46	14.167	1.48	20.17	0.85
2.250	0.89	8.250	20.02	14.250	1.44	20.25	0.83
2.333	0.89	8.333	20.02	14.333	1.44	20.33	0.83
2.417	0.91	8.417	13.60	14.417	1.41	20.42	0.83
2.500	0.91	8.500	13.60	14.500	1.41	20.50	0.83
2.583	0.94	8.583	10.37	14.583	1.38	20.58	0.82
2.667	0.94	8.667	10.37	14.667	1.38	20.67	0.82
2.750	0.96	8.750	8.42	14.750	1.36	20.75	0.81
2.833	0.96	8.833	8.42	14.833	1.36	20.83	0.81
2.917	0.99	8.917	7.12	14.917	1.33	20.92	0.80
3.000	0.99	9.000	7.12	15.000	1.33	21.00	0.80
3.083	1.01	9.083	6.19	15.083	1.30	21.08	0.79

3.167	1.01	9.167	6.19	15.167	1.30	21.17	0.79
3.250	1.04	9.250	5.49	15.250	1.28	21.25	0.78
3.333	1.04	9.333	5.49	15.333	1.28	21.33	0.78
3.417	1.08	9.417	4.94	15.417	1.25	21.42	0.78
3.500	1.08	9.500	4.94	15.500	1.25	21.50	0.78
3.583	1.11	9.583	4.50	15.583	1.23	21.58	0.77
3.667	1.11	9.667	4.50	15.667	1.23	21.67	0.77
3.750	1.15	9.750	4.14	15.750	1.21	21.75	0.76
3.833	1.15	9.833	4.14	15.833	1.21	21.83	0.76
3.917	1.19	9.917	3.84	15.917	1.19	21.92	0.75
4.000	1.19	10.000	3.84	16.000	1.19	22.00	0.75
4.083	1.23	10.083	3.58	16.083	1.17	22.08	0.75
4.167	1.23	10.167	3.58	16.167	1.17	22.17	0.75
4.250	1.27	10.250	3.35	16.250	1.15	22.25	0.74
4.333	1.27	10.333	3.35	16.333	1.15	22.33	0.74
4.417	1.33	10.417	3.16	16.417	1.13	22.42	0.73
4.500	1.33	10.500	3.16	16.500	1.13	22.50	0.73
4.583	1.38	10.583	2.99	16.583	1.12	22.58	0.73
4.667	1.38	10.667	2.99	16.667	1.12	22.67	0.73
4.750	1.44	10.750	2.84	16.750	1.10	22.75	0.72
4.833	1.44	10.833	2.84	16.833	1.10	22.83	0.72
4.917	1.51	10.917	2.70	16.917	1.08	22.92	0.71
5.000	1.51	11.000	2.70	17.000	1.08	23.00	0.71
5.083	1.58	11.083	2.58	17.083	1.07	23.08	0.71
5.167	1.58	11.167	2.58	17.167	1.07	23.17	0.71
5.250	1.67	11.250	2.47	17.250	1.05	23.25	0.70
5.333	1.67	11.333	2.47	17.333	1.05	23.33	0.70
5.417	1.76	11.417	2.37	17.417	1.03	23.42	0.69
5.500	1.76	11.500	2.37	17.500	1.03	23.50	0.69
5.583	1.87	11.583	2.28	17.583	1.02	23.58	0.69
5.667	1.87	11.667	2.28	17.667	1.02	23.67	0.69
5.750	1.99	11.750	2.19	17.750	1.00	23.75	0.68
5.833	1.99	11.833	2.19	17.833	1.00	23.83	0.68
5.917	2.13	11.917	2.12	17.917	0.99	23.92	0.68
6.000	2.13	12.000	2.12	18.000	0.99	24.00	0.68

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.385 (i)

TIME TO PEAK (hrs)= 8.833

RUNOFF VOLUME (mm)= 34.932

TOTAL RAINFALL (mm)= 79.587

RUNOFF COEFFICIENT = 0.439

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

 | ADD HYD (8320) |

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8310):	19.36	0.531	9.00	34.93
+ ID2= 2 (8500):	11.81	0.385	8.83	34.93
=====				
ID = 3 (8320):	31.17	0.907	8.92	34.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10030) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.485	10.25	59.03
+ ID2= 2 (8320):	31.17	0.907	8.92	34.93
=====				
ID = 3 (10030):	75.01	1.355	9.00	49.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V   V   I   SSSSS  U   U   A   L           (v 6.2.2014)
V   V   I   SS    U   U   A A  L
V   V   I   SS    U   U   AAAAA L
V   V   I   SS    U   U   A   A  L
  VV    I   SSSSS  UUUUU  A   A  LLLLL

000  TTTTT  TTTTT  H   H   Y   Y   M   M   000  TM
0  0  T    T    H   H   Y   Y   MM  MM  0  0
0  0  T    T    H   H   Y   M   M   0  0
000  T    T    H   H   Y   M   M   000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\a2bf35
 69-d130-4abc-9362-df0f1fc30e26\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\a2bf35
 69-d130-4abc-9362-df0f1fc30e26\scenar

DATE: 07-06-2023

TIME: 01:00:22

USER:

COMMENTS: _____

 ** SIMULATION : 100 Year 24 Hour Chicago **

READ STORM	Filename: C:\Users\kchow\AppData\Local\Temp\adaa2742-1e28-4470-bea7-d4631a29b055\4f4123d0
Ptotal=122.36 mm	Comments: 100 Year 24 Hour Chicago

TIME	RAIN	TIME	RAIN	'	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	'	hrs	mm/hr	hrs	mm/hr
0.00	1.17	6.00	3.76		12.00	3.37	18.00	1.66
0.17	1.19	6.17	4.07		12.17	3.26	18.17	1.63
0.33	1.21	6.33	4.45		12.33	3.17	18.33	1.62
0.50	1.23	6.50	4.91		12.50	3.08	18.50	1.59
0.67	1.25	6.67	5.50		12.67	2.99	18.67	1.58
0.83	1.28	6.83	6.29		12.83	2.91	18.83	1.56
1.00	1.30	7.00	7.38		13.00	2.83	19.00	1.54
1.17	1.33	7.17	9.03		13.17	2.76	19.17	1.52
1.33	1.36	7.33	11.83		13.33	2.70	19.33	1.50
1.50	1.38	7.50	17.80		13.50	2.63	19.50	1.49
1.67	1.41	7.67	41.68		13.67	2.57	19.67	1.47
1.83	1.44	7.83	174.11		13.83	2.52	19.83	1.45
2.00	1.48	8.00	54.66		14.00	2.46	20.00	1.44
2.17	1.51	8.17	29.24		14.17	2.41	20.17	1.42
2.33	1.55	8.33	20.29		14.33	2.36	20.33	1.41
2.50	1.59	8.50	15.71		14.50	2.31	20.50	1.39
2.67	1.63	8.67	12.91		14.67	2.27	20.67	1.38
2.83	1.67	8.83	11.02		14.83	2.22	20.83	1.37
3.00	1.72	9.00	9.66		15.00	2.18	21.00	1.35
3.17	1.76	9.17	8.62		15.17	2.14	21.17	1.34
3.33	1.82	9.33	7.80		15.33	2.11	21.33	1.33
3.50	1.87	9.50	7.14		15.50	2.07	21.50	1.31
3.67	1.93	9.67	6.59		15.67	2.04	21.67	1.30
3.83	1.99	9.83	6.13		15.83	2.00	21.83	1.29

4.00	2.06	10.00	5.74	16.00	1.97	22.00	1.28
4.17	2.14	10.17	5.40	16.17	1.94	22.17	1.26
4.33	2.22	10.33	5.10	16.33	1.91	22.33	1.25
4.50	2.31	10.50	4.84	16.50	1.88	22.50	1.24
4.67	2.41	10.67	4.61	16.67	1.85	22.67	1.23
4.83	2.51	10.83	4.39	16.83	1.82	22.83	1.22
5.00	2.63	11.00	4.21	17.00	1.80	23.00	1.21
5.17	2.77	11.17	4.03	17.17	1.77	23.17	1.20
5.33	2.91	11.33	3.88	17.33	1.75	23.33	1.19
5.50	3.08	11.50	3.73	17.50	1.72	23.50	1.18
5.67	3.28	11.67	3.60	17.67	1.70	23.67	1.17
5.83	3.50	11.83	3.48	17.83	1.68	23.83	1.16

 CALIB
 STANDHYD (10000)
 ID= 1 DT= 5.0 min

Area (ha)= 2.78
 Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50

1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18

5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Max.Eff.Inten.(mm/hr)= 174.11 128.31
over (min) 5.00 10.00
Storage Coeff. (min)= 2.46 (ii) 8.85 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.30 0.12

TOTALS

PEAK FLOW (cms)= 0.66 0.33 0.957 (iii)
TIME TO PEAK (hrs)= 8.00 8.08 8.00
RUNOFF VOLUME (mm)= 121.36 88.16 104.76
TOTAL RAINFALL (mm)= 122.36 122.36 122.36
RUNOFF COEFFICIENT = 0.99 0.72 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (11000) | Area (ha)= 0.90
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62

0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24

4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Max.Eff.Inten.(mm/hr)= 174.11 217.06
over (min) 5.00 10.00
Storage Coeff. (min)= 1.76 (ii) 6.93 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.32 0.14

TOTALS

PEAK FLOW (cms)= 0.11 0.19 0.291 (iii)
TIME TO PEAK (hrs)= 8.00 8.08 8.00
RUNOFF VOLUME (mm)= 121.36 97.38 103.37
TOTAL RAINFALL (mm)= 122.36 122.36 122.36
RUNOFF COEFFICIENT = 0.99 0.80 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	102.96	40.00
Mannings n =	0.013	0.250

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66	
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66	
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63	
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63	
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62	
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62	
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59	
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59	
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58	
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58	
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56	
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56	
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54	
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54	
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52	
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52	
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50	
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50	
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49	
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49	
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47	
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47	
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45	
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45	
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44	
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44	
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42	
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42	
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41	
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41	
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39	
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39	
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38	
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38	
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37	
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37	
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35	
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35	
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34	
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34	
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33	
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33	
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31	

3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Max.Eff.Inten.(mm/hr)=	174.11	156.38
over (min)	5.00	10.00
Storage Coeff. (min)=	2.08 (ii)	7.98 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.31	0.13

			TOTALS
PEAK FLOW (cms)=	0.10	0.36	0.424 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	121.36	91.77	95.62
TOTAL RAINFALL (mm)=	122.36	122.36	122.36
RUNOFF COEFFICIENT =	0.99	0.75	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (11010)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11000):	0.90	0.291	8.00	103.37
+ ID2= 2 (12000):	1.59	0.424	8.00	95.62
=====				
ID = 3 (11010):	2.49	0.715	8.00	98.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (8200)				
ID= 1 DT= 5.0 min				

Area	(ha)=	2.88	Curve Number	(CN)= 75.0
Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp	(hrs)=	1.21		

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45

2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.124 (i)

TIME TO PEAK (hrs)= 9.417

RUNOFF VOLUME (mm)= 68.175

TOTAL RAINFALL (mm)= 122.360

RUNOFF COEFFICIENT = 0.557

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

| CALIB |
| NASHYD (8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 0.54

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42

2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.145 (i)

TIME TO PEAK (hrs)= 8.583

RUNOFF VOLUME (mm)= 68.173
 TOTAL RAINFALL (mm)= 122.360
 RUNOFF COEFFICIENT = 0.557

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

ADD HYD (8110)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.145	8.58	68.17
+ ID2= 2 (8200):	2.88	0.124	9.42	68.17
=====				
ID = 3 (8110):	4.78	0.235	8.75	68.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8700)			
ID= 1 DT= 5.0 min	Area (ha)=	Total Imp(%)=	Dir. Conn.(%)=
	2.22	60.00	30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66	
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66	
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63	
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63	
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62	
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62	
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59	
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59	
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58	
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58	
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56	
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56	
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54	

1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20

5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Max.Eff.Inten.(mm/hr)= 174.11 262.10
over (min) 5.00 10.00
Storage Coeff. (min)= 2.30 (ii) 7.10 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.30 0.14

TOTALS

PEAK FLOW (cms)= 0.32 0.46 0.751 (iii)
TIME TO PEAK (hrs)= 8.00 8.08 8.00
RUNOFF VOLUME (mm)= 121.36 100.35 106.65
TOTAL RAINFALL (mm)= 122.36 122.36 122.36
RUNOFF COEFFICIENT = 0.99 0.82 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (8800) | Area (ha)= 18.91
| ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66

0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26

4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Max.Eff.Inten.(mm/hr)= 174.11 281.44
over (min) 5.00 10.00
Storage Coeff. (min)= 4.38 (ii) 9.04 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.23 0.12

TOTALS

PEAK FLOW (cms)= 2.95 3.42 6.049 (iii)
TIME TO PEAK (hrs)= 8.00 8.08 8.00
RUNOFF VOLUME (mm)= 121.36 101.41 108.40
TOTAL RAINFALL (mm)= 122.36 122.36 122.36
RUNOFF COEFFICIENT = 0.99 0.83 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 (8710) |
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8700):	2.22	0.751	8.00	106.65
+ ID2= 2 (8800):	18.91	6.049	8.00	108.40

=====

ID = 3 (8710): 21.13 6.800 8.00 108.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):	4.78	0.235	8.75	68.17
+ ID2= 2 (8710):	21.13	6.800	8.00	108.21
=====				
ID = 3 (8120):	25.91	6.856	8.00	100.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8900)	Area (ha)=	2.39	
ID= 1 DT= 5.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52

1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19

5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Max.Eff.Inten.(mm/hr)= 174.11 119.36
over (min) 5.00 20.00
Storage Coeff. (min)= 2.35 (ii) 15.38 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.30 0.07

TOTALS

PEAK FLOW (cms)= 0.11 0.38 0.406 (iii)
TIME TO PEAK (hrs)= 8.00 8.25 8.25
RUNOFF VOLUME (mm)= 121.36 91.35 94.35
TOTAL RAINFALL (mm)= 122.36 122.36 122.36
RUNOFF COEFFICIENT = 0.99 0.75 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

| CALIB |
| STANDHYD (8600) | Area (ha)= 10.27
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66

0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26

4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Max.Eff.Inten.(mm/hr)= 174.11 88.53
over (min) 5.00 30.00
Storage Coeff. (min)= 2.96 (ii) 25.21 (ii)
Unit Hyd. Tpeak (min)= 5.00 30.00
Unit Hyd. peak (cms)= 0.28 0.04

TOTALS

PEAK FLOW (cms)= 0.48 1.23 1.298 (iii)
TIME TO PEAK (hrs)= 8.00 8.42 8.42
RUNOFF VOLUME (mm)= 121.36 91.35 94.35
TOTAL RAINFALL (mm)= 122.36 122.36 122.36
RUNOFF COEFFICIENT = 0.99 0.75 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (8610) |
1 + 2 = 3

AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)

ID1= 1 (8600):	10.27	1.298	8.42	94.35
+ ID2= 2 (8900):	2.39	0.406	8.25	94.35
=====				
ID = 3 (8610):	12.66	1.627	8.33	94.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):	25.91	6.856	8.00	100.83
+ ID2= 2 (8610):	12.66	1.627	8.33	94.35
=====				
ID = 3 (8130):	38.57	8.077	8.00	98.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):	2.49	0.715	8.00	98.42
+ ID2= 2 (8130):	38.57	8.077	8.00	98.70
=====				
ID = 3 (8140):	41.06	8.792	8.00	98.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10010)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10000):	2.78	0.957	8.00	104.76
+ ID2= 2 (8140):	41.06	8.792	8.00	98.68
=====				
ID = 3 (10010):	43.84	9.750	8.00	99.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(10020)	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	0.4750	1.4077
	0.0360	0.1569	0.5120	1.5638

0.0550	0.3255	0.5460	1.7245
0.0620	0.3843	0.5780	1.8900
0.0810	0.5687	0.6080	2.0600
0.1060	0.6976	0.9880	2.2351
0.1770	0.8304	1.6470	2.4147
0.2750	0.9677	2.9610	2.6944
0.3910	1.1096	4.5710	2.9877
0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	9.750	8.00	99.07
OUTFLOW: ID= 1 (10020)	43.840	1.150	9.58	99.04

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.80
 TIME SHIFT OF PEAK FLOW (min)= 95.00
 MAXIMUM STORAGE USED (ha.m.)= 2.2795

CALIB			
NASHYD (8400)	Area (ha)= 11.21	Curve Number (CN)= 75.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.99		

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49

1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17

5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.558 (i)

TIME TO PEAK (hrs)= 9.083

RUNOFF VOLUME (mm)= 68.176

TOTAL RAINFALL (mm)= 122.360

RUNOFF COEFFICIENT = 0.557

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

CALIB			
NASHYD (8300)	Area (ha)=	8.15	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.80	

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52
1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45

2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19
5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.473 (i)
TIME TO PEAK (hrs)= 8.917
RUNOFF VOLUME (mm)= 68.175
TOTAL RAINFALL (mm)= 122.360
RUNOFF COEFFICIENT = 0.557

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

ADD HYD (8310)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8300):		8.15	0.473	8.92	68.18
+ ID2= 2 (8400):		11.21	0.558	9.08	68.18
=====					
ID = 3 (8310):		19.36	1.021	9.00	68.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	(ha)=	11.81	Curve Number (CN)=	75.0
NASHYD (8500)		Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
ID= 1 DT= 5.0 min		U.H. Tp	(hrs)=	0.72		

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	1.17	6.083	3.76	12.083	3.37	18.08	1.66
0.167	1.17	6.167	3.76	12.167	3.37	18.17	1.66
0.250	1.19	6.250	4.07	12.250	3.26	18.25	1.63
0.333	1.19	6.333	4.07	12.333	3.26	18.33	1.63
0.417	1.21	6.417	4.45	12.417	3.17	18.42	1.62
0.500	1.21	6.500	4.45	12.500	3.17	18.50	1.62
0.583	1.23	6.583	4.91	12.583	3.08	18.58	1.59
0.667	1.23	6.667	4.91	12.667	3.08	18.67	1.59
0.750	1.25	6.750	5.50	12.750	2.99	18.75	1.58
0.833	1.25	6.833	5.50	12.833	2.99	18.83	1.58
0.917	1.28	6.917	6.29	12.917	2.91	18.92	1.56
1.000	1.28	7.000	6.29	13.000	2.91	19.00	1.56
1.083	1.30	7.083	7.38	13.083	2.83	19.08	1.54
1.167	1.30	7.167	7.38	13.167	2.83	19.17	1.54
1.250	1.33	7.250	9.03	13.250	2.76	19.25	1.52

1.333	1.33	7.333	9.03	13.333	2.76	19.33	1.52
1.417	1.36	7.417	11.83	13.417	2.70	19.42	1.50
1.500	1.36	7.500	11.83	13.500	2.70	19.50	1.50
1.583	1.38	7.583	17.80	13.583	2.63	19.58	1.49
1.667	1.38	7.667	17.80	13.667	2.63	19.67	1.49
1.750	1.41	7.750	41.68	13.750	2.57	19.75	1.47
1.833	1.41	7.833	41.69	13.833	2.57	19.83	1.47
1.917	1.44	7.917	174.11	13.917	2.52	19.92	1.45
2.000	1.44	8.000	174.10	14.000	2.52	20.00	1.45
2.083	1.48	8.083	54.66	14.083	2.46	20.08	1.44
2.167	1.48	8.167	54.66	14.167	2.46	20.17	1.44
2.250	1.51	8.250	29.24	14.250	2.41	20.25	1.42
2.333	1.51	8.333	29.24	14.333	2.41	20.33	1.42
2.417	1.55	8.417	20.29	14.417	2.36	20.42	1.41
2.500	1.55	8.500	20.29	14.500	2.36	20.50	1.41
2.583	1.59	8.583	15.71	14.583	2.31	20.58	1.39
2.667	1.59	8.667	15.71	14.667	2.31	20.67	1.39
2.750	1.63	8.750	12.91	14.750	2.27	20.75	1.38
2.833	1.63	8.833	12.91	14.833	2.27	20.83	1.38
2.917	1.67	8.917	11.02	14.917	2.22	20.92	1.37
3.000	1.67	9.000	11.02	15.000	2.22	21.00	1.37
3.083	1.72	9.083	9.66	15.083	2.18	21.08	1.35
3.167	1.72	9.167	9.66	15.167	2.18	21.17	1.35
3.250	1.76	9.250	8.62	15.250	2.14	21.25	1.34
3.333	1.76	9.333	8.62	15.333	2.14	21.33	1.34
3.417	1.82	9.417	7.80	15.417	2.11	21.42	1.33
3.500	1.82	9.500	7.80	15.500	2.11	21.50	1.33
3.583	1.87	9.583	7.14	15.583	2.07	21.58	1.31
3.667	1.87	9.667	7.14	15.667	2.07	21.67	1.31
3.750	1.93	9.750	6.59	15.750	2.04	21.75	1.30
3.833	1.93	9.833	6.59	15.833	2.04	21.83	1.30
3.917	1.99	9.917	6.13	15.917	2.00	21.92	1.29
4.000	1.99	10.000	6.13	16.000	2.00	22.00	1.29
4.083	2.06	10.083	5.74	16.083	1.97	22.08	1.28
4.167	2.06	10.167	5.74	16.167	1.97	22.17	1.28
4.250	2.14	10.250	5.40	16.250	1.94	22.25	1.26
4.333	2.14	10.333	5.40	16.333	1.94	22.33	1.26
4.417	2.22	10.417	5.10	16.417	1.91	22.42	1.25
4.500	2.22	10.500	5.10	16.500	1.91	22.50	1.25
4.583	2.31	10.583	4.84	16.583	1.88	22.58	1.24
4.667	2.31	10.667	4.84	16.667	1.88	22.67	1.24
4.750	2.41	10.750	4.61	16.750	1.85	22.75	1.23
4.833	2.41	10.833	4.61	16.833	1.85	22.83	1.23
4.917	2.51	10.917	4.39	16.917	1.82	22.92	1.22
5.000	2.51	11.000	4.39	17.000	1.82	23.00	1.22
5.083	2.63	11.083	4.21	17.083	1.80	23.08	1.21
5.167	2.63	11.167	4.21	17.167	1.80	23.17	1.21
5.250	2.77	11.250	4.03	17.250	1.77	23.25	1.20
5.333	2.77	11.333	4.03	17.333	1.77	23.33	1.20
5.417	2.91	11.417	3.88	17.417	1.75	23.42	1.19

5.500	2.91	11.500	3.88	17.500	1.75	23.50	1.19
5.583	3.08	11.583	3.73	17.583	1.72	23.58	1.18
5.667	3.08	11.667	3.73	17.667	1.72	23.67	1.18
5.750	3.28	11.750	3.60	17.750	1.70	23.75	1.17
5.833	3.28	11.833	3.60	17.833	1.70	23.83	1.17
5.917	3.50	11.917	3.48	17.917	1.68	23.92	1.16
6.000	3.50	12.000	3.48	18.000	1.68	24.00	1.16

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.738 (i)
 TIME TO PEAK (hrs)= 8.750
 RUNOFF VOLUME (mm)= 68.175
 TOTAL RAINFALL (mm)= 122.360
 RUNOFF COEFFICIENT = 0.557

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

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-----
| ADD HYD ( 8320) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8310):	19.36	1.021	9.00	68.18
+ ID2= 2 (8500):	11.81	0.738	8.75	68.18
=====				
ID = 3 (8320):	31.17	1.743	8.92	68.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 10030) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	1.150	9.58	99.04
+ ID2= 2 (8320):	31.17	1.743	8.92	68.18
=====				
ID = 3 (10030):	75.01	2.683	9.25	86.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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=====
V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L

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      W  I  SSSS  UUUU  A  A  LLLLL
000  TTTT  TTTT  H  H  Y  Y  M  M  000  TM
0  0  T  T  H  H  Y  Y  MM MM  0  0
0  0  T  T  H  H  Y  M  M  0  0
000  T  T  H  H  Y  M  M  000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\051e30
 47-20b4-49ea-84d0-7ab8a3cfa9f2\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\051e30
 47-20b4-49ea-84d0-7ab8a3cfa9f2\scenar

DATE: 07-06-2023

TIME: 01:00:22

USER:

COMMENTS: _____

 ** SIMULATION : 2 Year 24 Hour Chicago **

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| READ STORM | Filename: C:\Users\kchow\AppData
|             | ata\Local\Temp\
|             | adaa2742-1e28-4470-bea7-d4631a29b055\22b8763c
| Ptotal= 47.46 mm | Comments: 2 Year 24 Hour Chicago
-----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.36	6.00	1.27	12.00	1.13	18.00	0.52
0.17	0.37	6.17	1.38	12.17	1.09	18.17	0.52

0.33	0.38	6.33	1.52	12.33	1.05	18.33	0.51
0.50	0.38	6.50	1.70	12.50	1.02	18.50	0.50
0.67	0.39	6.67	1.92	12.67	0.99	18.67	0.50
0.83	0.40	6.83	2.23	12.83	0.96	18.83	0.49
1.00	0.41	7.00	2.66	13.00	0.94	19.00	0.48
1.17	0.41	7.17	3.32	13.17	0.91	19.17	0.48
1.33	0.42	7.33	4.49	13.33	0.89	19.33	0.47
1.50	0.43	7.50	7.09	13.50	0.86	19.50	0.47
1.67	0.44	7.67	18.22	13.67	0.84	19.67	0.46
1.83	0.45	7.83	79.72	13.83	0.82	19.83	0.46
2.00	0.46	8.00	24.38	14.00	0.80	20.00	0.45
2.17	0.47	8.17	12.31	14.17	0.78	20.17	0.45
2.33	0.49	8.33	8.20	14.33	0.77	20.33	0.44
2.50	0.50	8.50	6.16	14.50	0.75	20.50	0.44
2.67	0.51	8.67	4.95	14.67	0.74	20.67	0.43
2.83	0.53	8.83	4.15	14.83	0.72	20.83	0.43
3.00	0.54	9.00	3.58	15.00	0.71	21.00	0.42
3.17	0.56	9.17	3.16	15.17	0.69	21.17	0.42
3.33	0.58	9.33	2.83	15.33	0.68	21.33	0.41
3.50	0.60	9.50	2.56	15.50	0.67	21.50	0.41
3.67	0.62	9.67	2.35	15.67	0.65	21.67	0.40
3.83	0.64	9.83	2.17	15.83	0.64	21.83	0.40
4.00	0.66	10.00	2.02	16.00	0.63	22.00	0.40
4.17	0.69	10.17	1.88	16.17	0.62	22.17	0.39
4.33	0.72	10.33	1.77	16.33	0.61	22.33	0.39
4.50	0.75	10.50	1.67	16.50	0.60	22.50	0.38
4.67	0.78	10.67	1.58	16.67	0.59	22.67	0.38
4.83	0.82	10.83	1.50	16.83	0.58	22.83	0.38
5.00	0.86	11.00	1.43	17.00	0.57	23.00	0.37
5.17	0.91	11.17	1.37	17.17	0.56	23.17	0.37
5.33	0.96	11.33	1.31	17.33	0.56	23.33	0.37
5.50	1.02	11.50	1.26	17.50	0.55	23.50	0.36
5.67	1.09	11.67	1.21	17.67	0.54	23.67	0.36
5.83	1.17	11.83	1.17	17.83	0.53	23.83	0.36

CALIB	
STANDHYD (10000)	Area (ha)= 2.78
ID= 1 DT= 5.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.39	1.39
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	136.14	40.00
Mannings n =	0.013	0.250

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	0.36	6.083	1.27	12.083	1.13	18.08	0.52	
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52	
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52	
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52	
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51	
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51	
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50	
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50	
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50	
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50	
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49	
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49	
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48	
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48	
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48	
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48	
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47	
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47	
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47	
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47	
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46	
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46	
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46	
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46	
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45	
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45	
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45	
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45	
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44	
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44	
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44	
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44	
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43	
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43	
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43	
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43	
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42	
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42	
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42	
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42	
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41	
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41	
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41	
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41	
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40	

3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Max.Eff.Inten.(mm/hr)=	79.72	29.01
over (min)	5.00	15.00
Storage Coeff. (min)=	3.37 (ii)	14.94 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.26	0.08

			TOTALS
PEAK FLOW (cms)=	0.30	0.07	0.335 (iii)
TIME TO PEAK (hrs)=	8.00	8.17	8.00
RUNOFF VOLUME (mm)=	46.46	23.27	34.86
TOTAL RAINFALL (mm)=	47.46	47.46	47.46
RUNOFF COEFFICIENT =	0.98	0.49	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB
 STANDHYD (11000)
 ID= 1 DT= 5.0 min

Area (ha)= 0.90
 Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43

2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Max.Eff.Inten.(mm/hr)=	79.72	69.80
over (min)	5.00	15.00
Storage Coeff. (min)=	2.40 (ii)	10.55 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.30	0.09

TOTALS

PEAK FLOW (cms)=	0.05	0.05	0.079 (iii)
TIME TO PEAK (hrs)=	8.00	8.17	8.00
RUNOFF VOLUME (mm)=	46.46	28.28	32.82
TOTAL RAINFALL (mm)=	47.46	47.46	47.46

RUNOFF COEFFICIENT = 0.98 0.60 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46

1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36

6.000 1.17 | 12.000 1.17 | 18.000 0.53 | 24.00 0.36

Max.Eff.Inten.(mm/hr)=	79.72	46.58	
over (min)	5.00	15.00	
Storage Coeff. (min)=	2.85 (ii)	12.43 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.28	0.08	
			TOTALS
PEAK FLOW (cms)=	0.04	0.09	0.100 (iii)
TIME TO PEAK (hrs)=	8.00	8.17	8.17
RUNOFF VOLUME (mm)=	46.46	25.13	27.90
TOTAL RAINFALL (mm)=	47.46	47.46	47.46
RUNOFF COEFFICIENT =	0.98	0.53	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
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	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11000):	0.90	0.079	8.00	32.82
+ ID2= 2 (12000):	1.59	0.100	8.17	27.90
=====				
ID = 3 (11010):	2.49	0.172	8.00	29.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8200) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	2.88	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	1.21		

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	0.36	6.083	1.27	12.083	1.13	18.08	0.52

0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39

4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.026 (i)
 TIME TO PEAK (hrs)= 9.500
 RUNOFF VOLUME (mm)= 14.182
 TOTAL RAINFALL (mm)= 47.462
 RUNOFF COEFFICIENT = 0.299

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

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| CALIB |
| NASHYD ( 8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.54

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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	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51

0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38

4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.031 (i)
 TIME TO PEAK (hrs)= 8.583
 RUNOFF VOLUME (mm)= 14.181
 TOTAL RAINFALL (mm)= 47.462
 RUNOFF COEFFICIENT = 0.299

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

ADD HYD (8110)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (8100):	1.90	0.031	8.58	14.18
+ ID2= 2 (8200):	2.88	0.026	9.50	14.18
ID = 3 (8110):	4.78	0.049	8.83	14.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)	IMPERVIOUS	PERVIOUS (i)
STANDHYD (8700)	2.22		
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00		Dir. Conn.(%)= 30.00
Surface Area (ha)=	1.33		0.89
Dep. Storage (mm)=	1.00		1.50
Average Slope (%)=	1.00		2.00

Length (m)= 121.66 40.00
Mannings n = 0.013 0.250

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	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41

3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Max.Eff.Inten.(mm/hr)=	79.72	87.97
over (min)	5.00	15.00
Storage Coeff. (min)=	3.15 (ii)	10.58 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.27	0.09

			TOTALS
PEAK FLOW (cms)=	0.14	0.13	0.219 (iii)
TIME TO PEAK (hrs)=	8.00	8.17	8.00
RUNOFF VOLUME (mm)=	46.46	30.08	34.99
TOTAL RAINFALL (mm)=	47.46	47.46	47.46
RUNOFF COEFFICIENT =	0.98	0.63	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 8800) | Area (ha)= 18.91
| ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44

2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Max.Eff.Inten.(mm/hr)= 79.72 95.97
 over (min) 5.00 15.00
 Storage Coeff. (min)= 5.98 (ii) 13.16 (ii)
 Unit Hyd. Tpeak (min)= 5.00 15.00
 Unit Hyd. peak (cms)= 0.19 0.08

TOTALS

PEAK FLOW	(cms)=	1.25	0.95	1.801 (iii)
TIME TO PEAK	(hrs)=	8.00	8.17	8.00
RUNOFF VOLUME	(mm)=	46.46	30.75	36.25
TOTAL RAINFALL	(mm)=	47.46	47.46	47.46
RUNOFF COEFFICIENT	=	0.98	0.65	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 (8710)					
1 + 2 = 3					
		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1	(8700):	2.22	0.219	8.00	34.99
+ ID2= 2	(8800):	18.91	1.801	8.00	36.25
=====					
ID = 3	(8710):	21.13	2.019	8.00	36.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)					
1 + 2 = 3					
		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1	(8110):	4.78	0.049	8.83	14.18
+ ID2= 2	(8710):	21.13	2.019	8.00	36.11
=====					
ID = 3	(8120):	25.91	2.026	8.00	32.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (8900)				
ID= 1 DT= 5.0 min				
	Area	(ha)=	2.39	
	Total Imp(%)=	21.00	Dir. Conn.(%)=	10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41

3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Max.Eff.Inten.(mm/hr)= 79.72 26.92
over (min) 5.00 30.00
Storage Coeff. (min)= 3.22 (ii) 26.85 (ii)
Unit Hyd. Tpeak (min)= 5.00 30.00
Unit Hyd. peak (cms)= 0.27 0.04

TOTALS

PEAK FLOW (cms)= 0.05 0.08 0.088 (iii)
TIME TO PEAK (hrs)= 8.00 8.42 8.42
RUNOFF VOLUME (mm)= 46.46 24.91 27.06
TOTAL RAINFALL (mm)= 47.46 47.46 47.46
RUNOFF COEFFICIENT = 0.98 0.52 0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

 | CALIB |
 | STANDHYD (8600) |
ID= 1 DT= 5.0 min

Area (ha)= 10.27
 Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44

2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Max.Eff.Inten.(mm/hr)= 79.72 18.19
over (min) 5.00 50.00
Storage Coeff. (min)= 4.05 (ii) 45.95 (ii)
Unit Hyd. Tpeak (min)= 5.00 50.00
Unit Hyd. peak (cms)= 0.24 0.02

