D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS

96 King Street East
Oshawa, ON L1H 1B6
905-576-8500
dgbiddle.com

FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT REPORT

FOR

168 COUNTY ROAD 49

MUNICIPALITY OF TRENT LAKES

PROJECT NO. 122169

DATE: December 2024

December 20, 2024

Jeffery Homes
1200 Airport Boulevard, Suite 201
Oshawa, ON
L1J 8P5

Attention: Mr. Scott Jeffery

Re: Draft Plan of Subdivision
Functional Servicing and Stormwater Management Report
168 County Road 49, Part Lot 19, Concession 19
Municipality of Trent Lakes
Our File: 122169

Dear Sir:

In support of the Draft Plan of Subdivision Application for the above reference proposal, we herewith submit the following Functional Servicing and Stormwater Management Report. This report has been prepared to identify the method in which the proposed development will meet the stormwater management requirements for the County of Peterborough, Municipality of Trent Lakes and Kawartha Conservation Authority and identify the infrastructure required to service the proposed development.

We trust the Municipality of Trent Lakes will concur with our recommendations. Please provide positive comments on the Draft Plan of Subdivision to facilitate development. Should you have any questions on the foregoing, please do not hesitate to contact our office.

Yours Truly,
D.G. Biddle & Associates Limited

Matt Holmes, P. Eng.
Junior Engineer
Civil Group

David McNaull, P. Eng.
Senior Project Engineer, Associate
Civil Group

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Encl.
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1.0 INTRODUCTION

1.1 Purpose

In support of the Draft Plan of Subdivision Application, this Functional Servicing and Stormwater Management Report has been submitted. It will address sanitary services, watermain services, stormwater drainage works, and site grading required to proceed with the development. This report will also discuss the stormwater quality and quantity control objectives in accordance with the requirements of the local governing authorities.

1.2 Site Location and Description

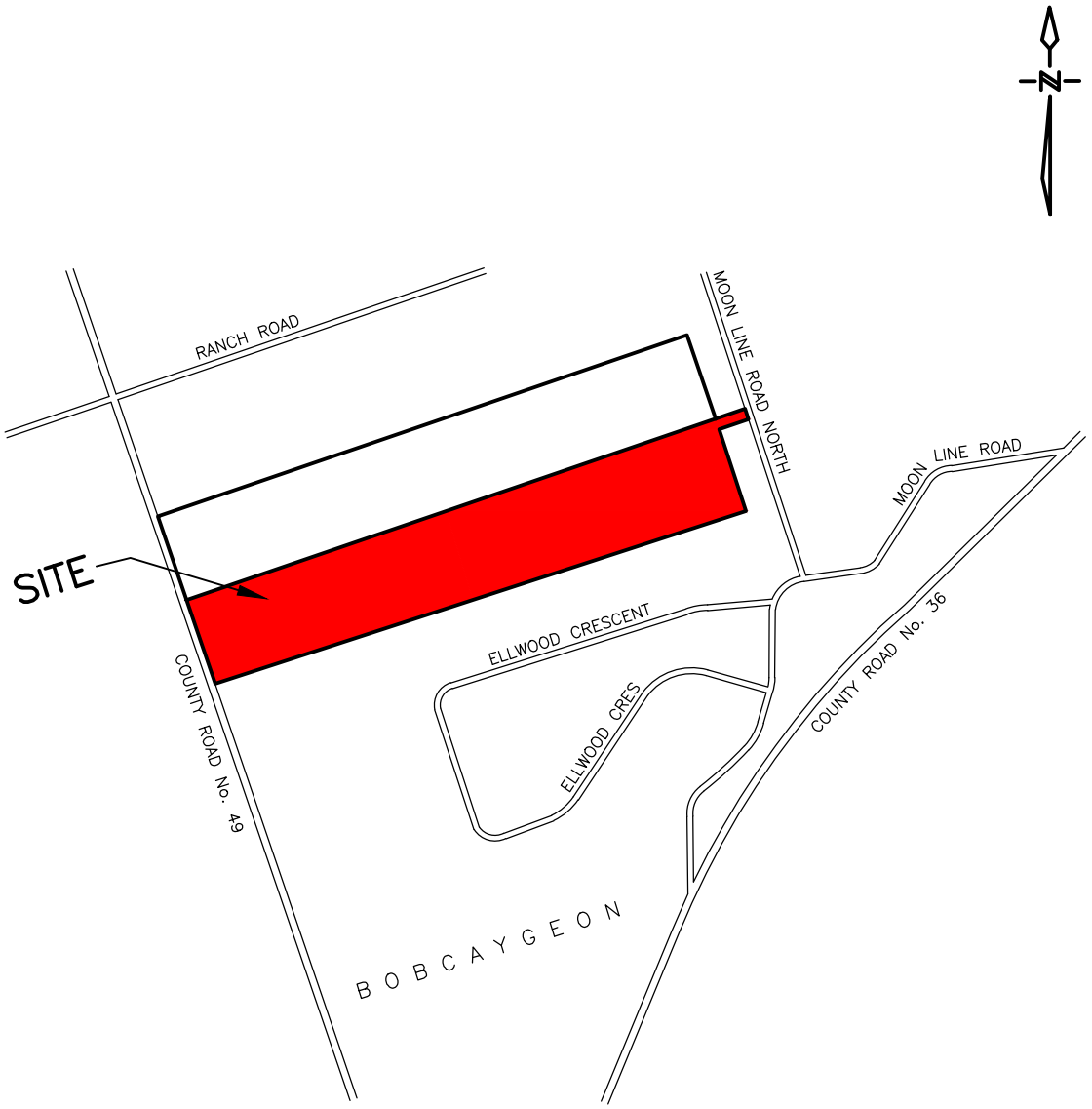
The subject property is located approximately 200m south of the intersection of County Road 49 and Ranch Road. The subject site is approximately 48.33 hectares, consisting of farmland, forest and un-evaluated wetland. The proposed development is to be divided into 2 phases. Currently, the urban development boundary runs through the proposed development as outlined on the Site Location Plan, Figure 1. Phase 1 will be defined as the development south of the urban boundary line, encompassing 25 lots, a stormwater management block, and a fire fighting protection block, while Phase 2 will be defined as the development north of the urban boundary line, encompassing 33 lots, a stormwater management block, and a fire fighting protection block. The proposed development is bounded on the north by existing agricultural lands, on the south by existing residential units, on the west by County Road 49 and on the east by Moon Line Road and existing residential units.

The proposed development is divided by the Provincially Significant Wetland (PSW) in the centre of the development, which splits the lands into a western and eastern parcel. The drainage for the western side of the development is divided into two areas, draining south to the adjacent lands and to the Provincially Significant Wetland. The drainage for the eastern side of the development is divided into three areas – the most significant draining area flows east towards Moon Line Drive, the remaining two drainage areas both drain south through the existing residential area.

2.0 WATER SUPPLY & DISTRIBUTION

2.1 Existing System

Currently, the site is not serviced with a connection to a municipal water system. There is no municipal water infrastructure present on County Road 49.



JEFFERY SUBDIVISION, BOBCAYGEON, ON

SITE LOCATION PLAN

D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS

96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

SCALE	N.T.S.
DRAWN	M.J.H.
DESIGN	M.J.H.
CHECKED	D.D.M.
DATE	MAR 2024

PROJECT 122169

DWG FIG 1

2.3 Proposed System

The domestic and firefighting water will be provided privately on-site. Domestic water supply for each dwelling will be supplied by individual water wells located on each lot installed by a well driller who has been licensed by the Ministry of Environment and Climate Change. On-site firefighting water supply will be provided through the implementation of a dry hydrant system and underground water supply tank. The dry hydrant system has been designed in accordance with the Ontario Building Code. A dry hydrant is to be installed for each parcel of land (West and East) in the fire fighting protection blocks, Blocks 27 & 28.

The layout of the dry hydrant system is illustrated on the Site Servicing Plan (Drawing 122169 SS-1) attached at the end of this report. Supporting calculations are appended in Appendix 1.

3.0 SANITARY SERVICING

3.1 Existing System

Currently, the site is not serviced with a connection to a municipal sanitary system. There is no municipal sanitary infrastructure present on County Road 49.

3.2 Proposed System

Individual on-site septic systems will provide treatment of the sanitary sewage from the proposed dwellings. Detailed sizing of the individual septic systems will occur at building permit submission.

4.0 STORM SERVICING

4.1 Existing System

Currently, the site is not serviced with a connection to a municipal storm system. There is no municipal storm infrastructure present on County Road 49.

4.2 Proposed System

The stormwater runoff will continue to the conveyed tributaries which includes the County Road 49 ditch, the provincially significant wetland, and the Moon Line Road ditch by way of open ditch drainage system conveyance. The system that outlets to the County Road 49 ditch will include the use of culverts to maintain positive drainage to the outlet and infiltration galleries to promote ground water recharge prior to discharging to the site's outlet location. The systems that outlet to the provincially significant wetland and Moon Line Road will include the use of culverts to maintain

positive drainage to the proposed stormwater facilities prior to discharging to the above-mentioned outlet locations. The proposed stormwater drainage system and proposed stormwater management facility locations are illustrated on the attached Conceptual Grading and Servicing Plan, drawing 122169 LG-1 for the west parcel, and drawing 122169 LG-2 for the east parcel, attached at the end of this report.

5.0 STORMWATER MANAGEMENT

The overall drainage pattern of the subject site flows to three different tributaries: County Road 49 ditch, Provincially Significant Wetland and the Moon Line Road ditch. This follows the similar drainage patterns in pre-development conditions as the lands straddle multiple highpoints, which splits the drainage west and east with the Provincially Significant Wetland in the center of the western and eastern land parcels.

As mentioned above, stormwater drainage from the proposed development is to be conveyed to the above-mentioned tributaries using an open ditch drainage system conveyance. Drainage flow within each tributary will attenuate and treat post-development flows with infiltration galleries or stormwater management ponds.

The DUHYD sub-routine in the computer model Visual Otthymo 6.0 was used to simulate the flow capture for each infiltration gallery. An infiltration gallery has been sized in the bottom of each of the proposed stormwater management facility main cells to infiltrate the 25mm rainfall event. It should be noted the flow capture volume varies for each tributary. The NASHYD sub-routine in the computer model Visual Otthymo 6.0 was used to simulate runoff volumes and post-development peak flows for the site. Peak flows were computed using the 4-hour Chicago rainfall distribution, 6-hour SCS rainfall distribution, 12-hour SCS rainfall distribution, 24-hour SCS rainfall distribution for the 2-year to 100-year return frequency events. The 2-year to 100-year IDF parameters used are as per the “City of Peterborough 2022 Engineering Design Standards”. Additional storm rainfalls that were evaluated include the Timmins regional storm and the 12-hour and 24-hour modified Chicago storms. The 12-hour and 24-hour Chicago storms were modified to ensure total rainfall depths of 98.4mm and 108.7mm respectively as required within the City of Peterborough Engineering Design Standards. The results for the flows calculated draining to the County Road 49 ditch are appended at the end of this report. The areas draining to each stormwater mitigation measure are illustrated on the Post-Development Drainage Schemes, drawings 122169-SD-3 & 122169-SD-4. Sizing calculations for the stormwater management facilities and infiltration galleries are appended at the end of this report.

5.1 County Road 49 Ditch Outlet – Hydraulic Point A

5.1.1 Existing Conditions

The existing drainage pattern for the western portion of land of the subject site drains south through the existing site to the adjacent lands. This western portion of land drains to the low point illustrated on the Pre-Development Storm Drainage Plan – West, drawing 122169-SD-1. This is denoted as Pre-development Hydraulic Point A with a drainage area of 6.53ha.

5.1.2 Proposed Conditions

The post development flows will continue to drain to the southern area of the site to the adjacent lands by discharging into the rural side ditch of County Road 49, namely post-development Hydraulic Point A with a drainage area of 3.89ha. This area includes drainage from the fronts of lots 1-6, lots 8-11 and the rears of lots 28 & 29. This is illustrated on the Post-Development Storm Drainage Plan, drawing 122169-SD-3.

5.1.3 Stormwater Quantity Control

To provide quantity control, Infiltration Gallery A, located within the proposed roadside ditch of the subject side, has been sized to infiltrate 100% of the 5-year Peterborough storm. Flow volumes exceeding the gallery's capacity will be attenuated within the roadside ditch in conjunction with 2 orifices. Tabulated below in Table 1 is a comparison of the post-development peak flows to the pre-development peak flows.

It is noted that no overland flow route has been sized to accommodate the Timmins storm as the infiltration gallery proposed at the outlet has been sized to provide the necessary quantity control volume to store the Timmins storm.

TABLE 1: POST-DEVELOPMENT PEAK FLOWS TO COUNTY ROAD 49 DITCH (HYDRAULIC POINT A)

RETURN FREQUENCY (YEARS)	*PRE-DEVELOPMENT PEAK FLOWS (L/s)	**TOTAL POST-DEVELOPMENT PEAK FLOW FROM SITE (L/s)	CHANGE (L/s)
2 YR Peterborough	90	55	-35
5 YR Peterborough	171	103	-68
10 YR Peterborough	247	176	-71

25 YR Peterborough	332	265	-67
50 YR Peterborough	417	375	-42
100 YR Peterborough	508	449	-59
6-HR SCS – 2 YR	149	103	-46
6-HR SCS – 5 YR	276	223	-53
6-HR SCS – 10 YR	376	321	-55
6-HR SCS – 25 YR	514	487	-27
6-HR SCS – 50 YR	626	589	-37
6-HR SCS – 100YR	743	689	-54
12-HR SCS – 2 YR	30	18	-12
12-HR SCS – 5 YR	46	28	-18
12-HR SCS – 10 YR	61	37	-24
12-HR SCS – 25 YR	86	52	-34
12-HR SCS - 50 YR	403	343	-60
12-HR SCS – 100 YR	573	506	-67
24-HR SCS – 2 YR	14	8	-6
24-HR SCS – 5 YR	21	11	-10
24-HR SCS – 10 YR	27	15	-12
24-HR SCS – 25 YR	37	20	-17
24-HR SCS – 50 YR	47	25	-22
24-HR SCS – 100 YR	632	552	-80
100 YR MODIFIED 12-HR CHICAGO	658	573	-85

100 YR MODIFIED 24-HR CHICAGO	702	606	-96
TIMMINS	626	515	-111

*Refer to Figure 2 (Appendix 2) NasHyd 1
**Refer to Figure 2 (Appendix 2) AddHyd14

As is reported above, all storm events are effectively reduced when compared to the pre-development levels. Therefore, no adverse impacts are anticipated on the existing downstream drainage network. The Visual Otthymo output files are appended in Appendix 2.

5.1.4 Stormwater Quality Control

As illustrated on the Conceptual Grading and Servicing Plan, drawing 122169 LG-1, most of the site will be covered with landscape area. As the proposed development is to be serviced by an open ditch system, quality treatment will occur as the stormwater runoff is conveyed through the grassed roadside ditches. In addition to the stormwater quantity controls, the site will be required to provide on-site stormwater quality control.

For water discharging from Hydraulic Point A, stormwater quality treatment prior to discharge will be provided through the implementation of infiltration galleries at the proposed outlet to achieve 80% total suspended solids (T.S.S.) removal. In order to ensure 80% TSS removal, the infiltration galleries were sized in accordance with the "Enhanced" protection level according to Table 3.2 in the Ministry of Environment Stormwater Management Planning and Design Manual, March 2003. The corresponding storage volume rate is 25m^3/ha, which is a conservative estimate. This sizing volume provides minimum 80% TSS removal, which meets the quality control requirements.

5.2 West Parcel Wetland Outlet – Hydraulic Point B

5.2.1 Existing Conditions

The existing drainage pattern for the central portion of the subject site west of the Provincially Significant Wetland (PSW) area drains eastward to the wetland. This portion of land drains to a low point illustrated on the Pre-Development Storm Drainage Plan – West, drawing 122169-SD-1. This is denoted as Pre-Development Hydraulic Point B with a drainage area of 21.86ha.

5.2.2 Proposed Conditions

The post development flows will continue to drain to the east to a proposed stormwater management pond located in Block 31 within the Phase 2 lands, before the pond ultimately outlets to the PSW area, Hydraulic Point B. The post-development drainage area to Hydraulic Point B encompasses an area of 9.78ha. This area

includes drainage from the fronts of lots 26-32, fronts of lots 33-37 and lots 38-46. This is illustrated on the Post-Development Storm Drainage Plan, drawing 122169-SD-3.

5.2.3 Stormwater Quantity Control

Pond sizing requirements are based on the type of pond and impervious level of the development. A hybrid option was pursued by implementing an infiltration basin in conjunction with a dry pond to facilitate infiltration and water quantity requirements. The impervious level was calculated based on a weighted runoff coefficient for the catchment draining to the pond, calculations are appended in Appendix 3.

The post-development flow has been modelled using the distribution rainfalls outlined in the table below. As outlined above, the bottom of the pond is to be sized with an infiltration gallery sized for the runoff of the 4-hour 25mm rainfall event. The infiltration gallery sizing calculations have been appended at the end of this report.

The Ministry of Environment Stormwater Management Planning and Design Manual, March 2003, Table 3.2 Water Quality Storage Requirements based on Receiving Waters, outlines the storage volume requirements per hectare of drainage area to provide a Basic protection level (60% long-term total suspended solids removal) using a dry stormwater management facility. Pond A has been sized based on 9.78ha drainage catchment with a 6.72% impervious. To ensure a conservative estimate in the pond's quantity sizing, a storage volume of 90m^3/ha was used, which correlates to 35% imperviousness.

The quantity control storage volume of approximately 2,108 m^3 (excludes the erosion volume of 310 m^3) is achieved through the excavation and berming of the pond to an elevation of 294.30m. This provides approximately 0.30m free-board above the anticipated 100-year water surface elevation of the pond. The maximum required quantity storage volume is 2,102m^3. Through the implementation of an orifice tube and a manhole complete with a weir wall, the proposed stormwater management pond will attenuate the post-development peak flows to the pre-development levels. The ROUTE RESERVOIR Sub-Routine of HYMO 6.0 was used to simulate the performance of the pond. A comparison of pre- to post-development flows are tabulated below. The OTTHYMO Summary Files are attached in Appendix 3.

TABLE 2: POST-DEVELOPMENT PEAK FLOWS TO THE WEST PARCEL DRAINING TO PROVINCIALLY SIGNIFICANT WETLAND (HYDRAULIC POINT B)

RETURN FREQUENCY (YEARS)	*PRE-DEVELOPMENT PEAK FLOWS (L/s)	**TOTAL POST-DEVELOPMENT PEAK FLOW FROM SITE (L/s)	CHANGE (L/s)	STORAGE VOLUME REQUIRED (m^3)	STORAGE VOLUME AVAILABLE (m^3)
2 YR Peterborough	204	96	-108	116	1228
5 YR Peterborough	386	187	-199	380	1228
10 YR Peterborough	561	263	-298	555	1228
25 YR Peterborough	754	426	-328	708	1228
50 YR Peterborough	938	630	-308	827	1228
100 YR Peterborough	1147	878	-269	946	1228
6-HR SCS – 2 YR	300	183	-117	240	1228
6-HR SCS – 5 YR	560	332	-228	534	1228
6-HR SCS – 10 YR	762	498	-264	717	1228
6-HR SCS – 25 YR	1044	871	-173	927	1228
6-HR SCS – 50 YR	1273	1179	-94	1078	1228
6-HR SCS – 100 YR	1513	1493	-20	1222	1228
12-HR SCS – 2 YR	71	30	-41	0	1228
12-HR SCS – 5 YR	110	46	-64	8	1228
12-HR SCS – 10 YR	148	64	-84	39	1228
12-HR SCS – 25 YR	210	92	-118	105	1228
12-HR SCS – 50 YR	1006	699	-307	869	1228
12-HR SCS – 100 YR	1292	1038	-254	1017	1228
24-HR SCS – 2 YR	43	13	-30	0	1228

24-HR SCS – 5 YR	63	19	-44	0	1228
24-HR SCS – 10 YR	83	24	-59	0	1228
24-HR SCS – 25 YR	114	33	-81	0	1228
24-HR SCS – 50 YR	144	42	-102	7	1228
24-HR SCS – 100 YR	1417	1189	-228	1085	1228
100 YR MODIFIED 12 HR CHICAGO	1497	1268	-229	1126	1228
100 YR MODIFIED 24 HR CHICAGO	1589	1379	-210	1173	1228
TIMMINS	2014	1330	-684	N/A	1228

*Refer to Figure 3 (Appendix 3) NasHyd2
**Refer to Figure 3 (Appendix 3) AddHyd20

The proposed stormwater management facility has been sized to provide quantity control for the 2–100-year events for the above-mentioned storm distributions. An overflow weir has been sized to convey the Timmins storm from the proposed pond to the outlet location denoted as Hydraulic point B. The overland flow weir sizing calculations have been appended at the end of the report in Appendix 3.

As is reported above, all post-development flows are effectively reduced when compared to the pre-development levels. Therefore, no adverse impacts are anticipated on the existing downstream drainage network. The Visual Otthymo output files are appended in Appendix 3.

5.2.4 Stormwater Quality Control

As illustrated on the Conceptual Grading and Servicing Plan, drawing 122169 LG-1, most of the site will be covered with landscape area. As the proposed development is to be serviced by an open ditch system, quality treatment will occur as the stormwater runoff is conveyed through the grassed roadside ditches. In addition to the stormwater quantity controls, the site will be required to provide on-site stormwater quality control.

For water discharging from Hydraulic Point B, stormwater quality control prior to discharge will be provided through the implementation of an infiltration gallery located in the base of the pond's main cell located in Block 31. To ensure 80% TSS removal, the infiltration gallery was sized is accordance with the "Enhanced" protection level according to Table 3.2 in the Ministry of Environment Stormwater Management Planning and Design Manual, March 2003. The corresponding storage volume rate is

25m^3/ha, which is a conservative estimate. This sizing volume provides minimum 80% TSS removal, which meets the quality control requirements. Based on a drainage catchment of 9.78ha, a gallery has been sized to provide 318m^3 of storage volume. This is greater than the 244.50m^3 required to provide 80% TSS removal. Through the implementation of the above outlined approach, this will provide a minimum T.S.S. removal of 80% prior to discharging from the site at the Hydraulic Point B. Supporting calculations are appended in Appendix 3.

5.3 Moon Line Road Ditch Outlet - Hydraulic Point C

5.3.1 Existing Conditions

The existing drainage pattern for the eastern parcel of the subject site, east of the wetland area, drains eastward to Moon Line Drive. This portion of land drains to a low point illustrated on the Pre-Development Storm Drainage Plan – East, drawing 122169-SD-2. This is denoted as Pre-Development Hydraulic Point C with a drainage area of 16.16ha.

5.3.2 Proposed Conditions

The post development flows will continue to drain to the southeast corner of the development to a proposed stormwater management pond located in Block 30. The pond outlets to the Street C roadside ditch which ultimately outlets to the rural side ditch within Moon Line Drive, also denoted as Hydraulic Point C. The post-development drainage area encompasses an area of 11.39ha, which area includes drainage from the fronts of lots 13-21, 47-55, and lots 12, 22-25 and 56-58. This is illustrated on the Post-Development Storm Drainage Plan, drawing 122169-SD-4.

5.3.3 Stormwater Quantity Control

Pond sizing requirements are based on the type of pond and impervious level of the development. A hybrid option was pursued by implementing an infiltration basin in conjunction with a dry pond to facilitate infiltration and water quantity requirements. The impervious level was calculated based on a weighted runoff coefficient for the catchment draining to the pond, calculations are appended in Appendix 4.

The post-development flow has been modelled using the rainfall distributions outlined in the table below. As outlined above, the bottom of the pond is to be sized with an infiltration gallery sized for the runoff of the 4-hour 25mm rainfall event. The infiltration gallery sizing calculations have been appended at the end of this report.

The Ministry of Environment Stormwater Management Planning and Design Manual, March 2003, Table 3.2 Water Quality Storage Requirements based on Receiving Waters, outlines the storage volume requirements per hectare of drainage area to provide a Basic protection level (60% long-term total suspended solids removal) using

a dry stormwater management facility. Pond B has been sized based on a total drainage area of 11.39ha with a 6.81% impervious. To ensure a conservative estimate in the pond's quantity sizing, a storage volume of 90m^3/ha was used, which correlates to 35% imperviousness.

The quantity control storage volume of approximately 3,130 m^3 (excludes the erosion volume of 381m^3) is achieved through the excavation and berming of the pond to an elevation of 286.10m. This provides approximately 0.30m free-board above the anticipated 100-year water surface elevation of the pond. The maximum required quantity storage volume is 3013m^3. Through the implementation of a manhole complete with an orifice plate and a weir wall, the proposed stormwater pond will attenuate the post-development peak flows to the pre-development levels. The ROUTE RESERVOIR Sub-Routine of HYMO 6.0 was used to simulate the performance of the pond. A comparison of pre- to post-development flows are tabulated below. The OTTHYMO Summary Files are attached in Appendix 4.

TABLE 3: POST-DEVELOPMENT PEAK FLOWS DRAINING TO MOON LINE DR. (HYDRAULIC POINT C)

RETURN FREQUENCY (YEARS)	*PRE-DEVELOPMENT PEAK FLOWS (L/s)	**TOTAL POST-DEVELOPMENT PEAK FLOW FROM SITE (L/s)	CHANGE (L/s)	STORAGE VOLUME REQUIRED (m^3)	STORAGE VOLUME AVAILABLE (m^3)
2 YR Peterborough	148	84	-64	162	2143
5 YR Peterborough	280	145	-135	516	2143
10 YR Peterborough	407	199	-208	902	2143
25 YR Peterborough	545	263	-282	1227	2143
50 YR Peterborough	679	338	-341	1469	2143
100 YR Peterborough	830	411	-419	1661	2143
6-HR SCS – 2 YR	216	143	-73	318	2143
6-HR SCS – 5 YR	404	256	-148	809	2143
6-HR SCS – 10 YR	550	340	-210	1165	2143
6-HR SCS – 25 YR	754	453	-301	1525	2143
6-HR SCS – 50 YR	920	549	-371	1723	2143

6-HR SCS – 100 YR	1094	643	-451	1928	2143
12-HR SCS – 2 YR	51	31	-20	0	2143
12-HR SCS – 5 YR	80	44	-36	12	2143
12-HR SCS – 10 YR	108	58	-50	57	2143
12-HR SCS – 25 YR	153	79	-74	155	2143
12-HR SCS – 50 YR	731	289	-442	1539	2143
12-HR SCS – 100 YR	937	515	-422	1783	2143
24-HR SCS – 2 YR	32	13	-19	0	2143
24-HR SCS – 5 YR	46	18	-28	0	2143
24-HR SCS – 10 YR	61	22	-39	0	2143
24-HR SCS – 25 YR	84	29	-55	0	2143
24-HR SCS – 50 YR	106	37	-69	20	2143
24-HR SCS – 100 YR	1030	606	-424	1886	2143
100 YR MODIFIED 12 HR CHICAGO	1085	674	-411	1958	2143
100 YR MODIFIED 24 HR CHICAGO	1153	756	-397	2026	2143
TIMMINS	1484	1377	-107	N/A	2143

*Refer to Figure 4 (Appendix 4) NasHyd4
**Refer to Figure 4 (Appendix 4) AddHyd29

The proposed stormwater management facility has been sized to provide quantity control for the 2-100-year events for the above-mentioned storm distributions. An overflow weir has been sized to convey the Timmins storm from the proposed pond to the ditch along Street C, before it ultimately outlets to Hydraulic Point C. The overland flow weir sizing calculations have been appended at the end of the report in Appendix 4.

As is reported above, all post-development flows are effectively reduced when compared to the pre-development levels. Therefore, no adverse impacts are

anticipated on the existing downstream drainage network. The Visual Otthymo output files are appended in Appendix 4.

5.3.4 Stormwater Quality Control

As illustrated on the Conceptual Grading and Servicing Plan, drawing 122169 LG-1, most of the site will be covered with landscape area. As the proposed development is to be serviced by an open ditch system, quality treatment will occur as the stormwater runoff is conveyed through the grassed roadside ditches. In addition to the stormwater quantity controls, the site will be required to provide on-site stormwater quality control.

For water discharging from Hydraulic Point C, stormwater quality control will be provided through the implementation of an infiltration gallery located in the base of the pond's main cell located in Block 30. To ensure 80% TSS removal, the infiltration gallery was sized in accordance with the "Enhanced" protection level according to Table 3.2 in the Ministry of Environment Stormwater Management Planning and Design Manual, March 2003. The corresponding storage volume rate is 25m^3/ha, which is a conservative estimate. This sizing volume provides minimum 80% TSS removal, which meets the quality control requirements. Based on a drainage catchment of 11.39ha, a gallery has been sized to provide 381m^3 of storage volume. This is greater than the 284.75m^3 required to provide 80% TSS removal. Through the implementation of the above outlined approach, this will provide a T.S.S. removal of 80% prior to discharging from the site at the Hydraulic Point C. Supporting calculations are appended in Appendix 4.

5.4 East Parcel Existing Residential – Hydraulic Points D & E

There are currently 2 low points located near the south property line east of the wetland area, one at the far southeast corner and the second low point is approximately 430m west of the far southeast corner.

5.4.1 Hydraulic Point E – Existing & Proposed Conditions

The existing area draining to the second low point, approximately 430m west of the southeast corner (Hydraulic Point E) is 2.43ha with a weighted runoff coefficient of 0.20. The post-development drainage area to Hydraulic Point E encompasses an area of 1.88ha with a weighted runoff coefficient of 0.20. The post-development flows will continue to drain south through the existing residential properties. As there is a reduction in area draining to this location under post-development conditions with an equivalent runoff coefficient, there will be a reduction of flows at Hydraulic Point E. As such, no adverse impacts are anticipated on the existing downstream drainage network.

5.4.2 Hydraulic Point D – Existing & Proposed Conditions

The first low point on the southeast corner will attenuate the post-development flows to the pre-development levels. The post development flows will continue to drain to the southeast corner of the site, namely hydraulic Point D, then through the existing residential area and ultimately to Moon Line Drive ditch.

5.4.3 Hydraulic Point D -Stormwater Quantity Control

To provide quantity control, Infiltration Galley D, located in the rear yards of lots 14 to 16, has been sized to infiltrate 100% of the 2-year storm with 87m^3 of required water storage. Flow volumes exceeding the gallery's capacity will be continuing to flow through the existing residential subdivision. Tabulated below in Table 3 is a comparison of the post-development peak flows to the pre-development peak flows for the eastern parcel draining through the existing subdivision.

The existing drainage for Hydraulic Point D includes 1.35ha of land with a weighted runoff coefficient of 0.20. This area includes only the southeast corner of the site. The proposed drainage for Hydraulic Point D includes 1.49ha of land with a weighted runoff coefficient of 0.20.

TABLE 4: POST DEVELOPMENT PEAK FLOWS TO SOUTHEAST CORNER OF EAST PARCEL (HYDRAULIC POINTS D)

RETURN FREQUENCY (YEARS)	*PRE-DEVELOPMENT PEAK FLOWS (L/s)	**TOTAL POST-DEVELOPMENT PEAK FLOW FROM SITE (L/s)	CHANGE (L/s)
2 YR Peterborough	29	0	-29
5 YR Peterborough	55	25	-30
10 YR Peterborough	77	48	-29
25 YR Peterborough	103	74	-29
50 YR Peterborough	135	103	-32
100 YR Peterborough	163	130	-33
6-HR SCS – 2 YR	50	25	-25

6-HR SCS – 5 YR	90	69	-21
6-HR SCS – 10 YR	121	103	-18
6-HR SCS – 25 YR	164	150	-14
6-HR SCS – 50 YR	198	188	-10
6-HR SCS – 100 YR	233	227	-6
12-HR SCS – 2 YR	10	0	-10
12-HR SCS – 5 YR	15	0	-15
12-HR SCS – 10 YR	19	0	-19
12-HR SCS – 25 YR	27	0	-27
12-HR SCS – 50 YR	95	80	-15
12-HR SCS – 100 YR	183	152	-31
24-HR SCS – 2 YR	4	0	-4
24-HR SCS – 5 YR	6	0	-6
24-HR SCS – 10 YR	8	0	-8
24-HR SCS – 25 YR	11	0	-11
24-HR SCS – 50 YR	13	0	-13
24-HR SCS – 100 YR	201	172	-29
100 YR MODIFIED 12 HR CHICAGO	206	173	-33
100 YR MODIFIED 24 HR CHICAGO	219	188	-31

TIMMINS	121	117	-4

*Refer to Figure 5 (Appendix 5) NasHyd5
**Refer to Figure 5 (Appendix 5) Junction 33

As is reported above, all post-development flows are effectively reduced when compared to the pre-development levels. The use of LID measures provides sufficient and frequent storm reductions such that, no adverse impacts are anticipated on the existing downstream drainage network. The Visual Otthymo output files are appended in Appendix 5.

5.4.4 Hydraulic Point D – Stormwater Quality Control

As illustrated on the Conceptual Grading and Servicing Plan, drawing 122169 LG-1, most of the site will be covered with landscape area. As the proposed development is to be serviced by an open ditch system, quality treatment will occur as the stormwater runoff is conveyed through the grassed roadside ditches. In addition to the stormwater quantity controls, the site will be required to provide on-site stormwater quality control.

For water discharging from Hydraulic Point D, stormwater quality treatment prior to discharge will be provided through the implementation of an infiltration gallery at the proposed outlet to achieve 80% total suspended solids (T.S.S.) removal. In order to ensure 80% TSS removal, the infiltration galleries were sized in accordance with the “Enhanced” protection level according to Table 3.2 in the Ministry of Environment Stormwater Management Planning and Design Manual, March 2003. The corresponding storage volume is 25m^3/ha, which is a conservative estimate. This sizing volume provides minimum 80% TSS removal, which meets the quality control requirements.

5.5 County Road 49 Ditch Outlet – Hydraulic Point A – Interim Condition

As outlined above in sections 5.1 & 5.2, when both phases of the subdivision are fully constructed, the post-development flows will be attenuated to the allowable pre-development levels. Due to the development boundary residing on the Phase 1 northern lot line, only Phase 1 can be developed at this time. As such, an interim condition has been evaluated to ensure the infiltration galleries sized at post-development hydraulic point A are adequately sized to provide quality and quantity control for the external drainage from Phase 2 flowing through Phase 1.

There are three external drainage areas that are to be evaluated in the Phase 2 lands for the western parcel. The first external drainage area is a 2.30 ha section of Phase 2 that discharges to a low point at the County Road 49 ditch. This section will drain uncontrolled. The second and third external drainage area flow to low points at the rear of Lot 8/9 in Phase 1 and both are intended to drain into Phase 1. These drainage areas are illustrated on the Post-Development Storm Drainage Plan (Interim Condition), drawing 122169-SD-5.

As outlined above in Section 5.1, the DUHYD sub-routine in the computer model Visual Otthymo 6.0 was used to simulate the flow capture for the infiltration galleries proposed at post-development Hydraulic Point A. Infiltration Gallery A is located within the proposed roadside ditch of the subject site and has been sized to infiltrate 100% of the 5-year storm. Flow volumes exceeding the gallery's capacity will be stored within the roadside ditch and be attenuated in conjunction with 2 orifices. Tabulated below in Table 5 is a comparison of the post-development peak flows to the pre-development peak flows for the interim condition.

TABLE 5: POST-DEVELOPMENT PEAK FLOWS TO COUNTY ROAD 49 DITCH- INTERIM CONDITION – PHASE 1 CONSTRUCTED (HYDRAULIC POINT A)

RETURN FREQUENCY (YEARS)	*PRE-DEVELOPMENT PEAK FLOWS (L/s)	**TOTAL POST-DEVELOPMENT PEAK FLOW FROM SITE (L/s)	CHANGE (L/s)
2 YR Peterborough	90	31	-59
5 YR Peterborough	171	91	-80
10 YR Peterborough	247	177	-70
25 YR Peterborough	332	271	-61
50 YR Peterborough	417	349	-68
100 YR Peterborough	508	425	-83
6-HR SCS – 2 YR	149	65	-84
6-HR SCS – 5 YR	276	213	-63
6-HR SCS – 10 YR	376	302	-74
6-HR SCS – 25 YR	514	404	-110
6-HR SCS – 50 YR	626	479	-147
6-HR SCS – 100YR	743	560	-183
12-HR SCS – 2 YR	30	12	-18
12-HR SCS – 5 YR	46	19	-27
12-HR SCS – 10 YR	61	25	-36

12-HR SCS – 25 YR	86	35	-51
12-HR SCS - 50 YR	403	329	-74
12-HR SCS – 100 YR	573	468	-105
24-HR SCS – 2 YR	14	6	-8
24-HR SCS – 5 YR	21	9	-12
24-HR SCS – 10 YR	27	12	-15
24-HR SCS – 25 YR	37	17	-20
24-HR SCS – 50 YR	47	21	-26
24-HR SCS – 100 YR	632	509	-123
100 YR MODIFIED 12-HR CHICAGO	658	535	-123
100 YR MODIFIED 24-HR CHICAGO	702	565	-137
TIMMINS	626	559	-67

*Refer to Figure 6 (Appendix 6) NasHyd 1
**Refer to Figure 6 (Appendix 6) AddHyd7

As is reported above, all post-development flows are effectively reduced when compared to the pre-development levels for the interim construction condition. Therefore, no adverse impacts are anticipated on the existing downstream drainage network. The Visual Otthymo output files are appended in Appendix 6.

6.0 SITE GRADING

In general, the site will be graded in a manner which will satisfy the following goals:

- Satisfy the Municipality of Trent Lakes boulevard and road grading criteria including:
- Minimum Road Grade: 0.5%
- Maximum Road Grade: 5.0%
- Minimum Landscape Area Grade: 2.0%
- Maximum Landscape Area Grade: 5.0%
- Provide continuous grades for overland flow conveyance.
- Minimize the volume of earth to be moved and minimize cut/fill differential.
- Achieve stormwater management objectives required for the site.

Details of the site grading design is illustrated on the Conceptual Grading and Servicing Plan, drawings 122169 LG-1 & LG-2, attached at the end of this report.

7.0 EROSION & SEDIMENT CONTROL

During the construction period, the removal of natural vegetation causes the transport of large amounts of sediment during rainfall events. To minimize the sediment laden storm water leaving the site during construction, the following sediment control techniques are proposed to be implemented. These measures are detailed on the Erosion and Sediment Control Plan included in the site plan submission.

1. Construction Vehicle Access Route (Mud Mat)
2. Rock Check Dams
3. Perimeter Enviro Fence
4. Good Engineering Practices

The above techniques will be detailed on the Erosion and Sediment Control Plans (Drawing 122169 ES-1 & ES-2)

8.0 CONCLUSIONS

The preceding report identifies the functional servicing and stormwater management requirements for the development proposal. The investigations into these requirements have resulted in the following conclusions for the development proposal:

- Sanitary servicing for each dwelling will be provided through individual septic systems on each lot. Detailed sizing of the individual septic systems will occur during the building permit process.
- On-site firefighting water supply will be provided through the implementation of a dry hydrant system and on-site underground water supply tank;

  Domestic water supply for each dwelling will be supplied by individual water wells located on each lot installed by a well driller who has been licensed by the Ministry of Environment and Climate Change;
- Hydraulic Points A, LID techniques in the form of infiltration galleries will be implemented to facilitate offsetting the increase in stormwater runoff. Open ditches in conjunction with orifice control devices will be used to attenuate the remaining flows to the pre-development levels;
- Hydraulic Points B & C, stormwater management facilities will be implemented to facilitate offsetting the increase in stormwater runoff. Orifice control devices will be used to attenuate the post-development flows to pre-development levels;
- Hydraulic Point D, LID techniques in the form of an infiltration gallery will be implemented to facilitate offsetting the increase in stormwater runoff. The infiltration gallery has been sized to reduce the flows leaving site such that the post-development flows are attenuated to the pre-development levels;
- Hydraulic Point A, stormwater quality controls are implemented through the use of open ditches and infiltration galleries located in the low point/outlet;
- Hydraulic Points B & C, stormwater quality controls are implemented through the use of dry stormwater management ponds and infiltration galleries sized in the bottom of the pond to infiltrate the runoff from the 25mm rainfall event;
- Hydraulic Point D, stormwater quality controls are implemented through the use of an infiltration gallery located in the site outlet;
- Temporary sediment controls during construction can be managed by the use of perimeter enviro fence, construction vehicle access route, rip rap check dams and good engineering practices;

APPENDIX 1

CURVE NUMBER DESIGN CHARTS

DRY HYDRANT DESIGN CALCULATIONS

CULVERT DESIGN SHEETS

122169

Design Chart 1.08: Hydrologic Soil Groups (Continued)

- Based on Soil Texture

Sands, Sandy Loams and Gravels	
- overlying sand, gravel or limestone bedrock, very well drained	A
- ditto, imperfectly drained	AB
- shallow, overlying Precambrian bedrock or clay subsoil	B
Medium to Coarse Loams	
- overlying sand, gravel or limestone, well drained	AB
- shallow, overlying Precambrian bedrock or clay subsoil	B
Medium Textured Loams	
- shallow, overlying limestone bedrock	B
- overlying medium textured subsoil	BC
Silt Loams, Some Loams	
- with good internal drainage	BC
- with slow internal drainage and good external drainage	C
Clays, Clay Loams, Silty Clay Loams	
- with good internal drainage	C
- with imperfect or poor external drainage	C
- with slow internal drainage and good external drainage	D

Source: U.S. Department of Agriculture (1972)

122169

Design Chart 1.09: Soil/Land Use Curve Numbers

Land Use	Treatment or Practice	Hydrologic Condition[4]	Hydrologic Soil Group			
			A	B	C	D
Fallow	Straight row	—	77	86	91	94
Row crops	"	Poor	72	81	88	91
	"	Good	67	78	85	89
	Contoured	Poor	70	79	84	88
	"	Good	65	75	82	86
	" and terraced	Poor	66	74	8	82
	" " "	Good	62	71	78	81
Small grain	Straight row	Poor	65	76	84	88
		Good	63	75	83	87
	Contoured	Poor	63	74	82	85
		Good	61	73	81	84
	" and terraced	Poor	61	72	79	82
		Good	59	70	78	81
Close-seeded legumes[2] or rotation meadow	Straight row	Poor	66	77	85	89
	" "	Good	58	72	81	85
	Contoured	Poor	64	75	83	85
	"	Good	55	69	78	83
	" and terraced	Poor	63	73	80	83
	" and terraced	Good	51	67	76	80
Pasture or range		Poor	68	79	86	89
		Fair	49	69	79	84
	Contoured	Good	39	61	74	80
	"	Poor	47	67	81	88
	"	Fair	25	59	75	83
		Good	6	35	70	79
Meadow		Good	30	58	71	78
Woods		Poor	45	66	77	83
		Fair	36	60	73	79
		Good	25	55	70	77
Farmsteads		—	59	74	82	86
		—	72	82	87	89
		—	74	84	90	92

For average anticedent soil moisture condition (AMC II)
[2] Close-drilled or broadcast.

[4] The hydrologic condition of cropland is good if a good crop rotation practice is used; it is poor if one crop is grown continuously.

Source: U.S. Department of Agriculture (1972)

Jeffery Subdivision - Bobcaygeon
Job File: 122169
Dry Hydrant Design Calculations

4. Design Flow Rate			951.02	gpm
5. Elevation Above Sea Level			956.86	ft
6. Normal Atmospheric Pressure [From Table I.1(a)]			14.22	psi
7. Lift	Height x 0.434 =	4 m x 0.434		
	=	13.12 ft x 0.434 =	5.69	psi
8. Water Temperature Vapour Pressure [From Table I.1(f)]			0.18	psi
9. Pressure Loss at pump intake			5.0	psi
Available Site Pressure				
10. Line 6 minus (Line 7 + 8 + 9)			3.35	psi
11. Pressure Loss in pipe & fittings (From Dry Hydrant Hardware Layout Worksheet)			2.24	psi
12. Pressure Loss from Sudden Reduction [From Table I.1(f)]				
Reduction:	6" x 6"		0	psi
13. Velocity in Suction Pipe [From Table I.1(g)]			0.79	psi
14. Pressure Loss in Suction Hose [From Table I.1(h)]			0.236	psi
15. Pressure to overcome piping and water movement loss Add (Line 11 + 12 + 13 + 14)			3.27	psi
16. Available Site Pressure (ASP)				
Available Site Pressure = Line 10 - Line 15			0.08	psi

Dry Hydrant Hardware Layout Worksheet 2/4

Job No. 122169

Dry Hydrant A

Friction Loss Per Foot (Table I.1e) Based on 951.02 gpm Design Flow: 0.028359 psi

Description & Size	Straight Line Equivalent feet of Pipe	Conversion for Pipe Coefficient	Loss (psi)
Strainer	5.00	0.02836	0.141795
90° Bend (6")	18.92	0.02836	0.536552
90° Bend (6")	18.92	0.02836	0.536552
90° Bend (6")	18.92	0.02836	0.536552
6" PVC Pipe	6.56	0.02836	0.186035
6" PVC Pipe	9.84	0.02836	0.279053
1 ft of 6" pipe	1.00	0.02836	0.028359

Total Loss 2.24 psi

4. Design Flow Rate (L/min to gpm)

3600 L/min = 951.02 gallons per minute

5. Elevation Above Sea Level

291.65m = 956.86 ft (Mean Site Elevation)

6. Normal Atmospheric Pressure [From Table I.1(a)]

Elevation Above Sea Level: 956.86 feet
Normal Atmospheric Pressure @ 0 ft = 14.70 psi
Normal Atmospheric Pressure @ 1000 ft = 14.20 psi

Normal Atmosperic Pressure @ 956.86 ft

14.70 - [(956.86/1000)*(14.70-14.20)] = 14.22 psi

7. Lift

Lift = Depth from FDC to Pipe Invert (Refer to Detail on Site Sevicing Drawing)
Lift = 1.90 + 1.5 + 0.6 = 4.00m = 13.12 ft
Lift = 13.12 ft x 0.434 = 5.69 psi

8. Vapour Pressure

Assume a water temperature of 50 Fahrenheit
From Table I.1(b): Vapour Pressure = 0.180 psi

10. Available Site Pressure

Atmospheric Pressure - Lift - Vapour Pressure - Pressure Loss @ Pump Intake
= 14.22 - 5.69 - 0.18 - 5.0 = **3.35 psi**

11. Friction Loss Per Foot of Pipe (psi)

Based on a Design Flow Rate of 713.26 gpm
Friction Loss/Foot of Pipe = 0.028359 psi [From Table I.1(e)]

12. Pressure Loss from Sudden Reduction

Since system is a 6" pipe, no reduction required.
Pressure Loss = 0 psi [From Table I.1(f)]

13. Velocity in Suction Pipe

Based on a Design Flow Rate of 713.26 gpm
Velocity in Suction Pipe = 0.79 psi [From Table I.1(g)]

14. Pressure Loss in Suction Hose

Based on a Design Flow Rate of 713.26 gpm
Pressure Loss in Section Hose = 0.236 psi [From Table I.1(h)]

Job File: 122169
Water Storage Tank Design Calculations

Building Classification from Table 3.1.2.1: Type C - Residential Occupancies

Water Supply Coefficient (K): 23 (Table 1 - OBC Appendix A , Vol. 2)

Building Volume

Assume Average House Square Footage of 4000 ft^2 (370.8m^2) and Average Building Height of 10m (3.00m basement, 3.00m 1st & second floors, 1.00m roof pitch) Each lot will have an additional Garage/Office with an assumed square footage of 1100 ft^2 (102.30m^2) with an assumed height of 3.00m and a 1.00m roof pitch.

Average House Volume = (370.80 x 10) = 3708.00 m^3
Average Garage/Office Volume = (102.30 x 10) = 1023 m^3

Total Building Volume per Lot = 4731.00 m^3

Spatial Coefficient

*Assume an average exposure distance of 20.0m for distance between houses

S_{side} = 0.00 (From Figure 1 - OBC Appendix A, Vol. 2)
S_{side} = 0.00 (Front & Back of House)
S_{tot} = 1.0 + [Sside + Sside2 + Sside3 + Sside 4] = 1.0 + [0 + 0 + 0 + 0]
S_{tot} = 1.00

Requred Minimum Water Supply Flow Rate (L/min)

$Q = KVS_{tot}$ = (23 x 4731.00 x 1.00) = 108813.00 L

As per Table 2 , since Q > 108,000 L & Q <= 135,000 L:
Required Minimum Water Supply Flow Rate = 3600 L/min

Minimum 30 Minute Water Supply Based on Table 2 Flow Rate

Water Supply Flow Rate = 3600 L/min
Water Supply = 108813.00 L
A minimum Water Supply of 30 minutes is required
Water Supply/Water Supply Flow Rate = 108,813/3600 = 30.23 minutes

Since 30.23 minutes > 30 minutes required, a storage tank is to be sized to hold 108,813.00 L (108.81 m^3).

Note: We cannot draw down the bottom 6" of water below the strainer, so only 2.25m can be counted towards the storage volume. The true height of the tank will be 2.40m.

Length: 7.00
Width: 9.00
Height: 1.75

Volume = (7.00 x 9.00 x 1.75) = 110.25 m^3

Since 110.25 m^3 > 108.81 m^3, a storage tank 7.00m long, 9.00m wide and 1.75m deep will provide the required on site water supply for fire protection.

Job **Jeffery Subdivision - Bobcaygeon** 2024-12-17
Job # **122169** 1/1
Culvert Design Conveying Swale to West Pond

Area Draining to Culvert (Node #)			
Material	**Area**	**RC**	**A x I**
Road	0.50827798	0.9	0.45745
Shoulder	0.25176476	0.6	0.151059
Landscape	7.10315726	0.2	1.420631
TOTAL	7.8632		2.02914
	Weighted RC		0.25806
	% IMP =	8.34%	

Inlet	293.47		
Outlet	293.41		
Q=	0.536	m^3/s	Refer to VH Output in Schedule 2
D =	0.450		
N =	2.00		
H_f/D =	1.67		
H =	0.45	m	

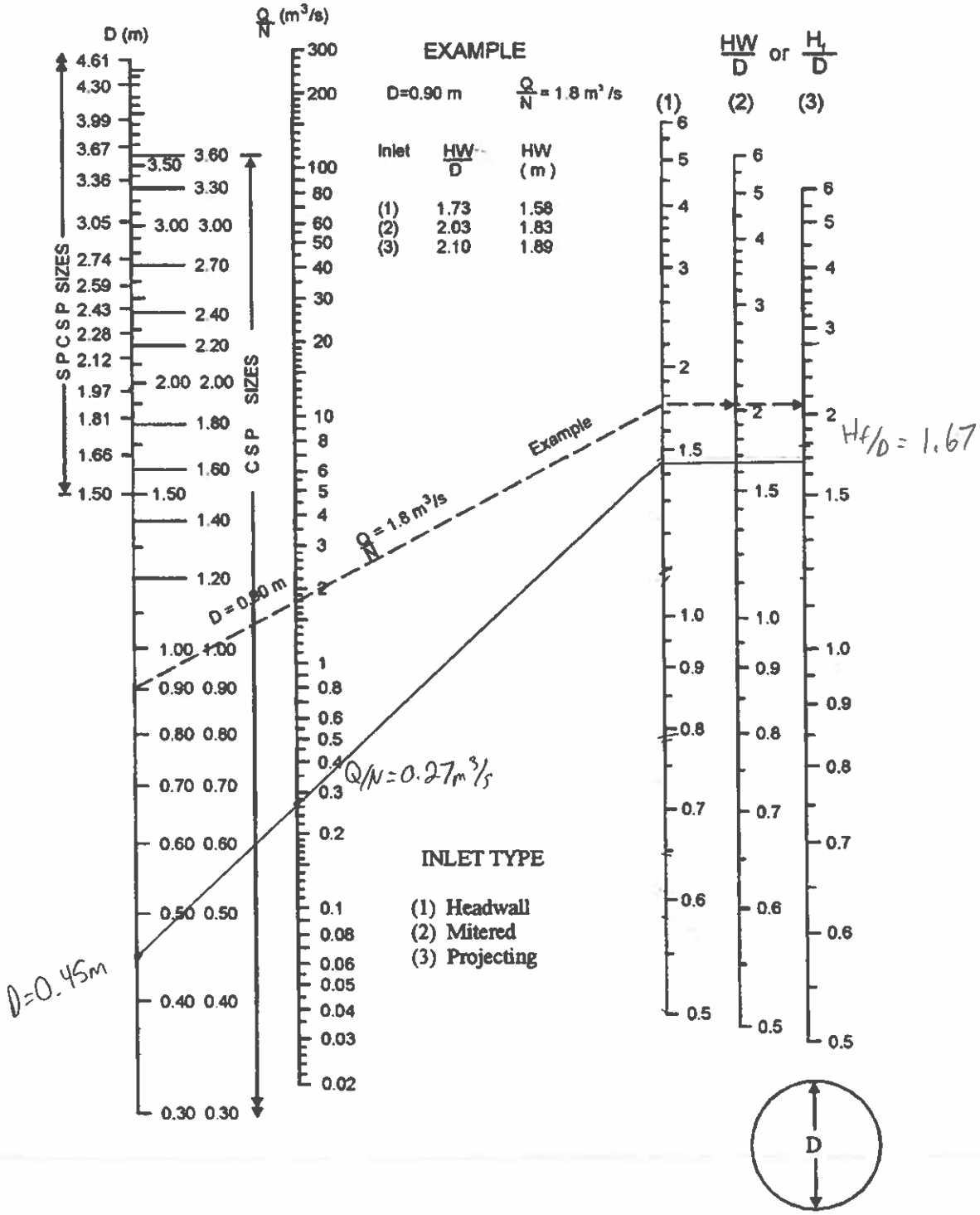
CULVERT DATA					**Inlet Control**		
DESCRIP.	**DIA.**	**NO.**	**Q/N**	**AREA**	**HW/D**	**HW**	9 NUMBER OF BARRELS
	(m)	**N**	**(m^3/s)**	**(m^2)**		**(m)**	10 COL. 1 / COL. 9
7	**8**	**9**	**10**	**11**	**13**	**14**	11 AREA PER BARREL
							12 BOX CULVERT ONLY
450mm	0.450	2.00	0.27	0.16	1.67	0.75	13 DESIGN CHART 2.32
							14 COL. 8 x COL. 13

Shoulder Elevation North side of Street A & C Intersection = 294.23
Max WSE @ Inlet = **294.22** < 294.23

Since water surface elevation at inlet is less than the height of the edge of asphalt, water will not overtop Street A.

122169 Culvert to West Pond Dec. 13, 2024

Design Chart 2.32: Inlet Control: Circular CSP and SPCSP Culverts



Source: Herr (1977)

Job **Jeffery Subdivision - Bobcaygeon** 2024-12-13
Job # **122169** 1/1
Culvert Design Conveying Swale to East Pond

Area Draining to Culvert (Node #)			
Material	**Area**	**RC**	**A x I**
Road	0.58715747	0.9	0.528442
Shoulder	0.3113144	0.6	0.186789
Landscape	9.30006094	0.2	1.860012
TOTAL	10.19853281		2.575243

Weighted RC 0.25251
% IMP = 7.55%

Inlet 284.49
Outlet 284.30
Q= 0.63 m^3/s Refer to VH Output in Schedule 2
D = 0.525
N = 1.00
H_f/D = 3.20
H = 0.45 m

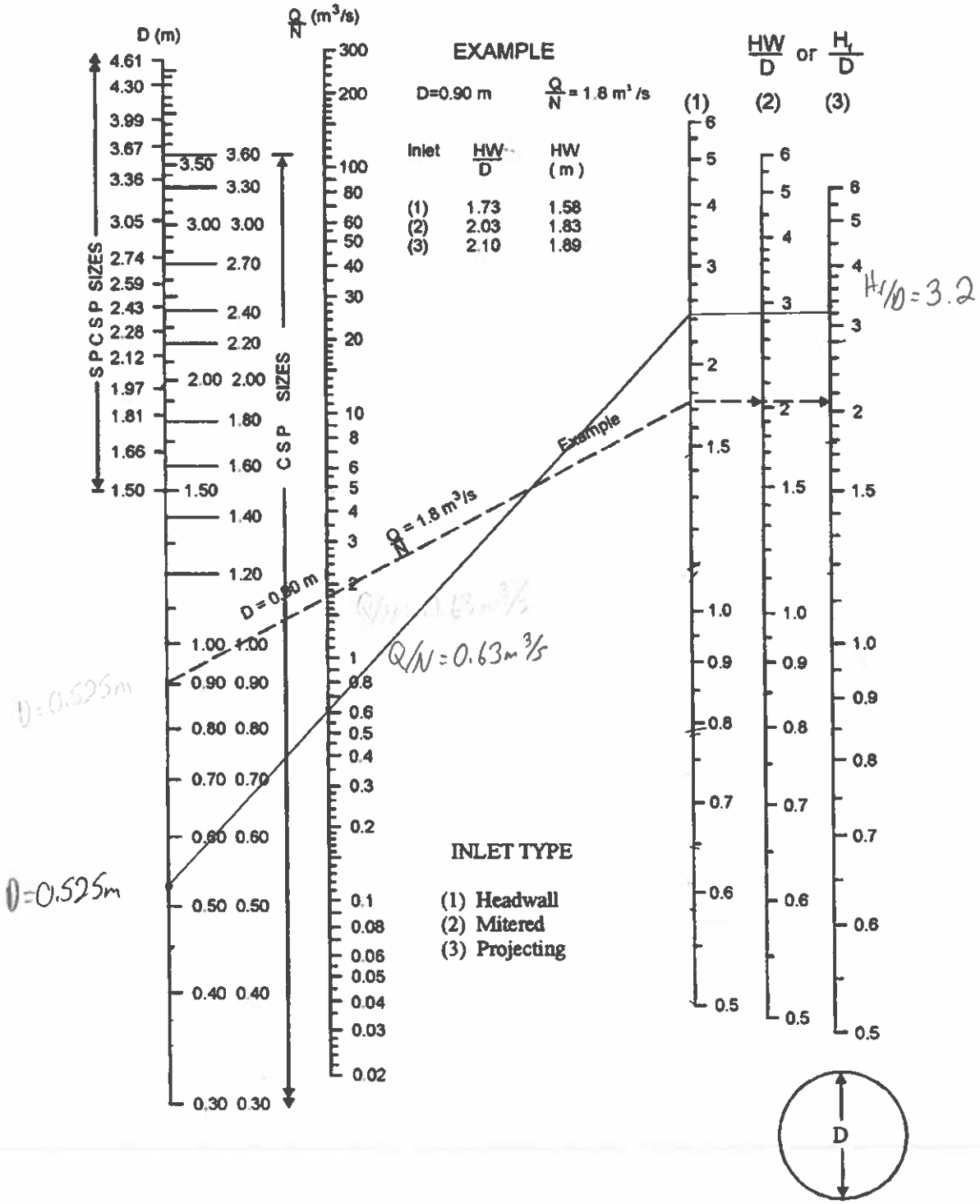
CULVERT DATA					Inlet Control		
DESCRIP.	**DIA.**	**NO.**	**Q/N**	**AREA**	**HW/D**	**HW**	9 NUMBER OF BARRELS
	(m)	**N**	**(m^3/s)**	**(m^2)**		**(m)**	10 COL. 1 / COL. 9
7	**8**	**9**	**10**	**11**	**13**	**14**	11 AREA PER BARREL
							12 BOX CULVERT ONLY
525mm	0.525	1.00	0.63	0.22	3.20	1.68	13 DESIGN CHART 2.32
							14 COL. 8 x COL. 13

Shoulder Elevation North side of Street A & C Intersection = 286.64
Max WSE @ Inlet = **286.17** < 286.64

Since water surface elevation at inlet is less than the height of the shoulder, water will not overtop Street D.

122169 Culvert to East Pond Dec. 13, 2024

Design Chart 2.32: Inlet Control: Circular CSP and SPCSP Culverts



Source: Herr (1977)

APPENDIX 2

WESTERN PORTION OF SITE DRAINING TO COUNTY ROAD 49 – HYDRAULIC POINT A

POST-DEVELOPMENT WEIGHTED CURVE NUMBERS

POST-DEVELOPMENT WEIGHTED RUNOFF COEFFICIENT

PRE-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

POST-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

STAGE-STORAGE DISCHARGE – WESTERN PARCEL FLOWS TO COUNTY ROAD 49

WATER QUALITY STORAGE REQUIREMENTS – HYDRAULIC POINT A

INFILTRATION GALLERY A SIZING CALCULATIONS

DITCH STORAGE CALCULATIONS

VISUAL OTTHYMO SCHEMATIC & OUTPUT

Jeffery Subdivision 2024-12-19
Job Number: 122169 1/1

Weighted Curve Number Calculations - West Parcel

Note: Assume House Area of 370.80m^2 and Garage of 102.30 m^2 per Henley Contracting Ltd**.**
Therefore, assume 500m^2 per lot for house, driveway and garage/office.

Western Parcel Flows to County Road 49

Node 6 - Lot 1 to 4 Rears			Area =	1.70 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (4)	0.200	98	19.6	
Grassed Area	1.496	67	100.2156	
Total	1.70		119.8156	
Weighted CN =	70.66			

Node 7 - Lots 26 & 27 & St B Draining to CR 49			Area =	0.98 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (2)	0.100	98	9.8	
Grassed Area	0.862	67	57.76631	
Asphalt/Shoulder	0.019	98	1.853924	
Total	0.98		69.42023	
Weighted CN =	70.76			

Node 9 - Lot 1 to 6 Fronts, Street A, Lots 8-11, 28 & 29 to Street A (Controlled Flows to CR 49)			Area =	3.89 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
Grassed Area	3.427	67	229.5757	
Asphalt/Gravel	0.211	98	20.64313	
House/Garage (5)	0.250	98	24.5	
Total	3.89		274.7188	
Weighted CN =	70.67			

Jeffery Subdivision 2024-12-19
Job Number: 122169 1/1

Post-Development Weighted Runoff Coefficients

Node 9 - Street A Draining to County Road 49			Area =	3.89 ha
Material	**Area**	**RC (I)**	**A*I**	
Asphalt	0.211	0.9	0.18958	
Gravel Shoulder	0.113	0.6	0.067868	
Landscape	3.563	0.2	0.712678	
Total	3.89		0.970126	
Weighted RC =	0.24957			
% IMP =	7.14%			

Time of Concentration & Time to Peak Calculation (Pre-Development)

1) Node 1 - Western Portion of Site Draining West to CR 49

Upstream Invert	304.81
Downstream Invert	291.08
Length (m)	442.13
Assume Pasture - Contoured	

Slope = $\frac{304.81-291.08}{442.13}$ = 3.11%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.39 m/s

$t_c = \frac{442.13}{0.39}$ = 1133.67 s = 0.314907 h

$t_{p1} = \frac{2 \times t_c}{3}$ = 0.209938 h

Time of Concentration & Time to Peak Calculation (Post-Development) - Western Side of Site

1) Node 6 - Lot 1 - 4 Rears
Upstream Invert 296.34
Downstream Invert 292.56
Length (m) 70.22
Assume Pasture - Contoured

Slope = (296.30 - 292.56) / 70.22 = 5.38%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.50 m/s

t_c = 70.22 / 0.50 = 141.86 s = 0.039407 h

t_p = 2 x t_c / 3 = 0.026271 h

Note: Since 0.026h is less than the minimum allowable, a t_p of 0.11h was used.

2) Node 7 - Lots 26 & 27
Upstream Invert 301.56
Downstream Invert 296.38
Length (m) 145.25
Assume Pasture - Contoured

Slope = (301.56 - 296.38) / 145.25 = 3.57%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.40 m/s

t_c = 145.25 / 0.40 = 361.32 s = 0.100368 h

t_p = 2 x t_c / 3 = 0.066912 h

Note: Since 0.067h is less than the minimum allowable, a t_p of 0.11h was used.

4) Node 9 - Lot 1 to 6 Fronts, Street A , Lots 8-11, 28, 29 to Street A - Part 1
Upstream Invert 299.80
Downstream Invert 295.71
Length (m) 188.48
Assume Pasture - Contoured

Slope = (296.62 - 296.16) / 188.48 = 2.17%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.31 m/s

t_c = 188.48 / 0.31 = 606.04 s = 0.168346 h

Part 1 t_{p1} = 2 x t_c / 3 = 0.11223 h

5) Node 9 - Lot 1 to 7 Fronts, Street A , Lots 25, 26, 30-33 to Street A - Part 2
Upstream Invert 295.71
Downstream Invert 294.40
Length (m) 128.29
Assume Grassed Waterway

Slope = (295.68 - 294.40) / 128.29 = 1.02%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.46 m/s

t_c = 128.29 / 0.46 = 278.89 s = 0.077468 h

Part 2 t_{p2} = 2 x t_c / 3 = 0.051645 h

$t_p = t_{p1} + t_{p2}$ = 0.11223 + 0.051645 = 0.163876 h

Project: Jeffery Subdivision - Bobcaygeon
Project #: 122169
Date: December 2024

Western Parcel Flows to County Road 49 - Hydraulic Pt. A

Stage - Storage - Discharge

C/L Orifice 1: 294.53 C/L Orifice 2: 294.74 m
Orifice Diameter: 250 mm Plate Orifice Diameter: 385 mm Plate

Elevation (m)	Head (m)	Ditch Storage (m3)	Total Storage (m3)	Orifice 1 Discharge (m3/s)	Orifice 2 Discharge (m3/s)	Total Orifice Discharge (m3/s)	Storage (ha.m)
294.40	0.00	0.000	0.000	0.000	0.000	0.0000	0.000000
294.50	0.00	4.210	4.210	0.000	0.000	0.0000	0.000421
294.60	0.08	8.420	8.420	0.036	0.000	0.0363	0.000842
294.70	0.18	26.815	26.815	0.055	0.000	0.0555	0.002682
294.80	0.28	45.210	45.210	0.070	0.075	0.1450	0.004521
294.90	0.38	90.085	90.085	0.081	0.125	0.2061	0.009009
295.00	0.48	134.960	134.960	0.091	0.160	0.2510	0.013496
295.10	0.58	201.110	201.110	0.101	0.188	0.2886	0.020111

Western Parcel Flows to County Road 49 - Hydraulic Pt. A

Orifice Discharge

Orifice 1 Diameter:	250	mm
Orifice Type:	PLATE	
Orifice Coeff	0.61	
Centreline:	294.53	m
X-Sectional Area:	0.049087	m2
Gravity Constant	9.81	m/s2

Elevation (m)	Head (m)	Discharge (m3/s)	Discharge (L/s)
294.50	0.00	0.00000	0.00
294.60	0.08	0.03632	36.32
294.70	0.18	0.05548	55.48
294.80	0.28	0.06955	69.55
294.90	0.38	0.08122	81.22
295.00	0.48	0.09141	91.41
295.10	0.58	0.10057	100.57

Orifice 2 Diameter:	385	mm
Orifice Type:	PLATE	
Orifice Coeff	0.61	
Centreline:	294.74	m
X-Sectional Area:	0.116416	m2
Gravity Constant	9.81	m/s2

Elevation (m)	Head (m)	Discharge (m3/s)	Discharge (L/s)
294.70	0.00	0.00000	0.00
294.80	0.06	0.07543	75.43
294.90	0.16	0.12483	124.83
295.00	0.26	0.15962	159.62
295.10	0.36	0.18807	188.07

Orifice Discharge Equation

Q= 0.132632 Sqrt(H)

G = Gravitational Constant
H = Head (m)
A = X-Sectional Area (m2)
C = Orifice Coefficient

Note: Orifice Coefficient for PLATE orfice = 0.61
Orifice Coefficient for TUBE orfice = 0.80

Orifice Equation based on:
$Q=CA\sqrt{2GH}$

Water Quality Storage Requirements Based on Receiving Waters

Hydraulic Point A - Draining to County Road 49 - Western Parcel

Node	Area	RC	A x I
9	3.887147	0.25	0.970115
Total	3.887147		0.970115

Weighted RC = 0.250
% IMP = 7.14%

For conservatism, we assumed a maximum imperviousness of 20%.

Since the calculated imperviousness, 20% < 35%, size galleries to store 25m^3/ha.

Storage = 3.887147 x 25m^3/ha = 97.18 m^3 Required

Storage Provided = 423.78 m^3

Therefore, adequate storage provided to ensure 80% TSS removal by infiltration gallery A.

PROJECT Jeffery Subdivision - Bobcaygeon
PROJECT # 122169
DATE 2024-12-19

Infiltration Gallery - Sizing Calculations

Infiltration Gallery A - West Parcel Draining West to County Road 49 (Hydraulic Pt. A)

* Size Infiltration gallery to hold 100% of the 5-year Peterborough event*

Area (ha) 3.887147 IN meters 38871.47 m^2

Storm	Flow (m^3/s)	RV (mm)	RV (m)
5-year	0.132	10.902	0.010902

* RV from NasHyd 9 (Controlled Flows to CR 49) in VO Output
** Flow divide to be input at Node 11 (DuHyd - 11)

Volume Required to store 100% of the 5-year event= 423.7768 m^3

Stone Volume Required = $\frac{423.7767659}{0.4}$ = 1059.442 m^3

Therefore, store the 100% of the 5-year event.

Length	157.00	m
Width	4.50	m
Depth	1.50	m
Volume =	1059.75	m^3

Therefore, to store the 100% of the 5-year event, 157.00m in total length of infiltration gallery will be required with a width of 4.50m and a depth of 1.50m. This should be sufficient clearance above groundwater levels as borehole data from the "Preliminary Stormwater Management Report" provided by Greer Galloway outlines that at the location of proposed Infiltration Gallery A, groundwater was encountered 1.0 mbgs in BH 1, however this section has been raised approximately 1.50m due to fill requirements.

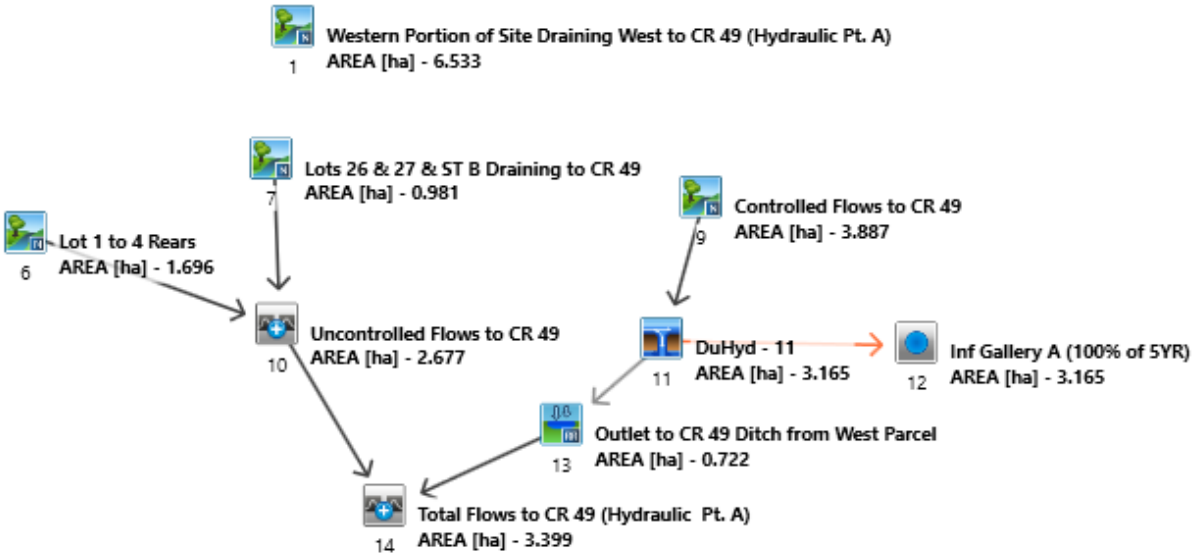
PROJECT Jeffery Subdivision - Bobcaygeon
PROJECT # 122169
DATE 2024-12-19

Roadside Ditch Storage Calculations - Hydraulic Pt. A

West Parcel - Phase 1 North Ditch to County Road 49 - North side Ditch					
Elevation (m)	Area (m^2)	Average Area (m^2)	Depth (m)	Volume (m^3)	Total Volume (m^3)
294.40	0.00				0.00
		21.05	0.20	4.21	
294.60	42.09				4.21
		91.88	0.20	18.38	
294.80	141.67				22.59
		224.06	0.20	44.81	
295.00	306.44				67.40
		332.63	0.10	33.26	
295.10	358.83				100.66

West Parcel - Phase 1 South Ditch to County Road 49 - North side Ditch					
Elevation (m)	Area (m^2)	Average Area (m^2)	Depth (m)	Volume (m^3)	Total Volume (m^3)
294.40	0.00				0.00
		21.06	0.20	4.21	
294.60	42.12				4.21
		92.06	0.20	18.41	
294.80	142.00				22.63
		224.67	0.20	44.93	
295.00	307.33				67.56
		328.81	0.10	32.88	
295.10	350.30				100.44

Elevation	Cumulative Volume
294.40	**0.00**
294.60	**8.42**
294.80	**45.21**
295.00	**134.96**
295.10	**201.10**



JEFFERY SUBDIVISION, BOBCAYGEON, ON

V.O. SCHEMATIC – POST-DEVELOPMENT FLOWS TO COUNTY ROAD 49

D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS

96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

SCALE	N.T.S.
DRAWN	M.J.H.
DESIGN	M.J.H.
CHECKED	D.D.M.
DATE	DEC 2024

PROJECT 122169

DWG **FIG 2**

```
**********
** SIMULATION:1) PTBO 4HR 2 Yr **
**********
```

CHICAGO STORM Ptotal= 34.03 mm	IDF curve parameters: A= 662.000 B= 7.500 C= 0.790 used in: INTENSITY = A / (t + B)^C Duration of storm = 4.00 hrs Storm time step = 10.00 min Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	2.29	1.00	18.79	2.00	5.56	3.00	2.73
0.17	2.63	1.17	69.00	2.17	4.70	3.17	2.53
0.33	3.11	1.33	24.52	2.33	4.09	3.33	2.36
0.50	3.85	1.50	13.09	2.50	3.62	3.50	2.21
0.67	5.12	1.67	8.95	2.67	3.26	3.67	2.09
0.83	7.88	1.83	6.84	2.83	2.97	3.83	1.97

CALIB NASHYD (0001) ID= 1 DT= 5.0 min	Area (ha)= 6.53 Curve Number (CN)= 67.0 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.21

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 1.189

PEAK FLOW (cms)= 0.090 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 5.458
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.160

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

CALIB NASHYD (0006) ID= 1 DT= 5.0 min	Area (ha)= 1.70 Curve Number (CN)= 70.7 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.11

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 0.583

PEAK FLOW (cms)= 0.035 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 6.154
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.181

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

CALIB NASHYD (0007) ID= 1 DT= 5.0 min	Area (ha)= 0.98 Curve Number (CN)= 70.8 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.11

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 0.341

PEAK FLOW (cms)= 0.020 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 6.173
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.181

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

ADD HYD (0010) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0006):	1.70	0.035	1.42	6.15
+ ID2= 2 (0007):	0.98	0.020	1.42	6.17
ID = 3 (0010):	2.68	0.055	1.42	6.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0009) ID= 1 DT= 5.0 min	Area (ha)= 3.89 Curve Number (CN)= 70.7 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.16

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

```
     Unit Hyd Qpeak  (cms)=   0.906

     PEAK FLOW       (cms)=   0.070 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=   6.242
     TOTAL RAINFALL   (mm)=  34.028
     RUNOFF COEFFICIENT   =   0.183

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

-------------------------------------------------------------------------------
--------------------
| DUHYD    (  0011)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.89      0.07      1.50    6.24
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.89      0.07      1.50    6.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0013)|     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   |    0.1450      0.0045
                           0.0000      0.0004   |    0.2061      0.0090
                           0.0363      0.0008   |    0.2510      0.0135
                           0.0555      0.0027   |    0.2886      0.0201

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0011)    0.000     0.000      0.00       0.00
   OUTFLOW: ID= 1 (  0013)    0.000     0.000      0.00        NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0014)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0013 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0010):     2.68   0.055     1.42     6.16
     + ID2= 2 (  0013):     0.00   0.000     0.00      NaN
       ================================================
       ID = 3 (  0014):     2.68   0.055     1.42     6.16

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

  --------------------------
  | Junction Command(0012) |
  --------------------------

                            AREA     QPEAK   TPEAK     R.V.
                            (ha)     (cms)    (hrs)    (mm)
  INFLOW : ID= 9(  0011)    3.89      0.07    1.50     6.24
  OUTFLOW: ID= 2(  0012)    3.89      0.07    1.50     6.24

  ---------------------------------------------------------------------------------
**********************************
** SIMULATION:2) PTBO 4HR 5 Yr **
**********************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1098.000
| Ptotal= 44.88 mm |                          B=  10.100
--------------------                          C=   0.830
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    2.66 |  1.00   26.50 |  2.00    7.15 |  3.00    3.24
                0.17    3.11 |  1.17   90.98 |  2.17    5.94 |  3.17    2.98
                0.33    3.75 |  1.33   34.82 |  2.33    5.08 |  3.33    2.76
                0.50    4.75 |  1.50   18.23 |  2.50    4.44 |  3.50    2.57
                0.67    6.53 |  1.67   12.10 |  2.67    3.95 |  3.67    2.41
                0.83   10.53 |  1.83    9.00 |  2.83    3.56 |  3.83    2.26

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area     (ha)=   6.53   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        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   2.66 | 1.083   26.50 | 2.083    7.15 |  3.08    3.24
                0.167   2.66 | 1.167   26.50 | 2.167    7.15 |  3.17    3.24
                0.250   3.11 | 1.250   90.98 | 2.250    5.94 |  3.25    2.98
                0.333   3.11 | 1.333   90.98 | 2.333    5.94 |  3.33    2.98
                0.417   3.75 | 1.417   34.82 | 2.417    5.08 |  3.42    2.76
                0.500   3.75 | 1.500   34.82 | 2.500    5.08 |  3.50    2.76
                0.583   4.75 | 1.583   18.23 | 2.583    4.44 |  3.58    2.57
                0.667   4.75 | 1.667   18.23 | 2.667    4.44 |  3.67    2.57
                0.750   6.53 | 1.750   12.10 | 2.750    3.95 |  3.75    2.41
                0.833   6.53 | 1.833   12.10 | 2.833    3.95 |  3.83    2.41
                0.917  10.53 | 1.917    9.00 | 2.917    3.56 |  3.92    2.26
                1.000  10.53 | 2.000    9.00 | 3.000    3.56 |  4.00    2.26

     Unit Hyd Qpeak  (cms)=   1.189

     PEAK FLOW       (cms)=   0.171 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=   9.626
     TOTAL RAINFALL   (mm)=  44.883
     RUNOFF COEFFICIENT   =   0.214

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area     (ha)=   1.70   Curve Number   (CN)= 70.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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   2.66 | 1.083   26.50 | 2.083    7.15 |  3.08    3.24
                0.167   2.66 | 1.167   26.50 | 2.167    7.15 |  3.17    3.24
                0.250   3.11 | 1.250   90.98 | 2.250    5.94 |  3.25    2.98
                0.333   3.11 | 1.333   90.98 | 2.333    5.94 |  3.33    2.98
                0.417   3.75 | 1.417   34.82 | 2.417    5.08 |  3.42    2.76
                0.500   3.75 | 1.500   34.82 | 2.500    5.08 |  3.50    2.76
                0.583   4.75 | 1.583   18.23 | 2.583    4.44 |  3.58    2.57
                0.667   4.75 | 1.667   18.23 | 2.667    4.44 |  3.67    2.57
                0.750   6.53 | 1.750   12.10 | 2.750    3.95 |  3.75    2.41
                0.833   6.53 | 1.833   12.10 | 2.833    3.95 |  3.83    2.41
                0.917  10.53 | 1.917    9.00 | 2.917    3.56 |  3.92    2.26
                1.000  10.53 | 2.000    9.00 | 3.000    3.56 |  4.00    2.26

     Unit Hyd Qpeak  (cms)=   0.583

     PEAK FLOW       (cms)=   0.065 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  10.749
     TOTAL RAINFALL   (mm)=  44.883
     RUNOFF COEFFICIENT   =   0.239

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

```
| CALIB              |
| NASHYD   (  0007)|   Area    (ha)=   0.98   Curve Number   (CN)= 70.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.11

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

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

```
     Unit Hyd Qpeak  (cms)=   0.341

     PEAK FLOW       (cms)=   0.038 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  10.779
     TOTAL RAINFALL   (mm)=  44.883
     RUNOFF COEFFICIENT   =   0.240

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

```
| ADD HYD  (  0010)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0006):      1.70   0.065     1.42    10.75
     + ID2= 2 (  0007):      0.98   0.038     1.42    10.78
       ================================================
       ID = 3 (  0010):      2.68   0.103     1.42    10.76

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

```
| CALIB              |
| NASHYD   (  0009)|   Area    (ha)=   3.89   Curve Number   (CN)= 70.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.16

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

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

```
     Unit Hyd Qpeak  (cms)=   0.906

     PEAK FLOW       (cms)=   0.132 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  10.902
     TOTAL RAINFALL   (mm)=  44.883
     RUNOFF COEFFICIENT   =   0.243

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

```
| DUHYD    (  0011)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.89      0.13      1.50   10.90
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.89      0.13      1.50   10.90

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

```
| RESERVOIR(  0013)|     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   |    0.1450      0.0045
                          0.0000      0.0004   |    0.2061      0.0090
                          0.0363      0.0008   |    0.2510      0.0135
                          0.0555      0.0027   |    0.2886      0.0201

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0011)     0.000     0.000      0.00       0.00
   OUTFLOW: ID= 1 (  0013)     0.000     0.000      0.00        NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW          (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
```

```
| ADD HYD  (  0014)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0013 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0010):      2.68   0.103     1.42    10.76
     + ID2= 2 (  0013):      0.00   0.000     0.00      NaN
       ================================================
       ID = 3 (  0014):      2.68   0.103     1.42    10.76

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

```
  -------------------------
  | Junction Command(0012) |
  -------------------------

                            AREA     QPEAK   TPEAK     R.V.
                            (ha)     (cms)   (hrs)     (mm)
  INFLOW : ID= 9(  0011)    3.89      0.13    1.50    10.90
  OUTFLOW: ID= 2(  0012)    3.89      0.13    1.50    10.90
```

```
**********************************
** SIMULATION:3) PTBO 4HR 10 Yr **
**********************************
-------------------
| CHICAGO STORM    |    IDF curve parameters: A=1560.000
| Ptotal= 53.50 mm |                          B=  13.000
-------------------                          C=   0.860
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	2.91	1.00	33.34	2.00	8.57	3.00	3.62
0.17	3.45	1.17	105.21	2.17	7.00	3.17	3.30
0.33	4.24	1.33	43.73	2.33	5.91	3.33	3.03
0.50	5.50	1.50	22.99	2.50	5.10	3.50	2.80
0.67	7.78	1.67	15.02	2.67	4.49	3.67	2.61

0.83	12.98	1.83	10.97	2.83	4.01	3.83	2.44

```
--------------------
| CALIB            |
| NASHYD  (  0001)|   Area    (ha)=   6.53   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21
```

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

```
     Unit Hyd Qpeak  (cms)=   1.189

     PEAK FLOW       (cms)=   0.247 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  13.528
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.253

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

```
--------------------
| CALIB            |
| NASHYD  (  0006)|   Area    (ha)=   1.70   Curve Number   (CN)= 70.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11
```

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

```
     Unit Hyd Qpeak  (cms)=   0.583

     PEAK FLOW       (cms)=   0.092 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  15.007
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.280

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

```
--------------------
| CALIB            |
| NASHYD  (  0007)|   Area    (ha)=   0.98   Curve Number   (CN)= 70.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11
```

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

```
     Unit Hyd Qpeak  (cms)=   0.341

     PEAK FLOW       (cms)=   0.054 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  15.046
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.281

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

```
--------------------
| ADD HYD  (  0010)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 1 (  0006):      1.70    0.092     1.42     15.01
     + ID2= 2 (  0007):      0.98    0.054     1.42     15.05
       ================================================
       ID = 3 (  0010):      2.68    0.146     1.42     15.02
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| CALIB            |
| NASHYD  (  0009)|   Area    (ha)=   3.89   Curve Number   (CN)= 70.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.16
```

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

```
     Unit Hyd Qpeak  (cms)=   0.906

     PEAK FLOW       (cms)=   0.188 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  15.220
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.284

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

```
--------------------
| DUHYD    (  0011)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):   3.89      0.19      1.50    15.22
     ================================================
```

```
     MAJOR SYS.(ID= 2):   0.32      0.06      1.50   15.22
     MINOR SYS.(ID= 3):   3.57      0.13      1.42   15.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0013)|     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   |    0.1450      0.0045
                          0.0000      0.0004   |    0.2061      0.0090
                          0.0363      0.0008   |    0.2510      0.0135
                          0.0555      0.0027   |    0.2886      0.0201

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0011)     0.317     0.056      1.50      15.22
   OUTFLOW: ID= 1 (  0013)     0.317     0.043      1.58      14.07

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 76.36
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0015

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

--------------------
| ADD HYD  (  0014)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):     2.68   0.146     1.42     15.02
     + ID2= 2 (  0013):     0.32   0.043     1.58     14.07
       ================================================
       ID = 3 (  0014):     2.99   0.176     1.50     14.92

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

  ---------------------------
  | Junction Command(0012) |
  ---------------------------

                           AREA     QPEAK   TPEAK     R.V.
                           (ha)     (cms)   (hrs)     (mm)
  INFLOW : ID= 9(  0011)    3.57     0.13    1.42     15.22
  OUTFLOW: ID= 2(  0012)    3.57     0.13    1.42     15.22

  ------------------------------------------------------------------------------
**********
** SIMULATION:4) PTBO 4HR 25 Yr **
**********
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=2010.000
| Ptotal= 61.50 mm |                          B=  14.000
--------------------                          C=   0.880
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.00    3.09 |  1.00   39.20 |'  2.00    9.66 |  3.00    3.89
               0.17    3.70 |  1.17  122.63 |'  2.17    7.82 |  3.17    3.53
               0.33    4.60 |  1.33   51.58 |'  2.33    6.53 |  3.33    3.22
               0.50    6.06 |  1.50   26.88 |'  2.50    5.60 |  3.50    2.97
               0.67    8.73 |  1.67   17.34 |'  2.67    4.89 |  3.67    2.75
               0.83   14.90 |  1.83   12.51 |'  2.83    4.33 |  3.83    2.56


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   6.53   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        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   3.09 | 1.083   39.20 | 2.083    9.66 |  3.08    3.89
               0.167   3.09 | 1.167   39.20 | 2.167    9.66 |  3.17    3.89
               0.250   3.70 | 1.250  122.63 | 2.250    7.82 |  3.25    3.53
               0.333   3.70 | 1.333  122.63 | 2.333    7.82 |  3.33    3.53
               0.417   4.60 | 1.417   51.58 | 2.417    6.53 |  3.42    3.22
               0.500   4.60 | 1.500   51.58 | 2.500    6.53 |  3.50    3.22
               0.583   6.06 | 1.583   26.88 | 2.583    5.60 |  3.58    2.97
               0.667   6.06 | 1.667   26.88 | 2.667    5.60 |  3.67    2.97
               0.750   8.73 | 1.750   17.34 | 2.750    4.89 |  3.75    2.75
               0.833   8.73 | 1.833   17.34 | 2.833    4.89 |  3.83    2.75
               0.917  14.90 | 1.917   12.51 | 2.917    4.33 |  3.92    2.56
               1.000  14.90 | 2.000   12.51 | 3.000    4.33 |  4.00    2.56

     Unit Hyd Qpeak  (cms)=   1.189

     PEAK FLOW       (cms)=   0.332 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  17.549
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.285

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=   1.70   Curve Number   (CN)= 70.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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   3.09 | 1.083   39.20 | 2.083    9.66 |  3.08    3.89
               0.167   3.09 | 1.167   39.20 | 2.167    9.66 |  3.17    3.89
               0.250   3.70 | 1.250  122.63 | 2.250    7.82 |  3.25    3.53
               0.333   3.70 | 1.333  122.63 | 2.333    7.82 |  3.33    3.53
               0.417   4.60 | 1.417   51.58 | 2.417    6.53 |  3.42    3.22
               0.500   4.60 | 1.500   51.58 | 2.500    6.53 |  3.50    3.22
               0.583   6.06 | 1.583   26.88 | 2.583    5.60 |  3.58    2.97
               0.667   6.06 | 1.667   26.88 | 2.667    5.60 |  3.67    2.97
               0.750   8.73 | 1.750   17.34 | 2.750    4.89 |  3.75    2.75
               0.833   8.73 | 1.833   17.34 | 2.833    4.89 |  3.83    2.75
               0.917  14.90 | 1.917   12.51 | 2.917    4.33 |  3.92    2.56
               1.000  14.90 | 2.000   12.51 | 3.000    4.33 |  4.00    2.56

     Unit Hyd Qpeak  (cms)=   0.583

     PEAK FLOW       (cms)=   0.124 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  19.358
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.315

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=   0.98   Curve Number   (CN)= 70.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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   3.09 | 1.083   39.20 | 2.083    9.66 |  3.08    3.89
               0.167   3.09 | 1.167   39.20 | 2.167    9.66 |  3.17    3.89
               0.250   3.70 | 1.250  122.63 | 2.250    7.82 |  3.25    3.53
               0.333   3.70 | 1.333  122.63 | 2.333    7.82 |  3.33    3.53
               0.417   4.60 | 1.417   51.58 | 2.417    6.53 |  3.42    3.22
               0.500   4.60 | 1.500   51.58 | 2.500    6.53 |  3.50    3.22
               0.583   6.06 | 1.583   26.88 | 2.583    5.60 |  3.58    2.97
               0.667   6.06 | 1.667   26.88 | 2.667    5.60 |  3.67    2.97
               0.750   8.73 | 1.750   17.34 | 2.750    4.89 |  3.75    2.75
               0.833   8.73 | 1.833   17.34 | 2.833    4.89 |  3.83    2.75
               0.917  14.90 | 1.917   12.51 | 2.917    4.33 |  3.92    2.56
```

1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 0.341

PEAK FLOW (cms)= 0.072 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 19.406
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.316

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

ADD HYD (0010)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0006):	1.70	0.124	1.42	19.36
+ ID2= 2 (0007):	0.98	0.072	1.42	19.41
ID = 3 (0010):	2.68	0.196	1.42	19.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0009) | ID= 1 DT= 5.0 min

Area (ha)= 3.89 Curve Number (CN)= 70.7
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.16

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 0.906

PEAK FLOW (cms)= 0.252 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 19.633
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.319

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

DUHYD (0011)
Inlet Cap.= 0.132
#of Inlets= 1
Total(cms)= 0.1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.89	0.25	1.50	19.63
MAJOR SYS.(ID= 2):	0.72	0.12	1.50	19.63
MINOR SYS.(ID= 3):	3.16	0.13	1.33	19.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0013) | 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	0.1450	0.0045
0.0000	0.0004	0.2061	0.0090
0.0363	0.0008	0.2510	0.0135
0.0555	0.0027	0.2886	0.0201

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0011)	0.722	0.120	1.50	19.63
OUTFLOW: ID= 1 (0013)	0.722	0.106	1.58	19.17

PEAK FLOW REDUCTION [Qout/Qin](%)= 88.24
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0038

ADD HYD (0014)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	2.68	0.196	1.42	19.38
+ ID2= 2 (0013):	0.72	0.106	1.58	19.17
ID = 3 (0014):	3.40	0.265	1.50	19.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0012)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0011)	3.16	0.13	1.33	19.63
OUTFLOW: ID= 2(0012)	3.16	0.13	1.33	19.63

****
** SIMULATION:5) PTBO 4HR 50 Yr **
****

CHICAGO STORM | Ptotal= 68.70 mm

IDF curve parameters: A=2110.000
B= 12.000
C= 0.870
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	3.49	1.00	42.63	2.00	10.48	3.00	4.35
0.17	4.15	1.17	143.34	2.17	8.52	3.17	3.96
0.33	5.11	1.33	56.43	2.33	7.17	3.33	3.63
0.50	6.66	1.50	28.88	2.50	6.17	3.50	3.36
0.67	9.49	1.67	18.62	2.67	5.42	3.67	3.12
0.83	16.03	1.83	13.49	2.83	4.82	3.83	2.92

CALIB
NASHYD (0001) | ID= 1 DT= 5.0 min

Area (ha)= 6.53 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.21

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 1.189

```
     PEAK FLOW       (cms)=   0.417 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  21.460
     TOTAL RAINFALL   (mm)=  68.705
     RUNOFF COEFFICIENT   =   0.312

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

```
| CALIB            |
| NASHYD   (  0006)|   Area     (ha)=   1.70   Curve Number   (CN)= 70.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.11

         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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

```
     Unit Hyd Qpeak  (cms)=   0.583

     PEAK FLOW       (cms)=   0.158 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  23.563
     TOTAL RAINFALL   (mm)=  68.705
     RUNOFF COEFFICIENT   =   0.343

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

```
| CALIB            |
| NASHYD   (  0007)|   Area     (ha)=   0.98   Curve Number   (CN)= 70.8
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.11

         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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

```
     Unit Hyd Qpeak  (cms)=   0.341

     PEAK FLOW       (cms)=   0.092 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  23.618
     TOTAL RAINFALL   (mm)=  68.705
     RUNOFF COEFFICIENT   =   0.344

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

```
-------------------
| ADD HYD  (  0010)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)      (mm)
       ID1= 1 (  0006):      1.70    0.158     1.42     23.56
     + ID2= 2 (  0007):      0.98    0.092     1.42     23.62
       ========================================================
       ID = 3 (  0010):      2.68    0.249     1.42     23.58

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

```
| CALIB            |
| NASHYD   (  0009)|   Area     (ha)=   3.89   Curve Number   (CN)= 70.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.16

         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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

```
     Unit Hyd Qpeak  (cms)=   0.906

     PEAK FLOW       (cms)=   0.318 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  23.897
     TOTAL RAINFALL   (mm)=  68.705
     RUNOFF COEFFICIENT   =   0.348

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

```
-------------------
| DUHYD    (  0011)|
| Inlet Cap.= 0.132|
| #of Inlets=    1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):   3.89      0.32      1.50    23.90
     ========================================================
     MAJOR SYS.(ID= 2):   1.02      0.19      1.50    23.90
     MINOR SYS.(ID= 3):   2.87      0.13      1.33    23.90

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

```
-------------------
| RESERVOIR(  0013)|     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   |    0.1450      0.0045
                           0.0000      0.0004   |    0.2061      0.0090
                           0.0363      0.0008   |    0.2510      0.0135
                           0.0555      0.0027   |    0.2886      0.0201

                               AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)        (mm)
   INFLOW : ID= 2 (  0011)     1.019     0.186      1.50       23.90
   OUTFLOW: ID= 1 (  0013)     1.019     0.158      1.58       23.55

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 85.27
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0056
```

```
-------------------
| ADD HYD  (  0014)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
```

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0010):	2.68	0.249	1.42	23.58
+ ID2= 2 (0013):	1.02	0.158	1.58	23.55
ID = 3 (0014):	3.70	0.375	1.50	23.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0012)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0011)	2.87	0.13	1.33	23.90
OUTFLOW: ID= 2(0012)	2.87	0.13	1.33	23.90

****
** SIMULATION:6) PTBO 4HR 100 Yr **
****

CHICAGO STORM Ptotal= 76.41 mm	IDF curve parameters: A=2518.000 B= 13.200 C= 0.882 used in: INTENSITY = A / (t + B)^C Duration of storm = 4.00 hrs Storm time step = 10.00 min Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	3.74	1.00	48.41	2.00	11.70	3.00	4.70
0.17	4.47	1.17	157.29	2.17	9.45	3.17	4.26
0.33	5.56	1.33	64.01	2.33	7.90	3.33	3.90
0.50	7.32	1.50	32.88	2.50	6.77	3.50	3.59
0.67	10.56	1.67	21.09	2.67	5.91	3.67	3.33
0.83	18.10	1.83	15.17	2.83	5.24	3.83	3.10

CALIB NASHYD (0001) ID= 1 DT= 5.0 min	Area (ha)= 6.53 Curve Number (CN)= 67.0 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.21

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 1.189

PEAK FLOW (cms)= 0.508 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 25.905
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.339

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

CALIB NASHYD (0006) ID= 1 DT= 5.0 min	Area (ha)= 1.70 Curve Number (CN)= 70.7 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.11

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.583

PEAK FLOW (cms)= 0.190 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 28.316
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.371

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

CALIB NASHYD (0007) ID= 1 DT= 5.0 min	Area (ha)= 0.98 Curve Number (CN)= 70.8 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.11

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.341

PEAK FLOW (cms)= 0.111 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 28.378
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.371

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

ADD HYD (0010) 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0006):	1.70	0.190	1.42	28.32
+ ID2= 2 (0007):	0.98	0.111	1.42	28.38
ID = 3 (0010):	2.68	0.301	1.42	28.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0009) ID= 1 DT= 5.0 min	Area (ha)= 3.89 Curve Number (CN)= 70.7 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.16

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.906

PEAK FLOW (cms)= 0.385 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 28.717
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.376

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

DUHYD (0011)				
Inlet Cap.= 0.132				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.89	0.38	1.50	28.72
MAJOR SYS.(ID= 2):	1.26	0.25	1.50	28.72
MINOR SYS.(ID= 3):	2.62	0.13	1.33	28.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0013)	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	0.1450	0.0045
	0.0000	0.0004	0.2061	0.0090
	0.0363	0.0008	0.2510	0.0135
	0.0555	0.0027	0.2886	0.0201

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0011)	1.263	0.253	1.50	28.72
OUTFLOW: ID= 1 (0013)	1.263	0.198	1.58	28.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 78.08
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0086

ADD HYD (0014)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	2.68	0.301	1.42	28.34
+ ID2= 2 (0013):	1.26	0.198	1.58	28.43
ID = 3 (0014):	3.94	0.449	1.50	28.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0012)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0011)	2.62	0.13	1.33	28.72
OUTFLOW: ID= 2(0012)	2.62	0.13	1.33	28.72

```
**********************************
** SIMULATION:1) PTBO 4HR 2 Yr **
**********************************
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.09  1.58   5.46 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.03  1.42   6.15 0.18   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.02  1.42   6.17 0.18   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.05  1.42   6.16  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.07  1.50   6.24 0.18   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.07  1.50   6.24  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    3.89    0.07  1.50   6.24  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.05  1.42   6.16  n/a   0.000
*
**********************************
** SIMULATION:10) 6 HR SCS - 25 YR **
**********************************
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.51  3.33  23.85 0.33   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.21  3.25  26.12 0.36   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.12  3.25  26.18 0.36   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.34  3.25  26.14  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.39  3.25  26.49 0.36   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.39  3.25  26.49  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    1.06    0.25  3.25  26.49  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    2.82    0.13  3.08  26.49  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0013  1  5.0    1.06    0.19  3.42  26.19  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.74    0.49  3.25  26.16  n/a   0.000
*
**********************************
** SIMULATION:11) 6 HR SCS - 50 YR **
**********************************
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.63  3.33  28.97 0.36   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.26  3.25  31.57 0.39   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.15  3.25  31.64 0.39   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.41  3.25  31.60  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.47  3.25  32.02 0.39   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.47  3.25  32.02  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    1.27    0.34  3.25  32.02  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    2.61    0.13  3.08  32.02  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0013  1  5.0    1.27    0.24  3.42  31.77  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.95    0.59  3.25  31.65  n/a   0.000
*
**********************************
** SIMULATION:12) 6 HR SCS - 100YR **
**********************************
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.74  3.33  34.29 0.38   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.30  3.25  37.21 0.41   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
```

```
 ** CALIB NASHYD         0007  1  5.0    0.98    0.18  3.25  37.28 0.41   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.48  3.25  37.24  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.55  3.25  37.74 0.42   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.55  3.25  37.74  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    1.45    0.42  3.25  37.74  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    2.44    0.13  3.08  37.74  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0013  1  5.0    1.45    0.27  3.42  37.52  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    4.12    0.69  3.25  37.33  n/a   0.000
*
*********************************
** SIMULATION:13) 25mm Event  **
*********************************
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.04  1.75   2.75 0.11   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.02  1.58   3.13 0.13   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.01  1.58   3.14 0.13   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.02  1.58   3.13  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.03  1.67   3.18 0.13   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.03  1.67   3.18  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    3.89    0.03  1.67   3.18  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.02  1.58   3.13  n/a   0.000
*
************************************************
** SIMULATION:14) 100YR MODIFIED 12HR CHICAGO  **
************************************************
    READ STORM                 10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.66  4.17  40.55 0.41   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.24  4.00  43.81 0.44   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.14  4.00  43.89 0.44   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.38  4.00  43.84  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.49  4.17  44.43 0.45   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.49  4.17  44.43  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    1.30    0.36  4.17  44.43  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    2.59    0.13  3.92  44.43  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0013  1  5.0    1.30    0.26  4.33  44.19  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.98    0.57  4.08  43.96  n/a   0.000
*
************************************************
** SIMULATION:15) 100YR MODIFIED 24HR CHICAGO **
************************************************
    READ STORM                 10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.70  8.17  47.15 0.43   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.26  8.00  50.73 0.47   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.15  8.00  50.82 0.47   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.41  8.00  50.76  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.51  8.17  51.45 0.47   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.51  8.17  51.45  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    1.23    0.38  8.17  51.45  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    2.66    0.13  7.92  51.45  n/a   0.000
```

```
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    1.23    0.27  8.33  51.12  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.91    0.61  8.08  50.88  n/a   0.000
*
***********************************
** SIMULATION:16) 12HR SCS - 2YR **
***********************************
    READ STORM                   5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.03  6.42   2.22 0.10   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                   5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.01  6.25   2.53 0.11   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                   5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.01  6.25   2.54 0.11   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.02  6.25   2.53  n/a   0.000
*
    READ STORM                   5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.02  6.42   2.56 0.11   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.02  6.42   2.56  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.89    0.02  6.42   2.56  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.02  6.25   2.53  n/a   0.000
*
***********************************
** SIMULATION:17) 12HR SCS - 5YR **
***********************************
    READ STORM                   5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.05  6.42   3.37 0.12   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                   5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.02  6.25   3.82 0.14   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                   5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.01  6.25   3.84 0.14   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.03  6.25   3.83  n/a   0.000
*
    READ STORM                   5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.03  6.42   3.88 0.14   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.03  6.42   3.88  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.89    0.03  6.42   3.88  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.03  6.25   3.83  n/a   0.000
*
***********************************
** SIMULATION:18) 12HR SCS - 10YR **
***********************************
    READ STORM                   5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.06  6.42   4.48 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                   5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.02  6.25   5.07 0.16   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                   5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.01  6.25   5.09 0.16   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.04  6.25   5.08  n/a   0.000
*
    READ STORM                   5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.04  6.42   5.14 0.17   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.04  6.42   5.14  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.89    0.04  6.42   5.14  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.04  6.25   5.08  n/a   0.000
*
***********************************
** SIMULATION:19) 12HR SCS -25YR **
***********************************
    READ STORM                   5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.09  6.42   6.26 0.17   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
```

```
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.03  6.25   7.05 0.19   0.000
    [CN=70.7        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.02  6.25   7.07 0.19   0.000
    [CN=70.8        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.05  6.25   7.05  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.06  6.25   7.15 0.20   0.000
    [CN=70.7        ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.06  6.25   7.15  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    3.89    0.06  6.25   7.15  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.05  6.25   7.05  n/a   0.000
*
**********************************
** SIMULATION:2) PTBO 4HR 5 Yr **
**********************************
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.17  1.58   9.63 0.21   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.21]
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.07  1.42  10.75 0.24   0.000
    [CN=70.7        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.04  1.42  10.78 0.24   0.000
    [CN=70.8        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.10  1.42  10.76  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.13  1.50  10.90 0.24   0.000
    [CN=70.7        ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.13  1.50  10.90  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    3.89    0.13  1.50  10.90  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.10  1.42  10.76  n/a   0.000
*
**************************************
** SIMULATION:20) 12HR SCS - 50YR **
**************************************
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.40  6.42  28.83 0.35   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.13  6.25  31.43 0.39   0.000
    [CN=70.7        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.08  6.25  31.50 0.39   0.000
    [CN=70.8        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.21  6.25  31.46  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.29  6.33  31.88 0.39   0.000
    [CN=70.7        ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.29  6.33  31.88  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    0.77    0.16  6.33  31.88  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    3.12    0.13  6.08  31.88  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0013  1  5.0    0.77    0.15  6.42  31.43  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.44    0.34  6.33  31.45  n/a   0.000
*
**************************************
** SIMULATION:21) 12HR SCS - 100YR **
**************************************
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.57  4.17  40.17 0.41   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.21]
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.22  4.00  43.42 0.44   0.000
    [CN=70.7        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.13  4.00  43.50 0.44   0.000
    [CN=70.8        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.34  4.00  43.45  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.42  4.08  44.03 0.45   0.000
    [CN=70.7        ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                 0011  1  5.0    3.89    0.42  4.08  44.03  n/a   0.000
       MAJOR SYSTEM:      0011  2  5.0    1.01    0.29  4.08  44.03  n/a   0.000
       MINOR SYSTEM:      0011  3  5.0    2.88    0.13  3.92  44.03  n/a   0.000
*
 ** Reservoir
```

```
    OUTFLOW:             0013  1  5.0    1.01    0.23  4.25  43.65  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.69    0.51  4.08  43.50  n/a   0.000
*
************************************
** SIMULATION:22) 24HR SCS - 2YR **
************************************
    READ STORM                5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.01 12.42   2.98 0.12   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.00 12.25   3.39 0.13   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.00 12.25   3.40 0.13   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.01 12.25   3.39  n/a   0.000
*
    READ STORM                5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.01 12.25   3.44 0.13   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.01 12.25   3.44  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.89    0.01 12.25   3.44  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.01 12.25   3.39  n/a   0.000
*
************************************
** SIMULATION:23) 24HR SCS - 5YR **
************************************
    READ STORM                5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.02 12.42   4.31 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.01 12.25   4.87 0.16   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.00 12.25   4.89 0.16   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.01 12.25   4.88  n/a   0.000
*
    READ STORM                5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.01 12.25   4.94 0.16   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.01 12.25   4.94  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.89    0.01 12.25   4.94  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.01 12.25   4.88  n/a   0.000
*
************************************
** SIMULATION:24) 24HR SCS - 10YR **
************************************
    READ STORM                5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.03 12.42   5.60 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.01 12.25   6.32 0.18   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.01 12.25   6.33 0.18   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.01 12.25   6.32  n/a   0.000
*
    READ STORM                5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.02 12.25   6.41 0.19   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.02 12.25   6.41  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.89    0.02 12.25   6.41  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.01 12.25   6.32  n/a   0.000
*
************************************
** SIMULATION:25) 24HR SCS - 25YR **
************************************
    READ STORM                5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.04 12.25   7.62 0.19   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                5.0
    [ Ptot= 39.96 mm ]
```

```
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.01 12.08   8.55 0.21   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.01 12.08   8.58 0.21   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.02 12.08   8.56  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.03 12.25   8.67 0.22   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.03 12.25   8.67  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.89    0.03 12.25   8.67  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.02 12.08   8.56  n/a   0.000
*
***********************************
** SIMULATION:26) 24HR SCS - 50YR **
***********************************
    READ STORM                  5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.05 12.25   9.57 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                  5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.02 12.08  10.68 0.24   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.01 12.08  10.71 0.24   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.03 12.08  10.70  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.03 12.25  10.84 0.24   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.03 12.25  10.84  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.89    0.03 12.25  10.84  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.03 12.08  10.70  n/a   0.000
*
***********************************
** SIMULATION:27) 24HR SCS - 100YR **
***********************************
    CHIC STORM                 10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.63  8.17  50.39 0.44   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    CHIC STORM                 10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.24  8.00  54.12 0.48   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.14  8.00  54.21 0.48   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.38  8.00  54.15  n/a   0.000
*
    CHIC STORM                 10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.46  8.08  54.88 0.48   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.46  8.08  54.88  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.94    0.33  8.08  54.88  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    2.94    0.13  7.92  54.88  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.94    0.25  8.25  54.47  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.62    0.55  8.08  54.24  n/a   0.000
*
*********************************
** SIMULATION:28) Timmins     **
*********************************
    READ STORM                 30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.63 10.50 197.30 0.68   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.17 10.50 203.88 0.70   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.10 10.50 204.00 0.70   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.27 10.50 203.92  n/a   0.000
*
    READ STORM                 30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.39 10.50 206.73 0.71   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
```

```
*
    DUHYD                0011  1  5.0    3.89    0.39 10.50 206.73  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    1.05    0.26 10.50 206.73  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    2.84    0.13  7.92 206.73  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    1.05    0.25 10.50 206.35  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.72    0.51 10.50 204.61  n/a   0.000
*
***********************************
** SIMULATION:3) PTBO 4HR 10 Yr **
***********************************
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.25  1.58  13.53 0.25   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.09  1.42  15.01 0.28   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.05  1.42  15.05 0.28   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.15  1.42  15.02  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.19  1.50  15.22 0.28   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.19  1.50  15.22  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.32    0.06  1.50  15.22  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.57    0.13  1.42  15.22  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.32    0.04  1.58  14.07  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.99    0.18  1.50  14.92  n/a   0.000
*
***********************************
** SIMULATION:4) PTBO 4HR 25 Yr **
***********************************
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.33  1.58  17.55 0.29   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.12  1.42  19.36 0.31   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.07  1.42  19.41 0.32   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.20  1.42  19.38  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.25  1.50  19.63 0.32   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
```

```
*
    DUHYD                0011  1  5.0    3.89    0.25  1.50  19.63  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.72    0.12  1.50  19.63  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.16    0.13  1.33  19.63  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.72    0.11  1.58  19.17  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.40    0.27  1.50  19.33  n/a   0.000
*
***********************************
** SIMULATION:5) PTBO 4HR 50 Yr  **
***********************************
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.42  1.58  21.46 0.31   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.16  1.42  23.56 0.34   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.09  1.42  23.62 0.34   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.25  1.42  23.58  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.32  1.50  23.90 0.35   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.32  1.50  23.90  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    1.02    0.19  1.50  23.90  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    2.87    0.13  1.33  23.90  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    1.02    0.16  1.58  23.55  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.70    0.38  1.50  23.57  n/a   0.000
*
***********************************
** SIMULATION:6) PTBO 4HR 100 Yr **
***********************************
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.51  1.58  25.91 0.34   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.19  1.42  28.32 0.37   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.11  1.42  28.38 0.37   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.30  1.42  28.34  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.38  1.50  28.72 0.38   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
```

```
*
    DUHYD                0011  1  5.0    3.89    0.38  1.50  28.72  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    1.26    0.25  1.50  28.72  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    2.62    0.13  1.33  28.72  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    1.26    0.20  1.58  28.43  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.94    0.45  1.50  28.37  n/a   0.000
*
***********************************
** SIMULATION:7) 6 HR SCS - 2 YR **
***********************************
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.15  3.33   7.16 0.18   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.07  3.25   8.04 0.21   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.04  3.25   8.06 0.21   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.10  3.25   8.05  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.12  3.33   8.15 0.21   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.12  3.33   8.15  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.89    0.12  3.33   8.15  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    2.68    0.10  3.25   8.05  n/a   0.000
*
***********************************
** SIMULATION:8) 6 HR SCS - 5 YR **
***********************************
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.28  3.33  13.03 0.25   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.12  3.25  14.46 0.28   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.07  3.25  14.50 0.28   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.19  3.25  14.47  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.21  3.33  14.67 0.28   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.21  3.33  14.67  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.40    0.08  3.33  14.67  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.48    0.13  3.17  14.67  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.40    0.05  3.42  13.71  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.08    0.22  3.25  14.37  n/a   0.000
*
***********************************
** SIMULATION:9) 6 HR SCS - 10YR **
***********************************
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0001  1  5.0    6.53    0.38  3.33  17.60 0.29   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0006  1  5.0    1.70    0.16  3.25  19.42 0.32   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0007  1  5.0    0.98    0.09  3.25  19.46 0.32   0.000
    [CN=70.8         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0006+  0007]  0010  3  5.0    2.68    0.25  3.25  19.43  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0009  1  5.0    3.89    0.28  3.25  19.69 0.32   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.16]
*
    DUHYD                0011  1  5.0    3.89    0.28  3.25  19.69  n/a   0.000
       MAJOR SYSTEM:     0011  2  5.0    0.74    0.15  3.25  19.69  n/a   0.000
       MINOR SYSTEM:     0011  3  5.0    3.15    0.13  3.17  19.69  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0013  1  5.0    0.74    0.14  3.33  19.22  n/a   0.000
*
    ADD [  0010+  0013]  0014  3  5.0    3.41    0.32  3.33  19.39  n/a   0.000
*
```

APPENDIX 3

WESTERN PORTION OF SITE DRAINING TO WETLAND – HYDRAULIC POINT B

POST-DEVELOPMENT WEIGHTED CURVE NUMBERS

POST-DEVELOPMENT WEIGHTED RUNOFF COEFFICIENT

PRE-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

POST-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

STAGE-STORAGE DISCHARGE – WESTERN PARCEL FLOWS TO WETLAND

WATER QUALITY STORAGE REQUIREMENTS – HYDRAULIC POINT B

VISUAL OTTHYMO SCHEMATIC & OUTPUT

Jeffery Subdivision 2024-12-19
Job Number: 122169 1/1

Weighted Curve Number Calculations - West Parcel

Note: Assume House Area of 370.80m^2 and Garage of 102.30 m^2 per Henley Contracting Ltd**.**
Therefore, assume 500m^2 per lot for house, driveway and garage/office.

Western Parcel Flows to Provincially Significant Wetland (PSW)

Node 8 - Lot 5 - 7, 33 - 38 Rears Draining to Wetland (Uncontrolled Flows from Western Parcel)			Area =	3.07 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (6)	0.300	98	29.4	
Grassed Area	2.769	67	185.5014	
Total	3.07		214.9014	
Weighted CN =	70.03			

Node 13 - Western Phase 2 Draining to Pond (Controlled Flows to Wetland)			Area =	9.78 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (15)	0.750	98	73.5	
Grassed Area	8.267	67	553.8652	
Asphalt/Shoulder	0.760	98	74.48419	
Total	9.78		701.8494	
Weighted CN =	71.79			

Jeffery Subdivision 2024-12-19
Job Number: 122169 1/1

Post-Development Weighted Runoff Coefficients

Node 15 - Western PH 2 Draining to Pond			Area =	9.78 ha
Material	**Area (ha)**	**RC (I)**	**A*I**	
Asphalt	0.508	0.9	0.45745	
Gravel Shoulder	0.2517648	0.6	0.151059	
Landscape	9.017	0.2	1.803329	
Total	9.78		2.411838	
Weighted RC =	0.247			
% IMP =	6.72%			

Time of Concentration & Time to Peak Calculation (Pre-Development)

2) Node 2 - Western Portion of Site Draining East to Wetland — Slope = (306.95 - 293.55) / 277.99 = 4.82%

Part 1

Upstream Invert 306.95
Downstream Invert 293.55
Length (m) 277.99
Assume Pasture - Contoured

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.48 m/s

$t_c = \frac{277.99}{0.48} = 573.65$ s $= 0.159347$ h

$t_{p1} = \frac{2 \times t_c}{3} = 0.106231$ h

3) Node 2 - Western Portion of Site Draining East to Wetland — Slope = (293.55 - 290.79) / 331.68 = 0.83%

Part 2

Upstream Invert 293.55
Downstream Invert 290.79
Length (m) 331.68
Assume Pasture - Contoured

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.19 m/s

$t_c = \frac{331.68}{0.19} = 1727.48$ s $= 0.479855$ h

$t_{p1} = \frac{2 \times t_c}{3} = 0.319904$ h

$t_{p\,TOTAL} = t_{p1} + t_{p2} = 0.426135$ h

Time of Concentration & Time to Peak Calculation (Post-Development) - Western Side of Site

3) Node 8 - Lot 5 - 7, 34 - 38 Rears
Upstream Invert 294.77
Downstream Invert 292.34
Length (m) 83.88
Assume Pasture - Contoured

Slope = (294.77 - 292.34) / 83.88 = 2.90%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.36 m/s

t_c = 83.88 / 0.36 = 230.44 s = 0.064012 h

t_p = 2 x t_c / 3 = 0.042675 h

Note: Since 0.043h is less than the minimum allowable, a t_p of 0.11h was used.

6) Node 15 - Lots 26-32, 34 -47 and Street B Draining to Pond
Upstream Invert 302.80
Downstream Invert 296.68
Length (m) 113.06
Assume Pasture - Contoured

Slope = (302.80 - 297.52) / 113.06 = 5.41%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.50 m/s

t_c = 113.06 / 0.50 = 226.12 s = 0.062812 h

Part 1 t_{p1} = 2 x t_c / 3 = 0.041875 h

7) Node 15 - Lots 26-32, 34 -47 and Street B Draining to Pond
Upstream Invert 296.68
Downstream Invert 293.56
Length (m) 185.62
Assume Grassed Waterway

Slope = (296.68 - 293.56) / 185.62 = 1.68%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.58 m/s

t_c = 185.62 / 0.58 = 320.04 s = 0.088899 h

Part 2 t_{p2} = 2 x t_c / 3 = 0.059266 h

$t_p = t_{p1} + t_{p2}$ = 0.04187 + 0.059266 = 0.101141 h

Jeffery Bobcaygeon - Stormwater Management Pond A - Western Pond (PH 2)
Our File: 122169
2024-12-17

Pond Storage

Quantity Controls
Invert 292.550 m

Orifice 1
$Q = CA(2gh)^{0.5}$
Diameter 130 mm
C = 0.80 (TUBE)
C/L ELEV 292.62

Weir 1
$Q = \frac{2}{3} C_W B \sqrt{2g} (h)^{3/2})$
C_w= 0.577
B (width)= 1.50 m
Weir 1 293.06 m

ELEV	AREA	AVERAGE AREA	DEPTH	VOLUME	TOTAL VOLUME	ORIFICE 1		ORIFICE 2		TOTAL FLOW
						HEAD	FLOW	HEAD	FLOW	
m	m2	m2	m	m3	m3	m	cms	m	cms	cms
292.550	711.539				0.000	0.00	0.000000			0.000000
		801.128	0.200	160.226						
292.750	890.718				160.226	0.13	0.017282			0.017282
		1012.899	0.250	253.225						
293.000	1135.080				413.450	0.38	0.029184	0.00	0.000	0.029184
		1263.876	0.250	315.969						
293.250	1392.673				729.419	0.63	0.037480	0.19	0.211668	0.249149
		1529.722	0.250	382.430						
293.500	1666.771				1111.850	0.88	0.044247	0.44	0.745941	0.790188
		1837.390	0.250	459.348						
293.750	2008.010				1571.197	1.13	0.050109	0.69	1.464870	1.514978
		2149.642	0.250	537.410						
294.000	2291.273				2108.608	1.38	0.055353	0.94	2.329255	2.384608

DRY POND QUANTITY REQUIREMENTS (60% TSS Removal)
***Imp Levels taken from Table 3.2 of MECP SWM Planning & Design Manual**

IMPERVIOUS LEVEL	STORAGE VOLUME REQUIRED(m^3/ha)
85%	240
70%	200
55%	150
35%	90

Areas Draining to Pond B	Area (ha)	% Impervious	A x I
Node 15 - Western Phase 2 Draining to Pond	9.78	6.72%	2.40
TOTAL	9.78		2.40
Weighted RC =	0.25		
% IMP =	6.72%		

Since 6.72% is below the 35%, a conservative permanent storage volume of 90 m^3/ha is required .