TOTALS
0.257 (iii)

PEAK FLOW (cms)= 0.21 0.24

TIME TO PEAK	(hrs)=	8.00	8.75	8.75
RUNOFF VOLUME	(mm)=	46.46	24.91	27.06
TOTAL RAINFALL	(mm)=	47.46	47.46	47.46
RUNOFF COEFFICIENT	=	0.98	0.52	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
-----
          AREA   QPEAK   TPEAK   R.V.
          (ha)   (cms)   (hrs)   (mm)
ID1= 1 ( 8600):  10.27  0.257   8.75   27.06
+ ID2= 2 ( 8900):   2.39  0.088   8.42   27.06
=====
ID = 3 ( 8610):  12.66  0.327   8.00   27.06
  
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8130) |
| 1 + 2 = 3 |
-----
          AREA   QPEAK   TPEAK   R.V.
          (ha)   (cms)   (hrs)   (mm)
ID1= 1 ( 8120):  25.91  2.026   8.00   32.07
+ ID2= 2 ( 8610):  12.66  0.327   8.00   27.06
=====
ID = 3 ( 8130):  38.57  2.354   8.00   30.42
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8140) |
| 1 + 2 = 3 |
-----
          AREA   QPEAK   TPEAK   R.V.
          (ha)   (cms)   (hrs)   (mm)
ID1= 1 ( 11010):  2.49  0.172   8.00   29.68
+ ID2= 2 ( 8130):  38.57  2.354   8.00   30.42
=====
ID = 3 ( 8140):  41.06  2.526   8.00   30.38
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10010)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (10000):	2.78	0.335	8.00	34.86
+ ID2= 2 (8140):	41.06	2.526	8.00	30.38
=====				
ID = 3 (10010):	43.84	2.861	8.00	30.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(10020)	OVERFLOW IS OFF			
IN= 2---> OUT= 1	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
DT= 5.0 min	0.0000	0.0000	0.4750	1.4077
	0.0360	0.1569	0.5120	1.5638
	0.0550	0.3255	0.5460	1.7245
	0.0620	0.3843	0.5780	1.8900
	0.0810	0.5687	0.6080	2.0600
	0.1060	0.6976	0.9880	2.2351
	0.1770	0.8304	1.6470	2.4147
	0.2750	0.9677	2.9610	2.6944
	0.3910	1.1096	4.5710	2.9877
	0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	2.861	8.00	30.66
OUTFLOW: ID= 1 (10020)	43.840	0.186	11.08	30.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.48
 TIME SHIFT OF PEAK FLOW (min)=185.00
 MAXIMUM STORAGE USED (ha.m.)= 0.8423

CALIB	Area (ha)=	Curve Number (CN)=
NASHYD (8400)	11.21	75.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.99	

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	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40

4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.117 (i)
 TIME TO PEAK (hrs)= 9.167
 RUNOFF VOLUME (mm)= 14.182
 TOTAL RAINFALL (mm)= 47.462
 RUNOFF COEFFICIENT = 0.299

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

CALIB			
NASHYD (8300)	Area (ha)=	8.15	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.80	

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	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52

0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41
3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39

4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.100 (i)

TIME TO PEAK (hrs)= 8.917

RUNOFF VOLUME (mm)= 14.182

TOTAL RAINFALL (mm)= 47.462

RUNOFF COEFFICIENT = 0.299

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

ADD HYD (8310)				
1 + 2 = 3				

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8300):	8.15	0.100	8.92	14.18
+ ID2= 2 (8400):	11.21	0.117	9.17	14.18
=====				
ID = 3 (8310):	19.36	0.215	9.08	14.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (8500)	
ID= 1 DT= 5.0 min	

Area (ha)=	11.81
Curve Number (CN)=	75.0
Ia (mm)=	5.00
# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	0.72

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	0.36	6.083	1.27	12.083	1.13	18.08	0.52
0.167	0.36	6.167	1.27	12.167	1.13	18.17	0.52
0.250	0.37	6.250	1.38	12.250	1.09	18.25	0.52
0.333	0.37	6.333	1.38	12.333	1.09	18.33	0.52
0.417	0.38	6.417	1.52	12.417	1.05	18.42	0.51
0.500	0.38	6.500	1.52	12.500	1.05	18.50	0.51
0.583	0.38	6.583	1.70	12.583	1.02	18.58	0.50
0.667	0.38	6.667	1.70	12.667	1.02	18.67	0.50
0.750	0.39	6.750	1.92	12.750	0.99	18.75	0.50
0.833	0.39	6.833	1.92	12.833	0.99	18.83	0.50
0.917	0.40	6.917	2.23	12.917	0.96	18.92	0.49
1.000	0.40	7.000	2.23	13.000	0.96	19.00	0.49
1.083	0.41	7.083	2.66	13.083	0.94	19.08	0.48
1.167	0.41	7.167	2.66	13.167	0.94	19.17	0.48
1.250	0.41	7.250	3.32	13.250	0.91	19.25	0.48
1.333	0.41	7.333	3.32	13.333	0.91	19.33	0.48
1.417	0.42	7.417	4.49	13.417	0.89	19.42	0.47
1.500	0.42	7.500	4.49	13.500	0.89	19.50	0.47
1.583	0.43	7.583	7.09	13.583	0.86	19.58	0.47
1.667	0.43	7.667	7.09	13.667	0.86	19.67	0.47
1.750	0.44	7.750	18.22	13.750	0.84	19.75	0.46
1.833	0.44	7.833	18.22	13.833	0.84	19.83	0.46
1.917	0.45	7.917	79.72	13.917	0.82	19.92	0.46
2.000	0.45	8.000	79.72	14.000	0.82	20.00	0.46
2.083	0.46	8.083	24.38	14.083	0.80	20.08	0.45
2.167	0.46	8.167	24.38	14.167	0.80	20.17	0.45
2.250	0.47	8.250	12.31	14.250	0.78	20.25	0.45
2.333	0.47	8.333	12.31	14.333	0.78	20.33	0.45
2.417	0.49	8.417	8.20	14.417	0.77	20.42	0.44
2.500	0.49	8.500	8.20	14.500	0.77	20.50	0.44
2.583	0.50	8.583	6.16	14.583	0.75	20.58	0.44
2.667	0.50	8.667	6.16	14.667	0.75	20.67	0.44
2.750	0.51	8.750	4.95	14.750	0.74	20.75	0.43
2.833	0.51	8.833	4.95	14.833	0.74	20.83	0.43
2.917	0.53	8.917	4.15	14.917	0.72	20.92	0.43
3.000	0.53	9.000	4.15	15.000	0.72	21.00	0.43
3.083	0.54	9.083	3.58	15.083	0.71	21.08	0.42
3.167	0.54	9.167	3.58	15.167	0.71	21.17	0.42
3.250	0.56	9.250	3.16	15.250	0.69	21.25	0.42
3.333	0.56	9.333	3.16	15.333	0.69	21.33	0.42
3.417	0.58	9.417	2.83	15.417	0.68	21.42	0.41
3.500	0.58	9.500	2.83	15.500	0.68	21.50	0.41
3.583	0.60	9.583	2.56	15.583	0.67	21.58	0.41
3.667	0.60	9.667	2.56	15.667	0.67	21.67	0.41

3.750	0.62	9.750	2.35	15.750	0.65	21.75	0.40
3.833	0.62	9.833	2.35	15.833	0.65	21.83	0.40
3.917	0.64	9.917	2.17	15.917	0.64	21.92	0.40
4.000	0.64	10.000	2.17	16.000	0.64	22.00	0.40
4.083	0.66	10.083	2.02	16.083	0.63	22.08	0.40
4.167	0.66	10.167	2.02	16.167	0.63	22.17	0.40
4.250	0.69	10.250	1.88	16.250	0.62	22.25	0.39
4.333	0.69	10.333	1.88	16.333	0.62	22.33	0.39
4.417	0.72	10.417	1.77	16.417	0.61	22.42	0.39
4.500	0.72	10.500	1.77	16.500	0.61	22.50	0.39
4.583	0.75	10.583	1.67	16.583	0.60	22.58	0.38
4.667	0.75	10.667	1.67	16.667	0.60	22.67	0.38
4.750	0.78	10.750	1.58	16.750	0.59	22.75	0.38
4.833	0.78	10.833	1.58	16.833	0.59	22.83	0.38
4.917	0.82	10.917	1.50	16.917	0.58	22.92	0.38
5.000	0.82	11.000	1.50	17.000	0.58	23.00	0.38
5.083	0.86	11.083	1.43	17.083	0.57	23.08	0.37
5.167	0.86	11.167	1.43	17.167	0.57	23.17	0.37
5.250	0.91	11.250	1.37	17.250	0.56	23.25	0.37
5.333	0.91	11.333	1.37	17.333	0.56	23.33	0.37
5.417	0.96	11.417	1.31	17.417	0.56	23.42	0.37
5.500	0.96	11.500	1.31	17.500	0.56	23.50	0.37
5.583	1.02	11.583	1.26	17.583	0.55	23.58	0.36
5.667	1.02	11.667	1.26	17.667	0.55	23.67	0.36
5.750	1.09	11.750	1.21	17.750	0.54	23.75	0.36
5.833	1.09	11.833	1.21	17.833	0.54	23.83	0.36
5.917	1.17	11.917	1.17	17.917	0.53	23.92	0.36
6.000	1.17	12.000	1.17	18.000	0.53	24.00	0.36

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.156 (i)

TIME TO PEAK (hrs)= 8.833

RUNOFF VOLUME (mm)= 14.182

TOTAL RAINFALL (mm)= 47.462

RUNOFF COEFFICIENT = 0.299

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

ADD HYD (8320)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):	19.36	0.215	9.08	14.18
+ ID2= 2 (8500):	11.81	0.156	8.83	14.18
=====				
ID = 3 (8320):	31.17	0.367	9.00	14.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 10030) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.186	11.08	30.64
+ ID2= 2 (8320):	31.17	0.367	9.00	14.18
=====				
ID = 3 (10030):	75.01	0.483	9.17	23.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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=====
=====
V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL
000 TTTTT TTTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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***** D E T A I L E D O U T P U T *****

```

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\V02\voin.dat
Output filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\71bc8b
e6-5fd7-4455-b33c-a3800831ce11\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\71bc8b
e6-5fd7-4455-b33c-a3800831ce11\scenar

```

DATE: 07-06-2023

TIME: 01:00:23

USER:

COMMENTS: _____

** SIMULATION : 25 Year 24 Hour Chicago **

| READ STORM |
Ptotal= 96.18 mm

Filename: C:\Users\kchow\AppData\Local\Temp\adaa2742-1e28-4470-bea7-d4631a29b055\6f484588
Comments: 25 Year 24 Hour Chicago

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.85	6.00	2.84	12.00	2.53	18.00	1.22
0.17	0.87	6.17	3.08	12.17	2.45	18.17	1.20
0.33	0.88	6.33	3.37	12.33	2.37	18.33	1.19
0.50	0.90	6.50	3.74	12.50	2.30	18.50	1.17
0.67	0.92	6.67	4.20	12.67	2.24	18.67	1.16
0.83	0.93	6.83	4.83	12.83	2.17	18.83	1.14
1.00	0.95	7.00	5.70	13.00	2.12	19.00	1.13
1.17	0.97	7.17	7.04	13.17	2.06	19.17	1.12
1.33	0.99	7.33	9.33	13.33	2.01	19.33	1.10
1.50	1.01	7.50	14.31	13.50	1.96	19.50	1.09
1.67	1.03	7.67	34.60	13.67	1.92	19.67	1.08
1.83	1.06	7.83	142.50	13.83	1.87	19.83	1.07
2.00	1.08	8.00	45.67	14.00	1.83	20.00	1.05
2.17	1.11	8.17	24.00	14.17	1.79	20.17	1.04
2.33	1.14	8.33	16.40	14.33	1.75	20.33	1.03
2.50	1.16	8.50	12.55	14.50	1.72	20.50	1.02
2.67	1.20	8.67	10.23	14.67	1.68	20.67	1.01
2.83	1.23	8.83	8.67	14.83	1.65	20.83	1.00
3.00	1.26	9.00	7.55	15.00	1.62	21.00	0.99
3.17	1.30	9.17	6.70	15.17	1.59	21.17	0.98
3.33	1.34	9.33	6.04	15.33	1.56	21.33	0.97
3.50	1.38	9.50	5.51	15.50	1.53	21.50	0.96
3.67	1.43	9.67	5.07	15.67	1.50	21.67	0.95
3.83	1.48	9.83	4.70	15.83	1.48	21.83	0.94
4.00	1.53	10.00	4.39	16.00	1.46	22.00	0.93
4.17	1.58	10.17	4.12	16.17	1.43	22.17	0.92
4.33	1.65	10.33	3.89	16.33	1.41	22.33	0.92
4.50	1.71	10.50	3.68	16.50	1.39	22.50	0.91
4.67	1.79	10.67	3.49	16.67	1.37	22.67	0.90
4.83	1.87	10.83	3.33	16.83	1.35	22.83	0.89
5.00	1.96	11.00	3.18	17.00	1.33	23.00	0.88

5.17	2.06	11.17	3.05	17.17	1.31	23.17	0.87
5.33	2.18	11.33	2.92	17.33	1.29	23.33	0.87
5.50	2.31	11.50	2.81	17.50	1.27	23.50	0.86
5.67	2.46	11.67	2.71	17.67	1.25	23.67	0.85
5.83	2.63	11.83	2.62	17.83	1.24	23.83	0.85

 | CALIB
 | STANDHYD (10000)
ID= 1 DT= 5.0 min

Area (ha)= 2.78
 Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

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	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07

2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Max. Eff. Inten. (mm/hr)= 142.50

95.65

over (min)	5.00	10.00	
Storage Coeff. (min)=	2.67 (ii)	9.85 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.29	0.11	
			TOTALS
PEAK FLOW (cms)=	0.54	0.24	0.746 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	95.18	64.26	79.72
TOTAL RAINFALL (mm)=	96.18	96.18	96.18
RUNOFF COEFFICIENT =	0.99	0.67	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB	
STANDHYD (11000)	Area (ha)= 0.90
ID= 1 DT= 5.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14

1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88

5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Max.Eff.Inten.(mm/hr)= 142.50 166.46
over (min) 5.00 10.00
Storage Coeff. (min)= 1.90 (ii) 7.66 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.32 0.13

TOTALS

PEAK FLOW (cms)= 0.09 0.15 0.222 (iii)
TIME TO PEAK (hrs)= 8.00 8.08 8.00
RUNOFF VOLUME (mm)= 95.18 72.44 78.12
TOTAL RAINFALL (mm)= 96.18 96.18 96.18
RUNOFF COEFFICIENT = 0.99 0.75 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (12000) |
| ID= 1 DT= 5.0 min |

Area (ha)= 1.59
Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

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	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93

4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Max.Eff.Inten.(mm/hr)=	142.50	117.85
over (min)	5.00	10.00
Storage Coeff. (min)=	2.26 (ii)	8.87 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.12

TOTALS

PEAK FLOW (cms)=	0.08	0.26	0.312 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	95.18	67.43	71.03
TOTAL RAINFALL (mm)=	96.18	96.18	96.18
RUNOFF COEFFICIENT =	0.99	0.70	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (11010) |
| 1 + 2 = 3 |

AREA QPEAK TPEAK R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11000):	0.90	0.222	8.00	78.12
+ ID2= 2 (12000):	1.59	0.312	8.00	71.03
=====				
ID = 3 (11010):	2.49	0.533	8.00	73.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (8200)	Area (ha)=	2.88	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.21	

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	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03

2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.087 (i)
 TIME TO PEAK (hrs)= 9.417
 RUNOFF VOLUME (mm)= 47.278
 TOTAL RAINFALL (mm)= 96.180
 RUNOFF COEFFICIENT = 0.492

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

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| CALIB |
| NASHYD ( 8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
|-----|
| U.H. Tp(hrs)= 0.54

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01

2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.103 (i)

TIME TO PEAK (hrs)= 8.583

RUNOFF VOLUME (mm)= 47.276

TOTAL RAINFALL (mm)= 96.180

RUNOFF COEFFICIENT = 0.492

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

ADD HYD (8110)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.103	8.58	47.28
+ ID2= 2 (8200):	2.88	0.087	9.42	47.28
=====				
ID = 3 (8110):	4.78	0.165	8.83	47.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8700)			
ID= 1 DT= 5.0 min	Area (ha)=	Total Imp(%)=	Dir. Conn.(%)=
	2.22	60.00	30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09

1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85

5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Max.Eff.Inten.(mm/hr)=	142.50	202.89	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.49 (ii)	7.81 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.29	0.13	
			TOTALS
PEAK FLOW (cms)=	0.26	0.35	0.579 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	95.18	75.13	81.15
TOTAL RAINFALL (mm)=	96.18	96.18	96.18
RUNOFF COEFFICIENT =	0.99	0.78	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB	
STANDHYD (8800)	Area (ha)= 18.91
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17

0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90

4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Max.Eff.Inten.(mm/hr)= 142.50 218.61
over (min) 5.00 10.00
Storage Coeff. (min)= 4.74 (ii) 9.90 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.22 0.11

TOTALS

PEAK FLOW (cms)= 2.37 2.57 4.655 (iii)
TIME TO PEAK (hrs)= 8.00 8.08 8.00
RUNOFF VOLUME (mm)= 95.18 76.11 82.78
TOTAL RAINFALL (mm)= 96.18 96.18 96.18
RUNOFF COEFFICIENT = 0.99 0.79 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 (8710)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):	2.22	0.579	8.00	81.15
+ ID2= 2 (8800):	18.91	4.655	8.00	82.78
=====				
ID = 3 (8710):	21.13	5.233	8.00	82.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):		4.78	0.165	8.83	47.28
+ ID2= 2 (8710):		21.13	5.233	8.00	82.61
=====					
ID = 3 (8120):		25.91	5.269	8.00	76.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)=	2.39
STANDHYD (8900)		Total Imp(%)=	21.00
ID= 1 DT= 5.0 min		Dir. Conn.(%)=	10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08

1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Max.Eff.Inten.(mm/hr)=	142.50	90.47	
over (min)	5.00	20.00	
Storage Coeff. (min)=	2.55 (ii)	17.10 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.29	0.06	
			TOTALS
PEAK FLOW (cms)=	0.09	0.28	0.296 (iii)
TIME TO PEAK (hrs)=	8.00	8.25	8.25
RUNOFF VOLUME (mm)=	95.18	67.05	69.86
TOTAL RAINFALL (mm)=	96.18	96.18	96.18
RUNOFF COEFFICIENT =	0.99	0.70	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

 | CALIB |
 | STANDHYD (8600) | Area (ha)= 10.27
 | ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17

0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90

4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Max.Eff.Inten.(mm/hr)= 142.50 67.30
over (min) 5.00 30.00
Storage Coeff. (min)= 3.21 (ii) 28.04 (ii)
Unit Hyd. Tpeak (min)= 5.00 30.00
Unit Hyd. peak (cms)= 0.27 0.04

TOTALS

PEAK FLOW (cms)= 0.39 0.88 0.937 (iii)
TIME TO PEAK (hrs)= 8.00 8.42 8.42
RUNOFF VOLUME (mm)= 95.18 67.05 69.86
TOTAL RAINFALL (mm)= 96.18 96.18 96.18
RUNOFF COEFFICIENT = 0.99 0.70 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3      |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8600):	10.27	0.937	8.42	69.86
+ ID2= 2 (8900):	2.39	0.296	8.25	69.86
=====				
ID = 3 (8610):	12.66	1.176	8.33	69.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):	25.91	5.269	8.00	76.09
+ ID2= 2 (8610):	12.66	1.176	8.33	69.86
=====				
ID = 3 (8130):	38.57	6.180	8.00	74.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):	2.49	0.533	8.00	73.59
+ ID2= 2 (8130):	38.57	6.180	8.00	74.05
=====				
ID = 3 (8140):	41.06	6.713	8.00	74.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10010)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10000):	2.78	0.746	8.00	79.72
+ ID2= 2 (8140):	41.06	6.713	8.00	74.02
=====				
ID = 3 (10010):	43.84	7.459	8.00	74.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(10020)		OVERFLOW IS OFF			
IN= 2---> OUT= 1		OUTFLOW		STORAGE	
DT= 5.0 min		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.4750	1.4077
		0.0360	0.1569	0.5120	1.5638
		0.0550	0.3255	0.5460	1.7245
		0.0620	0.3843	0.5780	1.8900
		0.0810	0.5687	0.6080	2.0600
		0.1060	0.6976	0.9880	2.2351
		0.1770	0.8304	1.6470	2.4147
		0.2750	0.9677	2.9610	2.6944
		0.3910	1.1096	4.5710	2.9877

0.4350 1.2563 | 0.0000 0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (10010)	43.840	7.459	8.00	74.38
OUTFLOW: ID= 1 (10020)	43.840	0.567	10.33	74.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.60
 TIME SHIFT OF PEAK FLOW (min)=140.00
 MAXIMUM STORAGE USED (ha.m.)= 1.8343

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| CALIB |
| NASHYD ( 8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.99
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05

2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.393 (i)

TIME TO PEAK (hrs)= 9.167
 RUNOFF VOLUME (mm)= 47.278
 TOTAL RAINFALL (mm)= 96.180
 RUNOFF COEFFICIENT = 0.492

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

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| CALIB |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.80
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08
1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03

2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.334 (i)
 TIME TO PEAK (hrs)= 8.917
 RUNOFF VOLUME (mm)= 47.278
 TOTAL RAINFALL (mm)= 96.180
 RUNOFF COEFFICIENT = 0.492

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

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-----
| ADD HYD ( 8310) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.334	8.92	47.28
+ ID2= 2 (8400):	11.21	0.393	9.17	47.28
=====				
ID = 3 (8310):	19.36	0.720	9.00	47.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8500) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	11.81	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	0.72		

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	0.85	6.083	2.84	12.083	2.53	18.08	1.22
0.167	0.85	6.167	2.84	12.167	2.53	18.17	1.22
0.250	0.87	6.250	3.08	12.250	2.45	18.25	1.20
0.333	0.87	6.333	3.08	12.333	2.45	18.33	1.20
0.417	0.88	6.417	3.37	12.417	2.37	18.42	1.19
0.500	0.88	6.500	3.37	12.500	2.37	18.50	1.19
0.583	0.90	6.583	3.74	12.583	2.30	18.58	1.17
0.667	0.90	6.667	3.74	12.667	2.30	18.67	1.17
0.750	0.92	6.750	4.20	12.750	2.24	18.75	1.16
0.833	0.92	6.833	4.20	12.833	2.24	18.83	1.16
0.917	0.93	6.917	4.83	12.917	2.17	18.92	1.14
1.000	0.93	7.000	4.83	13.000	2.17	19.00	1.14
1.083	0.95	7.083	5.70	13.083	2.12	19.08	1.13
1.167	0.95	7.167	5.70	13.167	2.12	19.17	1.13
1.250	0.97	7.250	7.04	13.250	2.06	19.25	1.12
1.333	0.97	7.333	7.04	13.333	2.06	19.33	1.12
1.417	0.99	7.417	9.33	13.417	2.01	19.42	1.10
1.500	0.99	7.500	9.33	13.500	2.01	19.50	1.10
1.583	1.01	7.583	14.31	13.583	1.96	19.58	1.09
1.667	1.01	7.667	14.31	13.667	1.96	19.67	1.09
1.750	1.03	7.750	34.60	13.750	1.92	19.75	1.08
1.833	1.03	7.833	34.61	13.833	1.92	19.83	1.08

1.917	1.06	7.917	142.50	13.917	1.87	19.92	1.07
2.000	1.06	8.000	142.49	14.000	1.87	20.00	1.07
2.083	1.08	8.083	45.67	14.083	1.83	20.08	1.05
2.167	1.08	8.167	45.67	14.167	1.83	20.17	1.05
2.250	1.11	8.250	24.00	14.250	1.79	20.25	1.04
2.333	1.11	8.333	24.00	14.333	1.79	20.33	1.04
2.417	1.14	8.417	16.40	14.417	1.75	20.42	1.03
2.500	1.14	8.500	16.40	14.500	1.75	20.50	1.03
2.583	1.16	8.583	12.55	14.583	1.72	20.58	1.02
2.667	1.16	8.667	12.55	14.667	1.72	20.67	1.02
2.750	1.20	8.750	10.23	14.750	1.68	20.75	1.01
2.833	1.20	8.833	10.23	14.833	1.68	20.83	1.01
2.917	1.23	8.917	8.67	14.917	1.65	20.92	1.00
3.000	1.23	9.000	8.67	15.000	1.65	21.00	1.00
3.083	1.26	9.083	7.55	15.083	1.62	21.08	0.99
3.167	1.26	9.167	7.55	15.167	1.62	21.17	0.99
3.250	1.30	9.250	6.70	15.250	1.59	21.25	0.98
3.333	1.30	9.333	6.70	15.333	1.59	21.33	0.98
3.417	1.34	9.417	6.04	15.417	1.56	21.42	0.97
3.500	1.34	9.500	6.04	15.500	1.56	21.50	0.97
3.583	1.38	9.583	5.51	15.583	1.53	21.58	0.96
3.667	1.38	9.667	5.51	15.667	1.53	21.67	0.96
3.750	1.43	9.750	5.07	15.750	1.50	21.75	0.95
3.833	1.43	9.833	5.07	15.833	1.50	21.83	0.95
3.917	1.48	9.917	4.70	15.917	1.48	21.92	0.94
4.000	1.48	10.000	4.70	16.000	1.48	22.00	0.94
4.083	1.53	10.083	4.39	16.083	1.46	22.08	0.93
4.167	1.53	10.167	4.39	16.167	1.46	22.17	0.93
4.250	1.58	10.250	4.12	16.250	1.43	22.25	0.92
4.333	1.58	10.333	4.12	16.333	1.43	22.33	0.92
4.417	1.65	10.417	3.89	16.417	1.41	22.42	0.92
4.500	1.65	10.500	3.89	16.500	1.41	22.50	0.92
4.583	1.71	10.583	3.68	16.583	1.39	22.58	0.91
4.667	1.71	10.667	3.68	16.667	1.39	22.67	0.91
4.750	1.79	10.750	3.49	16.750	1.37	22.75	0.90
4.833	1.79	10.833	3.49	16.833	1.37	22.83	0.90
4.917	1.87	10.917	3.33	16.917	1.35	22.92	0.89
5.000	1.87	11.000	3.33	17.000	1.35	23.00	0.89
5.083	1.96	11.083	3.18	17.083	1.33	23.08	0.88
5.167	1.96	11.167	3.18	17.167	1.33	23.17	0.88
5.250	2.06	11.250	3.05	17.250	1.31	23.25	0.87
5.333	2.06	11.333	3.05	17.333	1.31	23.33	0.87
5.417	2.18	11.417	2.92	17.417	1.29	23.42	0.87
5.500	2.18	11.500	2.92	17.500	1.29	23.50	0.87
5.583	2.31	11.583	2.81	17.583	1.27	23.58	0.86
5.667	2.31	11.667	2.81	17.667	1.27	23.67	0.86
5.750	2.46	11.750	2.71	17.750	1.25	23.75	0.85
5.833	2.46	11.833	2.71	17.833	1.25	23.83	0.85
5.917	2.63	11.917	2.62	17.917	1.24	23.92	0.85
6.000	2.63	12.000	2.62	18.000	1.24	24.00	0.85

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.521 (i)
TIME TO PEAK (hrs)= 8.833
RUNOFF VOLUME (mm)= 47.278
TOTAL RAINFALL (mm)= 96.180
RUNOFF COEFFICIENT = 0.492

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

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-----  
-----  
| ADD HYD ( 8320) |  
| 1 + 2 = 3 |  
-----  
          AREA      QPEAK      TPEAK      R.V.  
          (ha)      (cms)      (hrs)      (mm)  
ID1= 1 ( 8310):  19.36  0.720  9.00  47.28  
+ ID2= 2 ( 8500):  11.81  0.521  8.83  47.28  
=====
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-----  
-----  
| ADD HYD ( 10030) |  
| 1 + 2 = 3 |  
-----  
          AREA      QPEAK      TPEAK      R.V.  
          (ha)      (cms)      (hrs)      (mm)  
ID1= 1 ( 10020):  43.84  0.567  10.33  74.36  
+ ID2= 2 ( 8320):  31.17  1.229  8.92  47.28  
=====
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V	V	I	SSSSS	U	U	A	L				(v 6.2.2014)
V	V	I	SS	U	U	A	A	L			
V	V	I	SS	U	U	AAAAA	L				
V	V	I	SS	U	U	A	A	L			
VV		I	SSSSS	UUUUU	A	A	LLLLL				
000	TTTTT	TTTTT	H	H	Y	Y	M	M	000	TM	
0	0	T	T	H	H	Y	Y	MM	MM	0	0
0	0	T	T	H	H	Y	M	M	0	0	
000	T	T	H	H	Y	M	M	000			

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\V02\voin.dat
Output filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\2e7a98
1d-07a4-49a0-a965-9ec1ad42be7d\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\2e7a98
1d-07a4-49a0-a965-9ec1ad42be7d\scenar

DATE: 07-06-2023

TIME: 01:00:23

USER:

COMMENTS: _____

** SIMULATION : 5 Year 24 Hour Chicago **

| READ STORM | Filename: C:\Users\kchow\AppData
| | ata\Local\Temp\
| Ptotal= 66.80 mm | adaa2742-1e28-4470-bea7-d4631a29b055\c7ef056e
| | Comments: 5 Year 24 Hour Chicago

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.56	6.00	1.89	12.00	1.68	18.00	0.80
0.17	0.57	6.17	2.06	12.17	1.63	18.17	0.79
0.33	0.58	6.33	2.26	12.33	1.58	18.33	0.78
0.50	0.59	6.50	2.51	12.50	1.53	18.50	0.77
0.67	0.60	6.67	2.83	12.67	1.49	18.67	0.76
0.83	0.61	6.83	3.26	12.83	1.44	18.83	0.75
1.00	0.62	7.00	3.87	13.00	1.40	19.00	0.74
1.17	0.63	7.17	4.80	13.17	1.37	19.17	0.73
1.33	0.65	7.33	6.41	13.33	1.33	19.33	0.72

1.50	0.66	7.50	9.94	13.50	1.30	19.50	0.71
1.67	0.68	7.67	24.66	13.67	1.27	19.67	0.70
1.83	0.69	7.83	104.90	13.83	1.24	19.83	0.70
2.00	0.71	8.00	32.75	14.00	1.21	20.00	0.69
2.17	0.73	8.17	16.91	14.17	1.18	20.17	0.68
2.33	0.74	8.33	11.43	14.33	1.16	20.33	0.67
2.50	0.76	8.50	8.68	14.50	1.13	20.50	0.67
2.67	0.78	8.67	7.03	14.67	1.11	20.67	0.66
2.83	0.81	8.83	5.94	14.83	1.09	20.83	0.65
3.00	0.83	9.00	5.15	15.00	1.07	21.00	0.65
3.17	0.85	9.17	4.56	15.17	1.05	21.17	0.64
3.33	0.88	9.33	4.10	15.33	1.03	21.33	0.63
3.50	0.91	9.50	3.73	15.50	1.01	21.50	0.63
3.67	0.94	9.67	3.43	15.67	0.99	21.67	0.62
3.83	0.97	9.83	3.17	15.83	0.97	21.83	0.61
4.00	1.01	10.00	2.96	16.00	0.96	22.00	0.61
4.17	1.04	10.17	2.77	16.17	0.94	22.17	0.60
4.33	1.09	10.33	2.61	16.33	0.93	22.33	0.60
4.50	1.13	10.50	2.47	16.50	0.91	22.50	0.59
4.67	1.18	10.67	2.34	16.67	0.90	22.67	0.59
4.83	1.24	10.83	2.23	16.83	0.88	22.83	0.58
5.00	1.30	11.00	2.13	17.00	0.87	23.00	0.57
5.17	1.37	11.17	2.04	17.17	0.86	23.17	0.57
5.33	1.45	11.33	1.95	17.33	0.85	23.33	0.56
5.50	1.53	11.50	1.88	17.50	0.83	23.50	0.56
5.67	1.63	11.67	1.81	17.67	0.82	23.67	0.56
5.83	1.75	11.83	1.74	17.83	0.81	23.83	0.55

CALIB	
STANDHYD (10000)	Area (ha)= 2.78
ID= 1 DT= 5.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.39	1.39
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	136.14	40.00
Mannings n =	0.013	0.250

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	0.56	6.083	1.89	12.083	1.68	18.08	0.80
0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80

0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78
0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60

4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Max.Eff.Inten.(mm/hr)= 104.90 59.00
over (min) 5.00 15.00
Storage Coeff. (min)= 3.02 (ii) 11.73 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.28 0.09

TOTALS

PEAK FLOW (cms)= 0.39 0.13 0.470 (iii)
TIME TO PEAK (hrs)= 8.00 8.17 8.00
RUNOFF VOLUME (mm)= 65.80 38.72 52.26
TOTAL RAINFALL (mm)= 66.80 66.80 66.80
RUNOFF COEFFICIENT = 0.99 0.58 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (11000) | Area (ha)= 0.90
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.45 0.45
Dep. Storage (mm)= 1.00 1.50

Average Slope (%)= 1.00 2.00
 Length (m)= 77.46 40.00
 Mannings n = 0.013 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	0.56	6.083	1.89	12.083	1.68	18.08	0.80
0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80
0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78
0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64

3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Max.Eff.Inten.(mm/hr)=	104.90	107.65
over (min)	5.00	10.00
Storage Coeff. (min)=	2.15 (ii)	9.00 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.31	0.12