Fluctuating Storage is the 25mm storm event:

Total Drainage Area (ha)	Total Rainfall (mm)	Runoff Depth (mm)	Volume Required (m^3)
9.78	25	3.25	318.13

Therefore, storage requirements are as follows:

Dry Pond Quantity Storage Vol. (90 m3/ha) = 879.90 m^3
Fluctuating Storage Volume = 318.13 m^3

Orifice Sizing Calculations
From MOE Stormwater Management Practices Manual

$$t = \frac{2xA_p}{CxA_o(2g)^{0.5}} \times (h_1^{0.5}-h_2^{0.5})$$

$$86400 = \frac{2x2763.20}{0.61xA_o(2x9.81)^{0.}} \times (0.95^{0.5}-0.00^{0.5)}$$

$$A_o = \frac{3272.59}{86400 \times 2.702}$$

A_o= 0.014 m^2

t=Drawdown Time(s)	86400	s
A_p= Pond Area(@ Max WSE)=	2291.27	m^2
C= Discharge Coefficient=	0.61	
h_1=Max. head(m)		
= 293.06 - 292.68	0.51	m
h_2=Min. head(m)		
=	0.00	m
C/L Orifice=	292.62	m
g=Gravity=	9.81	m/s^2
A_o= Orifice Area	0.013273229	m^2

Orifice Diameter

$$Dia = \frac{4xA_o}{PI}$$

Dia= 0.130 m

Check Drawdown time (Equation 4.10 - MOE 2003 Manual)

$$t = \frac{2\ A_p}{CA_o(2g)^{0.5}} (h_1^{0.5} - h_2^{0.5})$$

= 91251 s

= 25.35 h

D= Orifice Diameter	0.130	m
A_o= Orifice Area	0.013273229	m^2
g=Gravity=	9.81	m/s^2
A_p = Surface Area of Pond (m^2) =	2291.27	m^2
h_1 = Starting Water Elevation = Above the Orifice	0.00	m
h_2 = Ending Water Elevation = Above the Orifice	0.51	
C= Discharge Coefficient=	0.61	

Maximum Discharge

$Q = CxA_o x(2gh)^{0.5}$

$= 0.0256\ m^3/s$

D= Orifice Diameter	0.130	m
A_o= Orifice Area	0.01327	m^2
g=Gravity=	9.81	m/s^2
Maximum Head(h)=	0.51	m
C= Discharge Coefficient=	0.61	

Equation 4.5 - Forebay Settling Length

$$\text{Distance} = \sqrt{\frac{rxQ_p}{V_s}} = \sqrt{\frac{0.0512}{0.0003}} = 13.1\ m$$

r=Length:Width Ratio	2.0	:1
Qp=Orifice Peak Discharge=	0.0256	m^3/s
V_s=Settling Velocity	0.0003	m/s

Equation 4.6 - Forebay Dispersion Length

$$\frac{8xQ}{dxV_p} = \frac{3.224}{0.5} = 6.4\ m$$

d=Depth of Forebay	1	m
Vp=Velocity in Forebay	0.5	m/s
$Q = \frac{CiA}{360}$ m^3/s	0.127	m^3/s
Q (5Yr4hr) =	0.403	m^3/s
C=Runoff Coefficient	0.25	
i=43xC+5.9	16.65	mm/hr
A=Area(ha)	10.970	ha

Equation 4.7 - Minimum Bottom Width

$$\text{Width} = \frac{\text{Distance}}{8}$$

$= 0.8\ m$

Orifice 1 Discharge

Orifice Diameter:	130	mm
Orifice Type:	PLATE	
Orifice Coeff	0.80	
Orifice Inv	292.55	m
Centreline:	292.62	m
X-Sectional Area:	0.013273	m2
Gravity Constant	9.81	m/s2

Elevation (m)	Head (m)	Discharge (m3/s)	Discharge (L/s)
292.55	0.00	0.00000	0.00
292.75	0.13	0.01728	17.28
293.00	0.38	0.02918	29.18
293.25	0.63	0.03748	37.48
293.50	0.88	0.04425	44.25
293.75	1.13	0.05011	50.11
294.00	1.38	0.05535	55.35

Orifice Discharge Equation

Q= 0.047034 Sqrt(H)

Note: Orifice Coefficient for PLATE orfice = 0.61
Orifice Coefficient for TUBE orfice = 0.80

Orifice Equation based on:
Q=CAv2GH

G = Gravitational Constant
H = Head (m)
A = X-Sectional Area (m2)
C = Orifice Coefficient

PROJECT Jeffery Bobcaygeon - Stormwater Management Pond A - Western Pond (PH 2)
PROJECT # 122169
DATE Dec-24

POND VOLUMES AND DISCHARGE - BLOCKED CONDITIONS

Weir 1 - See diagram on following page

Section 1 (rectangular portion)

$Q = \frac{2}{3} C_W B \sqrt{2g} (h)^{3/2})$

C_w= 0.577
B (width)= 4.00 m
Weir 1 294.00 m

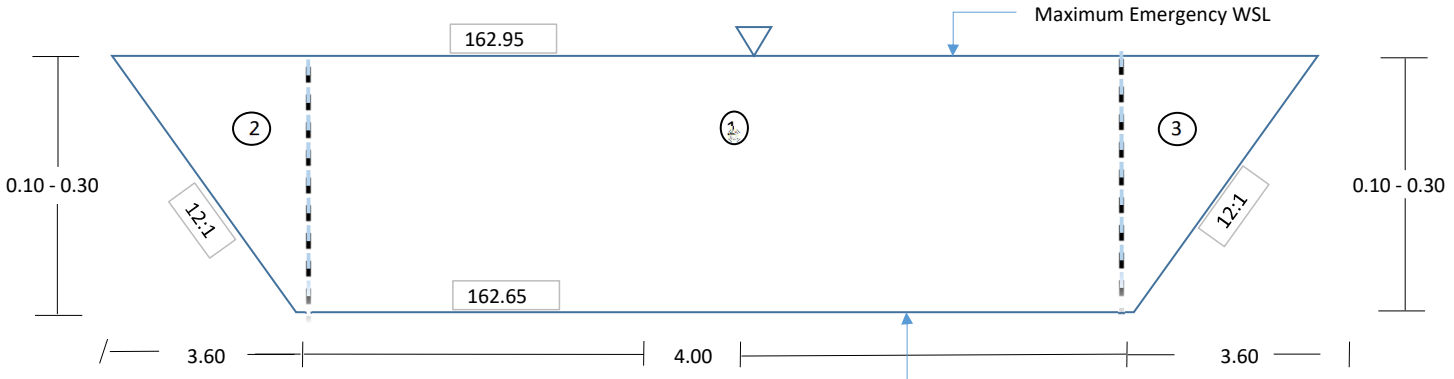
Section 2 & 3 (triangular portion)

$Q = \frac{2}{3} C_W B \sqrt{2g} ((\frac{2}{3} h)^{3/2})$

C_w= 0.577
B (width)= d / (1/5) m

	ELEV	AREA	AVERAGE AREA	DEPTH	VOLUME	TOTAL VOLUME	ORIFICE 1 HEAD	ORIFICE 1 FLOW	ORIFICE 2 HEAD	ORIFICE 2 FLOW	WEIR HEAD	WEIR FLOW	TOTAL FLOW
	m	m2	m2	m	m3	m3	m	cms	m	cms	m	cms	cms
Emergency	294.00	2291.27				0.00					0.00	0.000	0.0000
Flow			2345.68	0.10	234.57								
	294.10	2400.09				234.57					0.10	0.245	0.2449
			2454.99	0.10	245.50								
	294.20	2509.90				480.07					0.20	0.776	0.7755
			2578.82	0.10	257.88								
	294.30	2647.74				737.95					0.30	1.577	1.5771

Weir Diagram



HYMO $Q_{TIMMINS}$ = 1.047 m^3/s Visual Otthymo - Node 4 (Figure 8)

Therefore, in the event of blocked conditions, the emergency overflow weir has the capacity to convey the Timmins Regional Event flow.

Infiltration Gallery Sizing

It is proposed to size an infiltration gallery to hold 100% of the 25mm event in the base of the pond

Area (ha) 9.78 IN meters 97766.8755 m^2

Storm	Flow** (m^3/s)	RV (mm)*	RV (m)
25mm event	0.09	3.254	0.003254

* RV from NasHyd15 (Controlled Flows to Wetland) in VO Output
** Flow divide to be input at Node 17 (DuHyd - 17)

Volume required to store 25mm event = 318.1334 m^3

Stone Volume Required = $\frac{318.13}{0.4}$ = 795.3335 m^3

Area of Base of Pond = 630.64 m^2

Minimum Depth of Gallery Required = $\frac{\text{Stone Volume Required}}{\text{Area of Base of Pond}} = \frac{795.33}{630.64} =$ 1.261 m

Volume of Stone provided (1.27m depth of stone) = 800.91 m^3 > 795.3335 m^3

Therefore, a 1.27m deep stone gallery will line the base of the proposed dry pond and has been sized to infiltrate the 25mm rainfall event.

Water Quality Storage Requirements Based on Receiving Waters

Hydraulic Point B - Draining to SWM Pond B (PH2)

Node	Area	RC	A x I
15	9.776688	0.25	2.403696
Total	9.776688		2.403696

Weighted RC = 0.25
% IMP = 6.72%

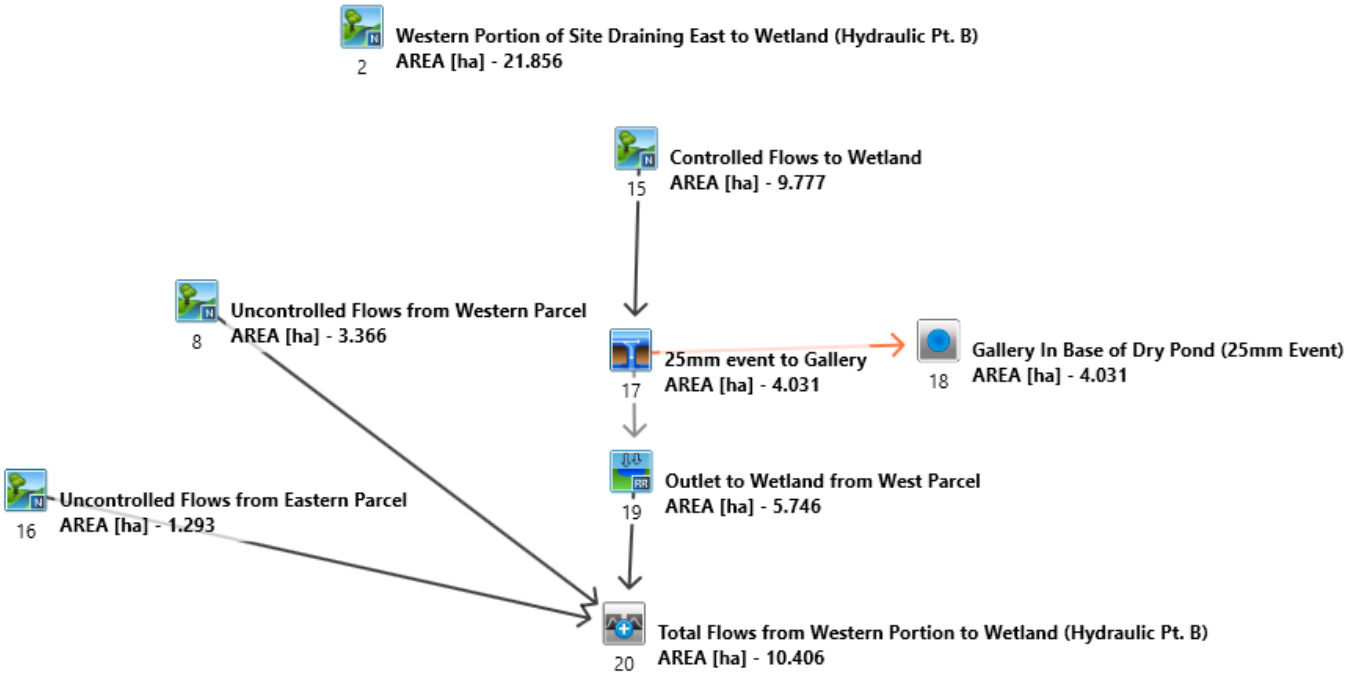
For conservatism, we assumed a maximum imperviousness of 20%.

Since the calculated imperviousness, 20% < 35%, size galleries to store 25m^3/ha.

Storage = 9.776688 x 25m^3/ha = 244.42 m^3 Required

Storage Provided = 795.33 m^3

Therefore, adequate storage provided to ensure 80% TSS removal by the infiltration gallery in the base of Pond A.



JEFFERY SUBDIVISION, BOBCAYGEON, ON

V.O. SCHEMATIC – POST-DEVELOPMENT FLOWS TO WEST PARCEL WETLAND OUTLET

D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS

96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

SCALE	N.T.S.
DRAWN	M.J.H.
DESIGN	M.J.H.
CHECKED	D.D.M.
DATE	DEC 2024

PROJECT 122169

DWG **FIG 3**

```
**********
** SIMULATION:1) PTBO 4HR 2 Yr **
**********
```

```
| CALIB             |
| NASHYD   (  0002)|   Area    (ha)=  21.86   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.43
```

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 1.959

PEAK FLOW (cms)= 0.204 (i)
TIME TO PEAK (hrs)= 1.917
RUNOFF VOLUME (mm)= 5.466
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.161

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

```
| CALIB             |
| NASHYD   (  0008)|   Area    (ha)=   3.37   Curve Number   (CN)= 70.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.11
```

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 1.157

PEAK FLOW (cms)= 0.067 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 6.009
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.177

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

```
| CALIB             |
| NASHYD   (  0015)|   Area    (ha)=   9.78   Curve Number   (CN)= 71.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.10
```

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 3.692

PEAK FLOW (cms)= 0.212 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 6.377
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.187

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

```
| DUHYD    (  0017)|
| Inlet Cap.= 0.090|
| #of Inlets=     1|
| Total(cms)=  0.1|
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	9.78	0.21	1.33	6.38
MAJOR SYS.(ID= 2):	2.04	0.12	1.33	6.38
MINOR SYS.(ID= 3):	7.74	0.09	1.33	6.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| RESERVOIR(  0019)|     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	0.7902	0.1112
0.0173	0.0160	1.5150	0.1571
0.0292	0.0413	2.3846	0.2109
0.2491	0.0729	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0017)	2.040	0.122	1.33	6.38
OUTFLOW: ID= 1 (0019)	2.040	0.012	1.75	6.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.20
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0116

```
| CALIB             |
| NASHYD   (  0016)|   Area    (ha)=   1.29   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.11
```

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97

1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 0.445

PEAK FLOW (cms)= 0.023 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 5.370
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.158

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

ADD HYD (0020)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):		1.29	0.023	1.42	5.37
+ ID2= 2 (0019):		2.04	0.012	1.75	6.27
ID = 3 (0020):		3.33	0.030	1.50	5.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)
3 + 2 = 1

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0020):		3.33	0.030	1.50	5.92
+ ID2= 2 (0008):		3.37	0.067	1.42	6.01
ID = 1 (0020):		6.70	0.096	1.42	5.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0018)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0017)	7.74	0.09	1.33	6.38
OUTFLOW: ID= 2(0018)	7.74	0.09	1.33	6.38

****
** SIMULATION:2) PTBO 4HR 5 Yr **
****

CALIB
NASHYD (0002) | ID= 1 DT= 5.0 min

Area (ha)= 21.86 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.43

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 1.959

PEAK FLOW (cms)= 0.386 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 9.640
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.215

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

CALIB
NASHYD (0008) | ID= 1 DT= 5.0 min

Area (ha)= 3.37 Curve Number (CN)= 70.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 1.157

PEAK FLOW (cms)= 0.126 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 10.515
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.234

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

CALIB
NASHYD (0015) | ID= 1 DT= 5.0 min

Area (ha)= 9.78 Curve Number (CN)= 71.8
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.10

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 3.692

PEAK FLOW (cms)= 0.403 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 11.103
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.247

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

DUHYD (0017)
Inlet Cap.= 0.090
#of Inlets= 1
Total(cms)= 0.1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	9.78	0.40	1.33	11.10
MAJOR SYS.(ID= 2):	3.97	0.31	1.33	11.10

MINOR SYS.(ID= 3): 5.81 0.09 1.25 11.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0019) / 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	0.7902	0.1112
	0.0173	0.0160	1.5150	0.1571
	0.0292	0.0413	2.3846	0.2109
	0.2491	0.0729	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0017)	3.967	0.313	1.33	11.10
OUTFLOW: ID= 1 (0019)	3.967	0.028	1.92	11.04

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.82
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0380

CALIB | NASHYD (0016) | ID= 1 DT= 5.0 min
Area (ha)= 1.29 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 0.445

PEAK FLOW (cms)= 0.043 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 9.470
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.211

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

ADD HYD (0020) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	1.29	0.043	1.42	9.47
+ ID2= 2 (0019):	3.97	0.028	1.92	11.04
ID = 3 (0020):	5.26	0.061	1.50	10.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020) | 3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0020):	5.26	0.061	1.50	10.66
+ ID2= 2 (0008):	3.37	0.126	1.42	10.52
ID = 1 (0020):	8.63	0.187	1.42	10.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0018)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0017)	5.81	0.09	1.25	11.10
OUTFLOW: ID= 2(0018)	5.81	0.09	1.25	11.10

****
** SIMULATION:3) PTBO 4HR 10 Yr **
****

CALIB | NASHYD (0002) | ID= 1 DT= 5.0 min
Area (ha)= 21.86 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.43

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

Unit Hyd Qpeak (cms)= 1.959

PEAK FLOW (cms)= 0.561 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 13.548
TOTAL RAINFALL (mm)= 53.500
RUNOFF COEFFICIENT = 0.253

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

CALIB | NASHYD (0008) | ID= 1 DT= 5.0 min
Area (ha)= 3.37 Curve Number (CN)= 70.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

Unit Hyd Qpeak (cms)= 1.157

PEAK FLOW (cms)= 0.179 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 14.698
TOTAL RAINFALL (mm)= 53.500
RUNOFF COEFFICIENT = 0.275

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

CALIB					
NASHYD (0015)	Area (ha)= 9.78	Curve Number (CN)= 71.8			
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.10				

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

Unit Hyd Qpeak (cms)= 3.692

PEAK FLOW (cms)= 0.567 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 15.465
TOTAL RAINFALL (mm)= 53.500
RUNOFF COEFFICIENT = 0.289

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

DUHYD (0017)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.= 0.090		(ha)	(cms)	(hrs)	(mm)
#of Inlets= 1					
Total(cms)= 0.1	TOTAL HYD.(ID= 1):	9.78	0.57	1.33	15.46
	MAJOR SYS.(ID= 2):	5.00	0.48	1.33	15.46
	MINOR SYS.(ID= 3):	4.77	0.09	1.25	15.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0019)	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	0.7902	0.1112
	0.0173	0.0160	1.5150	0.1571
	0.0292	0.0413	2.3846	0.2109
	0.2491	0.0729	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0017)	5.002	0.477	1.33	15.46
OUTFLOW: ID= 1 (0019)	5.002	0.127	1.83	15.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.58
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0555

CALIB					
NASHYD (0016)	Area (ha)= 1.29	Curve Number (CN)= 67.0			
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.11				

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

Unit Hyd Qpeak (cms)= 0.445

PEAK FLOW (cms)= 0.062 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 13.309
TOTAL RAINFALL (mm)= 53.500
RUNOFF COEFFICIENT = 0.249

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

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0016):	1.29	0.062	1.42	13.31
	+ ID2= 2 (0019):	5.00	0.127	1.83	15.42
	ID = 3 (0020):	6.30	0.154	1.75	14.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0020):	6.30	0.154	1.75	14.99
	+ ID2= 2 (0008):	3.37	0.179	1.42	14.70
	ID = 1 (0020):	9.66	0.263	1.42	14.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0018)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0017)	4.77	0.09	1.25	15.46
OUTFLOW: ID= 2(0018)	4.77	0.09	1.25	15.46

****
** SIMULATION:4) PTBO 4HR 25 Yr **
****

CALIB					
NASHYD (0002)	Area (ha)= 21.86	Curve Number (CN)= 67.0			
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.43				

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75

0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 1.959

PEAK FLOW (cms)= 0.754 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 17.575
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.286

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

CALIB			
NASHYD (0008)	Area (ha)=	3.37	Curve Number (CN)= 70.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 1.157

PEAK FLOW (cms)= 0.240 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 18.980
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.309

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

CALIB			
NASHYD (0015)	Area (ha)=	9.78	Curve Number (CN)= 71.8
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.10	

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 3.692

PEAK FLOW (cms)= 0.764 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 19.912
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.324

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

DUHYD (0017)				
Inlet Cap.= 0.090				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	9.78	0.76	1.33	19.91
MAJOR SYS.(ID= 2):	5.75	0.67	1.33	19.91
MINOR SYS.(ID= 3):	4.03	0.09	1.25	19.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0019)	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	0.7902	0.1112
	0.0173	0.0160	1.5150	0.1571
	0.0292	0.0413	2.3846	0.2109
	0.2491	0.0729	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0017)	5.746	0.674	1.33	19.91
OUTFLOW: ID= 1 (0019)	5.746	0.234	1.75	19.87

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.71
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0708

CALIB			
NASHYD (0016)	Area (ha)=	1.29	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 0.445

PEAK FLOW (cms)= 0.083 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 17.265
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.281

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

ADD HYD (0020)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	1.29	0.083	1.42	17.27
+ ID2= 2 (0019):	5.75	0.234	1.75	19.87
ID = 3 (0020):	7.04	0.274	1.67	19.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     7.04   0.274     1.67    19.39
     + ID2= 2 (  0008):     3.37   0.240     1.42    18.98
       ================================================
       ID = 1 (  0020):    10.41   0.426     1.58    19.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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  ---------------------------
  | Junction Command(0018) |
  ---------------------------

                          AREA     QPEAK   TPEAK     R.V.
                          (ha)     (cms)    (hrs)    (mm)
  INFLOW : ID= 9(  0017)    4.03     0.09    1.25    19.91
  OUTFLOW: ID= 2(  0018)    4.03     0.09    1.25    19.91
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**********************************
** SIMULATION:5) PTBO 4HR 50 Yr  **
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--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=  21.86   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.43

        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    3.49 | 1.083   42.63 | 2.083   10.48 |  3.08    4.35
0.167    3.49 | 1.167   42.63 | 2.167   10.48 |  3.17    4.35
0.250    4.15 | 1.250  143.34 | 2.250    8.52 |  3.25    3.96
0.333    4.15 | 1.333  143.34 | 2.333    8.52 |  3.33    3.96
0.417    5.11 | 1.417   56.43 | 2.417    7.17 |  3.42    3.63
0.500    5.11 | 1.500   56.43 | 2.500    7.17 |  3.50    3.63
0.583    6.66 | 1.583   28.88 | 2.583    6.17 |  3.58    3.36
0.667    6.66 | 1.667   28.88 | 2.667    6.17 |  3.67    3.36
0.750    9.49 | 1.750   18.62 | 2.750    5.42 |  3.75    3.12
0.833    9.49 | 1.833   18.62 | 2.833    5.42 |  3.83    3.12
0.917   16.03 | 1.917   13.49 | 2.917    4.82 |  3.92    2.92
1.000   16.03 | 2.000   13.49 | 3.000    4.82 |  4.00    2.92

    Unit Hyd Qpeak  (cms)=   1.959

    PEAK FLOW       (cms)=   0.938 (i)
    TIME TO PEAK    (hrs)=   1.833
    RUNOFF VOLUME    (mm)=  21.492
    TOTAL RAINFALL   (mm)=  68.705
    RUNOFF COEFFICIENT   =   0.313

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   3.37   Curve Number   (CN)= 70.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    3.49 | 1.083   42.63 | 2.083   10.48 |  3.08    4.35
0.167    3.49 | 1.167   42.63 | 2.167   10.48 |  3.17    4.35
0.250    4.15 | 1.250  143.34 | 2.250    8.52 |  3.25    3.96
0.333    4.15 | 1.333  143.34 | 2.333    8.52 |  3.33    3.96
0.417    5.11 | 1.417   56.43 | 2.417    7.17 |  3.42    3.63
0.500    5.11 | 1.500   56.43 | 2.500    7.17 |  3.50    3.63
0.583    6.66 | 1.583   28.88 | 2.583    6.17 |  3.58    3.36
0.667    6.66 | 1.667   28.88 | 2.667    6.17 |  3.67    3.36
0.750    9.49 | 1.750   18.62 | 2.750    5.42 |  3.75    3.12
0.833    9.49 | 1.833   18.62 | 2.833    5.42 |  3.83    3.12
0.917   16.03 | 1.917   13.49 | 2.917    4.82 |  3.92    2.92
1.000   16.03 | 2.000   13.49 | 3.000    4.82 |  4.00    2.92

    Unit Hyd Qpeak  (cms)=   1.157

    PEAK FLOW       (cms)=   0.306 (i)
    TIME TO PEAK    (hrs)=   1.417
    RUNOFF VOLUME    (mm)=  23.122
    TOTAL RAINFALL   (mm)=  68.705
    RUNOFF COEFFICIENT   =   0.337

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   9.78   Curve Number   (CN)= 71.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.10

        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    3.49 | 1.083   42.63 | 2.083   10.48 |  3.08    4.35
0.167    3.49 | 1.167   42.63 | 2.167   10.48 |  3.17    4.35
0.250    4.15 | 1.250  143.34 | 2.250    8.52 |  3.25    3.96
0.333    4.15 | 1.333  143.34 | 2.333    8.52 |  3.33    3.96
0.417    5.11 | 1.417   56.43 | 2.417    7.17 |  3.42    3.63
0.500    5.11 | 1.500   56.43 | 2.500    7.17 |  3.50    3.63
0.583    6.66 | 1.583   28.88 | 2.583    6.17 |  3.58    3.36
0.667    6.66 | 1.667   28.88 | 2.667    6.17 |  3.67    3.36
0.750    9.49 | 1.750   18.62 | 2.750    5.42 |  3.75    3.12
0.833    9.49 | 1.833   18.62 | 2.833    5.42 |  3.83    3.12
0.917   16.03 | 1.917   13.49 | 2.917    4.82 |  3.92    2.92
1.000   16.03 | 2.000   13.49 | 3.000    4.82 |  4.00    2.92

    Unit Hyd Qpeak  (cms)=   3.692

    PEAK FLOW       (cms)=   0.994 (i)
    TIME TO PEAK    (hrs)=   1.333
    RUNOFF VOLUME    (mm)=  24.200
    TOTAL RAINFALL   (mm)=  68.705
    RUNOFF COEFFICIENT   =   0.352

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

```
--------------------
| DUHYD    (  0017)|
| Inlet Cap.= 0.090|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
    TOTAL HYD.(ID= 1):   9.78      0.99      1.33    24.20
    ================================================
    MAJOR SYS.(ID= 2):   6.21      0.90      1.33    24.20
    MINOR SYS.(ID= 3):   3.57      0.09      1.17    24.20

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

```
--------------------
| RESERVOIR(  0019)|     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   |    0.7902      0.1112
                           0.0173      0.0160   |    1.5150      0.1571
                           0.0292      0.0413   |    2.3846      0.2109
                           0.2491      0.0729   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)        (mm)
  INFLOW : ID= 2 (  0017)      6.210     0.904      1.33       24.20
  OUTFLOW: ID= 1 (  0019)      6.210     0.384      1.67       24.16

              PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.52
              TIME SHIFT OF PEAK FLOW          (min)= 20.00
              MAXIMUM  STORAGE   USED       (ha.m.)=  0.0827
```

```
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   1.29   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    3.49 | 1.083   42.63 | 2.083   10.48 |  3.08    4.35
 0.167    3.49 | 1.167   42.63 | 2.167   10.48 |  3.17    4.35
 0.250    4.15 | 1.250  143.34 | 2.250    8.52 |  3.25    3.96
 0.333    4.15 | 1.333  143.34 | 2.333    8.52 |  3.33    3.96
 0.417    5.11 | 1.417   56.43 | 2.417    7.17 |  3.42    3.63
 0.500    5.11 | 1.500   56.43 | 2.500    7.17 |  3.50    3.63
 0.583    6.66 | 1.583   28.88 | 2.583    6.17 |  3.58    3.36
 0.667    6.66 | 1.667   28.88 | 2.667    6.17 |  3.67    3.36
 0.750    9.49 | 1.750   18.62 | 2.750    5.42 |  3.75    3.12
 0.833    9.49 | 1.833   18.62 | 2.833    5.42 |  3.83    3.12
 0.917   16.03 | 1.917   13.49 | 2.917    4.82 |  3.92    2.92
 1.000   16.03 | 2.000   13.49 | 3.000    4.82 |  4.00    2.92

     Unit Hyd Qpeak  (cms)=   0.445

     PEAK FLOW       (cms)=   0.106 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  21.113
     TOTAL RAINFALL   (mm)=  68.705
     RUNOFF COEFFICIENT   =   0.307

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

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0016):     1.29   0.106     1.42    21.11
     + ID2= 2 (  0019):     6.21   0.384     1.67    24.16
       ================================================
       ID = 3 (  0020):     7.50   0.443     1.67    23.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     7.50   0.443     1.67    23.64
     + ID2= 2 (  0008):     3.37   0.306     1.42    23.12
       ================================================
       ID = 1 (  0020):    10.87   0.630     1.58    23.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

  --------------------------
  | Junction Command(0018) |
  --------------------------

                          AREA     QPEAK   TPEAK     R.V.
                          (ha)     (cms)    (hrs)     (mm)
  INFLOW : ID= 9(  0017)    3.57     0.09    1.17    24.20
  OUTFLOW: ID= 2(  0018)    3.57     0.09    1.17    24.20

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

**********************************
** SIMULATION:6) PTBO 4HR 100 Yr **
**********************************
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=  21.86   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.43

        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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
 0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
 0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
 0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
 0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
 0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
 0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
 0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
 0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
 0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
 0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
 1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

     Unit Hyd Qpeak  (cms)=   1.959

     PEAK FLOW       (cms)=   1.147 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  25.944
     TOTAL RAINFALL   (mm)=  76.405
     RUNOFF COEFFICIENT   =   0.340

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

--------------------
| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=   3.37   Curve Number   (CN)= 70.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
 0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
 0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
 0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
 0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
 0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
 0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
 0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
 0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
 0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
 0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
 1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

     Unit Hyd Qpeak  (cms)=   1.157

     PEAK FLOW       (cms)=   0.370 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  27.807
     TOTAL RAINFALL   (mm)=  76.405
     RUNOFF COEFFICIENT   =   0.364

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

--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   9.78   Curve Number   (CN)= 71.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.10

        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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
 0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
 0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
 0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
 0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
 0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
 0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
 0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
 0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
```

```
              0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
              0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
              1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

     Unit Hyd Qpeak  (cms)=   3.692

     PEAK FLOW       (cms)=   1.199 (i)
     TIME TO PEAK    (hrs)=   1.333
     RUNOFF VOLUME    (mm)=  29.037
     TOTAL RAINFALL   (mm)=  76.405
     RUNOFF COEFFICIENT   =   0.380

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

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0017)|
| Inlet Cap.= 0.090|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   9.78      1.20      1.33   29.04
     ================================================
     MAJOR SYS.(ID= 2):   6.65      1.11      1.33   29.04
     MINOR SYS.(ID= 3):   3.12      0.09      1.17   29.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0019)|     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   |    0.7902      0.1112
                           0.0173      0.0160   |    1.5150      0.1571
                           0.0292      0.0413   |    2.3846      0.2109
                           0.2491      0.0729   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0017)     6.653     1.109      1.33      29.04
   OUTFLOW: ID= 1 (  0019)     6.653     0.546      1.67      29.00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.24
                  TIME SHIFT OF PEAK FLOW         (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0946

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   1.29   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

         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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
               0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
               0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
               0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
               0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
               0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
               0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
               0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
               0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
               0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
               0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
               1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

     Unit Hyd Qpeak  (cms)=   0.445

     PEAK FLOW       (cms)=   0.129 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  25.486
     TOTAL RAINFALL   (mm)=  76.405
     RUNOFF COEFFICIENT   =   0.334

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

```
--------------------------------------------------------------------------------
--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0016):     1.29   0.129     1.42    25.49
     + ID2= 2 (  0019):     6.65   0.546     1.67    29.00
       ================================================
       ID = 3 (  0020):     7.95   0.620     1.58    28.43

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

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     7.95   0.620     1.58    28.43
     + ID2= 2 (  0008):     3.37   0.370     1.42    27.81
       ================================================
       ID = 1 (  0020):    11.31   0.878     1.58    28.24

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

  --------------------------
  | Junction Command(0018) |
  --------------------------

                             AREA     QPEAK   TPEAK     R.V.
                             (ha)     (cms)    (hrs)    (mm)
  INFLOW : ID= 9(  0017)    3.12      0.09     1.17    29.04
  OUTFLOW: ID= 2(  0018)    3.12      0.09     1.17    29.04

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

```
**********************************
** SIMULATION:1) PTBO 4HR 2 Yr **
**********************************
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.20  1.92   5.47 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 *  CALIB NASHYD         0008  1  5.0    3.37    0.07  1.42   6.01 0.18   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 *  CALIB NASHYD         0015  1  5.0    9.78    0.21  1.33   6.38 0.19   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    0.21  1.33   6.38  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    2.04    0.12  1.33   6.38  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    7.74    0.09  1.33   6.38  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    2.04    0.01  1.75   6.27  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 *  CALIB NASHYD         0016  1  5.0    1.29    0.02  1.42   5.37 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    3.33    0.03  1.50   5.92  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    6.70    0.10  1.42   5.96  n/a   0.000
*
**************************************
** SIMULATION:10) 6 HR SCS - 25 YR **
**************************************
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    1.04  3.58  23.89 0.33   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.42  3.25  25.64 0.35   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0015  1  5.0    9.78    1.32  3.25  26.80 0.37   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    1.32  3.25  26.80  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    5.89    1.23  3.25  26.80  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    3.89    0.09  2.83  26.80  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    5.89    0.51  3.42  26.77  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.15  3.25  23.46 0.32   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    7.18    0.57  3.42  26.17  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0   10.55    0.87  3.33  26.00  n/a   0.000
*
**************************************
** SIMULATION:11) 6 HR SCS - 50 YR **
**************************************
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    1.27  3.58  29.01 0.36   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.50  3.25  31.02 0.38   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0015  1  5.0    9.78    1.59  3.25  32.35 0.40   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    1.59  3.25  32.35  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    6.30    1.50  3.25  32.35  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    3.48    0.09  2.83  32.35  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    6.30    0.70  3.42  32.31  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.18  3.25  28.50 0.35   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    7.59    0.81  3.33  31.66  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0   10.96    1.18  3.33  31.47  n/a   0.000
*
**************************************
** SIMULATION:12) 6 HR SCS - 100YR **
**************************************
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    1.51  3.58  34.34 0.38   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.59  3.25  36.59 0.41   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
```

```
 ** CALIB NASHYD         0015  1  5.0    9.78    1.86  3.25  38.07 0.42   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD               0017  1  5.0    9.78    1.86  3.25  38.07  n/a   0.000
       MAJOR SYSTEM:    0017  2  5.0    6.66    1.77  3.25  38.07  n/a   0.000
       MINOR SYSTEM:    0017  3  5.0    3.12    0.09  2.83  38.07  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0019  1  5.0    6.66    0.91  3.33  38.03  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.21  3.25  33.73 0.38   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    7.95    1.06  3.33  37.33  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0   11.32    1.49  3.33  37.11  n/a   0.000
*
*********************************
** SIMULATION:13) 25mm Event  **
*********************************
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.09  2.08   2.76 0.11   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 *  CALIB NASHYD         0008  1  5.0    3.37    0.03  1.58   3.05 0.12   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 *  CALIB NASHYD         0015  1  5.0    9.78    0.10  1.50   3.25 0.13   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD               0017  1  5.0    9.78    0.10  1.50   3.25  n/a   0.000
       MAJOR SYSTEM:    0017  2  5.0    0.09    0.01  1.50   3.25  n/a   0.000
       MINOR SYSTEM:    0017  3  5.0    9.69    0.09  1.50   3.25  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0019  1  5.0    0.09    0.00  1.67   2.28  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 *  CALIB NASHYD         0016  1  5.0    1.29    0.01  1.58   2.71 0.11   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    1.38    0.01  1.58   2.68  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    4.75    0.04  1.58   2.94  n/a   0.000
*
************************************************
** SIMULATION:14) 100YR MODIFIED 12HR CHICAGO  **
************************************************
    READ STORM                10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0002  1  5.0   21.86    1.50  4.50  40.61 0.41   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.47  4.00  43.11 0.43   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0015  1  5.0    9.78    1.54  4.00  44.76 0.45   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD               0017  1  5.0    9.78    1.54  4.00  44.76  n/a   0.000
       MAJOR SYSTEM:    0017  2  5.0    5.97    1.45  4.00  44.76  n/a   0.000
       MINOR SYSTEM:    0017  3  5.0    3.81    0.09  3.75  44.76  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0019  1  5.0    5.97    0.81  4.25  44.72  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.16  4.00  39.89 0.40   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    7.26    0.92  4.25  43.86  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0   10.63    1.27  4.17  43.62  n/a   0.000
*
************************************************
** SIMULATION:15) 100YR MODIFIED 24HR CHICAGO **
************************************************
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0002  1  5.0   21.86    1.59  8.50  47.22 0.43   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.50  8.00  49.96 0.46   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0015  1  5.0    9.78    1.64  8.00  51.76 0.47   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD               0017  1  5.0    9.78    1.64  8.00  51.76  n/a   0.000
       MAJOR SYSTEM:    0017  2  5.0    5.48    1.55  8.00  51.76  n/a   0.000
       MINOR SYSTEM:    0017  3  5.0    4.30    0.09  7.67  51.76  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0019  1  5.0    5.48    0.88  8.25  51.72  n/a   0.000
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.18  8.00  46.38 0.43   0.000
    [CN=67.0         ]
```

```
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    6.77    1.00  8.25  50.70  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0   10.14    1.38  8.17  50.46  n/a   0.000
*
***********************************
** SIMULATION:16) 12HR SCS - 2YR **
***********************************
    READ STORM                5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.07  6.67   2.22 0.10   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
  * CALIB NASHYD         0008  1  5.0    3.37    0.02  6.25   2.46 0.11   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
  * CALIB NASHYD         0015  1  5.0    9.78    0.07  6.25   2.63 0.12   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    0.07  6.25   2.63  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    9.78    0.07  6.25   2.63  n/a   0.000
*
  ** Reservoir
    OUTFLOW:              0019  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
  * CALIB NASHYD         0016  1  5.0    1.29    0.01  6.25   2.18 0.10   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    1.29    0.01  6.25   2.18  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    4.66    0.03  6.25   2.38  n/a   0.000
*
***********************************
** SIMULATION:17) 12HR SCS - 5YR **
***********************************
    READ STORM                5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.11  6.67   3.37 0.12   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
  * CALIB NASHYD         0008  1  5.0    3.37    0.03  6.25   3.73 0.14   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
  * CALIB NASHYD         0015  1  5.0    9.78    0.11  6.25   3.97 0.15   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    0.11  6.25   3.97  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    0.22    0.02  6.25   3.97  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    9.56    0.09  6.08   3.97  n/a   0.000
*
  ** Reservoir
    OUTFLOW:              0019  1  5.0    0.22    0.00  6.50   3.65  n/a   0.000
*
    READ STORM                5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
  * CALIB NASHYD         0016  1  5.0    1.29    0.01  6.25   3.31 0.12   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    1.51    0.01  6.25   3.36  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    4.88    0.05  6.25   3.62  n/a   0.000
*
***********************************
** SIMULATION:18) 12HR SCS - 10YR **
***********************************
    READ STORM                5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.15  6.67   4.49 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
  * CALIB NASHYD         0008  1  5.0    3.37    0.05  6.25   4.95 0.16   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
  * CALIB NASHYD         0015  1  5.0    9.78    0.15  6.25   5.26 0.17   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    0.15  6.25   5.26  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    0.80    0.06  6.25   5.26  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    8.98    0.09  6.08   5.26  n/a   0.000
*
  ** Reservoir
    OUTFLOW:              0019  1  5.0    0.80    0.00  6.50   4.97  n/a   0.000
*
    READ STORM                5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
  * CALIB NASHYD         0016  1  5.0    1.29    0.02  6.25   4.41 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    2.09    0.02  6.25   4.62  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    5.46    0.06  6.25   4.82  n/a   0.000
*
***********************************
** SIMULATION:19) 12HR SCS -25YR **
***********************************
    READ STORM                5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.21  6.67   6.27 0.17   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
```

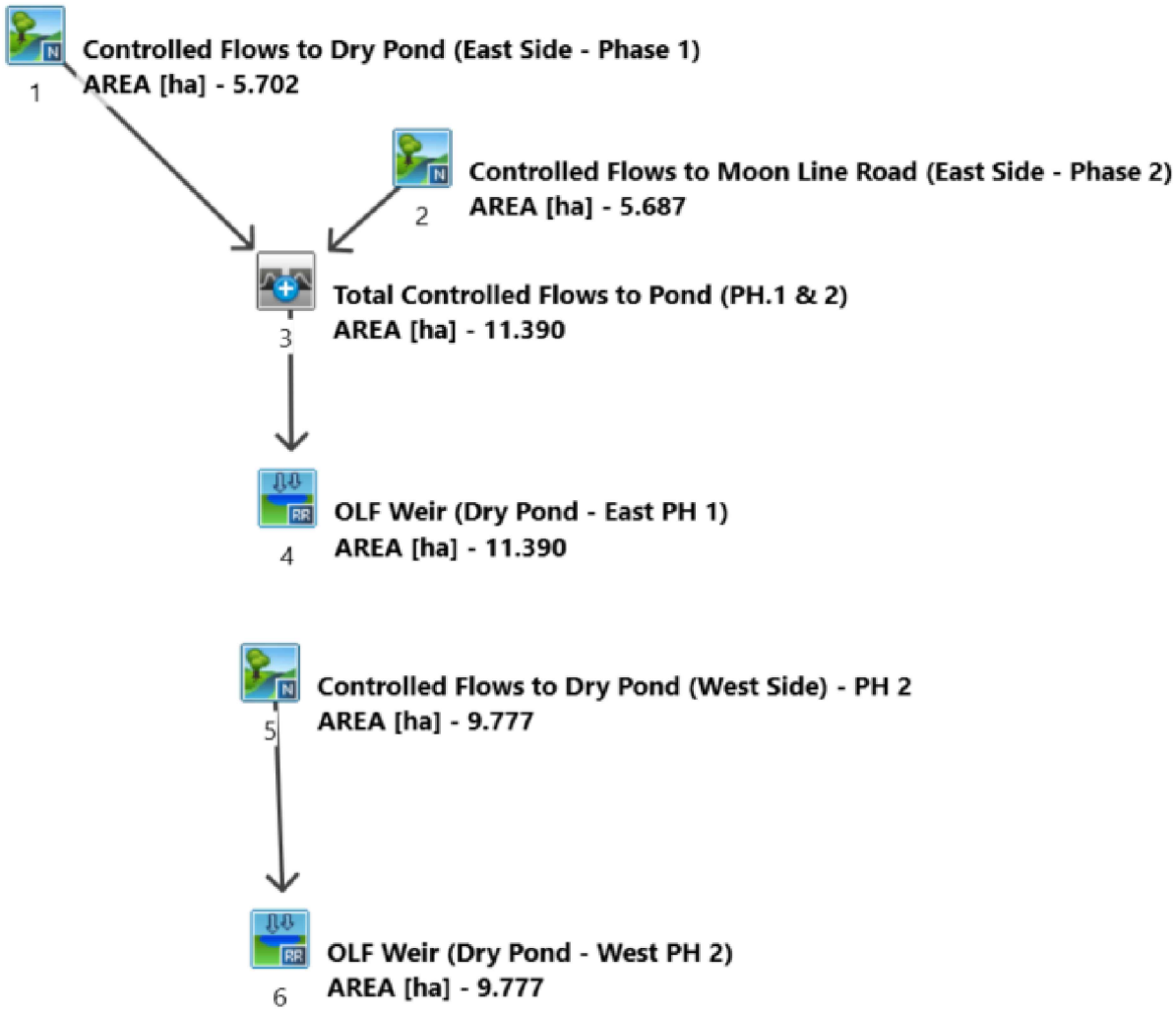
```
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB NASHYD         0008  1  5.0    3.37    0.06  6.25   6.88 0.19   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB NASHYD         0015  1  5.0    9.78    0.21  6.25   7.30 0.20   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    0.21  6.25   7.30  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    1.62    0.12  6.25   7.30  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    8.16    0.09  6.08   7.30  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    1.62    0.01  6.50   7.16  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB NASHYD         0016  1  5.0    1.29    0.02  6.25   6.16 0.17   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    2.91    0.03  6.42   6.71  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    6.28    0.09  6.25   6.81  n/a   0.000
*
*********************************
** SIMULATION:2) PTBO 4HR 5 Yr **
*********************************
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.39  1.83   9.64 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 *  CALIB NASHYD         0008  1  5.0    3.37    0.13  1.42  10.52 0.23   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 *  CALIB NASHYD         0015  1  5.0    9.78    0.40  1.33  11.10 0.25   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    0.40  1.33  11.10  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    3.97    0.31  1.33  11.10  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    5.81    0.09  1.25  11.10  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    3.97    0.03  1.92  11.04  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 *  CALIB NASHYD         0016  1  5.0    1.29    0.04  1.42   9.47 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    5.26    0.06  1.50  10.66  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    8.63    0.19  1.42  10.60  n/a   0.000
*
*************************************
** SIMULATION:20) 12HR SCS - 50YR **
*************************************
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 *  CALIB NASHYD         0002  1  5.0   21.86    1.01  6.67  28.88 0.36   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 *  CALIB NASHYD         0008  1  5.0    3.37    0.25  6.25  30.88 0.38   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 *  CALIB NASHYD         0015  1  5.0    9.78    0.78  6.25  32.21 0.40   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    0.78  6.25  32.21  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    4.94    0.69  6.25  32.21  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    4.84    0.09  5.75  32.21  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    4.94    0.44  6.50  32.16  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 *  CALIB NASHYD         0016  1  5.0    1.29    0.09  6.25  28.37 0.35   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    6.23    0.51  6.50  31.37  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    9.60    0.70  6.50  31.20  n/a   0.000
*
*************************************
** SIMULATION:21) 12HR SCS - 100YR **
*************************************
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 *  CALIB NASHYD         0002  1  5.0   21.86    1.29  4.50  40.23 0.41   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 *  CALIB NASHYD         0008  1  5.0    3.37    0.42  4.00  42.72 0.43   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 *  CALIB NASHYD         0015  1  5.0    9.78    1.37  4.00  44.36 0.45   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    1.37  4.00  44.36  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    5.26    1.28  4.00  44.36  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    4.51    0.09  3.75  44.36  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    5.26    0.65  4.25  44.31  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 *  CALIB NASHYD         0016  1  5.0    1.29    0.15  4.00  39.52 0.40   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
```

```
    ADD [  0016+  0019]  0020  3  5.0    6.56    0.75  4.25  43.37  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    9.92    1.04  4.17  43.15  n/a   0.000
*
************************************
** SIMULATION:22) 24HR SCS - 2YR **
************************************
    READ STORM                  5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.04 12.75   2.99 0.12   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                  5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
  * CALIB NASHYD         0008  1  5.0    3.37    0.01 12.25   3.31 0.13   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
  * CALIB NASHYD         0015  1  5.0    9.78    0.03 12.25   3.52 0.14   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD               0017  1  5.0    9.78    0.03 12.25   3.52  n/a   0.000
       MAJOR SYSTEM:    0017  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:    0017  3  5.0    9.78    0.03 12.25   3.52  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0019  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
  * CALIB NASHYD         0016  1  5.0    1.29    0.00 12.25   2.93 0.11   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    1.29    0.00 12.25   2.93  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    4.66    0.01 12.25   3.20  n/a   0.000
*
************************************
** SIMULATION:23) 24HR SCS - 5YR **
************************************
    READ STORM                  5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.06 12.67   4.32 0.14   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                  5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
  * CALIB NASHYD         0008  1  5.0    3.37    0.01 12.25   4.76 0.16   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
  * CALIB NASHYD         0015  1  5.0    9.78    0.04 12.08   5.06 0.17   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD               0017  1  5.0    9.78    0.04 12.08   5.06  n/a   0.000
       MAJOR SYSTEM:    0017  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:    0017  3  5.0    9.78    0.04 12.08   5.06  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0019  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
  * CALIB NASHYD         0016  1  5.0    1.29    0.00 12.25   4.24 0.14   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    1.29    0.00 12.25   4.24  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    4.66    0.02 12.25   4.61  n/a   0.000
*
************************************
** SIMULATION:24) 24HR SCS - 10YR **
************************************
    READ STORM                  5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.08 12.67   5.61 0.16   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                  5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
  * CALIB NASHYD         0008  1  5.0    3.37    0.02 12.25   6.17 0.18   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
  * CALIB NASHYD         0015  1  5.0    9.78    0.06 12.08   6.54 0.19   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD               0017  1  5.0    9.78    0.06 12.08   6.54  n/a   0.000
       MAJOR SYSTEM:    0017  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:    0017  3  5.0    9.78    0.06 12.08   6.54  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0019  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
  * CALIB NASHYD         0016  1  5.0    1.29    0.01 12.25   5.51 0.16   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    1.29    0.01 12.25   5.51  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    4.66    0.02 12.25   5.99  n/a   0.000
*
************************************
** SIMULATION:25) 24HR SCS - 25YR **
************************************
    READ STORM                  5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.11 12.58   7.64 0.19   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                  5.0
    [ Ptot= 39.96 mm ]
```

```
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 *  CALIB NASHYD         0008  1  5.0    3.37    0.02 12.08   8.36 0.21   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 *  CALIB NASHYD         0015  1  5.0    9.78    0.08 12.08   8.84 0.22   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    0.08 12.08   8.84  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    9.78    0.08 12.08   8.84  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 *  CALIB NASHYD         0016  1  5.0    1.29    0.01 12.08   7.50 0.19   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    1.29    0.01 12.08   7.50  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    4.66    0.03 12.08   8.12  n/a   0.000
*
**********************************
** SIMULATION:26) 24HR SCS - 50YR **
**********************************
    READ STORM                 5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.14 12.58   9.58 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                 5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 *  CALIB NASHYD         0008  1  5.0    3.37    0.03 12.08  10.45 0.23   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 *  CALIB NASHYD         0015  1  5.0    9.78    0.10 12.08  11.04 0.25   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    0.10 12.08  11.04  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    0.06    0.01 12.08  11.04  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    9.71    0.09 11.92  11.04  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    0.06    0.00 12.50  10.95  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 *  CALIB NASHYD         0016  1  5.0    1.29    0.01 12.08   9.41 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    1.36    0.01 12.25   9.49  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    4.72    0.04 12.08  10.17  n/a   0.000
*
**********************************
** SIMULATION:27) 24HR SCS - 100YR **
**********************************
    CHIC STORM                10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0002  1  5.0   21.86    1.42  8.50  50.46 0.44   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    CHIC STORM                10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.47  8.00  53.31 0.47   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0015  1  5.0    9.78    1.51  8.00  55.18 0.49   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    1.51  8.00  55.18  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    4.66    1.42  8.00  55.18  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    5.12    0.09  7.67  55.18  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    4.66    0.75  8.25  55.13  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.16  8.00  49.57 0.44   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    5.95    0.85  8.25  53.93  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    9.32    1.19  8.17  53.70  n/a   0.000
*
**********************************
** SIMULATION:28) Timmins     **
**********************************
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0002  1  5.0   21.86    2.01 10.50 197.59 0.68   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.33 10.50 202.20 0.70   0.000
    [CN=70.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0015  1  5.0    9.78    0.98 10.50 205.36 0.71   0.000
    [CN=71.8         ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                0017  1  5.0    9.78    0.98 10.50 205.36  n/a   0.000
       MAJOR SYSTEM:     0017  2  5.0    7.15    0.89 10.50 205.36  n/a   0.000
       MINOR SYSTEM:     0017  3  5.0    2.63    0.09  1.42 205.36  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0019  1  5.0    7.15    0.88 10.50 205.33  n/a   0.000
*
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
```

```
    remark: TIMMINS
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.12 10.50 194.10 0.67   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    8.44    1.00 10.50 203.61  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0   11.81    1.33 10.50 203.21  n/a   0.000
*
***********************************
** SIMULATION:3) PTBO 4HR 10 Yr **
***********************************
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.56  1.83  13.55 0.25   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.18  1.42  14.70 0.27   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0015  1  5.0    9.78    0.57  1.33  15.46 0.29   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    0.57  1.33  15.46  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    5.00    0.48  1.33  15.46  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    4.77    0.09  1.25  15.46  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0019  1  5.0    5.00    0.13  1.83  15.42  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.06  1.42  13.31 0.25   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    6.30    0.15  1.75  14.99  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    9.66    0.26  1.42  14.89  n/a   0.000
*
***********************************
** SIMULATION:4) PTBO 4HR 25 Yr **
***********************************
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.75  1.83  17.58 0.29   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.24  1.42  18.98 0.31   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0015  1  5.0    9.78    0.76  1.33  19.91 0.32   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    0.76  1.33  19.91  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    5.75    0.67  1.33  19.91  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    4.03    0.09  1.25  19.91  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0019  1  5.0    5.75    0.23  1.75  19.87  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.08  1.42  17.27 0.28   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    7.04    0.27  1.67  19.39  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0   10.41    0.43  1.58  19.26  n/a   0.000
*
***********************************
** SIMULATION:5) PTBO 4HR 50 Yr  **
***********************************
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.94  1.83  21.49 0.31   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.31  1.42  23.12 0.34   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0015  1  5.0    9.78    0.99  1.33  24.20 0.35   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    0.99  1.33  24.20  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    6.21    0.90  1.33  24.20  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    3.57    0.09  1.17  24.20  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0019  1  5.0    6.21    0.38  1.67  24.16  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.11  1.42  21.11 0.31   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    7.50    0.44  1.67  23.64  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0   10.87    0.63  1.58  23.48  n/a   0.000
*
***********************************
** SIMULATION:6) PTBO 4HR 100 Yr **
***********************************
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0002  1  5.0   21.86    1.15  1.83  25.94 0.34   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.37  1.42  27.81 0.36   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0015  1  5.0    9.78    1.20  1.33  29.04 0.38   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    1.20  1.33  29.04  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    6.65    1.11  1.33  29.04  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    3.12    0.09  1.17  29.04  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0019  1  5.0    6.65    0.55  1.67  29.00  n/a   0.000
*
    CHIC STORM                10.0
```

```
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.13  1.42  25.49 0.33   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    7.95    0.62  1.58  28.43  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0   11.31    0.88  1.58  28.24  n/a   0.000
*
***********************************
** SIMULATION:7) 6 HR SCS - 2 YR **
***********************************
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.30  3.58   7.17 0.19   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
  * CALIB NASHYD         0008  1  5.0    3.37    0.13  3.25   7.85 0.20   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
  * CALIB NASHYD         0015  1  5.0    9.78    0.41  3.25   8.32 0.21   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    0.41  3.25   8.32  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    3.17    0.32  3.25   8.32  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    6.61    0.09  3.08   8.32  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0019  1  5.0    3.17    0.02  3.50   8.24  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
  * CALIB NASHYD         0016  1  5.0    1.29    0.04  3.25   7.04 0.18   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    4.46    0.06  3.25   7.90  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    7.83    0.18  3.25   7.88  n/a   0.000
*
***********************************
** SIMULATION:8) 6 HR SCS - 5 YR **
***********************************
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.56  3.58  13.04 0.25   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.23  3.25  14.16 0.27   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0015  1  5.0    9.78    0.73  3.25  14.91 0.28   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    0.73  3.25  14.91  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    4.59    0.64  3.25  14.91  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    5.19    0.09  2.92  14.91  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0019  1  5.0    4.59    0.11  3.50  14.86  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.08  3.25  12.81 0.24   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    5.88    0.14  3.42  14.41  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    9.25    0.33  3.25  14.32  n/a   0.000
*
***********************************
** SIMULATION:9) 6 HR SCS - 10YR **
***********************************
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0002  1  5.0   21.86    0.76  3.58  17.63 0.29   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.43]
*
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0008  1  5.0    3.37    0.31  3.25  19.04 0.31   0.000
    [CN=70.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0015  1  5.0    9.78    0.98  3.25  19.97 0.32   0.000
    [CN=71.8        ]
    [ N = 3.0:Tp 0.10]
*
    DUHYD                 0017  1  5.0    9.78    0.98  3.25  19.97  n/a   0.000
       MAJOR SYSTEM:      0017  2  5.0    5.21    0.89  3.25  19.97  n/a   0.000
       MINOR SYSTEM:      0017  3  5.0    4.57    0.09  2.92  19.97  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0019  1  5.0    5.21    0.24  3.42  19.93  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0016  1  5.0    1.29    0.11  3.25  17.32 0.28   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0016+  0019]  0020  3  5.0    6.50    0.28  3.42  19.41  n/a   0.000
*
    ADD [  0020+  0008]  0020  1  5.0    9.87    0.50  3.33  19.28  n/a   0.000
*
```



JEFFERY SUBDIVISION, BOBCAYGEON, ON

V.O. SCHEMATIC – POST–DEVELOPMENT FLOWS (OVERLAND FLOW WEIR)

D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905–576–8500
info@dgbiddle.com
dgbiddle.com

SCALE	N.T.S.
DRAWN	M.J.H.
DESIGN	M.J.H.
CHECKED	D.D.M.
DATE	DEC 2024

PROJECT 122169

DWG **FIG 7**

```
********************************
** SIMULATION:Timmins          **
********************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              daecfa69-c3ba-4000-9bd5-5a526d869652\97ce3df3
| Ptotal=289.50 mm |    Comments: TIMMINS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	15.00	4.50	3.00	9.00	43.00	13.50	13.00
0.50	15.00	5.00	3.00	9.50	43.00	14.00	13.00
1.00	15.00	5.50	3.00	10.00	43.00	14.50	13.00
1.50	20.00	6.00	5.00	10.50	20.00	15.00	13.00
2.00	20.00	6.50	5.00	11.00	20.00	15.50	13.00
2.50	20.00	7.00	5.00	11.50	20.00	16.00	13.00
3.00	10.00	7.50	20.00	12.00	23.00	16.50	8.00
3.50	10.00	8.00	20.00	12.50	23.00	17.00	8.00
4.00	10.00	8.50	20.00	13.00	23.00	17.50	8.00

```
--------------------
| CALIB            |
| NASHYD  (  0022) |   Area    (ha)=   5.70   Curve Number   (CN)= 72.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

```
      Unit Hyd Qpeak  (cms)=   1.058

      PEAK FLOW       (cms)=   0.580 (i)
      TIME TO PEAK    (hrs)=  10.500
      RUNOFF VOLUME    (mm)= 211.305
      TOTAL RAINFALL   (mm)= 289.500
      RUNOFF COEFFICIENT   =   0.730

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD  (  0023) |   Area    (ha)=   5.69   Curve Number   (CN)= 71.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

        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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

Unit Hyd Qpeak (cms)= 1.274

PEAK FLOW (cms)= 0.576 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 209.385
TOTAL RAINFALL (mm)= 289.500
RUNOFF COEFFICIENT = 0.723

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

ADD HYD (0024)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0022):	5.70	0.580	10.50	211.31
	+ ID2= 2 (0023):	5.69	0.576	10.50	209.38
	ID = 3 (0024):	11.39	1.155	10.50	210.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0002)	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	0.7760	0.0600
	0.2449	0.0300	1.5771	0.0800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0024)	11.390	1.155	10.50	210.35
OUTFLOW: ID= 1 (0002)	11.390	1.150	10.50	210.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.58
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0694

CALIB			
NASHYD (0015)	Area (ha)=	9.78	Curve Number (CN)= 80.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.10	

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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

Unit Hyd Qpeak (cms)= 3.692

PEAK FLOW (cms)= 1.050 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 226.785
TOTAL RAINFALL (mm)= 289.500
RUNOFF COEFFICIENT = 0.783

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

RESERVOIR(0004)	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	0.7755	0.0480
	0.2449	0.0235	1.5771	0.0738

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0015)	9.777	1.050	10.50	226.79
OUTFLOW: ID= 1 (0004)	9.777	1.047	10.50	226.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.70
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0568

APPENDIX 4

EASTERN PORTION OF SITE DRAINING TO MOON LINE ROAD – HYDRAULIC POINT C

POST-DEVELOPMENT WEIGHTED CURVE NUMBERS

POST-DEVELOPMENT WEIGHTED RUNOFF COEFFICIENT

PRE-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

POST-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

STAGE-STORAGE DISCHARGE – EASTERN PARCEL FLOWS TO MOON LINE ROAD

WATER QUALITY STORAGE REQUIREMENTS – HYDRAULIC POINT C

VISUAL OTTHYMO SCHEMATIC & OUTPUT

Weighted Curve Number Calculations - Eastern Parcel

Note: Assume House Area of 370.80m^2 and Garage of 102.30 m^2 per Henley Contracting Ltd**.**
Therefore, assume 500m^2 per lot for house, driveway and garage/office.

Eastern Parcel Flows to Moon Line Road Ditch

Node 22 - Lots 12 to 25 & Street D Draining to Pond (Controlled Flows to Moon Line Road - Phase 1)			Area =	5.70 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (10)	0.500	98	49	
Grassed Area	4.750	67	318.2726	
Asphalt/Shoulder	0.452	98	44.30482	
Total	5.70		411.5774	
Weighted CN =	72.18			

Node 23 - North Section of East Parcel (PH 2) Draining to Pond			Area =	5.69 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (8)	0.400	98	39.2	
Grassed Area	4.844	67	324.5559	
Asphalt/Shoulder	0.445	98	43.64842	
Total	5.69		407.4043	
Weighted CN =	71.61			

Node 28 - Lots 47 to 51 Rears & BLK 61			Area =	3.06 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (4)	0.200	98	19.6	
Grassed Area	2.855	67	191.3119	
Total	3.06		210.9119	
Weighted CN =	69.03			

Post-Development Weighted Runoff Coefficients

Node 22 - South Section of East Parcel (PH 1) Draining to Pond			Area =	5.70 ha
Material	**Area**	**RC (I)**	**A*I**	
Asphalt	0.298	0.9	0.268132	
Gravel Shoulder	0.154	0.6	0.092503	
Landscape	5.250	0.2	1.050066	
Total	5.70		1.410701	
Weighted RC =	0.247386			
% IMP =	6.82%			

Node 23 - North Section of East Parcel (PH 2) Draining to Pond			Area =	5.69 ha
Material	**Area**	**RC (I)**	**A*I**	
Road & Driveways	0.289811	0.9	0.26083	
Gravel Shoulder	0.155581	0.6	0.093348	
Landscape	5.242	0.2	1.048351	
Total	5.69		1.402529	
Weighted RC =	0.24661			
% IMP =	6.71%			

Job: Jeffery Subdivision - Bobcaygeon
Job #: 122169

Time of Concentration & Time to Peak Calculation (Pre-Development)

4)	Node 4 -Eastern Portion of Site Draining East to Moon Line Road North		Slope =	293.29 - 286.84 / 103.63	=		6.22%
Part 1	Upstream Invert	293.29	**From Figure A.5.2 : Upland Method for Estimating Tc**				
	Downstream Invert	286.84	**(SCS National Engineering Handbook, 1971)**				
	Length (m)	103.63	v =	0.56 m/s			
	Assume Pasture - Contoured		t_c =	103.63 / 0.56	=	185.05 s	
					=	0.051403 h	
			t_{p2} =	2 x t_c / 3	=	0.034269 h	

5)	Node 4 -Eastern Portion of Site Draining East to Moon Line Road North		Slope =	286.84 - 286.00 / 171.18	=		0.49%
Part 2	Upstream Invert	286.84	**From Figure A.5.2 : Upland Method for Estimating Tc**				
	Downstream Invert	286.00	**(SCS National Engineering Handbook, 1971)**				
	Length (m)	171.18	v =	0.16 m/s			
	Assume Pasture - Contoured		t_c =	171.18 / 0.16	=	1053.43 s	
					=	0.29262 h	
			t_{p2} =	2 x t_c / 3	=	0.19508 h	

6)	Node 4 -Eastern Portion of Site Draining East to Moon Line Road North		Slope =	286.00 - 280.70 / 322.16	=		1.65%
Part 3	Upstream Invert	286.00	**From Figure A.5.2 : Upland Method for Estimating Tc**				
	Downstream Invert	280.70	**(SCS National Engineering Handbook, 1971)**				
	Length (m)	322.16	v =	0.28 m/s			
	Assume Pasture - Contoured		t_c =	322.16 / 0.28	=	1138.38 s	
					=	0.316217 h	
			t_{p2} =	2 x t_c / 3	=	0.210811 h	

$t_{p\ TOTAL}$ = $t_{p1} + t_{p2} + t_{p3}$ = 0.4401597 h

Time of Concentration & Time to Peak Calculation (Post-Development) - Eastern Side of Site

	Node 22 - Lots 12-25 & Street D Draining to							
1	Pond - Pt. 1		Slope =	292.17 - 289.60	=	2.02%		
	Upstream Invert	292.17		127.19				
	Downstream Invert	289.60	**From Figure A.5.2 : Upland Method for Estimating Tc**					
	Length (m)	127.19	**(SCS National Engineering Handbook, 1971)**					
	Assume Pasture - Contoured		v =	0.30 m/s				
			t_c =	127.19	=	423.96 s		
				0.30	=	0.117767 h		
		Part 1	t_{p1} =	$2 \times t_c$	=	0.078511 h		
				3				

	Node 22 - Lots 12-25 & Street D Draining to							
2	Pond - Pt. 2		Slope =	289.60 - 284.49	=	1.38%		
	Upstream Invert	289.60		371.21				
	Downstream Invert	284.49	**From Figure A.5.2 : Upland Method for Estimating Tc**					
	Length (m)	371.21	**(SCS National Engineering Handbook, 1971)**					
	Assume Grassed Waterway		v =	0.54 m/s				
			t_c =	371.21	=	687.43 s		
				0.54	=	0.190953 h		
		Part 2	t_{p2} =	$2 \times t_c$	=	0.127302 h		
				3				
	$t_p = t_{p1} + t_{p2}$ =	0.07851	+	0.127302	=	0.205813 h		

	Node 23 - Lots 44 to 56 & Street D Draining to							
3	Moon Line (Controlled Flows - Phase 2) - Pt 1		Slope =	291.65 - 288.75	=	3.00%		
	Upstream Invert	291.65		96.56				
	Downstream Invert	288.75	**From Figure A.5.2 : Upland Method for Estimating Tc**					
	Length (m)	96.56	**(SCS National Engineering Handbook, 1971)**					
	Assume Pasture - Contoured		v =	0.39 m/s				
			t_c =	96.56	=	247.58 s		
				0.39	=	0.068774 h		
		Part 1	t_{p1} =	$2 \times t_c$	=	0.045849 h		
				3				

	Node 23 - Lots 44 to 56 & Street D Draining to							
4	Moon Line (Controlled Flows - Phase 2) - Pt 2		Slope =	288.75 - 285.68	=	0.98%		
	Upstream Invert	288.73		309.66				
	Downstream Invert	285.68	**From Figure A.5.2 : Upland Method for Estimating Tc**					
	Length (m)	309.66	**(SCS National Engineering Handbook, 1971)**					
	Assume Grassed Waterway		v =	0.46 m/s				
			t_c =	309.66	=	673.16 s		
				0.46	=	0.18699 h		
		Part 2	t_{p2} =	$2 \times t_c$	=	0.12466 h		
				3				
	$t_p = t_{p1} + t_{p2}$ =	0.04585	+	0.12466	=	0.170509 h		

Jeffery Bobcaygeon - Stormwater Management Pond B - Eastern Pond (PH 1)
Our File: 122169
2024-12-17

Orifice 1

$Q = CA(2gh)^{0.5}$

Diameter = 0.125m

C = 0.61 (PLATE)

C/L ELEV = 284.11m

Weir 1

$$Q = \frac{2}{3} C_W B \sqrt{2g} (h)^{3/2})$$

C_w= 0.577

B (width)= 1.20 m

Weir 1 284.92 m

Pond Storage

Quantity Controls

Invert 284.050 m

ELEV	AREA	AVERAGE AREA	DEPTH	VOLUME	TOTAL VOLUME	ORIFICE 1		ORIFICE 2		TOTAL FLOW
						HEAD	FLOW	HEAD	FLOW	
m	m2	m2	m	m3	m3	m	cms	m	cms	cms
284.050	982.949				0.000	0.00	0.000000			0.000000
		1084.422	0.250	271.106						
284.300	1185.896				271.106	0.19	0.014358			0.014358
		1295.653	0.250	323.913						
284.550	1405.410				595.019	0.44	0.021932			0.021932
		1523.451	0.250	380.863						
284.800	1641.492				975.882	0.69	0.027493	0.00	0.000000	0.027493
		1767.816	0.250	441.954						
285.050	1894.140				1417.836	0.94	0.032105	0.13	0.095836	0.127942
		2045.276	0.250	511.319						
285.300	2196.411				1929.155	1.19	0.036133	0.38	0.478951	0.515084
		2312.976	0.250	578.244						
285.550	2429.540				2507.398	1.44	0.039755	0.63	1.022412	1.062168
		2282.943	0.750	1712.207						
285.800	2671.745				3130.043	1.69	0.043074	0.88	1.687871	1.730945

DRY POND QUANTITY REQUIREMENTS (60% TSS Removal)
***Imp Levels taken from Table 3.2 of MECP SWM Planning & Design Manual**

IMPERVIOUS LEVEL	STORAGE VOLUME REQUIRED(m^3/ha)
85%	240
70%	200
55%	150
35%	90

Areas Draining to Pond B	Area (ha)	% Impervious	A x I
Node 22 - South Section of East Parcel (PH 1) Draining to Pond	5.70	6.82%	1.41
Node 23 - North Section of East Parcel (PH 2) Draining to Pond	5.69	6.71%	1.40
TOTAL	11.39		2.82
Weighted RC =	0.25		
% IMP =	6.81%		

Since 6.81% is below the 35%, a conservative permanent storage volume of 90 m^3/ha is required .

Fluctuating Storage is the 25mm storm event:

Total Drainage Area (ha)	Total Rainfall (mm)	Runoff Depth (mm)	Volume Required (m^3)
11.39	25	3.34	380.87

Therefore, storage requirements are as follows:

Dry Pond Quantity Storage Vol. (90 m3/ha) = 1025.06 m^3
Fluctuating Storage Volume = 380.87 m^3

Orifice Sizing Calculations
From MOE Stormwater Management Practices Manual

$$t = \frac{2xA_p}{CxA_o(2g)^{0.5}} \times (h_1^{0.5}-h_2^{0.5})$$

$$86400 = \frac{2x2763.20}{0.61xA_o(2x9.81)^{0.}} \times (0.95^{0.5}-0.00^{0.5)}$$

$$A_o = \frac{4612.15}{86400 \times 2.702}$$

A_o= 0.0198 m^2

t=Drawdown Time(s)	86400	s
A_p= Pond Area(@ Max WSE)=	2671.75	m^2
C= Discharge Coefficient=	0.61	
h_1=Max. head(m)		
= 284.92 - 284.175	0.75	m
h_2=Min. head(m)		
=	0.00	m
C/L Orifice=	284.11	m
g=Gravity=	9.81	m/s^2
A_o= Orifice Area	0.006361725	m^2

Orifice Diameter

$$Dia = \frac{4xA_o}{PI}$$

Dia= 0.090 m

Check Drawdown time (Equation 4.10 - MOE 2003 Manual)

$$t = \frac{2\ A_p}{CA_o(2g)^{0.5}} (h_1^{0.5} - h_2^{0.5})$$

= 139096 s

= 38.64 h

D= Orifice Diameter	0.125	m
A_o= Orifice Area	0.012271846	m^2
g=Gravity=	9.81	m/s^2
A_p = Surface Area of Pond (m^2) =	2671.75	m^2
h_1 = Starting Water Elevation = Above the Orifice	0.00	m
h_2 = Ending Water Elevation = Above the Orifice	0.75	
C= Discharge Coefficient=	0.61	

Maximum Discharge

$Q = CxA_o x(2gh)^{0.5}$

$= 0.0286\ m^3/s$

D= Orifice Diameter	0.125	m
A_o= Orifice Area	0.01227	m^2
g=Gravity=	9.81	m/s^2
Maximum Head(h)=	0.75	m
C= Discharge Coefficient=	0.61	

Equation 4.5 - Forebay Settling Length

$$\text{Distance} = \sqrt{\frac{rxQ_p}{V_s}}$$

$$= \sqrt{\frac{0.0572}{0.0003}}$$

$= 13.8\ m$

r=Length:Width Ratio	2.0	:1
Qp=Orifice Peak Discharge=	0.0286	m^3/s
V_s=Settling Velocity	0.0003	m/s

Equation 4.6 - Forebay Dispersion Length

$$\frac{8xQ}{dxV_p}$$

$$= \frac{3.016}{0.5}$$

$= 6.00\ m$

d=Depth of Forebay	1	m
Vp=Velocity in Forebay	0.5	m/s
$Q = \frac{CiA}{360}\ m^3/s$	0.092	m^3/s
Q (5Yr4hr) =	0.377	m^3/s
C=Runoff Coefficient	0.20	
i=43xC+5.9	14.5	mm/hr
A=Area(ha)	11.390	ha

Equation 4.7 - Minimum Bottom Width

$$\text{Width} = \frac{\text{Distance}}{8}$$

$= 0.75\ m$

Orifice 1 Discharge

Orifice Diameter:	125	mm
Orifice Type:	PLATE	
Orifice Coeff	0.61	
Orifice Inv	284.05	m
Centreline:	284.11	m
X-Sectional Area:	0.012272	m2
Gravity Constant	9.81	m/s2

Elevation (m)	Head (m)	Discharge (m3/s)	Discharge (L/s)
284.05	0.00	0.00000	0.00
284.30	0.19	0.01436	14.36
284.55	0.44	0.02193	21.93
284.80	0.69	0.02749	27.49
285.05	0.94	0.03211	32.11
285.30	1.19	0.03613	36.13
285.55	1.44	0.03976	39.76
285.80	1.69	0.04307	43.07

Orifice Discharge Equation

Q= 0.033158 Sqrt(H)

Note: Orifice Coefficient for PLATE orfice = 0.61
Orifice Coefficient for TUBE orfice = 0.80

Orifice Equation based on:
Q=CAv2GH

G = Gravitational Constant
H = Head (m)
A = X-Sectional Area (m2)
C = Orifice Coefficient

PROJECT Jeffery Bobcaygeon - Stormwater Management Pond B - Eastern Pond (PH 1)
PROJECT # 122169
DATE Dec-24

POND VOLUMES AND DISCHARGE - BLOCKED CONDITIONS

Weir 1 - See diagram on following page

Section 1 (rectangular portion)

$Q = \frac{2}{3} C_W B \sqrt{2g} (h)^{3/2})$

C_w= 0.577
B (width)= 4.00 m
Weir 1 285.8 m

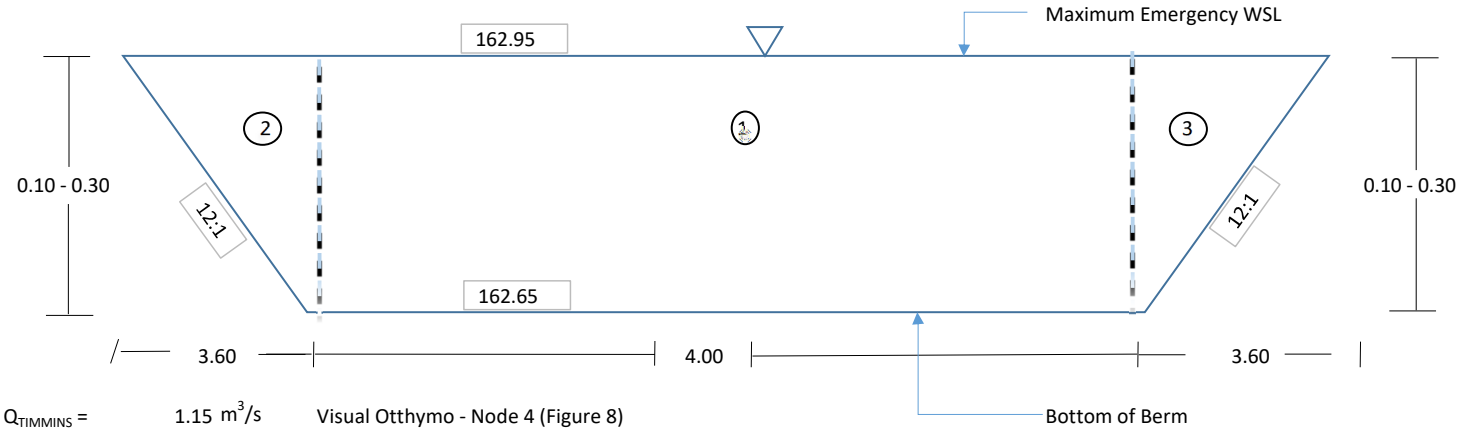
Section 2 & 3 (triangular portion)

$Q = \frac{2}{3} C_W B \sqrt{2g} ((\frac{2}{3} h)^{3/2})$

C_w= 0.577
B (width)= d / (1/5) m

	ELEV	AREA	AVERAGE AREA	DEPTH	VOLUME	TOTAL VOLUME	ORIFICE 1 HEAD	ORIFICE 1 FLOW	ORIFICE 2 HEAD	ORIFICE 2 FLOW	WEIR HEAD	WEIR FLOW	TOTAL FLOW
	m	m2	m2	m	m3	m3	m	cms	m	cms	m	cms	cms
Emergency	285.80	2671.75				0.00					0.00	0.000	0.0000
Flow			2719.86	0.10	271.99								
	285.90	2767.98				271.99					0.10	0.245	0.2449
			2816.61	0.10	281.66								
	286.00	2865.23				553.65					0.20	0.776	0.7755
			2918.90	0.10	291.89								
	286.10	2972.58				845.54					0.30	1.577	1.5771

Weir Diagram



HYMO $Q_{TIMMINS}$ = 1.15 m^3/s Visual Otthymo - Node 4 (Figure 8)

Therefore, in the event of blocked conditions, the emergency overflow weir has the capacity to convey the Timmins Regional Event flow.

PROJECT Jeffery Bobcaygeon - Stormwater Management Pond B - Eastern Pond (PH 1)
PROJECT # 122169
DATE 2024-12-17

Infiltration Gallery Sizing

It is proposed to size an infiltration gallery to hold 100% of the 25mm event in the base of the pond

Area (ha) 11.39 IN meters 113895.7 m^2

Storm	Flow** (m^3/s)	RV (mm)*	RV (m)
25mm event	0.085	3.344	0.003344

* RV from AddHyd 24 (Flows to Pond) in VO Output
** Flow divide to be input at Node 92 (DuHyd - 92)

Volume required to store 25mm event = 380.8673 m^3

$$\text{Stone Volume Required} = \frac{380.87}{0.4} = 952.1682\ m^3$$

Area of Base of Pond = 681.67 m^2

$$\text{Minimum Depth of Gallery Required} = \frac{\text{Stone Volume Required}}{\text{Area of Base of Pond}} = \frac{952.17}{681.67} = 1.397\ m$$

Volume of Stone provided (1.40m depth of stone) = 954.33 m^3 > 952.1682 m^3

Therefore, a 1.40m deep stone gallery will line the base of the proposed dry pond and has been sized to infiltrate the 25mm rainfall event.

Water Quality Storage Requirements Based on Receiving Waters

Hydraulic Pt C - Draining to Moon Line Road North - East Parcel

Node	Area	RC	A x I
22	5.702427	0.25	1.4107
23	5.687145	0.25	1.402507
Total	11.38957 ha		2.813207

Weighted RC = 0.247
% IMP = 6.81%

For conservatism, we assumed a maximum imperviousness of 20%.

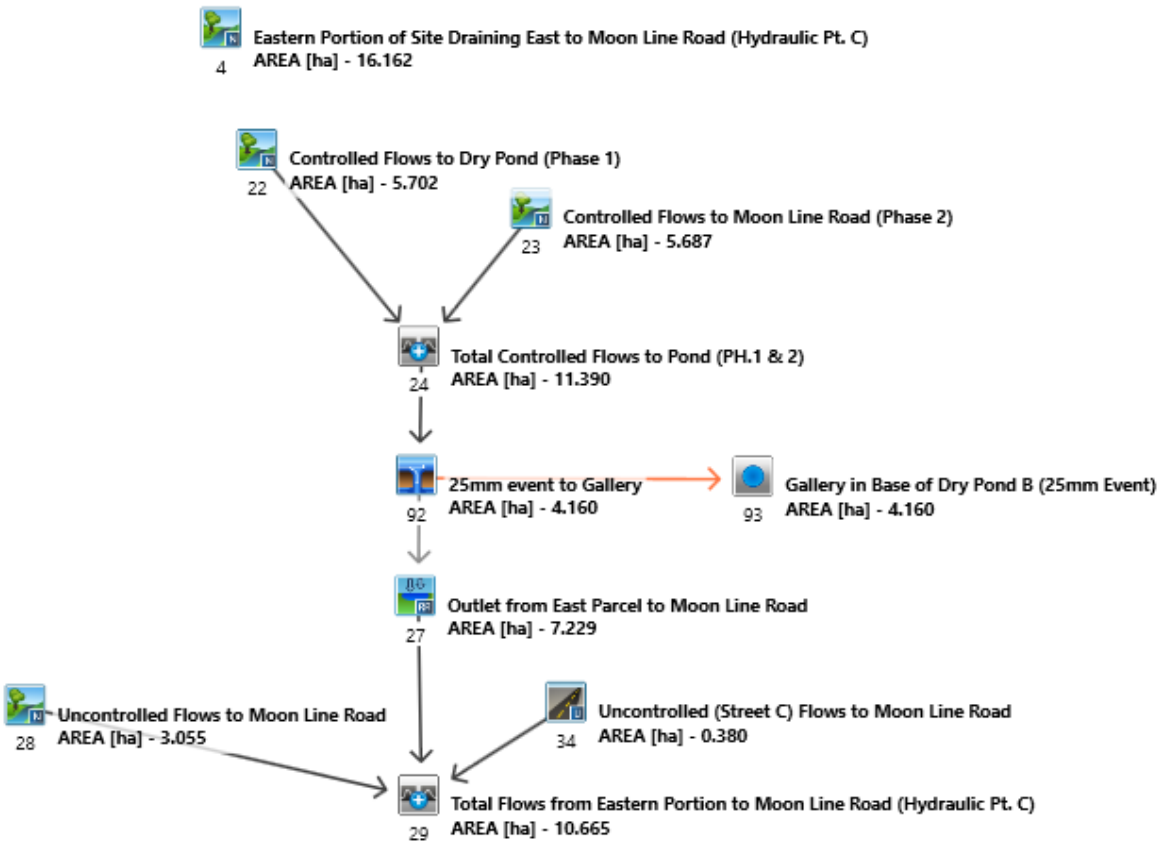
In order to provide 80% TSS Removal, refer to Table 3.2 from MOE SWM Planning and Design Manual.

Since the calculated imperviousness, 20% < 35%, size galleries to store 25m^3/ha.

Storage = 11.38957 x 25m^3/ha = 284.74 m^3 Required

Storage Provided = 952.17 m^3

Therefore, adequate storage provided to ensure 80% TSS removal by the infiltration gallery in the base of Pond B.



JEFFERY SUBDIVISION, BOBCAYGEON, ON

V.O. SCHEMATIC – POST–DEVELOPMENT FLOWS TO MOON LINE ROAD

D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905–576–8500
info@dgbiddle.com
dgbiddle.com

SCALE	N.T.S.
DRAWN	M.J.H.
DESIGN	M.J.H.
CHECKED	D.D.M.
DATE	DEC 2024

PROJECT 122169

DWG **FIG 4**

```
**********
** SIMULATION:1) PTBO 4HR 2 Yr **
**********
```

CALIB					
NASHYD (0004)	Area (ha)=	16.16	Curve Number (CN)=	67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.44		

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 1.402

PEAK FLOW (cms)= 0.148 (i)
TIME TO PEAK (hrs)= 1.917
RUNOFF VOLUME (mm)= 5.466
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.161

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

CALIB					
NASHYD (0023)	Area (ha)=	5.69	Curve Number (CN)=	71.6
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.17		

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 1.274

PEAK FLOW (cms)= 0.104 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 6.473
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.190

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

CALIB					
NASHYD (0022)	Area (ha)=	5.70	Curve Number (CN)=	72.2
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.21		

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 1.058

PEAK FLOW (cms)= 0.097 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 6.627
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.195

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

ADD HYD (0024)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0022):	5.70	0.097	1.58	6.63
+ ID2= 2 (0023):	5.69	0.104	1.50	6.47
ID = 3 (0024):	11.39	0.199	1.50	6.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0092)				
Inlet Cap.= 0.085				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	11.39	0.20	1.50	6.55
MAJOR SYS.(ID= 2):	2.69	0.11	1.50	6.55
MINOR SYS.(ID= 3):	8.70	0.09	1.33	6.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0027)	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	0.1279	0.1418
	0.0144	0.0271	0.5151	0.1929
	0.0219	0.0595	1.0620	0.2507
	0.0275	0.0976	1.7310	0.3130

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0092)	2.690	0.114	1.50	6.55
OUTFLOW: ID= 1 (0027)	2.690	0.009	2.00	6.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.51
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0162

CALIB					
NASHYD (0028)	Area (ha)=	3.06	Curve Number (CN)=	69.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.11		

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 1.050

PEAK FLOW (cms)= 0.058 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 5.789
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.170

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

CALIB
STANDHYD (0034)
ID= 1 DT= 5.0 min

Area (ha)= 0.38
Total Imp(%)= 38.99 Dir. Conn.(%)= 38.99

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.15	0.23
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	50.33	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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Max.Eff.Inten.(mm/hr)=	69.00	10.85	
over (min)	5.00	20.00	
Storage Coeff. (min)=	1.96 (ii)	19.12 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.31	0.06	
			TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.030 (iii)
TIME TO PEAK (hrs)=	1.33	1.58	1.33
RUNOFF VOLUME (mm)=	33.03	8.35	17.94
TOTAL RAINFALL (mm)=	34.03	34.03	34.03
RUNOFF COEFFICIENT =	0.97	0.25	0.53

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.9 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 (0029)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0027):	2.69	0.009	2.00	6.37
+ ID2= 2 (0028):	3.06	0.058	1.42	5.79
ID = 3 (0029):	5.75	0.060	1.42	6.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0029)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0029):	5.75	0.060	1.42	6.06
+ ID2= 2 (0034):	0.38	0.030	1.33	17.94
ID = 1 (0029):	6.13	0.084	1.33	6.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0093)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0092)	8.70	0.09	1.33	6.55
OUTFLOW: ID= 2(0093)	8.70	0.09	1.33	6.55

****
** SIMULATION:2) PTBO 4HR 5 Yr **
****

CALIB
NASHYD (0004)
ID= 1 DT= 5.0 min

Area (ha)= 16.16 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.44

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 1.402

PEAK FLOW (cms)= 0.280 (i)
TIME TO PEAK (hrs)= 1.917
RUNOFF VOLUME (mm)= 9.640
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.215

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

CALIB
NASHYD (0023)
ID= 1 DT= 5.0 min

Area (ha)= 5.69 Curve Number (CN)= 71.6
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.17

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76

0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 1.274

PEAK FLOW (cms)= 0.197 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 11.275
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.251

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

CALIB					
NASHYD (0022)	Area (ha)=	5.70	Curve Number (CN)=	72.2	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.21			

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 1.058

PEAK FLOW (cms)= 0.182 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 11.525
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.257

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

ADD HYD (0024)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0022):	5.70	0.182	1.58	11.53
	+ ID2= 2 (0023):	5.69	0.197	1.50	11.27
	ID = 3 (0024):	11.39	0.377	1.50	11.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0092)				
Inlet Cap.= 0.085				
#of Inlets= 1				
Total(cms)= 0.1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	11.39	0.38	1.50	11.40
MAJOR SYS.(ID= 2):	5.06	0.29	1.50	11.40
MINOR SYS.(ID= 3):	6.33	0.09	1.33	11.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0027)	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	0.1279	0.1418
	0.0144	0.0271	0.5151	0.1929
	0.0219	0.0595	1.0620	0.2507
	0.0275	0.0976	1.7310	0.3130

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	0092)	5.058	0.292	1.50	11.40
OUTFLOW: ID= 1 (	0027)	5.058	0.020	2.33	11.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.87
TIME SHIFT OF PEAK FLOW (min)= 50.00
MAXIMUM STORAGE USED (ha.m.)= 0.0516

CALIB					
NASHYD (0028)	Area (ha)=	3.06	Curve Number (CN)=	69.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 1.050

PEAK FLOW (cms)= 0.110 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 10.156
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.226

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

CALIB					
STANDHYD (0034)	Area (ha)=	0.38			
ID= 1 DT= 5.0 min	Total Imp(%)=	38.99	Dir. Conn.(%)=	38.99	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.15	0.23
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	50.33	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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

```
     Max.Eff.Inten.(mm/hr)=      90.98        20.22
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      1.76 (ii)   15.13 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.32         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.04         0.01        0.040 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.58         1.33
     RUNOFF VOLUME    (mm)=     43.88        13.68        25.43
     TOTAL RAINFALL   (mm)=     44.88        44.88        44.88
     RUNOFF COEFFICIENT   =      0.98         0.30         0.57

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    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  (  0029)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0027):     5.06   0.020     2.33    11.31
     + ID2= 2 (  0028):     3.06   0.110     1.42    10.16
       ================================================
       ID = 3 (  0029):     8.11   0.114     1.42    10.87

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

--------------------
| ADD HYD  (  0029)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0029):     8.11   0.114     1.42    10.87
     + ID2= 2 (  0034):     0.38   0.040     1.33    25.43
       ================================================
       ID = 1 (  0029):     8.49   0.145     1.33    11.52

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

   --------------------------
   | Junction Command(0093) |
   --------------------------

                          AREA     QPEAK   TPEAK     R.V.
                          (ha)     (cms)    (hrs)    (mm)
   INFLOW : ID= 9(  0092)    6.33     0.09    1.33    11.40
   OUTFLOW: ID= 2(  0093)    6.33     0.09    1.33    11.40

   ------------------------------------------------------------------------------
**********************************
** SIMULATION:3) PTBO 4HR 10 Yr **
**********************************
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area     (ha)=  16.16   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

         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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
    0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
    0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
    0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
    0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
    0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
    0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
    0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
    0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
    0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
    0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
    1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44

     Unit Hyd Qpeak  (cms)=   1.402

     PEAK FLOW       (cms)=   0.407 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  13.548
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.253

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0023)|   Area     (ha)=   5.69   Curve Number   (CN)= 71.6
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

         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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
    0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
    0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
    0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
    0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
    0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
    0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
    0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
    0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
    0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
    0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
    1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44

     Unit Hyd Qpeak  (cms)=   1.274

     PEAK FLOW       (cms)=   0.281 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  15.710
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.294

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0022)|   Area     (ha)=   5.70   Curve Number   (CN)= 72.2
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

         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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
    0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
    0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
    0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
    0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
    0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
    0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
    0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
    0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
    0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
    0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
    1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44

     Unit Hyd Qpeak  (cms)=   1.058

     PEAK FLOW       (cms)=   0.261 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  16.040
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.300

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

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--------------------
| ADD HYD  (  0024)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):      5.70   0.261     1.58    16.04
     + ID2= 2 (  0023):      5.69   0.281     1.50    15.71
       ================================================
       ID = 3 (  0024):     11.39   0.539     1.50    15.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| DUHYD    (  0092)|
| Inlet Cap.= 0.085|
| #of Inlets=    1|
| Total(cms)=  0.1|      AREA     QPEAK     TPEAK     R.V.
--------------------       (ha)     (cms)     (hrs)     (mm)
    TOTAL HYD.(ID= 1):  11.39      0.54      1.50    15.88
    ==========================================================
    MAJOR SYS.(ID= 2):   6.35      0.45      1.50    15.88
    MINOR SYS.(ID= 3):   5.04      0.09      1.25    15.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0027)|     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   |    0.1279      0.1418
                           0.0144      0.0271   |    0.5151      0.1929
                           0.0219      0.0595   |    1.0620      0.2507
                           0.0275      0.0976   |    1.7310      0.3130

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0092)     6.345     0.454      1.50      15.88
   OUTFLOW: ID= 1 (  0027)     6.345     0.026      2.50      15.80

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.82
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0902

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0028)|   Area    (ha)=   3.06   Curve Number   (CN)= 69.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
             0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
             0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
             0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
             0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
             0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
             0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
             0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
             0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
             0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
             0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
             1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44

    Unit Hyd Qpeak  (cms)=   1.050

    PEAK FLOW       (cms)=   0.157 (i)
    TIME TO PEAK    (hrs)=   1.417
    RUNOFF VOLUME    (mm)=  14.222
    TOTAL RAINFALL   (mm)=  53.500
    RUNOFF COEFFICIENT   =   0.266

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0034)|   Area    (ha)=   0.38
```

```
|ID= 1 DT= 5.0 min |   Total Imp(%)=  38.99   Dir. Conn.(%)=  38.99
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.15          0.23
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      50.33         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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
             0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
             0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
             0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
             0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
             0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
             0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
             0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
             0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
             0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
             0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
             1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44

     Max.Eff.Inten.(mm/hr)=     105.21        27.37
               over (min)          5.00        15.00
     Storage Coeff.  (min)=       1.66 (ii)   13.51 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.32         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.01      0.049 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50       1.33
     RUNOFF VOLUME    (mm)=      52.50        18.49      31.73
     TOTAL RAINFALL   (mm)=      53.50        53.50      53.50
     RUNOFF COEFFICIENT   =       0.98         0.35       0.59

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.9    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  (  0029)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0027):      6.35   0.026     2.50    15.80
     + ID2= 2 (  0028):      3.06   0.157     1.42    14.22
       ================================================
       ID = 3 (  0029):      9.40   0.164     1.42    15.29

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

--------------------
| ADD HYD  (  0029)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0029):      9.40   0.164     1.42    15.29
     + ID2= 2 (  0034):      0.38   0.049     1.33    31.73
       ================================================
       ID = 1 (  0029):      9.78   0.199     1.33    15.93

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

  --------------------------
  | Junction Command(0093) |
  --------------------------

                             AREA     QPEAK    TPEAK     R.V.
                             (ha)     (cms)    (hrs)     (mm)
  INFLOW : ID= 9(  0092)     5.04      0.09     1.25    15.88
  OUTFLOW: ID= 2(  0093)     5.04      0.09     1.25    15.88

  -------------------------------------------------------------------------------
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**********************************
** SIMULATION:4) PTBO 4HR 25 Yr **
**********************************
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=  16.16   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

         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    3.09 | 1.083   39.20 | 2.083    9.66 |  3.08    3.89
               0.167    3.09 | 1.167   39.20 | 2.167    9.66 |  3.17    3.89
               0.250    3.70 | 1.250  122.63 | 2.250    7.82 |  3.25    3.53
               0.333    3.70 | 1.333  122.63 | 2.333    7.82 |  3.33    3.53
               0.417    4.60 | 1.417   51.58 | 2.417    6.53 |  3.42    3.22
               0.500    4.60 | 1.500   51.58 | 2.500    6.53 |  3.50    3.22
               0.583    6.06 | 1.583   26.88 | 2.583    5.60 |  3.58    2.97
               0.667    6.06 | 1.667   26.88 | 2.667    5.60 |  3.67    2.97
               0.750    8.73 | 1.750   17.34 | 2.750    4.89 |  3.75    2.75
               0.833    8.73 | 1.833   17.34 | 2.833    4.89 |  3.83    2.75
               0.917   14.90 | 1.917   12.51 | 2.917    4.33 |  3.92    2.56
               1.000   14.90 | 2.000   12.51 | 3.000    4.33 |  4.00    2.56

     Unit Hyd Qpeak  (cms)=   1.402

     PEAK FLOW       (cms)=   0.545 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  17.575
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.286

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0023)|   Area    (ha)=   5.69   Curve Number   (CN)= 71.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

         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    3.09 | 1.083   39.20 | 2.083    9.66 |  3.08    3.89
               0.167    3.09 | 1.167   39.20 | 2.167    9.66 |  3.17    3.89
               0.250    3.70 | 1.250  122.63 | 2.250    7.82 |  3.25    3.53
               0.333    3.70 | 1.333  122.63 | 2.333    7.82 |  3.33    3.53
               0.417    4.60 | 1.417   51.58 | 2.417    6.53 |  3.42    3.22
               0.500    4.60 | 1.500   51.58 | 2.500    6.53 |  3.50    3.22
               0.583    6.06 | 1.583   26.88 | 2.583    5.60 |  3.58    2.97
               0.667    6.06 | 1.667   26.88 | 2.667    5.60 |  3.67    2.97
               0.750    8.73 | 1.750   17.34 | 2.750    4.89 |  3.75    2.75
               0.833    8.73 | 1.833   17.34 | 2.833    4.89 |  3.83    2.75
               0.917   14.90 | 1.917   12.51 | 2.917    4.33 |  3.92    2.56
               1.000   14.90 | 2.000   12.51 | 3.000    4.33 |  4.00    2.56

     Unit Hyd Qpeak  (cms)=   1.274

     PEAK FLOW       (cms)=   0.376 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  20.234
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.329

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0022)|   Area    (ha)=   5.70   Curve Number   (CN)= 72.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

         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    3.09 | 1.083   39.20 | 2.083    9.66 |  3.08    3.89
               0.167    3.09 | 1.167   39.20 | 2.167    9.66 |  3.17    3.89
               0.250    3.70 | 1.250  122.63 | 2.250    7.82 |  3.25    3.53
               0.333    3.70 | 1.333  122.63 | 2.333    7.82 |  3.33    3.53
               0.417    4.60 | 1.417   51.58 | 2.417    6.53 |  3.42    3.22
               0.500    4.60 | 1.500   51.58 | 2.500    6.53 |  3.50    3.22
               0.583    6.06 | 1.583   26.88 | 2.583    5.60 |  3.58    2.97
               0.667    6.06 | 1.667   26.88 | 2.667    5.60 |  3.67    2.97
               0.750    8.73 | 1.750   17.34 | 2.750    4.89 |  3.75    2.75
               0.833    8.73 | 1.833   17.34 | 2.833    4.89 |  3.83    2.75
               0.917   14.90 | 1.917   12.51 | 2.917    4.33 |  3.92    2.56
               1.000   14.90 | 2.000   12.51 | 3.000    4.33 |  4.00    2.56

     Unit Hyd Qpeak  (cms)=   1.058

     PEAK FLOW       (cms)=   0.348 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  20.639
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.336

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

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--------------------
| ADD HYD  (  0024)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 1 (  0022):      5.70   0.348     1.58    20.64
     + ID2= 2 (  0023):      5.69   0.376     1.50    20.23
       ================================================
       ID = 3 (  0024):     11.39   0.722     1.50    20.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| DUHYD    (  0092)|
| Inlet Cap.= 0.085|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  11.39      0.72      1.50   20.44
     ================================================
     MAJOR SYS.(ID= 2):   7.23      0.64      1.50   20.44
     MINOR SYS.(ID= 3):   4.16      0.09      1.25   20.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0027)|     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   |    0.1279      0.1418
                           0.0144      0.0271   |    0.5151      0.1929
                           0.0219      0.0595   |    1.0620      0.2507
                           0.0275      0.0976   |    1.7310      0.3130

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0092)      7.229      0.637      1.50      20.44
   OUTFLOW: ID= 1 (  0027)      7.229      0.084      2.33      20.37

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.24
                  TIME SHIFT OF PEAK FLOW         (min)= 50.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1227

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--------------------
| CALIB            |
| NASHYD   (  0028)|   Area    (ha)=   3.06   Curve Number   (CN)= 69.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

         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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 1.050

PEAK FLOW (cms)= 0.211 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 18.394
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.299

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

CALIB
STANDHYD (0034)
ID= 1 DT= 5.0 min

Area (ha)= 0.38
Total Imp(%)= 38.99 Dir. Conn.(%)= 38.99

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.15	0.23
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	50.33	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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Max.Eff.Inten.(mm/hr)=	122.63	35.67	
over (min)	5.00	15.00	
Storage Coeff. (min)=	1.56 (ii)	12.22 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.33	0.09	
			TOTALS
PEAK FLOW (cms)=	0.05	0.02	0.059 (iii)
TIME TO PEAK (hrs)=	1.33	1.50	1.33
RUNOFF VOLUME (mm)=	60.50	23.34	37.81
TOTAL RAINFALL (mm)=	61.50	61.50	61.50
RUNOFF COEFFICIENT =	0.98	0.38	0.61

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.9 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 (0029)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0027):	7.23	0.084	2.33	20.37
+ ID2= 2 (0028):	3.06	0.211	1.42	18.39
ID = 3 (0029):	10.28	0.222	1.42	19.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0029)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0029):	10.28	0.222	1.42	19.78
+ ID2= 2 (0034):	0.38	0.059	1.33	37.81
ID = 1 (0029):	10.66	0.263	1.33	20.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0093)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0092)	4.16	0.09	1.25	20.44
OUTFLOW: ID= 2(0093)	4.16	0.09	1.25	20.44

** SIMULATION:5) PTBO 4HR 50 Yr **

CALIB
NASHYD (0004)
ID= 1 DT= 5.0 min

Area (ha)= 16.16 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.44

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 1.402

PEAK FLOW (cms)= 0.679 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 21.492
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.313

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

CALIB
NASHYD (0023)
ID= 1 DT= 5.0 min

Area (ha)= 5.69 Curve Number (CN)= 71.6
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.17

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63

0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 1.274

PEAK FLOW (cms)= 0.473 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 24.598
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.358

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

CALIB					
NASHYD (0022)	Area (ha)=	5.70	Curve Number (CN)=	72.2	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.21			

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 1.058

PEAK FLOW (cms)= 0.438 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 25.070
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.365

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

ADD HYD (0024)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0022):	5.70	0.438	1.50	25.07
+ ID2= 2 (0023):	5.69	0.473	1.50	24.60
ID = 3 (0024):	11.39	0.911	1.50	24.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0092)				
Inlet Cap.= 0.085				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	11.39	0.91	1.50	24.83
MAJOR SYS.(ID= 2):	7.76	0.83	1.50	24.83
MINOR SYS.(ID= 3):	3.63	0.09	1.25	24.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0027)	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	0.1279	0.1418
	0.0144	0.0271	0.5151	0.1929
	0.0219	0.0595	1.0620	0.2507
	0.0275	0.0976	1.7310	0.3130

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0092)	7.763	0.826	1.50	24.83
OUTFLOW: ID= 1 (0027)	7.763	0.165	2.17	24.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.96
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.1469

CALIB					
NASHYD (0028)	Area (ha)=	3.06	Curve Number (CN)=	69.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 1.050

PEAK FLOW (cms)= 0.269 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 22.438
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.327

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

CALIB					
STANDHYD (0034)	Area (ha)=	0.38			
ID= 1 DT= 5.0 min	Total Imp(%)=	38.99	Dir. Conn.(%)=	38.99	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.15	0.23
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	50.33	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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

```
     Max.Eff.Inten.(mm/hr)=     143.34        52.96
               over (min)          5.00        15.00
     Storage Coeff.  (min)=       1.47 (ii)   10.57 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.33         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.02          0.070 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      67.70        27.98          43.45
     TOTAL RAINFALL   (mm)=      68.70        68.70          68.70
     RUNOFF COEFFICIENT   =       0.99         0.41           0.63

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    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  (  0029)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0027):      7.76    0.165     2.17    24.77
     + ID2= 2 (  0028):      3.06    0.269     1.42    22.44
       ================================================
       ID = 3 (  0029):     10.82    0.284     1.42    24.11

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

--------------------
| ADD HYD  (  0029)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0029):     10.82    0.284     1.42    24.11
     + ID2= 2 (  0034):      0.38    0.070     1.33    43.45
       ================================================
       ID = 1 (  0029):     11.20    0.338     1.33    24.77

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

   --------------------------
   | Junction Command(0093) |
   --------------------------

                           AREA     QPEAK   TPEAK     R.V.
                           (ha)     (cms)    (hrs)    (mm)
   INFLOW : ID= 9(  0092)    3.63     0.09    1.25    24.83
   OUTFLOW: ID= 2(  0093)    3.63     0.09    1.25    24.83

   ------------------------------------------------------------------------------
**********************************
** SIMULATION:6) PTBO 4HR 100 Yr **
**********************************
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=  16.16   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

         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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
    0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
    0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
    0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
    0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
    0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
    0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
    0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
    0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
    0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
    0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
    1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

     Unit Hyd Qpeak  (cms)=   1.402

     PEAK FLOW       (cms)=   0.830 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  25.944
     TOTAL RAINFALL   (mm)=  76.405
     RUNOFF COEFFICIENT   =   0.340

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0023)|   Area    (ha)=   5.69   Curve Number   (CN)= 71.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

         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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
    0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
    0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
    0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
    0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
    0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
    0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
    0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
    0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
    0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
    0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
    1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

     Unit Hyd Qpeak  (cms)=   1.274

     PEAK FLOW       (cms)=   0.573 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  29.521
     TOTAL RAINFALL   (mm)=  76.405
     RUNOFF COEFFICIENT   =   0.386

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

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--------------------
| CALIB            |
| NASHYD   (  0022)|   Area    (ha)=   5.70   Curve Number   (CN)= 72.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

         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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
    0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
    0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
    0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
    0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
    0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
    0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
    0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
    0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
    0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
    0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
    1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

     Unit Hyd Qpeak  (cms)=   1.058

     PEAK FLOW       (cms)=   0.530 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  30.064
     TOTAL RAINFALL   (mm)=  76.405
     RUNOFF COEFFICIENT   =   0.393

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

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--------------------
| ADD HYD  (  0024)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0022):      5.70   0.530     1.50    30.06
     + ID2= 2 (  0023):      5.69   0.573     1.50    29.52
       ================================================
       ID = 3 (  0024):     11.39   1.103     1.50    29.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| DUHYD    (  0092)|
| Inlet Cap.= 0.085|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK     R.V.
--------------------        (ha)     (cms)     (hrs)     (mm)
    TOTAL HYD.(ID= 1):  11.39      1.10      1.50    29.79
    ==========================================================
    MAJOR SYS.(ID= 2):   8.25      1.02      1.50    29.79
    MINOR SYS.(ID= 3):   3.14      0.09      1.25    29.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0027)|     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   |    0.1279      0.1418
                           0.0144      0.0271   |    0.5151      0.1929
                           0.0219      0.0595   |    1.0620      0.2507
                           0.0275      0.0976   |    1.7310      0.3130

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0092)     8.247     1.018      1.50      29.79
   OUTFLOW: ID= 1 (  0027)     8.247     0.309      2.08      29.74

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.40
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1661

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0028)|   Area    (ha)=   3.06   Curve Number   (CN)= 69.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
             0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
             0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
             0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
             0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
             0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
             0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
             0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
             0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
             0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
             0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
             1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

    Unit Hyd Qpeak  (cms)=   1.050

    PEAK FLOW       (cms)=   0.325 (i)
    TIME TO PEAK    (hrs)=   1.417
    RUNOFF VOLUME    (mm)=  27.019
    TOTAL RAINFALL   (mm)=  76.405
    RUNOFF COEFFICIENT   =   0.354

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0034)|   Area    (ha)=   0.38
|ID= 1 DT= 5.0 min |   Total Imp(%)=  38.99   Dir. Conn.(%)=  38.99
--------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.15         0.23
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      50.33        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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
             0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
             0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
             0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
             0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
             0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
             0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
             0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
             0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
             0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
             0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
             1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

    Max.Eff.Inten.(mm/hr)=     157.29        62.67
              over (min)          5.00        10.00
    Storage Coeff.  (min)=       1.41 (ii)    9.92 (ii)
    Unit Hyd. Tpeak (min)=       5.00        10.00
    Unit Hyd. peak  (cms)=       0.33         0.11
                                                        *TOTALS*
    PEAK FLOW       (cms)=       0.06         0.03       0.086 (iii)
    TIME TO PEAK    (hrs)=       1.33         1.42        1.33
    RUNOFF VOLUME    (mm)=      75.41        33.17       49.62
    TOTAL RAINFALL   (mm)=      76.41        76.41       76.41
    RUNOFF COEFFICIENT   =       0.99         0.43        0.65

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

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  72.9    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  (  0029)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0027):      8.25   0.309     2.08    29.74
     + ID2= 2 (  0028):      3.06   0.325     1.42    27.02
       ================================================
       ID = 3 (  0029):     11.30   0.387     2.00    29.00

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

--------------------
| ADD HYD  (  0029)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0029):     11.30   0.387     2.00    29.00
     + ID2= 2 (  0034):      0.38   0.086     1.33    49.62
       ================================================
       ID = 1 (  0029):     11.68   0.411     1.33    29.67

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

  --------------------------
  | Junction Command(0093) |
  --------------------------

                             AREA     QPEAK    TPEAK     R.V.
                             (ha)     (cms)    (hrs)     (mm)
  INFLOW : ID= 9(  0092)     3.14     0.09     1.25    29.79
  OUTFLOW: ID= 2(  0093)     3.14     0.09     1.25    29.79

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

```
**********
** SIMULATION:1) PTBO 4HR 2 Yr **
**********
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.15  1.92   5.47 0.16   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
  * CALIB NASHYD         0023  1  5.0    5.69    0.10  1.50   6.47 0.19   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
  * CALIB NASHYD         0022  1  5.0    5.70    0.10  1.58   6.63 0.19   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.20  1.50   6.55  n/a   0.000
*
    DUHYD                 0092  1  5.0   11.39    0.20  1.50   6.55  n/a   0.000
       MAJOR SYSTEM:      0092  2  5.0    2.69    0.11  1.50   6.55  n/a   0.000
       MINOR SYSTEM:      0092  3  5.0    8.70    0.09  1.33   6.55  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0027  1  5.0    2.69    0.01  2.00   6.37  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
  * CALIB NASHYD         0028  1  5.0    3.06    0.06  1.42   5.79 0.17   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
  * CALIB STANDHYD       0034  1  5.0    0.38    0.03  1.33  17.94 0.53   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    5.75    0.06  1.42   6.06  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    6.13    0.08  1.33   6.80  n/a   0.000
*
**********
** SIMULATION:10) 6 HR SCS - 25 YR **
**********
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.75  3.58  23.89 0.33   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.57  3.33  27.25 0.37   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.53  3.33  27.76 0.38   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    1.10  3.33  27.50  n/a   0.000
*
    DUHYD                 0092  1  5.0   11.39    1.10  3.33  27.50  n/a   0.000
       MAJOR SYSTEM:      0092  2  5.0    7.42    1.02  3.33  27.50  n/a   0.000
       MINOR SYSTEM:      0092  3  5.0    3.97    0.09  2.92  27.50  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0027  1  5.0    7.42    0.21  3.83  27.44  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.37  3.25  24.90 0.34   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
  * CALIB STANDHYD       0034  1  5.0    0.38    0.07  3.25  46.80 0.64   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0   10.48    0.38  3.25  26.70  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   10.86    0.45  3.25  27.40  n/a   0.000
*
**********
** SIMULATION:11) 6 HR SCS - 50 YR **
**********
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.92  3.58  29.01 0.36   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.69  3.33  32.89 0.40   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.65  3.33  33.48 0.41   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    1.33  3.33  33.19  n/a   0.000
*
    DUHYD                 0092  1  5.0   11.39    1.33  3.33  33.19  n/a   0.000
       MAJOR SYSTEM:      0092  2  5.0    7.88    1.25  3.33  33.19  n/a   0.000
       MINOR SYSTEM:      0092  3  5.0    3.51    0.09  2.83  33.19  n/a   0.000
*
 ** Reservoir
    OUTFLOW:              0027  1  5.0    7.88    0.36  3.75  33.13  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.44  3.25  30.17 0.37   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
  * CALIB STANDHYD       0034  1  5.0    0.38    0.08  3.25  53.76 0.66   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0   10.93    0.46  3.25  32.30  n/a   0.000
*
```

```
    ADD [  0029+  0034]  0029  1  5.0   11.31    0.55  3.25  33.02  n/a   0.000
*
*************************************
** SIMULATION:12) 6 HR SCS - 100YR **
*************************************
    READ STORM                 15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    1.09  3.58  34.34 0.38   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.81  3.33  38.72 0.43   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.76  3.33  39.38 0.44   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    1.57  3.33  39.05  n/a   0.000
*
    DUHYD                      0092  1  5.0   11.39    1.57  3.33  39.05  n/a   0.000
       MAJOR SYSTEM:           0092  2  5.0    8.25    1.48  3.33  39.05  n/a   0.000
       MINOR SYSTEM:           0092  3  5.0    3.14    0.09  2.83  39.05  n/a   0.000
*
 ** Reservoir
    OUTFLOW:                   0027  1  5.0    8.25    0.51  3.67  38.99  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.52  3.25  35.62 0.40   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.10  3.25  60.77 0.68   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0   11.31    0.62  3.67  38.08  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   11.69    0.64  3.25  38.82  n/a   0.000
*
*********************************
** SIMULATION:13) 25mm Event  **
*********************************
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.06  2.08   2.76 0.11   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 *  CALIB NASHYD         0023  1  5.0    5.69    0.04  1.67   3.30 0.13   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.04  1.75   3.39 0.14   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.08  1.67   3.34  n/a   0.000
*
    DUHYD                      0092  1  5.0   11.39    0.08  1.67   3.34  n/a   0.000
       MAJOR SYSTEM:           0092  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:           0092  3  5.0   11.39    0.08  1.67   3.34  n/a   0.000
*
 ** Reservoir
    OUTFLOW:                   0027  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 *  CALIB NASHYD         0028  1  5.0    3.06    0.03  1.58   2.93 0.12   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.02  1.50  12.17 0.49   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    3.06    0.03  1.58   2.93  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    3.44    0.05  1.50   3.95  n/a   0.000
*
***********************************************
** SIMULATION:14) 100YR MODIFIED 12HR CHICAGO  **
***********************************************
    READ STORM                 10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0004  1  5.0   16.16    1.08  4.50  40.61 0.41   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.73  4.17  45.53 0.46   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.68  4.17  46.28 0.47   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    1.41  4.17  45.91  n/a   0.000
*
    DUHYD                      0092  1  5.0   11.39    1.41  4.17  45.91  n/a   0.000
       MAJOR SYSTEM:           0092  2  5.0    7.38    1.32  4.17  45.91  n/a   0.000
       MINOR SYSTEM:           0092  3  5.0    4.01    0.09  3.75  45.91  n/a   0.000
*
 ** Reservoir
    OUTFLOW:                   0027  1  5.0    7.38    0.54  4.58  45.84  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.41  4.00  42.03 0.42   0.000
    [CN=69.0         ]
```

```
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.10  4.00  68.80 0.69   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0   10.43    0.65  4.58  44.72  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   10.81    0.67  4.58  45.57  n/a   0.000
*
************************************************
** SIMULATION:15) 100YR MODIFIED 24HR CHICAGO **
************************************************
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0004  1  5.0   16.16    1.15  8.50  47.22 0.43   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.77  8.17  52.66 0.48   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.72  8.17  53.49 0.49   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    1.49  8.17  53.08  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    1.49  8.17  53.08  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    6.77    1.40  8.17  53.08  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    4.62    0.09  7.75  53.08  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    6.77    0.60  8.58  53.01  n/a   0.000
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.44  8.00  48.76 0.45   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.10  8.00  77.06 0.71   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    9.83    0.73  8.50  51.69  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   10.21    0.76  8.50  52.63  n/a   0.000
*
************************************
** SIMULATION:16) 12HR SCS - 2YR **
************************************
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.05  6.67   2.22 0.10   0.000
    [CN=67.0         ]
```

```
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 *  CALIB NASHYD         0023  1  5.0    5.69    0.03  6.42   2.67 0.12   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.03  6.42   2.74 0.12   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.07  6.42   2.70  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.07  6.42   2.70  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0   11.39    0.07  6.42   2.70  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 *  CALIB NASHYD         0028  1  5.0    3.06    0.02  6.25   2.36 0.10   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.02  6.08  10.84 0.48   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    3.06    0.02  6.25   2.36  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    3.44    0.03  6.25   3.30  n/a   0.000
*
************************************
** SIMULATION:17) 12HR SCS - 5YR **
************************************
    READ STORM                 5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.08  6.67   3.37 0.12   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 *  CALIB NASHYD         0023  1  5.0    5.69    0.05  6.42   4.03 0.15   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.05  6.42   4.13 0.15   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.10  6.42   4.08  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.10  6.42   4.08  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    0.29    0.02  6.42   4.08  n/a   0.000
```

```
       MINOR SYSTEM:     0092  3  5.0   11.10    0.09  6.25   4.08  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    0.29    0.00  6.58   2.95  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 *  CALIB NASHYD         0028  1  5.0    3.06    0.03  6.25   3.59 0.13   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.02  6.08  13.60 0.50   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    3.35    0.03  6.25   3.53  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    3.73    0.04  6.25   4.56  n/a   0.000
*
************************************
** SIMULATION:18) 12HR SCS - 10YR **
************************************
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.11  6.67   4.49 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 *  CALIB NASHYD         0023  1  5.0    5.69    0.07  6.42   5.34 0.17   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.07  6.42   5.47 0.18   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.13  6.42   5.40  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.13  6.42   5.40  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    1.11    0.05  6.42   5.40  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0   10.28    0.09  6.17   5.40  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    1.11    0.00  6.67   4.98  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 *  CALIB NASHYD         0028  1  5.0    3.06    0.04  6.25   4.76 0.15   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.02  6.08  15.99 0.51   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    4.16    0.04  6.25   4.82  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    4.54    0.06  6.25   5.75  n/a   0.000
*
************************************
** SIMULATION:19) 12HR SCS -25YR **
************************************
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.15  6.67   6.27 0.17   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB NASHYD         0023  1  5.0    5.69    0.09  6.25   7.41 0.20   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.09  6.42   7.58 0.21   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.19  6.42   7.49  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.19  6.42   7.49  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    2.24    0.10  6.42   7.49  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    9.15    0.09  6.08   7.49  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    2.24    0.01  6.75   7.28  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB NASHYD         0028  1  5.0    3.06    0.06  6.25   6.63 0.18   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.03  6.08  19.47 0.54   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    5.29    0.06  6.25   6.91  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    5.67    0.08  6.25   7.75  n/a   0.000
*
*********************************
** SIMULATION:2) PTBO 4HR 5 Yr **
*********************************
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.28  1.92   9.64 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 *  CALIB NASHYD         0023  1  5.0    5.69    0.20  1.50  11.27 0.25   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.18  1.58  11.53 0.26   0.000
    [CN=72.2         ]
```

```
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.38  1.50  11.40  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.38  1.50  11.40  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    5.06    0.29  1.50  11.40  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    6.33    0.09  1.33  11.40  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    5.06    0.02  2.33  11.31  n/a   0.000
*
    CHIC STORM                 10.0
    [ Ptot= 44.88 mm ]
*
 *  CALIB NASHYD         0028  1  5.0    3.06    0.11  1.42  10.16 0.23   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 44.88 mm ]
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.04  1.33  25.43 0.57   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    8.11    0.11  1.42  10.87  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    8.49    0.15  1.33  11.52  n/a   0.000
*
************************************
** SIMULATION:20) 12HR SCS - 50YR **
************************************
    READ STORM                 10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.73  6.67  28.88 0.36   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.43  6.33  32.75 0.40   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.41  6.42  33.34 0.41   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.84  6.33  33.04  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.84  6.33  33.04  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    6.28    0.75  6.33  33.04  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    5.11    0.09  5.75  33.04  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    6.28    0.22  6.92  32.97  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.22  6.25  30.03 0.37   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.04  6.17  53.58 0.66   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    9.33    0.28  6.83  32.01  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    9.71    0.29  6.83  32.85  n/a   0.000
*
************************************
** SIMULATION:21) 12HR SCS - 100YR **
************************************
    CHIC STORM                 10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.94  4.50  40.23 0.41   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    CHIC STORM                 10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.63  4.17  45.12 0.46   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    CHIC STORM                 10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.59  4.17  45.87 0.46   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    1.22  4.17  45.50  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    1.22  4.17  45.50  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    6.66    1.14  4.17  45.50  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    4.73    0.09  3.75  45.50  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    6.66    0.40  4.67  45.42  n/a   0.000
*
    CHIC STORM                 10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.37  4.00  41.64 0.42   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 98.86 mm ]
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.09  4.00  68.33 0.69   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    9.71    0.50  4.58  44.23  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   10.09    0.51  4.58  45.14  n/a   0.000
*
************************************
** SIMULATION:22) 24HR SCS - 2YR **
************************************
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.03 12.75   2.99 0.12   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 *  CALIB NASHYD         0023  1  5.0    5.69    0.02 12.25   3.57 0.14   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.02 12.42   3.66 0.14   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
```

```
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.03 12.42   3.62  n/a   0.000
*
    DUHYD               0092  1  5.0   11.39    0.03 12.42   3.62  n/a   0.000
       MAJOR SYSTEM:    0092  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:    0092  3  5.0   11.39    0.03 12.42   3.62  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0027  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 *  CALIB NASHYD        0028  1  5.0    3.06    0.01 12.25   3.18 0.12   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 *  CALIB STANDHYD      0034  1  5.0    0.38    0.00 12.08  12.70 0.49   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    3.06    0.01 12.25   3.18  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    3.44    0.01 12.08   4.23  n/a   0.000
*
************************************
** SIMULATION:23) 24HR SCS - 5YR **
************************************
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD        0004  1  5.0   16.16    0.05 12.67   4.32 0.14   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 *  CALIB NASHYD        0023  1  5.0    5.69    0.02 12.25   5.13 0.17   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 *  CALIB NASHYD        0022  1  5.0    5.70    0.02 12.42   5.26 0.17   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.04 12.25   5.20  n/a   0.000
*
    DUHYD               0092  1  5.0   11.39    0.04 12.25   5.20  n/a   0.000
       MAJOR SYSTEM:    0092  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:    0092  3  5.0   11.39    0.04 12.25   5.20  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0027  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 *  CALIB NASHYD        0028  1  5.0    3.06    0.01 12.25   4.58 0.15   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 *  CALIB STANDHYD      0034  1  5.0    0.38    0.01 12.08  15.59 0.51   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    3.06    0.01 12.25   4.58  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    3.44    0.02 12.08   5.80  n/a   0.000
*
************************************
** SIMULATION:24) 24HR SCS - 10YR **
************************************
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD        0004  1  5.0   16.16    0.06 12.67   5.61 0.16   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 *  CALIB NASHYD        0023  1  5.0    5.69    0.03 12.25   6.64 0.19   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 *  CALIB NASHYD        0022  1  5.0    5.70    0.03 12.25   6.80 0.20   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.06 12.25   6.72  n/a   0.000
*
    DUHYD               0092  1  5.0   11.39    0.06 12.25   6.72  n/a   0.000
       MAJOR SYSTEM:    0092  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:    0092  3  5.0   11.39    0.06 12.25   6.72  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0027  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 *  CALIB NASHYD        0028  1  5.0    3.06    0.02 12.25   5.94 0.17   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 *  CALIB STANDHYD      0034  1  5.0    0.38    0.01 12.08  18.19 0.53   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    3.06    0.02 12.25   5.94  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    3.44    0.02 12.08   7.30  n/a   0.000
*
************************************
** SIMULATION:25) 24HR SCS - 25YR **
************************************
    READ STORM                 5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD        0004  1  5.0   16.16    0.08 12.67   7.64 0.19   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 *  CALIB NASHYD        0023  1  5.0    5.69    0.04 12.25   8.98 0.22   0.000
```

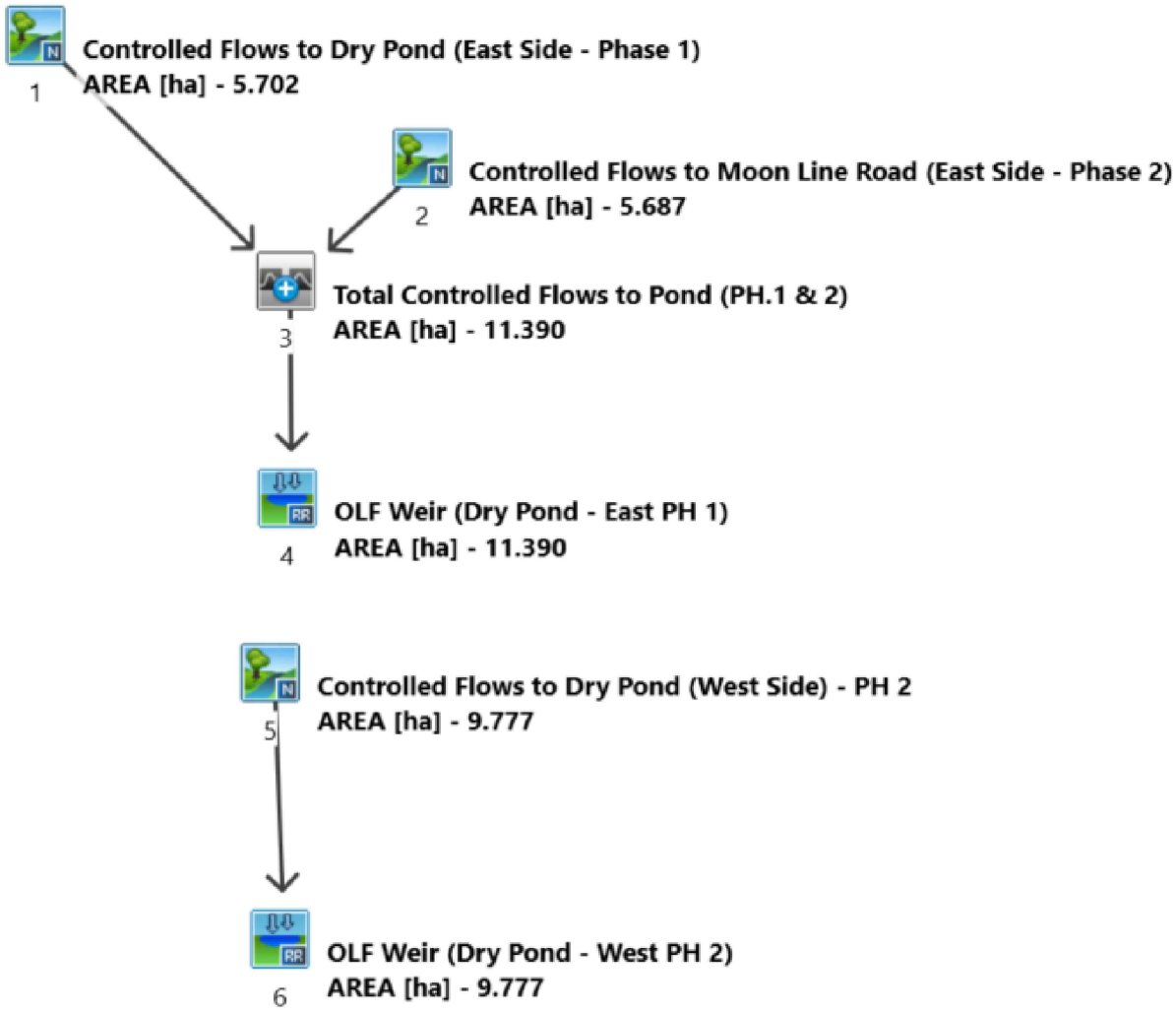
```
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                  5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.04 12.25   9.19 0.23   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.08 12.25   9.08  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.08 12.25   9.08  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0   11.39    0.08 12.25   9.08  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 *  CALIB NASHYD         0028  1  5.0    3.06    0.02 12.08   8.06 0.20   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.01 12.08  21.94 0.55   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    3.06    0.02 12.08   8.06  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    3.44    0.03 12.08   9.60  n/a   0.000
*
************************************
** SIMULATION:26) 24HR SCS - 50YR **
************************************
    READ STORM                  5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.11 12.58   9.58 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                  5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 *  CALIB NASHYD         0023  1  5.0    5.69    0.05 12.25  11.21 0.25   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                  5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.05 12.25  11.46 0.26   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.10 12.25  11.33  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.10 12.25  11.33  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    0.18    0.01 12.25  11.33  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0   11.21    0.09 11.92  11.33  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    0.18    0.00 12.67  10.37  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 *  CALIB NASHYD         0028  1  5.0    3.06    0.03 12.08  10.09 0.23   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.01 12.08  25.31 0.57   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    3.24    0.03 12.25  10.11  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    3.62    0.04 12.08  11.71  n/a   0.000
*
************************************
** SIMULATION:27) 24HR SCS - 100YR **
************************************
    CHIC STORM                 10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0004  1  5.0   16.16    1.03  8.50  50.46 0.44   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    CHIC STORM                 10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.68  8.08  56.15 0.49   0.000
    [CN=71.6         ]
    [ N = 3.0:Tp 0.17]
*
    CHIC STORM                 10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.65  8.17  57.02 0.50   0.000
    [CN=72.2         ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    1.33  8.17  56.59  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    1.33  8.17  56.59  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    5.88    1.25  8.17  56.59  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    5.51    0.09  7.67  56.59  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    5.88    0.48  8.58  56.50  n/a   0.000
*
    CHIC STORM                 10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.41  8.00  52.05 0.46   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot=113.60 mm ]
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.09  8.00  81.05 0.71   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    8.93    0.59  8.58  54.98  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    9.31    0.61  8.50  56.05  n/a   0.000
*
********************************
** SIMULATION:28) Timmins     **
********************************
    READ STORM                 30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0004  1  5.0   16.16    1.48 10.58 197.59 0.68   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
```