TOTALS

PEAK FLOW (cms)=	0.07	0.09	0.143 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	65.80	45.25	50.38
TOTAL RAINFALL (mm)=	66.80	66.80	66.80
RUNOFF COEFFICIENT =	0.99	0.68	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(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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| CALIB |
| STANDHYD ( 12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00
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                IMPERVIOUS      PERVIOUS (i)
Surface Area    (ha)=          0.40          1.19
Dep. Storage    (mm)=          1.00          1.50
Average Slope   (%)=          1.00          2.00
Length          (m)=        102.96         40.00
Mannings n     =           0.013         0.250
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----
    TIME    RAIN |    TIME    RAIN |'   TIME    RAIN |    TIME    RAIN
    hrs     mm/hr |    hrs     mm/hr |'   hrs     mm/hr |    hrs     mm/hr
0.083    0.56 | 6.083    1.89 |12.083    1.68 | 18.08    0.80
0.167    0.56 | 6.167    1.89 |12.167    1.68 | 18.17    0.80
0.250    0.57 | 6.250    2.06 |12.250    1.63 | 18.25    0.79
0.333    0.57 | 6.333    2.06 |12.333    1.63 | 18.33    0.79
0.417    0.58 | 6.417    2.26 |12.417    1.58 | 18.42    0.78
0.500    0.58 | 6.500    2.26 |12.500    1.58 | 18.50    0.78
0.583    0.59 | 6.583    2.51 |12.583    1.53 | 18.58    0.77
0.667    0.59 | 6.667    2.51 |12.667    1.53 | 18.67    0.77
0.750    0.60 | 6.750    2.83 |12.750    1.49 | 18.75    0.76
0.833    0.60 | 6.833    2.83 |12.833    1.49 | 18.83    0.76
0.917    0.61 | 6.917    3.26 |12.917    1.44 | 18.92    0.75
1.000    0.61 | 7.000    3.26 |13.000    1.44 | 19.00    0.75
1.083    0.62 | 7.083    3.87 |13.083    1.40 | 19.08    0.74
1.167    0.62 | 7.167    3.87 |13.167    1.40 | 19.17    0.74
1.250    0.63 | 7.250    4.80 |13.250    1.37 | 19.25    0.73
1.333    0.63 | 7.333    4.80 |13.333    1.37 | 19.33    0.73
1.417    0.65 | 7.417    6.41 |13.417    1.33 | 19.42    0.72
1.500    0.65 | 7.500    6.41 |13.500    1.33 | 19.50    0.72
1.583    0.66 | 7.583    9.94 |13.583    1.30 | 19.58    0.71
1.667    0.66 | 7.667    9.94 |13.667    1.30 | 19.67    0.71
1.750    0.68 | 7.750   24.66 |13.750    1.27 | 19.75    0.70
1.833    0.68 | 7.833   24.67 |13.833    1.27 | 19.83    0.70
1.917    0.69 | 7.917  104.90 |13.917    1.24 | 19.92    0.70
2.000    0.69 | 8.000  104.90 |14.000    1.24 | 20.00    0.70
2.083    0.71 | 8.083   32.75 |14.083    1.21 | 20.08    0.69
2.167    0.71 | 8.167   32.75 |14.167    1.21 | 20.17    0.69
2.250    0.73 | 8.250   16.91 |14.250    1.18 | 20.25    0.68
2.333    0.73 | 8.333   16.91 |14.333    1.18 | 20.33    0.68
  
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2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Max.Eff.Inten.(mm/hr)= 104.90 74.01
 over (min) 5.00 15.00
 Storage Coeff. (min)= 2.55 (ii) 10.51 (ii)
 Unit Hyd. Tpeak (min)= 5.00 15.00
 Unit Hyd. peak (cms)= 0.29 0.09

				TOTALS
PEAK FLOW	(cms)=	0.06	0.14	0.164 (iii)
TIME TO PEAK	(hrs)=	8.00	8.17	8.17
RUNOFF VOLUME	(mm)=	65.80	41.20	44.39
TOTAL RAINFALL	(mm)=	66.80	66.80	66.80
RUNOFF COEFFICIENT	=	0.99	0.62	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 11000):  0.90    0.143    8.00    50.38
+ ID2= 2 ( 12000):  1.59    0.164    8.17    44.39
=====
ID = 3 ( 11010):  2.49    0.289    8.00    46.56
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| CALIB |
| NASHYD ( 8200) |
| ID= 1 DT= 5.0 min |
-----
Area (ha)= 2.88    Curve Number (CN)= 75.0
Ia (mm)= 5.00    # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.21
  
```

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    0.56 | 6.083    1.89 | 12.083    1.68 | 18.08    0.80
0.167    0.56 | 6.167    1.89 | 12.167    1.68 | 18.17    0.80
0.250    0.57 | 6.250    2.06 | 12.250    1.63 | 18.25    0.79
0.333    0.57 | 6.333    2.06 | 12.333    1.63 | 18.33    0.79
0.417    0.58 | 6.417    2.26 | 12.417    1.58 | 18.42    0.78
0.500    0.58 | 6.500    2.26 | 12.500    1.58 | 18.50    0.78
0.583    0.59 | 6.583    2.51 | 12.583    1.53 | 18.58    0.77
0.667    0.59 | 6.667    2.51 | 12.667    1.53 | 18.67    0.77
  
```


0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59

4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.048 (i)
 TIME TO PEAK (hrs)= 9.417
 RUNOFF VOLUME (mm)= 26.073
 TOTAL RAINFALL (mm)= 66.797
 RUNOFF COEFFICIENT = 0.390

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

CALIB			
NASHYD (8100)	Area (ha)= 1.90	Curve Number (CN)= 75.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.54		

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	0.56	6.083	1.89	12.083	1.68	18.08	0.80
0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80
0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78
0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75

1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57

5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.056 (i)
 TIME TO PEAK (hrs)= 8.583
 RUNOFF VOLUME (mm)= 26.072
 TOTAL RAINFALL (mm)= 66.797
 RUNOFF COEFFICIENT = 0.390

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

ADD HYD (8110)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (8100):	1.90	0.056	8.58	26.07
+ ID2= 2 (8200):	2.88	0.048	9.42	26.07
=====				
ID = 3 (8110):	4.78	0.090	8.83	26.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)=	PERVIOUS (i)
STANDHYD (8700)	2.22	
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	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	0.56	6.083	1.89	12.083	1.68	18.08	0.80
0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80
0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78
0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61

4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Max.Eff.Inten.(mm/hr)=	104.90	133.38
over (min)	5.00	10.00
Storage Coeff. (min)=	2.82 (ii)	9.11 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.12

TOTALS

PEAK FLOW (cms)=	0.19	0.22	0.380 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	65.80	47.49	52.98
TOTAL RAINFALL (mm)=	66.80	66.80	66.80
RUNOFF COEFFICIENT =	0.99	0.71	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB				
STANDHYD (8800)		Area (ha)=	18.91	
ID= 1 DT= 5.0 min		Total Imp(%)=	65.00	Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	0.56	6.083	1.89	12.083	1.68	18.08	0.80
0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80
0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78
0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65

3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Max.Eff.Inten.(mm/hr)=	104.90	144.58
over (min)	5.00	15.00
Storage Coeff. (min)=	5.36 (ii)	11.45 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.21	0.09

PEAK FLOW (cms)=	1.69	1.51	2.630 (iii)
TIME TO PEAK (hrs)=	8.00	8.17	8.00
RUNOFF VOLUME (mm)=	65.80	48.32	54.43
TOTAL RAINFALL (mm)=	66.80	66.80	66.80
RUNOFF COEFFICIENT =	0.99	0.72	0.81

TOTALS

- (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 (8710)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):		2.22	0.380	8.00	52.98
+ ID2= 2 (8800):		18.91	2.630	8.00	54.43
=====					
ID = 3 (8710):		21.13	3.010	8.00	54.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):		4.78	0.090	8.83	26.07
+ ID2= 2 (8710):		21.13	3.010	8.00	54.28
=====					
ID = 3 (8120):		25.91	3.026	8.00	49.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	(ha)=	2.39
STANDHYD (8900)		Total Imp(%)=	21.00	Dir. Conn.(%)= 10.00
ID= 1 DT= 5.0 min				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	0.56	6.083	1.89	12.083	1.68	18.08	0.80

0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80
0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78
0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60

4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Max.Eff.Inten.(mm/hr)= 104.90 49.46
over (min) 5.00 25.00
Storage Coeff. (min)= 2.88 (ii) 21.41 (ii)
Unit Hyd. Tpeak (min)= 5.00 25.00
Unit Hyd. peak (cms)= 0.28 0.05

TOTALS

PEAK FLOW (cms)= 0.07 0.15 0.162 (iii)
TIME TO PEAK (hrs)= 8.00 8.33 8.33
RUNOFF VOLUME (mm)= 65.80 40.90 43.39
TOTAL RAINFALL (mm)= 66.80 66.80 66.80
RUNOFF COEFFICIENT = 0.99 0.61 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

| CALIB |
| STANDHYD (8600) | Area (ha)= 10.27
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	0.56	6.083	1.89	12.083	1.68	18.08	0.80
0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80
0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78
0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65

3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Max.Eff.Inten.(mm/hr)= 104.90 34.21
over (min) 5.00 40.00
Storage Coeff. (min)= 3.63 (ii) 36.17 (ii)
Unit Hyd. Tpeak (min)= 5.00 40.00
Unit Hyd. peak (cms)= 0.25 0.03

TOTALS

PEAK FLOW (cms)= 0.28 0.46 0.486 (iii)
TIME TO PEAK (hrs)= 8.00 8.58 8.58
RUNOFF VOLUME (mm)= 65.80 40.90 43.39
TOTAL RAINFALL (mm)= 66.80 66.80 66.80
RUNOFF COEFFICIENT = 0.99 0.61 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%

YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (8610)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8600):	10.27	0.486	8.58	43.39
+ ID2= 2 (8900):	2.39	0.162	8.33	43.39
=====				
ID = 3 (8610):	12.66	0.607	8.58	43.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):	25.91	3.026	8.00	49.08
+ ID2= 2 (8610):	12.66	0.607	8.58	43.39
=====				
ID = 3 (8130):	38.57	3.541	8.00	47.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):	2.49	0.289	8.00	46.56
+ ID2= 2 (8130):	38.57	3.541	8.00	47.21
=====				
ID = 3 (8140):	41.06	3.831	8.00	47.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)

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ID1= 1 ( 10000):    2.78   0.470   8.00   52.26
+ ID2= 2 (  8140):   41.06   3.831   8.00   47.17
=====
ID = 3 ( 10010):   43.84   4.300   8.00   47.49

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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR( 10020) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min      |
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OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4750	1.4077
0.0360	0.1569	0.5120	1.5638
0.0550	0.3255	0.5460	1.7245
0.0620	0.3843	0.5780	1.8900
0.0810	0.5687	0.6080	2.0600
0.1060	0.6976	0.9880	2.2351
0.1770	0.8304	1.6470	2.4147
0.2750	0.9677	2.9610	2.6944
0.3910	1.1096	4.5710	2.9877
0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	4.300	8.00	47.49
OUTFLOW: ID= 1 (10020)	43.840	0.410	10.25	47.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.54
 TIME SHIFT OF PEAK FLOW (min)=135.00
 MAXIMUM STORAGE USED (ha.m.)= 1.1732

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| CALIB          |
| NASHYD ( 8400) |
| ID= 1 DT= 5.0 min |
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Area (ha)= 11.21 Curve Number (CN)= 75.0
 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= 0.99

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	0.56	6.083	1.89	12.083	1.68	18.08	0.80
0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80
0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78

0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59

4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.216 (i)
 TIME TO PEAK (hrs)= 9.167
 RUNOFF VOLUME (mm)= 26.073
 TOTAL RAINFALL (mm)= 66.797
 RUNOFF COEFFICIENT = 0.390

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

 | CALIB |
 | NASHYD (8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

 U.H. Tp(hrs)= 0.80

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	0.56	6.083	1.89	12.083	1.68	18.08	0.80
0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80
0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78
0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76

0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60
4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58

5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.183 (i)
 TIME TO PEAK (hrs)= 8.917
 RUNOFF VOLUME (mm)= 26.073
 TOTAL RAINFALL (mm)= 66.797
 RUNOFF COEFFICIENT = 0.390

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

```

-----
| ADD HYD ( 8310) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.183	8.92	26.07
+ ID2= 2 (8400):	11.21	0.216	9.17	26.07
=====				
ID = 3 (8310):	19.36	0.394	9.08	26.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB |
| NASHYD ( 8500) |
| ID= 1 DT= 5.0 min |
-----

```

Area (ha)=	11.81	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	0.72		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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          ----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.56	6.083	1.89	12.083	1.68	18.08	0.80

0.167	0.56	6.167	1.89	12.167	1.68	18.17	0.80
0.250	0.57	6.250	2.06	12.250	1.63	18.25	0.79
0.333	0.57	6.333	2.06	12.333	1.63	18.33	0.79
0.417	0.58	6.417	2.26	12.417	1.58	18.42	0.78
0.500	0.58	6.500	2.26	12.500	1.58	18.50	0.78
0.583	0.59	6.583	2.51	12.583	1.53	18.58	0.77
0.667	0.59	6.667	2.51	12.667	1.53	18.67	0.77
0.750	0.60	6.750	2.83	12.750	1.49	18.75	0.76
0.833	0.60	6.833	2.83	12.833	1.49	18.83	0.76
0.917	0.61	6.917	3.26	12.917	1.44	18.92	0.75
1.000	0.61	7.000	3.26	13.000	1.44	19.00	0.75
1.083	0.62	7.083	3.87	13.083	1.40	19.08	0.74
1.167	0.62	7.167	3.87	13.167	1.40	19.17	0.74
1.250	0.63	7.250	4.80	13.250	1.37	19.25	0.73
1.333	0.63	7.333	4.80	13.333	1.37	19.33	0.73
1.417	0.65	7.417	6.41	13.417	1.33	19.42	0.72
1.500	0.65	7.500	6.41	13.500	1.33	19.50	0.72
1.583	0.66	7.583	9.94	13.583	1.30	19.58	0.71
1.667	0.66	7.667	9.94	13.667	1.30	19.67	0.71
1.750	0.68	7.750	24.66	13.750	1.27	19.75	0.70
1.833	0.68	7.833	24.67	13.833	1.27	19.83	0.70
1.917	0.69	7.917	104.90	13.917	1.24	19.92	0.70
2.000	0.69	8.000	104.90	14.000	1.24	20.00	0.70
2.083	0.71	8.083	32.75	14.083	1.21	20.08	0.69
2.167	0.71	8.167	32.75	14.167	1.21	20.17	0.69
2.250	0.73	8.250	16.91	14.250	1.18	20.25	0.68
2.333	0.73	8.333	16.91	14.333	1.18	20.33	0.68
2.417	0.74	8.417	11.43	14.417	1.16	20.42	0.67
2.500	0.74	8.500	11.43	14.500	1.16	20.50	0.67
2.583	0.76	8.583	8.68	14.583	1.13	20.58	0.67
2.667	0.76	8.667	8.68	14.667	1.13	20.67	0.67
2.750	0.78	8.750	7.03	14.750	1.11	20.75	0.66
2.833	0.78	8.833	7.03	14.833	1.11	20.83	0.66
2.917	0.81	8.917	5.94	14.917	1.09	20.92	0.65
3.000	0.81	9.000	5.94	15.000	1.09	21.00	0.65
3.083	0.83	9.083	5.15	15.083	1.07	21.08	0.65
3.167	0.83	9.167	5.15	15.167	1.07	21.17	0.65
3.250	0.85	9.250	4.56	15.250	1.05	21.25	0.64
3.333	0.85	9.333	4.56	15.333	1.05	21.33	0.64
3.417	0.88	9.417	4.10	15.417	1.03	21.42	0.63
3.500	0.88	9.500	4.10	15.500	1.03	21.50	0.63
3.583	0.91	9.583	3.73	15.583	1.01	21.58	0.63
3.667	0.91	9.667	3.73	15.667	1.01	21.67	0.63
3.750	0.94	9.750	3.43	15.750	0.99	21.75	0.62
3.833	0.94	9.833	3.43	15.833	0.99	21.83	0.62
3.917	0.97	9.917	3.17	15.917	0.97	21.92	0.61
4.000	0.97	10.000	3.17	16.000	0.97	22.00	0.61
4.083	1.01	10.083	2.96	16.083	0.96	22.08	0.61
4.167	1.01	10.167	2.96	16.167	0.96	22.17	0.61
4.250	1.04	10.250	2.77	16.250	0.94	22.25	0.60

4.333	1.04	10.333	2.77	16.333	0.94	22.33	0.60
4.417	1.09	10.417	2.61	16.417	0.93	22.42	0.60
4.500	1.09	10.500	2.61	16.500	0.93	22.50	0.60
4.583	1.13	10.583	2.47	16.583	0.91	22.58	0.59
4.667	1.13	10.667	2.47	16.667	0.91	22.67	0.59
4.750	1.18	10.750	2.34	16.750	0.90	22.75	0.59
4.833	1.18	10.833	2.34	16.833	0.90	22.83	0.59
4.917	1.24	10.917	2.23	16.917	0.88	22.92	0.58
5.000	1.24	11.000	2.23	17.000	0.88	23.00	0.58
5.083	1.30	11.083	2.13	17.083	0.87	23.08	0.57
5.167	1.30	11.167	2.13	17.167	0.87	23.17	0.57
5.250	1.37	11.250	2.04	17.250	0.86	23.25	0.57
5.333	1.37	11.333	2.04	17.333	0.86	23.33	0.57
5.417	1.45	11.417	1.95	17.417	0.85	23.42	0.56
5.500	1.45	11.500	1.95	17.500	0.85	23.50	0.56
5.583	1.53	11.583	1.88	17.583	0.83	23.58	0.56
5.667	1.53	11.667	1.88	17.667	0.83	23.67	0.56
5.750	1.63	11.750	1.81	17.750	0.82	23.75	0.56
5.833	1.63	11.833	1.81	17.833	0.82	23.83	0.56
5.917	1.75	11.917	1.74	17.917	0.81	23.92	0.55
6.000	1.75	12.000	1.74	18.000	0.81	24.00	0.55

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.286 (i)

TIME TO PEAK (hrs)= 8.833

RUNOFF VOLUME (mm)= 26.073

TOTAL RAINFALL (mm)= 66.797

RUNOFF COEFFICIENT = 0.390

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

```

-----
| ADD HYD ( 8320) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8310):	19.36	0.394	9.08	26.07
+ ID2= 2 (8500):	11.81	0.286	8.83	26.07
=====				
ID = 3 (8320):	31.17	0.674	8.92	26.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 10030) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
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```

ID1= 1 ( 10020):   43.84   0.410   10.25   47.47
+ ID2= 2 (  8320):   31.17   0.674    8.92   26.07
=====
ID = 3 ( 10030):   75.01   1.037    9.08   38.58

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
=====
=====
V  V  I  SSSSS  U  U  A  L          (v 6.2.2014)
V  V  I  SS    U  U  A  A  L
V  V  I  SS    U  U  AAAAA  L
V  V  I  SS    U  U  A  A  L
  VV   I  SSSSS  UUUUU  A  A  LLLLL

```

```

000  TTTTT  TTTTT  H  H  Y  Y  M  M  000  TM
0  0  T  T  H  H  Y  Y  MM MM  0  0
0  0  T  T  H  H  Y  M  M  0  0
000  T  T  H  H  Y  M  M  000

```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\V02\voim.dat
Output filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\078982
d7-e9da-4a49-8bce-1b1dcc493cca\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\078982
d7-e9da-4a49-8bce-1b1dcc493cca\scenar

DATE: 07-06-2023

TIME: 01:00:23

USER:

COMMENTS: _____

** SIMULATION : 50 Year 24 Hour Chicago **

 | READ STORM |
Ptotal=109.12 mm

Filename: C:\Users\kchow\AppData\Local\Temp\adaa2742-1e28-4470-bea7-d4631a29b055\60eb3844
 Comments: 50 Year 24 Hour Chicago

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.99	6.00	3.26	12.00	2.91	18.00	1.41
0.17	1.01	6.17	3.54	12.17	2.82	18.17	1.39
0.33	1.03	6.33	3.88	12.33	2.74	18.33	1.38
0.50	1.04	6.50	4.29	12.50	2.65	18.50	1.36
0.67	1.06	6.67	4.82	12.67	2.58	18.67	1.34
0.83	1.08	6.83	5.53	12.83	2.51	18.83	1.33
1.00	1.11	7.00	6.53	13.00	2.44	19.00	1.31
1.17	1.13	7.17	8.04	13.17	2.38	19.17	1.29
1.33	1.15	7.33	10.63	13.33	2.32	19.33	1.28
1.50	1.17	7.50	16.23	13.50	2.27	19.50	1.26
1.67	1.20	7.67	38.87	13.67	2.21	19.67	1.25
1.83	1.23	7.83	158.06	13.83	2.16	19.83	1.24
2.00	1.26	8.00	51.19	14.00	2.11	20.00	1.22
2.17	1.29	8.17	27.08	14.17	2.07	20.17	1.21
2.33	1.32	8.33	18.58	14.33	2.03	20.33	1.20
2.50	1.35	8.50	14.26	14.50	1.99	20.50	1.18
2.67	1.38	8.67	11.64	14.67	1.95	20.67	1.17
2.83	1.42	8.83	9.88	14.83	1.91	20.83	1.16
3.00	1.46	9.00	8.62	15.00	1.87	21.00	1.15
3.17	1.50	9.17	7.66	15.17	1.84	21.17	1.13
3.33	1.55	9.33	6.91	15.33	1.80	21.33	1.12
3.50	1.60	9.50	6.31	15.50	1.77	21.50	1.11
3.67	1.65	9.67	5.81	15.67	1.74	21.67	1.10
3.83	1.71	9.83	5.39	15.83	1.71	21.83	1.09
4.00	1.77	10.00	5.04	16.00	1.68	22.00	1.08
4.17	1.83	10.17	4.73	16.17	1.66	22.17	1.07
4.33	1.90	10.33	4.46	16.33	1.63	22.33	1.06
4.50	1.98	10.50	4.23	16.50	1.61	22.50	1.05
4.67	2.07	10.67	4.02	16.67	1.58	22.67	1.04
4.83	2.16	10.83	3.83	16.83	1.56	22.83	1.03
5.00	2.27	11.00	3.66	17.00	1.53	23.00	1.02
5.17	2.38	11.17	3.51	17.17	1.51	23.17	1.01
5.33	2.51	11.33	3.37	17.33	1.49	23.33	1.01
5.50	2.66	11.50	3.24	17.50	1.47	23.50	1.00
5.67	2.83	11.67	3.12	17.67	1.45	23.67	0.99
5.83	3.03	11.83	3.02	17.83	1.43	23.83	0.98

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| CALIB |
| STANDHYD ( 10000) |
| ID= 1 DT= 5.0 min |
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Area      (ha)=    2.78
Total Imp(%)= 50.00  Dir. Conn.(%)= 50.00

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                IMPERVIOUS      PERVIOUS (i)
Surface Area   (ha)=          1.39          1.39
Dep. Storage   (mm)=          1.00          1.50
Average Slope  (%)=          1.00          2.00
Length         (m)=        136.14         40.00
Mannings n     =           0.013          0.250

```

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	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18

2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Max.Eff.Inten.(mm/hr)=	158.06	111.67
over (min)	5.00	10.00
Storage Coeff. (min)=	2.56 (ii)	9.31 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.12

TOTALS

PEAK FLOW (cms)=	0.60	0.28	0.850 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00

RUNOFF VOLUME	(mm)=	108.12	75.98	92.05
TOTAL RAINFALL	(mm)=	109.12	109.12	109.12
RUNOFF COEFFICIENT	=	0.99	0.70	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 11000) | Area (ha)= 0.90
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26

1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99

5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Max.Eff.Inten.(mm/hr)=	158.06	191.40	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.82 (ii)	7.27 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.14	
			TOTALS
PEAK FLOW (cms)=	0.10	0.17	0.256 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	108.12	84.71	90.56
TOTAL RAINFALL (mm)=	109.12	109.12	109.12
RUNOFF COEFFICIENT =	0.99	0.78	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB			
STANDHYD (12000)	Area (ha)=	1.59	
ID= 1 DT= 5.0 min	Total Imp(%)=	25.00	Dir. Conn.(%)= 13.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

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	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36

0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04

4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Max.Eff.Inten.(mm/hr)= 158.06 136.79
over (min) 5.00 10.00
Storage Coeff. (min)= 2.16 (ii) 8.39 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.31 0.12

TOTALS

PEAK FLOW (cms)= 0.09 0.31 0.367 (iii)
TIME TO PEAK (hrs)= 8.00 8.08 8.00
RUNOFF VOLUME (mm)= 108.12 79.38 83.11
TOTAL RAINFALL (mm)= 109.12 109.12 109.12
RUNOFF COEFFICIENT = 0.99 0.73 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.256	8.00	90.56
+ ID2= 2 (12000):	1.59	0.367	8.00	83.11
=====				
ID = 3 (11010):	2.49	0.623	8.00	85.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8200) | Area (ha)= 2.88 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 1.21

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15

3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.106 (i)

TIME TO PEAK (hrs)= 9.417

RUNOFF VOLUME (mm)= 57.424

TOTAL RAINFALL (mm)= 109.120

RUNOFF COEFFICIENT = 0.526

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

 | CALIB |
 | NASHYD (8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0

|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 ----- U.H. Tp(hrs)= 0.54

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	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12

3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.124 (i)

TIME TO PEAK (hrs)= 8.583

RUNOFF VOLUME (mm)= 57.422

TOTAL RAINFALL (mm)= 109.120

RUNOFF COEFFICIENT = 0.526

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

ADD HYD (8110)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.124	8.58	57.42
+ ID2= 2 (8200):	2.88	0.106	9.42	57.42

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ID = 3 (8110): 4.78 0.201 8.83 57.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8700)	Area (ha)=	2.22	
ID= 1 DT= 5.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.33	0.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.66	40.00
Mannings n	=	0.013	0.250

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	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21

2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Max.Eff.Inten.(mm/hr)=	158.06	232.11
over (min)	5.00	10.00
Storage Coeff. (min)=	2.39 (ii)	7.43 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00

Unit Hyd. peak (cms)=	0.30	0.13	
			TOTALS
PEAK FLOW (cms)=	0.29	0.40	0.664 (iii)
TIME TO PEAK (hrs)=	8.00	8.08	8.00
RUNOFF VOLUME (mm)=	108.12	87.55	93.72
TOTAL RAINFALL (mm)=	109.12	109.12	109.12
RUNOFF COEFFICIENT =	0.99	0.80	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 8800) | Area (ha)= 18.91
| ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		12.29	6.62
Dep. Storage (mm)=		1.00	1.50
Average Slope (%)=		1.00	2.00
Length (m)=		355.06	40.00
Mannings n =		0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29

1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01

5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Max.Eff.Inten.(mm/hr)= 158.06 249.63
over (min) 5.00 10.00
Storage Coeff. (min)= 4.55 (ii) 9.44 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.23 0.12

TOTALS

PEAK FLOW (cms)= 2.66 3.00 5.345 (iii)
TIME TO PEAK (hrs)= 8.00 8.08 8.00
RUNOFF VOLUME (mm)= 108.12 88.57 95.42
TOTAL RAINFALL (mm)= 109.12 109.12 109.12
RUNOFF COEFFICIENT = 0.99 0.81 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 8710) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8700):	2.22	0.664	8.00	93.72
+ ID2= 2 (8800):	18.91	5.345	8.00	95.42
=====				
ID = 3 (8710):	21.13	6.009	8.00	95.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD ( 8120) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8110):	4.78	0.201	8.83	57.42
+ ID2= 2 (8710):	21.13	6.009	8.00	95.24
=====				
ID = 3 (8120):	25.91	6.054	8.00	88.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| STANDHYD ( 8900) | Area (ha)= 2.39
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00
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                IMPERVIOUS    PERVIOUS (i)
Surface Area (ha)=      0.50      1.89
Dep. Storage (mm)=      1.00      1.50
Average Slope (%)=      1.00      2.00
Length (m)=      126.23    125.00
Mannings n =      0.013    0.250

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20

2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Max.Eff.Inten.(mm/hr)= 158.06 105.02
 over (min) 5.00 20.00
 Storage Coeff. (min)= 2.45 (ii) 16.16 (ii)
 Unit Hyd. Tpeak (min)= 5.00 20.00
 Unit Hyd. peak (cms)= 0.30 0.06

TOTALS

PEAK FLOW	(cms)=	0.10	0.33	0.352 (iii)
TIME TO PEAK	(hrs)=	8.00	8.25	8.25
RUNOFF VOLUME	(mm)=	108.12	78.98	81.89
TOTAL RAINFALL	(mm)=	109.12	109.12	109.12
RUNOFF COEFFICIENT	=	0.99	0.72	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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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-----
| CALIB |
| STANDHYD ( 8600) |
| ID= 1 DT= 5.0 min |
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Area (ha)= 10.27
Total Imp(%)= 21.00    Dir. Conn.(%)= 10.00
  
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29

1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01

5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Max.Eff.Inten.(mm/hr)= 158.06 78.27
over (min) 5.00 30.00
Storage Coeff. (min)= 3.08 (ii) 26.45 (ii)
Unit Hyd. Tpeak (min)= 5.00 30.00
Unit Hyd. peak (cms)= 0.27 0.04

TOTALS

PEAK FLOW (cms)= 0.44 1.06 1.122 (iii)
TIME TO PEAK (hrs)= 8.00 8.42 8.42
RUNOFF VOLUME (mm)= 108.12 78.98 81.89
TOTAL RAINFALL (mm)= 109.12 109.12 109.12
RUNOFF COEFFICIENT = 0.99 0.72 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8600):	10.27	1.122	8.42	81.89
+ ID2= 2 (8900):	2.39	0.352	8.25	81.89
=====				
ID = 3 (8610):	12.66	1.408	8.33	81.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8130) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8120):	25.91	6.054	8.00	88.26
+ ID2= 2 (8610):	12.66	1.408	8.33	81.89

```
=====
ID = 3 ( 8130):    38.57    7.119    8.00    86.17
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-----
| ADD HYD ( 8140) |
| 1 + 2 = 3 |
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 11010):    2.49    0.623    8.00    85.80
+ ID2= 2 ( 8130):    38.57    7.119    8.00    86.17
=====
ID = 3 ( 8140):    41.06    7.742    8.00    86.15
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-----
| ADD HYD ( 10010) |
| 1 + 2 = 3 |
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 10000):    2.78    0.850    8.00    92.05
+ ID2= 2 ( 8140):    41.06    7.742    8.00    86.15
=====
ID = 3 ( 10010):    43.84    8.592    8.00    86.52
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-----
| RESERVOIR( 10020) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min |
-----
OVERFLOW IS OFF
                OUTFLOW    STORAGE    OUTFLOW    STORAGE
                (cms)    (ha.m.)    (cms)    (ha.m.)
0.0000    0.0000    0.4750    1.4077
0.0360    0.1569    0.5120    1.5638
0.0550    0.3255    0.5460    1.7245
0.0620    0.3843    0.5780    1.8900
0.0810    0.5687    0.6080    2.0600
0.1060    0.6976    0.9880    2.2351
0.1770    0.8304    1.6470    2.4147
0.2750    0.9677    2.9610    2.6944
0.3910    1.1096    4.5710    2.9877
0.4350    1.2563    0.0000    0.0000
```