```
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.58 10.50 209.38 0.72   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.58 10.50 211.31 0.73   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    1.16 10.50 210.35  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    1.16 10.50 210.35  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    8.89    1.07 10.50 210.35  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    2.50    0.09  1.33 210.35  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    8.89    1.04 10.50 210.29  n/a   0.000
*
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.30 10.50 199.53 0.69   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
  * CALIB STANDHYD       0034  1  5.0    0.38    0.04 10.50 244.86 0.85   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0   11.94    1.34 10.50 207.54  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   12.32    1.38 10.50 208.69  n/a   0.000
*
***********************************
** SIMULATION:3) PTBO 4HR 10 Yr **
***********************************
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.41  1.92  13.55 0.25   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.28  1.50  15.71 0.29   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.26  1.58  16.04 0.30   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.54  1.50  15.88  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.54  1.50  15.88  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    6.35    0.45  1.50  15.88  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    5.04    0.09  1.25  15.88  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    6.35    0.03  2.50  15.80  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.16  1.42  14.22 0.27   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
  * CALIB STANDHYD       0034  1  5.0    0.38    0.05  1.33  31.73 0.59   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    9.40    0.16  1.42  15.29  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    9.78    0.20  1.33  15.93  n/a   0.000
*
***********************************
** SIMULATION:4) PTBO 4HR 25 Yr **
***********************************
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.55  1.92  17.58 0.29   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.38  1.50  20.23 0.33   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.35  1.58  20.64 0.34   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.72  1.50  20.44  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.72  1.50  20.44  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    7.23    0.64  1.50  20.44  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    4.16    0.09  1.25  20.44  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    7.23    0.08  2.33  20.37  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.21  1.42  18.39 0.30   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
  * CALIB STANDHYD       0034  1  5.0    0.38    0.06  1.33  37.81 0.61   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0   10.28    0.22  1.42  19.78  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   10.66    0.26  1.33  20.43  n/a   0.000
*
***********************************
** SIMULATION:5) PTBO 4HR 50 Yr  **
***********************************
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.68  1.83  21.49 0.31   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.47  1.50  24.60 0.36   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.44  1.50  25.07 0.36   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
```

```
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.91  1.50  24.83  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.91  1.50  24.83  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    7.76    0.83  1.50  24.83  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    3.63    0.09  1.25  24.83  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    7.76    0.16  2.17  24.77  n/a   0.000
*
    CHIC STORM                 10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.27  1.42  22.44 0.33   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 68.70 mm ]
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.07  1.33  43.45 0.63   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0   10.82    0.28  1.42  24.11  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   11.20    0.34  1.33  24.77  n/a   0.000
*
************************************
** SIMULATION:6) PTBO 4HR 100 Yr **
************************************
    CHIC STORM                 10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.83  1.83  25.94 0.34   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    CHIC STORM                 10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.57  1.50  29.52 0.39   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    CHIC STORM                 10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.53  1.50  30.06 0.39   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    1.10  1.50  29.79  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    1.10  1.50  29.79  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    8.25    1.02  1.50  29.79  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    3.14    0.09  1.25  29.79  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    8.25    0.31  2.08  29.74  n/a   0.000
*
    CHIC STORM                 10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.33  1.42  27.02 0.35   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 76.41 mm ]
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.09  1.33  49.62 0.65   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0   11.30    0.39  2.00  29.00  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   11.68    0.41  1.33  29.67  n/a   0.000
*
************************************
** SIMULATION:7) 6 HR SCS - 2 YR **
************************************
    READ STORM                 15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
```

```
 ** CALIB NASHYD         0004  1  5.0   16.16    0.22  3.67   7.17 0.19   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 *  CALIB NASHYD         0023  1  5.0    5.69    0.17  3.33   8.44 0.22   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 *  CALIB NASHYD         0022  1  5.0    5.70    0.16  3.33   8.64 0.22   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.33  3.33   8.54  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.33  3.33   8.54  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    4.07    0.25  3.33   8.54  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    7.32    0.09  3.08   8.54  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    4.07    0.02  3.83   8.42  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 *  CALIB NASHYD         0028  1  5.0    3.06    0.11  3.25   7.57 0.20   0.000
    [CN=69.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 *  CALIB STANDHYD       0034  1  5.0    0.38    0.03  3.25  21.14 0.55   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    7.13    0.11  3.25   8.06  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    7.51    0.14  3.25   8.72  n/a   0.000
*
************************************
** SIMULATION:8) 6 HR SCS - 5 YR **
************************************
    READ STORM                 15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.40  3.58  13.04 0.25   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.31  3.33  15.14 0.29   0.000
    [CN=71.6        ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.29  3.33  15.46 0.29   0.000
    [CN=72.2        ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.61  3.33  15.30  n/a   0.000
*
```

```
    DUHYD                0092  1  5.0   11.39    0.61  3.33  15.30  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    5.79    0.52  3.33  15.30  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    5.60    0.09  3.00  15.30  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    5.79    0.03  4.08  15.22  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.20  3.25  13.70 0.26   0.000
    [CN=69.0       ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
  * CALIB STANDHYD       0034  1  5.0    0.38    0.04  3.25  30.94 0.59   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    8.84    0.21  3.25  14.69  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0    9.22    0.26  3.25  15.36  n/a   0.000
*
***********************************
** SIMULATION:9) 6 HR SCS - 10YR **
***********************************
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0004  1  5.0   16.16    0.55  3.58  17.63 0.29   0.000
    [CN=67.0       ]
    [ N = 3.0:Tp 0.44]
*
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0023  1  5.0    5.69    0.42  3.33  20.29 0.33   0.000
    [CN=71.6       ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0022  1  5.0    5.70    0.39  3.33  20.70 0.34   0.000
    [CN=72.2       ]
    [ N = 3.0:Tp 0.21]
*
    ADD [  0022+  0023]  0024  3  5.0   11.39    0.82  3.33  20.50  n/a   0.000
*
    DUHYD                0092  1  5.0   11.39    0.82  3.33  20.50  n/a   0.000
       MAJOR SYSTEM:     0092  2  5.0    6.59    0.73  3.33  20.50  n/a   0.000
       MINOR SYSTEM:     0092  3  5.0    4.80    0.09  2.92  20.50  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0027  1  5.0    6.59    0.07  4.00  20.43  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0028  1  5.0    3.06    0.27  3.25  18.45 0.30   0.000
    [CN=69.0       ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
  * CALIB STANDHYD       0034  1  5.0    0.38    0.05  3.25  37.89 0.62   0.000
    [I%=39.0:S%= 2.00]
*
    ADD [  0027+  0028]  0029  3  5.0    9.65    0.29  3.25  19.80  n/a   0.000
*
    ADD [  0029+  0034]  0029  1  5.0   10.03    0.34  3.25  20.49  n/a   0.000
*
```



JEFFERY SUBDIVISION, BOBCAYGEON, ON

V.O. SCHEMATIC – POST–DEVELOPMENT FLOWS (OVERLAND FLOW WEIR)

D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905–576–8500
info@dgbiddle.com
dgbiddle.com

SCALE	N.T.S.
DRAWN	M.J.H.
DESIGN	M.J.H.
CHECKED	D.D.M.
DATE	DEC 2024

PROJECT 122169

DWG **FIG 7**

```
********************************
** SIMULATION:Timmins          **
********************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              daecfa69-c3ba-4000-9bd5-5a526d869652\97ce3df3
| Ptotal=289.50 mm |    Comments: TIMMINS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	15.00	4.50	3.00	9.00	43.00	13.50	13.00
0.50	15.00	5.00	3.00	9.50	43.00	14.00	13.00
1.00	15.00	5.50	3.00	10.00	43.00	14.50	13.00
1.50	20.00	6.00	5.00	10.50	20.00	15.00	13.00
2.00	20.00	6.50	5.00	11.00	20.00	15.50	13.00
2.50	20.00	7.00	5.00	11.50	20.00	16.00	13.00
3.00	10.00	7.50	20.00	12.00	23.00	16.50	8.00
3.50	10.00	8.00	20.00	12.50	23.00	17.00	8.00
4.00	10.00	8.50	20.00	13.00	23.00	17.50	8.00

```
--------------------
| CALIB            |
| NASHYD  (  0022) |   Area    (ha)=   5.70   Curve Number   (CN)= 72.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

```
      Unit Hyd Qpeak  (cms)=   1.058

      PEAK FLOW       (cms)=   0.580 (i)
      TIME TO PEAK    (hrs)=  10.500
      RUNOFF VOLUME    (mm)= 211.305
      TOTAL RAINFALL   (mm)= 289.500
      RUNOFF COEFFICIENT   =   0.730

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD  (  0023) |   Area    (ha)=   5.69   Curve Number   (CN)= 71.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

        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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

Unit Hyd Qpeak (cms)= 1.274

PEAK FLOW (cms)= 0.576 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 209.385
TOTAL RAINFALL (mm)= 289.500
RUNOFF COEFFICIENT = 0.723

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

ADD HYD (0024)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0022):	5.70	0.580	10.50	211.31
	+ ID2= 2 (0023):	5.69	0.576	10.50	209.38
	ID = 3 (0024):	11.39	1.155	10.50	210.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0002)	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	0.7760	0.0600
	0.2449	0.0300	1.5771	0.0800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0024)	11.390	1.155	10.50	210.35
OUTFLOW: ID= 1 (0002)	11.390	1.150	10.50	210.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.58
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0694

CALIB			
NASHYD (0015)	Area (ha)=	9.78	Curve Number (CN)= 80.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.10	

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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

Unit Hyd Qpeak (cms)= 3.692

PEAK FLOW (cms)= 1.050 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 226.785
TOTAL RAINFALL (mm)= 289.500
RUNOFF COEFFICIENT = 0.783

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

RESERVOIR(0004)	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	0.7755	0.0480
	0.2449	0.0235	1.5771	0.0738

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0015)	9.777	1.050	10.50	226.79
OUTFLOW: ID= 1 (0004)	9.777	1.047	10.50	226.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.70
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0568

APPENDIX 5

EASTERN PORTION OF SITE DRAINING THROUGH EXISTING RESIDENTIAL SUBDIVISION – HYDRAULIC POINT D & E

POST-DEVELOPMENT WEIGHTED CURVE NUMBERS

PRE-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

POST-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

WATER QUALITY STORAGE REQUIREMENTS – HYDRAULIC POINT D

INFILTRATION GALLERY D SIZING CALCULATIONS

VISUAL OTTHYMO SCHEMATIC & OUTPUT

Jeffery Subdivision 2024-12-19
Job Number: 122169 1/1

Weighted Curve Number Calculations - Eastern Parcel

Note: Assume House Area of 370.80m^2 and Garage of 102.30 m^2 per Henley Contracting Ltd. Therefore, assume 500m^2 per lot for house, driveway and garage/office.

Eastern Parcel Flows to Existing Residential Subdivision

Node 21 - Lot 17 to 19 Rears			Area =	1.88 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (3)	0.150	98	14.7	
Grassed Area	1.730	67	115.9431	
Total	1.88		130.6431	
Weighted CN =	69.47			

Node 30 - Lot 14 to 16 Rears			Area =	1.49 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (2)	0.100	98	9.8	
Grassed Area	1.394	67	93.39327	
Total	1.49		103.1933	
Weighted CN =	69.08			

Job: Jeffery Subdivision - Bobcaygeon
Job #: 122169

Time of Concentration & Time to Peak Calculation (Pre-Development)

1) Node 3 -Eastern Portion of Site Draining South to Ex Residential

Upstream Invert 292.81
Downstream Invert 285.40
Length (m) 229.89
Assume Pasture - Contoured

Slope = (292.81-285.40) / 229.89 = 3.22%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.39 m/s

t_c = 229.89 / 0.39 = 597.12 s = 0.165868 h

t_{p2} = 2 x t_c / 3 = 0.110579 h

2) Node 5 - Eastern Parcel Draining South through ex residential to Moon Line Road

Upstream Invert 289.23
Downstream Invert 281.01
Length (m) 187.09
Assume Pasture - Contoured

Slope = (289.23 - 281.01) / 187.09 = 4.39%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.48 m/s

t_c = 187.09 / 0.48 = 389.78 s = 0.108271 h

t_{p2} = 2 x t_c / 3 = 0.072181 h

Time of Concentration & Time to Peak Calculation (Post-Development) - Eastern Side of Site

2) Node 21 - Lot 17 to 19 Rears

Upstream Invert 289.66
Downstream Invert 287.51
Length (m) 96.46
Assume Pasture - Contoured

Slope = (289.66 - 287.51) / 96.46 = 2.23%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.33 m/s

t_c = 96.46 / 0.33 = 296.81 s = 0.082446 h

t_p = 2 x t_c / 3 = 0.054964 h

Note: Since 0.055h is less than the minimum allowable, a t_p of 0.11h was used.

8) Node 30 - Lot 14 to 16 Rears

Upstream Invert 288.68
Downstream Invert 287.14
Length (m) 57.22
Assume Pasture - Contoured

Slope = (288.68 - 287.14) / 57.22 = 2.69%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.25 m/s

t_c = 57.22 / 0.25 = 228.88 s = 0.063578 h

t_p = 2 x t_c / 3 = 0.042385 h

Water Quality Storage Requirements Based on Receiving Waters

Area Draining to Ex Residential (Lots 35 to 38) - East Parcel

Node	Area	RC	A x I
30	1.49	0.20	0.298
Total	1.49		0.298

Weighted RC = 0.20000
% IMP = 0.00%

For conservatism, we assumed a maximum imperviousness of 20%.

Since the calculated imperviousness, 20% < 35%, size galleries to store 25m^3/ha.

Storage Required = 1.49 x 25m^3/ha = 37.25 m^3

Storage Provided = 216.59 m^3

Therefore, adequate storage provided to ensure 80% TSS removal by infiltration gallery D

PROJECT Jeffery Subdivision - Bobcaygeon
PROJECT # 122169
DATE 2024-12-20

Infiltration Gallery - Sizing Calculations

Infiltration Gallery D - Lot 14 to 16 Rears (Hydraulic Pt. D)

* Size Infiltration gallery at Outlet to hold 100% of the 2 year storm*

Area (ha) 1.494 IN meters 14940 m^2

Storm	Flow (m^3/s)	RV (mm)	RV (m)
2-Year	0.029	5.799	0.005799

* RV from NasHyd 30 in "*Inf Galleries at Outlets* " section - VO Output

** Flow divide to be input at Node 31 (DuHyd - 31)

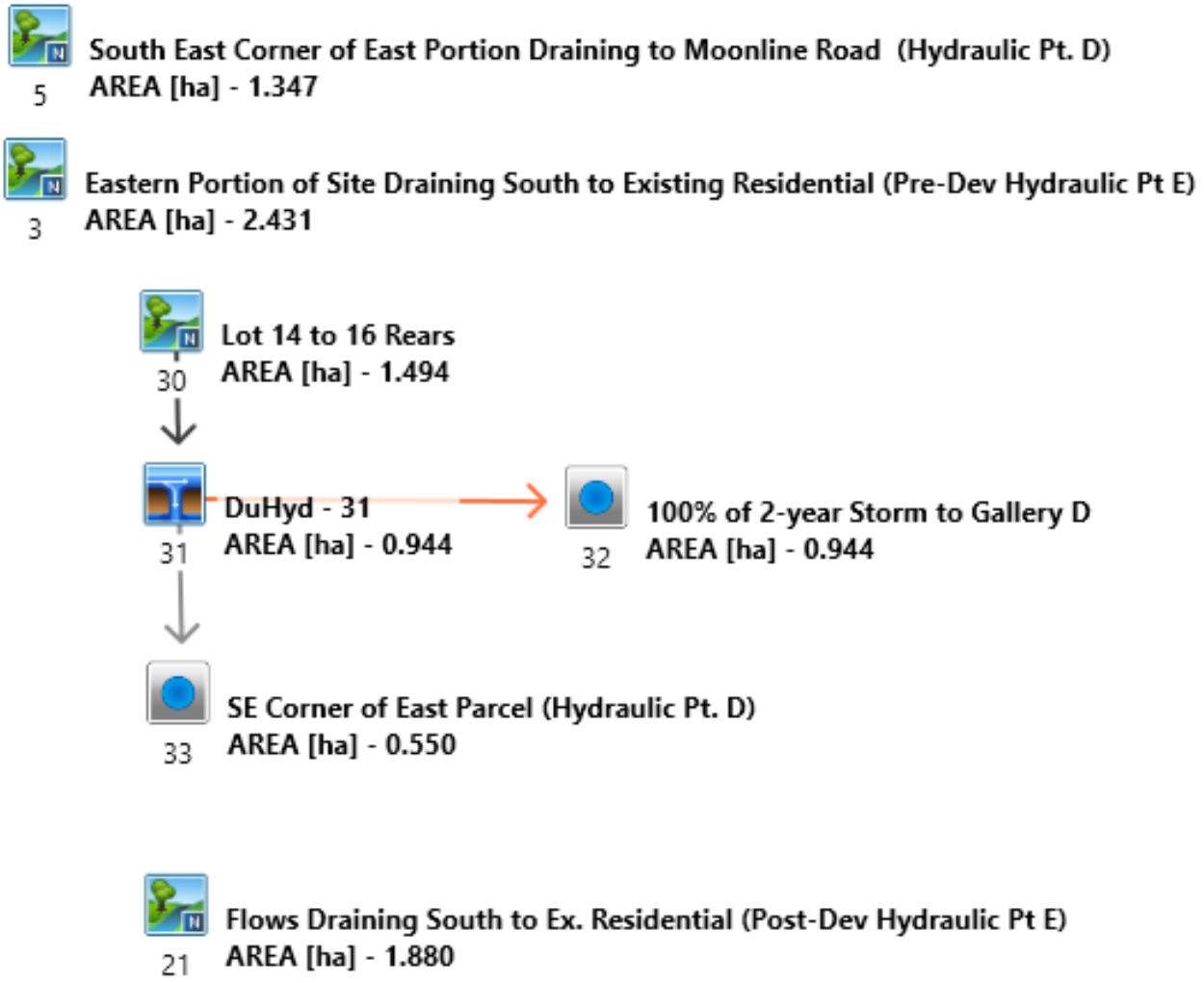
Volume Required to store to Hold 100% of the 2 Yr = 86.63706 m^3

Stone Volume Required = $\frac{86.63706}{0.4}$ = 216.59265 m^3

Therefore, store 100% of the 2 year storm

Length	43.0 m
Width	3.65 m
Depth	1.40 m
Volume =	219.73 m^3

Therefore, to store 100% of the 2-year storm event, 43.00m in length of infiltration gallery will be required with a width of 3.65m and a depth of 1.40m. This should be sufficient clearance above groundwater levels as borehole data from the "Preliminary Stormwater Management Report" provided by Greer Galloway outlines that at the location of proposed Infiltration Gallery A, there was no groundwater encountered in BHs 6 to 10.



JEFFERY SUBDIVISION, BOBCAYGEON, ON

V.O. SCHEMATIC – POST-DEVELOPMENT FLOWS TO EXISTING RESIDENTIAL SUBDIVISION

D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

SCALE	N.T.S.
DRAWN	M.J.H.
DESIGN	M.J.H.
CHECKED	D.D.M.
DATE	DEC 2024

PROJECT 122169

DWG FIG 5

```
**********
** SIMULATION:1) PTBO 4HR 2 Yr **
**********
```

```
| CALIB             |
| NASHYD   (  0003)|   Area    (ha)=   2.43   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.11
```

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

```
     Unit Hyd Qpeak  (cms)=   0.840

     PEAK FLOW       (cms)=   0.043 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=   5.368
     TOTAL RAINFALL   (mm)=  34.028
     RUNOFF COEFFICIENT   =   0.158

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

```
| CALIB             |
| NASHYD   (  0005)|   Area    (ha)=   1.35   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.07
```

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

```
     Unit Hyd Qpeak  (cms)=   0.713

     PEAK FLOW       (cms)=   0.029 (i)
     TIME TO PEAK    (hrs)=   1.333
     RUNOFF VOLUME    (mm)=   5.031
     TOTAL RAINFALL   (mm)=  34.028
     RUNOFF COEFFICIENT   =   0.148

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

```
| CALIB             |
| NASHYD   (  0021)|   Area    (ha)=   1.88   Curve Number   (CN)= 69.5
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.11
```

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

```
     Unit Hyd Qpeak  (cms)=   0.646

     PEAK FLOW       (cms)=   0.037 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=   5.885
     TOTAL RAINFALL   (mm)=  34.028
     RUNOFF COEFFICIENT   =   0.173

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

```
| CALIB             |
| NASHYD   (  0030)|   Area    (ha)=   1.49   Curve Number   (CN)= 69.1
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.11
```

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

```
     Unit Hyd Qpeak  (cms)=   0.514

     PEAK FLOW       (cms)=   0.029 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=   5.799
     TOTAL RAINFALL   (mm)=  34.028
     RUNOFF COEFFICIENT   =   0.170

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

```
| DUHYD    (  0031)|
| Inlet Cap.= 0.029|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
                          (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   1.49      0.03      1.42    5.80
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   1.49      0.03      1.42    5.80

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

```
  --------------------------
  | Junction Command(0032) |
  --------------------------

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

```
INFLOW : ID= 9(  0031)    1.49     0.03    1.42     5.80
OUTFLOW: ID= 2(  0032)    1.49     0.03    1.42     5.80

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--------------------------
| Junction Command(0033) |
--------------------------

                          AREA     QPEAK   TPEAK     R.V.
                          (ha)     (cms)    (hrs)    (mm)
INFLOW : ID= 8(  0031)    0.00      0.00    0.00     0.00
OUTFLOW: ID= 2(  0033)    0.00      0.00    0.00     0.00

--------------------------------------------------------------------------------
**********
** SIMULATION:2) PTBO 4HR 5 Yr **
**********
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   2.43   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    2.66 | 1.083   26.50 | 2.083    7.15 |  3.08    3.24
   0.167    2.66 | 1.167   26.50 | 2.167    7.15 |  3.17    3.24
   0.250    3.11 | 1.250   90.98 | 2.250    5.94 |  3.25    2.98
   0.333    3.11 | 1.333   90.98 | 2.333    5.94 |  3.33    2.98
   0.417    3.75 | 1.417   34.82 | 2.417    5.08 |  3.42    2.76
   0.500    3.75 | 1.500   34.82 | 2.500    5.08 |  3.50    2.76
   0.583    4.75 | 1.583   18.23 | 2.583    4.44 |  3.58    2.57
   0.667    4.75 | 1.667   18.23 | 2.667    4.44 |  3.67    2.57
   0.750    6.53 | 1.750   12.10 | 2.750    3.95 |  3.75    2.41
   0.833    6.53 | 1.833   12.10 | 2.833    3.95 |  3.83    2.41
   0.917   10.53 | 1.917    9.00 | 2.917    3.56 |  3.92    2.26
   1.000   10.53 | 2.000    9.00 | 3.000    3.56 |  4.00    2.26

    Unit Hyd Qpeak  (cms)=   0.840

    PEAK FLOW       (cms)=   0.081 (i)
    TIME TO PEAK    (hrs)=   1.417
    RUNOFF VOLUME    (mm)=   9.467
    TOTAL RAINFALL   (mm)=  44.883
    RUNOFF COEFFICIENT   =   0.211

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   1.35   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.07

        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    2.66 | 1.083   26.50 | 2.083    7.15 |  3.08    3.24
   0.167    2.66 | 1.167   26.50 | 2.167    7.15 |  3.17    3.24
   0.250    3.11 | 1.250   90.98 | 2.250    5.94 |  3.25    2.98
   0.333    3.11 | 1.333   90.98 | 2.333    5.94 |  3.33    2.98
   0.417    3.75 | 1.417   34.82 | 2.417    5.08 |  3.42    2.76
   0.500    3.75 | 1.500   34.82 | 2.500    5.08 |  3.50    2.76
   0.583    4.75 | 1.583   18.23 | 2.583    4.44 |  3.58    2.57
   0.667    4.75 | 1.667   18.23 | 2.667    4.44 |  3.67    2.57
   0.750    6.53 | 1.750   12.10 | 2.750    3.95 |  3.75    2.41
   0.833    6.53 | 1.833   12.10 | 2.833    3.95 |  3.83    2.41
   0.917   10.53 | 1.917    9.00 | 2.917    3.56 |  3.92    2.26
   1.000   10.53 | 2.000    9.00 | 3.000    3.56 |  4.00    2.26

    Unit Hyd Qpeak  (cms)=   0.713

    PEAK FLOW       (cms)=   0.055 (i)
    TIME TO PEAK    (hrs)=   1.333
    RUNOFF VOLUME    (mm)=   8.873
    TOTAL RAINFALL   (mm)=  44.883
    RUNOFF COEFFICIENT   =   0.198

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0021)|   Area    (ha)=   1.88   Curve Number   (CN)= 69.5
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    2.66 | 1.083   26.50 | 2.083    7.15 |  3.08    3.24
   0.167    2.66 | 1.167   26.50 | 2.167    7.15 |  3.17    3.24
   0.250    3.11 | 1.250   90.98 | 2.250    5.94 |  3.25    2.98
   0.333    3.11 | 1.333   90.98 | 2.333    5.94 |  3.33    2.98
   0.417    3.75 | 1.417   34.82 | 2.417    5.08 |  3.42    2.76
   0.500    3.75 | 1.500   34.82 | 2.500    5.08 |  3.50    2.76
   0.583    4.75 | 1.583   18.23 | 2.583    4.44 |  3.58    2.57
   0.667    4.75 | 1.667   18.23 | 2.667    4.44 |  3.67    2.57
   0.750    6.53 | 1.750   12.10 | 2.750    3.95 |  3.75    2.41
   0.833    6.53 | 1.833   12.10 | 2.833    3.95 |  3.83    2.41
   0.917   10.53 | 1.917    9.00 | 2.917    3.56 |  3.92    2.26
   1.000   10.53 | 2.000    9.00 | 3.000    3.56 |  4.00    2.26

    Unit Hyd Qpeak  (cms)=   0.646

    PEAK FLOW       (cms)=   0.069 (i)
    TIME TO PEAK    (hrs)=   1.417
    RUNOFF VOLUME    (mm)=  10.312
    TOTAL RAINFALL   (mm)=  44.883
    RUNOFF COEFFICIENT   =   0.230

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0030)|   Area    (ha)=   1.49   Curve Number   (CN)= 69.1
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    2.66 | 1.083   26.50 | 2.083    7.15 |  3.08    3.24
   0.167    2.66 | 1.167   26.50 | 2.167    7.15 |  3.17    3.24
   0.250    3.11 | 1.250   90.98 | 2.250    5.94 |  3.25    2.98
   0.333    3.11 | 1.333   90.98 | 2.333    5.94 |  3.33    2.98
   0.417    3.75 | 1.417   34.82 | 2.417    5.08 |  3.42    2.76
   0.500    3.75 | 1.500   34.82 | 2.500    5.08 |  3.50    2.76
   0.583    4.75 | 1.583   18.23 | 2.583    4.44 |  3.58    2.57
   0.667    4.75 | 1.667   18.23 | 2.667    4.44 |  3.67    2.57
   0.750    6.53 | 1.750   12.10 | 2.750    3.95 |  3.75    2.41
   0.833    6.53 | 1.833   12.10 | 2.833    3.95 |  3.83    2.41
   0.917   10.53 | 1.917    9.00 | 2.917    3.56 |  3.92    2.26
   1.000   10.53 | 2.000    9.00 | 3.000    3.56 |  4.00    2.26

    Unit Hyd Qpeak  (cms)=   0.514

    PEAK FLOW       (cms)=   0.054 (i)
    TIME TO PEAK    (hrs)=   1.417
    RUNOFF VOLUME    (mm)=  10.174
    TOTAL RAINFALL   (mm)=  44.883
    RUNOFF COEFFICIENT   =   0.227

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

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0031)|
| Inlet Cap.= 0.029|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
```

TOTAL HYD.(ID= 1):	1.49	0.05	1.42	10.17
MAJOR SYS.(ID= 2):	0.24	0.03	1.42	10.17
MINOR SYS.(ID= 3):	1.26	0.03	1.33	10.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0032)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0031)	1.26	0.03	1.33	10.17
OUTFLOW: ID= 2(0032)	1.26	0.03	1.33	10.17

Junction Command(0033)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 8(0031)	0.24	0.03	1.42	10.17
OUTFLOW: ID= 2(0033)	0.24	0.03	1.42	10.17

****
** SIMULATION:3) PTBO 4HR 10 Yr **
****

CALIB				
NASHYD (0003)	Area	(ha)=	2.43	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=		0.11	

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

Unit Hyd Qpeak (cms)= 0.840

PEAK FLOW (cms)= 0.116 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 13.305
TOTAL RAINFALL (mm)= 53.500
RUNOFF COEFFICIENT = 0.249

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

CALIB				
NASHYD (0005)	Area	(ha)=	1.35	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=		0.07	

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

Unit Hyd Qpeak (cms)= 0.713

PEAK FLOW (cms)= 0.077 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 12.470
TOTAL RAINFALL (mm)= 53.500
RUNOFF COEFFICIENT = 0.233

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

CALIB				
NASHYD (0021)	Area	(ha)=	1.88	Curve Number (CN)= 69.5
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=		0.11	

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

Unit Hyd Qpeak (cms)= 0.646

PEAK FLOW (cms)= 0.098 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 14.429
TOTAL RAINFALL (mm)= 53.500
RUNOFF COEFFICIENT = 0.270

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

CALIB				
NASHYD (0030)	Area	(ha)=	1.49	Curve Number (CN)= 69.1
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=		0.11	

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	2.91	1.083	33.34	2.083	8.57	3.08	3.62
0.167	2.91	1.167	33.34	2.167	8.57	3.17	3.62
0.250	3.45	1.250	105.21	2.250	7.00	3.25	3.30
0.333	3.45	1.333	105.21	2.333	7.00	3.33	3.30
0.417	4.24	1.417	43.73	2.417	5.91	3.42	3.03
0.500	4.24	1.500	43.73	2.500	5.91	3.50	3.03
0.583	5.50	1.583	22.99	2.583	5.10	3.58	2.80
0.667	5.50	1.667	22.99	2.667	5.10	3.67	2.80
0.750	7.78	1.750	15.02	2.750	4.49	3.75	2.61
0.833	7.78	1.833	15.02	2.833	4.49	3.83	2.61
0.917	12.98	1.917	10.97	2.917	4.01	3.92	2.44
1.000	12.98	2.000	10.97	3.000	4.01	4.00	2.44

Unit Hyd Qpeak (cms)= 0.514

```
     PEAK FLOW       (cms)=   0.077 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  14.246
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.266

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

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0031)|
| Inlet Cap.= 0.029|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):   1.49      0.08      1.42    14.25
     ==========================================================
     MAJOR SYS.(ID= 2):   0.40      0.05      1.42    14.25
     MINOR SYS.(ID= 3):   1.09      0.03      1.25    14.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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   ---------------------------
   | Junction Command(0032) |
   ---------------------------

                           AREA     QPEAK   TPEAK     R.V.
                           (ha)     (cms)   (hrs)     (mm)
   INFLOW : ID= 9(  0031)    1.09     0.03    1.25    14.25
   OUTFLOW: ID= 2(  0032)    1.09     0.03    1.25    14.25

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

   ---------------------------
   | Junction Command(0033) |
   ---------------------------

                           AREA     QPEAK   TPEAK     R.V.
                           (ha)     (cms)   (hrs)     (mm)
   INFLOW : ID= 8(  0031)    0.40     0.05    1.42    14.25
   OUTFLOW: ID= 2(  0033)    0.40     0.05    1.42    14.25

   --------------------------------------------------------------------------------
**********************************
** SIMULATION:4) PTBO 4HR 25 Yr **
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--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   2.43   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

         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    3.09 | 1.083   39.20 | 2.083    9.66 |  3.08    3.89
              0.167    3.09 | 1.167   39.20 | 2.167    9.66 |  3.17    3.89
              0.250    3.70 | 1.250  122.63 | 2.250    7.82 |  3.25    3.53
              0.333    3.70 | 1.333  122.63 | 2.333    7.82 |  3.33    3.53
              0.417    4.60 | 1.417   51.58 | 2.417    6.53 |  3.42    3.22
              0.500    4.60 | 1.500   51.58 | 2.500    6.53 |  3.50    3.22
              0.583    6.06 | 1.583   26.88 | 2.583    5.60 |  3.58    2.97
              0.667    6.06 | 1.667   26.88 | 2.667    5.60 |  3.67    2.97
              0.750    8.73 | 1.750   17.34 | 2.750    4.89 |  3.75    2.75
              0.833    8.73 | 1.833   17.34 | 2.833    4.89 |  3.83    2.75
              0.917   14.90 | 1.917   12.51 | 2.917    4.33 |  3.92    2.56
              1.000   14.90 | 2.000   12.51 | 3.000    4.33 |  4.00    2.56

     Unit Hyd Qpeak  (cms)=   0.840

     PEAK FLOW       (cms)=   0.156 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  17.260
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.281

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

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--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   1.35   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.07

         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    3.09 | 1.083   39.20 | 2.083    9.66 |  3.08    3.89
              0.167    3.09 | 1.167   39.20 | 2.167    9.66 |  3.17    3.89
              0.250    3.70 | 1.250  122.63 | 2.250    7.82 |  3.25    3.53
              0.333    3.70 | 1.333  122.63 | 2.333    7.82 |  3.33    3.53
              0.417    4.60 | 1.417   51.58 | 2.417    6.53 |  3.42    3.22
              0.500    4.60 | 1.500   51.58 | 2.500    6.53 |  3.50    3.22
              0.583    6.06 | 1.583   26.88 | 2.583    5.60 |  3.58    2.97
              0.667    6.06 | 1.667   26.88 | 2.667    5.60 |  3.67    2.97
              0.750    8.73 | 1.750   17.34 | 2.750    4.89 |  3.75    2.75
              0.833    8.73 | 1.833   17.34 | 2.833    4.89 |  3.83    2.75
              0.917   14.90 | 1.917   12.51 | 2.917    4.33 |  3.92    2.56
              1.000   14.90 | 2.000   12.51 | 3.000    4.33 |  4.00    2.56

     Unit Hyd Qpeak  (cms)=   0.713

     PEAK FLOW       (cms)=   0.103 (i)
     TIME TO PEAK    (hrs)=   1.333
     RUNOFF VOLUME    (mm)=  16.176
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.263

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

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--------------------
| CALIB            |
| NASHYD   (  0021)|   Area    (ha)=   1.88   Curve Number   (CN)= 69.5
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

         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    3.09 | 1.083   39.20 | 2.083    9.66 |  3.08    3.89
              0.167    3.09 | 1.167   39.20 | 2.167    9.66 |  3.17    3.89
              0.250    3.70 | 1.250  122.63 | 2.250    7.82 |  3.25    3.53
              0.333    3.70 | 1.333  122.63 | 2.333    7.82 |  3.33    3.53
              0.417    4.60 | 1.417   51.58 | 2.417    6.53 |  3.42    3.22
              0.500    4.60 | 1.500   51.58 | 2.500    6.53 |  3.50    3.22
              0.583    6.06 | 1.583   26.88 | 2.583    5.60 |  3.58    2.97
              0.667    6.06 | 1.667   26.88 | 2.667    5.60 |  3.67    2.97
              0.750    8.73 | 1.750   17.34 | 2.750    4.89 |  3.75    2.75
              0.833    8.73 | 1.833   17.34 | 2.833    4.89 |  3.83    2.75
              0.917   14.90 | 1.917   12.51 | 2.917    4.33 |  3.92    2.56
              1.000   14.90 | 2.000   12.51 | 3.000    4.33 |  4.00    2.56

     Unit Hyd Qpeak  (cms)=   0.646

     PEAK FLOW       (cms)=   0.132 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  18.649
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.303

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

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--------------------
| CALIB            |
| NASHYD   (  0030)|   Area    (ha)=   1.49   Curve Number   (CN)= 69.1
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

         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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 0.514

PEAK FLOW (cms)= 0.103 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 18.423
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.300

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

DUHYD (0031)				
Inlet Cap.= 0.029				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	1.49	0.10	1.42	18.42
MAJOR SYS.(ID= 2):	0.55	0.07	1.42	18.42
MINOR SYS.(ID= 3):	0.94	0.03	1.25	18.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0032)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0031)	0.94	0.03	1.25	18.42
OUTFLOW: ID= 2(0032)	0.94	0.03	1.25	18.42

Junction Command(0033)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 8(0031)	0.55	0.07	1.42	18.42
OUTFLOW: ID= 2(0033)	0.55	0.07	1.42	18.42

****
** SIMULATION:5) PTBO 4HR 50 Yr **
****

CALIB					
NASHYD (0003)	Area	(ha)= 2.43	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.11				

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 0.840

PEAK FLOW (cms)= 0.200 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 21.106
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.307

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

CALIB					
NASHYD (0005)	Area	(ha)= 1.35	Curve Number	(CN)= 67.0	
ID= 1 DT= 5.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.07				

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 0.713

PEAK FLOW (cms)= 0.135 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 19.782
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.288

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

CALIB					
NASHYD (0021)	Area	(ha)= 1.88	Curve Number	(CN)= 69.5	
ID= 1 DT= 5.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.11				

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 0.646

PEAK FLOW (cms)= 0.168 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 22.736
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.331

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

CALIB					
NASHYD (0030)	Area (ha)=	1.49	Curve Number (CN)=	69.1	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 0.514

PEAK FLOW (cms)= 0.132 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 22.471
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.327

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

DUHYD (0031)				
Inlet Cap.= 0.029				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	1.49	0.13	1.42	22.47
MAJOR SYS.(ID= 2):	0.65	0.10	1.42	22.47
MINOR SYS.(ID= 3):	0.85	0.03	1.25	22.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0032)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0031)	0.85	0.03	1.25	22.47
OUTFLOW: ID= 2(0032)	0.85	0.03	1.25	22.47

Junction Command(0033)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 8(0031)	0.65	0.10	1.42	22.47
OUTFLOW: ID= 2(0033)	0.65	0.10	1.42	22.47

****
** SIMULATION:6) PTBO 4HR 100 Yr **
****

CALIB					
NASHYD (0003)	Area (ha)=	2.43	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.840

PEAK FLOW (cms)= 0.242 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 25.478
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.333

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

CALIB					
NASHYD (0005)	Area (ha)=	1.35	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.07			

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.713

PEAK FLOW (cms)= 0.163 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 23.879
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.313

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

CALIB					
NASHYD (0021)	Area (ha)=	1.88	Curve Number (CN)=	69.5	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90

0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.646

PEAK FLOW (cms)= 0.203 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 27.363
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.358

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

CALIB					
NASHYD (0030)	Area (ha)=	1.49	Curve Number (CN)=	69.1	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.514

PEAK FLOW (cms)= 0.159 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 27.058
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.354

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

DUHYD (0031)					
Inlet Cap.= 0.029					
#of Inlets= 1					
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	1.49	0.16	1.42	27.06	
MAJOR SYS.(ID= 2):	0.73	0.13	1.42	27.06	
MINOR SYS.(ID= 3):	0.77	0.03	1.25	27.06	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0032)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0031)	0.77	0.03	1.25	27.06
OUTFLOW: ID= 2(0032)	0.77	0.03	1.25	27.06

Junction Command(0033)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 8(0031)	0.73	0.13	1.42	27.06
OUTFLOW: ID= 2(0033)	0.73	0.13	1.42	27.06

```
*********************************
** SIMULATION:1) PTBO 4HR 2 Yr **
*********************************
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.04  1.42   5.37 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.03  1.33   5.03 0.15   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.04  1.42   5.88 0.17   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.03  1.42   5.80 0.17   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.03  1.42   5.80  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    1.49    0.03  1.42   5.80  n/a   0.000
*
*************************************
** SIMULATION:10) 6 HR SCS - 25 YR **
*************************************
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.27  3.25  23.46 0.32   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.16  3.25  21.98 0.30   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.23  3.25  25.23 0.35   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.18  3.25  24.94 0.34   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.18  3.25  24.94  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.62    0.15  3.25  24.94  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    0.87    0.03  3.00  24.94  n/a   0.000
*
*************************************
** SIMULATION:11) 6 HR SCS - 50 YR **
*************************************
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.33  3.25  28.49 0.35   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.20  3.25  26.70 0.33   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.28  3.25  30.54 0.37   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.22  3.25  30.21 0.37   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.22  3.25  30.21  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.69    0.19  3.25  30.21  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    0.80    0.03  2.92  30.21  n/a   0.000
*
*************************************
** SIMULATION:12) 6 HR SCS - 100YR **
*************************************
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.39  3.25  33.72 0.37   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.23  3.25  31.60 0.35   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.33  3.25  36.04 0.40   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.26  3.25  35.67 0.40   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.26  3.25  35.67  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.75    0.23  3.25  35.67  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    0.75    0.03  2.92  35.67  n/a   0.000
*
*********************************
** SIMULATION:13) 25mm Event  **
*********************************
    READ STORM                10.0
```

```
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.02  1.58   2.71 0.11   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.01  1.50   2.54 0.10   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.02  1.58   2.98 0.12   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\44756453-a9fe-4904
    remark: 25MM4HR
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.01  1.58   2.94 0.12   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                 0031  1  5.0    1.49    0.01  1.58   2.94  n/a   0.000
       MAJOR SYSTEM:      0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:      0031  3  5.0    1.49    0.01  1.58   2.94  n/a   0.000
*
**********************************************
** SIMULATION:14) 100YR MODIFIED 12HR CHICAGO  **
**********************************************
    READ STORM                10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.31  4.00  39.88 0.40   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.21  4.00  37.38 0.38   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.26  4.00  42.50 0.43   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.20  4.00  42.08 0.42   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                 0031  1  5.0    1.49    0.20  4.00  42.08  n/a   0.000
       MAJOR SYSTEM:      0031  2  5.0    0.68    0.17  4.00  42.08  n/a   0.000
       MINOR SYSTEM:      0031  3  5.0    0.82    0.03  3.83  42.08  n/a   0.000
*
**********************************************
** SIMULATION:15) 100YR MODIFIED 24HR CHICAGO **
**********************************************
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.33  8.00  46.37 0.43   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.22  8.00  43.46 0.40   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.28  8.00  49.28 0.45   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.22  8.00  48.82 0.45   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                 0031  1  5.0    1.49    0.22  8.00  48.82  n/a   0.000
       MAJOR SYSTEM:      0031  2  5.0    0.63    0.19  8.00  48.82  n/a   0.000
       MINOR SYSTEM:      0031  3  5.0    0.87    0.03  7.83  48.82  n/a   0.000
*
**********************************
** SIMULATION:16) 12HR SCS - 2YR **
**********************************
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.01  6.25   2.18 0.10   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.01  6.25   2.04 0.09   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.01  6.25   2.41 0.11   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.01  6.25   2.37 0.10   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                 0031  1  5.0    1.49    0.01  6.25   2.37  n/a   0.000
       MAJOR SYSTEM:      0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:      0031  3  5.0    1.49    0.01  6.25   2.37  n/a   0.000
*
```

```
************************************
** SIMULATION:17) 12HR SCS - 5YR **
************************************
    READ STORM                  5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.02  6.25   3.31 0.12   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.01  6.25   3.11 0.11   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                  5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.02  6.25   3.65 0.13   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.01  6.25   3.59 0.13   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.01  6.25   3.59  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    1.49    0.01  6.25   3.59  n/a   0.000
*
************************************
** SIMULATION:18) 12HR SCS - 10YR **
************************************
    READ STORM                  5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.03  6.25   4.41 0.14   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.02  6.25   4.13 0.13   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                  5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.02  6.25   4.84 0.16   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.02  6.25   4.77 0.15   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.02  6.25   4.77  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    1.49    0.02  6.25   4.77  n/a   0.000
*
************************************
** SIMULATION:19) 12HR SCS -25YR **
************************************
    READ STORM                  5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.04  6.25   6.16 0.17   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.03  6.25   5.77 0.16   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                  5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.04  6.25   6.74 0.19   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.03  6.25   6.65 0.18   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.03  6.25   6.65  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    1.49    0.03  6.25   6.65  n/a   0.000
*
************************************
** SIMULATION:2) PTBO 4HR 5 Yr **
************************************
    CHIC STORM                 10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.08  1.42   9.47 0.21   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.05  1.33   8.87 0.20   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    CHIC STORM                 10.0
    [ Ptot= 44.88 mm ]
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.07  1.42  10.31 0.23   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 44.88 mm ]
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.05  1.42  10.17 0.23   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.05  1.42  10.17  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.24    0.03  1.42  10.17  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    1.26    0.03  1.33  10.17  n/a   0.000
*
************************************
** SIMULATION:20) 12HR SCS - 50YR **
************************************
    READ STORM                 10.0
```

```
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.17  6.25  28.36 0.35   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.10  6.17  26.58 0.33   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                 10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.14  6.25  30.40 0.37   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.11  6.25  30.07 0.37   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.11  6.25  30.07  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.50    0.08  6.25  30.07  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    0.99    0.03  5.92  30.07  n/a   0.000
*
************************************
** SIMULATION:21) 12HR SCS - 100YR **
************************************
    CHIC STORM                 10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.28  4.00  39.51 0.40   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.18  4.00  37.03 0.37   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    CHIC STORM                 10.0
    [ Ptot= 98.86 mm ]
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.23  4.00  42.12 0.43   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 98.86 mm ]
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.18  4.00  41.70 0.42   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.18  4.00  41.70  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.56    0.15  4.00  41.70  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    0.94    0.03  3.83  41.70  n/a   0.000
*
************************************
** SIMULATION:22) 24HR SCS - 2YR **
************************************
    READ STORM                  5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.01 12.25   2.93 0.11   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.00 12.08   2.75 0.11   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                  5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.01 12.25   3.23 0.12   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.00 12.25   3.18 0.12   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.00 12.25   3.18  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    1.49    0.00 12.25   3.18  n/a   0.000
*
************************************
** SIMULATION:23) 24HR SCS - 5YR **
************************************
    READ STORM                  5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.01 12.25   4.24 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.01 12.08   3.97 0.13   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                  5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.01 12.25   4.66 0.15   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                  5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.01 12.25   4.59 0.15   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.01 12.25   4.59  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    1.49    0.01 12.25   4.59  n/a   0.000
*
************************************
** SIMULATION:24) 24HR SCS - 10YR **
************************************
    READ STORM                  5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
```

```
 ** CALIB NASHYD         0003  1  5.0    2.43    0.01 12.25   5.51 0.16   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.01 12.08   5.16 0.15   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.01 12.25   6.04 0.18   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.01 12.25   5.95 0.17   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                  0031  1  5.0    1.49    0.01 12.25   5.95  n/a   0.000
       MAJOR SYSTEM:       0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:       0031  3  5.0    1.49    0.01 12.25   5.95  n/a   0.000
*
************************************
** SIMULATION:25) 24HR SCS - 25YR **
************************************
    READ STORM                 5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.02 12.08   7.50 0.19   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.01 12.08   7.03 0.18   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                 5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.01 12.08   8.19 0.20   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.01 12.08   8.08 0.20   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                  0031  1  5.0    1.49    0.01 12.08   8.08  n/a   0.000
       MAJOR SYSTEM:       0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:       0031  3  5.0    1.49    0.01 12.08   8.08  n/a   0.000
*
************************************
** SIMULATION:26) 24HR SCS - 50YR **
************************************
    READ STORM                 5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.02 12.08   9.41 0.21   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.01 12.08   8.82 0.20   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                 5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.02 12.08  10.25 0.23   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.01 12.08  10.11 0.23   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                  0031  1  5.0    1.49    0.01 12.08  10.11  n/a   0.000
       MAJOR SYSTEM:       0031  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:       0031  3  5.0    1.49    0.01 12.08  10.11  n/a   0.000
*
************************************
** SIMULATION:27) 24HR SCS - 100YR **
************************************
    CHIC STORM                10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.31  8.00  49.56 0.44   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.20  8.00  46.45 0.41   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.07]
*
    CHIC STORM                10.0
    [ Ptot=113.60 mm ]
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.26  8.00  52.60 0.46   0.000
    [CN=69.5        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot=113.60 mm ]
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.20  8.00  52.12 0.46   0.000
    [CN=69.1        ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                  0031  1  5.0    1.49    0.20  8.00  52.12  n/a   0.000
       MAJOR SYSTEM:       0031  2  5.0    0.50    0.17  8.00  52.12  n/a   0.000
       MINOR SYSTEM:       0031  3  5.0    0.99    0.03  7.83  52.12  n/a   0.000
*
********************************
** SIMULATION:28) Timmins     **
********************************
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.23 10.50 194.04 0.67   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
```

```
    READ STORM                 30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.12 10.50 181.86 0.63   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                 30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.18 10.50 200.71 0.69   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.15 10.50 199.67 0.69   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.15 10.50 199.67  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.74    0.12 10.50 199.67  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    0.76    0.03  2.17 199.67  n/a   0.000
*
***********************************
** SIMULATION:3) PTBO 4HR 10 Yr **
***********************************
    CHIC STORM                 10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.12  1.42  13.30 0.25   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.08  1.33  12.47 0.23   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    CHIC STORM                 10.0
    [ Ptot= 53.50 mm ]
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.10  1.42  14.43 0.27   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 53.50 mm ]
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.08  1.42  14.25 0.27   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.08  1.42  14.25  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.40    0.05  1.42  14.25  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    1.09    0.03  1.25  14.25  n/a   0.000
*
***********************************
** SIMULATION:4) PTBO 4HR 25 Yr **
***********************************
    CHIC STORM                 10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.16  1.42  17.26 0.28   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.10  1.33  16.18 0.26   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    CHIC STORM                 10.0
    [ Ptot= 61.50 mm ]
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.13  1.42  18.65 0.30   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 61.50 mm ]
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.10  1.42  18.42 0.30   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.10  1.42  18.42  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.55    0.07  1.42  18.42  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    0.94    0.03  1.25  18.42  n/a   0.000
*
***********************************
** SIMULATION:5) PTBO 4HR 50 Yr  **
***********************************
    CHIC STORM                 10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.20  1.42  21.11 0.31   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.14  1.33  19.78 0.29   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    CHIC STORM                 10.0
    [ Ptot= 68.70 mm ]
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.17  1.42  22.74 0.33   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 68.70 mm ]
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.13  1.42  22.47 0.33   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.13  1.42  22.47  n/a   0.000
       MAJOR SYSTEM:     0031  2  5.0    0.65    0.10  1.42  22.47  n/a   0.000
       MINOR SYSTEM:     0031  3  5.0    0.85    0.03  1.25  22.47  n/a   0.000
*
***********************************
** SIMULATION:6) PTBO 4HR 100 Yr **
***********************************
    CHIC STORM                 10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.24  1.42  25.48 0.33   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.16  1.33  23.88 0.31   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    CHIC STORM                 10.0
    [ Ptot= 76.41 mm ]
*
 *  CALIB NASHYD         0021  1  5.0    1.88    0.20  1.42  27.36 0.36   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                 10.0
    [ Ptot= 76.41 mm ]
*
 *  CALIB NASHYD         0030  1  5.0    1.49    0.16  1.42  27.06 0.35   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                0031  1  5.0    1.49    0.16  1.42  27.06  n/a   0.000
```

```
      MAJOR SYSTEM:     0031  2  5.0    0.73    0.13  1.42  27.06  n/a   0.000
      MINOR SYSTEM:     0031  3  5.0    0.77    0.03  1.25  27.06  n/a   0.000
*
***********************************
** SIMULATION:7) 6 HR SCS - 2 YR **
***********************************
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.08  3.25   7.04 0.18   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.05  3.25   6.60 0.17   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.07  3.25   7.70 0.20   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.05  3.25   7.59 0.20   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                 0031  1  5.0    1.49    0.05  3.25   7.59  n/a   0.000
       MAJOR SYSTEM:      0031  2  5.0    0.18    0.02  3.25   7.59  n/a   0.000
       MINOR SYSTEM:      0031  3  5.0    1.31    0.03  3.17   7.59  n/a   0.000
*
***********************************
** SIMULATION:8) 6 HR SCS - 5 YR **
***********************************
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.15  3.25  12.81 0.24   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.09  3.25  12.01 0.23   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.13  3.25  13.90 0.27   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.10  3.25  13.72 0.26   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                 0031  1  5.0    1.49    0.10  3.25  13.72  n/a   0.000
       MAJOR SYSTEM:      0031  2  5.0    0.40    0.07  3.25  13.72  n/a   0.000
       MINOR SYSTEM:      0031  3  5.0    1.09    0.03  3.08  13.72  n/a   0.000
*
***********************************
** SIMULATION:9) 6 HR SCS - 10YR **
***********************************
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0003  1  5.0    2.43    0.20  3.25  17.31 0.28   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0005  1  5.0    1.35    0.12  3.25  16.23 0.26   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.07]
*
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
  * CALIB NASHYD         0021  1  5.0    1.88    0.17  3.25  18.71 0.30   0.000
    [CN=69.5         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\00d2acdf-0004-4ebb-8331-cbef171adee6\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
  * CALIB NASHYD         0030  1  5.0    1.49    0.13  3.25  18.48 0.30   0.000
    [CN=69.1         ]
    [ N = 3.0:Tp 0.11]
*
    DUHYD                 0031  1  5.0    1.49    0.13  3.25  18.48  n/a   0.000
       MAJOR SYSTEM:      0031  2  5.0    0.51    0.10  3.25  18.48  n/a   0.000
       MINOR SYSTEM:      0031  3  5.0    0.99    0.03  3.08  18.48  n/a   0.000
*
```

APPENDIX 6

WESTERN PORTION OF SITE DRAINING TO COUNTY ROAD 49 – INTERIM CONDITION – HYDRAULIC POINT A

POST-DEVELOPMENT WEIGHTED CURVE NUMBERS

PRE-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

POST-DEVELOPMENT TIME OF CONCENTRATION CALCULATIONS

VISUAL OTTHYMO SCHEMATIC & OUTPUT

Weighted Curve Number Calculations - West Parcel - Interim Condition

Note: Assume House Area of 370.80m^2 and Garage of 102.30 m^2 per Henley Contracting Ltd**.**
Therefore, assume 500m^2 per lot for house, driveway and garage/office.

Western Parcel Flows to County Road 49 - Interim PH 1 Built Condition

Node 1 - Lot 1 to 6 Fronts & Lots 8-11			Area =	3.17 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
House/Garage (9)	0.450	98	44.1	
Grassed Area	2.724	67	182.5171	
Total	3.17		226.6171	
Weighted CN =	71.39			

			Area =	1.04 ha
Node 2 - EXT-1 - PH 2 Through Development (Controlled)				
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
Grassed Area	1.039	67	69.613	
Total	1.04		69.613	
Weighted CN =	67.00			

			Area =	0.40 ha
Node 3 - EXT-2 - PH 2 Through Development (Controlled)				
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
Grassed Area	0.403	67	26.97428	
Total	0.40		26.97428	
Weighted CN =	67.00			

Weighted Curve Number Calculations - West Parcel

Western Parcel Flows to Provincially Significant Wetland (PSW)

Node 4 - Lot 1 to 4 Rears			Area =	1.70 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
Grassed Area	1.696	67	113.6156	
Total	1.70		113.6156	
Weighted CN =	67.00			

Node 5 - EXT-3 - PH 2 Draining to CR 49 (Uncontrolled)			Area =	2.30 ha
Material	**Area (ha)**	**Curve Number (CN)**	**Ratio**	
Grassed Area	2.299	67	154.0578	
Total	2.30		154.0578	
Weighted CN =	67.00			

Time of Concentration & Time to Peak Calculation (Interim PH 1 Constructed Conditions)

1) Node 1 - Lot 1 to 6 Fronts, Street A , Lots 8-11 to Street A - Part 1

Upstream Invert 297.66
Downstream Invert 295.71
Length (m) 82.16
Assume Pasture - Contoured

Slope = (297.66-295.71) / 82.16 = 2.37%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.33 m/s

t_c = 82.16 / 0.33 = 249.40 s = 0.069277 h

Part 1 t_{p1} = 2 x t_c / 3 = 0.046184 h

2) Node 1 - Lot 1 to 6 Fronts, Street A , Lots 8-11 to Street A - Part 2

Upstream Invert 295.71
Downstream Invert 294.40
Length (m) 128.29
Assume Grassed Waterway

Slope = (295.71 - 294.40) / 128.29 = 1.02%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.46 m/s

t_c = 128.29 / 0.46 = 278.89 s = 0.077468 h

Part 2 t_{p2} = 2 x t_c / 3 = 0.051645 h

$t_p = t_{p1} + t_{p2}$ = 0.046184 + 0.051645 = 0.097829782 h

Note: Since 0.097h is less than the minimum allowable, a t_p of 0.11h was used.

3) Node 5 - EXT - 3 - PH 2 to County Road 49 (Uncontrolled) - Phase 2

Upstream Invert 302.56
Downstream Invert 298.85
Length (m) 185.54
Assume Pasture - Contoured

Slope = (302.56 - 298.85) / 185.54 = 2.00%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.30 m/s

t_c = 185.54 / 0.30 = 618.48 s = 0.171799 h

Part 1 t_{p1} = 2 x t_c / 3 = 0.114533 h

4) Node 5 - EXT - 3 - PH 2 to County Road 49

Upstream Invert 298.85
Downstream Invert 296.31
Length (m) 159.68
Assume Pasture - Contoured

Slope = (298.85 - 296.31) / 159.68 = 1.59%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.27 m/s

t_c = 159.68 / 0.27 = 600.30 s = 0.166749 h

t_p = 2 x t_c / 3 = 0.111166 h

$t_p = t_{p1} + t_{p2}$ = 0.114533 + 0.111166 = 0.282965369 h

Time of Concentration & Time to Peak Calculation (Interim PH 1 Constructed Conditions)

	Node 2 - EXT-1 - Ph 2 Draining Through							
5)	Development (Controlled)		Slope =	302.80 - 295.16	=			4.69%
	Upstream Invert	302.80		162.81				
	Downstream Invert	295.16	**From Figure A.5.2 : Upland Method for Estimating Tc (SCS**					
	Length (m)	162.81	**National Engineering Handbook, 1971)**					
	Assume Pasture - Contoured		v =	0.46 m/s				
			t_c =	162.81	=	352.58	s	
				0.46	=	0.097938	h	
		Part 1	t_{p1} =	2 x t_c	=	0.065292	h	
				3				
	Note: Since 0.065h is less than the minimum allowable, a t_p of 0.11h was used.							

	Node 3 - EXT-2 - Ph 2 Draining Through							
6)	Development (Controlled)		Slope =	298.66 - 295.00	=			5.87%
	Upstream Invert	298.66		62.34				
	Downstream Invert	295.00	**From Figure A.5.2 : Upland Method for Estimating Tc (SCS**					
	Length (m)	62.34	**National Engineering Handbook, 1971)**					
	Assume Pasture - Contoured		v =	0.54 m/s				
			t_c =	62.34	=	115.98	s	
				0.54	=	0.032216	h	
		Part 1	t_{p1} =	2 x t_c	=	0.021477	h	
				3				
	Note: Since 0.021h is less than the minimum allowable, a t_p of 0.11h was used.							

1)	Node 6 - Lot 1 - 4 Rears		Slope =	296.30 - 292.56	=			5.38%
	Upstream Invert	296.34		70.22				
	Downstream Invert	292.56	**From Figure A.5.2 : Upland Method for Estimating Tc (SCS**					
	Length (m)	70.22	**National Engineering Handbook, 1971)**					
	Assume Pasture - Contoured		v =	0.50 m/s				
			t_c =	70.22	=	141.86	s	
				0.50	=	0.039407	h	
			t_p =	2 x t_c	=	0.026271	h	
				3				

Time of Concentration & Time to Peak Calculation (Post-Development) - Western Side of Site

1) Node 6 - Lot 1 - 4 Rears
Upstream Invert 296.34
Downstream Invert 292.56
Length (m) 70.22
Assume Pasture - Contoured

Slope = (296.30 - 292.56) / 70.22 = 5.38%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.50 m/s

t_c = 70.22 / 0.50 = 141.86 s = 0.039407 h

t_p = 2 x t_c / 3 = 0.026271 h

Note: Since 0.026h is less than the minimum allowable, a t_p of 0.11h was used.

2) Node 7 - Lots 26 & 27
Upstream Invert 301.56
Downstream Invert 296.38
Length (m) 145.25
Assume Pasture - Contoured

Slope = (301.56 - 296.38) / 145.25 = 3.57%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.40 m/s

t_c = 145.25 / 0.40 = 361.32 s = 0.100368 h

t_p = 2 x t_c / 3 = 0.066912 h

Note: Since 0.067h is less than the minimum allowable, a t_p of 0.11h was used.

4) Node 9 - Lot 1 to 6 Fronts, Street A , Lots 8-11, 28, 29 to Street A - Part 1
Upstream Invert 299.80
Downstream Invert 295.71
Length (m) 188.48
Assume Pasture - Contoured

Slope = (296.62 - 296.16) / 188.48 = 2.17%

From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.31 m/s

t_c = 188.48 / 0.31 = 606.04 s = 0.168346 h

Part 1 t_{p1} = 2 x t_c / 3 = 0.11223 h

5) Node 9 - Lot 1 to 7 Fronts, Street A , Lots 25, 26, 30-33 to Street A - Part 2
Upstream Invert 295.71
Downstream Invert 294.40
Length (m) 128.29
Assume Grassed Waterway

Slope = (295.68 - 294.40) / 128.29 = 1.02%

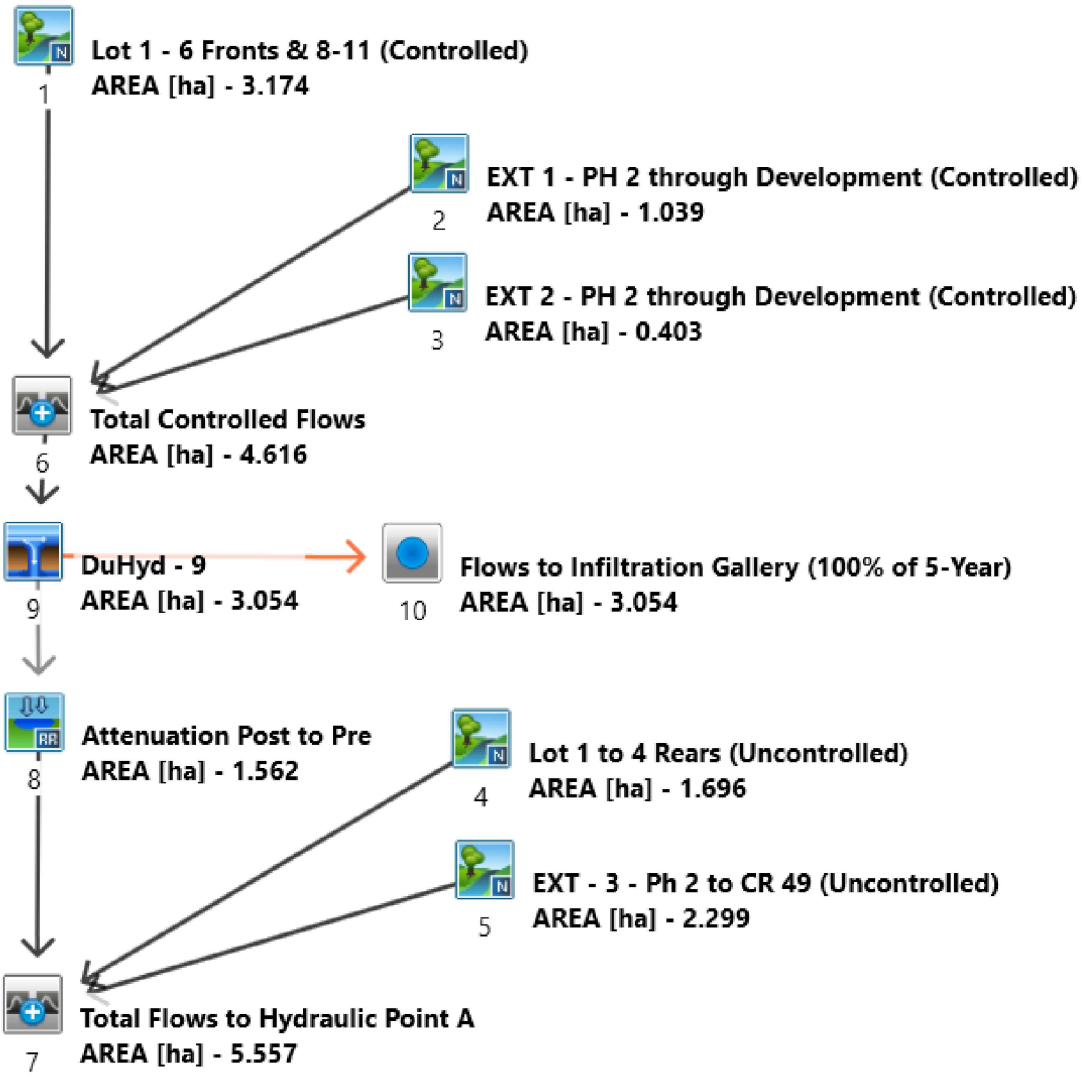
From Figure A.5.2 : Upland Method for Estimating Tc (SCS National Engineering Handbook, 1971)

v = 0.46 m/s

t_c = 128.29 / 0.46 = 278.89 s = 0.077468 h

Part 2 t_{p2} = 2 x t_c / 3 = 0.051645 h

$t_p = t_{p1} + t_{p2}$ = 0.11223 + 0.051645 = 0.163876 h



JEFFERY SUBDIVISION, BOBCAYGEON, ON

V.O. SCHEMATIC – POST-DEVELOPMENT FLOWS TO COUNTY ROAD 49 (INTERIM CONDITION)

D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

SCALE	N.T.S.
DRAWN	M.J.H.
DESIGN	M.J.H.
CHECKED	D.D.M.
DATE	DEC 2024

PROJECT 122169

DWG FIG 6