```

                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
INFLOW : ID= 2 ( 10010)    43.840    8.592    8.00    86.52
OUTFLOW: ID= 1 ( 10020)    43.840    0.738    10.08    86.50
```

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.59
 TIME SHIFT OF PEAK FLOW (min)=125.00
 MAXIMUM STORAGE USED (ha.m.)= 2.1200

 | CALIB |
 | NASHYD (8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

 U.H. Tp(hrs)= 0.99

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	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17

2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.477 (i)

TIME TO PEAK (hrs)= 9.167

RUNOFF VOLUME (mm)= 57.424

TOTAL RAINFALL (mm)= 109.120

RUNOFF COEFFICIENT = 0.526

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

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-----
| CALIB |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.80

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20
2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15

3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.405 (i)

TIME TO PEAK (hrs)= 8.917

RUNOFF VOLUME (mm)= 57.424

TOTAL RAINFALL (mm)= 109.120

RUNOFF COEFFICIENT = 0.526

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

 | ADD HYD (8310) |

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.405	8.92	57.42
+ ID2= 2 (8400):	11.21	0.477	9.17	57.42
=====				
ID = 3 (8310):	19.36	0.874	9.00	57.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)	Curve Number (CN)
NASHYD (8500)	11.81	75.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.72	

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	0.99	6.083	3.26	12.083	2.91	18.08	1.41
0.167	0.99	6.167	3.26	12.167	2.91	18.17	1.41
0.250	1.01	6.250	3.54	12.250	2.82	18.25	1.39
0.333	1.01	6.333	3.54	12.333	2.82	18.33	1.39
0.417	1.03	6.417	3.88	12.417	2.74	18.42	1.38
0.500	1.03	6.500	3.88	12.500	2.74	18.50	1.38
0.583	1.04	6.583	4.29	12.583	2.65	18.58	1.36
0.667	1.04	6.667	4.29	12.667	2.65	18.67	1.36
0.750	1.06	6.750	4.82	12.750	2.58	18.75	1.34
0.833	1.06	6.833	4.82	12.833	2.58	18.83	1.34
0.917	1.08	6.917	5.53	12.917	2.51	18.92	1.33
1.000	1.08	7.000	5.53	13.000	2.51	19.00	1.33
1.083	1.11	7.083	6.53	13.083	2.44	19.08	1.31
1.167	1.11	7.167	6.53	13.167	2.44	19.17	1.31
1.250	1.13	7.250	8.04	13.250	2.38	19.25	1.29
1.333	1.13	7.333	8.04	13.333	2.38	19.33	1.29
1.417	1.15	7.417	10.63	13.417	2.32	19.42	1.28
1.500	1.15	7.500	10.63	13.500	2.32	19.50	1.28
1.583	1.17	7.583	16.23	13.583	2.27	19.58	1.26
1.667	1.17	7.667	16.23	13.667	2.27	19.67	1.26
1.750	1.20	7.750	38.87	13.750	2.21	19.75	1.25
1.833	1.20	7.833	38.88	13.833	2.21	19.83	1.25
1.917	1.23	7.917	158.06	13.917	2.16	19.92	1.24
2.000	1.23	8.000	158.05	14.000	2.16	20.00	1.24
2.083	1.26	8.083	51.19	14.083	2.11	20.08	1.22
2.167	1.26	8.167	51.19	14.167	2.11	20.17	1.22
2.250	1.29	8.250	27.08	14.250	2.07	20.25	1.21
2.333	1.29	8.333	27.08	14.333	2.07	20.33	1.21
2.417	1.32	8.417	18.58	14.417	2.03	20.42	1.20

2.500	1.32	8.500	18.58	14.500	2.03	20.50	1.20
2.583	1.35	8.583	14.26	14.583	1.99	20.58	1.18
2.667	1.35	8.667	14.26	14.667	1.99	20.67	1.18
2.750	1.38	8.750	11.64	14.750	1.95	20.75	1.17
2.833	1.38	8.833	11.64	14.833	1.95	20.83	1.17
2.917	1.42	8.917	9.88	14.917	1.91	20.92	1.16
3.000	1.42	9.000	9.88	15.000	1.91	21.00	1.16
3.083	1.46	9.083	8.62	15.083	1.87	21.08	1.15
3.167	1.46	9.167	8.62	15.167	1.87	21.17	1.15
3.250	1.50	9.250	7.66	15.250	1.84	21.25	1.13
3.333	1.50	9.333	7.66	15.333	1.84	21.33	1.13
3.417	1.55	9.417	6.91	15.417	1.80	21.42	1.12
3.500	1.55	9.500	6.91	15.500	1.80	21.50	1.12
3.583	1.60	9.583	6.31	15.583	1.77	21.58	1.11
3.667	1.60	9.667	6.31	15.667	1.77	21.67	1.11
3.750	1.65	9.750	5.81	15.750	1.74	21.75	1.10
3.833	1.65	9.833	5.81	15.833	1.74	21.83	1.10
3.917	1.71	9.917	5.39	15.917	1.71	21.92	1.09
4.000	1.71	10.000	5.39	16.000	1.71	22.00	1.09
4.083	1.77	10.083	5.04	16.083	1.68	22.08	1.08
4.167	1.77	10.167	5.04	16.167	1.68	22.17	1.08
4.250	1.83	10.250	4.73	16.250	1.66	22.25	1.07
4.333	1.83	10.333	4.73	16.333	1.66	22.33	1.07
4.417	1.90	10.417	4.46	16.417	1.63	22.42	1.06
4.500	1.90	10.500	4.46	16.500	1.63	22.50	1.06
4.583	1.98	10.583	4.23	16.583	1.61	22.58	1.05
4.667	1.98	10.667	4.23	16.667	1.61	22.67	1.05
4.750	2.07	10.750	4.02	16.750	1.58	22.75	1.04
4.833	2.07	10.833	4.02	16.833	1.58	22.83	1.04
4.917	2.16	10.917	3.83	16.917	1.56	22.92	1.03
5.000	2.16	11.000	3.83	17.000	1.56	23.00	1.03
5.083	2.27	11.083	3.66	17.083	1.53	23.08	1.02
5.167	2.27	11.167	3.66	17.167	1.53	23.17	1.02
5.250	2.38	11.250	3.51	17.250	1.51	23.25	1.01
5.333	2.38	11.333	3.51	17.333	1.51	23.33	1.01
5.417	2.51	11.417	3.37	17.417	1.49	23.42	1.01
5.500	2.51	11.500	3.37	17.500	1.49	23.50	1.01
5.583	2.66	11.583	3.24	17.583	1.47	23.58	1.00
5.667	2.66	11.667	3.24	17.667	1.47	23.67	1.00
5.750	2.83	11.750	3.12	17.750	1.45	23.75	0.99
5.833	2.83	11.833	3.12	17.833	1.45	23.83	0.99
5.917	3.03	11.917	3.02	17.917	1.43	23.92	0.98
6.000	3.03	12.000	3.02	18.000	1.43	24.00	0.98

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.632 (i)

TIME TO PEAK (hrs)= 8.833

RUNOFF VOLUME (mm)= 57.424

TOTAL RAINFALL (mm)= 109.120

RUNOFF COEFFICIENT = 0.526

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

ADD HYD (8320)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):	19.36	0.874	9.00	57.42
+ ID2= 2 (8500):	11.81	0.632	8.83	57.42
=====				
ID = 3 (8320):	31.17	1.492	8.92	57.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10030)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10020):	43.84	0.738	10.08	86.50
+ ID2= 2 (8320):	31.17	1.492	8.92	57.42
=====				
ID = 3 (10030):	75.01	2.074	8.92	74.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

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V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

000 TTTTT TTTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\V02\voin.dat
Output filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\318d30
f0-1014-41ec-b962-8328a58b24eb\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\318d30
f0-1014-41ec-b962-8328a58b24eb\scenar

DATE: 07-06-2023 TIME: 12:29:31

USER:

COMMENTS: _____

** SIMULATION : 10 year 24 Hour SCS **

| MASS STORM | Filename: C:\Users\kchow\AppData
| | ata\Local\Temp\
| | 8fb971a2-7d95-4c3e-9ab5-f64cd3995ccd\9d14f951

| Ptotal= 80.40 mm |

Comments:

Duration of storm = 24.00 hrs
 Mass curve time step = 15.00 min

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.88	6.00	1.45	12.00	11.58	18.00	1.45
0.25	0.88	6.25	1.45	12.25	11.58	18.25	1.45
0.50	0.88	6.50	1.45	12.50	5.95	18.50	1.45
0.75	0.88	6.75	1.45	12.75	5.95	18.75	1.45
1.00	0.88	7.00	1.77	13.00	4.34	19.00	1.45
1.25	0.88	7.25	1.77	13.25	4.34	19.25	1.45
1.50	0.88	7.50	1.77	13.50	3.38	19.50	1.45
1.75	0.88	7.75	1.77	13.75	3.38	19.75	1.45
2.00	1.05	8.00	2.09	14.00	2.41	20.00	0.96
2.25	1.05	8.25	2.09	14.25	2.41	20.25	0.96
2.50	1.05	8.50	2.25	14.50	2.41	20.50	0.96
2.75	1.05	8.75	2.25	14.75	2.41	20.75	0.96
3.00	1.05	9.00	2.57	15.00	2.41	21.00	0.96
3.25	1.05	9.25	2.57	15.25	2.41	21.25	0.96
3.50	1.05	9.50	2.89	15.50	2.41	21.50	0.96
3.75	1.05	9.75	2.89	15.75	2.41	21.75	0.96
4.00	1.29	10.00	3.70	16.00	1.45	22.00	0.96
4.25	1.29	10.25	3.70	16.25	1.45	22.25	0.96
4.50	1.29	10.50	4.98	16.50	1.45	22.50	0.96
4.75	1.29	10.75	4.98	16.75	1.45	22.75	0.96
5.00	1.29	11.00	7.72	17.00	1.45	23.00	0.96
5.25	1.29	11.25	7.72	17.25	1.45	23.25	0.96
5.50	1.29	11.50	23.80	17.50	1.45	23.50	0.96
5.75	1.29	11.75	98.41	17.75	1.45	23.75	0.96

 | CALIB |
 | STANDHYD (10000) |
 | ID= 1 DT= 5.0 min |

Area (ha)= 2.78
 Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.39	1.39
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	136.14	40.00
Mannings n =	0.013	0.250

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96

4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Max.Eff.Inten.(mm/hr)=	98.41	72.90
over (min)	5.00	15.00
Storage Coeff. (min)=	3.09 (ii)	11.10 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.27	0.09

TOTALS

PEAK FLOW (cms)=	0.38	0.18	0.538 (iii)
TIME TO PEAK (hrs)=	12.00	12.08	12.00
RUNOFF VOLUME (mm)=	79.40	50.32	64.86
TOTAL RAINFALL (mm)=	80.40	80.40	80.40
RUNOFF COEFFICIENT =	0.99	0.63	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 11000) | Area (ha)= 0.90
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96

3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Max.Eff.Inten.(mm/hr)=	98.41	123.23
over (min)	5.00	10.00
Storage Coeff. (min)=	2.21 (ii)	8.70 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.12

			TOTALS
PEAK FLOW (cms)=	0.06	0.12	0.179 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	79.40	57.69	63.11
TOTAL RAINFALL (mm)=	80.40	80.40	80.40
RUNOFF COEFFICIENT =	0.99	0.72	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB	
STANDHYD (12000)	Area (ha)= 1.59
ID= 1 DT= 5.0 min	Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	102.96	40.00
Mannings n =	0.013	0.250

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96

2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Max.Eff.Inten.(mm/hr)= 98.41
over (min) 5.00

88.83
15.00

Storage Coeff. (min)=	2.62 (ii)	10.02 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.29	0.10	
			TOTALS
PEAK FLOW (cms)=	0.06	0.20	0.234 (iii)
TIME TO PEAK (hrs)=	12.00	12.08	12.00
RUNOFF VOLUME (mm)=	79.40	53.15	56.56
TOTAL RAINFALL (mm)=	80.40	80.40	80.40
RUNOFF COEFFICIENT =	0.99	0.66	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3       |
-----
                AREA   QPEAK   TPEAK   R.V.
                (ha)   (cms)   (hrs)   (mm)
ID1= 1 ( 11000):  0.90   0.179  12.00   63.11
+ ID2= 2 ( 12000):  1.59   0.234  12.00   56.56
=====
ID = 3 ( 11010):  2.49   0.413  12.00   58.93
  
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB          |
| NASHYD ( 8200) | Area   (ha)=  2.88   Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia    (mm)=  5.00   # of Linear Res.(N)= 3.00
-----
                U.H. Tp(hrs)=  1.21
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----
    TIME   RAIN | TIME   RAIN | TIME   RAIN | TIME   RAIN
    hrs   mm/hr | hrs   mm/hr | hrs   mm/hr | hrs   mm/hr
0.083   0.88 | 6.083   1.45 | 12.083  11.59 | 18.08   1.45
0.167   0.88 | 6.167   1.45 | 12.167  11.58 | 18.17   1.45
0.250   0.88 | 6.250   1.45 | 12.250  11.58 | 18.25   1.45
0.333   0.88 | 6.333   1.45 | 12.333  11.58 | 18.33   1.45
0.417   0.88 | 6.417   1.45 | 12.417  11.58 | 18.42   1.45
  
```

0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96

4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.071 (i)
 TIME TO PEAK (hrs)= 13.250
 RUNOFF VOLUME (mm)= 35.517
 TOTAL RAINFALL (mm)= 80.400
 RUNOFF COEFFICIENT = 0.442

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

 | CALIB |
 | NASHYD (8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

 U.H. Tp(hrs)= 0.54

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45

0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96

5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.085 (i)
 TIME TO PEAK (hrs)= 12.417
 RUNOFF VOLUME (mm)= 35.516
 TOTAL RAINFALL (mm)= 80.400
 RUNOFF COEFFICIENT = 0.442

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

ADD HYD (8110)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.085	12.42	35.52
+ ID2= 2 (8200):	2.88	0.071	13.25	35.52
=====				
ID = 3 (8110):	4.78	0.137	12.67	35.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8700)			
ID= 1 DT= 5.0 min			

Area (ha)=	2.22		
Total Imp(%)=	60.00	Dir. Conn.(%)=	30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45	
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45	
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45	
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45	
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45	
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45	
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45	
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45	
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45	
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45	
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45	
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45	
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45	
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45	
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45	
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45	
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45	
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45	
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45	
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45	
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45	
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45	
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45	
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45	
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96	
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96	
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96	
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96	
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96	
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96	
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96	
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96	
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96	
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96	
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96	
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96	
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96	
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96	
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96	
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96	
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96	
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96	
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96	
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96	
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96	

3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Max.Eff.Inten.(mm/hr)=	98.41	148.74
over (min)	5.00	10.00
Storage Coeff. (min)=	2.89 (ii)	8.91 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.12

TOTALS

PEAK FLOW (cms)=	0.18	0.28	0.461 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	79.40	60.17	65.94
TOTAL RAINFALL (mm)=	80.40	80.40	80.40
RUNOFF COEFFICIENT =	0.99	0.75	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB
 STANDHYD (8800)
 ID= 1 DT= 5.0 min

Area (ha)= 18.91
 Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96

2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Max.Eff.Inten.(mm/hr)=	98.41	159.69
over (min)	5.00	15.00
Storage Coeff. (min)=	5.50 (ii)	11.35 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.20	0.09

TOTALS

PEAK FLOW (cms)=	1.72	1.93	3.442 (iii)
TIME TO PEAK (hrs)=	12.00	12.08	12.00
RUNOFF VOLUME (mm)=	79.40	61.07	67.49
TOTAL RAINFALL (mm)=	80.40	80.40	80.40

RUNOFF COEFFICIENT = 0.99 0.76 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 ( 8710) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8700):	2.22	0.461	12.00	65.94
+ ID2= 2 (8800):	18.91	3.442	12.00	67.49
=====				
ID = 3 (8710):	21.13	3.903	12.00	67.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD ( 8120) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8110):	4.78	0.137	12.67	35.52
+ ID2= 2 (8710):	21.13	3.903	12.00	67.32
=====				
ID = 3 (8120):	25.91	3.959	12.00	61.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| STANDHYD ( 8900) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	2.39		
Total Imp(%)=	21.00	Dir. Conn.(%)=	10.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	1.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	126.23	125.00
Mannings n =	0.013	0.250

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96

4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Max.Eff.Inten.(mm/hr)=	98.41	67.08
over (min)	5.00	20.00
Storage Coeff. (min)=	2.96 (ii)	19.36 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.28	0.06

TOTALS

PEAK FLOW (cms)=	0.07	0.22	0.231 (iii)
TIME TO PEAK (hrs)=	12.00	12.17	12.17
RUNOFF VOLUME (mm)=	79.40	52.81	55.46
TOTAL RAINFALL (mm)=	80.40	80.40	80.40
RUNOFF COEFFICIENT =	0.99	0.66	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

| STANDHYD (8600) | Area (ha)= 10.27
 | ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.16	8.11
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	2.00	2.00
Length (m)=	261.66	250.00
Mannings n =	0.013	0.250

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96

2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Max.Eff.Inten.(mm/hr)=	98.41	50.20
over (min)	5.00	35.00
Storage Coeff. (min)=	3.72 (ii)	31.64 (ii)
Unit Hyd. Tpeak (min)=	5.00	35.00
Unit Hyd. peak (cms)=	0.25	0.03

TOTALS

PEAK FLOW (cms)=	0.28	0.67	0.707 (iii)
TIME TO PEAK (hrs)=	12.00	12.42	12.42
RUNOFF VOLUME (mm)=	79.40	52.81	55.47
TOTAL RAINFALL (mm)=	80.40	80.40	80.40
RUNOFF COEFFICIENT =	0.99	0.66	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (8610)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8600):		10.27	0.707	12.42	55.47
+ ID2= 2 (8900):		2.39	0.231	12.17	55.46
=====					
ID = 3 (8610):		12.66	0.864	12.42	55.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):		25.91	3.959	12.00	61.46
+ ID2= 2 (8610):		12.66	0.864	12.42	55.47
=====					
ID = 3 (8130):		38.57	4.757	12.00	59.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):		2.49	0.413	12.00	58.93
+ ID2= 2 (8130):		38.57	4.757	12.00	59.49
=====					
ID = 3 (8140):		41.06	5.171	12.00	59.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10010)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10000):		2.78	0.538	12.00	64.86
+ ID2= 2 (8140):		41.06	5.171	12.00	59.46
=====					
ID = 3 (10010):		43.84	5.709	12.00	59.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(10020)		OVERFLOW IS OFF			
IN= 2---> OUT= 1		OUTFLOW		STORAGE	
DT= 5.0 min		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.4750	1.4077
		0.0360	0.1569	0.5120	1.5638
		0.0550	0.3255	0.5460	1.7245
		0.0620	0.3843	0.5780	1.8900
		0.0810	0.5687	0.6080	2.0600
		0.1060	0.6976	0.9880	2.2351
		0.1770	0.8304	1.6470	2.4147
		0.2750	0.9677	2.9610	2.6944
		0.3910	1.1096	4.5710	2.9877
		0.4350	1.2563	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (10010)	43.840	5.709	12.00	59.80
OUTFLOW: ID= 1 (10020)	43.840	0.507	13.92	59.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.88
 TIME SHIFT OF PEAK FLOW (min)=115.00
 MAXIMUM STORAGE USED (ha.m.)= 1.5437

CALIB		Area	(ha)=	Curve Number	(CN)=
NASHYD (8400)		Ia	(mm)=	# of Linear Res.(N)=	3.00
ID= 1 DT= 5.0 min		U.H. Tp	(hrs)=		0.99

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45

0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96

4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.321 (i)
 TIME TO PEAK (hrs)= 13.000
 RUNOFF VOLUME (mm)= 35.517
 TOTAL RAINFALL (mm)= 80.400
 RUNOFF COEFFICIENT = 0.442

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

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| CALIB |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.80

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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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45

0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96
4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96

4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.275 (i)
 TIME TO PEAK (hrs)= 12.750
 RUNOFF VOLUME (mm)= 35.517
 TOTAL RAINFALL (mm)= 80.400
 RUNOFF COEFFICIENT = 0.442

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

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| ADD HYD ( 8310) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.275	12.75	35.52
+ ID2= 2 (8400):	11.21	0.321	13.00	35.52
=====				
ID = 3 (8310):	19.36	0.591	12.83	35.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8500) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	11.81	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	0.72		

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	0.88	6.083	1.45	12.083	11.59	18.08	1.45
0.167	0.88	6.167	1.45	12.167	11.58	18.17	1.45
0.250	0.88	6.250	1.45	12.250	11.58	18.25	1.45
0.333	0.88	6.333	1.45	12.333	11.58	18.33	1.45
0.417	0.88	6.417	1.45	12.417	11.58	18.42	1.45
0.500	0.88	6.500	1.45	12.500	11.58	18.50	1.45
0.583	0.88	6.583	1.45	12.583	5.95	18.58	1.45
0.667	0.88	6.667	1.45	12.667	5.95	18.67	1.45
0.750	0.88	6.750	1.45	12.750	5.95	18.75	1.45
0.833	0.88	6.833	1.45	12.833	5.95	18.83	1.45
0.917	0.88	6.917	1.45	12.917	5.95	18.92	1.45
1.000	0.88	7.000	1.45	13.000	5.95	19.00	1.45
1.083	0.88	7.083	1.77	13.083	4.34	19.08	1.45
1.167	0.88	7.167	1.77	13.167	4.34	19.17	1.45
1.250	0.88	7.250	1.77	13.250	4.34	19.25	1.45
1.333	0.88	7.333	1.77	13.333	4.34	19.33	1.45
1.417	0.88	7.417	1.77	13.417	4.34	19.42	1.45
1.500	0.88	7.500	1.77	13.500	4.34	19.50	1.45
1.583	0.88	7.583	1.77	13.583	3.38	19.58	1.45
1.667	0.88	7.667	1.77	13.667	3.38	19.67	1.45
1.750	0.88	7.750	1.77	13.750	3.38	19.75	1.45
1.833	0.88	7.833	1.77	13.833	3.38	19.83	1.45
1.917	0.88	7.917	1.77	13.917	3.38	19.92	1.45
2.000	0.88	8.000	1.77	14.000	3.38	20.00	1.45
2.083	1.05	8.083	2.09	14.083	2.41	20.08	0.96
2.167	1.05	8.167	2.09	14.167	2.41	20.17	0.96
2.250	1.05	8.250	2.09	14.250	2.41	20.25	0.96
2.333	1.05	8.333	2.09	14.333	2.41	20.33	0.96
2.417	1.05	8.417	2.09	14.417	2.41	20.42	0.96
2.500	1.05	8.500	2.09	14.500	2.41	20.50	0.96
2.583	1.05	8.583	2.25	14.583	2.41	20.58	0.96
2.667	1.05	8.667	2.25	14.667	2.41	20.67	0.96
2.750	1.05	8.750	2.25	14.750	2.41	20.75	0.96
2.833	1.05	8.833	2.25	14.833	2.41	20.83	0.96
2.917	1.05	8.917	2.25	14.917	2.41	20.92	0.96
3.000	1.05	9.000	2.25	15.000	2.41	21.00	0.96
3.083	1.05	9.083	2.57	15.083	2.41	21.08	0.96
3.167	1.05	9.167	2.57	15.167	2.41	21.17	0.96
3.250	1.05	9.250	2.57	15.250	2.41	21.25	0.96
3.333	1.05	9.333	2.57	15.333	2.41	21.33	0.96
3.417	1.05	9.417	2.57	15.417	2.41	21.42	0.96
3.500	1.05	9.500	2.57	15.500	2.41	21.50	0.96
3.583	1.05	9.583	2.89	15.583	2.41	21.58	0.96
3.667	1.05	9.667	2.89	15.667	2.41	21.67	0.96
3.750	1.05	9.750	2.89	15.750	2.41	21.75	0.96
3.833	1.05	9.833	2.89	15.833	2.41	21.83	0.96
3.917	1.05	9.917	2.89	15.917	2.41	21.92	0.96
4.000	1.05	10.000	2.89	16.000	2.41	22.00	0.96

4.083	1.29	10.083	3.70	16.083	1.45	22.08	0.96
4.167	1.29	10.167	3.70	16.167	1.45	22.17	0.96
4.250	1.29	10.250	3.70	16.250	1.45	22.25	0.96
4.333	1.29	10.333	3.70	16.333	1.45	22.33	0.96
4.417	1.29	10.417	3.70	16.417	1.45	22.42	0.96
4.500	1.29	10.500	3.70	16.500	1.45	22.50	0.96
4.583	1.29	10.583	4.98	16.583	1.45	22.58	0.96
4.667	1.29	10.667	4.98	16.667	1.45	22.67	0.96
4.750	1.29	10.750	4.98	16.750	1.45	22.75	0.96
4.833	1.29	10.833	4.98	16.833	1.45	22.83	0.96
4.917	1.29	10.917	4.98	16.917	1.45	22.92	0.96
5.000	1.29	11.000	4.98	17.000	1.45	23.00	0.96
5.083	1.29	11.083	7.72	17.083	1.45	23.08	0.96
5.167	1.29	11.167	7.72	17.167	1.45	23.17	0.96
5.250	1.29	11.250	7.72	17.250	1.45	23.25	0.96
5.333	1.29	11.333	7.72	17.333	1.45	23.33	0.96
5.417	1.29	11.417	7.72	17.417	1.45	23.42	0.96
5.500	1.29	11.500	7.72	17.500	1.45	23.50	0.96
5.583	1.29	11.583	23.80	17.583	1.45	23.58	0.96
5.667	1.29	11.667	23.80	17.667	1.45	23.67	0.96
5.750	1.29	11.750	23.80	17.750	1.45	23.75	0.96
5.833	1.29	11.833	98.40	17.833	1.45	23.83	0.96
5.917	1.29	11.917	98.41	17.917	1.45	23.92	0.96
6.000	1.29	12.000	98.41	18.000	1.45	24.00	0.96

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.430 (i)

TIME TO PEAK (hrs)= 12.667

RUNOFF VOLUME (mm)= 35.517

TOTAL RAINFALL (mm)= 80.400

RUNOFF COEFFICIENT = 0.442

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

ADD HYD (8320)				
1 + 2 = 3				

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):	19.36	0.591	12.83	35.52
+ ID2= 2 (8500):	11.81	0.430	12.67	35.52
=====				
ID = 3 (8320):	31.17	1.011	12.75	35.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10030)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10020):		43.84	0.507	13.92	59.77
+ ID2= 2 (8320):		31.17	1.011	12.75	35.52
=====					
ID = 3 (10030):		75.01	1.489	12.75	49.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V   V   I   SSSSS U   U   A   L           (v 6.2.2014)
V   V   I   SS   U   U   A A   L
V   V   I   SS   U   U   AAAAA L
V   V   I   SS   U   U   A   A   L
VV    I   SSSSS UUUUU A   A   LLLLL

000  TTTTT TTTTT H   H   Y   Y   M   M   000  TM
0   0   T   T   H   H   Y   Y   MM MM 0   0
0   0   T   T   H   H   Y   M   M   0   0
000  T   T   H   H   Y   M   M   000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\521fc0
 6d-1dbf-480b-bf47-2d81b543f5f1\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\521fc0
 6d-1dbf-480b-bf47-2d81b543f5f1\scenar

DATE: 07-06-2023

TIME: 12:29:31

USER:

COMMENTS: _____

 ** SIMULATION : 100 year 24 Hour SCS **

 | MASS STORM |
Ptotal=121.50 mm

Filename: C:\Users\kchow\AppData
 Local\Temp\
 8fb971a2-7d95-4c3e-9ab5-f64cd3995ccd\97feddae
 Comments:

Duration of storm = 24.00 hrs
 Mass curve time step = 15.00 min

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	1.34	6.00	2.19	12.00	17.50	18.00	2.19
0.25	1.34	6.25	2.19	12.25	17.50	18.25	2.19
0.50	1.34	6.50	2.19	12.50	8.99	18.50	2.19
0.75	1.34	6.75	2.19	12.75	8.99	18.75	2.19
1.00	1.34	7.00	2.67	13.00	6.56	19.00	2.19
1.25	1.34	7.25	2.67	13.25	6.56	19.25	2.19
1.50	1.34	7.50	2.67	13.50	5.10	19.50	2.19
1.75	1.34	7.75	2.67	13.75	5.10	19.75	2.19
2.00	1.58	8.00	3.16	14.00	3.64	20.00	1.46
2.25	1.58	8.25	3.16	14.25	3.64	20.25	1.46
2.50	1.58	8.50	3.40	14.50	3.64	20.50	1.46
2.75	1.58	8.75	3.40	14.75	3.65	20.75	1.46
3.00	1.58	9.00	3.89	15.00	3.64	21.00	1.46
3.25	1.58	9.25	3.89	15.25	3.64	21.25	1.46
3.50	1.58	9.50	4.37	15.50	3.64	21.50	1.46
3.75	1.58	9.75	4.37	15.75	3.64	21.75	1.46
4.00	1.94	10.00	5.59	16.00	2.19	22.00	1.46
4.25	1.94	10.25	5.59	16.25	2.19	22.25	1.46
4.50	1.94	10.50	7.53	16.50	2.19	22.50	1.46
4.75	1.94	10.75	7.53	16.75	2.19	22.75	1.46
5.00	1.94	11.00	11.66	17.00	2.19	23.00	1.46
5.25	1.94	11.25	11.66	17.25	2.19	23.25	1.46
5.50	1.94	11.50	35.96	17.50	2.19	23.50	1.46
5.75	1.94	11.75	148.72	17.75	2.19	23.75	1.46

 | CALIB |
 | STANDHYD (10000) |
ID= 1 DT= 5.0 min

Area (ha)= 2.78
 Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

Surface Area (ha)= IMPERVIOUS 1.39 PERVIOUS (i) 1.39

Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

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	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46

3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Max.Eff.Inten.(mm/hr)=	148.72	124.37
over (min)	5.00	10.00
Storage Coeff. (min)=	2.62 (ii)	9.09 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.12

TOTALS			
PEAK FLOW (cms)=	0.57	0.36	0.935 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	120.50	87.37	103.93
TOTAL RAINFALL (mm)=	121.50	121.50	121.50
RUNOFF COEFFICIENT =	0.99	0.72	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(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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| CALIB |
| STANDHYD ( 11000) | Area (ha)= 0.90
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46

2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Max.Eff.Inten.(mm/hr)=	148.72	201.57
over (min)	5.00	10.00
Storage Coeff. (min)=	1.87 (ii)	7.20 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00

Unit Hyd. peak (cms)=	0.32	0.14	
			TOTALS
PEAK FLOW (cms)=	0.09	0.21	0.301 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	120.50	96.56	102.54
TOTAL RAINFALL (mm)=	121.50	121.50	121.50
RUNOFF COEFFICIENT =	0.99	0.79	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	2.00	
Length (m)=	102.96	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19

1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46

5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Max.Eff.Inten.(mm/hr)= 148.72 149.05
over (min) 5.00 10.00
Storage Coeff. (min)= 2.22 (ii) 8.23 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.30 0.13

TOTALS

PEAK FLOW (cms)= 0.09 0.39 0.473 (iii)
TIME TO PEAK (hrs)= 12.00 12.00 12.00
RUNOFF VOLUME (mm)= 120.50 90.96 94.80
TOTAL RAINFALL (mm)= 121.50 121.50 121.50
RUNOFF COEFFICIENT = 0.99 0.75 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.301	12.00	102.54
+ ID2= 2 (12000):	1.59	0.473	12.00	94.80
=====				
ID = 3 (11010):	2.49	0.774	12.00	97.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8200) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	2.88	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	1.21		

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	1.34	6.083	2.19	12.083	17.51	18.08	2.19	
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19	
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19	
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19	
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19	
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19	
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19	
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19	
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19	
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19	
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19	
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19	
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19	
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19	
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19	
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19	
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19	
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19	
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19	
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19	
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19	
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19	
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19	
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19	
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46	
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46	
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46	
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46	
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46	
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46	
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46	
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46	
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46	
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46	
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46	
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46	
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46	
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46	
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46	
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46	
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46	
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46	
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46	
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46	
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46	

3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.137 (i)

TIME TO PEAK (hrs)= 13.167

RUNOFF VOLUME (mm)= 67.467

TOTAL RAINFALL (mm)= 121.500

RUNOFF COEFFICIENT = 0.555

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

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| CALIB |
| NASHYD ( 8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.54

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----
TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN

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hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46

4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.165 (i)

TIME TO PEAK (hrs)= 12.417

RUNOFF VOLUME (mm)= 67.465

TOTAL RAINFALL (mm)= 121.500

RUNOFF COEFFICIENT = 0.555

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

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| ADD HYD ( 8110) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8100):	1.90	0.165	12.42	67.46
+ ID2= 2 (8200):	2.88	0.137	13.17	67.47
=====				
ID = 3 (8110):	4.78	0.266	12.58	67.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| STANDHYD ( 8700) |
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Area (ha)=	2.22
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|ID= 1 DT= 5.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.33	0.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.66	40.00
Mannings n	=	0.013	0.250

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	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46

3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Max.Eff.Inten.(mm/hr)=	148.72	240.12
over (min)	5.00	10.00
Storage Coeff. (min)=	2.45 (ii)	7.42 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.13

TOTALS

PEAK FLOW (cms)=	0.27	0.49	0.761 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	120.50	99.51	105.81
TOTAL RAINFALL (mm)=	121.50	121.50	121.50
RUNOFF COEFFICIENT =	0.99	0.82	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB	
STANDHYD (8800)	Area (ha)= 18.91
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	12.29	6.62
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	355.06	40.00
Mannings n =	0.013	0.250

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	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19

2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Max.Eff.Inten.(mm/hr)=	148.72	256.61	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.66 (ii)	9.50 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.22	0.12	
			TOTALS
PEAK FLOW (cms)=	2.65	3.56	6.212 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	120.50	100.58	107.55
TOTAL RAINFALL (mm)=	121.50	121.50	121.50
RUNOFF COEFFICIENT =	0.99	0.83	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 8710) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8700):  2.22  0.761  12.00  105.81
+ ID2= 2 ( 8800): 18.91  6.212  12.00  107.55
=====
ID = 3 ( 8710):  21.13  6.974  12.00  107.37

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8120) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8110):  4.78  0.266  12.58  67.47
+ ID2= 2 ( 8710): 21.13  6.974  12.00  107.37
=====
ID = 3 ( 8120):  25.91  7.088  12.00  100.01

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| CALIB
| STANDHYD ( 8900) |
| ID= 1 DT= 5.0 min |
-----
Area (ha)= 2.39
Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46

3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Max.Eff.Inten.(mm/hr)=	148.72	142.25
over (min)	5.00	15.00
Storage Coeff. (min)=	2.51 (ii)	14.65 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.29	0.08

			TOTALS
PEAK FLOW (cms)=	0.10	0.45	0.493 (iii)
TIME TO PEAK (hrs)=	12.00	12.08	12.00
RUNOFF VOLUME (mm)=	120.50	90.54	93.53
TOTAL RAINFALL (mm)=	121.50	121.50	121.50
RUNOFF COEFFICIENT =	0.99	0.75	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%

YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

CALIB	
STANDHYD (8600)	Area (ha)= 10.27
ID= 1 DT= 5.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.16	8.11
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	2.00	2.00
Length (m)=	261.66	250.00
Mannings n =	0.013	0.250

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	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19