```
**********
** SIMULATION:1) PTBO 4HR 2 Yr **
**********
```

CHICAGO STORM	Ptotal= 34.03 mm

IDF curve parameters: A= 662.000
B= 7.500
C= 0.790
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	2.29	1.00	18.79	2.00	5.56	3.00	2.73
0.17	2.63	1.17	69.00	2.17	4.70	3.17	2.53
0.33	3.11	1.33	24.52	2.33	4.09	3.33	2.36
0.50	3.85	1.50	13.09	2.50	3.62	3.50	2.21
0.67	5.12	1.67	8.95	2.67	3.26	3.67	2.09
0.83	7.88	1.83	6.84	2.83	2.97	3.83	1.97

CALIB	NASHYD (0004)	ID= 1 DT= 5.0 min

Area (ha)= 1.70 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.03

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.011 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 1.235
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.036

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

CALIB	NASHYD (0001)	ID= 1 DT= 5.0 min

Area (ha)= 3.17 Curve Number (CN)= 71.4
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.067 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 6.326
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.186

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

CALIB	NASHYD (0002)	ID= 1 DT= 5.0 min

Area (ha)= 1.04 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.018 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 5.370
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.158

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

CALIB	NASHYD (0003)	ID= 1 DT= 5.0 min

Area (ha)= 0.40 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	2.29	1.083	18.79	2.083	5.56	3.08	2.73
0.167	2.29	1.167	18.79	2.167	5.56	3.17	2.73
0.250	2.63	1.250	69.00	2.250	4.70	3.25	2.53
0.333	2.63	1.333	69.00	2.333	4.70	3.33	2.53
0.417	3.11	1.417	24.52	2.417	4.09	3.42	2.36
0.500	3.11	1.500	24.52	2.500	4.09	3.50	2.36
0.583	3.85	1.583	13.09	2.583	3.62	3.58	2.21
0.667	3.85	1.667	13.09	2.667	3.62	3.67	2.21
0.750	5.12	1.750	8.95	2.750	3.26	3.75	2.09
0.833	5.12	1.833	8.95	2.833	3.26	3.83	2.09
0.917	7.88	1.917	6.84	2.917	2.97	3.92	1.97
1.000	7.88	2.000	6.84	3.000	2.97	4.00	1.97

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.007 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 5.369
TOTAL RAINFALL (mm)= 34.028
RUNOFF COEFFICIENT = 0.158

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

```
--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     3.17   0.067     1.42     6.33
     + ID2= 2 (  0002):     1.04   0.018     1.42     5.37
       ====================================================
       ID = 3 (  0006):     4.21   0.085     1.42     6.09

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0006):     4.21   0.085     1.42     6.09
     + ID2= 2 (  0003):     0.40   0.007     1.42     5.37
       ====================================================
       ID = 1 (  0006):     4.62   0.092     1.42     6.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
    TOTAL HYD.(ID= 1):   4.62      0.09      1.42     6.03
    ================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00     0.00
    MINOR SYS.(ID= 3):   4.62      0.09      1.42     6.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                           0.0000      0.0004   |    0.2061      0.0090
                           0.0363      0.0008   |    0.2510      0.0135
                           0.0555      0.0027   |    0.2886      0.0201

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)     0.000     0.000      0.00       0.00
   OUTFLOW: ID= 1 (  0008)     0.000     0.000      0.00        NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

    **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                   CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

        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    2.29 | 1.083   18.79 | 2.083    5.56 |  3.08    2.73
 0.167    2.29 | 1.167   18.79 | 2.167    5.56 |  3.17    2.73
 0.250    2.63 | 1.250   69.00 | 2.250    4.70 |  3.25    2.53
 0.333    2.63 | 1.333   69.00 | 2.333    4.70 |  3.33    2.53
 0.417    3.11 | 1.417   24.52 | 2.417    4.09 |  3.42    2.36
 0.500    3.11 | 1.500   24.52 | 2.500    4.09 |  3.50    2.36
 0.583    3.85 | 1.583   13.09 | 2.583    3.62 |  3.58    2.21
 0.667    3.85 | 1.667   13.09 | 2.667    3.62 |  3.67    2.21
 0.750    5.12 | 1.750    8.95 | 2.750    3.26 |  3.75    2.09
 0.833    5.12 | 1.833    8.95 | 2.833    3.26 |  3.83    2.09
 0.917    7.88 | 1.917    6.84 | 2.917    2.97 |  3.92    1.97
 1.000    7.88 | 2.000    6.84 | 3.000    2.97 |  4.00    1.97

    Unit Hyd Qpeak  (cms)=   0.310

    PEAK FLOW       (cms)=   0.027 (i)
    TIME TO PEAK    (hrs)=   1.667
    RUNOFF VOLUME    (mm)=   5.464
    TOTAL RAINFALL   (mm)=  34.028
    RUNOFF COEFFICIENT   =   0.161

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.011     1.33     1.23
     + ID2= 2 (  0005):     2.30   0.027     1.67     5.46
       ====================================================
       ID = 3 (  0007):     4.00   0.031     1.67     3.67

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0008 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0007):     4.00   0.031     1.67     3.67
     + ID2= 2 (  0008):     0.00   0.000     0.00      NaN
       ====================================================
       ID = 1 (  0007):     4.00   0.031     1.67     3.67

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

  --------------------------
  | Junction Command(0010) |
  --------------------------

                              AREA     QPEAK   TPEAK     R.V.
                              (ha)     (cms)    (hrs)    (mm)
  INFLOW : ID= 9(  0009)     4.62      0.09     1.42     6.03
  OUTFLOW: ID= 2(  0010)     4.62      0.09     1.42     6.03

  ------------------------------------------------------------------------------------
**************************************
** SIMULATION:10) 6 HR SCS - 25 YR **
**************************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\c5b18710
| Ptotal= 72.90 mm |    Comments: PETERBOROUGH SCS 6HR 25YR
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    0.00 |  1.75    7.30 |  3.50   16.00 |  5.25    2.90
                0.25    2.90 |  2.00    7.30 |  3.75    7.30 |  5.50    2.90
                0.50    2.90 |  2.25    8.80 |  4.00    7.30 |  5.75    2.90
                0.75    4.40 |  2.50    8.80 |  4.25    5.80 |  6.00    2.90
                1.00    4.40 |  2.75   43.70 |  4.50    5.80 |
                1.25    4.40 |  3.00  113.70 |  4.75    4.40 |
                1.50    4.40 |  3.25   16.00 |  5.00    4.40 |

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

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

        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	0.00	1.667	4.40	3.250	113.70	4.83	4.40
0.167	0.00	1.750	4.40	3.333	16.00	4.92	4.40
0.250	0.00	1.833	7.30	3.417	16.00	5.00	4.40
0.333	2.90	1.917	7.30	3.500	16.00	5.08	4.40
0.417	2.90	2.000	7.30	3.583	16.00	5.17	4.40
0.500	2.90	2.083	7.30	3.667	16.00	5.25	4.40
0.583	2.90	2.167	7.30	3.750	16.00	5.33	2.90
0.667	2.90	2.250	7.30	3.833	7.30	5.42	2.90
0.750	2.90	2.333	8.80	3.917	7.30	5.50	2.90
0.833	4.40	2.417	8.80	4.000	7.30	5.58	2.90
0.917	4.40	2.500	8.80	4.083	7.30	5.67	2.90
1.000	4.40	2.583	8.80	4.167	7.30	5.75	2.90
1.083	4.40	2.667	8.80	4.250	7.30	5.83	2.90
1.167	4.40	2.750	8.80	4.333	5.80	5.92	2.90
1.250	4.40	2.833	43.70	4.417	5.80	6.00	2.90
1.333	4.40	2.917	43.70	4.500	5.80	6.08	2.90
1.417	4.40	3.000	43.70	4.583	5.80	6.17	2.90
1.500	4.40	3.083	113.70	4.667	5.80	6.25	2.90
1.583	4.40	3.167	113.70	4.750	5.80		

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.054 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 5.396
TOTAL RAINFALL (mm)= 72.900
RUNOFF COEFFICIENT = 0.074

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

CALIB					
NASHYD (0001)	Area	(ha)=	3.17	Curve Number	(CN)= 71.4
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.11		

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

---- TRANSFORMED HYETOGRAPH ----

0.083	0.00	1.667	4.40	3.250	113.70	4.83	4.40
0.167	0.00	1.750	4.40	3.333	16.00	4.92	4.40
0.250	0.00	1.833	7.30	3.417	16.00	5.00	4.40
0.333	2.90	1.917	7.30	3.500	16.00	5.08	4.40
0.417	2.90	2.000	7.30	3.583	16.00	5.17	4.40
0.500	2.90	2.083	7.30	3.667	16.00	5.25	4.40
0.583	2.90	2.167	7.30	3.750	16.00	5.33	2.90
0.667	2.90	2.250	7.30	3.833	7.30	5.42	2.90
0.750	2.90	2.333	8.80	3.917	7.30	5.50	2.90
0.833	4.40	2.417	8.80	4.000	7.30	5.58	2.90
0.917	4.40	2.500	8.80	4.083	7.30	5.67	2.90
1.000	4.40	2.583	8.80	4.167	7.30	5.75	2.90
1.083	4.40	2.667	8.80	4.250	7.30	5.83	2.90
1.167	4.40	2.750	8.80	4.333	5.80	5.92	2.90
1.250	4.40	2.833	43.70	4.417	5.80	6.00	2.90
1.333	4.40	2.917	43.70	4.500	5.80	6.08	2.90
1.417	4.40	3.000	43.70	4.583	5.80	6.17	2.90
1.500	4.40	3.083	113.70	4.667	5.80	6.25	2.90
1.583	4.40	3.167	113.70	4.750	5.80		

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.409 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 26.686
TOTAL RAINFALL (mm)= 72.900
RUNOFF COEFFICIENT = 0.366

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

CALIB					
NASHYD (0002)	Area	(ha)=	1.04	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.11		

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

---- TRANSFORMED HYETOGRAPH ----

0.083	0.00	1.667	4.40	3.250	113.70	4.83	4.40
0.167	0.00	1.750	4.40	3.333	16.00	4.92	4.40
0.250	0.00	1.833	7.30	3.417	16.00	5.00	4.40
0.333	2.90	1.917	7.30	3.500	16.00	5.08	4.40
0.417	2.90	2.000	7.30	3.583	16.00	5.17	4.40
0.500	2.90	2.083	7.30	3.667	16.00	5.25	4.40
0.583	2.90	2.167	7.30	3.750	16.00	5.33	2.90
0.667	2.90	2.250	7.30	3.833	7.30	5.42	2.90
0.750	2.90	2.333	8.80	3.917	7.30	5.50	2.90
0.833	4.40	2.417	8.80	4.000	7.30	5.58	2.90
0.917	4.40	2.500	8.80	4.083	7.30	5.67	2.90
1.000	4.40	2.583	8.80	4.167	7.30	5.75	2.90
1.083	4.40	2.667	8.80	4.250	7.30	5.83	2.90
1.167	4.40	2.750	8.80	4.333	5.80	5.92	2.90
1.250	4.40	2.833	43.70	4.417	5.80	6.00	2.90
1.333	4.40	2.917	43.70	4.500	5.80	6.08	2.90
1.417	4.40	3.000	43.70	4.583	5.80	6.17	2.90
1.500	4.40	3.083	113.70	4.667	5.80	6.25	2.90
1.583	4.40	3.167	113.70	4.750	5.80		

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.117 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 23.464
TOTAL RAINFALL (mm)= 72.900
RUNOFF COEFFICIENT = 0.322

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

CALIB					
NASHYD (0003)	Area	(ha)=	0.40	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.11		

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

---- TRANSFORMED HYETOGRAPH ----

0.083	0.00	1.667	4.40	3.250	113.70	4.83	4.40
0.167	0.00	1.750	4.40	3.333	16.00	4.92	4.40
0.250	0.00	1.833	7.30	3.417	16.00	5.00	4.40
0.333	2.90	1.917	7.30	3.500	16.00	5.08	4.40
0.417	2.90	2.000	7.30	3.583	16.00	5.17	4.40
0.500	2.90	2.083	7.30	3.667	16.00	5.25	4.40
0.583	2.90	2.167	7.30	3.750	16.00	5.33	2.90
0.667	2.90	2.250	7.30	3.833	7.30	5.42	2.90
0.750	2.90	2.333	8.80	3.917	7.30	5.50	2.90
0.833	4.40	2.417	8.80	4.000	7.30	5.58	2.90
0.917	4.40	2.500	8.80	4.083	7.30	5.67	2.90
1.000	4.40	2.583	8.80	4.167	7.30	5.75	2.90
1.083	4.40	2.667	8.80	4.250	7.30	5.83	2.90
1.167	4.40	2.750	8.80	4.333	5.80	5.92	2.90
1.250	4.40	2.833	43.70	4.417	5.80	6.00	2.90
1.333	4.40	2.917	43.70	4.500	5.80	6.08	2.90
1.417	4.40	3.000	43.70	4.583	5.80	6.17	2.90
1.500	4.40	3.083	113.70	4.667	5.80	6.25	2.90
1.583	4.40	3.167	113.70	4.750	5.80		

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.045 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 23.463
TOTAL RAINFALL (mm)= 72.900
RUNOFF COEFFICIENT = 0.322

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

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0001):		3.17	0.409	3.25	26.69
+ ID2= 2 (0002):		1.04	0.117	3.25	23.46

```
        ID = 3 (  0006):     4.21   0.526     3.25    25.89

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


--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):     4.21   0.526     3.25    25.89
      + ID2= 2 (  0003):     0.40   0.045     3.25    23.46
        ================================================
        ID = 1 (  0006):     4.62   0.571     3.25    25.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   4.62      0.57      3.25   25.68
     ================================================
     MAJOR SYS.(ID= 2):   1.53      0.44      3.25   25.68
     MINOR SYS.(ID= 3):   3.09      0.13      3.08   25.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                          0.0000      0.0004   |    0.2061      0.0090
                          0.0363      0.0008   |    0.2510      0.0135
                          0.0555      0.0027   |    0.2886      0.0201

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)    1.526     0.439      3.25      25.68
   OUTFLOW: ID= 1 (  0008)    1.526     0.255      3.33      25.44

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.08
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0147

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--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

        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    0.00 | 1.667    4.40 | 3.250  113.70 |  4.83    4.40
 0.167    0.00 | 1.750    4.40 | 3.333   16.00 |  4.92    4.40
 0.250    0.00 | 1.833    7.30 | 3.417   16.00 |  5.00    4.40
 0.333    2.90 | 1.917    7.30 | 3.500   16.00 |  5.08    4.40
 0.417    2.90 | 2.000    7.30 | 3.583   16.00 |  5.17    4.40
 0.500    2.90 | 2.083    7.30 | 3.667   16.00 |  5.25    4.40
 0.583    2.90 | 2.167    7.30 | 3.750   16.00 |  5.33    2.90
 0.667    2.90 | 2.250    7.30 | 3.833    7.30 |  5.42    2.90
 0.750    2.90 | 2.333    8.80 | 3.917    7.30 |  5.50    2.90
 0.833    4.40 | 2.417    8.80 | 4.000    7.30 |  5.58    2.90
 0.917    4.40 | 2.500    8.80 | 4.083    7.30 |  5.67    2.90
 1.000    4.40 | 2.583    8.80 | 4.167    7.30 |  5.75    2.90
 1.083    4.40 | 2.667    8.80 | 4.250    7.30 |  5.83    2.90
 1.167    4.40 | 2.750    8.80 | 4.333    5.80 |  5.92    2.90
 1.250    4.40 | 2.833   43.70 | 4.417    5.80 |  6.00    2.90
 1.333    4.40 | 2.917   43.70 | 4.500    5.80 |  6.08    2.90
 1.417    4.40 | 3.000   43.70 | 4.583    5.80 |  6.17    2.90
 1.500    4.40 | 3.083  113.70 | 4.667    5.80 |  6.25    2.90
 1.583    4.40 | 3.167  113.70 | 4.750    5.80 |

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.147 (i)
     TIME TO PEAK    (hrs)=   3.417
     RUNOFF VOLUME    (mm)=  23.876
     TOTAL RAINFALL   (mm)=  72.900
     RUNOFF COEFFICIENT   =   0.328

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

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--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0004):     1.70   0.054     3.25     5.40
      + ID2= 2 (  0005):     2.30   0.147     3.42    23.88
        ================================================
        ID = 3 (  0007):     4.00   0.165     3.25    16.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0007):     4.00   0.165     3.25    16.03
      + ID2= 2 (  0008):     1.53   0.255     3.33    25.44
        ================================================
        ID = 1 (  0007):     5.52   0.404     3.33    18.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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  -------------------------
  | Junction Command(0010) |
  -------------------------

                            AREA     QPEAK    TPEAK     R.V.
                            (ha)     (cms)    (hrs)     (mm)
  INFLOW : ID= 9(  0009)    3.09      0.13     3.08    25.68
  OUTFLOW: ID= 2(  0010)    3.09      0.13     3.08    25.68

  --------------------------------------------------------------------------------
**************************************
** SIMULATION:11) 6 HR SCS - 50 YR **
**************************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\71a09708
| Ptotal= 81.47 mm |    Comments: PETERBOROUGH SCS 6HR 50YR
--------------------
  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.00    0.00 |  1.75    8.10 |  3.50   17.90 |  5.25    3.30
 0.25    3.30 |  2.00    8.10 |  3.75    8.10 |  5.50    3.30
 0.50    3.30 |  2.25    9.80 |  4.00    8.10 |  5.75    3.30
 0.75    4.90 |  2.50    9.80 |  4.25    6.50 |  6.00    3.30
 1.00    4.90 |  2.75   48.90 |  4.50    6.50 |
 1.25    4.90 |  3.00  127.00 |  4.75    4.90 |
 1.50    4.90 |  3.25   17.90 |  5.00    4.90 |

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--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

        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    0.00 | 1.667    4.90 | 3.250  127.00 |  4.83    4.90
 0.167    0.00 | 1.750    4.90 | 3.333   17.90 |  4.92    4.90
 0.250    0.00 | 1.833    8.10 | 3.417   17.90 |  5.00    4.90
 0.333    3.30 | 1.917    8.10 | 3.500   17.90 |  5.08    4.90
 0.417    3.30 | 2.000    8.10 | 3.583   17.90 |  5.17    4.90
 0.500    3.30 | 2.083    8.10 | 3.667   17.90 |  5.25    4.90
```

0.583	3.30	2.167	8.10	3.750	17.90	5.33	3.30
0.667	3.30	2.250	8.10	3.833	8.10	5.42	3.30
0.750	3.30	2.333	9.80	3.917	8.10	5.50	3.30
0.833	4.90	2.417	9.80	4.000	8.10	5.58	3.30
0.917	4.90	2.500	9.80	4.083	8.10	5.67	3.30
1.000	4.90	2.583	9.80	4.167	8.10	5.75	3.30
1.083	4.90	2.667	9.80	4.250	8.10	5.83	3.30
1.167	4.90	2.750	9.80	4.333	6.50	5.92	3.30
1.250	4.90	2.833	48.90	4.417	6.50	6.00	3.30
1.333	4.90	2.917	48.90	4.500	6.50	6.08	3.30
1.417	4.90	3.000	48.90	4.583	6.50	6.17	3.30
1.500	4.90	3.083	127.00	4.667	6.50	6.25	3.30
1.583	4.90	3.167	127.00	4.750	6.50		

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.065 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 6.554
TOTAL RAINFALL (mm)= 81.475
RUNOFF COEFFICIENT = 0.080

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

CALIB
NASHYD (0001) | Area (ha)= 3.17 Curve Number (CN)= 71.4
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	0.00	1.667	4.90	3.250	127.00	4.83	4.90
0.167	0.00	1.750	4.90	3.333	17.90	4.92	4.90
0.250	0.00	1.833	8.10	3.417	17.90	5.00	4.90
0.333	3.30	1.917	8.10	3.500	17.90	5.08	4.90
0.417	3.30	2.000	8.10	3.583	17.90	5.17	4.90
0.500	3.30	2.083	8.10	3.667	17.90	5.25	4.90
0.583	3.30	2.167	8.10	3.750	17.90	5.33	3.30
0.667	3.30	2.250	8.10	3.833	8.10	5.42	3.30
0.750	3.30	2.333	9.80	3.917	8.10	5.50	3.30
0.833	4.90	2.417	9.80	4.000	8.10	5.58	3.30
0.917	4.90	2.500	9.80	4.083	8.10	5.67	3.30
1.000	4.90	2.583	9.80	4.167	8.10	5.75	3.30
1.083	4.90	2.667	9.80	4.250	8.10	5.83	3.30
1.167	4.90	2.750	9.80	4.333	6.50	5.92	3.30
1.250	4.90	2.833	48.90	4.417	6.50	6.00	3.30
1.333	4.90	2.917	48.90	4.500	6.50	6.08	3.30
1.417	4.90	3.000	48.90	4.583	6.50	6.17	3.30
1.500	4.90	3.083	127.00	4.667	6.50	6.25	3.30
1.583	4.90	3.167	127.00	4.750	6.50		

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.493 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 32.223
TOTAL RAINFALL (mm)= 81.475
RUNOFF COEFFICIENT = 0.395

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

CALIB
NASHYD (0002) | Area (ha)= 1.04 Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	0.00	1.667	4.90	3.250	127.00	4.83	4.90
0.167	0.00	1.750	4.90	3.333	17.90	4.92	4.90
0.250	0.00	1.833	8.10	3.417	17.90	5.00	4.90
0.333	3.30	1.917	8.10	3.500	17.90	5.08	4.90
0.417	3.30	2.000	8.10	3.583	17.90	5.17	4.90
0.500	3.30	2.083	8.10	3.667	17.90	5.25	4.90
0.583	3.30	2.167	8.10	3.750	17.90	5.33	3.30
0.667	3.30	2.250	8.10	3.833	8.10	5.42	3.30
0.750	3.30	2.333	9.80	3.917	8.10	5.50	3.30
0.833	4.90	2.417	9.80	4.000	8.10	5.58	3.30
0.917	4.90	2.500	9.80	4.083	8.10	5.67	3.30
1.000	4.90	2.583	9.80	4.167	8.10	5.75	3.30
1.083	4.90	2.667	9.80	4.250	8.10	5.83	3.30
1.167	4.90	2.750	9.80	4.333	6.50	5.92	3.30
1.250	4.90	2.833	48.90	4.417	6.50	6.00	3.30
1.333	4.90	2.917	48.90	4.500	6.50	6.08	3.30
1.417	4.90	3.000	48.90	4.583	6.50	6.17	3.30
1.500	4.90	3.083	127.00	4.667	6.50	6.25	3.30
1.583	4.90	3.167	127.00	4.750	6.50		

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.142 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 28.498
TOTAL RAINFALL (mm)= 81.475
RUNOFF COEFFICIENT = 0.350

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

CALIB
NASHYD (0003) | Area (ha)= 0.40 Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	0.00	1.667	4.90	3.250	127.00	4.83	4.90
0.167	0.00	1.750	4.90	3.333	17.90	4.92	4.90
0.250	0.00	1.833	8.10	3.417	17.90	5.00	4.90
0.333	3.30	1.917	8.10	3.500	17.90	5.08	4.90
0.417	3.30	2.000	8.10	3.583	17.90	5.17	4.90
0.500	3.30	2.083	8.10	3.667	17.90	5.25	4.90
0.583	3.30	2.167	8.10	3.750	17.90	5.33	3.30
0.667	3.30	2.250	8.10	3.833	8.10	5.42	3.30
0.750	3.30	2.333	9.80	3.917	8.10	5.50	3.30
0.833	4.90	2.417	9.80	4.000	8.10	5.58	3.30
0.917	4.90	2.500	9.80	4.083	8.10	5.67	3.30
1.000	4.90	2.583	9.80	4.167	8.10	5.75	3.30
1.083	4.90	2.667	9.80	4.250	8.10	5.83	3.30
1.167	4.90	2.750	9.80	4.333	6.50	5.92	3.30
1.250	4.90	2.833	48.90	4.417	6.50	6.00	3.30
1.333	4.90	2.917	48.90	4.500	6.50	6.08	3.30
1.417	4.90	3.000	48.90	4.583	6.50	6.17	3.30
1.500	4.90	3.083	127.00	4.667	6.50	6.25	3.30
1.583	4.90	3.167	127.00	4.750	6.50		

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.055 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 28.498
TOTAL RAINFALL (mm)= 81.475
RUNOFF COEFFICIENT = 0.350

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

ADD HYD (0006)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.493	3.25	32.22
+ ID2= 2 (0002):	1.04	0.142	3.25	28.50
ID = 3 (0006):	4.21	0.635	3.25	31.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0006):     4.21   0.635     3.25    31.30
     + ID2= 2 (  0003):     0.40   0.055     3.25    28.50
       ================================================
       ID = 1 (  0006):     4.62   0.690     3.25    31.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
-------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):   4.62      0.69      3.25   31.06
    ================================================
    MAJOR SYS.(ID= 2):   1.73      0.56      3.25   31.06
    MINOR SYS.(ID= 3):   2.88      0.13      3.00   31.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                           0.0000      0.0004   |    0.2061      0.0090
                           0.0363      0.0008   |    0.2510      0.0135
                           0.0555      0.0027   |    0.2886      0.0201
    **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
  INFLOW : ID= 2 (  0009)     1.732     0.558      3.25      31.06
  OUTFLOW: ID= 1 (  0008)     1.732     0.293      3.33      30.88

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.50
                TIME SHIFT OF PEAK FLOW         (min)=  5.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0221

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.28

        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    0.00 | 1.667    4.90 | 3.250  127.00 |  4.83    4.90
   0.167    0.00 | 1.750    4.90 | 3.333   17.90 |  4.92    4.90
   0.250    0.00 | 1.833    8.10 | 3.417   17.90 |  5.00    4.90
   0.333    3.30 | 1.917    8.10 | 3.500   17.90 |  5.08    4.90
   0.417    3.30 | 2.000    8.10 | 3.583   17.90 |  5.17    4.90
   0.500    3.30 | 2.083    8.10 | 3.667   17.90 |  5.25    4.90
   0.583    3.30 | 2.167    8.10 | 3.750   17.90 |  5.33    3.30
   0.667    3.30 | 2.250    8.10 | 3.833    8.10 |  5.42    3.30
   0.750    3.30 | 2.333    9.80 | 3.917    8.10 |  5.50    3.30
   0.833    4.90 | 2.417    9.80 | 4.000    8.10 |  5.58    3.30
   0.917    4.90 | 2.500    9.80 | 4.083    8.10 |  5.67    3.30
   1.000    4.90 | 2.583    9.80 | 4.167    8.10 |  5.75    3.30
   1.083    4.90 | 2.667    9.80 | 4.250    8.10 |  5.83    3.30
   1.167    4.90 | 2.750    9.80 | 4.333    6.50 |  5.92    3.30
   1.250    4.90 | 2.833   48.90 | 4.417    6.50 |  6.00    3.30
   1.333    4.90 | 2.917   48.90 | 4.500    6.50 |  6.08    3.30
   1.417    4.90 | 3.000   48.90 | 4.583    6.50 |  6.17    3.30
   1.500    4.90 | 3.083  127.00 | 4.667    6.50 |  6.25    3.30
   1.583    4.90 | 3.167  127.00 | 4.750    6.50 |

    Unit Hyd Qpeak  (cms)=   0.310

    PEAK FLOW       (cms)=   0.180 (i)
    TIME TO PEAK    (hrs)=   3.417
    RUNOFF VOLUME    (mm)=  28.999
    TOTAL RAINFALL   (mm)=  81.475
    RUNOFF COEFFICIENT   =   0.356

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

--------------------------------------------------------------------------------
-------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.065     3.25     6.55
     + ID2= 2 (  0005):     2.30   0.180     3.42    29.00
       ================================================
       ID = 3 (  0007):     4.00   0.202     3.25    19.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
-------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0007):     4.00   0.202     3.25    19.47
     + ID2= 2 (  0008):     1.73   0.293     3.33    30.88
       ================================================
       ID = 1 (  0007):     5.73   0.479     3.42    22.92

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

  -------------------------
  | Junction Command(0010) |
  -------------------------

                              AREA     QPEAK   TPEAK     R.V.
                              (ha)     (cms)   (hrs)     (mm)
  INFLOW : ID= 9(  0009)     2.88      0.13    3.00     31.06
  OUTFLOW: ID= 2(  0010)     2.88      0.13    3.00     31.06

  ------------------------------------------------------------------------------
**************************************
** SIMULATION:12) 6 HR SCS - 100YR **
**************************************

-------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\b2061589
| Ptotal= 89.93 mm |    Comments: PETERBOROUGH SCS 6HR 100YR
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    0.00 |  1.75    9.00 |  3.50   19.80 |  5.25    3.60
                0.25    3.60 |  2.00    9.00 |  3.75    9.00 |  5.50    3.60
                0.50    3.60 |  2.25   10.80 |  4.00    9.00 |  5.75    3.60
                0.75    5.40 |  2.50   10.80 |  4.25    7.20 |  6.00    3.60
                1.00    5.40 |  2.75   53.90 |  4.50    7.20 |
                1.25    5.40 |  3.00  140.20 |  4.75    5.40 |
                1.50    5.40 |  3.25   19.80 |  5.00    5.40 |

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.03

        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    0.00 | 1.667    5.40 | 3.250  140.20 |  4.83    5.40
   0.167    0.00 | 1.750    5.40 | 3.333   19.80 |  4.92    5.40
   0.250    0.00 | 1.833    9.00 | 3.417   19.80 |  5.00    5.40
   0.333    3.60 | 1.917    9.00 | 3.500   19.80 |  5.08    5.40
   0.417    3.60 | 2.000    9.00 | 3.583   19.80 |  5.17    5.40
   0.500    3.60 | 2.083    9.00 | 3.667   19.80 |  5.25    5.40
   0.583    3.60 | 2.167    9.00 | 3.750   19.80 |  5.33    3.60
   0.667    3.60 | 2.250    9.00 | 3.833    9.00 |  5.42    3.60
   0.750    3.60 | 2.333   10.80 | 3.917    9.00 |  5.50    3.60
   0.833    5.40 | 2.417   10.80 | 4.000    9.00 |  5.58    3.60
   0.917    5.40 | 2.500   10.80 | 4.083    9.00 |  5.67    3.60
```

1.000	5.40	2.583	10.80	4.167	9.00	5.75	3.60
1.083	5.40	2.667	10.80	4.250	9.00	5.83	3.60
1.167	5.40	2.750	10.80	4.333	7.20	5.92	3.60
1.250	5.40	2.833	53.90	4.417	7.20	6.00	3.60
1.333	5.40	2.917	53.90	4.500	7.20	6.08	3.60
1.417	5.40	3.000	53.90	4.583	7.20	6.17	3.60
1.500	5.40	3.083	140.20	4.667	7.20	6.25	3.60
1.583	5.40	3.167	140.20	4.750	7.20		

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.077 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 7.757
TOTAL RAINFALL (mm)= 89.925
RUNOFF COEFFICIENT = 0.086

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

CALIB			
NASHYD (0001)	Area (ha)=	3.17	Curve Number (CN)= 71.4
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	0.00	1.667	5.40	3.250	140.20	4.83	5.40
0.167	0.00	1.750	5.40	3.333	19.80	4.92	5.40
0.250	0.00	1.833	9.00	3.417	19.80	5.00	5.40
0.333	3.60	1.917	9.00	3.500	19.80	5.08	5.40
0.417	3.60	2.000	9.00	3.583	19.80	5.17	5.40
0.500	3.60	2.083	9.00	3.667	19.80	5.25	5.40
0.583	3.60	2.167	9.00	3.750	19.80	5.33	3.60
0.667	3.60	2.250	9.00	3.833	9.00	5.42	3.60
0.750	3.60	2.333	10.80	3.917	9.00	5.50	3.60
0.833	5.40	2.417	10.80	4.000	9.00	5.58	3.60
0.917	5.40	2.500	10.80	4.083	9.00	5.67	3.60
1.000	5.40	2.583	10.80	4.167	9.00	5.75	3.60
1.083	5.40	2.667	10.80	4.250	9.00	5.83	3.60
1.167	5.40	2.750	10.80	4.333	7.20	5.92	3.60
1.250	5.40	2.833	53.90	4.417	7.20	6.00	3.60
1.333	5.40	2.917	53.90	4.500	7.20	6.08	3.60
1.417	5.40	3.000	53.90	4.583	7.20	6.17	3.60
1.500	5.40	3.083	140.20	4.667	7.20	6.25	3.60
1.583	5.40	3.167	140.20	4.750	7.20		

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.580 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 37.939
TOTAL RAINFALL (mm)= 89.925
RUNOFF COEFFICIENT = 0.422

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

CALIB			
NASHYD (0002)	Area (ha)=	1.04	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	0.00	1.667	5.40	3.250	140.20	4.83	5.40
0.167	0.00	1.750	5.40	3.333	19.80	4.92	5.40
0.250	0.00	1.833	9.00	3.417	19.80	5.00	5.40
0.333	3.60	1.917	9.00	3.500	19.80	5.08	5.40
0.417	3.60	2.000	9.00	3.583	19.80	5.17	5.40
0.500	3.60	2.083	9.00	3.667	19.80	5.25	5.40
0.583	3.60	2.167	9.00	3.750	19.80	5.33	3.60
0.667	3.60	2.250	9.00	3.833	9.00	5.42	3.60
0.750	3.60	2.333	10.80	3.917	9.00	5.50	3.60
0.833	5.40	2.417	10.80	4.000	9.00	5.58	3.60
0.917	5.40	2.500	10.80	4.083	9.00	5.67	3.60
1.000	5.40	2.583	10.80	4.167	9.00	5.75	3.60
1.083	5.40	2.667	10.80	4.250	9.00	5.83	3.60
1.167	5.40	2.750	10.80	4.333	7.20	5.92	3.60
1.250	5.40	2.833	53.90	4.417	7.20	6.00	3.60
1.333	5.40	2.917	53.90	4.500	7.20	6.08	3.60
1.417	5.40	3.000	53.90	4.583	7.20	6.17	3.60
1.500	5.40	3.083	140.20	4.667	7.20	6.25	3.60
1.583	5.40	3.167	140.20	4.750	7.20		

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.168 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 33.730
TOTAL RAINFALL (mm)= 89.925
RUNOFF COEFFICIENT = 0.375

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

CALIB			
NASHYD (0003)	Area (ha)=	0.40	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	0.00	1.667	5.40	3.250	140.20	4.83	5.40
0.167	0.00	1.750	5.40	3.333	19.80	4.92	5.40
0.250	0.00	1.833	9.00	3.417	19.80	5.00	5.40
0.333	3.60	1.917	9.00	3.500	19.80	5.08	5.40
0.417	3.60	2.000	9.00	3.583	19.80	5.17	5.40
0.500	3.60	2.083	9.00	3.667	19.80	5.25	5.40
0.583	3.60	2.167	9.00	3.750	19.80	5.33	3.60
0.667	3.60	2.250	9.00	3.833	9.00	5.42	3.60
0.750	3.60	2.333	10.80	3.917	9.00	5.50	3.60
0.833	5.40	2.417	10.80	4.000	9.00	5.58	3.60
0.917	5.40	2.500	10.80	4.083	9.00	5.67	3.60
1.000	5.40	2.583	10.80	4.167	9.00	5.75	3.60
1.083	5.40	2.667	10.80	4.250	9.00	5.83	3.60
1.167	5.40	2.750	10.80	4.333	7.20	5.92	3.60
1.250	5.40	2.833	53.90	4.417	7.20	6.00	3.60
1.333	5.40	2.917	53.90	4.500	7.20	6.08	3.60
1.417	5.40	3.000	53.90	4.583	7.20	6.17	3.60
1.500	5.40	3.083	140.20	4.667	7.20	6.25	3.60
1.583	5.40	3.167	140.20	4.750	7.20		

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.065 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 33.729
TOTAL RAINFALL (mm)= 89.925
RUNOFF COEFFICIENT = 0.375

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

ADD HYD (0006)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.580	3.25	37.94
+ ID2= 2 (0002):	1.04	0.168	3.25	33.73
ID = 3 (0006):	4.21	0.748	3.25	36.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0006):	4.21	0.748	3.25	36.90
+ ID2= 2 (0003):	0.40	0.065	3.25	33.73

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      ================================================
      ID = 1 (  0006):     4.62   0.813     3.25     36.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
    TOTAL HYD.(ID= 1):   4.62      0.81      3.25    36.62
    ================================================
    MAJOR SYS.(ID= 2):   1.93      0.68      3.25    36.62
    MINOR SYS.(ID= 3):   2.69      0.13      3.00    36.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                          0.0000      0.0004   |    0.2061      0.0090
                          0.0363      0.0008   |    0.2510      0.0135
                          0.0555      0.0027   |    0.2886      0.0201
    **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
  INFLOW : ID= 2 (  0009)     1.930     0.681      3.25      36.62
  OUTFLOW: ID= 1 (  0008)     1.930     0.335      3.42      36.42

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.12
                TIME SHIFT OF PEAK FLOW         (min)= 10.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0299

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

        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    0.00 | 1.667    5.40 | 3.250  140.20 |  4.83    5.40
   0.167    0.00 | 1.750    5.40 | 3.333   19.80 |  4.92    5.40
   0.250    0.00 | 1.833    9.00 | 3.417   19.80 |  5.00    5.40
   0.333    3.60 | 1.917    9.00 | 3.500   19.80 |  5.08    5.40
   0.417    3.60 | 2.000    9.00 | 3.583   19.80 |  5.17    5.40
   0.500    3.60 | 2.083    9.00 | 3.667   19.80 |  5.25    5.40
   0.583    3.60 | 2.167    9.00 | 3.750   19.80 |  5.33    3.60
   0.667    3.60 | 2.250    9.00 | 3.833    9.00 |  5.42    3.60
   0.750    3.60 | 2.333   10.80 | 3.917    9.00 |  5.50    3.60
   0.833    5.40 | 2.417   10.80 | 4.000    9.00 |  5.58    3.60
   0.917    5.40 | 2.500   10.80 | 4.083    9.00 |  5.67    3.60
   1.000    5.40 | 2.583   10.80 | 4.167    9.00 |  5.75    3.60
   1.083    5.40 | 2.667   10.80 | 4.250    9.00 |  5.83    3.60
   1.167    5.40 | 2.750   10.80 | 4.333    7.20 |  5.92    3.60
   1.250    5.40 | 2.833   53.90 | 4.417    7.20 |  6.00    3.60
   1.333    5.40 | 2.917   53.90 | 4.500    7.20 |  6.08    3.60
   1.417    5.40 | 3.000   53.90 | 4.583    7.20 |  6.17    3.60
   1.500    5.40 | 3.083  140.20 | 4.667    7.20 |  6.25    3.60
   1.583    5.40 | 3.167  140.20 | 4.750    7.20 |

    Unit Hyd Qpeak  (cms)=   0.310

    PEAK FLOW       (cms)=   0.213 (i)
    TIME TO PEAK    (hrs)=   3.417
    RUNOFF VOLUME    (mm)=  34.322
    TOTAL RAINFALL   (mm)=  89.925
    RUNOFF COEFFICIENT   =   0.382

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

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

```
--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.077     3.25     7.76
     + ID2= 2 (  0005):     2.30   0.213     3.42    34.32
       ================================================
       ID = 3 (  0007):     4.00   0.240     3.25    23.05

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0007):     4.00   0.240     3.25    23.05
     + ID2= 2 (  0008):     1.93   0.335     3.42    36.42
       ================================================
       ID = 1 (  0007):     5.93   0.560     3.42    27.40

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

  --------------------------
  | Junction Command(0010) |
  --------------------------

                            AREA     QPEAK   TPEAK     R.V.
                            (ha)     (cms)   (hrs)     (mm)
  INFLOW : ID= 9(  0009)    2.69      0.13    3.00    36.62
  OUTFLOW: ID= 2(  0010)    2.69      0.13    3.00    36.62

  --------------------------------------------------------------------------------
**********************************
** SIMULATION:13) 12HR SCS - 2YR **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\614ea0cf
| Ptotal= 22.81 mm |    Comments: 12HR SCS - 2YR
--------------------
    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
    0.00    0.00 |  3.08    0.00 |  6.17   30.21 |  9.25    0.00
    0.08    0.00 |  3.17    1.83 |  6.25    0.00 |  9.33    1.83
    0.17    0.31 |  3.25    0.00 |  6.33   19.22 |  9.42    0.00
    0.25    0.00 |  3.33    1.83 |  6.42    0.00 |  9.50    1.83
    0.33    0.61 |  3.42    0.00 |  6.50    8.24 |  9.58    0.00
    0.42    0.00 |  3.50    1.83 |  6.58    0.00 |  9.67    1.53
    0.50    0.92 |  3.58    0.00 |  6.67    6.71 |  9.75    0.00
    0.58    0.00 |  3.67    1.83 |  6.75    0.00 |  9.83    1.22
    0.67    0.92 |  3.75    0.00 |  6.83    5.19 |  9.92    0.00
    0.75    0.00 |  3.83    1.83 |  6.92    0.00 | 10.00    0.92
    0.83    0.92 |  3.92    0.00 |  7.00    3.66 | 10.08    0.00
    0.92    0.00 |  4.00    1.83 |  7.08    0.00 | 10.17    0.92
    1.00    0.92 |  4.08    0.00 |  7.17    3.36 | 10.25    0.00
    1.08    0.00 |  4.17    2.14 |  7.25    0.00 | 10.33    0.92
    1.17    0.92 |  4.25    0.00 |  7.33    3.05 | 10.42    0.00
    1.25    0.00 |  4.33    2.44 |  7.42    0.00 | 10.50    0.92
    1.33    0.92 |  4.42    0.00 |  7.50    2.75 | 10.58    0.00
    1.42    0.00 |  4.50    2.75 |  7.58    0.00 | 10.67    0.92
    1.50    0.92 |  4.58    0.00 |  7.67    2.75 | 10.75    0.00
    1.58    0.00 |  4.67    3.05 |  7.75    0.00 | 10.83    0.92
    1.67    0.92 |  4.75    0.00 |  7.83    2.75 | 10.92    0.00
    1.75    0.00 |  4.83    3.36 |  7.92    0.00 | 11.00    0.92
    1.83    0.92 |  4.92    0.00 |  8.00    2.75 | 11.08    0.00
    1.92    0.00 |  5.00    3.66 |  8.08    0.00 | 11.17    0.92
    2.00    0.92 |  5.08    0.00 |  8.17    2.44 | 11.25    0.00
    2.08    0.00 |  5.17    4.27 |  8.25    0.00 | 11.33    0.92
    2.17    1.22 |  5.25    0.00 |  8.33    2.14 | 11.42    0.00
    2.25    0.00 |  5.33    4.88 |  8.42    0.00 | 11.50    0.92
    2.33    1.53 |  5.42    0.00 |  8.50    1.83 | 11.58    0.00
    2.42    0.00 |  5.50    5.49 |  8.58    0.00 | 11.67    0.92
    2.50    1.83 |  5.58    0.00 |  8.67    1.83 | 11.75    0.00
    2.58    0.00 |  5.67   17.39 |  8.75    0.00 | 11.83    0.92
    2.67    1.83 |  5.75    0.00 |  8.83    1.83 | 11.92    0.00
    2.75    0.00 |  5.83   29.29 |  8.92    0.00 | 12.00    0.92
    2.83    1.83 |  5.92    0.00 |  9.00    1.83 |
    2.92    0.00 |  6.00   41.19 |  9.08    0.00 |
    3.00    1.83 |  6.08    0.00 |  9.17    1.83 |
```

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   0.501
     TOTAL RAINFALL   (mm)=  22.808
     RUNOFF COEFFICIENT   =   0.022

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   1.092

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   2.604
     TOTAL RAINFALL   (mm)=  22.808
     RUNOFF COEFFICIENT   =   0.114

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.04   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.357

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   2.179
     TOTAL RAINFALL   (mm)=  22.808
     RUNOFF COEFFICIENT   =   0.096

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.40   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.138

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   2.179
     TOTAL RAINFALL   (mm)=  22.808
     RUNOFF COEFFICIENT   =   0.096

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

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

--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     3.17   0.022     6.25     2.60
     + ID2= 2 (  0002):     1.04   0.006     6.25     2.18
       ====================================================
       ID = 3 (  0006):     4.21   0.028     6.25     2.50

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

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```

```
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0006):     4.21   0.028     6.25     2.50
     + ID2= 2 (  0003):     0.40   0.002     6.25     2.18
       ====================================================
       ID = 1 (  0006):     4.62   0.031     6.25     2.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   4.62      0.03      6.25    2.47
     ====================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   4.62      0.03      6.25    2.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                           0.0000      0.0004   |    0.2061      0.0090
                           0.0363      0.0008   |    0.2510      0.0135
                           0.0555      0.0027   |    0.2886      0.0201

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)      0.000     0.000      0.00       0.00
   OUTFLOW: ID= 1 (  0008)      0.000     0.000      0.00        NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW          (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.009 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   2.218
     TOTAL RAINFALL   (mm)=  22.808
     RUNOFF COEFFICIENT   =   0.097

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.004     6.25     0.50
     + ID2= 2 (  0005):     2.30   0.009     6.50     2.22
       ====================================================
       ID = 3 (  0007):     4.00   0.012     6.42     1.49

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0008 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0007):     4.00   0.012     6.42     1.49
```

```
      + ID2= 2 (  0008):     0.00   0.000     0.00      NaN
        ================================================
        ID = 1 (  0007):     4.00   0.012     6.42     1.49

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

Junction Command(0010)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)		4.62	0.03	6.25	2.47
OUTFLOW: ID= 2(0010)		4.62	0.03	6.25	2.47

```
************************************
** SIMULATION:14) 12HR SCS - 5YR **
************************************
```

READ STORM	Filename: C:\Users\matthew.holmes\AppD ata\Local\Temp\ 2d559284-8204-41f2-9736-17f805a656b4\726a52c8
Ptotal= 27.30 mm	Comments: 12HR SCS - 5YR

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.08	0.00	6.17	36.16	9.25	0.00
0.08	0.00	3.17	2.19	6.25	0.00	9.33	2.19
0.17	0.37	3.25	0.00	6.33	23.01	9.42	0.00
0.25	0.00	3.33	2.19	6.42	0.00	9.50	2.19
0.33	0.73	3.42	0.00	6.50	9.86	9.58	0.00
0.42	0.00	3.50	2.19	6.58	0.00	9.67	1.83
0.50	1.10	3.58	0.00	6.67	8.04	9.75	0.00
0.58	0.00	3.67	2.19	6.75	0.00	9.83	1.46
0.67	1.10	3.75	0.00	6.83	6.21	9.92	0.00
0.75	0.00	3.83	2.19	6.92	0.00	10.00	1.10
0.83	1.10	3.92	0.00	7.00	4.38	10.08	0.00
0.92	0.00	4.00	2.19	7.08	0.00	10.17	1.10
1.00	1.10	4.08	0.00	7.17	4.02	10.25	0.00
1.08	0.00	4.17	2.56	7.25	0.00	10.33	1.10
1.17	1.10	4.25	0.00	7.33	3.65	10.42	0.00
1.25	0.00	4.33	2.92	7.42	0.00	10.50	1.10
1.33	1.10	4.42	0.00	7.50	3.29	10.58	0.00
1.42	0.00	4.50	3.29	7.58	0.00	10.67	1.10
1.50	1.10	4.58	0.00	7.67	3.29	10.75	0.00
1.58	0.00	4.67	3.65	7.75	0.00	10.83	1.10
1.67	1.10	4.75	0.00	7.83	3.29	10.92	0.00
1.75	0.00	4.83	4.02	7.92	0.00	11.00	1.10
1.83	1.10	4.92	0.00	8.00	3.29	11.08	0.00
1.92	0.00	5.00	4.38	8.08	0.00	11.17	1.10
2.00	1.10	5.08	0.00	8.17	2.92	11.25	0.00
2.08	0.00	5.17	5.11	8.25	0.00	11.33	1.10
2.17	1.46	5.25	0.00	8.33	2.56	11.42	0.00
2.25	0.00	5.33	5.84	8.42	0.00	11.50	1.10
2.33	1.83	5.42	0.00	8.50	2.19	11.58	0.00
2.42	0.00	5.50	6.57	8.58	0.00	11.67	1.10
2.50	2.19	5.58	0.00	8.67	2.19	11.75	0.00
2.58	0.00	5.67	20.82	8.75	0.00	11.83	1.10
2.67	2.19	5.75	0.00	8.83	2.19	11.92	0.00
2.75	0.00	5.83	35.07	8.92	0.00	12.00	1.10
2.83	2.19	5.92	0.00	9.00	2.19		
2.92	0.00	6.00	49.31	9.08	0.00		
3.00	2.19	6.08	0.00	9.17	2.19		

CALIB / NASHYD (0004) / ID= 1 DT= 5.0 min	Area (ha)= 1.70	Curve Number (CN)= 67.0
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.03	

```
     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   0.762
     TOTAL RAINFALL   (mm)=  27.305
     RUNOFF COEFFICIENT   =   0.028

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

CALIB / NASHYD (0001) / ID= 1 DT= 5.0 min	Area (ha)= 3.17	Curve Number (CN)= 71.4
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11	

```
     Unit Hyd Qpeak  (cms)=   1.092

     PEAK FLOW       (cms)=   0.034 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   3.937
     TOTAL RAINFALL   (mm)=  27.305
     RUNOFF COEFFICIENT   =   0.144

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

CALIB / NASHYD (0002) / ID= 1 DT= 5.0 min	Area (ha)= 1.04	Curve Number (CN)= 67.0
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11	

```
     Unit Hyd Qpeak  (cms)=   0.357

     PEAK FLOW       (cms)=   0.009 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   3.315
     TOTAL RAINFALL   (mm)=  27.305
     RUNOFF COEFFICIENT   =   0.121

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

CALIB / NASHYD (0003) / ID= 1 DT= 5.0 min	Area (ha)= 0.40	Curve Number (CN)= 67.0
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11	

```
     Unit Hyd Qpeak  (cms)=   0.138

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   3.314
     TOTAL RAINFALL   (mm)=  27.305
     RUNOFF COEFFICIENT   =   0.121

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

ADD HYD (0006) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.034	6.25	3.94
+ ID2= 2 (0002):	1.04	0.044	6.25	3.31
ID = 3 (0006):	4.21	0.044	6.25	3.78

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

ADD HYD (0006) / 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0006):	4.21	0.044	6.25	3.78
+ ID2= 2 (0003):	0.40	0.004	6.25	3.31
ID = 1 (0006):	4.62	0.047	6.25	3.74

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

DUHYD (0009) / Inlet Cap.= 0.132 / #of Inlets= 1 / Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	4.62	0.05	6.25	3.74

```
    ================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3):   4.62      0.05      6.25    3.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                         0.0000      0.0004   |    0.2061      0.0090
                         0.0363      0.0008   |    0.2510      0.0135
                         0.0555      0.0027   |    0.2886      0.0201

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)    0.000     0.000      0.00       0.00
   OUTFLOW: ID= 1 (  0008)    0.000     0.000      0.00        NaN

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                 TIME SHIFT OF PEAK FLOW          (min)=  0.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                 MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

    **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                   CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

    Unit Hyd Qpeak  (cms)=   0.310

    PEAK FLOW       (cms)=   0.014 (i)
    TIME TO PEAK    (hrs)=   6.500
    RUNOFF VOLUME    (mm)=   3.373
    TOTAL RAINFALL   (mm)=  27.305
    RUNOFF COEFFICIENT   =   0.124

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.006     6.25     0.76
     + ID2= 2 (  0005):     2.30   0.014     6.50     3.37
       ================================================
       ID = 3 (  0007):     4.00   0.019     6.42     2.26

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0008 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0007):     4.00   0.019     6.42     2.26
     + ID2= 2 (  0008):     0.00   0.000     0.00      NaN
       ================================================
       ID = 1 (  0007):     4.00   0.019     6.42     2.26

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

  --------------------------
  | Junction Command(0010) |
  --------------------------

                          AREA     QPEAK   TPEAK     R.V.
                          (ha)     (cms)    (hrs)    (mm)
  INFLOW : ID= 9(  0009)    4.62     0.05    6.25     3.74
  OUTFLOW: ID= 2(  0010)    4.62     0.05    6.25     3.74

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

```
************************************
** SIMULATION:15) 12HR SCS - 10YR **
************************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\2dd516b7
| Ptotal= 31.06 mm |    Comments: 12HR SCS - 10YR
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.08	0.00	6.17	41.13	9.25	0.00
0.08	0.00	3.17	2.49	6.25	0.00	9.33	2.49
0.17	0.41	3.25	0.00	6.33	26.17	9.42	0.00
0.25	0.00	3.33	2.49	6.42	0.00	9.50	2.49
0.33	0.83	3.42	0.00	6.50	11.22	9.58	0.00
0.42	0.00	3.50	2.49	6.58	0.00	9.67	2.08
0.50	1.25	3.58	0.00	6.67	9.14	9.75	0.00
0.58	0.00	3.67	2.49	6.75	0.00	9.83	1.66
0.67	1.25	3.75	0.00	6.83	7.06	9.92	0.00
0.75	0.00	3.83	2.49	6.92	0.00	10.00	1.25
0.83	1.25	3.92	0.00	7.00	4.99	10.08	0.00
0.92	0.00	4.00	2.49	7.08	0.00	10.17	1.25
1.00	1.25	4.08	0.00	7.17	4.57	10.25	0.00
1.08	0.00	4.17	2.91	7.25	0.00	10.33	1.25
1.17	1.25	4.25	0.00	7.33	4.16	10.42	0.00
1.25	0.00	4.33	3.32	7.42	0.00	10.50	1.25
1.33	1.25	4.42	0.00	7.50	3.74	10.58	0.00
1.42	0.00	4.50	3.74	7.58	0.00	10.67	1.25
1.50	1.25	4.58	0.00	7.67	3.74	10.75	0.00
1.58	0.00	4.67	4.16	7.75	0.00	10.83	1.25
1.67	1.25	4.75	0.00	7.83	3.74	10.92	0.00
1.75	0.00	4.83	4.57	7.92	0.00	11.00	1.25
1.83	1.25	4.92	0.00	8.00	3.74	11.08	0.00
1.92	0.00	5.00	4.99	8.08	0.00	11.17	1.25
2.00	1.25	5.08	0.00	8.17	3.32	11.25	0.00
2.08	0.00	5.17	5.82	8.25	0.00	11.33	1.25
2.17	1.66	5.25	0.00	8.33	2.91	11.42	0.00
2.25	0.00	5.33	6.65	8.42	0.00	11.50	1.25
2.33	2.08	5.42	0.00	8.50	2.49	11.58	0.00
2.42	0.00	5.50	7.48	8.58	0.00	11.67	1.25
2.50	2.49	5.58	0.00	8.67	2.49	11.75	0.00
2.58	0.00	5.67	23.68	8.75	0.00	11.83	1.25
2.67	2.49	5.75	0.00	8.83	2.49	11.92	0.00
2.75	0.00	5.83	39.88	8.92	0.00	12.00	1.25
2.83	2.49	5.92	0.00	9.00	2.49		
2.92	0.00	6.00	56.09	9.08	0.00		
3.00	2.49	6.08	0.00	9.17	2.49		