2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Max.Eff.Inten.(mm/hr)=	148.72	97.61	
over (min)	5.00	25.00	
Storage Coeff. (min)=	3.15 (ii)	24.55 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.27	0.05	
			TOTALS
PEAK FLOW (cms)=	0.42	1.39	1.446 (iii)
TIME TO PEAK (hrs)=	12.00	12.25	12.25
RUNOFF VOLUME (mm)=	120.50	90.54	93.54
TOTAL RAINFALL (mm)=	121.50	121.50	121.50
RUNOFF COEFFICIENT =	0.99	0.75	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3      |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8600):  10.27  1.446  12.25  93.54
+ ID2= 2 ( 8900):   2.39  0.493  12.00  93.53
=====
ID = 3 ( 8610):  12.66  1.811  12.17  93.54
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8130) |
| 1 + 2 = 3      |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8120):  25.91  7.088  12.00  100.01
+ ID2= 2 ( 8610):  12.66  1.811  12.17  93.54
=====
ID = 3 ( 8130):  38.57  8.838  12.00  97.88
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8140) |
  
```

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11010):	2.49	0.774	12.00	97.60
+ ID2= 2 (8130):	38.57	8.838	12.00	97.88
=====				
ID = 3 (8140):	41.06	9.612	12.00	97.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10010)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10000):		2.78	0.935	12.00	103.93
+ ID2= 2 (8140):		41.06	9.612	12.00	97.87
=====					
ID = 3 (10010):		43.84	10.547	12.00	98.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(10020)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4750	1.4077
	0.0360	0.1569	0.5120	1.5638
	0.0550	0.3255	0.5460	1.7245
	0.0620	0.3843	0.5780	1.8900
	0.0810	0.5687	0.6080	2.0600
	0.1060	0.6976	0.9880	2.2351
	0.1770	0.8304	1.6470	2.4147
	0.2750	0.9677	2.9610	2.6944
	0.3910	1.1096	4.5710	2.9877
	0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	10.547	12.00	98.25
OUTFLOW: ID= 1 (10020)	43.840	1.526	13.00	98.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.47
 TIME SHIFT OF PEAK FLOW (min)= 60.00
 MAXIMUM STORAGE USED (ha.m.)= 2.3822

CALIB	NASHYD (8400)	Area (ha)=	Curve Number (CN)=
		11.21	75.0

|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 ----- U.H. Tp(hrs)= 0.99

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	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46

3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.621 (i)

TIME TO PEAK (hrs)= 12.917

RUNOFF VOLUME (mm)= 67.468

TOTAL RAINFALL (mm)= 121.500

RUNOFF COEFFICIENT = 0.555

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

CALIB			
NASHYD (8300)	Area (ha)=	8.15	Curve Number (CN)= 75.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.80	

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	1.34	6.083	2.19	12.083	17.51	18.08	2.19	
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19	
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19	
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19	
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19	
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19	
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19	
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19	
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19	
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19	
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19	
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19	
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19	
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19	
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19	
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19	
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19	
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19	
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19	
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19	
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19	
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19	
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19	
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19	
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46	
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46	
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46	
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46	
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46	
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46	
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46	
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46	
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46	
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46	
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46	
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46	
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46	
3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46	
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46	
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46	
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46	
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46	
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46	
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46	
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46	

3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.530 (i)

TIME TO PEAK (hrs)= 12.750

RUNOFF VOLUME (mm)= 67.467

TOTAL RAINFALL (mm)= 121.500

RUNOFF COEFFICIENT = 0.555

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

ADD HYD (8310)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8300):	8.15	0.530	12.75	67.47
+ ID2= 2 (8400):	11.21	0.621	12.92	67.47
=====				
ID = 3 (8310):	19.36	1.140	12.83	67.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8500) | Area (ha)= 11.81 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
|-----| U.H. Tp(hrs)= 0.72

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	1.34	6.083	2.19	12.083	17.51	18.08	2.19
0.167	1.34	6.167	2.19	12.167	17.50	18.17	2.19
0.250	1.34	6.250	2.19	12.250	17.50	18.25	2.19
0.333	1.34	6.333	2.19	12.333	17.50	18.33	2.19
0.417	1.34	6.417	2.19	12.417	17.50	18.42	2.19
0.500	1.34	6.500	2.19	12.500	17.50	18.50	2.19
0.583	1.34	6.583	2.19	12.583	8.99	18.58	2.19
0.667	1.34	6.667	2.19	12.667	8.99	18.67	2.19
0.750	1.34	6.750	2.19	12.750	8.99	18.75	2.19
0.833	1.34	6.833	2.19	12.833	8.99	18.83	2.19
0.917	1.34	6.917	2.19	12.917	8.99	18.92	2.19
1.000	1.34	7.000	2.19	13.000	8.99	19.00	2.19
1.083	1.34	7.083	2.67	13.083	6.56	19.08	2.19
1.167	1.34	7.167	2.67	13.167	6.56	19.17	2.19
1.250	1.34	7.250	2.67	13.250	6.56	19.25	2.19
1.333	1.34	7.333	2.67	13.333	6.56	19.33	2.19
1.417	1.34	7.417	2.67	13.417	6.56	19.42	2.19
1.500	1.34	7.500	2.67	13.500	6.56	19.50	2.19
1.583	1.34	7.583	2.67	13.583	5.10	19.58	2.19
1.667	1.34	7.667	2.67	13.667	5.10	19.67	2.19
1.750	1.34	7.750	2.67	13.750	5.10	19.75	2.19
1.833	1.34	7.833	2.67	13.833	5.10	19.83	2.19
1.917	1.34	7.917	2.67	13.917	5.10	19.92	2.19
2.000	1.34	8.000	2.67	14.000	5.10	20.00	2.19
2.083	1.58	8.083	3.16	14.083	3.65	20.08	1.46
2.167	1.58	8.167	3.16	14.167	3.64	20.17	1.46
2.250	1.58	8.250	3.16	14.250	3.64	20.25	1.46
2.333	1.58	8.333	3.16	14.333	3.64	20.33	1.46
2.417	1.58	8.417	3.16	14.417	3.64	20.42	1.46
2.500	1.58	8.500	3.16	14.500	3.64	20.50	1.46
2.583	1.58	8.583	3.40	14.583	3.64	20.58	1.46
2.667	1.58	8.667	3.40	14.667	3.64	20.67	1.46
2.750	1.58	8.750	3.40	14.750	3.64	20.75	1.46
2.833	1.58	8.833	3.40	14.833	3.65	20.83	1.46
2.917	1.58	8.917	3.40	14.917	3.65	20.92	1.46
3.000	1.58	9.000	3.40	15.000	3.65	21.00	1.46
3.083	1.58	9.083	3.89	15.083	3.64	21.08	1.46

3.167	1.58	9.167	3.89	15.167	3.64	21.17	1.46
3.250	1.58	9.250	3.89	15.250	3.64	21.25	1.46
3.333	1.58	9.333	3.89	15.333	3.64	21.33	1.46
3.417	1.58	9.417	3.89	15.417	3.64	21.42	1.46
3.500	1.58	9.500	3.89	15.500	3.64	21.50	1.46
3.583	1.58	9.583	4.37	15.583	3.64	21.58	1.46
3.667	1.58	9.667	4.37	15.667	3.64	21.67	1.46
3.750	1.58	9.750	4.37	15.750	3.64	21.75	1.46
3.833	1.58	9.833	4.37	15.833	3.64	21.83	1.46
3.917	1.58	9.917	4.37	15.917	3.64	21.92	1.46
4.000	1.58	10.000	4.37	16.000	3.64	22.00	1.46
4.083	1.94	10.083	5.59	16.083	2.19	22.08	1.46
4.167	1.94	10.167	5.59	16.167	2.19	22.17	1.46
4.250	1.94	10.250	5.59	16.250	2.19	22.25	1.46
4.333	1.94	10.333	5.59	16.333	2.19	22.33	1.46
4.417	1.94	10.417	5.59	16.417	2.19	22.42	1.46
4.500	1.94	10.500	5.59	16.500	2.19	22.50	1.46
4.583	1.94	10.583	7.53	16.583	2.19	22.58	1.46
4.667	1.94	10.667	7.53	16.667	2.19	22.67	1.46
4.750	1.94	10.750	7.53	16.750	2.19	22.75	1.46
4.833	1.94	10.833	7.53	16.833	2.19	22.83	1.46
4.917	1.94	10.917	7.53	16.917	2.19	22.92	1.46
5.000	1.94	11.000	7.53	17.000	2.19	23.00	1.46
5.083	1.94	11.083	11.66	17.083	2.19	23.08	1.46
5.167	1.94	11.167	11.66	17.167	2.19	23.17	1.46
5.250	1.94	11.250	11.66	17.250	2.19	23.25	1.46
5.333	1.94	11.333	11.66	17.333	2.19	23.33	1.46
5.417	1.94	11.417	11.66	17.417	2.19	23.42	1.46
5.500	1.94	11.500	11.66	17.500	2.19	23.50	1.46
5.583	1.94	11.583	35.96	17.583	2.19	23.58	1.46
5.667	1.94	11.667	35.96	17.667	2.19	23.67	1.46
5.750	1.94	11.750	35.96	17.750	2.19	23.75	1.46
5.833	1.94	11.833	148.70	17.833	2.19	23.83	1.46
5.917	1.94	11.917	148.72	17.917	2.19	23.92	1.46
6.000	1.94	12.000	148.72	18.000	2.19	24.00	1.46

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.830 (i)

TIME TO PEAK (hrs)= 12.667

RUNOFF VOLUME (mm)= 67.467

TOTAL RAINFALL (mm)= 121.500

RUNOFF COEFFICIENT = 0.555

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

 | ADD HYD (8320) |

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8310):	19.36	1.140	12.83	67.47
+ ID2= 2 (8500):	11.81	0.830	12.67	67.47
=====				
ID = 3 (8320):	31.17	1.952	12.75	67.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10030) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	1.526	13.00	98.23
+ ID2= 2 (8320):	31.17	1.952	12.75	67.47
=====				
ID = 3 (10030):	75.01	3.441	12.83	85.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V   V   I   SSSSS  U   U   A   L           (v 6.2.2014)
V   V   I   SS    U   U   A A  L
V   V   I   SS    U   U   AAAAA L
V   V   I   SS    U   U   A   A  L
  VV    I   SSSSS  UUUUU  A   A  LLLLL

000  TTTTT  TTTTT  H   H   Y   Y   M   M   000  TM
0  0  T    T    H   H   Y   Y   MM MM  0  0
0  0  T    T    H   H   Y   M   M   0  0
000  T    T    H   H   Y   M   M   000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\V02\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\636ad7
 eb-a176-4dc9-826f-4ad4ddc9a1a5\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\636ad7
 eb-a176-4dc9-826f-4ad4ddc9a1a5\scenar

DATE: 07-06-2023

TIME: 12:29:32

USER:

COMMENTS: _____

 ** SIMULATION : 2 year 24 Hour SCS **

 | MASS STORM |
 | |
Ptotal= 47.40 mm

Filename: C:\Users\kchow\AppData
 Local\Temp\
 8fb971a2-7d95-4c3e-9ab5-f64cd3995ccd\57ae265c

Comments:

Duration of storm = 24.00 hrs
 Mass curve time step = 15.00 min

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.52	6.00	0.85	12.00	6.83	18.00	0.85
0.25	0.52	6.25	0.85	12.25	6.83	18.25	0.85
0.50	0.52	6.50	0.85	12.50	3.51	18.50	0.85
0.75	0.52	6.75	0.85	12.75	3.51	18.75	0.85
1.00	0.52	7.00	1.04	13.00	2.56	19.00	0.85
1.25	0.52	7.25	1.04	13.25	2.56	19.25	0.85
1.50	0.52	7.50	1.04	13.50	1.99	19.50	0.85
1.75	0.52	7.75	1.04	13.75	1.99	19.75	0.85
2.00	0.62	8.00	1.23	14.00	1.42	20.00	0.57
2.25	0.62	8.25	1.23	14.25	1.42	20.25	0.57
2.50	0.62	8.50	1.33	14.50	1.42	20.50	0.57
2.75	0.62	8.75	1.33	14.75	1.42	20.75	0.57
3.00	0.62	9.00	1.52	15.00	1.42	21.00	0.57
3.25	0.62	9.25	1.52	15.25	1.42	21.25	0.57
3.50	0.62	9.50	1.71	15.50	1.42	21.50	0.57
3.75	0.62	9.75	1.71	15.75	1.42	21.75	0.57
4.00	0.76	10.00	2.18	16.00	0.85	22.00	0.57
4.25	0.76	10.25	2.18	16.25	0.85	22.25	0.57
4.50	0.76	10.50	2.94	16.50	0.85	22.50	0.57
4.75	0.76	10.75	2.94	16.75	0.85	22.75	0.57
5.00	0.76	11.00	4.55	17.00	0.85	23.00	0.57
5.25	0.76	11.25	4.55	17.25	0.85	23.25	0.57

5.50	0.76	11.50	14.03	17.50	0.85	23.50	0.57
5.75	0.76	11.75	58.02	17.75	0.85	23.75	0.57

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| CALIB |
| STANDHYD ( 10000) | Area (ha)= 2.78
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57

2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Max.Eff.Inten.(mm/hr)= 58.02 32.13
 over (min) 5.00 15.00
 Storage Coeff. (min)= 3.82 (ii) 14.94 (ii)
 Unit Hyd. Tpeak (min)= 5.00 15.00
 Unit Hyd. peak (cms)= 0.25 0.08

				TOTALS
PEAK FLOW	(cms)=	0.22	0.07	0.283 (iii)
TIME TO PEAK	(hrs)=	12.00	12.08	12.00
RUNOFF VOLUME	(mm)=	46.40	23.22	34.81
TOTAL RAINFALL	(mm)=	47.40	47.40	47.40
RUNOFF COEFFICIENT	=	0.98	0.49	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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| CALIB |
| STANDHYD ( 11000) | Area (ha)= 0.90
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85

1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57

5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Max.Eff.Inten.(mm/hr)= 58.02 61.58
over (min) 5.00 15.00
Storage Coeff. (min)= 2.72 (ii) 11.29 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.29 0.09

TOTALS
0.079 (iii)

PEAK FLOW (cms)= 0.04 0.05
TIME TO PEAK (hrs)= 12.00 12.08
RUNOFF VOLUME (mm)= 46.40 28.22
TOTAL RAINFALL (mm)= 47.40 47.40
RUNOFF COEFFICIENT = 0.98 0.60 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	102.96	40.00
Mannings n =	0.013	0.250

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	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85

0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57

4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Max.Eff.Inten.(mm/hr)= 58.02 42.58
over (min) 5.00 15.00
Storage Coeff. (min)= 3.23 (ii) 13.16 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.08

TOTALS
PEAK FLOW (cms)= 0.03 0.08 0.105 (iii)
TIME TO PEAK (hrs)= 12.00 12.08 12.00
RUNOFF VOLUME (mm)= 46.40 25.08 27.85
TOTAL RAINFALL (mm)= 47.40 47.40 47.40
RUNOFF COEFFICIENT = 0.98 0.53 0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.079	12.00	32.76
+ ID2= 2 (12000):	1.59	0.105	12.00	27.85

=====

ID = 3 (11010): 2.49 0.184 12.00 29.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB |
| NASHYD (8200) | Area (ha)= 2.88 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 1.21

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	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57

2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.027 (i)

TIME TO PEAK (hrs)= 13.250

RUNOFF VOLUME (mm)= 14.147

TOTAL RAINFALL (mm)= 47.400

RUNOFF COEFFICIENT = 0.298

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

 | CALIB |
 | NASHYD (8100) |
ID= 1 DT= 5.0 min

Area (ha)= 1.90 Curve Number (CN)= 75.0
 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= 0.54

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	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57

3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.033 (i)

TIME TO PEAK (hrs)= 12.500

RUNOFF VOLUME (mm)= 14.147

TOTAL RAINFALL (mm)= 47.400

RUNOFF COEFFICIENT = 0.298

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

 | ADD HYD (8110) |
 | 1 + 2 = 3 |

AREA QPEAK TPEAK R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8100):	1.90	0.033	12.50	14.15
+ ID2= 2 (8200):	2.88	0.027	13.25	14.15
=====				
ID = 3 (8110):	4.78	0.053	12.67	14.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (8700)	Area (ha)=	2.22		
ID= 1 DT= 5.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)=	30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.33	0.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.66	40.00
Mannings n	=	0.013	0.250

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	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85

2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Max. Eff. Inten. (mm/hr)= 58.02

76.04

over (min)	5.00	15.00	
Storage Coeff. (min)=	3.57 (ii)	11.45 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.26	0.09	
			TOTALS
PEAK FLOW (cms)=	0.11	0.12	0.212 (iii)
TIME TO PEAK (hrs)=	12.00	12.08	12.00
RUNOFF VOLUME (mm)=	46.40	30.02	34.93
TOTAL RAINFALL (mm)=	47.40	47.40	47.40
RUNOFF COEFFICIENT =	0.98	0.63	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB	
STANDHYD (8800)	Area (ha)= 18.91
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85

1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57

5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Max.Eff.Inten.(mm/hr)= 58.02 82.32
over (min) 5.00 15.00
Storage Coeff. (min)= 6.79 (ii) 14.42 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.18 0.08

TOTALS

PEAK FLOW (cms)= 0.98 0.88 1.739 (iii)
TIME TO PEAK (hrs)= 12.00 12.08 12.00
RUNOFF VOLUME (mm)= 46.40 30.69 36.19
TOTAL RAINFALL (mm)= 47.40 47.40 47.40
RUNOFF COEFFICIENT = 0.98 0.65 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.

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| ADD HYD ( 8710) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8700):	2.22	0.212	12.00	34.93
+ ID2= 2 (8800):	18.91	1.739	12.00	36.19
=====				
ID = 3 (8710):	21.13	1.951	12.00	36.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD ( 8120) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8110):	4.78	0.053	12.67	14.15
+ ID2= 2 (8710):	21.13	1.951	12.00	36.06

=====

ID = 3 (8120): 25.91 1.970 12.00 32.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (8900)	Area (ha)=	2.39	
ID= 1 DT= 5.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57

2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Max.Eff.Inten.(mm/hr)= 58.02 26.54
 over (min) 5.00 30.00
 Storage Coeff. (min)= 3.65 (ii) 27.42 (ii)
 Unit Hyd. Tpeak (min)= 5.00 30.00

Unit Hyd. peak (cms)=	0.25	0.04	
			TOTALS
PEAK FLOW (cms)=	0.04	0.08	0.085 (iii)
TIME TO PEAK (hrs)=	12.00	12.33	12.33
RUNOFF VOLUME (mm)=	46.40	24.86	27.01
TOTAL RAINFALL (mm)=	47.40	47.40	47.40
RUNOFF COEFFICIENT =	0.98	0.52	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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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| CALIB |
| STANDHYD ( 8600) | Area (ha)= 10.27
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00
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	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.16	8.11
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	2.00	2.00
Length (m)=	261.66	250.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85

1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57

5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Max.Eff.Inten.(mm/hr)= 58.02 17.29
over (min) 5.00 50.00
Storage Coeff. (min)= 4.59 (ii) 47.36 (ii)
Unit Hyd. Tpeak (min)= 5.00 50.00
Unit Hyd. peak (cms)= 0.23 0.02

TOTALS

PEAK FLOW (cms)= 0.16 0.24 0.249 (iii)
TIME TO PEAK (hrs)= 12.00 12.67 12.67
RUNOFF VOLUME (mm)= 46.40 24.86 27.01
TOTAL RAINFALL (mm)= 47.40 47.40 47.40
RUNOFF COEFFICIENT = 0.98 0.52 0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING: FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8600):	10.27	0.249	12.67	27.01
+ ID2= 2 (8900):	2.39	0.085	12.33	27.01
=====				
ID = 3 (8610):	12.66	0.316	12.00	27.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8130) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
--	--------------	----------------	----------------	--------------

```

ID1= 1 ( 8120):    25.91    1.970    12.00    32.02
+ ID2= 2 ( 8610):    12.66    0.316    12.00    27.01
=====
ID = 3 ( 8130):    38.57    2.286    12.00    30.37

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

| ADD HYD ( 8140) |
| 1 + 2 = 3 |
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 11010):    2.49    0.184    12.00    29.62
+ ID2= 2 ( 8130):    38.57    2.286    12.00    30.37
=====
ID = 3 ( 8140):    41.06    2.470    12.00    30.33

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

| ADD HYD ( 10010) |
| 1 + 2 = 3 |
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 10000):    2.78    0.283    12.00    34.81
+ ID2= 2 ( 8140):    41.06    2.470    12.00    30.33
=====
ID = 3 ( 10010):    43.84    2.753    12.00    30.61

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

| RESERVOIR( 10020) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min |
-----
OVERFLOW IS OFF
-----
                OUTFLOW    STORAGE    OUTFLOW    STORAGE
                (cms)    (ha.m.)    (cms)    (ha.m.)
                0.0000    0.0000    0.4750    1.4077
                0.0360    0.1569    0.5120    1.5638
                0.0550    0.3255    0.5460    1.7245
                0.0620    0.3843    0.5780    1.8900
                0.0810    0.5687    0.6080    2.0600
                0.1060    0.6976    0.9880    2.2351
                0.1770    0.8304    1.6470    2.4147
                0.2750    0.9677    2.9610    2.6944
                0.3910    1.1096    4.5710    2.9877
                0.4350    1.2563    0.0000    0.0000
-----
                AREA    QPEAK    TPEAK    R.V.
                (ha)    (cms)    (hrs)    (mm)
INFLOW : ID= 2 ( 10010)    43.840    2.753    12.00    30.61

```


OUTFLOW: ID= 1 (10020) 43.840 0.187 14.75 30.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.79
 TIME SHIFT OF PEAK FLOW (min)=165.00
 MAXIMUM STORAGE USED (ha.m.)= 0.8444

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-----
| CALIB |
| NASHYD ( 8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.99
  
```

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	0.52	6.083	0.85	12.083	6.83	18.08	0.85	
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85	
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85	
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85	
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85	
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85	
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85	
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85	
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85	
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85	
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85	
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85	
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85	
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85	
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85	
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85	
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85	
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85	
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85	
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85	
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85	
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85	
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85	
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85	
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57	
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57	
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57	
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57	
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57	
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57	
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57	

2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.124 (i)
 TIME TO PEAK (hrs)= 13.000
 RUNOFF VOLUME (mm)= 14.148
 TOTAL RAINFALL (mm)= 47.400
 RUNOFF COEFFICIENT = 0.298

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

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-----
| CALIB |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
-----
| U.H. Tp(hrs)= 0.80

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57
2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57

3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.106 (i)

TIME TO PEAK (hrs)= 12.750

RUNOFF VOLUME (mm)= 14.148

TOTAL RAINFALL (mm)= 47.400

RUNOFF COEFFICIENT = 0.298

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

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-----
| ADD HYD ( 8310) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.106	12.75	14.15
+ ID2= 2 (8400):	11.21	0.124	13.00	14.15
=====				
ID = 3 (8310):	19.36	0.227	12.92	14.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8500) |
| ID= 1 DT= 5.0 min |
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Area (ha)= 11.81 Curve Number (CN)= 75.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.72

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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	0.52	6.083	0.85	12.083	6.83	18.08	0.85
0.167	0.52	6.167	0.85	12.167	6.83	18.17	0.85
0.250	0.52	6.250	0.85	12.250	6.83	18.25	0.85
0.333	0.52	6.333	0.85	12.333	6.83	18.33	0.85
0.417	0.52	6.417	0.85	12.417	6.83	18.42	0.85
0.500	0.52	6.500	0.85	12.500	6.83	18.50	0.85
0.583	0.52	6.583	0.85	12.583	3.51	18.58	0.85
0.667	0.52	6.667	0.85	12.667	3.51	18.67	0.85
0.750	0.52	6.750	0.85	12.750	3.51	18.75	0.85
0.833	0.52	6.833	0.85	12.833	3.51	18.83	0.85
0.917	0.52	6.917	0.85	12.917	3.51	18.92	0.85
1.000	0.52	7.000	0.85	13.000	3.51	19.00	0.85
1.083	0.52	7.083	1.04	13.083	2.56	19.08	0.85
1.167	0.52	7.167	1.04	13.167	2.56	19.17	0.85
1.250	0.52	7.250	1.04	13.250	2.56	19.25	0.85
1.333	0.52	7.333	1.04	13.333	2.56	19.33	0.85
1.417	0.52	7.417	1.04	13.417	2.56	19.42	0.85
1.500	0.52	7.500	1.04	13.500	2.56	19.50	0.85
1.583	0.52	7.583	1.04	13.583	1.99	19.58	0.85
1.667	0.52	7.667	1.04	13.667	1.99	19.67	0.85
1.750	0.52	7.750	1.04	13.750	1.99	19.75	0.85
1.833	0.52	7.833	1.04	13.833	1.99	19.83	0.85
1.917	0.52	7.917	1.04	13.917	1.99	19.92	0.85
2.000	0.52	8.000	1.04	14.000	1.99	20.00	0.85
2.083	0.62	8.083	1.23	14.083	1.42	20.08	0.57
2.167	0.62	8.167	1.23	14.167	1.42	20.17	0.57
2.250	0.62	8.250	1.23	14.250	1.42	20.25	0.57

2.333	0.62	8.333	1.23	14.333	1.42	20.33	0.57
2.417	0.62	8.417	1.23	14.417	1.42	20.42	0.57
2.500	0.62	8.500	1.23	14.500	1.42	20.50	0.57
2.583	0.62	8.583	1.33	14.583	1.42	20.58	0.57
2.667	0.62	8.667	1.33	14.667	1.42	20.67	0.57
2.750	0.62	8.750	1.33	14.750	1.42	20.75	0.57
2.833	0.62	8.833	1.33	14.833	1.42	20.83	0.57
2.917	0.62	8.917	1.33	14.917	1.42	20.92	0.57
3.000	0.62	9.000	1.33	15.000	1.42	21.00	0.57
3.083	0.62	9.083	1.52	15.083	1.42	21.08	0.57
3.167	0.62	9.167	1.52	15.167	1.42	21.17	0.57
3.250	0.62	9.250	1.52	15.250	1.42	21.25	0.57
3.333	0.62	9.333	1.52	15.333	1.42	21.33	0.57
3.417	0.62	9.417	1.52	15.417	1.42	21.42	0.57
3.500	0.62	9.500	1.52	15.500	1.42	21.50	0.57
3.583	0.62	9.583	1.71	15.583	1.42	21.58	0.57
3.667	0.62	9.667	1.71	15.667	1.42	21.67	0.57
3.750	0.62	9.750	1.71	15.750	1.42	21.75	0.57
3.833	0.62	9.833	1.71	15.833	1.42	21.83	0.57
3.917	0.62	9.917	1.71	15.917	1.42	21.92	0.57
4.000	0.62	10.000	1.71	16.000	1.42	22.00	0.57
4.083	0.76	10.083	2.18	16.083	0.85	22.08	0.57
4.167	0.76	10.167	2.18	16.167	0.85	22.17	0.57
4.250	0.76	10.250	2.18	16.250	0.85	22.25	0.57
4.333	0.76	10.333	2.18	16.333	0.85	22.33	0.57
4.417	0.76	10.417	2.18	16.417	0.85	22.42	0.57
4.500	0.76	10.500	2.18	16.500	0.85	22.50	0.57
4.583	0.76	10.583	2.94	16.583	0.85	22.58	0.57
4.667	0.76	10.667	2.94	16.667	0.85	22.67	0.57
4.750	0.76	10.750	2.94	16.750	0.85	22.75	0.57
4.833	0.76	10.833	2.94	16.833	0.85	22.83	0.57
4.917	0.76	10.917	2.94	16.917	0.85	22.92	0.57
5.000	0.76	11.000	2.94	17.000	0.85	23.00	0.57
5.083	0.76	11.083	4.55	17.083	0.85	23.08	0.57
5.167	0.76	11.167	4.55	17.167	0.85	23.17	0.57
5.250	0.76	11.250	4.55	17.250	0.85	23.25	0.57
5.333	0.76	11.333	4.55	17.333	0.85	23.33	0.57
5.417	0.76	11.417	4.55	17.417	0.85	23.42	0.57
5.500	0.76	11.500	4.55	17.500	0.85	23.50	0.57
5.583	0.76	11.583	14.03	17.583	0.85	23.58	0.57
5.667	0.76	11.667	14.03	17.667	0.85	23.67	0.57
5.750	0.76	11.750	14.03	17.750	0.85	23.75	0.57
5.833	0.76	11.833	58.01	17.833	0.85	23.83	0.57
5.917	0.76	11.917	58.02	17.917	0.85	23.92	0.57
6.000	0.76	12.000	58.02	18.000	0.85	24.00	0.57

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.166 (i)

TIME TO PEAK (hrs)= 12.667

RUNOFF VOLUME (mm)= 14.148
 TOTAL RAINFALL (mm)= 47.400
 RUNOFF COEFFICIENT = 0.298

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

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-----
| ADD HYD ( 8320) |
| 1 + 2 = 3 |
-----

```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8310):	19.36	0.227	12.92	14.15
+ ID2= 2 (8500):	11.81	0.166	12.67	14.15
=====				
ID = 3 (8320):	31.17	0.389	12.75	14.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 10030) |
| 1 + 2 = 3 |
-----

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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.187	14.75	30.59
+ ID2= 2 (8320):	31.17	0.389	12.75	14.15
=====				
ID = 3 (10030):	75.01	0.512	12.92	23.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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=====
V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

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OOO TTTTT TTTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO 6.2\V02\voim.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\92b6e2b2-eac4-4cf3-9318-a26d94e06b2d\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\92b6e2b2-eac4-4cf3-9318-a26d94e06b2d\scenar

DATE: 07-06-2023

TIME: 12:29:32

USER:

COMMENTS: _____

 ** SIMULATION : 25 year 24 Hour SCS **

 | MASS STORM |
Ptotal= 97.00 mm

Filename: C:\Users\kchow\AppData\Local\Temp\8fb971a2-7d95-4c3e-9ab5-f64cd3995ccd\3167f1ab

Comments:

Duration of storm = 24.00 hrs
 Mass curve time step = 15.00 min

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	1.07	6.00	1.75	12.00	13.97	18.00	1.75
0.25	1.07	6.25	1.75	12.25	13.97	18.25	1.75
0.50	1.07	6.50	1.75	12.50	7.18	18.50	1.75
0.75	1.07	6.75	1.75	12.75	7.18	18.75	1.75
1.00	1.07	7.00	2.13	13.00	5.24	19.00	1.75
1.25	1.07	7.25	2.13	13.25	5.24	19.25	1.75
1.50	1.07	7.50	2.13	13.50	4.07	19.50	1.75
1.75	1.07	7.75	2.13	13.75	4.07	19.75	1.75
2.00	1.26	8.00	2.52	14.00	2.91	20.00	1.16
2.25	1.26	8.25	2.52	14.25	2.91	20.25	1.16
2.50	1.26	8.50	2.72	14.50	2.91	20.50	1.16
2.75	1.26	8.75	2.72	14.75	2.91	20.75	1.16

3.00	1.26	9.00	3.10	15.00	2.91	21.00	1.16
3.25	1.26	9.25	3.10	15.25	2.91	21.25	1.16
3.50	1.26	9.50	3.49	15.50	2.91	21.50	1.16
3.75	1.26	9.75	3.49	15.75	2.91	21.75	1.16
4.00	1.55	10.00	4.46	16.00	1.75	22.00	1.16
4.25	1.55	10.25	4.46	16.25	1.75	22.25	1.16
4.50	1.55	10.50	6.01	16.50	1.75	22.50	1.16
4.75	1.55	10.75	6.01	16.75	1.75	22.75	1.16
5.00	1.55	11.00	9.31	17.00	1.75	23.00	1.16
5.25	1.55	11.25	9.31	17.25	1.75	23.25	1.16
5.50	1.55	11.50	28.71	17.50	1.75	23.50	1.16
5.75	1.55	11.75	118.73	17.75	1.75	23.75	1.16

 | CALIB |
 | STANDHYD (10000) |
ID= 1 DT= 5.0 min

Area (ha)= 2.78
 Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75

1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16

5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Max.Eff.Inten.(mm/hr)= 118.73 93.50
over (min) 5.00 15.00
Storage Coeff. (min)= 2.87 (ii) 10.12 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.28 0.10

TOTALS

PEAK FLOW (cms)= 0.46 0.24 0.674 (iii)
TIME TO PEAK (hrs)= 12.00 12.08 12.00
RUNOFF VOLUME (mm)= 96.00 64.99 80.49
TOTAL RAINFALL (mm)= 97.00 97.00 97.00
RUNOFF COEFFICIENT = 0.99 0.67 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (11000) | Area (ha)= 0.90
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75

0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16

4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Max.Eff.Inten.(mm/hr)= 118.73 154.84
over (min) 5.00 10.00
Storage Coeff. (min)= 2.05 (ii) 7.97 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.31 0.13

TOTALS

PEAK FLOW (cms)= 0.07 0.15 0.228 (iii)
TIME TO PEAK (hrs)= 12.00 12.00 12.00
RUNOFF VOLUME (mm)= 96.00 73.21 78.90
TOTAL RAINFALL (mm)= 97.00 97.00 97.00
RUNOFF COEFFICIENT = 0.99 0.75 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (12000) |
ID= 1 DT= 5.0 min

Area (ha)= 1.59
Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	102.96	40.00
Mannings n =	0.013	0.250

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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16

3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Max.Eff.Inten.(mm/hr)=	118.73	113.02
over (min)	5.00	10.00
Storage Coeff. (min)=	2.43 (ii)	9.15 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.12

			TOTALS
PEAK FLOW (cms)=	0.07	0.28	0.349 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	96.00	68.18	71.79
TOTAL RAINFALL (mm)=	97.00	97.00	97.00
RUNOFF COEFFICIENT =	0.99	0.70	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (11010) |
 | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.228	12.00	78.90
+ ID2= 2 (12000):	1.59	0.349	12.00	71.79
=====				
ID = 3 (11010):	2.49	0.577	12.00	74.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

 | CALIB |
 | NASHYD (8200) |
 | ID= 1 DT= 5.0 min |

Area (ha)= 2.88 Curve Number (CN)= 75.0
 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= 1.21

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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75

2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.096 (i)
 TIME TO PEAK (hrs)= 13.167
 RUNOFF VOLUME (mm)= 47.909
 TOTAL RAINFALL (mm)= 97.000
 RUNOFF COEFFICIENT = 0.494

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

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| CALIB |
| NASHYD ( 8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.54
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16

2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.116 (i)

TIME TO PEAK (hrs)= 12.417

RUNOFF VOLUME (mm)= 47.907

TOTAL RAINFALL (mm)= 97.000
 RUNOFF COEFFICIENT = 0.494

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

ADD HYD (8110) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8100):	1.90	0.116	12.42	47.91
+ ID2= 2 (8200):	2.88	0.096	13.17	47.91
=====				
ID = 3 (8110):	4.78	0.187	12.58	47.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (8700) ID= 1 DT= 5.0 min	Area (ha)=	Total Imp(%)=	Dir. Conn.(%)=
	2.22	60.00	30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75

1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16

5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Max.Eff.Inten.(mm/hr)= 118.73 185.68
over (min) 5.00 10.00
Storage Coeff. (min)= 2.68 (ii) 8.19 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.29 0.13

TOTALS

PEAK FLOW (cms)= 0.22 0.36 0.581 (iii)
TIME TO PEAK (hrs)= 12.00 12.00 12.00
RUNOFF VOLUME (mm)= 96.00 75.92 81.94
TOTAL RAINFALL (mm)= 97.00 97.00 97.00
RUNOFF COEFFICIENT = 0.99 0.78 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (8800) | Area (ha)= 18.91
| ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75

0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16

4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Max.Eff.Inten.(mm/hr)= 118.73 198.89
over (min) 5.00 15.00
Storage Coeff. (min)= 5.10 (ii) 10.46 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.21 0.09

TOTALS

PEAK FLOW (cms)= 2.09 2.49 4.343 (iii)
TIME TO PEAK (hrs)= 12.00 12.08 12.00
RUNOFF VOLUME (mm)= 96.00 76.90 83.58
TOTAL RAINFALL (mm)= 97.00 97.00 97.00
RUNOFF COEFFICIENT = 0.99 0.79 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.

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-----
| ADD HYD ( 8710) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8700):	2.22	0.581	12.00	81.94
+ ID2= 2 (8800):	18.91	4.343	12.00	83.58
=====				
ID = 3 (8710):	21.13	4.925	12.00	83.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):		4.78	0.187	12.58	47.91
+ ID2= 2 (8710):		21.13	4.925	12.00	83.41
=====					
ID = 3 (8120):		25.91	5.003	12.00	76.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area	(ha)=	2.39
STANDHYD (8900)		Total Imp(%)=	21.00	Dir. Conn.(%)= 10.00
ID= 1 DT= 5.0 min				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75

1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16

5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Max.Eff.Inten.(mm/hr)= 118.73 107.10
over (min) 5.00 20.00
Storage Coeff. (min)= 2.74 (ii) 16.35 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.28 0.06

TOTALS

PEAK FLOW (cms)= 0.08 0.31 0.317 (iii)
TIME TO PEAK (hrs)= 12.00 12.17 12.17
RUNOFF VOLUME (mm)= 96.00 67.80 70.62
TOTAL RAINFALL (mm)= 97.00 97.00 97.00
RUNOFF COEFFICIENT = 0.99 0.70 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

| CALIB |
| STANDHYD (8600) | Area (ha)= 10.27
| ID= 1 DT= 5.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75

0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16

4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Max.Eff.Inten.(mm/hr)= 118.73 73.23
over (min) 5.00 30.00
Storage Coeff. (min)= 3.45 (ii) 27.46 (ii)
Unit Hyd. Tpeak (min)= 5.00 30.00
Unit Hyd. peak (cms)= 0.26 0.04

TOTALS

PEAK FLOW (cms)= 0.34 0.96 0.996 (iii)
TIME TO PEAK (hrs)= 12.00 12.33 12.33
RUNOFF VOLUME (mm)= 96.00 67.80 70.62
TOTAL RAINFALL (mm)= 97.00 97.00 97.00
RUNOFF COEFFICIENT = 0.99 0.70 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8600): 10.27  0.996  12.33  70.62
+ ID2= 2 ( 8900):  2.39  0.317  12.17  70.62

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ID = 3 (8610):	12.66	1.247	12.25	70.62
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):	25.91	5.003	12.00	76.86
+ ID2= 2 (8610):	12.66	1.247	12.25	70.62
=====				
ID = 3 (8130):	38.57	6.128	12.00	74.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):	2.49	0.577	12.00	74.36
+ ID2= 2 (8130):	38.57	6.128	12.00	74.81
=====				
ID = 3 (8140):	41.06	6.705	12.00	74.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10010)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10000):	2.78	0.674	12.00	80.49
+ ID2= 2 (8140):	41.06	6.705	12.00	74.79
=====				
ID = 3 (10010):	43.84	7.379	12.00	75.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(10020)	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	0.4750	1.4077
	0.0360	0.1569	0.5120	1.5638
	0.0550	0.3255	0.5460	1.7245
	0.0620	0.3843	0.5780	1.8900

0.0810	0.5687		0.6080	2.0600
0.1060	0.6976		0.9880	2.2351
0.1770	0.8304		1.6470	2.4147
0.2750	0.9677		2.9610	2.6944
0.3910	1.1096		4.5710	2.9877
0.4350	1.2563		0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (10010)	43.840	7.379	12.00	75.15
OUTFLOW: ID= 1 (10020)	43.840	0.593	13.92	75.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.04
TIME SHIFT OF PEAK FLOW (min)=115.00
MAXIMUM STORAGE USED (ha.m.)= 1.9766

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| CALIB |
| NASHYD ( 8400) | Area (ha)= 11.21 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.99

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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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75

1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16

6.000 1.55 | 12.000 118.73 | 18.000 1.75 | 24.00 1.16

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.437 (i)
 TIME TO PEAK (hrs)= 12.917
 RUNOFF VOLUME (mm)= 47.909
 TOTAL RAINFALL (mm)= 97.000
 RUNOFF COEFFICIENT = 0.494

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

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| CALIB |
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| U.H. Tp(hrs)= 0.80
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75
1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16

2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16
5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.373 (i)
 TIME TO PEAK (hrs)= 12.750
 RUNOFF VOLUME (mm)= 47.909
 TOTAL RAINFALL (mm)= 97.000
 RUNOFF COEFFICIENT = 0.494

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

ADD HYD (8310)					
1 + 2 = 3					

	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (8300):	8.15	0.373	12.75	47.91	
+ ID2= 2 (8400):	11.21	0.437	12.92	47.91	
=====					
ID = 3 (8310):	19.36	0.803	12.83	47.91	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (8500)					
ID= 1 DT= 5.0 min					

Area	(ha)=	11.81	Curve Number	(CN)= 75.0	
Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00	
U.H. Tp	(hrs)=	0.72			

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	1.07	6.083	1.75	12.083	13.98	18.08	1.75
0.167	1.07	6.167	1.75	12.167	13.97	18.17	1.75
0.250	1.07	6.250	1.75	12.250	13.97	18.25	1.75
0.333	1.07	6.333	1.75	12.333	13.97	18.33	1.75
0.417	1.07	6.417	1.75	12.417	13.97	18.42	1.75
0.500	1.07	6.500	1.75	12.500	13.97	18.50	1.75
0.583	1.07	6.583	1.75	12.583	7.18	18.58	1.75
0.667	1.07	6.667	1.75	12.667	7.18	18.67	1.75
0.750	1.07	6.750	1.75	12.750	7.18	18.75	1.75
0.833	1.07	6.833	1.75	12.833	7.18	18.83	1.75
0.917	1.07	6.917	1.75	12.917	7.18	18.92	1.75
1.000	1.07	7.000	1.75	13.000	7.18	19.00	1.75
1.083	1.07	7.083	2.13	13.083	5.24	19.08	1.75
1.167	1.07	7.167	2.13	13.167	5.24	19.17	1.75
1.250	1.07	7.250	2.13	13.250	5.24	19.25	1.75
1.333	1.07	7.333	2.13	13.333	5.24	19.33	1.75
1.417	1.07	7.417	2.13	13.417	5.24	19.42	1.75

1.500	1.07	7.500	2.13	13.500	5.24	19.50	1.75
1.583	1.07	7.583	2.13	13.583	4.07	19.58	1.75
1.667	1.07	7.667	2.13	13.667	4.07	19.67	1.75
1.750	1.07	7.750	2.13	13.750	4.07	19.75	1.75
1.833	1.07	7.833	2.13	13.833	4.07	19.83	1.75
1.917	1.07	7.917	2.13	13.917	4.07	19.92	1.75
2.000	1.07	8.000	2.13	14.000	4.07	20.00	1.75
2.083	1.26	8.083	2.52	14.083	2.91	20.08	1.16
2.167	1.26	8.167	2.52	14.167	2.91	20.17	1.16
2.250	1.26	8.250	2.52	14.250	2.91	20.25	1.16
2.333	1.26	8.333	2.52	14.333	2.91	20.33	1.16
2.417	1.26	8.417	2.52	14.417	2.91	20.42	1.16
2.500	1.26	8.500	2.52	14.500	2.91	20.50	1.16
2.583	1.26	8.583	2.72	14.583	2.91	20.58	1.16
2.667	1.26	8.667	2.72	14.667	2.91	20.67	1.16
2.750	1.26	8.750	2.72	14.750	2.91	20.75	1.16
2.833	1.26	8.833	2.72	14.833	2.91	20.83	1.16
2.917	1.26	8.917	2.72	14.917	2.91	20.92	1.16
3.000	1.26	9.000	2.72	15.000	2.91	21.00	1.16
3.083	1.26	9.083	3.10	15.083	2.91	21.08	1.16
3.167	1.26	9.167	3.10	15.167	2.91	21.17	1.16
3.250	1.26	9.250	3.10	15.250	2.91	21.25	1.16
3.333	1.26	9.333	3.10	15.333	2.91	21.33	1.16
3.417	1.26	9.417	3.10	15.417	2.91	21.42	1.16
3.500	1.26	9.500	3.10	15.500	2.91	21.50	1.16
3.583	1.26	9.583	3.49	15.583	2.91	21.58	1.16
3.667	1.26	9.667	3.49	15.667	2.91	21.67	1.16
3.750	1.26	9.750	3.49	15.750	2.91	21.75	1.16
3.833	1.26	9.833	3.49	15.833	2.91	21.83	1.16
3.917	1.26	9.917	3.49	15.917	2.91	21.92	1.16
4.000	1.26	10.000	3.49	16.000	2.91	22.00	1.16
4.083	1.55	10.083	4.46	16.083	1.75	22.08	1.16
4.167	1.55	10.167	4.46	16.167	1.75	22.17	1.16
4.250	1.55	10.250	4.46	16.250	1.75	22.25	1.16
4.333	1.55	10.333	4.46	16.333	1.75	22.33	1.16
4.417	1.55	10.417	4.46	16.417	1.75	22.42	1.16
4.500	1.55	10.500	4.46	16.500	1.75	22.50	1.16
4.583	1.55	10.583	6.01	16.583	1.75	22.58	1.16
4.667	1.55	10.667	6.01	16.667	1.75	22.67	1.16
4.750	1.55	10.750	6.01	16.750	1.75	22.75	1.16
4.833	1.55	10.833	6.01	16.833	1.75	22.83	1.16
4.917	1.55	10.917	6.01	16.917	1.75	22.92	1.16
5.000	1.55	11.000	6.01	17.000	1.75	23.00	1.16
5.083	1.55	11.083	9.31	17.083	1.75	23.08	1.16
5.167	1.55	11.167	9.31	17.167	1.75	23.17	1.16
5.250	1.55	11.250	9.31	17.250	1.75	23.25	1.16
5.333	1.55	11.333	9.31	17.333	1.75	23.33	1.16
5.417	1.55	11.417	9.31	17.417	1.75	23.42	1.16
5.500	1.55	11.500	9.31	17.500	1.75	23.50	1.16
5.583	1.55	11.583	28.71	17.583	1.75	23.58	1.16

5.667	1.55	11.667	28.71	17.667	1.75	23.67	1.16
5.750	1.55	11.750	28.71	17.750	1.75	23.75	1.16
5.833	1.55	11.833	118.72	17.833	1.75	23.83	1.16
5.917	1.55	11.917	118.73	17.917	1.75	23.92	1.16
6.000	1.55	12.000	118.73	18.000	1.75	24.00	1.16

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.585 (i)

TIME TO PEAK (hrs)= 12.667

RUNOFF VOLUME (mm)= 47.909

TOTAL RAINFALL (mm)= 97.000

RUNOFF COEFFICIENT = 0.494

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

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| ADD HYD ( 8320) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8310):	19.36	0.803	12.83	47.91
+ ID2= 2 (8500):	11.81	0.585	12.67	47.91
=====				
ID = 3 (8320):	31.17	1.376	12.75	47.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD ( 10030) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (10020):	43.84	0.593	13.92	75.12
+ ID2= 2 (8320):	31.17	1.376	12.75	47.91
=====				
ID = 3 (10030):	75.01	1.941	12.75	63.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

=====
=====
V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLLL

```

```

      000   TTTT   TTTT   H   H   Y   Y   M   M   000   TM
      0   0   T     T   H   H   Y   Y   MM  MM  0   0
      0   0   T     T   H   H   Y     M   M   0   0
      000   T     T   H   H   Y     M   M   000

```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
 6.2\VO2\voin.dat
 Output filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\bbd21d
 64-ef00-4ed1-95cd-1f61eb2fb3b2\scenar
 Summary filename:
 C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\bbd21d
 64-ef00-4ed1-95cd-1f61eb2fb3b2\scenar

DATE: 07-06-2023

TIME: 12:29:32

USER:

COMMENTS: _____

 ** SIMULATION : 5 year 24 Hour SCS **

```

-----
| MASS STORM |
|            |
| Ptotal= 67.20 mm |
|            |
-----

```

Filename: C:\Users\kchow\AppData
 ata\Local\Temp\
 8fb971a2-7d95-4c3e-9ab5-f64cd3995ccd\be789d97

Comments:

Duration of storm = 24.00 hrs
 Mass curve time step = 15.00 min

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.74	6.00	1.21	12.00	9.68	18.00	1.21
0.25	0.74	6.25	1.21	12.25	9.68	18.25	1.21

0.50	0.74	6.50	1.21	12.50	4.97	18.50	1.21
0.75	0.74	6.75	1.21	12.75	4.97	18.75	1.21
1.00	0.74	7.00	1.48	13.00	3.63	19.00	1.21
1.25	0.74	7.25	1.48	13.25	3.63	19.25	1.21
1.50	0.74	7.50	1.48	13.50	2.82	19.50	1.21
1.75	0.74	7.75	1.48	13.75	2.82	19.75	1.21
2.00	0.87	8.00	1.75	14.00	2.02	20.00	0.81
2.25	0.87	8.25	1.75	14.25	2.02	20.25	0.81
2.50	0.87	8.50	1.88	14.50	2.02	20.50	0.81
2.75	0.87	8.75	1.88	14.75	2.02	20.75	0.81
3.00	0.87	9.00	2.15	15.00	2.02	21.00	0.81
3.25	0.87	9.25	2.15	15.25	2.02	21.25	0.81
3.50	0.87	9.50	2.42	15.50	2.02	21.50	0.81
3.75	0.87	9.75	2.42	15.75	2.02	21.75	0.81
4.00	1.08	10.00	3.09	16.00	1.21	22.00	0.81
4.25	1.08	10.25	3.09	16.25	1.21	22.25	0.81
4.50	1.08	10.50	4.17	16.50	1.21	22.50	0.81
4.75	1.08	10.75	4.17	16.75	1.21	22.75	0.81
5.00	1.08	11.00	6.45	17.00	1.21	23.00	0.81
5.25	1.08	11.25	6.45	17.25	1.21	23.25	0.81
5.50	1.08	11.50	19.89	17.50	1.21	23.50	0.81
5.75	1.08	11.75	82.25	17.75	1.21	23.75	0.81

| CALIB |
| STANDHYD (10000) |
ID= 1 DT= 5.0 min

Area (ha)= 2.78
Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.39	1.39
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	136.14	40.00
Mannings n	=	0.013	0.250

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	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21

0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81

4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Max.Eff.Inten.(mm/hr)= 82.25 56.90
over (min) 5.00 15.00
Storage Coeff. (min)= 3.32 (ii) 12.17 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.26 0.09

TOTALS

PEAK FLOW (cms)= 0.31 0.14 0.433 (iii)
TIME TO PEAK (hrs)= 12.00 12.08 12.00
RUNOFF VOLUME (mm)= 66.20 39.05 52.63
TOTAL RAINFALL (mm)= 67.20 67.20 67.20
RUNOFF COEFFICIENT = 0.99 0.58 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (11000) | Area (ha)= 0.90
| ID= 1 DT= 5.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	0.74	6.083	1.21	12.083	9.69	18.08	1.21	
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21	
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21	
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21	
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21	
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21	
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21	
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21	
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21	
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21	
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21	
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21	
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21	
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21	
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21	
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21	
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21	
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21	
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21	
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21	
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21	
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21	
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21	
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21	
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81	
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81	
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81	
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81	
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81	
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81	
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81	
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81	
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81	
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81	
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81	
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81	
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81	
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81	
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81	
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81	
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81	
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81	
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81	
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81	
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81	
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81	

3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Max.Eff.Inten.(mm/hr)=	82.25	98.26
over (min)	5.00	10.00
Storage Coeff. (min)=	2.37 (ii)	9.48 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.12

TOTALS

PEAK FLOW (cms)=	0.05	0.09	0.142 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	66.20	45.61	50.75
TOTAL RAINFALL (mm)=	67.20	67.20	67.20
RUNOFF COEFFICIENT =	0.99	0.68	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| STANDHYD (12000) | Area (ha)= 1.59
 | ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.40	1.19
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	102.96	40.00
Mannings n =	0.013	0.250

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	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81

2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Max.Eff.Inten.(mm/hr)=	82.25	69.90
over (min)	5.00	15.00
Storage Coeff. (min)=	2.81 (ii)	10.96 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.09

TOTALS

PEAK FLOW (cms)=	0.05	0.15	0.180 (iii)
TIME TO PEAK (hrs)=	12.00	12.08	12.00
RUNOFF VOLUME (mm)=	66.20	41.55	44.75
TOTAL RAINFALL (mm)=	67.20	67.20	67.20
RUNOFF COEFFICIENT =	0.99	0.62	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3      |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (11000):	0.90	0.142	12.00	50.75
+ ID2= 2 (12000):	1.59	0.180	12.00	44.75
=====				
ID = 3 (11010):	2.49	0.321	12.00	46.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB          |
| NASHYD ( 8200) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	2.88	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	1.21		

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	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21

1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81

5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.052 (i)
 TIME TO PEAK (hrs)= 13.250
 RUNOFF VOLUME (mm)= 26.342
 TOTAL RAINFALL (mm)= 67.200
 RUNOFF COEFFICIENT = 0.392

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

CALIB					
NASHYD (8100)	Area (ha)=	1.90	Curve Number (CN)=	75.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.54			

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	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21

1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81

5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.063 (i)
 TIME TO PEAK (hrs)= 12.417
 RUNOFF VOLUME (mm)= 26.341
 TOTAL RAINFALL (mm)= 67.200
 RUNOFF COEFFICIENT = 0.392

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

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| ADD HYD ( 8110) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8100):	1.90	0.063	12.42	26.34
+ ID2= 2 (8200):	2.88	0.052	13.25	26.34
=====				
ID = 3 (8110):	4.78	0.101	12.67	26.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| STANDHYD ( 8700) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	2.22		
Total Imp(%)=	60.00	Dir. Conn.(%)=	30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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          ---- TRANSFORMED HYETOGRAPH ----

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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21

0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81

4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Max.Eff.Inten.(mm/hr)= 82.25 119.44
over (min) 5.00 10.00
Storage Coeff. (min)= 3.11 (ii) 9.68 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.27 0.11

TOTALS
PEAK FLOW (cms)= 0.15 0.22 0.367 (iii)
TIME TO PEAK (hrs)= 12.00 12.00 12.00
RUNOFF VOLUME (mm)= 66.20 47.86 53.36
TOTAL RAINFALL (mm)= 67.20 67.20 67.20
RUNOFF COEFFICIENT = 0.99 0.71 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

| CALIB |
| STANDHYD (8800) |
ID= 1 DT= 5.0 min

Area (ha)= 18.91
Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	12.29	6.62
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	355.06	40.00

Mannings n = 0.013 0.250

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	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81

3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Max.Eff.Inten.(mm/hr)=	82.25	128.56
over (min)	5.00	15.00
Storage Coeff. (min)=	5.91 (ii)	12.29 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.19	0.09

TOTALS			
PEAK FLOW (cms)=	1.42	1.50	2.743 (iii)
TIME TO PEAK (hrs)=	12.00	12.08	12.00
RUNOFF VOLUME (mm)=	66.20	48.69	54.82
TOTAL RAINFALL (mm)=	67.20	67.20	67.20
RUNOFF COEFFICIENT =	0.99	0.72	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.

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-----
| ADD HYD ( 8710) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8700):	2.22	0.367	12.00	53.36
+ ID2= 2 (8800):	18.91	2.743	12.00	54.82
=====				
ID = 3 (8710):	21.13	3.110	12.00	54.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8120) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8110):	4.78	0.101	12.67	26.34
+ ID2= 2 (8710):	21.13	3.110	12.00	54.67
=====				
ID = 3 (8120):	25.91	3.150	12.00	49.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| STANDHYD ( 8900) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	2.39		
Total Imp(%)=	21.00	Dir. Conn.(%)=	10.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	1.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	126.23	125.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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          ----- TRANSFORMED HYETOGRAPH -----

```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21

0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81

4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Max.Eff.Inten.(mm/hr)= 82.25 52.36
over (min) 5.00 25.00
Storage Coeff. (min)= 3.18 (ii) 21.29 (ii)
Unit Hyd. Tpeak (min)= 5.00 25.00
Unit Hyd. peak (cms)= 0.27 0.05

TOTALS

PEAK FLOW (cms)= 0.05 0.16 0.165 (iii)
TIME TO PEAK (hrs)= 12.00 12.25 12.25
RUNOFF VOLUME (mm)= 66.20 41.25 43.74
TOTAL RAINFALL (mm)= 67.20 67.20 67.20
RUNOFF COEFFICIENT = 0.99 0.61 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

| CALIB |
| STANDHYD (8600) |
ID= 1 DT= 5.0 min

Area (ha)= 10.27
Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.16	8.11
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	2.00	2.00
Length (m)=	261.66	250.00
Mannings n =	0.013	0.250

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	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81

3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Max.Eff.Inten.(mm/hr)= 82.25 34.70
over (min) 5.00 40.00
Storage Coeff. (min)= 4.00 (ii) 36.36 (ii)
Unit Hyd. Tpeak (min)= 5.00 40.00
Unit Hyd. peak (cms)= 0.24 0.03

TOTALS

PEAK FLOW (cms)= 0.23 0.48 0.505 (iii)
TIME TO PEAK (hrs)= 12.00 12.50 12.50
RUNOFF VOLUME (mm)= 66.20 41.25 43.74
TOTAL RAINFALL (mm)= 67.20 67.20 67.20
RUNOFF COEFFICIENT = 0.99 0.61 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (8610)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8600):	10.27	0.505	12.50	43.74
+ ID2= 2 (8900):	2.39	0.165	12.25	43.74
=====				
ID = 3 (8610):	12.66	0.623	12.50	43.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):	25.91	3.150	12.00	49.44
+ ID2= 2 (8610):	12.66	0.623	12.50	43.74
=====				
ID = 3 (8130):	38.57	3.718	12.00	47.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):	2.49	0.321	12.00	46.92
+ ID2= 2 (8130):	38.57	3.718	12.00	47.57
=====				
ID = 3 (8140):	41.06	4.039	12.00	47.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10000):	2.78	0.433	12.00	52.63
+ ID2= 2 (8140):	41.06	4.039	12.00	47.53
=====				
ID = 3 (10010):	43.84	4.472	12.00	47.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR( 10020) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min      |
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OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4750	1.4077
0.0360	0.1569	0.5120	1.5638
0.0550	0.3255	0.5460	1.7245
0.0620	0.3843	0.5780	1.8900
0.0810	0.5687	0.6080	2.0600
0.1060	0.6976	0.9880	2.2351
0.1770	0.8304	1.6470	2.4147
0.2750	0.9677	2.9610	2.6944
0.3910	1.1096	4.5710	2.9877
0.4350	1.2563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	4.472	12.00	47.85
OUTFLOW: ID= 1 (10020)	43.840	0.426	13.92	47.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.52
 TIME SHIFT OF PEAK FLOW (min)=115.00
 MAXIMUM STORAGE USED (ha.m.)= 1.2257

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| CALIB          |
| NASHYD ( 8400) |
| ID= 1 DT= 5.0 min |
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Area (ha)= 11.21 Curve Number (CN)= 75.0
 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= 0.99

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	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21

1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81

5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.236 (i)
 TIME TO PEAK (hrs)= 13.000
 RUNOFF VOLUME (mm)= 26.342
 TOTAL RAINFALL (mm)= 67.200
 RUNOFF COEFFICIENT = 0.392

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

 | CALIB |
 | NASHYD (8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 ----- U.H. Tp(hrs)= 0.80

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	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21
0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21

1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81
4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81

5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.202 (i)
 TIME TO PEAK (hrs)= 12.750
 RUNOFF VOLUME (mm)= 26.342
 TOTAL RAINFALL (mm)= 67.200
 RUNOFF COEFFICIENT = 0.392

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

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-----
| ADD HYD ( 8310) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.202	12.75	26.34
+ ID2= 2 (8400):	11.21	0.236	13.00	26.34
=====				
ID = 3 (8310):	19.36	0.434	12.83	26.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8500) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	11.81	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	0.72		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.74	6.083	1.21	12.083	9.69	18.08	1.21
0.167	0.74	6.167	1.21	12.167	9.68	18.17	1.21
0.250	0.74	6.250	1.21	12.250	9.68	18.25	1.21
0.333	0.74	6.333	1.21	12.333	9.68	18.33	1.21
0.417	0.74	6.417	1.21	12.417	9.68	18.42	1.21
0.500	0.74	6.500	1.21	12.500	9.68	18.50	1.21
0.583	0.74	6.583	1.21	12.583	4.97	18.58	1.21

0.667	0.74	6.667	1.21	12.667	4.97	18.67	1.21
0.750	0.74	6.750	1.21	12.750	4.97	18.75	1.21
0.833	0.74	6.833	1.21	12.833	4.97	18.83	1.21
0.917	0.74	6.917	1.21	12.917	4.97	18.92	1.21
1.000	0.74	7.000	1.21	13.000	4.97	19.00	1.21
1.083	0.74	7.083	1.48	13.083	3.63	19.08	1.21
1.167	0.74	7.167	1.48	13.167	3.63	19.17	1.21
1.250	0.74	7.250	1.48	13.250	3.63	19.25	1.21
1.333	0.74	7.333	1.48	13.333	3.63	19.33	1.21
1.417	0.74	7.417	1.48	13.417	3.63	19.42	1.21
1.500	0.74	7.500	1.48	13.500	3.63	19.50	1.21
1.583	0.74	7.583	1.48	13.583	2.82	19.58	1.21
1.667	0.74	7.667	1.48	13.667	2.82	19.67	1.21
1.750	0.74	7.750	1.48	13.750	2.82	19.75	1.21
1.833	0.74	7.833	1.48	13.833	2.82	19.83	1.21
1.917	0.74	7.917	1.48	13.917	2.82	19.92	1.21
2.000	0.74	8.000	1.48	14.000	2.82	20.00	1.21
2.083	0.87	8.083	1.75	14.083	2.02	20.08	0.81
2.167	0.87	8.167	1.75	14.167	2.02	20.17	0.81
2.250	0.87	8.250	1.75	14.250	2.02	20.25	0.81
2.333	0.87	8.333	1.75	14.333	2.02	20.33	0.81
2.417	0.87	8.417	1.75	14.417	2.02	20.42	0.81
2.500	0.87	8.500	1.75	14.500	2.02	20.50	0.81
2.583	0.87	8.583	1.88	14.583	2.02	20.58	0.81
2.667	0.87	8.667	1.88	14.667	2.02	20.67	0.81
2.750	0.87	8.750	1.88	14.750	2.02	20.75	0.81
2.833	0.87	8.833	1.88	14.833	2.02	20.83	0.81
2.917	0.87	8.917	1.88	14.917	2.02	20.92	0.81
3.000	0.87	9.000	1.88	15.000	2.02	21.00	0.81
3.083	0.87	9.083	2.15	15.083	2.02	21.08	0.81
3.167	0.87	9.167	2.15	15.167	2.02	21.17	0.81
3.250	0.87	9.250	2.15	15.250	2.02	21.25	0.81
3.333	0.87	9.333	2.15	15.333	2.02	21.33	0.81
3.417	0.87	9.417	2.15	15.417	2.02	21.42	0.81
3.500	0.87	9.500	2.15	15.500	2.02	21.50	0.81
3.583	0.87	9.583	2.42	15.583	2.02	21.58	0.81
3.667	0.87	9.667	2.42	15.667	2.02	21.67	0.81
3.750	0.87	9.750	2.42	15.750	2.02	21.75	0.81
3.833	0.87	9.833	2.42	15.833	2.02	21.83	0.81
3.917	0.87	9.917	2.42	15.917	2.02	21.92	0.81
4.000	0.87	10.000	2.42	16.000	2.02	22.00	0.81
4.083	1.08	10.083	3.09	16.083	1.21	22.08	0.81
4.167	1.08	10.167	3.09	16.167	1.21	22.17	0.81
4.250	1.08	10.250	3.09	16.250	1.21	22.25	0.81
4.333	1.08	10.333	3.09	16.333	1.21	22.33	0.81
4.417	1.08	10.417	3.09	16.417	1.21	22.42	0.81
4.500	1.08	10.500	3.09	16.500	1.21	22.50	0.81
4.583	1.08	10.583	4.17	16.583	1.21	22.58	0.81
4.667	1.08	10.667	4.17	16.667	1.21	22.67	0.81
4.750	1.08	10.750	4.17	16.750	1.21	22.75	0.81

4.833	1.08	10.833	4.17	16.833	1.21	22.83	0.81
4.917	1.08	10.917	4.17	16.917	1.21	22.92	0.81
5.000	1.08	11.000	4.17	17.000	1.21	23.00	0.81
5.083	1.08	11.083	6.45	17.083	1.21	23.08	0.81
5.167	1.08	11.167	6.45	17.167	1.21	23.17	0.81
5.250	1.08	11.250	6.45	17.250	1.21	23.25	0.81
5.333	1.08	11.333	6.45	17.333	1.21	23.33	0.81
5.417	1.08	11.417	6.45	17.417	1.21	23.42	0.81
5.500	1.08	11.500	6.45	17.500	1.21	23.50	0.81
5.583	1.08	11.583	19.89	17.583	1.21	23.58	0.81
5.667	1.08	11.667	19.89	17.667	1.21	23.67	0.81
5.750	1.08	11.750	19.89	17.750	1.21	23.75	0.81
5.833	1.08	11.833	82.25	17.833	1.21	23.83	0.81
5.917	1.08	11.917	82.25	17.917	1.21	23.92	0.81
6.000	1.08	12.000	82.25	18.000	1.21	24.00	0.81

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.316 (i)
 TIME TO PEAK (hrs)= 12.667
 RUNOFF VOLUME (mm)= 26.342
 TOTAL RAINFALL (mm)= 67.200
 RUNOFF COEFFICIENT = 0.392

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

ADD HYD (8320)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):	19.36	0.434	12.83	26.34
+ ID2= 2 (8500):	11.81	0.316	12.67	26.34
=====				
ID = 3 (8320):	31.17	0.743	12.75	26.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10030)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10020):	43.84	0.426	13.92	47.83
+ ID2= 2 (8320):	31.17	0.743	12.75	26.34
=====				
ID = 3 (10030):	75.01	1.139	12.83	38.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

000 TTTTT TTTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\V02\voin.dat
Output filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\0bcb4c
96-673d-4e65-a091-c3c4a2414d7c\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\0bcb4c
96-673d-4e65-a091-c3c4a2414d7c\scenar

DATE: 07-06-2023 TIME: 12:29:33

USER:

COMMENTS: _____

** SIMULATION : 50 year 24 Hour SCS **

| MASS STORM | Filename: C:\Users\kchow\AppData
| | ata\Local\Temp\

| Ptotal=110.15 mm |

Comments:

Duration of storm = 24.00 hrs
 Mass curve time step = 15.00 min

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	1.21	6.00	1.98	12.00	15.86	18.00	1.98
0.25	1.21	6.25	1.98	12.25	15.86	18.25	1.98
0.50	1.21	6.50	1.98	12.50	8.15	18.50	1.98
0.75	1.21	6.75	1.98	12.75	8.15	18.75	1.98
1.00	1.21	7.00	2.42	13.00	5.95	19.00	1.98
1.25	1.21	7.25	2.42	13.25	5.95	19.25	1.98
1.50	1.21	7.50	2.42	13.50	4.63	19.50	1.98
1.75	1.21	7.75	2.42	13.75	4.63	19.75	1.98
2.00	1.43	8.00	2.86	14.00	3.30	20.00	1.32
2.25	1.43	8.25	2.86	14.25	3.30	20.25	1.32
2.50	1.43	8.50	3.08	14.50	3.30	20.50	1.32
2.75	1.43	8.75	3.08	14.75	3.30	20.75	1.32
3.00	1.43	9.00	3.52	15.00	3.30	21.00	1.32
3.25	1.43	9.25	3.52	15.25	3.30	21.25	1.32
3.50	1.43	9.50	3.97	15.50	3.30	21.50	1.32
3.75	1.43	9.75	3.97	15.75	3.30	21.75	1.32
4.00	1.76	10.00	5.07	16.00	1.98	22.00	1.32
4.25	1.76	10.25	5.07	16.25	1.98	22.25	1.32
4.50	1.76	10.50	6.83	16.50	1.98	22.50	1.32
4.75	1.76	10.75	6.83	16.75	1.98	22.75	1.32
5.00	1.76	11.00	10.57	17.00	1.98	23.00	1.32
5.25	1.76	11.25	10.57	17.25	1.98	23.25	1.32
5.50	1.76	11.50	32.60	17.50	1.98	23.50	1.32
5.75	1.76	11.75	134.82	17.75	1.98	23.75	1.32

 | CALIB |
 | STANDHYD (10000) |
 | ID= 1 DT= 5.0 min |

Area (ha)= 2.78
 Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.39	1.39
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	136.14	40.00
Mannings n =	0.013	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	1.21	6.083	1.98	12.083	15.88	18.08	1.98
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32

4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Max.Eff.Inten.(mm/hr)=	134.82	110.03
over (min)	5.00	10.00
Storage Coeff. (min)=	2.73 (ii)	9.52 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.12

TOTALS

PEAK FLOW (cms)=	0.52	0.31	0.832 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	109.15	76.92	93.03
TOTAL RAINFALL (mm)=	110.15	110.15	110.15
RUNOFF COEFFICIENT =	0.99	0.70	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB				
STANDHYD (11000)		Area (ha)=	0.90	
ID= 1 DT= 5.0 min		Total Imp(%)=	50.00	Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

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	1.21	6.083	1.98	12.083	15.88	18.08	1.98
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32

3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Max.Eff.Inten.(mm/hr)=	134.82	179.93
over (min)	5.00	10.00
Storage Coeff. (min)=	1.94 (ii)	7.52 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.31	0.13

			TOTALS
PEAK FLOW (cms)=	0.08	0.18	0.267 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	109.15	85.69	91.55
TOTAL RAINFALL (mm)=	110.15	110.15	110.15
RUNOFF COEFFICIENT =	0.99	0.78	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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-----
| CALIB |
| STANDHYD ( 12000) |
| ID= 1 DT= 5.0 min |
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Area (ha)= 1.59
Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00

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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	1.21	6.083	1.98	12.083	15.88	18.08	1.98
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98

2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Max. Eff. Inten. (mm/hr)= 134.82

132.33

Storage Coeff. (min)=	5.00	10.00	
Unit Hyd. Tpeak (min)=	2.31 (ii)	8.62 (ii)	
Unit Hyd. peak (cms)=	5.00	10.00	
	0.30	0.12	
			TOTALS
PEAK FLOW (cms)=	0.08	0.34	0.415 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	109.15	80.34	84.08
TOTAL RAINFALL (mm)=	110.15	110.15	110.15
RUNOFF COEFFICIENT =	0.99	0.73	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
-----
| AREA QPEAK TPEAK R.V. |
| (ha) (cms) (hrs) (mm) |
| ID1= 1 ( 11000): 0.90 0.267 12.00 91.55 |
| + ID2= 2 ( 12000): 1.59 0.415 12.00 84.08 |
|=====|
| ID = 3 ( 11010): 2.49 0.682 12.00 86.78 |
  
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8200) |
| ID= 1 DT= 5.0 min |
|-----|
| Area (ha)= 2.88 Curve Number (CN)= 75.0 |
| Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 |
| U.H. Tp(hrs)= 1.21 |
  
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----
| TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN |
| hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr |
| 0.083 1.21 | 6.083 1.98 | 12.083 15.88 | 18.08 1.98 |
| 0.167 1.21 | 6.167 1.98 | 12.167 15.86 | 18.17 1.98 |
| 0.250 1.21 | 6.250 1.98 | 12.250 15.86 | 18.25 1.98 |
| 0.333 1.21 | 6.333 1.98 | 12.333 15.86 | 18.33 1.98 |
  
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0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32

4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.118 (i)

TIME TO PEAK (hrs)= 13.167

RUNOFF VOLUME (mm)= 58.248

TOTAL RAINFALL (mm)= 110.150

RUNOFF COEFFICIENT = 0.529

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

CALIB			
NASHYD (8100)	Area (ha)= 1.90	Curve Number (CN)= 75.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.54		

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	1.21	6.083	1.98	12.083	15.88	18.08	1.98
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98

0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32

4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.142 (i)
 TIME TO PEAK (hrs)= 12.417
 RUNOFF VOLUME (mm)= 58.246
 TOTAL RAINFALL (mm)= 110.150
 RUNOFF COEFFICIENT = 0.529

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

ADD HYD (8110)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (8100):	1.90	0.142	12.42	58.25
+ ID2= 2 (8200):	2.88	0.118	13.17	58.25
=====				
ID = 3 (8110):	4.78	0.229	12.58	58.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)=	PERVIOUS (i)
STANDHYD (8700)	2.22	
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	1.21	6.083	1.98	12.083	15.88	18.08	1.98
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32

3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Max.Eff.Inten.(mm/hr)=	134.82	214.92
over (min)	5.00	10.00
Storage Coeff. (min)=	2.55 (ii)	7.75 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.13

			TOTALS
PEAK FLOW (cms)=	0.25	0.43	0.678 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	109.15	88.54	94.72
TOTAL RAINFALL (mm)=	110.15	110.15	110.15
RUNOFF COEFFICIENT =	0.99	0.80	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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-----
| CALIB                               |
| STANDHYD ( 8800)                   |
| ID= 1 DT= 5.0 min                   |
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Area      (ha)= 18.91
Total Imp(%)= 65.00   Dir. Conn.(%)= 35.00

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                IMPERVIOUS      PERVIOUS (i)
Surface Area   (ha)=      12.29      6.62
Dep. Storage   (mm)=      1.00      1.50
Average Slope  (%)=      1.00      2.00
Length         (m)=     355.06     40.00
Mannings n     =      0.013     0.250

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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	1.21	6.083	1.98	12.083	15.88	18.08	1.98
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32

2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Max.Eff.Inten.(mm/hr)=	134.82	229.90
over (min)	5.00	10.00
Storage Coeff. (min)=	4.85 (ii)	9.91 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.22	0.11

TOTALS

PEAK FLOW (cms)=	2.39	3.13	5.524 (iii)
TIME TO PEAK (hrs)=	12.00	12.00	12.00
RUNOFF VOLUME (mm)=	109.15	89.57	96.42

TOTAL RAINFALL (mm)=	110.15	110.15	110.15
RUNOFF COEFFICIENT =	0.99	0.81	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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 ( 8710) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8700):  2.22  0.678  12.00  94.72
+ ID2= 2 ( 8800): 18.91  5.524  12.00  96.42
=====
ID = 3 ( 8710):  21.13  6.202  12.00  96.24

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| ADD HYD ( 8120) |
| 1 + 2 = 3 |
-----
          AREA    QPEAK    TPEAK    R.V.
          (ha)    (cms)    (hrs)    (mm)
ID1= 1 ( 8110):  4.78  0.229  12.58  58.25
+ ID2= 2 ( 8710): 21.13  6.202  12.00  96.24
=====
ID = 3 ( 8120):  25.91  6.299  12.00  89.23

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| CALIB
| STANDHYD ( 8900) |
| ID= 1 DT= 5.0 min |
-----
Area (ha)= 2.39
Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	1.21	6.083	1.98	12.083	15.88	18.08	1.98	
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98	
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98	
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98	
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98	
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98	
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98	
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98	
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98	
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98	
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98	
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98	
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98	
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98	
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98	
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98	
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98	
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98	
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98	
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98	
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98	
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98	
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98	
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98	
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32	
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32	
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32	
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32	
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32	
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32	
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32	
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32	
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32	
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32	
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32	
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32	
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32	
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32	
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32	
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32	
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32	
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32	
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32	
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32	
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32	
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32	

3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Max.Eff.Inten.(mm/hr)=	134.82	125.91
over (min)	5.00	20.00
Storage Coeff. (min)=	2.61 (ii)	15.36 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.29	0.07

TOTALS

PEAK FLOW (cms)=	0.09	0.37	0.382 (iii)
TIME TO PEAK (hrs)=	12.00	12.17	12.17
RUNOFF VOLUME (mm)=	109.15	79.93	82.85
TOTAL RAINFALL (mm)=	110.15	110.15	110.15
RUNOFF COEFFICIENT =	0.99	0.73	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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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-----
| CALIB |
| STANDHYD ( 8600) |
| ID= 1 DT= 5.0 min |
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Area (ha)= 10.27
Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

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                IMPERVIOUS      PERVIOUS (i)
Surface Area (ha)= 2.16          8.11
Dep. Storage (mm)= 1.00         1.50
Average Slope (%)= 2.00         2.00
Length (m)= 261.66             250.00
Mannings n = 0.013             0.250