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

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

    Unit Hyd Qpeak  (cms)=   2.465

    PEAK FLOW       (cms)=   0.008 (i)
    TIME TO PEAK    (hrs)=   6.083
    RUNOFF VOLUME    (mm)=   1.015
    TOTAL RAINFALL   (mm)=  31.056
    RUNOFF COEFFICIENT   =   0.033

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

    Unit Hyd Qpeak  (cms)=   1.092

    PEAK FLOW       (cms)=   0.046 (i)
    TIME TO PEAK    (hrs)=   6.250
    RUNOFF VOLUME    (mm)=   5.216
    TOTAL RAINFALL   (mm)=  31.056
    RUNOFF COEFFICIENT   =   0.168

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

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.04   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.357

     PEAK FLOW       (cms)=   0.013 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   4.411
     TOTAL RAINFALL   (mm)=  31.056
     RUNOFF COEFFICIENT   =   0.142

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.40   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.138

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   4.411
     TOTAL RAINFALL   (mm)=  31.056
     RUNOFF COEFFICIENT   =   0.142

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

--------------------------------------------------------------------------------
--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     3.17   0.046     6.25     5.22
     + ID2= 2 (  0002):     1.04   0.013     6.25     4.41
       ================================================
       ID = 3 (  0006):     4.21   0.058     6.25     5.02

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0006):     4.21   0.058     6.25     5.02
     + ID2= 2 (  0003):     0.40   0.005     6.25     4.41
       ================================================
       ID = 1 (  0006):     4.62   0.063     6.25     4.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   4.62      0.06      6.25    4.96
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   4.62      0.06      6.25    4.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                         0.0000      0.0004   |    0.2061      0.0090
                         0.0363      0.0008   |    0.2510      0.0135
                         0.0555      0.0027   |    0.2886      0.0201
```

```
                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)     0.000     0.000     0.00       0.00
   OUTFLOW: ID= 1 (  0008)     0.000     0.000     0.00        NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

    **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                   CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.019 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   4.489
     TOTAL RAINFALL   (mm)=  31.056
     RUNOFF COEFFICIENT   =   0.145

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.008     6.08     1.01
     + ID2= 2 (  0005):     2.30   0.019     6.50     4.49
       ================================================
       ID = 3 (  0007):     4.00   0.025     6.42     3.01

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0008 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0007):     4.00   0.025     6.42     3.01
     + ID2= 2 (  0008):     0.00   0.000     0.00      NaN
       ================================================
       ID = 1 (  0007):     4.00   0.025     6.42     3.01

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

  --------------------------
  | Junction Command(0010) |
  --------------------------

                           AREA     QPEAK   TPEAK     R.V.
                           (ha)     (cms)   (hrs)     (mm)
  INFLOW : ID= 9(  0009)    4.62      0.06    6.25     4.96
  OUTFLOW: ID= 2(  0010)    4.62      0.06    6.25     4.96

  --------------------------------------------------------------------------------
**********************************
** SIMULATION:16) 12HR SCS -25YR **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\01ce9d87
| Ptotal= 36.32 mm |    Comments: 12HR SCS - 25YR
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    0.00 |  3.08    0.00 |  6.17   48.11 |  9.25    0.00
                0.08    0.00 |  3.17    2.92 |  6.25    0.00 |  9.33    2.92
                0.17    0.49 |  3.25    0.00 |  6.33   30.61 |  9.42    0.00
                0.25    0.00 |  3.33    2.92 |  6.42    0.00 |  9.50    2.92
                0.33    0.97 |  3.42    0.00 |  6.50   13.12 |  9.58    0.00
```

```
  0.42    0.00 |  3.50    2.92 |  6.58    0.00 |  9.67    2.43
  0.50    1.46 |  3.58    0.00 |  6.67   10.69 |  9.75    0.00
  0.58    0.00 |  3.67    2.92 |  6.75    0.00 |  9.83    1.94
  0.67    1.46 |  3.75    0.00 |  6.83    8.26 |  9.92    0.00
  0.75    0.00 |  3.83    2.92 |  6.92    0.00 | 10.00    1.46
  0.83    1.46 |  3.92    0.00 |  7.00    5.83 | 10.08    0.00
  0.92    0.00 |  4.00    2.92 |  7.08    0.00 | 10.17    1.46
  1.00    1.46 |  4.08    0.00 |  7.17    5.34 | 10.25    0.00
  1.08    0.00 |  4.17    3.40 |  7.25    0.00 | 10.33    1.46
  1.17    1.46 |  4.25    0.00 |  7.33    4.86 | 10.42    0.00
  1.25    0.00 |  4.33    3.89 |  7.42    0.00 | 10.50    1.46
  1.33    1.46 |  4.42    0.00 |  7.50    4.37 | 10.58    0.00
  1.42    0.00 |  4.50    4.37 |  7.58    0.00 | 10.67    1.46
  1.50    1.46 |  4.58    0.00 |  7.67    4.37 | 10.75    0.00
  1.58    0.00 |  4.67    4.86 |  7.75    0.00 | 10.83    1.46
  1.67    1.46 |  4.75    0.00 |  7.83    4.37 | 10.92    0.00
  1.75    0.00 |  4.83    5.34 |  7.92    0.00 | 11.00    1.46
  1.83    1.46 |  4.92    0.00 |  8.00    4.37 | 11.08    0.00
  1.92    0.00 |  5.00    5.83 |  8.08    0.00 | 11.17    1.46
  2.00    1.46 |  5.08    0.00 |  8.17    3.89 | 11.25    0.00
  2.08    0.00 |  5.17    6.80 |  8.25    0.00 | 11.33    1.46
  2.17    1.94 |  5.25    0.00 |  8.33    3.40 | 11.42    0.00
  2.25    0.00 |  5.33    7.78 |  8.42    0.00 | 11.50    1.46
  2.33    2.43 |  5.42    0.00 |  8.50    2.92 | 11.58    0.00
  2.42    0.00 |  5.50    8.75 |  8.58    0.00 | 11.67    1.46
  2.50    2.92 |  5.58    0.00 |  8.67    2.92 | 11.75    0.00
  2.58    0.00 |  5.67   27.70 |  8.75    0.00 | 11.83    1.46
  2.67    2.92 |  5.75    0.00 |  8.83    2.92 | 11.92    0.00
  2.75    0.00 |  5.83   46.65 |  8.92    0.00 | 12.00    1.46
  2.83    2.92 |  5.92    0.00 |  9.00    2.92 |
  2.92    0.00 |  6.00   65.60 |  9.08    0.00 |
  3.00    2.92 |  6.08    0.00 |  9.17    2.92 |

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

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area     (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.012 (i)
     TIME TO PEAK    (hrs)=   6.083
     RUNOFF VOLUME    (mm)=   1.417
     TOTAL RAINFALL   (mm)=  36.324
     RUNOFF COEFFICIENT   =   0.039

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area     (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   1.092

     PEAK FLOW       (cms)=   0.064 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   7.240
     TOTAL RAINFALL   (mm)=  36.324
     RUNOFF COEFFICIENT   =   0.199

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area     (ha)=   1.04   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.357

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   6.161
     TOTAL RAINFALL   (mm)=  36.324
     RUNOFF COEFFICIENT   =   0.170

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area     (ha)=   0.40   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.138

     PEAK FLOW       (cms)=   0.007 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=   6.161
     TOTAL RAINFALL   (mm)=  36.324
     RUNOFF COEFFICIENT   =   0.170

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

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

--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     3.17   0.064     6.25     7.24
     + ID2= 2 (  0002):     1.04   0.018     6.25     6.16
       ================================================
       ID = 3 (  0006):     4.21   0.081     6.25     6.97

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0006):     4.21   0.081     6.25     6.97
     + ID2= 2 (  0003):     0.40   0.007     6.25     6.16
       ================================================
       ID = 1 (  0006):     4.62   0.088     6.25     6.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):   4.62      0.09      6.25     6.90
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00     0.00
     MINOR SYS.(ID= 3):   4.62      0.09      6.25     6.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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    |    0.1450      0.0045
                          0.0000      0.0004    |    0.2061      0.0090
                          0.0363      0.0008    |    0.2510      0.0135
                          0.0555      0.0027    |    0.2886      0.0201

                               AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)        (mm)
   INFLOW : ID= 2 (  0009)     0.000     0.000      0.00        0.00
   OUTFLOW: ID= 1 (  0008)     0.000     0.000      0.00         NaN

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                 TIME SHIFT OF PEAK FLOW          (min)=  0.00
                 MAXIMUM  STORAGE   USED        (ha.m.)=  0.0000
                 MAXIMUM  STORAGE   USED        (cu.m.)=  0.000000

    **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                   CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area     (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
```

```
--------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.027 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   6.269
     TOTAL RAINFALL   (mm)=  36.324
     RUNOFF COEFFICIENT   =   0.173

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.012     6.08     1.42
     + ID2= 2 (  0005):     2.30   0.027     6.50     6.27
       ================================================
       ID = 3 (  0007):     4.00   0.035     6.42     4.21

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0008 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0007):     4.00   0.035     6.42     4.21
     + ID2= 2 (  0008):     0.00   0.000     0.00      NaN
       ================================================
       ID = 1 (  0007):     4.00   0.035     6.42     4.21

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

  --------------------------
  | Junction Command(0010) |
  --------------------------

                           AREA     QPEAK   TPEAK     R.V.
                           (ha)     (cms)    (hrs)     (mm)
  INFLOW : ID= 9(  0009)    4.62     0.09    6.25     6.90
  OUTFLOW: ID= 2(  0010)    4.62     0.09    6.25     6.90

  ----------------------------------------------------------------------------
**********************************
** SIMULATION:17) 12HR SCS - 50YR **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\cd98c799
| Ptotal= 81.26 mm |    Comments: 12HR SCS - 50YR
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    0.00 |  3.17    3.26 |  6.33   34.24 |  9.50    3.26
                0.17    0.54 |  3.33    3.26 |  6.50   14.68 |  9.67    2.72
                0.33    1.09 |  3.50    3.26 |  6.67   11.96 |  9.83    2.17
                0.50    1.63 |  3.67    3.26 |  6.83    9.24 | 10.00    1.63
                0.67    1.63 |  3.83    3.26 |  7.00    6.52 | 10.17    1.63
                0.83    1.63 |  4.00    3.26 |  7.17    5.98 | 10.33    1.63
                1.00    1.63 |  4.17    3.81 |  7.33    5.43 | 10.50    1.63
                1.17    1.63 |  4.33    4.35 |  7.50    4.89 | 10.67    1.63
                1.33    1.63 |  4.50    4.89 |  7.67    4.89 | 10.83    1.63
                1.50    1.63 |  4.67    5.43 |  7.83    4.89 | 11.00    1.63
                1.67    1.63 |  4.83    5.98 |  8.00    4.89 | 11.17    1.63
                1.83    1.63 |  5.00    6.52 |  8.17    4.35 | 11.33    1.63
                2.00    1.63 |  5.17    7.61 |  8.33    3.81 | 11.50    1.63
                2.17    2.17 |  5.33    8.70 |  8.50    3.26 | 11.67    1.63
                2.33    2.72 |  5.50    9.78 |  8.67    3.26 | 11.83    1.63
                2.50    3.26 |  5.67   30.98 |  8.83    3.26 | 12.00    1.63
                2.67    3.26 |  5.83   52.18 |  9.00    3.26 |
                2.83    3.26 |  6.00   73.38 |  9.17    3.26 |
                3.00    3.26 |  6.17   53.81 |  9.33    3.26 |

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--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

        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    0.00 | 3.167    3.26 | 6.250   53.81 |  9.33    3.26
                0.167    0.00 | 3.250    3.26 | 6.333   53.81 |  9.42    3.26
                0.250    0.54 | 3.333    3.26 | 6.417   34.24 |  9.50    3.26
                0.333    0.54 | 3.417    3.26 | 6.500   34.24 |  9.58    3.26
                0.417    1.09 | 3.500    3.26 | 6.583   14.68 |  9.67    3.26
                0.500    1.09 | 3.583    3.26 | 6.667   14.67 |  9.75    2.72
                0.583    1.63 | 3.667    3.26 | 6.750   11.96 |  9.83    2.72
                0.667    1.63 | 3.750    3.26 | 6.833   11.96 |  9.92    2.17
                0.750    1.63 | 3.833    3.26 | 6.917    9.24 | 10.00    2.17
                0.833    1.63 | 3.917    3.26 | 7.000    9.24 | 10.08    1.63
                0.917    1.63 | 4.000    3.26 | 7.083    6.52 | 10.17    1.63
                1.000    1.63 | 4.083    3.26 | 7.167    6.52 | 10.25    1.63
                1.083    1.63 | 4.167    3.26 | 7.250    5.98 | 10.33    1.63
                1.167    1.63 | 4.250    3.80 | 7.333    5.98 | 10.42    1.63
                1.250    1.63 | 4.333    3.81 | 7.417    5.44 | 10.50    1.63
                1.333    1.63 | 4.417    4.35 | 7.500    5.43 | 10.58    1.63
                1.417    1.63 | 4.500    4.35 | 7.583    4.89 | 10.67    1.63
                1.500    1.63 | 4.583    4.89 | 7.667    4.89 | 10.75    1.63
                1.583    1.63 | 4.667    4.89 | 7.750    4.89 | 10.83    1.63
                1.667    1.63 | 4.750    5.44 | 7.833    4.89 | 10.92    1.63
                1.750    1.63 | 4.833    5.44 | 7.917    4.89 | 11.00    1.63
                1.833    1.63 | 4.917    5.98 | 8.000    4.89 | 11.08    1.63
                1.917    1.63 | 5.000    5.98 | 8.083    4.89 | 11.17    1.63
                2.000    1.63 | 5.083    6.52 | 8.167    4.89 | 11.25    1.63
                2.083    1.63 | 5.167    6.52 | 8.250    4.35 | 11.33    1.63
                2.167    1.63 | 5.250    7.61 | 8.333    4.35 | 11.42    1.63
                2.250    2.17 | 5.333    7.61 | 8.417    3.81 | 11.50    1.63
                2.333    2.17 | 5.417    8.70 | 8.500    3.80 | 11.58    1.63
                2.417    2.72 | 5.500    8.70 | 8.583    3.26 | 11.67    1.63
                2.500    2.72 | 5.583    9.78 | 8.667    3.26 | 11.75    1.63
                2.583    3.26 | 5.667    9.78 | 8.750    3.26 | 11.83    1.63
                2.667    3.26 | 5.750   30.98 | 8.833    3.26 | 11.92    1.63
                2.750    3.26 | 5.833   30.98 | 8.917    3.26 | 12.00    1.63
                2.833    3.26 | 5.917   52.18 | 9.000    3.26 | 12.08    1.63
                2.917    3.26 | 6.000   52.18 | 9.083    3.26 | 12.17    1.63
                3.000    3.26 | 6.083   73.38 | 9.167    3.26 |
                3.083    3.26 | 6.167   73.38 | 9.250    3.26 |

     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.031 (i)
     TIME TO PEAK    (hrs)=   6.167
     RUNOFF VOLUME    (mm)=   6.524
     TOTAL RAINFALL   (mm)=  81.259
     RUNOFF COEFFICIENT   =   0.080

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

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--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    0.00 | 3.167    3.26 | 6.250   53.81 |  9.33    3.26
                0.167    0.00 | 3.250    3.26 | 6.333   53.81 |  9.42    3.26
                0.250    0.54 | 3.333    3.26 | 6.417   34.24 |  9.50    3.26
                0.333    0.54 | 3.417    3.26 | 6.500   34.24 |  9.58    3.26
                0.417    1.09 | 3.500    3.26 | 6.583   14.68 |  9.67    3.26
                0.500    1.09 | 3.583    3.26 | 6.667   14.67 |  9.75    2.72
                0.583    1.63 | 3.667    3.26 | 6.750   11.96 |  9.83    2.72
                0.667    1.63 | 3.750    3.26 | 6.833   11.96 |  9.92    2.17
                0.750    1.63 | 3.833    3.26 | 6.917    9.24 | 10.00    2.17
                0.833    1.63 | 3.917    3.26 | 7.000    9.24 | 10.08    1.63
                0.917    1.63 | 4.000    3.26 | 7.083    6.52 | 10.17    1.63
```

1.000	1.63	4.083	3.26	7.167	6.52	10.25	1.63
1.083	1.63	4.167	3.26	7.250	5.98	10.33	1.63
1.167	1.63	4.250	3.80	7.333	5.98	10.42	1.63
1.250	1.63	4.333	3.81	7.417	5.44	10.50	1.63
1.333	1.63	4.417	4.35	7.500	5.43	10.58	1.63
1.417	1.63	4.500	4.35	7.583	4.89	10.67	1.63
1.500	1.63	4.583	4.89	7.667	4.89	10.75	1.63
1.583	1.63	4.667	4.89	7.750	4.89	10.83	1.63
1.667	1.63	4.750	5.44	7.833	4.89	10.92	1.63
1.750	1.63	4.833	5.44	7.917	4.89	11.00	1.63
1.833	1.63	4.917	5.98	8.000	4.89	11.08	1.63
1.917	1.63	5.000	5.98	8.083	4.89	11.17	1.63
2.000	1.63	5.083	6.52	8.167	4.89	11.25	1.63
2.083	1.63	5.167	6.52	8.250	4.35	11.33	1.63
2.167	1.63	5.250	7.61	8.333	4.35	11.42	1.63
2.250	2.17	5.333	7.61	8.417	3.81	11.50	1.63
2.333	2.17	5.417	8.70	8.500	3.80	11.58	1.63
2.417	2.72	5.500	8.70	8.583	3.26	11.67	1.63
2.500	2.72	5.583	9.78	8.667	3.26	11.75	1.63
2.583	3.26	5.667	9.78	8.750	3.26	11.83	1.63
2.667	3.26	5.750	30.98	8.833	3.26	11.92	1.63
2.750	3.26	5.833	30.98	8.917	3.26	12.00	1.63
2.833	3.26	5.917	52.18	9.000	3.26	12.08	1.63
2.917	3.26	6.000	52.18	9.083	3.26	12.17	1.63
3.000	3.26	6.083	73.38	9.167	3.26		
3.083	3.26	6.167	73.38	9.250	3.26		

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.249 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 32.080
TOTAL RAINFALL (mm)= 81.259
RUNOFF COEFFICIENT = 0.395

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

CALIB					
NASHYD (0002)	Area (ha)=	1.04	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	0.00	3.167	3.26	6.250	53.81	9.33	3.26
0.167	0.00	3.250	3.26	6.333	53.81	9.42	3.26
0.250	0.54	3.333	3.26	6.417	34.24	9.50	3.26
0.333	0.54	3.417	3.26	6.500	34.24	9.58	3.26
0.417	1.09	3.500	3.26	6.583	14.68	9.67	3.26
0.500	1.09	3.583	3.26	6.667	14.67	9.75	2.72
0.583	1.63	3.667	3.26	6.750	11.96	9.83	2.72
0.667	1.63	3.750	3.26	6.833	11.96	9.92	2.17
0.750	1.63	3.833	3.26	6.917	9.24	10.00	2.17
0.833	1.63	3.917	3.26	7.000	9.24	10.08	1.63
0.917	1.63	4.000	3.26	7.083	6.52	10.17	1.63
1.000	1.63	4.083	3.26	7.167	6.52	10.25	1.63
1.083	1.63	4.167	3.26	7.250	5.98	10.33	1.63
1.167	1.63	4.250	3.80	7.333	5.98	10.42	1.63
1.250	1.63	4.333	3.81	7.417	5.44	10.50	1.63
1.333	1.63	4.417	4.35	7.500	5.43	10.58	1.63
1.417	1.63	4.500	4.35	7.583	4.89	10.67	1.63
1.500	1.63	4.583	4.89	7.667	4.89	10.75	1.63
1.583	1.63	4.667	4.89	7.750	4.89	10.83	1.63
1.667	1.63	4.750	5.44	7.833	4.89	10.92	1.63
1.750	1.63	4.833	5.44	7.917	4.89	11.00	1.63
1.833	1.63	4.917	5.98	8.000	4.89	11.08	1.63
1.917	1.63	5.000	5.98	8.083	4.89	11.17	1.63
2.000	1.63	5.083	6.52	8.167	4.89	11.25	1.63
2.083	1.63	5.167	6.52	8.250	4.35	11.33	1.63
2.167	1.63	5.250	7.61	8.333	4.35	11.42	1.63
2.250	2.17	5.333	7.61	8.417	3.81	11.50	1.63
2.333	2.17	5.417	8.70	8.500	3.80	11.58	1.63
2.417	2.72	5.500	8.70	8.583	3.26	11.67	1.63
2.500	2.72	5.583	9.78	8.667	3.26	11.75	1.63
2.583	3.26	5.667	9.78	8.750	3.26	11.83	1.63
2.667	3.26	5.750	30.98	8.833	3.26	11.92	1.63
2.750	3.26	5.833	30.98	8.917	3.26	12.00	1.63
2.833	3.26	5.917	52.18	9.000	3.26	12.08	1.63
2.917	3.26	6.000	52.18	9.083	3.26	12.17	1.63
3.000	3.26	6.083	73.38	9.167	3.26		
3.083	3.26	6.167	73.38	9.250	3.26		

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.071 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 28.368
TOTAL RAINFALL (mm)= 81.259
RUNOFF COEFFICIENT = 0.349

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

CALIB					
NASHYD (0003)	Area (ha)=	0.40	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	0.00	3.167	3.26	6.250	53.81	9.33	3.26
0.167	0.00	3.250	3.26	6.333	53.81	9.42	3.26
0.250	0.54	3.333	3.26	6.417	34.24	9.50	3.26
0.333	0.54	3.417	3.26	6.500	34.24	9.58	3.26
0.417	1.09	3.500	3.26	6.583	14.68	9.67	3.26
0.500	1.09	3.583	3.26	6.667	14.67	9.75	2.72
0.583	1.63	3.667	3.26	6.750	11.96	9.83	2.72
0.667	1.63	3.750	3.26	6.833	11.96	9.92	2.17
0.750	1.63	3.833	3.26	6.917	9.24	10.00	2.17
0.833	1.63	3.917	3.26	7.000	9.24	10.08	1.63
0.917	1.63	4.000	3.26	7.083	6.52	10.17	1.63
1.000	1.63	4.083	3.26	7.167	6.52	10.25	1.63
1.083	1.63	4.167	3.26	7.250	5.98	10.33	1.63
1.167	1.63	4.250	3.80	7.333	5.98	10.42	1.63
1.250	1.63	4.333	3.81	7.417	5.44	10.50	1.63
1.333	1.63	4.417	4.35	7.500	5.43	10.58	1.63
1.417	1.63	4.500	4.35	7.583	4.89	10.67	1.63
1.500	1.63	4.583	4.89	7.667	4.89	10.75	1.63
1.583	1.63	4.667	4.89	7.750	4.89	10.83	1.63
1.667	1.63	4.750	5.44	7.833	4.89	10.92	1.63
1.750	1.63	4.833	5.44	7.917	4.89	11.00	1.63
1.833	1.63	4.917	5.98	8.000	4.89	11.08	1.63
1.917	1.63	5.000	5.98	8.083	4.89	11.17	1.63
2.000	1.63	5.083	6.52	8.167	4.89	11.25	1.63
2.083	1.63	5.167	6.52	8.250	4.35	11.33	1.63
2.167	1.63	5.250	7.61	8.333	4.35	11.42	1.63
2.250	2.17	5.333	7.61	8.417	3.81	11.50	1.63
2.333	2.17	5.417	8.70	8.500	3.80	11.58	1.63
2.417	2.72	5.500	8.70	8.583	3.26	11.67	1.63
2.500	2.72	5.583	9.78	8.667	3.26	11.75	1.63
2.583	3.26	5.667	9.78	8.750	3.26	11.83	1.63
2.667	3.26	5.750	30.98	8.833	3.26	11.92	1.63
2.750	3.26	5.833	30.98	8.917	3.26	12.00	1.63
2.833	3.26	5.917	52.18	9.000	3.26	12.08	1.63
2.917	3.26	6.000	52.18	9.083	3.26	12.17	1.63
3.000	3.26	6.083	73.38	9.167	3.26		
3.083	3.26	6.167	73.38	9.250	3.26		

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.028 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 28.368
TOTAL RAINFALL (mm)= 81.259
RUNOFF COEFFICIENT = 0.349

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

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	3.17	0.249	6.25	32.08
	+ ID2= 2 (0002):	1.04	0.071	6.25	28.37
	==========	==========	==========	==========	==========

```
        ID = 3 (  0006):     4.21   0.320     6.25    31.16

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0006):     4.21   0.320     6.25    31.16
     + ID2= 2 (  0003):     0.40   0.028     6.25    28.37
       ================================================
       ID = 1 (  0006):     4.62   0.348     6.25    30.92

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

--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   4.62      0.35      6.25   30.92
     ================================================
     MAJOR SYS.(ID= 2):   1.15      0.22      6.25   30.92
     MINOR SYS.(ID= 3):   3.47      0.13      6.00   30.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                          0.0000      0.0004   |    0.2061      0.0090
                          0.0363      0.0008   |    0.2510      0.0135
                          0.0555      0.0027   |    0.2886      0.0201

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)    1.149      0.216      6.25      30.92
   OUTFLOW: ID= 1 (  0008)    1.149      0.186      6.42      30.59

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 86.06
                  TIME SHIFT OF PEAK FLOW          (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0078

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

        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    0.00 | 3.167    3.26 | 6.250   53.81 |  9.33    3.26
 0.167    0.00 | 3.250    3.26 | 6.333   53.81 |  9.42    3.26
 0.250    0.54 | 3.333    3.26 | 6.417   34.24 |  9.50    3.26
 0.333    0.54 | 3.417    3.26 | 6.500   34.24 |  9.58    3.26
 0.417    1.09 | 3.500    3.26 | 6.583   14.68 |  9.67    3.26
 0.500    1.09 | 3.583    3.26 | 6.667   14.67 |  9.75    2.72
 0.583    1.63 | 3.667    3.26 | 6.750   11.96 |  9.83    2.72
 0.667    1.63 | 3.750    3.26 | 6.833   11.96 |  9.92    2.17
 0.750    1.63 | 3.833    3.26 | 6.917    9.24 | 10.00    2.17
 0.833    1.63 | 3.917    3.26 | 7.000    9.24 | 10.08    1.63
 0.917    1.63 | 4.000    3.26 | 7.083    6.52 | 10.17    1.63
 1.000    1.63 | 4.083    3.26 | 7.167    6.52 | 10.25    1.63
 1.083    1.63 | 4.167    3.26 | 7.250    5.98 | 10.33    1.63
 1.167    1.63 | 4.250    3.80 | 7.333    5.98 | 10.42    1.63
 1.250    1.63 | 4.333    3.81 | 7.417    5.44 | 10.50    1.63
 1.333    1.63 | 4.417    4.35 | 7.500    5.43 | 10.58    1.63
 1.417    1.63 | 4.500    4.35 | 7.583    4.89 | 10.67    1.63
 1.500    1.63 | 4.583    4.89 | 7.667    4.89 | 10.75    1.63
 1.583    1.63 | 4.667    4.89 | 7.750    4.89 | 10.83    1.63
 1.667    1.63 | 4.750    5.44 | 7.833    4.89 | 10.92    1.63
 1.750    1.63 | 4.833    5.44 | 7.917    4.89 | 11.00    1.63
 1.833    1.63 | 4.917    5.98 | 8.000    4.89 | 11.08    1.63
 1.917    1.63 | 5.000    5.98 | 8.083    4.89 | 11.17    1.63
 2.000    1.63 | 5.083    6.52 | 8.167    4.89 | 11.25    1.63
 2.083    1.63 | 5.167    6.52 | 8.250    4.35 | 11.33    1.63
 2.167    1.63 | 5.250    7.61 | 8.333    4.35 | 11.42    1.63
 2.250    2.17 | 5.333    7.61 | 8.417    3.81 | 11.50    1.63
 2.333    2.17 | 5.417    8.70 | 8.500    3.80 | 11.58    1.63
 2.417    2.72 | 5.500    8.70 | 8.583    3.26 | 11.67    1.63
 2.500    2.72 | 5.583    9.78 | 8.667    3.26 | 11.75    1.63
 2.583    3.26 | 5.667    9.78 | 8.750    3.26 | 11.83    1.63
 2.667    3.26 | 5.750   30.98 | 8.833    3.26 | 11.92    1.63
 2.750    3.26 | 5.833   30.98 | 8.917    3.26 | 12.00    1.63
 2.833    3.26 | 5.917   52.18 | 9.000    3.26 | 12.08    1.63
 2.917    3.26 | 6.000   52.18 | 9.083    3.26 | 12.17    1.63
 3.000    3.26 | 6.083   73.38 | 9.167    3.26 |
 3.083    3.26 | 6.167   73.38 | 9.250    3.26 |

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.129 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  28.866
     TOTAL RAINFALL   (mm)=  81.259
     RUNOFF COEFFICIENT   =   0.355

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

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--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.031     6.17     6.52
     + ID2= 2 (  0005):     2.30   0.129     6.50    28.87
       ================================================
       ID = 3 (  0007):     4.00   0.147     6.50    19.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0007):     4.00   0.147     6.50    19.38
     + ID2= 2 (  0008):     1.15   0.186     6.42    30.59
       ================================================
       ID = 1 (  0007):     5.14   0.329     6.42    21.89

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

  --------------------------
  | Junction Command(0010) |
  --------------------------

                            AREA     QPEAK   TPEAK     R.V.
                            (ha)     (cms)   (hrs)     (mm)
  INFLOW : ID= 9(  0009)    3.47      0.13    6.00    30.92
  OUTFLOW: ID= 2(  0010)    3.47      0.13    6.00    30.92

  --------------------------------------------------------------------------------
**************************************
** SIMULATION:18) 12HR SCS - 100YR **
**************************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1697.000
| Ptotal= 98.86 mm |                          B=  10.510
--------------------                          C=   0.808
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  = 12.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.00     1.75 |  3.00    7.11 |  6.00    5.30 |  9.00    2.44
 0.17     1.82 |  3.17    8.92 |  6.17    4.95 |  9.17    2.37
 0.33     1.89 |  3.33   12.10 |  6.33    4.65 |  9.33    2.31
 0.50     1.97 |  3.50   19.08 |  6.50    4.38 |  9.50    2.25
 0.67     2.06 |  3.67   45.84 |  6.67    4.15 |  9.67    2.19
 0.83     2.16 |  3.83  147.78 |  6.83    3.94 |  9.83    2.14
 1.00     2.27 |  4.00   59.56 |  7.00    3.75 | 10.00    2.09
```

1.17	2.40	4.17	32.19	7.17	3.58	10.17	2.04
1.33	2.54	4.33	21.78	7.33	3.43	10.33	2.00
1.50	2.70	4.50	16.42	7.50	3.29	10.50	1.96
1.67	2.89	4.67	13.19	7.67	3.16	10.67	1.91
1.83	3.10	4.83	11.04	7.83	3.05	10.83	1.88
2.00	3.36	5.00	9.51	8.00	2.94	11.00	1.84
2.17	3.66	5.17	8.36	8.17	2.84	11.17	1.80
2.33	4.04	5.33	7.47	8.33	2.75	11.33	1.77
2.50	4.51	5.50	6.77	8.50	2.66	11.50	1.74
2.67	5.12	5.67	6.19	8.67	2.58	11.67	1.70
2.83	5.94	5.83	5.71	8.83	2.51	11.83	1.67

CALIB					
NASHYD (0004)	Area	(ha)=	1.70	Curve Number (CN)=	67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.03		

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	1.75	3.083	7.11	6.083	5.30	9.08	2.44
0.167	1.75	3.167	7.11	6.167	5.30	9.17	2.44
0.250	1.82	3.250	8.92	6.250	4.95	9.25	2.37
0.333	1.82	3.333	8.92	6.333	4.95	9.33	2.37
0.417	1.89	3.417	12.10	6.417	4.65	9.42	2.31
0.500	1.89	3.500	12.10	6.500	4.65	9.50	2.31
0.583	1.97	3.583	19.08	6.583	4.38	9.58	2.25
0.667	1.97	3.667	19.08	6.667	4.38	9.67	2.25
0.750	2.06	3.750	45.84	6.750	4.15	9.75	2.19
0.833	2.06	3.833	45.84	6.833	4.15	9.83	2.19
0.917	2.16	3.917	147.78	6.917	3.94	9.92	2.14
1.000	2.16	4.000	147.78	7.000	3.94	10.00	2.14
1.083	2.27	4.083	59.56	7.083	3.75	10.08	2.09
1.167	2.27	4.167	59.56	7.167	3.75	10.17	2.09
1.250	2.40	4.250	32.19	7.250	3.58	10.25	2.04
1.333	2.40	4.333	32.19	7.333	3.58	10.33	2.04
1.417	2.54	4.417	21.78	7.417	3.43	10.42	2.00
1.500	2.54	4.500	21.78	7.500	3.43	10.50	2.00
1.583	2.70	4.583	16.42	7.583	3.29	10.58	1.96
1.667	2.70	4.667	16.42	7.667	3.29	10.67	1.96
1.750	2.89	4.750	13.19	7.750	3.16	10.75	1.91
1.833	2.89	4.833	13.19	7.833	3.16	10.83	1.91
1.917	3.10	4.917	11.04	7.917	3.05	10.92	1.88
2.000	3.10	5.000	11.04	8.000	3.05	11.00	1.88
2.083	3.36	5.083	9.51	8.083	2.94	11.08	1.84
2.167	3.36	5.167	9.51	8.167	2.94	11.17	1.84
2.250	3.66	5.250	8.36	8.250	2.84	11.25	1.80
2.333	3.66	5.333	8.36	8.333	2.84	11.33	1.80
2.417	4.04	5.417	7.47	8.417	2.75	11.42	1.77
2.500	4.04	5.500	7.47	8.500	2.75	11.50	1.77
2.583	4.51	5.583	6.77	8.583	2.66	11.58	1.74
2.667	4.51	5.667	6.77	8.667	2.66	11.67	1.74
2.750	5.12	5.750	6.19	8.750	2.58	11.75	1.70
2.833	5.12	5.833	6.19	8.833	2.58	11.83	1.70
2.917	5.94	5.917	5.71	8.917	2.51	11.92	1.67
3.000	5.94	6.000	5.71	9.000	2.51	12.00	1.67

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.065 (i)
TIME TO PEAK (hrs)= 4.000
RUNOFF VOLUME (mm)= 9.089
TOTAL RAINFALL (mm)= 98.864
RUNOFF COEFFICIENT = 0.092

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

CALIB					
NASHYD (0001)	Area	(ha)=	3.17	Curve Number (CN)=	71.4
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.11		

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	1.75	3.083	7.11	6.083	5.30	9.08	2.44
0.167	1.75	3.167	7.11	6.167	5.30	9.17	2.44
0.250	1.82	3.250	8.92	6.250	4.95	9.25	2.37
0.333	1.82	3.333	8.92	6.333	4.95	9.33	2.37
0.417	1.89	3.417	12.10	6.417	4.65	9.42	2.31
0.500	1.89	3.500	12.10	6.500	4.65	9.50	2.31
0.583	1.97	3.583	19.08	6.583	4.38	9.58	2.25
0.667	1.97	3.667	19.08	6.667	4.38	9.67	2.25
0.750	2.06	3.750	45.84	6.750	4.15	9.75	2.19
0.833	2.06	3.833	45.84	6.833	4.15	9.83	2.19
0.917	2.16	3.917	147.78	6.917	3.94	9.92	2.14
1.000	2.16	4.000	147.78	7.000	3.94	10.00	2.14
1.083	2.27	4.083	59.56	7.083	3.75	10.08	2.09
1.167	2.27	4.167	59.56	7.167	3.75	10.17	2.09
1.250	2.40	4.250	32.19	7.250	3.58	10.25	2.04
1.333	2.40	4.333	32.19	7.333	3.58	10.33	2.04
1.417	2.54	4.417	21.78	7.417	3.43	10.42	2.00
1.500	2.54	4.500	21.78	7.500	3.43	10.50	2.00
1.583	2.70	4.583	16.42	7.583	3.29	10.58	1.96
1.667	2.70	4.667	16.42	7.667	3.29	10.67	1.96
1.750	2.89	4.750	13.19	7.750	3.16	10.75	1.91
1.833	2.89	4.833	13.19	7.833	3.16	10.83	1.91
1.917	3.10	4.917	11.04	7.917	3.05	10.92	1.88
2.000	3.10	5.000	11.04	8.000	3.05	11.00	1.88
2.083	3.36	5.083	9.51	8.083	2.94	11.08	1.84
2.167	3.36	5.167	9.51	8.167	2.94	11.17	1.84
2.250	3.66	5.250	8.36	8.250	2.84	11.25	1.80
2.333	3.66	5.333	8.36	8.333	2.84	11.33	1.80
2.417	4.04	5.417	7.47	8.417	2.75	11.42	1.77
2.500	4.04	5.500	7.47	8.500	2.75	11.50	1.77
2.583	4.51	5.583	6.77	8.583	2.66	11.58	1.74
2.667	4.51	5.667	6.77	8.667	2.66	11.67	1.74
2.750	5.12	5.750	6.19	8.750	2.58	11.75	1.70
2.833	5.12	5.833	6.19	8.833	2.58	11.83	1.70
2.917	5.94	5.917	5.71	8.917	2.51	11.92	1.67
3.000	5.94	6.000	5.71	9.000	2.51	12.00	1.67

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.414 (i)
TIME TO PEAK (hrs)= 4.000
RUNOFF VOLUME (mm)= 44.229
TOTAL RAINFALL (mm)= 98.864
RUNOFF COEFFICIENT = 0.447

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

CALIB					
NASHYD (0002)	Area	(ha)=	1.04	Curve Number (CN)=	67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.11		

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	1.75	3.083	7.11	6.083	5.30	9.08	2.44
0.167	1.75	3.167	7.11	6.167	5.30	9.17	2.44
0.250	1.82	3.250	8.92	6.250	4.95	9.25	2.37
0.333	1.82	3.333	8.92	6.333	4.95	9.33	2.37
0.417	1.89	3.417	12.10	6.417	4.65	9.42	2.31
0.500	1.89	3.500	12.10	6.500	4.65	9.50	2.31
0.583	1.97	3.583	19.08	6.583	4.38	9.58	2.25
0.667	1.97	3.667	19.08	6.667	4.38	9.67	2.25
0.750	2.06	3.750	45.84	6.750	4.15	9.75	2.19
0.833	2.06	3.833	45.84	6.833	4.15	9.83	2.19
0.917	2.16	3.917	147.78	6.917	3.94	9.92	2.14
1.000	2.16	4.000	147.78	7.000	3.94	10.00	2.14
1.083	2.27	4.083	59.56	7.083	3.75	10.08	2.09
1.167	2.27	4.167	59.56	7.167	3.75	10.17	2.09
1.250	2.40	4.250	32.19	7.250	3.58	10.25	2.04
1.333	2.40	4.333	32.19	7.333	3.58	10.33	2.04
1.417	2.54	4.417	21.78	7.417	3.43	10.42	2.00
1.500	2.54	4.500	21.78	7.500	3.43	10.50	2.00
1.583	2.70	4.583	16.42	7.583	3.29	10.58	1.96
1.667	2.70	4.667	16.42	7.667	3.29	10.67	1.96
1.750	2.89	4.750	13.19	7.750	3.16	10.75	1.91
1.833	2.89	4.833	13.19	7.833	3.16	10.83	1.91

1.917	3.10	4.917	11.04	7.917	3.05	10.92	1.88
2.000	3.10	5.000	11.04	8.000	3.05	11.00	1.88
2.083	3.36	5.083	9.51	8.083	2.94	11.08	1.84
2.167	3.36	5.167	9.51	8.167	2.94	11.17	1.84
2.250	3.66	5.250	8.36	8.250	2.84	11.25	1.80
2.333	3.66	5.333	8.36	8.333	2.84	11.33	1.80
2.417	4.04	5.417	7.47	8.417	2.75	11.42	1.77
2.500	4.04	5.500	7.47	8.500	2.75	11.50	1.77
2.583	4.51	5.583	6.77	8.583	2.66	11.58	1.74
2.667	4.51	5.667	6.77	8.667	2.66	11.67	1.74
2.750	5.12	5.750	6.19	8.750	2.58	11.75	1.70
2.833	5.12	5.833	6.19	8.833	2.58	11.83	1.70
2.917	5.94	5.917	5.71	8.917	2.51	11.92	1.67
3.000	5.94	6.000	5.71	9.000	2.51	12.00	1.67

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.118 (i)
TIME TO PEAK (hrs)= 4.000
RUNOFF VOLUME (mm)= 39.523
TOTAL RAINFALL (mm)= 98.864
RUNOFF COEFFICIENT = 0.400

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

CALIB			
NASHYD (0003)	Area (ha)= 0.40	Curve Number (CN)= 67.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.11		

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	1.75	3.083	7.11	6.083	5.30	9.08	2.44
0.167	1.75	3.167	7.11	6.167	5.30	9.17	2.44
0.250	1.82	3.250	8.92	6.250	4.95	9.25	2.37
0.333	1.82	3.333	8.92	6.333	4.95	9.33	2.37
0.417	1.89	3.417	12.10	6.417	4.65	9.42	2.31
0.500	1.89	3.500	12.10	6.500	4.65	9.50	2.31
0.583	1.97	3.583	19.08	6.583	4.38	9.58	2.25
0.667	1.97	3.667	19.08	6.667	4.38	9.67	2.25
0.750	2.06	3.750	45.84	6.750	4.15	9.75	2.19
0.833	2.06	3.833	45.84	6.833	4.15	9.83	2.19
0.917	2.16	3.917	147.78	6.917	3.94	9.92	2.14
1.000	2.16	4.000	147.78	7.000	3.94	10.00	2.14
1.083	2.27	4.083	59.56	7.083	3.75	10.08	2.09
1.167	2.27	4.167	59.56	7.167	3.75	10.17	2.09
1.250	2.40	4.250	32.19	7.250	3.58	10.25	2.04
1.333	2.40	4.333	32.19	7.333	3.58	10.33	2.04
1.417	2.54	4.417	21.78	7.417	3.43	10.42	2.00
1.500	2.54	4.500	21.78	7.500	3.43	10.50	2.00
1.583	2.70	4.583	16.42	7.583	3.29	10.58	1.96
1.667	2.70	4.667	16.42	7.667	3.29	10.67	1.96
1.750	2.89	4.750	13.19	7.750	3.16	10.75	1.91
1.833	2.89	4.833	13.19	7.833	3.16	10.83	1.91
1.917	3.10	4.917	11.04	7.917	3.05	10.92	1.88
2.000	3.10	5.000	11.04	8.000	3.05	11.00	1.88
2.083	3.36	5.083	9.51	8.083	2.94	11.08	1.84
2.167	3.36	5.167	9.51	8.167	2.94	11.17	1.84
2.250	3.66	5.250	8.36	8.250	2.84	11.25	1.80
2.333	3.66	5.333	8.36	8.333	2.84	11.33	1.80
2.417	4.04	5.417	7.47	8.417	2.75	11.42	1.77
2.500	4.04	5.500	7.47	8.500	2.75	11.50	1.77
2.583	4.51	5.583	6.77	8.583	2.66	11.58	1.74
2.667	4.51	5.667	6.77	8.667	2.66	11.67	1.74
2.750	5.12	5.750	6.19	8.750	2.58	11.75	1.70
2.833	5.12	5.833	6.19	8.833	2.58	11.83	1.70
2.917	5.94	5.917	5.71	8.917	2.51	11.92	1.67
3.000	5.94	6.000	5.71	9.000	2.51	12.00	1.67

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.046 (i)
TIME TO PEAK (hrs)= 4.000
RUNOFF VOLUME (mm)= 39.522
TOTAL RAINFALL (mm)= 98.864
RUNOFF COEFFICIENT = 0.400

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

ADD HYD (0006)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.414	4.00	44.23
+ ID2= 2 (0002):	1.04	0.118	4.00	39.52
ID = 3 (0006):	4.21	0.532	4.00	43.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0006):	4.21	0.532	4.00	43.07
+ ID2= 2 (0003):	0.40	0.046	4.00	39.52
ID = 1 (0006):	4.62	0.577	4.00	42.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)				
Inlet Cap.= 0.132				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	4.62	0.58	4.00	42.76
MAJOR SYS.(ID= 2):	1.39	0.45	4.00	42.76
MINOR SYS.(ID= 3):	3.23	0.13	3.92	42.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0008)	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	0.1450	0.0045
	0.0000	0.0004	0.2061	0.0090
	0.0363	0.0008	0.2510	0.0135
	0.0555	0.0027	0.2886	0.0201

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	1.390	0.445	4.00	42.76
OUTFLOW: ID= 1 (0008)	1.390	0.279	4.25	42.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 62.57
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0190

CALIB			
NASHYD (0005)	Area (ha)= 2.30	Curve Number (CN)= 67.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.28		

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	1.75	3.083	7.11	6.083	5.30	9.08	2.44
0.167	1.75	3.167	7.11	6.167	5.30	9.17	2.44
0.250	1.82	3.250	8.92	6.250	4.95	9.25	2.37
0.333	1.82	3.333	8.92	6.333	4.95	9.33	2.37
0.417	1.89	3.417	12.10	6.417	4.65	9.42	2.31
0.500	1.89	3.500	12.10	6.500	4.65	9.50	2.31
0.583	1.97	3.583	19.08	6.583	4.38	9.58	2.25
0.667	1.97	3.667	19.08	6.667	4.38	9.67	2.25
0.750	2.06	3.750	45.84	6.750	4.15	9.75	2.19
0.833	2.06	3.833	45.84	6.833	4.15	9.83	2.19
0.917	2.16	3.917	147.78	6.917	3.94	9.92	2.14
1.000	2.16	4.000	147.78	7.000	3.94	10.00	2.14

1.083	2.27	4.083	59.56	7.083	3.75	10.08	2.09
1.167	2.27	4.167	59.56	7.167	3.75	10.17	2.09
1.250	2.40	4.250	32.19	7.250	3.58	10.25	2.04
1.333	2.40	4.333	32.19	7.333	3.58	10.33	2.04
1.417	2.54	4.417	21.78	7.417	3.43	10.42	2.00
1.500	2.54	4.500	21.78	7.500	3.43	10.50	2.00
1.583	2.70	4.583	16.42	7.583	3.29	10.58	1.96
1.667	2.70	4.667	16.42	7.667	3.29	10.67	1.96
1.750	2.89	4.750	13.19	7.750	3.16	10.75	1.91
1.833	2.89	4.833	13.19	7.833	3.16	10.83	1.91
1.917	3.10	4.917	11.04	7.917	3.05	10.92	1.88
2.000	3.10	5.000	11.04	8.000	3.05	11.00	1.88
2.083	3.36	5.083	9.51	8.083	2.94	11.08	1.84
2.167	3.36	5.167	9.51	8.167	2.94	11.17	1.84
2.250	3.66	5.250	8.36	8.250	2.84	11.25	1.80
2.333	3.66	5.333	8.36	8.333	2.84	11.33	1.80
2.417	4.04	5.417	7.47	8.417	2.75	11.42	1.77
2.500	4.04	5.500	7.47	8.500	2.75	11.50	1.77
2.583	4.51	5.583	6.77	8.583	2.66	11.58	1.74
2.667	4.51	5.667	6.77	8.667	2.66	11.67	1.74
2.750	5.12	5.750	6.19	8.750	2.58	11.75	1.70
2.833	5.12	5.833	6.19	8.833	2.58	11.83	1.70
2.917	5.94	5.917	5.71	8.917	2.51	11.92	1.67
3.000	5.94	6.000	5.71	9.000	2.51	12.00	1.67

Unit Hyd Qpeak (cms)= 0.310

PEAK FLOW (cms)= 0.172 (i)
TIME TO PEAK (hrs)= 4.250
RUNOFF VOLUME (mm)= 40.216
TOTAL RAINFALL (mm)= 98.864
RUNOFF COEFFICIENT = 0.407

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

ADD HYD (0007)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0004):	1.70	0.065	4.00	9.09
	+ ID2= 2 (0005):	2.30	0.172	4.25	40.22
	ID = 3 (0007):	4.00	0.190	4.17	27.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0007)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0007):	4.00	0.190	4.17	27.00
	+ ID2= 2 (0008):	1.39	0.279	4.25	42.53
	ID = 1 (0007):	5.38	0.468	4.25	31.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0010)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	3.23	0.13	3.92	42.76
OUTFLOW: ID= 2(0010)	3.23	0.13	3.92	42.76

****
** SIMULATION:19) 24HR SCS - 2YR **
****

READ STORM	Filename: C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\70113baf
Ptotal= 25.88 mm	Comments: 24HR SCS - 2YR

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.08	0.00	12.17	11.09	18.25	0.00
0.08	0.00	6.17	0.82	12.25	0.00	18.33	0.95
0.17	0.09	6.25	0.00	12.33	9.70	18.42	0.00
0.25	0.00	6.33	0.87	12.42	0.00	18.50	0.91
0.33	0.17	6.42	0.00	12.50	8.32	18.58	0.00
0.42	0.00	6.50	0.91	12.58	0.00	18.67	0.87
0.50	0.26	6.58	0.00	12.67	6.93	18.75	0.00
0.58	0.00	6.67	0.95	12.75	0.00	18.83	0.82
0.67	0.35	6.75	0.00	12.83	5.55	18.92	0.00
0.75	0.00	6.83	1.00	12.92	0.00	19.00	0.78
0.83	0.43	6.92	0.00	13.00	4.16	19.08	0.00
0.92	0.00	7.00	1.04	13.08	0.00	19.17	0.78
1.00	0.52	7.08	0.00	13.17	4.16	19.25	0.00
1.08	0.00	7.17	1.04	13.25	0.00	19.33	0.78
1.17	0.52	7.25	0.00	13.33	4.16	19.42	0.00
1.25	0.00	7.33	1.04	13.42	0.00	19.50	0.78
1.33	0.52	7.42	0.00	13.50	4.16	19.58	0.00
1.42	0.00	7.50	1.04	13.58	0.00	19.67	0.78
1.50	0.52	7.58	0.00	13.67	4.16	19.75	0.00
1.58	0.00	7.67	1.04	13.75	0.00	19.83	0.78
1.67	0.52	7.75	0.00	13.83	4.16	19.92	0.00
1.75	0.00	7.83	1.04	13.92	0.00	20.00	0.78
1.83	0.52	7.92	0.00	14.00	4.16	20.08	0.00
1.92	0.00	8.00	1.04	14.08	0.00	20.17	0.78
2.00	0.52	8.08	0.00	14.17	3.73	20.25	0.00
2.08	0.00	8.17	1.13	14.25	0.00	20.33	0.78
2.17	0.56	8.25	0.00	14.33	3.29	20.42	0.00
2.25	0.00	8.33	1.21	14.42	0.00	20.50	0.78
2.33	0.61	8.42	0.00	14.50	2.86	20.58	0.00
2.42	0.00	8.50	1.30	14.58	0.00	20.67	0.78
2.50	0.65	8.58	0.00	14.67	2.43	20.75	0.00
2.58	0.00	8.67	1.39	14.75	0.00	20.83	0.78
2.67	0.69	8.75	0.00	14.83	1.99	20.92	0.00
2.75	0.00	8.83	1.47	14.92	0.00	21.00	0.78
2.83	0.74	8.92	0.00	15.00	1.56	21.08	0.00
2.92	0.00	9.00	1.56	15.08	0.00	21.17	0.78
3.00	0.78	9.08	0.00	15.17	1.56	21.25	0.00
3.08	0.00	9.17	1.56	15.25	0.00	21.33	0.78
3.17	0.78	9.25	0.00	15.33	1.56	21.42	0.00
3.25	0.00	9.33	1.56	15.42	0.00	21.50	0.78
3.33	0.78	9.42	0.00	15.50	1.56	21.58	0.00
3.42	0.00	9.50	1.56	15.58	0.00	21.67	0.78
3.50	0.78	9.58	0.00	15.67	1.56	21.75	0.00
3.58	0.00	9.67	1.56	15.75	0.00	21.83	0.78
3.67	0.78	9.75	0.00	15.83	1.56	21.92	0.00
3.75	0.00	9.83	1.56	15.92	0.00	22.00	0.78
3.83	0.78	9.92	0.00	16.00	1.56	22.08	0.00
3.92	0.00	10.00	1.56	16.08	0.00	22.17	0.74
4.00	0.78	10.08	0.00	16.17	1.47	22.25	0.00
4.08	0.00	10.17	3.38	16.25	0.00	22.33	0.69
4.17	0.78	10.25	0.00	16.33	1.39	22.42	0.00
4.25	0.00	10.33	5.20	16.42	0.00	22.50	0.65
4.33	0.78	10.42	0.00	16.50	1.30	22.58	0.00
4.42	0.00	10.50	7.02	16.58	0.00	22.67	0.61
4.50	0.78	10.58	0.00	16.67	1.21	22.75	0.00
4.58	0.00	10.67	8.84	16.75	0.00	22.83	0.56
4.67	0.78	10.75	0.00	16.83	1.13	22.92	0.00
4.75	0.00	10.83	10.66	16.92	0.00	23.00	0.52
4.83	0.78	10.92	0.00	17.00	1.04	23.08	0.00
4.92	0.00	11.00	12.48	17.08	0.00	23.17	0.52
5.00	0.78	11.08	0.00	17.17	1.04	23.25	0.00
5.08	0.00	11.17	12.48	17.25	0.00	23.33	0.52
5.17	0.78	11.25	0.00	17.33	1.04	23.42	0.00
5.25	0.00	11.33	12.48	17.42	0.00	23.50	0.52
5.33	0.78	11.42	0.00	17.50	1.04	23.58	0.00
5.42	0.00	11.50	12.48	17.58	0.00	23.67	0.52
5.50	0.78	11.58	0.00	17.67	1.04	23.75	0.00
5.58	0.00	11.67	12.48	17.75	0.00	23.83	0.52
5.67	0.78	11.75	0.00	17.83	1.04	23.92	0.00
5.75	0.00	11.83	12.48	17.92	0.00	24.00	0.52
5.83	0.78	11.92	0.00	18.00	1.04		
5.92	0.00	12.00	12.48	18.08	0.00		
6.00	0.78	12.08	0.00	18.17	1.00		

CALIB NASHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 1.70	Curve Number (CN)= 67.0
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.03	

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.002 (i)

```
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=   0.675
     TOTAL RAINFALL   (mm)=  25.883
     RUNOFF COEFFICIENT   =   0.026

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area     (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   1.092

     PEAK FLOW       (cms)=   0.010 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=   3.491
     TOTAL RAINFALL   (mm)=  25.883
     RUNOFF COEFFICIENT   =   0.135

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area     (ha)=   1.04   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.357

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=   2.934
     TOTAL RAINFALL   (mm)=  25.883
     RUNOFF COEFFICIENT   =   0.113

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area     (ha)=   0.40   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.138

     PEAK FLOW       (cms)=   0.001 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=   2.934
     TOTAL RAINFALL   (mm)=  25.883
     RUNOFF COEFFICIENT   =   0.113

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

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--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     3.17   0.010    12.25     3.49
     + ID2= 2 (  0002):     1.04   0.003    12.25     2.93
       ================================================
       ID = 3 (  0006):     4.21   0.012    12.25     3.35

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0006):     4.21   0.012    12.25     3.35
     + ID2= 2 (  0003):     0.40   0.001    12.25     2.93
       ================================================
       ID = 1 (  0006):     4.62   0.013    12.25     3.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=    1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   4.62      0.01     12.25    3.32
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   4.62      0.01     12.25    3.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                           0.0000      0.0004   |    0.2061      0.0090
                           0.0363      0.0008   |    0.2510      0.0135
                           0.0555      0.0027   |    0.2886      0.0201

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)      0.000     0.000      0.00       0.00
   OUTFLOW: ID= 1 (  0008)      0.000     0.000      0.00        NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW          (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area     (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=  12.417
     RUNOFF VOLUME    (mm)=   2.985
     TOTAL RAINFALL   (mm)=  25.883
     RUNOFF COEFFICIENT   =   0.115

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.002    12.08     0.67
     + ID2= 2 (  0005):     2.30   0.005    12.42     2.99
       ================================================
       ID = 3 (  0007):     4.00   0.006    12.42     2.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0008 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0007):     4.00   0.006    12.42     2.00
     + ID2= 2 (  0008):     0.00   0.000     0.00      NaN
       ================================================
       ID = 1 (  0007):     4.00   0.006    12.42     2.00

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

  --------------------------
  | Junction Command(0010) |
  --------------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	4.62	0.01	12.25	3.32
OUTFLOW: ID= 2(0010)	4.62	0.01	12.25	3.32

****
** SIMULATION:2) PTBO 4HR 5 Yr **
****

CHICAGO STORM
Ptotal= 44.88 mm

IDF curve parameters: A=1098.000
B= 10.100
C= 0.830
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	2.66	1.00	26.50	2.00	7.15	3.00	3.24
0.17	3.11	1.17	90.98	2.17	5.94	3.17	2.98
0.33	3.75	1.33	34.82	2.33	5.08	3.33	2.76
0.50	4.75	1.50	18.23	2.50	4.44	3.50	2.57
0.67	6.53	1.67	12.10	2.67	3.95	3.67	2.41
0.83	10.53	1.83	9.00	2.83	3.56	3.83	2.26

CALIB
NASHYD (0004)
ID= 1 DT= 5.0 min

Area (ha)= 1.70 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.03

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.021 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 2.178
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.049

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

CALIB
NASHYD (0001)
ID= 1 DT= 5.0 min

Area (ha)= 3.17 Curve Number (CN)= 71.4
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.126 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 11.027
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.246

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

CALIB
NASHYD (0002)
ID= 1 DT= 5.0 min

Area (ha)= 1.04 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.035 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 9.470
TOTAL RAINFALL (mm)= 44.883
RUNOFF COEFFICIENT = 0.211

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

CALIB
NASHYD (0003)
ID= 1 DT= 5.0 min

Area (ha)= 0.40 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.013 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 9.470

```
     TOTAL RAINFALL   (mm)=  44.883
     RUNOFF COEFFICIENT   =   0.211

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

ADD HYD (0006)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0001):	3.17	0.126	1.42	11.03
	+ ID2= 2 (0002):	1.04	0.035	1.42	9.47
	ID = 3 (0006):	4.21	0.160	1.42	10.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0006):	4.21	0.160	1.42	10.64
	+ ID2= 2 (0003):	0.40	0.013	1.42	9.47
	ID = 1 (0006):	4.62	0.174	1.42	10.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.= 0.132					
#of Inlets= 1					
Total(cms)= 0.1	TOTAL HYD.(ID= 1):	4.62	0.17	1.42	10.54
	MAJOR SYS.(ID= 2):	0.29	0.04	1.42	10.54
	MINOR SYS.(ID= 3):	4.33	0.13	1.33	10.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0008)	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	0.1450	0.0045
0.0000	0.0004	0.2061	0.0090
0.0363	0.0008	0.2510	0.0135
0.0555	0.0027	0.2886	0.0201

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	0.288	0.042	1.42	10.54
OUTFLOW: ID= 1 (0008)	0.288	0.038	1.42	9.22

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 89.89
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0010
```

CALIB					
NASHYD (0005)	Area (ha)=	2.30	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.28			

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	2.66	1.083	26.50	2.083	7.15	3.08	3.24
0.167	2.66	1.167	26.50	2.167	7.15	3.17	3.24
0.250	3.11	1.250	90.98	2.250	5.94	3.25	2.98
0.333	3.11	1.333	90.98	2.333	5.94	3.33	2.98
0.417	3.75	1.417	34.82	2.417	5.08	3.42	2.76
0.500	3.75	1.500	34.82	2.500	5.08	3.50	2.76
0.583	4.75	1.583	18.23	2.583	4.44	3.58	2.57
0.667	4.75	1.667	18.23	2.667	4.44	3.67	2.57
0.750	6.53	1.750	12.10	2.750	3.95	3.75	2.41
0.833	6.53	1.833	12.10	2.833	3.95	3.83	2.41
0.917	10.53	1.917	9.00	2.917	3.56	3.92	2.26
1.000	10.53	2.000	9.00	3.000	3.56	4.00	2.26

```
     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.052 (i)
     TIME TO PEAK    (hrs)=   1.667
     RUNOFF VOLUME    (mm)=   9.636
     TOTAL RAINFALL   (mm)=  44.883
     RUNOFF COEFFICIENT   =   0.215

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

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0004):	1.70	0.021	1.33	2.18
	+ ID2= 2 (0005):	2.30	0.052	1.67	9.64
	ID = 3 (0007):	4.00	0.058	1.67	6.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0007):	4.00	0.058	1.67	6.47
	+ ID2= 2 (0008):	0.29	0.038	1.42	9.22
	ID = 1 (0007):	4.28	0.091	1.50	6.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0010)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	4.33	0.13	1.33	10.54
OUTFLOW: ID= 2(0010)	4.33	0.13	1.33	10.54