```

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	1.21	6.083	1.98	12.083	15.88	18.08	1.98
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32

2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Max.Eff.Inten.(mm/hr)= 134.82 86.27
 over (min) 5.00 30.00
 Storage Coeff. (min)= 3.28 (ii) 25.76 (ii)
 Unit Hyd. Tpeak (min)= 5.00 30.00
 Unit Hyd. peak (cms)= 0.27 0.04

TOTALS

PEAK FLOW (cms)= 0.38 1.16 1.207 (iii)
 TIME TO PEAK (hrs)= 12.00 12.33 12.33
 RUNOFF VOLUME (mm)= 109.15 79.93 82.86

TOTAL RAINFALL (mm)= 110.15 110.15 110.15
 RUNOFF COEFFICIENT = 0.99 0.73 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 (8610)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8600):	10.27	1.207	12.33	82.86
+ ID2= 2 (8900):	2.39	0.382	12.17	82.85
=====				
ID = 3 (8610):	12.66	1.510	12.25	82.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8130)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8120):	25.91	6.299	12.00	89.23
+ ID2= 2 (8610):	12.66	1.510	12.25	82.85
=====				
ID = 3 (8130):	38.57	7.642	12.00	87.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8140)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (11010):	2.49	0.682	12.00	86.78
+ ID2= 2 (8130):	38.57	7.642	12.00	87.14
=====				
ID = 3 (8140):	41.06	8.323	12.00	87.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

0.083	1.21	6.083	1.98	12.083	15.88	18.08	1.98
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32

4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.534 (i)
 TIME TO PEAK (hrs)= 12.917
 RUNOFF VOLUME (mm)= 58.248
 TOTAL RAINFALL (mm)= 110.150
 RUNOFF COEFFICIENT = 0.529

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

 | CALIB |
 | NASHYD (8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 ----- U.H. Tp(hrs)= 0.80

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	1.21	6.083	1.98	12.083	15.88	18.08	1.98
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98

0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32
3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32

4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.456 (i)

TIME TO PEAK (hrs)= 12.750

RUNOFF VOLUME (mm)= 58.248

TOTAL RAINFALL (mm)= 110.150

RUNOFF COEFFICIENT = 0.529

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

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| ADD HYD ( 8310) |
| 1 + 2 = 3 |
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.456	12.75	58.25
+ ID2= 2 (8400):	11.21	0.534	12.92	58.25
=====				
ID = 3 (8310):	19.36	0.981	12.83	58.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB |
| NASHYD ( 8500) |
| ID= 1 DT= 5.0 min |
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Area (ha)=	11.81	Curve Number (CN)=	75.0
Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
U.H. Tp(hrs)=	0.72		

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	1.21	6.083	1.98	12.083	15.88	18.08	1.98	
0.167	1.21	6.167	1.98	12.167	15.86	18.17	1.98	
0.250	1.21	6.250	1.98	12.250	15.86	18.25	1.98	
0.333	1.21	6.333	1.98	12.333	15.86	18.33	1.98	
0.417	1.21	6.417	1.98	12.417	15.86	18.42	1.98	
0.500	1.21	6.500	1.98	12.500	15.86	18.50	1.98	
0.583	1.21	6.583	1.98	12.583	8.15	18.58	1.98	
0.667	1.21	6.667	1.98	12.667	8.15	18.67	1.98	
0.750	1.21	6.750	1.98	12.750	8.15	18.75	1.98	
0.833	1.21	6.833	1.98	12.833	8.15	18.83	1.98	
0.917	1.21	6.917	1.98	12.917	8.15	18.92	1.98	
1.000	1.21	7.000	1.98	13.000	8.15	19.00	1.98	
1.083	1.21	7.083	2.42	13.083	5.95	19.08	1.98	
1.167	1.21	7.167	2.42	13.167	5.95	19.17	1.98	
1.250	1.21	7.250	2.42	13.250	5.95	19.25	1.98	
1.333	1.21	7.333	2.42	13.333	5.95	19.33	1.98	
1.417	1.21	7.417	2.42	13.417	5.95	19.42	1.98	
1.500	1.21	7.500	2.42	13.500	5.95	19.50	1.98	
1.583	1.21	7.583	2.42	13.583	4.63	19.58	1.98	
1.667	1.21	7.667	2.42	13.667	4.63	19.67	1.98	
1.750	1.21	7.750	2.42	13.750	4.63	19.75	1.98	
1.833	1.21	7.833	2.42	13.833	4.63	19.83	1.98	
1.917	1.21	7.917	2.42	13.917	4.63	19.92	1.98	
2.000	1.21	8.000	2.42	14.000	4.63	20.00	1.98	
2.083	1.43	8.083	2.86	14.083	3.30	20.08	1.32	
2.167	1.43	8.167	2.86	14.167	3.30	20.17	1.32	
2.250	1.43	8.250	2.86	14.250	3.30	20.25	1.32	
2.333	1.43	8.333	2.86	14.333	3.30	20.33	1.32	
2.417	1.43	8.417	2.86	14.417	3.30	20.42	1.32	
2.500	1.43	8.500	2.86	14.500	3.30	20.50	1.32	
2.583	1.43	8.583	3.08	14.583	3.30	20.58	1.32	
2.667	1.43	8.667	3.08	14.667	3.30	20.67	1.32	
2.750	1.43	8.750	3.08	14.750	3.30	20.75	1.32	
2.833	1.43	8.833	3.08	14.833	3.30	20.83	1.32	
2.917	1.43	8.917	3.08	14.917	3.30	20.92	1.32	
3.000	1.43	9.000	3.08	15.000	3.30	21.00	1.32	
3.083	1.43	9.083	3.52	15.083	3.30	21.08	1.32	
3.167	1.43	9.167	3.52	15.167	3.30	21.17	1.32	
3.250	1.43	9.250	3.52	15.250	3.30	21.25	1.32	
3.333	1.43	9.333	3.52	15.333	3.30	21.33	1.32	
3.417	1.43	9.417	3.52	15.417	3.30	21.42	1.32	
3.500	1.43	9.500	3.52	15.500	3.30	21.50	1.32	
3.583	1.43	9.583	3.97	15.583	3.30	21.58	1.32	
3.667	1.43	9.667	3.97	15.667	3.30	21.67	1.32	
3.750	1.43	9.750	3.97	15.750	3.30	21.75	1.32	
3.833	1.43	9.833	3.97	15.833	3.30	21.83	1.32	

3.917	1.43	9.917	3.97	15.917	3.30	21.92	1.32
4.000	1.43	10.000	3.97	16.000	3.30	22.00	1.32
4.083	1.76	10.083	5.07	16.083	1.98	22.08	1.32
4.167	1.76	10.167	5.07	16.167	1.98	22.17	1.32
4.250	1.76	10.250	5.07	16.250	1.98	22.25	1.32
4.333	1.76	10.333	5.07	16.333	1.98	22.33	1.32
4.417	1.76	10.417	5.07	16.417	1.98	22.42	1.32
4.500	1.76	10.500	5.07	16.500	1.98	22.50	1.32
4.583	1.76	10.583	6.83	16.583	1.98	22.58	1.32
4.667	1.76	10.667	6.83	16.667	1.98	22.67	1.32
4.750	1.76	10.750	6.83	16.750	1.98	22.75	1.32
4.833	1.76	10.833	6.83	16.833	1.98	22.83	1.32
4.917	1.76	10.917	6.83	16.917	1.98	22.92	1.32
5.000	1.76	11.000	6.83	17.000	1.98	23.00	1.32
5.083	1.76	11.083	10.57	17.083	1.98	23.08	1.32
5.167	1.76	11.167	10.57	17.167	1.98	23.17	1.32
5.250	1.76	11.250	10.57	17.250	1.98	23.25	1.32
5.333	1.76	11.333	10.57	17.333	1.98	23.33	1.32
5.417	1.76	11.417	10.57	17.417	1.98	23.42	1.32
5.500	1.76	11.500	10.57	17.500	1.98	23.50	1.32
5.583	1.76	11.583	32.60	17.583	1.98	23.58	1.32
5.667	1.76	11.667	32.60	17.667	1.98	23.67	1.32
5.750	1.76	11.750	32.60	17.750	1.98	23.75	1.32
5.833	1.76	11.833	134.81	17.833	1.98	23.83	1.32
5.917	1.76	11.917	134.82	17.917	1.98	23.92	1.32
6.000	1.76	12.000	134.82	18.000	1.98	24.00	1.32

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.714 (i)

TIME TO PEAK (hrs)= 12.667

RUNOFF VOLUME (mm)= 58.248

TOTAL RAINFALL (mm)= 110.150

RUNOFF COEFFICIENT = 0.529

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

ADD HYD (8320)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8310):	19.36	0.981	12.83	58.25
+ ID2= 2 (8500):	11.81	0.714	12.67	58.25
=====				
ID = 3 (8320):	31.17	1.681	12.75	58.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10030)				
1 + 2 = 3				

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10020):	43.84	0.978	13.33	87.47
+ ID2= 2 (8320):	31.17	1.681	12.75	58.25
=====				
ID = 3 (10030):	75.01	2.525	12.92	75.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

=====

=====

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V V I SSSSS U U A L (v 6.2.2014)
V V I SS U U A A L
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2.2014\Visual OTTHYMO
6.2\V02\voin.dat
Output filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\02846a
eb-f5b4-4e78-ba2e-00235b07dd0a\scenar
Summary filename:
C:\Users\kchow\AppData\Local\Civica\XH5\d267c37f-9a2b-4035-b0b7-e10e3034da51\02846a
eb-f5b4-4e78-ba2e-00235b07dd0a\scenar

DATE: 07-05-2023 TIME: 10:58:48

USER:

COMMENTS: _____

** SIMULATION : 25mm4hour **

| READ STORM | Filename: C:\Users\kchow\AppData
| | ata\Local\Temp\

| Ptotal= 25.00 mm |

1dde2671-7037-49fd-888c-90e2cc6d2162\b53e039d

Comments: 25mm4hour

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	2.40	1.00	33.60	2.00	3.45	3.00	1.65
0.17	1.95	1.17	38.10	2.17	3.00	3.17	1.80
0.33	2.40	1.33	13.80	2.33	2.70	3.33	1.50
0.50	2.85	1.50	7.35	2.50	2.25	3.50	1.50
0.67	4.65	1.67	5.55	2.67	2.25	3.67	0.75
0.83	9.60	1.83	4.35	2.83	1.95	3.83	0.60

| CALIB
| STANDHYD (10000)
| ID= 1 DT= 5.0 min |

Area (ha)= 2.78
Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.39	1.39
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	136.14	40.00
Mannings n =	0.013	0.250

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	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Max.Eff.Inten.(mm/hr)=	38.10	10.38
over (min)	5.00	25.00
Storage Coeff. (min)=	4.52 (ii)	21.99 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.23	0.05

				TOTALS
PEAK FLOW	(cms)=	0.14	0.02	0.154 (iii)
TIME TO PEAK	(hrs)=	1.33	1.67	1.33
RUNOFF VOLUME	(mm)=	24.00	8.08	16.04
TOTAL RAINFALL	(mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT	=	0.96	0.32	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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-----
| CALIB |
| STANDHYD ( 11000) |
| ID= 1 DT= 5.0 min |
-----
| Area (ha)= 0.90 |
| Total Imp(%)= 50.00 |
| Dir. Conn.(%)= 25.00 |
-----

```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.45	0.45
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	77.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Max.Eff.Inten.(mm/hr)=	38.10	24.22
over (min)	5.00	20.00
Storage Coeff. (min)=	3.22 (ii)	15.67 (ii)

Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.27	0.07	
			TOTALS
PEAK FLOW (cms)=	0.02	0.02	0.035 (iii)
TIME TO PEAK (hrs)=	1.33	1.58	1.33
RUNOFF VOLUME (mm)=	24.00	10.69	14.01
TOTAL RAINFALL (mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT =	0.96	0.43	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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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-----
| CALIB |
| STANDHYD ( 12000) | Area (ha)= 1.59
| ID= 1 DT= 5.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 13.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.40	1.19
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	102.96	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

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----- TRANSFORMED HYETOGRAPH -----

```

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Max. Eff. Inten. (mm/hr)=	38.10	15.49
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Storage Coeff. (min)=	5.00	20.00	
Unit Hyd. Tpeak (min)=	3.82 (ii)	18.71 (ii)	
Unit Hyd. peak (cms)=	5.00	20.00	
	0.25	0.06	
			TOTALS
PEAK FLOW (cms)=	0.02	0.03	0.039 (iii)
TIME TO PEAK (hrs)=	1.33	1.58	1.33
RUNOFF VOLUME (mm)=	24.00	9.01	10.96
TOTAL RAINFALL (mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT =	0.96	0.36	0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 11010) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 11000):  0.90  0.035  1.33  14.01
+ ID2= 2 ( 12000):  1.59  0.039  1.33  10.96
=====
ID = 3 ( 11010):  2.49  0.074  1.33  12.06
  
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-----
| CALIB |
| NASHYD ( 8200) |
| ID= 1 DT= 5.0 min |
-----
Area (ha)= 2.88 Curve Number (CN)= 75.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.21
  
```

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 2.40 | 1.083 33.60 | 2.083 3.45 | 3.08 1.65
0.167 2.40 | 1.167 33.60 | 2.167 3.45 | 3.17 1.65
0.250 1.95 | 1.250 38.10 | 2.250 3.00 | 3.25 1.80
0.333 1.95 | 1.333 38.10 | 2.333 3.00 | 3.33 1.80
  
```

0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Unit Hyd Qpeak (cms)= 0.091

PEAK FLOW (cms)= 0.010 (i)
 TIME TO PEAK (hrs)= 2.917
 RUNOFF VOLUME (mm)= 3.821
 TOTAL RAINFALL (mm)= 25.000
 RUNOFF COEFFICIENT = 0.153

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

 | CALIB |
 | NASHYD (8100) | Area (ha)= 1.90 Curve Number (CN)= 75.0
 | ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

 U.H. Tp(hrs)= 0.54

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	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Unit Hyd Qpeak (cms)= 0.134

PEAK FLOW (cms)= 0.011 (i)
 TIME TO PEAK (hrs)= 2.000
 RUNOFF VOLUME (mm)= 3.821

TOTAL RAINFALL (mm)= 25.000
 RUNOFF COEFFICIENT = 0.153

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

ADD HYD (8110) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8100):	1.90	0.011	2.00	3.82
+ ID2= 2 (8200):	2.88	0.010	2.92	3.82
=====				
ID = 3 (8110):	4.78	0.018	2.25	3.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (8700) ID= 1 DT= 5.0 min	Area (ha)=	Total Imp(%)=	Dir. Conn.(%)=
	2.22	60.00	30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.33	0.89
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	121.66	40.00
Mannings n =	0.013	0.250

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	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Max. Eff. Inten. (mm/hr)= 38.10 31.29

over (min)	5.00	20.00	
Storage Coeff. (min)=	4.23 (ii)	15.46 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.24	0.07	
			TOTALS
PEAK FLOW (cms)=	0.07	0.05	0.100 (iii)
TIME TO PEAK (hrs)=	1.33	1.58	1.33
RUNOFF VOLUME (mm)=	24.00	11.71	15.40
TOTAL RAINFALL (mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT =	0.96	0.47	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

- (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.

CALIB	
STANDHYD (8800)	Area (ha)= 18.91
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.29	6.62
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	355.06	40.00
Mannings n	=	0.013	0.250

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	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Max.Eff.Inten.(mm/hr)=	38.10	34.46	
over (min)	10.00	20.00	
Storage Coeff. (min)=	8.04 (ii)	18.85 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
			TOTALS
PEAK FLOW (cms)=	0.61	0.37	0.868 (iii)
TIME TO PEAK (hrs)=	1.33	1.58	1.42
RUNOFF VOLUME (mm)=	24.00	12.11	16.27
TOTAL RAINFALL (mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT =	0.96	0.48	0.65

- (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 (8710)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8700):	2.22	0.100	1.33	15.40
+ ID2= 2 (8800):	18.91	0.868	1.42	16.27
=====				
ID = 3 (8710):	21.13	0.948	1.42	16.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (8120)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8110):	4.78	0.018	2.25	3.82
+ ID2= 2 (8710):	21.13	0.948	1.42	16.18
=====				
ID = 3 (8120):	25.91	0.953	1.42	13.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (8900)				
ID= 1 DT= 5.0 min	Area (ha)=	2.39		
	Total Imp(%)=	21.00	Dir. Conn.(%)=	10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	1.89
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	126.23	125.00
Mannings n	=	0.013	0.250

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	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Max.Eff.Inten.(mm/hr)=	38.10	10.21
over (min)	5.00	40.00
Storage Coeff. (min)=	4.32 (ii)	39.15 (ii)
Unit Hyd. Tpeak (min)=	5.00	40.00
Unit Hyd. peak (cms)=	0.23	0.03

TOTALS

PEAK FLOW (cms)=	0.02	0.03	0.033 (iii)
TIME TO PEAK (hrs)=	1.33	1.92	1.92
RUNOFF VOLUME (mm)=	24.00	8.90	10.40
TOTAL RAINFALL (mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT =	0.96	0.36	0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
 ***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
 YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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.

CALIB		
STANDHYD (8600)		Area (ha)= 10.27
ID= 1 DT= 5.0 min		Total Imp(%)= 21.00 Dir. Conn.(%)= 10.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.16	8.11
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	2.00
Length	(m)=	261.66	250.00
Mannings n	=	0.013	0.250

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	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Max.Eff.Inten.(mm/hr)=	38.10	7.35
over (min)	5.00	70.00
Storage Coeff. (min)=	5.44 (ii)	65.65 (ii)
Unit Hyd. Tpeak (min)=	5.00	70.00
Unit Hyd. peak (cms)=	0.20	0.02

			TOTALS
PEAK FLOW (cms)=	0.10	0.09	0.115 (iii)
TIME TO PEAK (hrs)=	1.33	2.42	1.33
RUNOFF VOLUME (mm)=	24.00	8.90	10.41
TOTAL RAINFALL (mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT =	0.96	0.36	0.42

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

- (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 ( 8610) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 8600):  10.27  0.115    1.33    10.41
+ ID2= 2 ( 8900):   2.39  0.033    1.92    10.40
=====
ID = 3 ( 8610):  12.66  0.146    1.33    10.40

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8130) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 8120):  25.91  0.953    1.42    13.90
+ ID2= 2 ( 8610):  12.66  0.146    1.33    10.40
=====
ID = 3 ( 8130):  38.57  1.079    1.33    12.75

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 8140) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 11010):  2.49  0.074    1.33    12.06
+ ID2= 2 ( 8130):  38.57  1.079    1.33    12.75
=====
ID = 3 ( 8140):  41.06  1.153    1.33    12.71

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| ADD HYD ( 10010) |
| 1 + 2 = 3 |
-----
          AREA      QPEAK      TPEAK      R.V.
          (ha)      (cms)      (hrs)      (mm)
ID1= 1 ( 10000):  2.78  0.154    1.33    16.04
+ ID2= 2 ( 8140):  41.06  1.153    1.33    12.71
=====
ID = 3 ( 10010):  43.84  1.307    1.33    12.92

```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

-----
| RESERVOIR( 10020) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min      |
-----

```

OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1470	1.2563
0.0360	0.1569	0.1660	1.4077
0.0550	0.3255	0.1910	1.5638
0.0620	0.3843	0.2110	1.7245
0.0810	0.5687	0.2290	1.8900
0.0910	0.6976	0.2440	2.0600
0.1000	0.8304	0.2590	2.2351
0.1080	0.9677	0.2720	2.4147
0.1160	1.1096	0.2850	2.6008

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (10010)	43.840	1.307	1.33	12.92
OUTFLOW: ID= 1 (10020)	43.840	0.071	4.42	12.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.45
 TIME SHIFT OF PEAK FLOW (min)=185.00
 MAXIMUM STORAGE USED (ha.m.)= 0.4743

```

-----
| CALIB          |
| NASHYD ( 8400) |
| ID= 1 DT= 5.0 min |
-----

```

Area (ha)= 11.21 Curve Number (CN)= 75.0
 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
 U.H. Tp(hrs)= 0.99

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	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Unit Hyd Qpeak (cms)= 0.432

PEAK FLOW (cms)= 0.044 (i)
TIME TO PEAK (hrs)= 2.667
RUNOFF VOLUME (mm)= 3.821
TOTAL RAINFALL (mm)= 25.000
RUNOFF COEFFICIENT = 0.153

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

```
-----  
-----  
| CALIB |  
| NASHYD ( 8300) | Area (ha)= 8.15 Curve Number (CN)= 75.0  
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00  
-----  
-----  
U.H. Tp(hrs)= 0.80
```

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 2.40 | 1.083 33.60 | 2.083 3.45 | 3.08 1.65  
0.167 2.40 | 1.167 33.60 | 2.167 3.45 | 3.17 1.65  
0.250 1.95 | 1.250 38.10 | 2.250 3.00 | 3.25 1.80  
0.333 1.95 | 1.333 38.10 | 2.333 3.00 | 3.33 1.80  
0.417 2.40 | 1.417 13.80 | 2.417 2.70 | 3.42 1.50  
0.500 2.40 | 1.500 13.80 | 2.500 2.70 | 3.50 1.50  
0.583 2.85 | 1.583 7.35 | 2.583 2.25 | 3.58 1.50  
0.667 2.85 | 1.667 7.35 | 2.667 2.25 | 3.67 1.50  
0.750 4.65 | 1.750 5.55 | 2.750 2.25 | 3.75 0.75  
0.833 4.65 | 1.833 5.55 | 2.833 2.25 | 3.83 0.75  
0.917 9.60 | 1.917 4.35 | 2.917 1.95 | 3.92 0.60  
1.000 9.60 | 2.000 4.35 | 3.000 1.95 | 4.00 0.60
```

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.037 (i)
TIME TO PEAK (hrs)= 2.333
RUNOFF VOLUME (mm)= 3.821
TOTAL RAINFALL (mm)= 25.000
RUNOFF COEFFICIENT = 0.153

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

```
-----  
-----  
| ADD HYD ( 8310) |
```


1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8300):	8.15	0.037	2.33	3.82
+ ID2= 2 (8400):	11.21	0.044	2.67	3.82
=====				
ID = 3 (8310):	19.36	0.081	2.50	3.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)	Curve Number (CN)
NASHYD (8500)	11.81	75.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.72	

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	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.058 (i)

TIME TO PEAK (hrs)= 2.250

RUNOFF VOLUME (mm)= 3.821

TOTAL RAINFALL (mm)= 25.000

RUNOFF COEFFICIENT = 0.153

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

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ADD HYD (8320)				

ID1= 1 (8310):	19.36	0.081	2.50	3.82
+ ID2= 2 (8500):	11.81	0.058	2.25	3.82
=====				
ID = 3 (8320):	31.17	0.137	2.42	3.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (10030)				
1 + 2 = 3				

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (10020):	43.84	0.071	4.42	12.90
+ ID2= 2 (8320):	31.17	0.137	2.42	3.82
=====				
ID = 3 (10030):	75.01	0.197	2.50	9.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

=====

=====

APPENDIX D1
WSP Geotechnical and Water Balance
Reports

APPENDIX D2

Percolation Rates

Appendix D2

Bradford Highland

Bradford Highland Hydraulic Conductivity (From WSP Report)

0.0000001	m/s
0.00001	cm/s

Low Impact Development Stormwater Management Planning and Design Guide CVC 2010

Table C1

Approximate relationship between hydraulic conductivity, percolation time and infiltration rate

Hydraulic Conductivity (cm/s)	Percolation Time, T (min/cm)	Infiltration Rate, 1/T (mm/hr)
0.1	2	300
0.01	4	150
0.001	8	75
0.0001	12	50
0.00001	20	30
0.000001	50	12

Site

0.00001

20

30

12

with a factor of safety of 2.5

APPENDIX D3

Infiltration Rates and Possible Infiltration Locations

APPENDIX D3: Bradford Highland Joint Venture Infiltration

North East					
Lots		Infiltration Length (m)	Roof Area (m ²)	Roof Runoff (m ³)	
42, 43	2		340	15.3	m ³ Potential runoff collection
48 to 59	12	291.9	2040	91.8	
	14		Total	107.1	
	Loss Length	30.8		208.88	
	Net Length	261.1			
1 to 13	13	215	2210	99.45	m ³
	Loss Length	28.6			Potential runoff collection
	Net Length	186.4		149.12	

South West					
Lots					
372 to 396	24		4080	183.6	m ³ Potential runoff collection
401 to 407	6	456	1020	45.9	
	30		Total	229.5	
	Loss Length	66		312	
	Net Length	390			

North Park Blocks					
				Trench Volume (m ³)	
Park		242.1	19368	484.2	m ³
		Total		484.2	
Collectable roof area based on 25 mm runoff			19368		m ²

South Park					
Park		159.5		319	m ³

APPENDIX D3: Bradford Highland Joint Venture Infiltration

Collectable roof area based on 45 mm runoff	12760		m2
---	-------	--	----

Total Volume	1239.3	m3
Collected Roof Area	41818	m2
Based on 25 mm runoff	49570	m2

4.0845 mm rainfall

Area to North Pond (600-1)	23958	m2
Rear Lots	4590	
Park Blocks	19368	
Area to South Pond (800-1)	17860	
Rear Lots	5100	
Park Block	12760	
Collected Roof Area	41818	

		Width	Depth	Void Ratio
Assume Lot roof area is	170 m2			
Assume we lose 2.2 m per lot	2.2 m			
Assume 45 mm runoff (Rear lot)	45 mm			
Assume 25 mm for Park Block	25 mm			
Infiltration Trench (Lots)	0.8 m3/m	2	1	0.4
Infiltration Trench (School and Park)	2 m3/m	5	1	0.4

North East



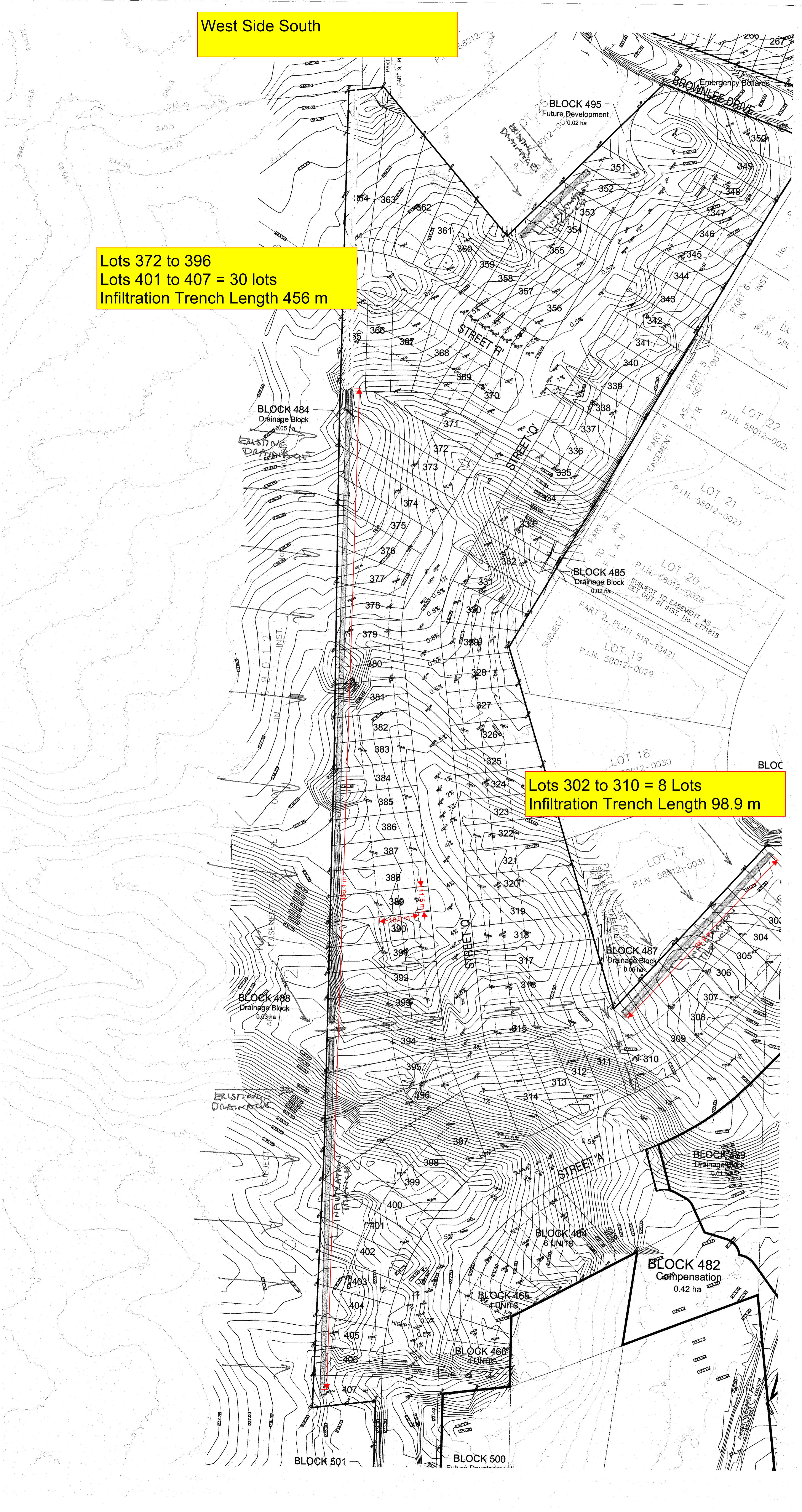
Lots 41 to 13 = 13
Infiltration Trench Length 215.0 m

Lots 42, 43
Lots 48 to 59 = 14
Infiltration Trench Length 291.9 m

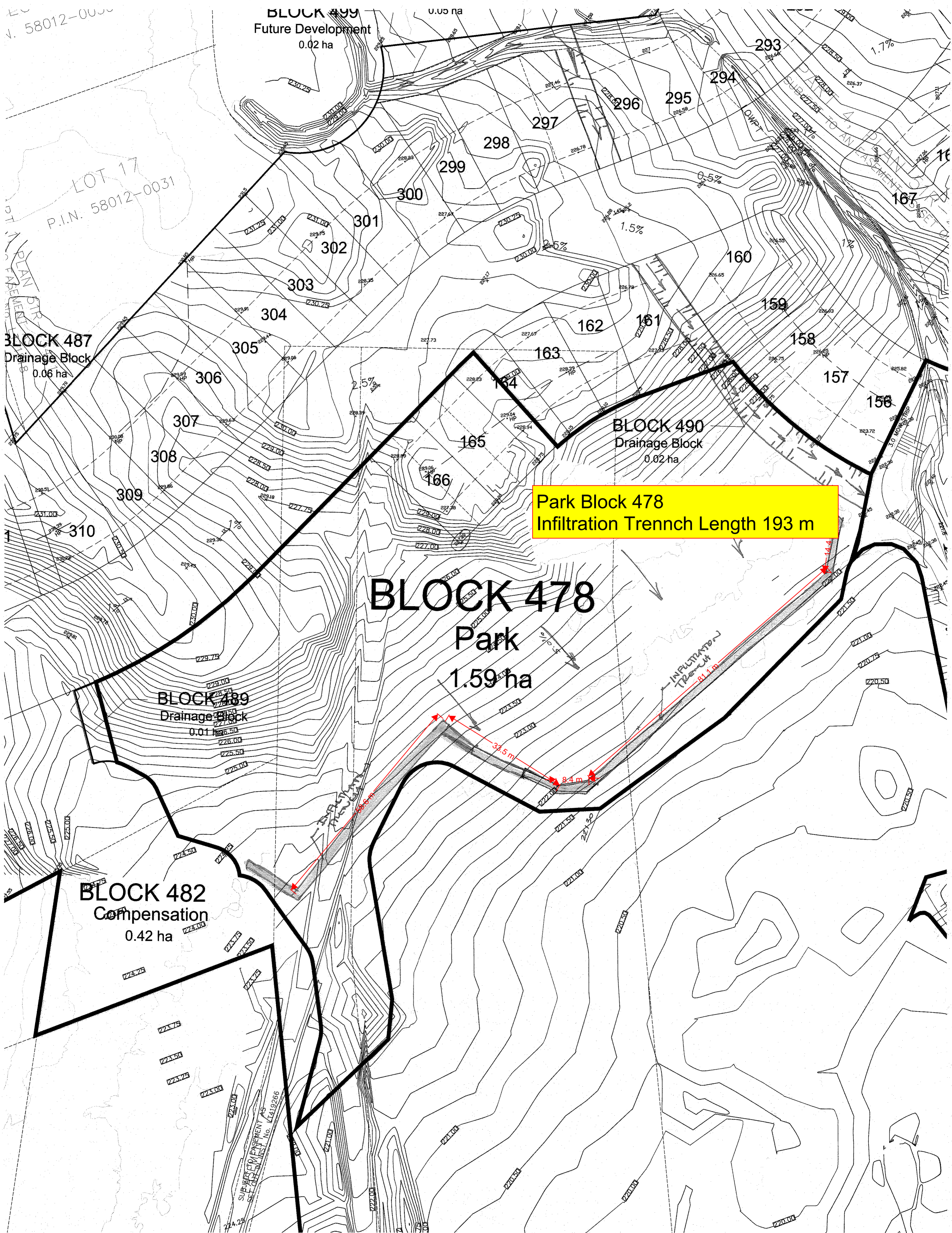
West Side South

Lots 372 to 396
Lots 401 to 407 = 30 lots
Infiltration Trench Length 456 m

Lots 302 to 310 = 8 Lots
Infiltration Trench Length 98.9 m

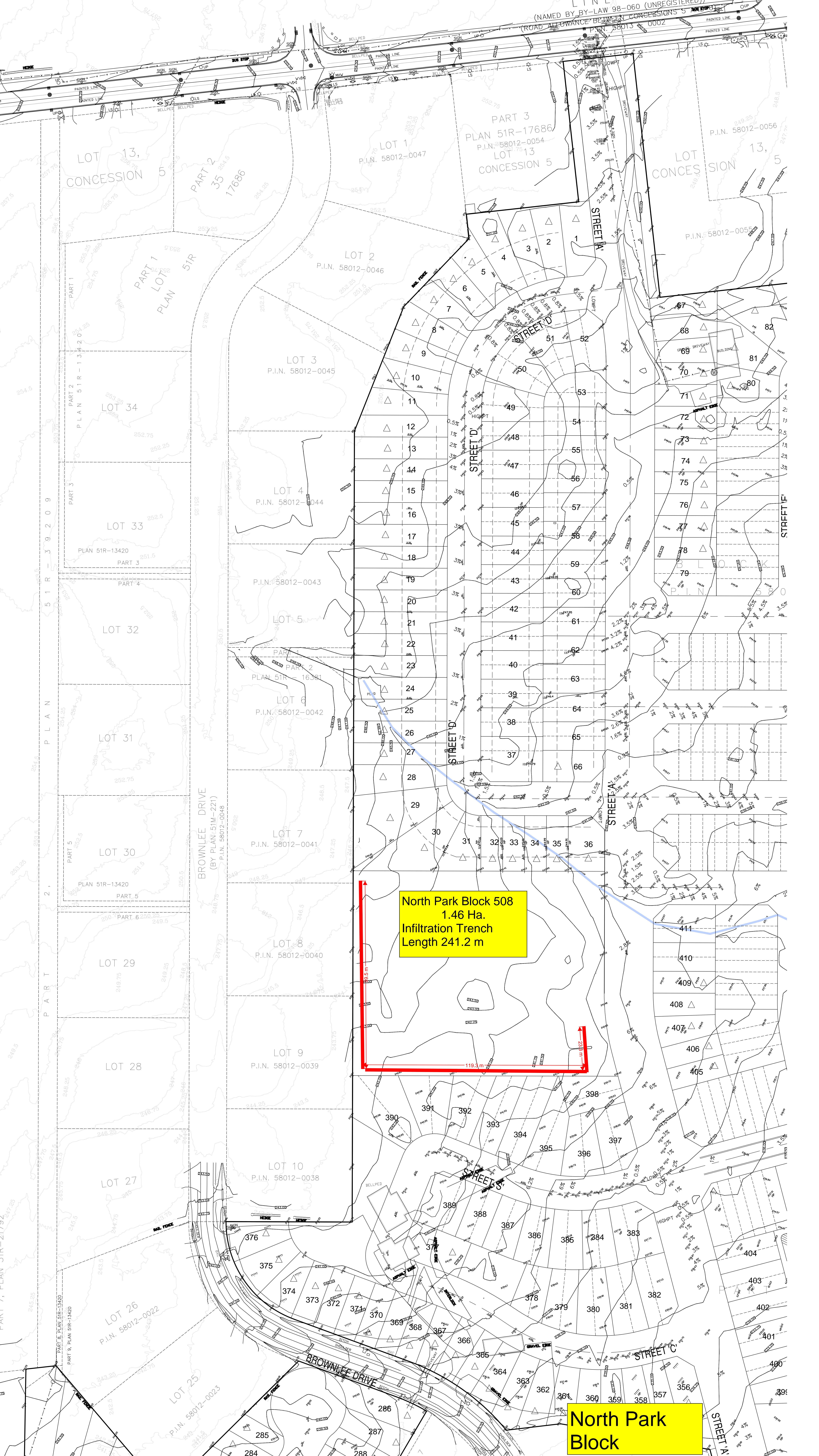


South Park Block478



Park Block 478
Infiltration Trench Length 193 m

BLOCK 478
Park
1.59 ha



North Park Block 508
1.46 Ha.
Infiltration Trench
Length 241.2 m

North Park
Block

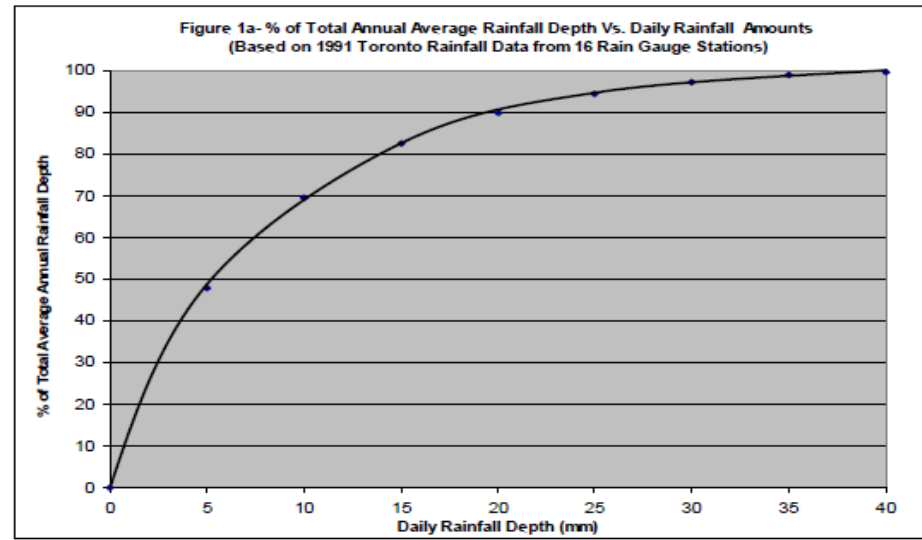
APPENDIX D4

Water Balance

APPENDIX D4: WATER BALANCE

From WSP Report

Water Balance Deficit	27,400 m ³
Collection Area Runoff Volume	41,818 m ³
Infiltration	655.2 mm/year
Total Precipitation Bradford Muck Station	816.3 mm
Percentage of Total Rainfall	80% or 14 mm
14 mm represents 80% of rainfall in a given year	759.2 mm



APPENDIX D5
**Excerpts from Hutchison Land Use P-
Loading and BMP Removal Efficiency and
Phosphorus Budget**

Project Name Bradford Highland
 Project No. 22016
 Subject Phosphorus Budget Calculation

Prepared By: KC
 Checked By: K.C.

Subwatershed = **West Holland**

Under the "Phosphorus Offsetting Policy" (LSRCA, 2017),
 all new development must control post to pre of phosphorus leaving
 the property

Phosphorous Loading Existing Land Use				
Total Development Area:	51.68	ha		
Pre-Development Land use	Area (ha)	Land Use	P Coeff. (kg/ha)	P Load (kg/yr)
Golf Course	51.68	Golf Course	0.24	12.403
Total Phosphorus Loading Existing Condition				12.403

Note 1

Post-Development Phosphorus Loading (no treatment)

Total Development Area, A = 51.68 ha
 Land-use = High Intensity Dev. (Residential)
 Phosphorus Export Coeff., P = 1.32 kg/ha/yr **Note 1**
P Loading = 68.22 kg/yr >> P * A

As per offsetting requirements, must endeavour to control Post to Pre, else
 an offsetting ratio will be applied

- Treatment Options:
 1. SWM Facility 600-1 and 800-1
 2. Infiltration Cells

Area draining to SWMF

Area draining to SWMF 600-1 only = 28.40 ha **See Appendix D3**
 Area draining to SWMF 800-1 only = 23.28 ha
 Total Area to SWMF = 51.68 ha

Area draining to Infiltration Trenches

North

Area draining directly to SWM 600-1 = 26.00 ha
 Area draining to rear lot Infiltration = 0.46 ha **See Appendix D3**
 Area draining to Park infiltration only = 1.94 ha **See Appendix D3**
 Total Area to Infiltration Trenches = 2.40 ha

South

Area draining directly to SWM 800-1 = 21.49 ha
 Area draining to rear lot Infiltration = 0.51 ha **See Appendix D3**
 Area draining to Park infiltration only = 1.28 ha **See Appendix D3**
 Total Area to Infiltration Trenches = 1.79 ha

Phosphorus Removal Efficiencies

Infiltration = 87% **Note 3**
 Wet Detention Ponds = 63% **Note 2**

Project Name Bradford Highland
 Project No. 22016
 Subject Phosphorus Budget Calculation

Prepared By: KC
 Checked By: K.C.

Subwatershed = **West Holland**

Under the "Phosphorus Offsetting Policy" (LSRCA, 2017),
 all new development must control post to pre of phosphorus leaving
 the property

Post-Development Phosphorus Loading (with treatment)

Area ID	Area (ha)	Land-Use	P Coeff (kg/yr/ha)	Treatment(s)	P Loading (to infiltration)	P Loading (After infiltration)	P Loading (to Pond)	P Loading (after treatment)
NORTH								
Area draining to SWM Pond	26.00	High Int. Residential	1.32	SWM Pond		n/a	34.326	12.700
Area Draining to Park Block	1.94	Sod Farm	1.32	Infiltration	2.557	0.332	0.332	0.123
Area draining to rear lot infiltration	0.46	High Int. Residential	1.32	Infiltration	0.606	0.079	0.079	0.029
SOUTH								
Area draining to SWM Pond	21.49	High Int. Residential	1.32	SWM Pond		n/a	28.372	10.498
Area Draining to Park Block	2.78	Sod Farm	0.24	Infiltration	0.240	0.031	0.031	0.012
Area draining to rear lot infiltration	0.51	High Int. Residential	1.32	Infiltration	0.673	0.088	0.088	0.032

Total = 23.394
10.991

Additional removal is not possible as all available areas are draining to BMP's. Therefore, phosphorus offsetting is required as per policy.

Offset Ratio 2.5 : 1
 Offset Value \$ 35,700.00 kg/yr \$ 1,128,084.65
 Calculation \$ 980,943 >> total phosphorus offsetting amount
 + 15% Administrat \$ 1,128,084.65

Notes:

1. Phosphorus Coefficient from Table 2 of the Phosphorus Budget Tool in Support of Sustainable Development for the Lake Simcoe Watershed, Hutchinson 2012
2. Phosphorus Removal Efficiencies from Table 3 of the Phosphorus Budget Tool in Support of Sustainable Development for the Lake Simcoe Watershed, Hutchinson 2012
3. Based on Figure 1a of City of Toronto's Wet Weather Flow Management (2006), where 25mm of daily rainfall accounts for more than 90% of the total average annual rainfall depth
Since first 25mm will be treated by the infiltration/bioretention facilities, no phosphorus export would be associated with the 90% of precipitation that was infiltrated

Table 3. Phosphorus Removal Efficiencies for Major Classes of BMPs Using the Decision Tree (Figure 5).

BMP Class	Reference IDs ¹	Reported Phosphorus Removal Efficiency (%)		Relevant to Ontario?	Range <40%?	Are Non-Ontario values acceptable?	Possible design criteria?	Median % Removal Efficiency
		Min	Max					
Post-development BMPs								
Bioretention Systems	8-10, 12, 13, 34-38, 40	-1552	80	no	no	no	No	none
Constructed Wetlands	104, 106, 109	72	87	yes	yes			77
Dry Detention Ponds	104, 109	0	20	no	yes	yes		10
Dry Swales	24, 26-32	-216	94	no	no	no	possible	none
Enhanced Grass/Water Quality Swales	21, 104	34	55	no	yes	no	No	none
Flow Balancing Systems	106	77		no	?	yes	Min data	77
Green Roofs	2	-248		no	no	no	No	none
Hydrodynamic Devices	109	-8		no	?	yes		none
Perforated Pipe Infiltration/Exfiltration Systems	7, 4	81	93	yes	yes			87
Sand or Media Filters	104, 109	30	59	no	yes	yes		45
Soakaways - Infiltration Trenches	6, 104	50	70	no	yes	yes		60
Sorbitive Media Interceptors	111	78	80	no	yes	yes		79
Underground Storage	106	25		no	?	yes	Min data	25
Vegetated Filter Strips/Stream Buffers	6, 42, 104	60	70	no	yes	yes	Yes	65
Wet Detention Ponds	104-106, 109	42	85	yes	yes			63

Notes: ¹References associated with IDs are provided in Appendix 7.

Module 4 – Examines the potential for erosion and sediment loss during the construction phase on the basis of the Universal Soil Loss Equation and provides guidance to the user on appropriate BMPs that can be implemented during this phase to minimize sediment loss and resultant phosphorus export. The module calculates loads for the entire construction phase, but pro-rates this one-time load to annual loads to account for the eight-year hydraulic residence time in Lake Simcoe. The quantification of expected soil and phosphorus loss from a construction site is an uncertain process, even under ideal conditions. Determining expected loss reductions from the use of various on-site BMPs adds to the uncertainty. Even with

Table 2. Land-Use Specific Phosphorus Export Coefficients (kg/ha/yr) for Lake Simcoe Subwatersheds

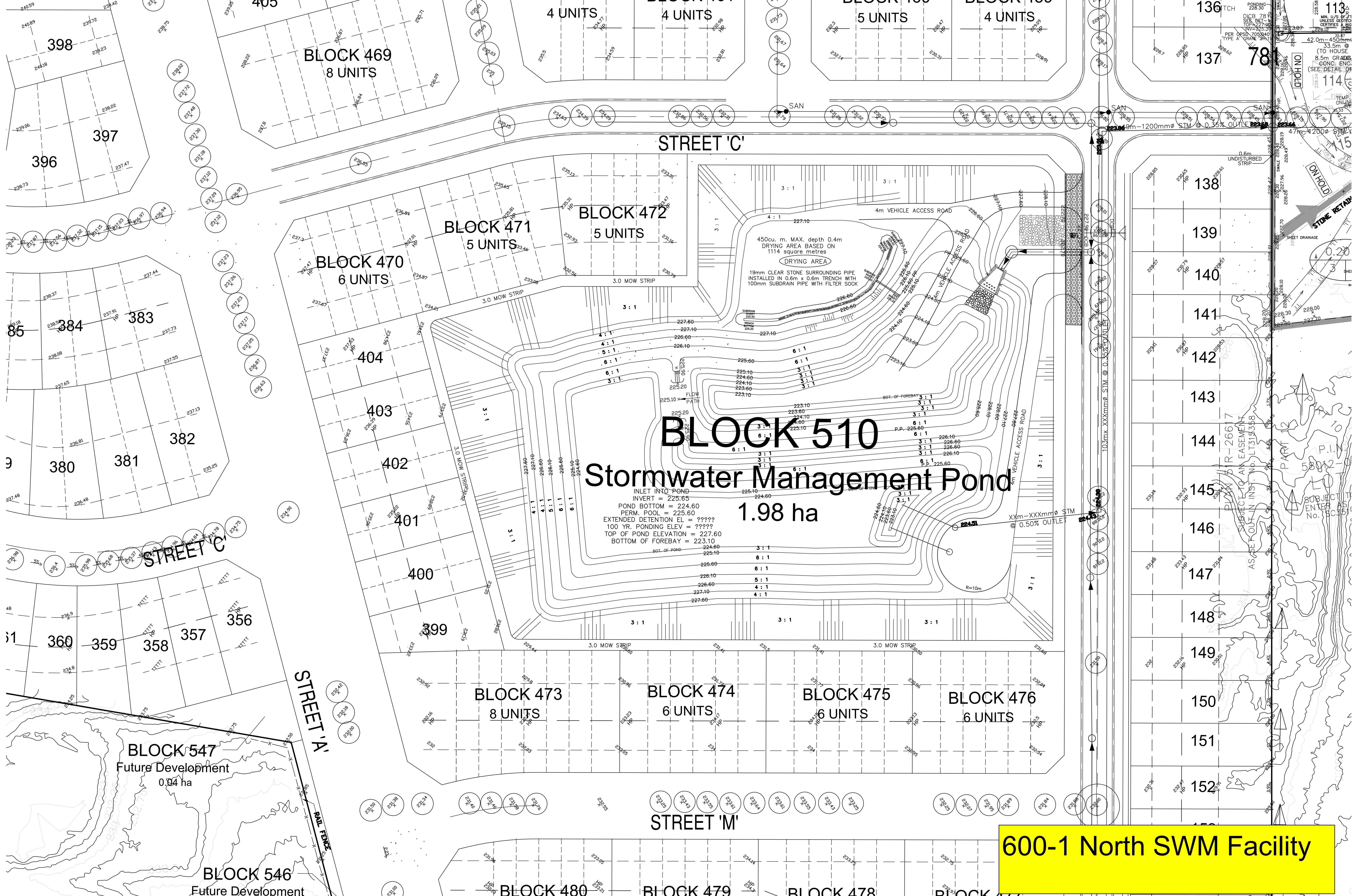
Subwatershed	Phosphorus Export (kg/ha/yr)											
	Cropland	Hay-Pasture	Sod Farm/Golf Course	High Intensity Development		Low Intensity Development	Quarry	Unpaved Road	Forest	Transition	Wetland	Open Water
				Commercial /Industrial	Residential							
Monitored Subwatersheds												
Beaver River	0.22	0.04	0.01	1.82	1.32	0.19	0.06	0.83	0.02	0.04	0.02	0.26
Black River	0.23	0.08	0.02	1.82	1.32	0.17	0.15	0.83	0.05	0.06	0.04	0.26
East Holland River	0.36	0.12	0.24	1.82	1.32	0.13	0.08	0.83	0.10	0.16	0.10	0.26
Hawkestone Creek	0.19	0.10	0.06	1.82	1.32	0.09	0.10	0.83	0.03	0.04	0.03	0.26
Lovers Creek	0.16	0.07	0.17	1.82	1.32	0.07	0.06	0.83	0.06	0.06	0.05	0.26
Pefferlaw/Uxbridge Brook	0.11	0.06	0.02	1.82	1.32	0.13	0.04	0.83	0.03	0.04	0.04	0.26
Whites Creek	0.23	0.10	0.42	1.82	1.32	0.15	0.08	0.83	0.10	0.11	0.09	0.26
Unmonitored Subwatersheds												
Barrie Creeks	0.19	0.07	0.12	1.82	1.32	0.13	0.08	0.83	0.05	0.06	0.05	0.26
Georgina Creeks	0.36	0.12	0.24	1.82	1.32	0.13	0.08	0.83	0.10	0.16	0.10	0.26
Hewitts Creek	0.19	0.07	0.12	1.82	1.32	0.13	0.08	0.83	0.05	0.06	0.05	0.26
Innisfil Creeks	0.19	0.07	0.12	1.82	1.32	0.13	0.08	0.83	0.05	0.06	0.05	0.26
Maskinonge River	0.19	0.07	0.12	1.82	1.32	0.13	0.08	0.83	0.05	0.06	0.05	0.26
Oro Creeks North	0.36	0.12	0.24	1.82	1.32	0.13	0.08	0.83	0.10	0.16	0.10	0.26
Oro Creeks South	0.19	0.07	0.12	1.82	1.32	0.13	0.08	0.83	0.05	0.06	0.05	0.26
Ramara Creeks	0.19	0.07	0.12	1.82	1.32	0.13	0.08	0.83	0.05	0.06	0.05	0.26
Talbot/Upper Talbot River	0.19	0.07	0.12	1.82	1.32	0.13	0.08	0.83	0.05	0.06	0.05	0.26
West Holland River	0.36	0.12	0.24	1.82	1.32	0.13	0.08	0.83	0.10	0.16	0.10	0.26

3.2.2 Methods - Calculating Pre-development Conditions

The pre-development or “existing conditions” phosphorus load is calculated through the following steps, by the user:

1. The user will rely on the information documented and detailed in the EIS for the development that will be used to support the planning application to the Municipality.
2. The user will choose the subwatershed or geographic area of the Lake Simcoe watershed in which the development is proposed from a drop down list provided by the database. If the development area spans two or more subwatersheds, the areas within each subwatershed should be modelled separately.
3. Specific land use classifications will be delineated and their boundaries overlain on an orthographic aerial photograph that shall be included in their submission.

APPENDIX E
Drawings
600-1 North SWM Pond
800-1 South SWM Pond
Draft Plan of Subdivision



BLOCK 510

Stormwater Management Pond

1.98 ha

INLET INTO POND
 INVERT = 225.65
 POND BOTTOM = 224.60
 PERM. POOL = 225.60
 EXTENDED DETENTION EL = ?????
 100 YR. PONDING ELEV = ?????
 TOP OF POND ELEVATION = 227.60
 BOTTOM OF FOREBAY = 223.10

600-1 North SWM Facility

509

BLOCK 521
Drainage Block
0.02 ha

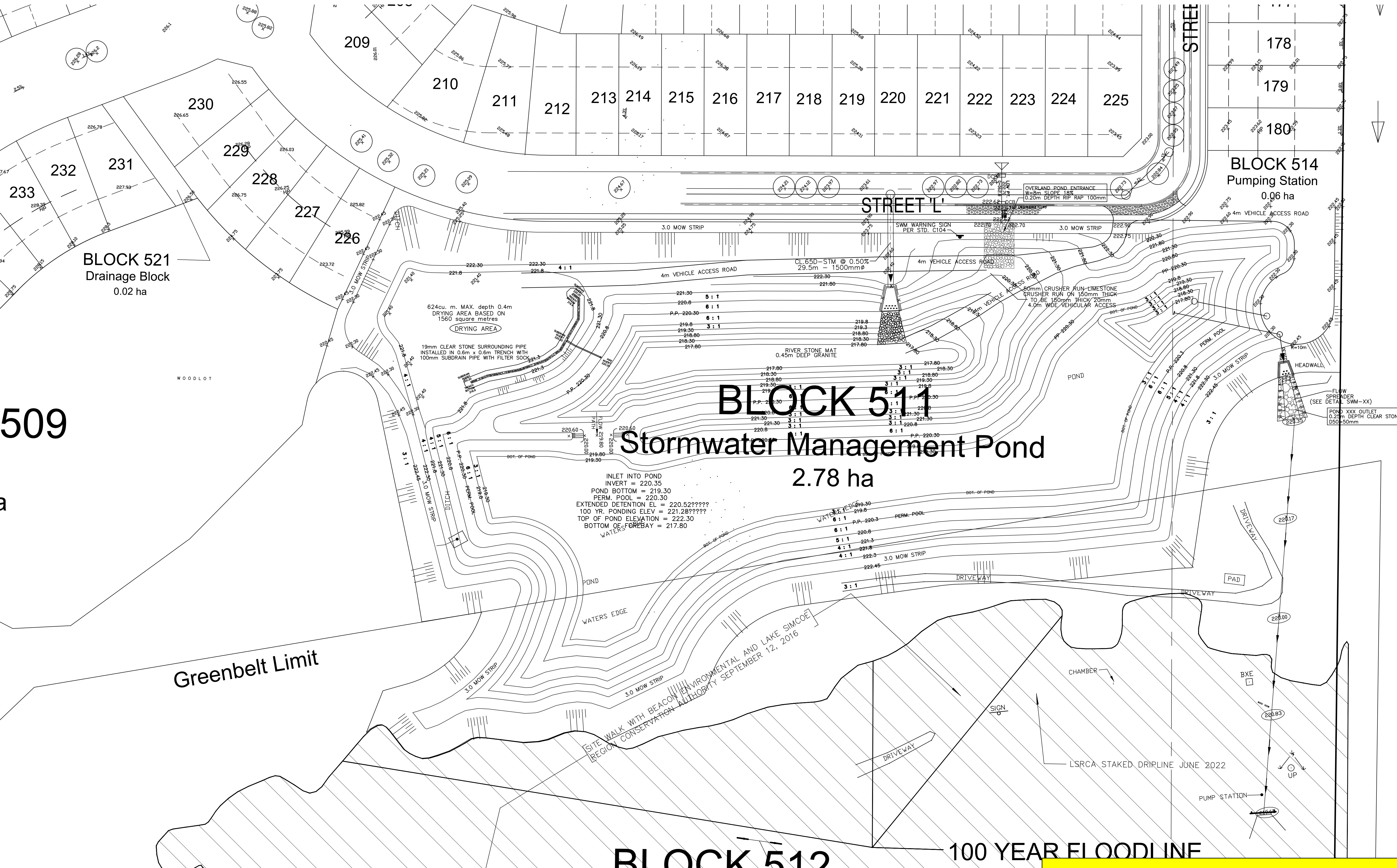
BLOCK 514
Pumping Station
0.06 ha

BLOCK 511
Stormwater Management Pond
2.78 ha

BLOCK 512

100 YEAR FLOODLINE

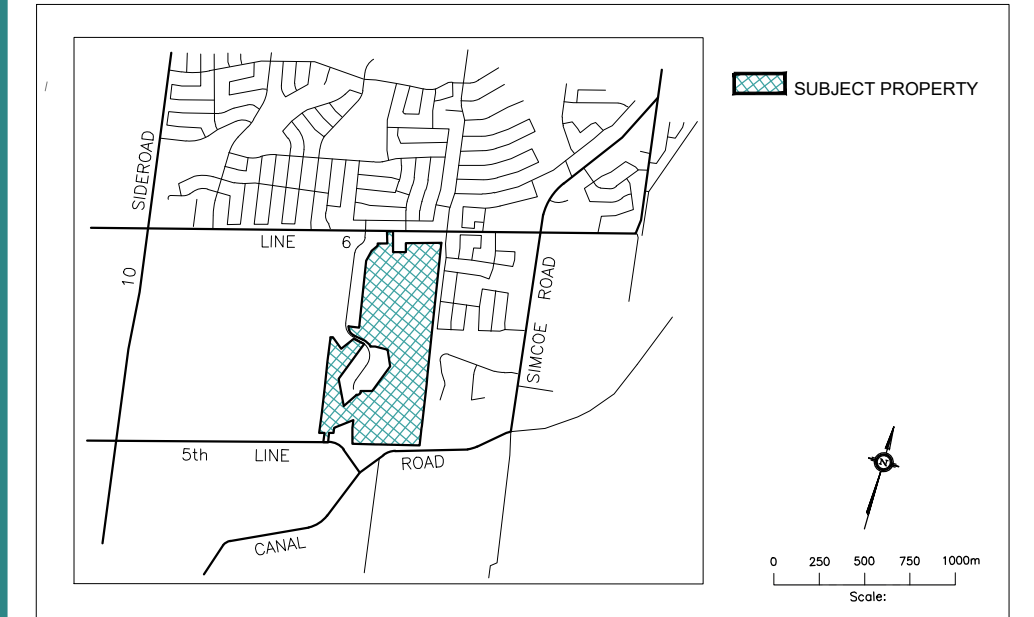
800-1 South SWM Facility



DRAFT PLAN OF SUBDIVISION

Part of Block 36, Plan 51M-221 and
Part of Lot 13,
Concession 5
(Geographic Township of West Gwillimbury)
Town of Bradford-West Gwillimbury
County of Simcoe

KEY PLAN



SCHEDULE OF LAND USE

Lot/Block	Land Use	Units	Area (ha)
1-440	Single Detached min. 11.6m (38ft) Semi Detached min. 7.6m (25ft)	342	22.13
441-498	Street Townhouses min. 6.1m (20ft)	334	7.89
499-507	B2B Townhouses min. 6.4m (21ft)	126	1.35
508-509	Parks		3.06
510-511	Stormwater Management Ponds		4.76
512	Environmental Protection		5.38
513	Compensation		0.42
514	Pumping Station		0.06
515-521	Drainage Blocks		0.24
522-547	Future Development		1.11
Public Roads	Street 'A' 26.0m ROW 1,550m Streets 'B'-'C' 20.0m ROW 570m Streets 'D'-'N' 18.0m ROW 4,350m		13.60
Total		998	60.00

OWNER'S AUTHORIZATION

We, Bradford Highlands Joint Venture, hereby authorize Malone Given Parsons Ltd. to prepare and submit this Draft Plan of Subdivision to the County of Simcoe.

Bradford Highlands Joint Venture _____ Date _____

SURVEYOR'S CERTIFICATE

I hereby certify that the boundaries of the lands to be subdivided as shown on this Plan and their relationship to the adjacent lands are accurately and correctly shown.

Date _____

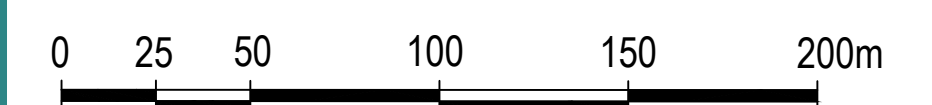
ADDITIONAL INFORMATION

AS REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT, CHAPTER P.13 (R.S.O. 1990).

- (a),(e),(f),(g),(j),(l) - As shown of the Draft Plan.
- (b),(c) - As shown on the Draft and Key Plan.
- (d) - Land to be used in accordance with the Schedule of Land Use.
- (i) - Soil is sands, silts, clay and tills.
- (h),(k) - Full municipal services to be provided.

NOTE: Contours relate to Canadian Geodetic Datum.
Contour interval is 1m with 25m interpolated.

Scale: 1:2000



Date	Revision	By
02/11/20		GP
13/02/21		GP
24/11/21		GP
01/12/21		GP
16/12/21		GP
28/05/22		GP
29/08/23		GP

Prepared For:



MGP File: 15-2422