```
**************************************
** SIMULATION:20) 24HR SCS - 5YR **
**************************************
```

READ STORM	Filename: C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\03031a9f
Ptotal= 30.49 mm	Comments: 24HR SCS - 5YR

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.08	0.00	12.17	13.06	18.25	0.00
0.08	0.00	6.17	0.97	12.25	0.00	18.33	1.12
0.17	0.10	6.25	0.00	12.33	11.43	18.42	0.00
0.25	0.00	6.33	1.02	12.42	0.00	18.50	1.07
0.33	0.20	6.42	0.00	12.50	9.80	18.58	0.00
0.42	0.00	6.50	1.07	12.58	0.00	18.67	1.02
0.50	0.31	6.58	0.00	12.67	8.16	18.75	0.00
0.58	0.00	6.67	1.12	12.75	0.00	18.83	0.97
0.67	0.41	6.75	0.00	12.83	6.53	18.92	0.00
0.75	0.00	6.83	1.17	12.92	0.00	19.00	0.92
0.83	0.51	6.92	0.00	13.00	4.90	19.08	0.00
0.92	0.00	7.00	1.23	13.08	0.00	19.17	0.92
1.00	0.61	7.08	0.00	13.17	4.90	19.25	0.00
1.08	0.00	7.17	1.23	13.25	0.00	19.33	0.92
1.17	0.61	7.25	0.00	13.33	4.90	19.42	0.00
1.25	0.00	7.33	1.23	13.42	0.00	19.50	0.92
1.33	0.61	7.42	0.00	13.50	4.90	19.58	0.00
1.42	0.00	7.50	1.23	13.58	0.00	19.67	0.92
1.50	0.61	7.58	0.00	13.67	4.90	19.75	0.00
1.58	0.00	7.67	1.23	13.75	0.00	19.83	0.92
1.67	0.61	7.75	0.00	13.83	4.90	19.92	0.00

1.75	0.00	7.83	1.23	13.92	0.00	20.00	0.92
1.83	0.61	7.92	0.00	14.00	4.90	20.08	0.00
1.92	0.00	8.00	1.23	14.08	0.00	20.17	0.92
2.00	0.61	8.08	0.00	14.17	4.39	20.25	0.00
2.08	0.00	8.17	1.33	14.25	0.00	20.33	0.92
2.17	0.66	8.25	0.00	14.33	3.88	20.42	0.00
2.25	0.00	8.33	1.43	14.42	0.00	20.50	0.92
2.33	0.71	8.42	0.00	14.50	3.37	20.58	0.00
2.42	0.00	8.50	1.53	14.58	0.00	20.67	0.92
2.50	0.77	8.58	0.00	14.67	2.86	20.75	0.00
2.58	0.00	8.67	1.63	14.75	0.00	20.83	0.92
2.67	0.82	8.75	0.00	14.83	2.35	20.92	0.00
2.75	0.00	8.83	1.74	14.92	0.00	21.00	0.92
2.83	0.87	8.92	0.00	15.00	1.84	21.08	0.00
2.92	0.00	9.00	1.84	15.08	0.00	21.17	0.92
3.00	0.92	9.08	0.00	15.17	1.84	21.25	0.00
3.08	0.00	9.17	1.84	15.25	0.00	21.33	0.92
3.17	0.92	9.25	0.00	15.33	1.84	21.42	0.00
3.25	0.00	9.33	1.84	15.42	0.00	21.50	0.92
3.33	0.92	9.42	0.00	15.50	1.84	21.58	0.00
3.42	0.00	9.50	1.84	15.58	0.00	21.67	0.92
3.50	0.92	9.58	0.00	15.67	1.84	21.75	0.00
3.58	0.00	9.67	1.84	15.75	0.00	21.83	0.92
3.67	0.92	9.75	0.00	15.83	1.84	21.92	0.00
3.75	0.00	9.83	1.84	15.92	0.00	22.00	0.92
3.83	0.92	9.92	0.00	16.00	1.84	22.08	0.00
3.92	0.00	10.00	1.84	16.08	0.00	22.17	0.87
4.00	0.92	10.08	0.00	16.17	1.74	22.25	0.00
4.08	0.00	10.17	3.98	16.25	0.00	22.33	0.82
4.17	0.92	10.25	0.00	16.33	1.63	22.42	0.00
4.25	0.00	10.33	6.12	16.42	0.00	22.50	0.77
4.33	0.92	10.42	0.00	16.50	1.53	22.58	0.00
4.42	0.00	10.50	8.27	16.58	0.00	22.67	0.71
4.50	0.92	10.58	0.00	16.67	1.43	22.75	0.00
4.58	0.00	10.67	10.41	16.75	0.00	22.83	0.66
4.67	0.92	10.75	0.00	16.83	1.33	22.92	0.00
4.75	0.00	10.83	12.55	16.92	0.00	23.00	0.61
4.83	0.92	10.92	0.00	17.00	1.23	23.08	0.00
4.92	0.00	11.00	14.70	17.08	0.00	23.17	0.61
5.00	0.92	11.08	0.00	17.17	1.23	23.25	0.00
5.08	0.00	11.17	14.70	17.25	0.00	23.33	0.61
5.17	0.92	11.25	0.00	17.33	1.23	23.42	0.00
5.25	0.00	11.33	14.70	17.42	0.00	23.50	0.61
5.33	0.92	11.42	0.00	17.50	1.23	23.58	0.00
5.42	0.00	11.50	14.70	17.58	0.00	23.67	0.61
5.50	0.92	11.58	0.00	17.67	1.23	23.75	0.00
5.58	0.00	11.67	14.70	17.75	0.00	23.83	0.61
5.67	0.92	11.75	0.00	17.83	1.23	23.92	0.00
5.75	0.00	11.83	14.70	17.92	0.00	24.00	0.61
5.83	0.92	11.92	0.00	18.00	1.23		
5.92	0.00	12.00	14.70	18.08	0.00		
6.00	0.92	12.08	0.00	18.17	1.17		

CALIB					
NASHYD (0004)	Area (ha)=	1.70	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.03			

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.003 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 0.975
TOTAL RAINFALL (mm)= 30.494
RUNOFF COEFFICIENT = 0.032

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

CALIB					
NASHYD (0001)	Area (ha)=	3.17	Curve Number (CN)=	71.4	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.014 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 5.015
TOTAL RAINFALL (mm)= 30.494
RUNOFF COEFFICIENT = 0.164

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

CALIB					
NASHYD (0002)	Area (ha)=	1.04	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.004 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 4.239
TOTAL RAINFALL (mm)= 30.494
RUNOFF COEFFICIENT = 0.139

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

CALIB					
NASHYD (0003)	Area (ha)=	0.40	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.001 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 4.238
TOTAL RAINFALL (mm)= 30.494
RUNOFF COEFFICIENT = 0.139

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

ADD HYD (0006)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.014	12.25	5.02
+ ID2= 2 (0002):	1.04	0.004	12.25	4.24
ID = 3 (0006):	4.21	0.018	12.25	4.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)

3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0006):	4.21	0.018	12.25	4.82
+ ID2= 2 (0003):	0.40	0.001	12.25	4.24
ID = 1 (0006):	4.62	0.019	12.25	4.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)
Inlet Cap.= 0.132
#of Inlets= 1
Total(cms)= 0.1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	4.62	0.02	12.25	4.77
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	4.62	0.02	12.25	4.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0008) 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	0.1450	0.0045
0.0000	0.0004	0.2061	0.0090

```
                        0.0363      0.0008   |    0.2510      0.0135
                        0.0555      0.0027   |    0.2886      0.0201

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)      0.000      0.000      0.00        0.00
   OUTFLOW: ID= 1 (  0008)      0.000      0.000      0.00         NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW          (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.007 (i)
     TIME TO PEAK    (hrs)=  12.417
     RUNOFF VOLUME    (mm)=   4.313
     TOTAL RAINFALL   (mm)=  30.494
     RUNOFF COEFFICIENT   =   0.141

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.003    12.08     0.97
     + ID2= 2 (  0005):     2.30   0.007    12.42     4.31
       ====================================================
       ID = 3 (  0007):     4.00   0.009    12.42     2.90

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0008 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0007):     4.00   0.009    12.42     2.90
     + ID2= 2 (  0008):     0.00   0.000     0.00      NaN
       ====================================================
       ID = 1 (  0007):     4.00   0.009    12.42     2.90

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

  --------------------------
  | Junction Command(0010) |
  --------------------------

                           AREA     QPEAK   TPEAK     R.V.
                           (ha)     (cms)    (hrs)    (mm)
  INFLOW : ID= 9(  0009)    4.62      0.02   12.25     4.77
  OUTFLOW: ID= 2(  0010)    4.62      0.02   12.25     4.77

  --------------------------------------------------------------------------------
**************************************
** SIMULATION:21) 24HR SCS - 10YR **
**************************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\df90f8c5
| Ptotal= 34.45 mm |    Comments: 24HR SCS -10 YR
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    0.00 |  6.08    0.00 | 12.17   14.76 | 18.25    0.00
                0.08    0.00 |  6.17    1.10 | 12.25    0.00 | 18.33    1.27
                0.17    0.11 |  6.25    0.00 | 12.33   12.91 | 18.42    0.00
                0.25    0.00 |  6.33    1.15 | 12.42    0.00 | 18.50    1.21
                0.33    0.23 |  6.42    0.00 | 12.50   11.07 | 18.58    0.00
                0.42    0.00 |  6.50    1.21 | 12.58    0.00 | 18.67    1.15
                0.50    0.35 |  6.58    0.00 | 12.67    9.23 | 18.75    0.00
                0.58    0.00 |  6.67    1.27 | 12.75    0.00 | 18.83    1.10
                0.67    0.46 |  6.75    0.00 | 12.83    7.38 | 18.92    0.00
                0.75    0.00 |  6.83    1.33 | 12.92    0.00 | 19.00    1.04
                0.83    0.58 |  6.92    0.00 | 13.00    5.53 | 19.08    0.00
                0.92    0.00 |  7.00    1.38 | 13.08    0.00 | 19.17    1.04
                1.00    0.69 |  7.08    0.00 | 13.17    5.53 | 19.25    0.00
                1.08    0.00 |  7.17    1.38 | 13.25    0.00 | 19.33    1.04
                1.17    0.69 |  7.25    0.00 | 13.33    5.53 | 19.42    0.00
                1.25    0.00 |  7.33    1.38 | 13.42    0.00 | 19.50    1.04
                1.33    0.69 |  7.42    0.00 | 13.50    5.53 | 19.58    0.00
                1.42    0.00 |  7.50    1.38 | 13.58    0.00 | 19.67    1.04
                1.50    0.69 |  7.58    0.00 | 13.67    5.53 | 19.75    0.00
                1.58    0.00 |  7.67    1.38 | 13.75    0.00 | 19.83    1.04
                1.67    0.69 |  7.75    0.00 | 13.83    5.53 | 19.92    0.00
                1.75    0.00 |  7.83    1.38 | 13.92    0.00 | 20.00    1.04
                1.83    0.69 |  7.92    0.00 | 14.00    5.53 | 20.08    0.00
                1.92    0.00 |  8.00    1.38 | 14.08    0.00 | 20.17    1.04
                2.00    0.69 |  8.08    0.00 | 14.17    4.96 | 20.25    0.00
                2.08    0.00 |  8.17    1.50 | 14.25    0.00 | 20.33    1.04
                2.17    0.75 |  8.25    0.00 | 14.33    4.38 | 20.42    0.00
                2.25    0.00 |  8.33    1.61 | 14.42    0.00 | 20.50    1.04
                2.33    0.81 |  8.42    0.00 | 14.50    3.81 | 20.58    0.00
                2.42    0.00 |  8.50    1.73 | 14.58    0.00 | 20.67    1.04
                2.50    0.86 |  8.58    0.00 | 14.67    3.23 | 20.75    0.00
                2.58    0.00 |  8.67    1.85 | 14.75    0.00 | 20.83    1.04
                2.67    0.92 |  8.75    0.00 | 14.83    2.65 | 20.92    0.00
                2.75    0.00 |  8.83    1.96 | 14.92    0.00 | 21.00    1.04
                2.83    0.98 |  8.92    0.00 | 15.00    2.08 | 21.08    0.00
                2.92    0.00 |  9.00    2.08 | 15.08    0.00 | 21.17    1.04
                3.00    1.04 |  9.08    0.00 | 15.17    2.08 | 21.25    0.00
                3.08    0.00 |  9.17    2.08 | 15.25    0.00 | 21.33    1.04
                3.17    1.04 |  9.25    0.00 | 15.33    2.08 | 21.42    0.00
                3.25    0.00 |  9.33    2.08 | 15.42    0.00 | 21.50    1.04
                3.33    1.04 |  9.42    0.00 | 15.50    2.08 | 21.58    0.00
                3.42    0.00 |  9.50    2.08 | 15.58    0.00 | 21.67    1.04
                3.50    1.04 |  9.58    0.00 | 15.67    2.08 | 21.75    0.00
                3.58    0.00 |  9.67    2.08 | 15.75    0.00 | 21.83    1.04
                3.67    1.04 |  9.75    0.00 | 15.83    2.08 | 21.92    0.00
                3.75    0.00 |  9.83    2.08 | 15.92    0.00 | 22.00    1.04
                3.83    1.04 |  9.92    0.00 | 16.00    2.08 | 22.08    0.00
                3.92    0.00 | 10.00    2.08 | 16.08    0.00 | 22.17    0.98
                4.00    1.04 | 10.08    0.00 | 16.17    1.96 | 22.25    0.00
                4.08    0.00 | 10.17    4.50 | 16.25    0.00 | 22.33    0.92
                4.17    1.04 | 10.25    0.00 | 16.33    1.85 | 22.42    0.00
                4.25    0.00 | 10.33    6.92 | 16.42    0.00 | 22.50    0.86
                4.33    1.04 | 10.42    0.00 | 16.50    1.73 | 22.58    0.00
                4.42    0.00 | 10.50    9.34 | 16.58    0.00 | 22.67    0.81
                4.50    1.04 | 10.58    0.00 | 16.67    1.61 | 22.75    0.00
                4.58    0.00 | 10.67   11.76 | 16.75    0.00 | 22.83    0.75
                4.67    1.04 | 10.75    0.00 | 16.83    1.50 | 22.92    0.00
                4.75    0.00 | 10.83   14.18 | 16.92    0.00 | 23.00    0.69
                4.83    1.04 | 10.92    0.00 | 17.00    1.38 | 23.08    0.00
                4.92    0.00 | 11.00   16.61 | 17.08    0.00 | 23.17    0.69
                5.00    1.04 | 11.08    0.00 | 17.17    1.38 | 23.25    0.00
                5.08    0.00 | 11.17   16.61 | 17.25    0.00 | 23.33    0.69
                5.17    1.04 | 11.25    0.00 | 17.33    1.38 | 23.42    0.00
                5.25    0.00 | 11.33   16.61 | 17.42    0.00 | 23.50    0.69
                5.33    1.04 | 11.42    0.00 | 17.50    1.38 | 23.58    0.00
                5.42    0.00 | 11.50   16.61 | 17.58    0.00 | 23.67    0.69
                5.50    1.04 | 11.58    0.00 | 17.67    1.38 | 23.75    0.00
                5.58    0.00 | 11.67   16.61 | 17.75    0.00 | 23.83    0.69
                5.67    1.04 | 11.75    0.00 | 17.83    1.38 | 23.92    0.00
                5.75    0.00 | 11.83   16.61 | 17.92    0.00 | 24.00    0.69
                5.83    1.04 | 11.92    0.00 | 18.00    1.38 |
                5.92    0.00 | 12.00   16.61 | 18.08    0.00 |
                6.00    1.04 | 12.08    0.00 | 18.17    1.33 |
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=  12.083
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```
     RUNOFF VOLUME    (mm)=   1.268
     TOTAL RAINFALL   (mm)=  34.452
     RUNOFF COEFFICIENT   =   0.037

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   1.092

     PEAK FLOW       (cms)=   0.018 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=   6.492
     TOTAL RAINFALL   (mm)=  34.452
     RUNOFF COEFFICIENT   =   0.188

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.04   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.357

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=   5.513
     TOTAL RAINFALL   (mm)=  34.452
     RUNOFF COEFFICIENT   =   0.160

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.40   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.138

     PEAK FLOW       (cms)=   0.002 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=   5.512
     TOTAL RAINFALL   (mm)=  34.452
     RUNOFF COEFFICIENT   =   0.160

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

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

--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA     QPEAK     TPEAK      R.V.
--------------------         (ha)     (cms)     (hrs)      (mm)
       ID1= 1 (  0001):     3.17   0.018    12.25      6.49
     + ID2= 2 (  0002):     1.04   0.005    12.25      5.51
       ================================================
       ID = 3 (  0006):     4.21   0.023    12.25      6.25

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA     QPEAK     TPEAK      R.V.
--------------------         (ha)     (cms)     (hrs)      (mm)
       ID1= 3 (  0006):     4.21   0.023    12.25      6.25
     + ID2= 2 (  0003):     0.40   0.002    12.25      5.51
       ================================================
       ID = 1 (  0006):     4.62   0.025    12.25      6.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK      R.V.
--------------------      (ha)     (cms)     (hrs)      (mm)
     TOTAL HYD.(ID= 1):   4.62      0.02     12.25      6.19
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00      0.00
     MINOR SYS.(ID= 3):   4.62      0.02     12.25      6.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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    |    0.1450      0.0045
                          0.0000      0.0004    |    0.2061      0.0090
                          0.0363      0.0008    |    0.2510      0.0135
                          0.0555      0.0027    |    0.2886      0.0201

                               AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)        (mm)
   INFLOW : ID= 2 (  0009)     0.000     0.000      0.00        0.00
   OUTFLOW: ID= 1 (  0008)     0.000     0.000      0.00         NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW          (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.009 (i)
     TIME TO PEAK    (hrs)=  12.417
     RUNOFF VOLUME    (mm)=   5.609
     TOTAL RAINFALL   (mm)=  34.452
     RUNOFF COEFFICIENT   =   0.163

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |         AREA     QPEAK     TPEAK      R.V.
--------------------         (ha)     (cms)     (hrs)      (mm)
       ID1= 1 (  0004):     1.70   0.003    12.08      1.27
     + ID2= 2 (  0005):     2.30   0.009    12.42      5.61
       ================================================
       ID = 3 (  0007):     4.00   0.012    12.42      3.77

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |         AREA     QPEAK     TPEAK      R.V.
--------------------         (ha)     (cms)     (hrs)      (mm)
*** W A R N I N G :  HYDROGRAPH   0008 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0007):     4.00   0.012    12.42      3.77
     + ID2= 2 (  0008):     0.00   0.000     0.00       NaN
       ================================================
       ID = 1 (  0007):     4.00   0.012    12.42      3.77

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

  --------------------------
  | Junction Command(0010) |
  --------------------------

                            AREA     QPEAK   TPEAK     R.V.
```

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 9(0009)	4.62	0.02	12.25	6.19
OUTFLOW: ID= 2(0010)	4.62	0.02	12.25	6.19

****
** SIMULATION:22) 24HR SCS - 25YR **
****

READ STORM	Filename: C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\db2980ff
Ptotal= 39.96 mm	Comments: 24HR SCS - 25YR

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.08	0.00	12.17	17.12	18.25	0.00
0.08	0.00	6.17	1.27	12.25	0.00	18.33	1.47
0.17	0.13	6.25	0.00	12.33	14.98	18.42	0.00
0.25	0.00	6.33	1.34	12.42	0.00	18.50	1.40
0.33	0.27	6.42	0.00	12.50	12.84	18.58	0.00
0.42	0.00	6.50	1.40	12.58	0.00	18.67	1.34
0.50	0.40	6.58	0.00	12.67	10.70	18.75	0.00
0.58	0.00	6.67	1.47	12.75	0.00	18.83	1.27
0.67	0.54	6.75	0.00	12.83	8.56	18.92	0.00
0.75	0.00	6.83	1.54	12.92	0.00	19.00	1.20
0.83	0.67	6.92	0.00	13.00	6.42	19.08	0.00
0.92	0.00	7.00	1.61	13.08	0.00	19.17	1.20
1.00	0.80	7.08	0.00	13.17	6.42	19.25	0.00
1.08	0.00	7.17	1.61	13.25	0.00	19.33	1.20
1.17	0.80	7.25	0.00	13.33	6.42	19.42	0.00
1.25	0.00	7.33	1.61	13.42	0.00	19.50	1.20
1.33	0.80	7.42	0.00	13.50	6.42	19.58	0.00
1.42	0.00	7.50	1.61	13.58	0.00	19.67	1.20
1.50	0.80	7.58	0.00	13.67	6.42	19.75	0.00
1.58	0.00	7.67	1.61	13.75	0.00	19.83	1.20
1.67	0.80	7.75	0.00	13.83	6.42	19.92	0.00
1.75	0.00	7.83	1.61	13.92	0.00	20.00	1.20
1.83	0.80	7.92	0.00	14.00	6.42	20.08	0.00
1.92	0.00	8.00	1.61	14.08	0.00	20.17	1.20
2.00	0.80	8.08	0.00	14.17	5.75	20.25	0.00
2.08	0.00	8.17	1.74	14.25	0.00	20.33	1.20
2.17	0.87	8.25	0.00	14.33	5.08	20.42	0.00
2.25	0.00	8.33	1.87	14.42	0.00	20.50	1.20
2.33	0.94	8.42	0.00	14.50	4.41	20.58	0.00
2.42	0.00	8.50	2.01	14.58	0.00	20.67	1.20
2.50	1.00	8.58	0.00	14.67	3.74	20.75	0.00
2.58	0.00	8.67	2.14	14.75	0.00	20.83	1.20
2.67	1.07	8.75	0.00	14.83	3.08	20.92	0.00
2.75	0.00	8.83	2.27	14.92	0.00	21.00	1.20
2.83	1.14	8.92	0.00	15.00	2.41	21.08	0.00
2.92	0.00	9.00	2.41	15.08	0.00	21.17	1.20
3.00	1.20	9.08	0.00	15.17	2.41	21.25	0.00
3.08	0.00	9.17	2.41	15.25	0.00	21.33	1.20
3.17	1.20	9.25	0.00	15.33	2.41	21.42	0.00
3.25	0.00	9.33	2.41	15.42	0.00	21.50	1.20
3.33	1.20	9.42	0.00	15.50	2.41	21.58	0.00
3.42	0.00	9.50	2.41	15.58	0.00	21.67	1.20
3.50	1.20	9.58	0.00	15.67	2.41	21.75	0.00
3.58	0.00	9.67	2.41	15.75	0.00	21.83	1.20
3.67	1.20	9.75	0.00	15.83	2.41	21.92	0.00
3.75	0.00	9.83	2.41	15.92	0.00	22.00	1.20
3.83	1.20	9.92	0.00	16.00	2.41	22.08	0.00
3.92	0.00	10.00	2.41	16.08	0.00	22.17	1.14
4.00	1.20	10.08	0.00	16.17	2.27	22.25	0.00
4.08	0.00	10.17	5.22	16.25	0.00	22.33	1.07
4.17	1.20	10.25	0.00	16.33	2.14	22.42	0.00
4.25	0.00	10.33	8.03	16.42	0.00	22.50	1.00
4.33	1.20	10.42	0.00	16.50	2.01	22.58	0.00
4.42	0.00	10.50	10.84	16.58	0.00	22.67	0.94
4.50	1.20	10.58	0.00	16.67	1.87	22.75	0.00
4.58	0.00	10.67	13.64	16.75	0.00	22.83	0.87
4.67	1.20	10.75	0.00	16.83	1.74	22.92	0.00
4.75	0.00	10.83	16.45	16.92	0.00	23.00	0.80
4.83	1.20	10.92	0.00	17.00	1.61	23.08	0.00
4.92	0.00	11.00	19.26	17.08	0.00	23.17	0.80
5.00	1.20	11.08	0.00	17.17	1.61	23.25	0.00
5.08	0.00	11.17	19.26	17.25	0.00	23.33	0.80
5.17	1.20	11.25	0.00	17.33	1.61	23.42	0.00
5.25	0.00	11.33	19.26	17.42	0.00	23.50	0.80
5.33	1.20	11.42	0.00	17.50	1.61	23.58	0.00
5.42	0.00	11.50	19.26	17.58	0.00	23.67	0.80
5.50	1.20	11.58	0.00	17.67	1.61	23.75	0.00
5.58	0.00	11.67	19.26	17.75	0.00	23.83	0.80
5.67	1.20	11.75	0.00	17.83	1.61	23.92	0.00
5.75	0.00	11.83	19.26	17.92	0.00	24.00	0.80
5.83	1.20	11.92	0.00	18.00	1.61		
5.92	0.00	12.00	19.26	18.08	0.00		
6.00	1.20	12.08	0.00	18.17	1.54		

CALIB NASHYD (0004) | ID= 1 DT= 5.0 min	Area (ha)= 1.70	Curve Number (CN)= 67.0
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.03	

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.005 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 1.725
TOTAL RAINFALL (mm)= 39.963
RUNOFF COEFFICIENT = 0.043

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

CALIB NASHYD (0001) | ID= 1 DT= 5.0 min	Area (ha)= 3.17	Curve Number (CN)= 71.4
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11	

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 8.780
TOTAL RAINFALL (mm)= 39.963
RUNOFF COEFFICIENT = 0.220

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

CALIB NASHYD (0002) | ID= 1 DT= 5.0 min	Area (ha)= 1.04	Curve Number (CN)= 67.0
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11	

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.007 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 7.501
TOTAL RAINFALL (mm)= 39.963
RUNOFF COEFFICIENT = 0.188

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

CALIB NASHYD (0003) | ID= 1 DT= 5.0 min	Area (ha)= 0.40	Curve Number (CN)= 67.0
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11	

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.003 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 7.501
TOTAL RAINFALL (mm)= 39.963
RUNOFF COEFFICIENT = 0.188

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

ADD HYD (0006) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.025	12.08	8.78
+ ID2= 2 (0002):	1.04	0.007	12.08	7.50

```
       ================================================
       ID = 3 (  0006):     4.21   0.031    12.08     8.46

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0006):     4.21   0.031    12.08     8.46
     + ID2= 2 (  0003):     0.40   0.003    12.08     7.50
       ================================================
       ID = 1 (  0006):     4.62   0.034    12.08     8.38

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

--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):   4.62      0.03     12.08     8.38
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00     0.00
     MINOR SYS.(ID= 3):   4.62      0.03     12.08     8.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                          0.0000      0.0004   |    0.2061      0.0090
                          0.0363      0.0008   |    0.2510      0.0135
                          0.0555      0.0027   |    0.2886      0.0201

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)     0.000     0.000      0.00       0.00
   OUTFLOW: ID= 1 (  0008)     0.000     0.000      0.00        NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW        (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.013 (i)
     TIME TO PEAK    (hrs)=  12.417
     RUNOFF VOLUME    (mm)=   7.633
     TOTAL RAINFALL   (mm)=  39.963
     RUNOFF COEFFICIENT   =   0.191

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.005    12.08     1.73
     + ID2= 2 (  0005):     2.30   0.013    12.42     7.63
       ================================================
       ID = 3 (  0007):     4.00   0.017    12.42     5.13

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0008 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0007):     4.00   0.017    12.42     5.13
     + ID2= 2 (  0008):     0.00   0.000     0.00      NaN
       ================================================
       ID = 1 (  0007):     4.00   0.017    12.42     5.13

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

  --------------------------
  | Junction Command(0010) |
  --------------------------

                             AREA     QPEAK   TPEAK     R.V.
                             (ha)     (cms)    (hrs)    (mm)
  INFLOW : ID= 9(  0009)     4.62      0.03    12.08     8.38
  OUTFLOW: ID= 2(  0010)     4.62      0.03    12.08     8.38

  ------------------------------------------------------------------------------------
**************************************
** SIMULATION:23) 24HR SCS - 50YR **
**************************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\0462f74d
| Ptotal= 44.74 mm |    Comments: 24HR SCS - 50YR
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.08	0.00	12.17	19.17	18.25	0.00
0.08	0.00	6.17	1.42	12.25	0.00	18.33	1.65
0.17	0.15	6.25	0.00	12.33	16.77	18.42	0.00
0.25	0.00	6.33	1.50	12.42	0.00	18.50	1.57
0.33	0.30	6.42	0.00	12.50	14.38	18.58	0.00
0.42	0.00	6.50	1.57	12.58	0.00	18.67	1.50
0.50	0.45	6.58	0.00	12.67	11.98	18.75	0.00
0.58	0.00	6.67	1.65	12.75	0.00	18.83	1.42
0.67	0.60	6.75	0.00	12.83	9.59	18.92	0.00
0.75	0.00	6.83	1.72	12.92	0.00	19.00	1.35
0.83	0.75	6.92	0.00	13.00	7.19	19.08	0.00
0.92	0.00	7.00	1.80	13.08	0.00	19.17	1.35
1.00	0.90	7.08	0.00	13.17	7.19	19.25	0.00
1.08	0.00	7.17	1.80	13.25	0.00	19.33	1.35
1.17	0.90	7.25	0.00	13.33	7.19	19.42	0.00
1.25	0.00	7.33	1.80	13.42	0.00	19.50	1.35
1.33	0.90	7.42	0.00	13.50	7.19	19.58	0.00
1.42	0.00	7.50	1.80	13.58	0.00	19.67	1.35
1.50	0.90	7.58	0.00	13.67	7.19	19.75	0.00
1.58	0.00	7.67	1.80	13.75	0.00	19.83	1.35
1.67	0.90	7.75	0.00	13.83	7.19	19.92	0.00
1.75	0.00	7.83	1.80	13.92	0.00	20.00	1.35
1.83	0.90	7.92	0.00	14.00	7.19	20.08	0.00
1.92	0.00	8.00	1.80	14.08	0.00	20.17	1.35
2.00	0.90	8.08	0.00	14.17	6.44	20.25	0.00
2.08	0.00	8.17	1.95	14.25	0.00	20.33	1.35
2.17	0.97	8.25	0.00	14.33	5.69	20.42	0.00
2.25	0.00	8.33	2.10	14.42	0.00	20.50	1.35
2.33	1.05	8.42	0.00	14.50	4.94	20.58	0.00
2.42	0.00	8.50	2.25	14.58	0.00	20.67	1.35
2.50	1.12	8.58	0.00	14.67	4.19	20.75	0.00
2.58	0.00	8.67	2.40	14.75	0.00	20.83	1.35
2.67	1.20	8.75	0.00	14.83	3.44	20.92	0.00
2.75	0.00	8.83	2.55	14.92	0.00	21.00	1.35
2.83	1.27	8.92	0.00	15.00	2.70	21.08	0.00
2.92	0.00	9.00	2.70	15.08	0.00	21.17	1.35
3.00	1.35	9.08	0.00	15.17	2.70	21.25	0.00
3.08	0.00	9.17	2.70	15.25	0.00	21.33	1.35
3.17	1.35	9.25	0.00	15.33	2.70	21.42	0.00
3.25	0.00	9.33	2.70	15.42	0.00	21.50	1.35
3.33	1.35	9.42	0.00	15.50	2.70	21.58	0.00
3.42	0.00	9.50	2.70	15.58	0.00	21.67	1.35
3.50	1.35	9.58	0.00	15.67	2.70	21.75	0.00
3.58	0.00	9.67	2.70	15.75	0.00	21.83	1.35
3.67	1.35	9.75	0.00	15.83	2.70	21.92	0.00
3.75	0.00	9.83	2.70	15.92	0.00	22.00	1.35
3.83	1.35	9.92	0.00	16.00	2.70	22.08	0.00
3.92	0.00	10.00	2.70	16.08	0.00	22.17	1.27

```
4.00    1.35 | 10.08    0.00 | 16.17    2.55 | 22.25    0.00
4.08    0.00 | 10.17    5.84 | 16.25    0.00 | 22.33    1.20
4.17    1.35 | 10.25    0.00 | 16.33    2.40 | 22.42    0.00
4.25    0.00 | 10.33    8.99 | 16.42    0.00 | 22.50    1.12
4.33    1.35 | 10.42    0.00 | 16.50    2.25 | 22.58    0.00
4.42    0.00 | 10.50   12.13 | 16.58    0.00 | 22.67    1.05
4.50    1.35 | 10.58    0.00 | 16.67    2.10 | 22.75    0.00
4.58    0.00 | 10.67   15.28 | 16.75    0.00 | 22.83    0.97
4.67    1.35 | 10.75    0.00 | 16.83    1.95 | 22.92    0.00
4.75    0.00 | 10.83   18.42 | 16.92    0.00 | 23.00    0.90
4.83    1.35 | 10.92    0.00 | 17.00    1.80 | 23.08    0.00
4.92    0.00 | 11.00   21.57 | 17.08    0.00 | 23.17    0.90
5.00    1.35 | 11.08    0.00 | 17.17    1.80 | 23.25    0.00
5.08    0.00 | 11.17   21.57 | 17.25    0.00 | 23.33    0.90
5.17    1.35 | 11.25    0.00 | 17.33    1.80 | 23.42    0.00
5.25    0.00 | 11.33   21.57 | 17.42    0.00 | 23.50    0.90
5.33    1.35 | 11.42    0.00 | 17.50    1.80 | 23.58    0.00
5.42    0.00 | 11.50   21.57 | 17.58    0.00 | 23.67    0.90
5.50    1.35 | 11.58    0.00 | 17.67    1.80 | 23.75    0.00
5.58    0.00 | 11.67   21.57 | 17.75    0.00 | 23.83    0.90
5.67    1.35 | 11.75    0.00 | 17.83    1.80 | 23.92    0.00
5.75    0.00 | 11.83   21.57 | 17.92    0.00 | 24.00    0.90
5.83    1.35 | 11.92    0.00 | 18.00    1.80 |
5.92    0.00 | 12.00   21.57 | 18.08    0.00 |
6.00    1.35 | 12.08    0.00 | 18.17    1.72 |
```

```
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=   2.164
     TOTAL RAINFALL   (mm)=  44.743
     RUNOFF COEFFICIENT   =   0.048

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

```
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   1.092

     PEAK FLOW       (cms)=   0.031 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=  10.961
     TOTAL RAINFALL   (mm)=  44.743
     RUNOFF COEFFICIENT   =   0.245

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

```
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.04   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.357

     PEAK FLOW       (cms)=   0.009 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=   9.411
     TOTAL RAINFALL   (mm)=  44.743
     RUNOFF COEFFICIENT   =   0.210

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

```
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.40   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

     Unit Hyd Qpeak  (cms)=   0.138

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=  12.083
     RUNOFF VOLUME    (mm)=   9.411
     TOTAL RAINFALL   (mm)=  44.743
     RUNOFF COEFFICIENT   =   0.210

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

```
--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK      R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 1 (  0001):      3.17   0.031    12.08     10.96
     + ID2= 2 (  0002):      1.04   0.009    12.08      9.41
       ================================================
       ID = 3 (  0006):      4.21   0.039    12.08     10.58

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

```
--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK      R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 3 (  0006):      4.21   0.039    12.08     10.58
     + ID2= 2 (  0003):      0.40   0.003    12.08      9.41
       ================================================
       ID = 1 (  0006):      4.62   0.043    12.08     10.48

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

```
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):   4.62      0.04     12.08    10.48
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00     0.00
     MINOR SYS.(ID= 3):   4.62      0.04     12.08    10.48

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

```
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                           0.0000      0.0004   |    0.2061      0.0090
                           0.0363      0.0008   |    0.2510      0.0135
                           0.0555      0.0027   |    0.2886      0.0201

                               AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)        (mm)
   INFLOW : ID= 2 (  0009)     0.000     0.000      0.00        0.00
   OUTFLOW: ID= 1 (  0008)     0.000     0.000      0.00         NaN

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   NaN
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000
                  MAXIMUM  STORAGE   USED       (cu.m.)=  0.000000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.016 (i)
     TIME TO PEAK    (hrs)=  12.417
     RUNOFF VOLUME    (mm)=   9.577
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TOTAL RAINFALL (mm)= 44.743
RUNOFF COEFFICIENT = 0.214

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

ADD HYD (0007)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0004):	1.70	0.006	12.08	2.16
	+ ID2= 2 (0005):	2.30	0.016	12.42	9.58
	ID = 3 (0007):	4.00	0.021	12.25	6.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0007)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G : HYDROGRAPH 0008 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0001 = HYDROGRAPH 0003					
	ID1= 3 (0007):	4.00	0.021	12.25	6.43
	+ ID2= 2 (0008):	0.00	0.000	0.00	NaN
	ID = 1 (0007):	4.00	0.021	12.25	6.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0010)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)		4.62	0.04	12.08	10.48
OUTFLOW: ID= 2(0010)		4.62	0.04	12.08	10.48

****
** SIMULATION:24) 24HR SCS - 100YR **
****

CHICAGO STORM	IDF curve parameters: A=1697.000
Ptotal=113.60 mm	B= 10.510
	C= 0.808

used in: INTENSITY = A / (t + B)^C

Duration of storm = 24.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.96	6.00	3.36	12.00	2.94	18.00	1.37
0.17	0.97	6.17	3.66	12.17	2.84	18.17	1.35
0.33	0.99	6.33	4.04	12.33	2.75	18.33	1.33
0.50	1.01	6.50	4.51	12.50	2.66	18.50	1.31
0.67	1.03	6.67	5.12	12.67	2.58	18.67	1.30
0.83	1.05	6.83	5.94	12.83	2.51	18.83	1.28
1.00	1.07	7.00	7.11	13.00	2.44	19.00	1.26
1.17	1.09	7.17	8.92	13.17	2.37	19.17	1.25
1.33	1.12	7.33	12.10	13.33	2.31	19.33	1.23
1.50	1.14	7.50	19.08	13.50	2.25	19.50	1.22
1.67	1.17	7.67	45.84	13.67	2.19	19.67	1.20
1.83	1.19	7.83	147.78	13.83	2.14	19.83	1.19
2.00	1.22	8.00	59.56	14.00	2.09	20.00	1.18
2.17	1.25	8.17	32.19	14.17	2.04	20.17	1.16
2.33	1.29	8.33	21.78	14.33	2.00	20.33	1.15
2.50	1.32	8.50	16.42	14.50	1.96	20.50	1.14
2.67	1.36	8.67	13.19	14.67	1.91	20.67	1.12
2.83	1.39	8.83	11.04	14.83	1.88	20.83	1.11
3.00	1.43	9.00	9.51	15.00	1.84	21.00	1.10
3.17	1.48	9.17	8.36	15.17	1.80	21.17	1.09
3.33	1.52	9.33	7.47	15.33	1.77	21.33	1.08
3.50	1.57	9.50	6.77	15.50	1.74	21.50	1.07
3.67	1.63	9.67	6.19	15.67	1.70	21.67	1.06
3.83	1.69	9.83	5.71	15.83	1.67	21.83	1.05
4.00	1.75	10.00	5.30	16.00	1.64	22.00	1.04
4.17	1.82	10.17	4.95	16.17	1.62	22.17	1.03
4.33	1.89	10.33	4.65	16.33	1.59	22.33	1.02
4.50	1.97	10.50	4.38	16.50	1.56	22.50	1.01
4.67	2.06	10.67	4.15	16.67	1.54	22.67	1.00
4.83	2.16	10.83	3.94	16.83	1.51	22.83	0.99
5.00	2.27	11.00	3.75	17.00	1.49	23.00	0.98
5.17	2.40	11.17	3.58	17.17	1.47	23.17	0.97
5.33	2.54	11.33	3.43	17.33	1.45	23.33	0.96
5.50	2.70	11.50	3.29	17.50	1.43	23.50	0.95
5.67	2.89	11.67	3.16	17.67	1.41	23.67	0.94
5.83	3.10	11.83	3.05	17.83	1.39	23.83	0.94

CALIB				
NASHYD (0004)	Area (ha)=	1.70	Curve Number (CN)=	67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.03		

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	0.96	6.083	3.36	12.083	2.94	18.08	1.37
0.167	0.96	6.167	3.36	12.167	2.94	18.17	1.37
0.250	0.97	6.250	3.66	12.250	2.84	18.25	1.35
0.333	0.97	6.333	3.66	12.333	2.84	18.33	1.35
0.417	0.99	6.417	4.04	12.417	2.75	18.42	1.33
0.500	0.99	6.500	4.04	12.500	2.75	18.50	1.33
0.583	1.01	6.583	4.51	12.583	2.66	18.58	1.31
0.667	1.01	6.667	4.51	12.667	2.66	18.67	1.31
0.750	1.03	6.750	5.12	12.750	2.58	18.75	1.30
0.833	1.03	6.833	5.12	12.833	2.58	18.83	1.30
0.917	1.05	6.917	5.94	12.917	2.51	18.92	1.28
1.000	1.05	7.000	5.94	13.000	2.51	19.00	1.28
1.083	1.07	7.083	7.11	13.083	2.44	19.08	1.26
1.167	1.07	7.167	7.11	13.167	2.44	19.17	1.26
1.250	1.09	7.250	8.92	13.250	2.37	19.25	1.25
1.333	1.09	7.333	8.92	13.333	2.37	19.33	1.25
1.417	1.12	7.417	12.10	13.417	2.31	19.42	1.23
1.500	1.12	7.500	12.10	13.500	2.31	19.50	1.23
1.583	1.14	7.583	19.08	13.583	2.25	19.58	1.22
1.667	1.14	7.667	19.08	13.667	2.25	19.67	1.22
1.750	1.17	7.750	45.84	13.750	2.19	19.75	1.20
1.833	1.17	7.833	45.85	13.833	2.19	19.83	1.20
1.917	1.19	7.917	147.78	13.917	2.14	19.92	1.19
2.000	1.19	8.000	147.77	14.000	2.14	20.00	1.19
2.083	1.22	8.083	59.56	14.083	2.09	20.08	1.18
2.167	1.22	8.167	59.56	14.167	2.09	20.17	1.18
2.250	1.25	8.250	32.19	14.250	2.04	20.25	1.16
2.333	1.25	8.333	32.19	14.333	2.04	20.33	1.16
2.417	1.29	8.417	21.78	14.417	2.00	20.42	1.15
2.500	1.29	8.500	21.78	14.500	2.00	20.50	1.15
2.583	1.32	8.583	16.42	14.583	1.96	20.58	1.14
2.667	1.32	8.667	16.42	14.667	1.96	20.67	1.14
2.750	1.36	8.750	13.19	14.750	1.91	20.75	1.12
2.833	1.36	8.833	13.19	14.833	1.91	20.83	1.12
2.917	1.39	8.917	11.04	14.917	1.88	20.92	1.11
3.000	1.39	9.000	11.04	15.000	1.88	21.00	1.11
3.083	1.43	9.083	9.51	15.083	1.84	21.08	1.10
3.167	1.43	9.167	9.51	15.167	1.84	21.17	1.10
3.250	1.48	9.250	8.36	15.250	1.80	21.25	1.09
3.333	1.48	9.333	8.36	15.333	1.80	21.33	1.09
3.417	1.52	9.417	7.47	15.417	1.77	21.42	1.08
3.500	1.52	9.500	7.47	15.500	1.77	21.50	1.08
3.583	1.57	9.583	6.77	15.583	1.74	21.58	1.07
3.667	1.57	9.667	6.77	15.667	1.74	21.67	1.07
3.750	1.63	9.750	6.19	15.750	1.70	21.75	1.06
3.833	1.63	9.833	6.19	15.833	1.70	21.83	1.06
3.917	1.69	9.917	5.71	15.917	1.67	21.92	1.05
4.000	1.69	10.000	5.71	16.000	1.67	22.00	1.05
4.083	1.75	10.083	5.30	16.083	1.64	22.08	1.04
4.167	1.75	10.167	5.30	16.167	1.64	22.17	1.04
4.250	1.82	10.250	4.95	16.250	1.62	22.25	1.03
4.333	1.82	10.333	4.95	16.333	1.62	22.33	1.03
4.417	1.89	10.417	4.65	16.417	1.59	22.42	1.02
4.500	1.89	10.500	4.65	16.500	1.59	22.50	1.02
4.583	1.97	10.583	4.38	16.583	1.56	22.58	1.01
4.667	1.97	10.667	4.38	16.667	1.56	22.67	1.01
4.750	2.06	10.750	4.15	16.750	1.54	22.75	1.00
4.833	2.06	10.833	4.15	16.833	1.54	22.83	1.00
4.917	2.16	10.917	3.94	16.917	1.51	22.92	0.99

5.000	2.16	11.000	3.94	17.000	1.51	23.00	0.99
5.083	2.27	11.083	3.75	17.083	1.49	23.08	0.98
5.167	2.27	11.167	3.75	17.167	1.49	23.17	0.98
5.250	2.40	11.250	3.58	17.250	1.47	23.25	0.97
5.333	2.40	11.333	3.58	17.333	1.47	23.33	0.97
5.417	2.54	11.417	3.43	17.417	1.45	23.42	0.96
5.500	2.54	11.500	3.43	17.500	1.45	23.50	0.96
5.583	2.70	11.583	3.29	17.583	1.43	23.58	0.95
5.667	2.70	11.667	3.29	17.667	1.43	23.67	0.95
5.750	2.89	11.750	3.16	17.750	1.41	23.75	0.94
5.833	2.89	11.833	3.16	17.833	1.41	23.83	0.94
5.917	3.10	11.917	3.05	17.917	1.39	23.92	0.94
6.000	3.10	12.000	3.05	18.000	1.39	24.00	0.94

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.070 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 11.400
TOTAL RAINFALL (mm)= 113.601
RUNOFF COEFFICIENT = 0.100

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

CALIB			
NASHYD (0001)	Area (ha)=	3.17	Curve Number (CN)= 71.4
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	0.96	6.083	3.36	12.083	2.94	18.08	1.37
0.167	0.96	6.167	3.36	12.167	2.94	18.17	1.37
0.250	0.97	6.250	3.66	12.250	2.84	18.25	1.35
0.333	0.97	6.333	3.66	12.333	2.84	18.33	1.35
0.417	0.99	6.417	4.04	12.417	2.75	18.42	1.33
0.500	0.99	6.500	4.04	12.500	2.75	18.50	1.33
0.583	1.01	6.583	4.51	12.583	2.66	18.58	1.31
0.667	1.01	6.667	4.51	12.667	2.66	18.67	1.31
0.750	1.03	6.750	5.12	12.750	2.58	18.75	1.30
0.833	1.03	6.833	5.12	12.833	2.58	18.83	1.30
0.917	1.05	6.917	5.94	12.917	2.51	18.92	1.28
1.000	1.05	7.000	5.94	13.000	2.51	19.00	1.28
1.083	1.07	7.083	7.11	13.083	2.44	19.08	1.26
1.167	1.07	7.167	7.11	13.167	2.44	19.17	1.26
1.250	1.09	7.250	8.92	13.250	2.37	19.25	1.25
1.333	1.09	7.333	8.92	13.333	2.37	19.33	1.25
1.417	1.12	7.417	12.10	13.417	2.31	19.42	1.23
1.500	1.12	7.500	12.10	13.500	2.31	19.50	1.23
1.583	1.14	7.583	19.08	13.583	2.25	19.58	1.22
1.667	1.14	7.667	19.08	13.667	2.25	19.67	1.22
1.750	1.17	7.750	45.84	13.750	2.19	19.75	1.20
1.833	1.17	7.833	45.85	13.833	2.19	19.83	1.20
1.917	1.19	7.917	147.78	13.917	2.14	19.92	1.19
2.000	1.19	8.000	147.77	14.000	2.14	20.00	1.19
2.083	1.22	8.083	59.56	14.083	2.09	20.08	1.18
2.167	1.22	8.167	59.56	14.167	2.09	20.17	1.18
2.250	1.25	8.250	32.19	14.250	2.04	20.25	1.16
2.333	1.25	8.333	32.19	14.333	2.04	20.33	1.16
2.417	1.29	8.417	21.78	14.417	2.00	20.42	1.15
2.500	1.29	8.500	21.78	14.500	2.00	20.50	1.15
2.583	1.32	8.583	16.42	14.583	1.96	20.58	1.14
2.667	1.32	8.667	16.42	14.667	1.96	20.67	1.14
2.750	1.36	8.750	13.19	14.750	1.91	20.75	1.12
2.833	1.36	8.833	13.19	14.833	1.91	20.83	1.12
2.917	1.39	8.917	11.04	14.917	1.88	20.92	1.11
3.000	1.39	9.000	11.04	15.000	1.88	21.00	1.11
3.083	1.43	9.083	9.51	15.083	1.84	21.08	1.10
3.167	1.43	9.167	9.51	15.167	1.84	21.17	1.10
3.250	1.48	9.250	8.36	15.250	1.80	21.25	1.09
3.333	1.48	9.333	8.36	15.333	1.80	21.33	1.09
3.417	1.52	9.417	7.47	15.417	1.77	21.42	1.08
3.500	1.52	9.500	7.47	15.500	1.77	21.50	1.08
3.583	1.57	9.583	6.77	15.583	1.74	21.58	1.07
3.667	1.57	9.667	6.77	15.667	1.74	21.67	1.07
3.750	1.63	9.750	6.19	15.750	1.70	21.75	1.06
3.833	1.63	9.833	6.19	15.833	1.70	21.83	1.06
3.917	1.69	9.917	5.71	15.917	1.67	21.92	1.05
4.000	1.69	10.000	5.71	16.000	1.67	22.00	1.05
4.083	1.75	10.083	5.30	16.083	1.64	22.08	1.04
4.167	1.75	10.167	5.30	16.167	1.64	22.17	1.04
4.250	1.82	10.250	4.95	16.250	1.62	22.25	1.03
4.333	1.82	10.333	4.95	16.333	1.62	22.33	1.03
4.417	1.89	10.417	4.65	16.417	1.59	22.42	1.02
4.500	1.89	10.500	4.65	16.500	1.59	22.50	1.02
4.583	1.97	10.583	4.38	16.583	1.56	22.58	1.01
4.667	1.97	10.667	4.38	16.667	1.56	22.67	1.01
4.750	2.06	10.750	4.15	16.750	1.54	22.75	1.00
4.833	2.06	10.833	4.15	16.833	1.54	22.83	1.00
4.917	2.16	10.917	3.94	16.917	1.51	22.92	0.99
5.000	2.16	11.000	3.94	17.000	1.51	23.00	0.99
5.083	2.27	11.083	3.75	17.083	1.49	23.08	0.98
5.167	2.27	11.167	3.75	17.167	1.49	23.17	0.98
5.250	2.40	11.250	3.58	17.250	1.47	23.25	0.97
5.333	2.40	11.333	3.58	17.333	1.47	23.33	0.97
5.417	2.54	11.417	3.43	17.417	1.45	23.42	0.96
5.500	2.54	11.500	3.43	17.500	1.45	23.50	0.96
5.583	2.70	11.583	3.29	17.583	1.43	23.58	0.95
5.667	2.70	11.667	3.29	17.667	1.43	23.67	0.95
5.750	2.89	11.750	3.16	17.750	1.41	23.75	0.94
5.833	2.89	11.833	3.16	17.833	1.41	23.83	0.94
5.917	3.10	11.917	3.05	17.917	1.39	23.92	0.94
6.000	3.10	12.000	3.05	18.000	1.39	24.00	0.94

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.458 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 55.060
TOTAL RAINFALL (mm)= 113.601
RUNOFF COEFFICIENT = 0.485

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

CALIB			
NASHYD (0002)	Area (ha)=	1.04	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	0.96	6.083	3.36	12.083	2.94	18.08	1.37
0.167	0.96	6.167	3.36	12.167	2.94	18.17	1.37
0.250	0.97	6.250	3.66	12.250	2.84	18.25	1.35
0.333	0.97	6.333	3.66	12.333	2.84	18.33	1.35
0.417	0.99	6.417	4.04	12.417	2.75	18.42	1.33
0.500	0.99	6.500	4.04	12.500	2.75	18.50	1.33
0.583	1.01	6.583	4.51	12.583	2.66	18.58	1.31
0.667	1.01	6.667	4.51	12.667	2.66	18.67	1.31
0.750	1.03	6.750	5.12	12.750	2.58	18.75	1.30
0.833	1.03	6.833	5.12	12.833	2.58	18.83	1.30
0.917	1.05	6.917	5.94	12.917	2.51	18.92	1.28
1.000	1.05	7.000	5.94	13.000	2.51	19.00	1.28
1.083	1.07	7.083	7.11	13.083	2.44	19.08	1.26
1.167	1.07	7.167	7.11	13.167	2.44	19.17	1.26
1.250	1.09	7.250	8.92	13.250	2.37	19.25	1.25
1.333	1.09	7.333	8.92	13.333	2.37	19.33	1.25
1.417	1.12	7.417	12.10	13.417	2.31	19.42	1.23
1.500	1.12	7.500	12.10	13.500	2.31	19.50	1.23
1.583	1.14	7.583	19.08	13.583	2.25	19.58	1.22
1.667	1.14	7.667	19.08	13.667	2.25	19.67	1.22
1.750	1.17	7.750	45.84	13.750	2.19	19.75	1.20
1.833	1.17	7.833	45.85	13.833	2.19	19.83	1.20
1.917	1.19	7.917	147.78	13.917	2.14	19.92	1.19
2.000	1.19	8.000	147.77	14.000	2.14	20.00	1.19
2.083	1.22	8.083	59.56	14.083	2.09	20.08	1.18
2.167	1.22	8.167	59.56	14.167	2.09	20.17	1.18
2.250	1.25	8.250	32.19	14.250	2.04	20.25	1.16
2.333	1.25	8.333	32.19	14.333	2.04	20.33	1.16
2.417	1.29	8.417	21.78	14.417	2.00	20.42	1.15
2.500	1.29	8.500	21.78	14.500	2.00	20.50	1.15
2.583	1.32	8.583	16.42	14.583	1.96	20.58	1.14
2.667	1.32	8.667	16.42	14.667	1.96	20.67	1.14
2.750	1.36	8.750	13.19	14.750	1.91	20.75	1.12
2.833	1.36	8.833	13.19	14.833	1.91	20.83	1.12
2.917	1.39	8.917	11.04	14.917	1.88	20.92	1.11

3.000	1.39	9.000	11.04	15.000	1.88	21.00	1.11
3.083	1.43	9.083	9.51	15.083	1.84	21.08	1.10
3.167	1.43	9.167	9.51	15.167	1.84	21.17	1.10
3.250	1.48	9.250	8.36	15.250	1.80	21.25	1.09
3.333	1.48	9.333	8.36	15.333	1.80	21.33	1.09
3.417	1.52	9.417	7.47	15.417	1.77	21.42	1.08
3.500	1.52	9.500	7.47	15.500	1.77	21.50	1.08
3.583	1.57	9.583	6.77	15.583	1.74	21.58	1.07
3.667	1.57	9.667	6.77	15.667	1.74	21.67	1.07
3.750	1.63	9.750	6.19	15.750	1.70	21.75	1.06
3.833	1.63	9.833	6.19	15.833	1.70	21.83	1.06
3.917	1.69	9.917	5.71	15.917	1.67	21.92	1.05
4.000	1.69	10.000	5.71	16.000	1.67	22.00	1.05
4.083	1.75	10.083	5.30	16.083	1.64	22.08	1.04
4.167	1.75	10.167	5.30	16.167	1.64	22.17	1.04
4.250	1.82	10.250	4.95	16.250	1.62	22.25	1.03
4.333	1.82	10.333	4.95	16.333	1.62	22.33	1.03
4.417	1.89	10.417	4.65	16.417	1.59	22.42	1.02
4.500	1.89	10.500	4.65	16.500	1.59	22.50	1.02
4.583	1.97	10.583	4.38	16.583	1.56	22.58	1.01
4.667	1.97	10.667	4.38	16.667	1.56	22.67	1.01
4.750	2.06	10.750	4.15	16.750	1.54	22.75	1.00
4.833	2.06	10.833	4.15	16.833	1.54	22.83	1.00
4.917	2.16	10.917	3.94	16.917	1.51	22.92	0.99
5.000	2.16	11.000	3.94	17.000	1.51	23.00	0.99
5.083	2.27	11.083	3.75	17.083	1.49	23.08	0.98
5.167	2.27	11.167	3.75	17.167	1.49	23.17	0.98
5.250	2.40	11.250	3.58	17.250	1.47	23.25	0.97
5.333	2.40	11.333	3.58	17.333	1.47	23.33	0.97
5.417	2.54	11.417	3.43	17.417	1.45	23.42	0.96
5.500	2.54	11.500	3.43	17.500	1.45	23.50	0.96
5.583	2.70	11.583	3.29	17.583	1.43	23.58	0.95
5.667	2.70	11.667	3.29	17.667	1.43	23.67	0.95
5.750	2.89	11.750	3.16	17.750	1.41	23.75	0.94
5.833	2.89	11.833	3.16	17.833	1.41	23.83	0.94
5.917	3.10	11.917	3.05	17.917	1.39	23.92	0.94
6.000	3.10	12.000	3.05	18.000	1.39	24.00	0.94

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.131 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 49.571
TOTAL RAINFALL (mm)= 113.601
RUNOFF COEFFICIENT = 0.436

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

CALIB					
NASHYD (0003)	Area (ha)=	0.40	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	0.96	6.083	3.36	12.083	2.94	18.08	1.37
0.167	0.96	6.167	3.36	12.167	2.94	18.17	1.37
0.250	0.97	6.250	3.66	12.250	2.84	18.25	1.35
0.333	0.97	6.333	3.66	12.333	2.84	18.33	1.35
0.417	0.99	6.417	4.04	12.417	2.75	18.42	1.33
0.500	0.99	6.500	4.04	12.500	2.75	18.50	1.33
0.583	1.01	6.583	4.51	12.583	2.66	18.58	1.31
0.667	1.01	6.667	4.51	12.667	2.66	18.67	1.31
0.750	1.03	6.750	5.12	12.750	2.58	18.75	1.30
0.833	1.03	6.833	5.12	12.833	2.58	18.83	1.30
0.917	1.05	6.917	5.94	12.917	2.51	18.92	1.28
1.000	1.05	7.000	5.94	13.000	2.51	19.00	1.28
1.083	1.07	7.083	7.11	13.083	2.44	19.08	1.26
1.167	1.07	7.167	7.11	13.167	2.44	19.17	1.26
1.250	1.09	7.250	8.92	13.250	2.37	19.25	1.25
1.333	1.09	7.333	8.92	13.333	2.37	19.33	1.25
1.417	1.12	7.417	12.10	13.417	2.31	19.42	1.23
1.500	1.12	7.500	12.10	13.500	2.31	19.50	1.23
1.583	1.14	7.583	19.08	13.583	2.25	19.58	1.22
1.667	1.14	7.667	19.08	13.667	2.25	19.67	1.22
1.750	1.17	7.750	45.84	13.750	2.19	19.75	1.20
1.833	1.17	7.833	45.85	13.833	2.19	19.83	1.20
1.917	1.19	7.917	147.78	13.917	2.14	19.92	1.19
2.000	1.19	8.000	147.77	14.000	2.14	20.00	1.19
2.083	1.22	8.083	59.56	14.083	2.09	20.08	1.18
2.167	1.22	8.167	59.56	14.167	2.09	20.17	1.18
2.250	1.25	8.250	32.19	14.250	2.04	20.25	1.16
2.333	1.25	8.333	32.19	14.333	2.04	20.33	1.16
2.417	1.29	8.417	21.78	14.417	2.00	20.42	1.15
2.500	1.29	8.500	21.78	14.500	2.00	20.50	1.15
2.583	1.32	8.583	16.42	14.583	1.96	20.58	1.14
2.667	1.32	8.667	16.42	14.667	1.96	20.67	1.14
2.750	1.36	8.750	13.19	14.750	1.91	20.75	1.12
2.833	1.36	8.833	13.19	14.833	1.91	20.83	1.12
2.917	1.39	8.917	11.04	14.917	1.88	20.92	1.11
3.000	1.39	9.000	11.04	15.000	1.88	21.00	1.11
3.083	1.43	9.083	9.51	15.083	1.84	21.08	1.10
3.167	1.43	9.167	9.51	15.167	1.84	21.17	1.10
3.250	1.48	9.250	8.36	15.250	1.80	21.25	1.09
3.333	1.48	9.333	8.36	15.333	1.80	21.33	1.09
3.417	1.52	9.417	7.47	15.417	1.77	21.42	1.08
3.500	1.52	9.500	7.47	15.500	1.77	21.50	1.08
3.583	1.57	9.583	6.77	15.583	1.74	21.58	1.07
3.667	1.57	9.667	6.77	15.667	1.74	21.67	1.07
3.750	1.63	9.750	6.19	15.750	1.70	21.75	1.06
3.833	1.63	9.833	6.19	15.833	1.70	21.83	1.06
3.917	1.69	9.917	5.71	15.917	1.67	21.92	1.05
4.000	1.69	10.000	5.71	16.000	1.67	22.00	1.05
4.083	1.75	10.083	5.30	16.083	1.64	22.08	1.04
4.167	1.75	10.167	5.30	16.167	1.64	22.17	1.04
4.250	1.82	10.250	4.95	16.250	1.62	22.25	1.03
4.333	1.82	10.333	4.95	16.333	1.62	22.33	1.03
4.417	1.89	10.417	4.65	16.417	1.59	22.42	1.02
4.500	1.89	10.500	4.65	16.500	1.59	22.50	1.02
4.583	1.97	10.583	4.38	16.583	1.56	22.58	1.01
4.667	1.97	10.667	4.38	16.667	1.56	22.67	1.01
4.750	2.06	10.750	4.15	16.750	1.54	22.75	1.00
4.833	2.06	10.833	4.15	16.833	1.54	22.83	1.00
4.917	2.16	10.917	3.94	16.917	1.51	22.92	0.99
5.000	2.16	11.000	3.94	17.000	1.51	23.00	0.99
5.083	2.27	11.083	3.75	17.083	1.49	23.08	0.98
5.167	2.27	11.167	3.75	17.167	1.49	23.17	0.98
5.250	2.40	11.250	3.58	17.250	1.47	23.25	0.97
5.333	2.40	11.333	3.58	17.333	1.47	23.33	0.97
5.417	2.54	11.417	3.43	17.417	1.45	23.42	0.96
5.500	2.54	11.500	3.43	17.500	1.45	23.50	0.96
5.583	2.70	11.583	3.29	17.583	1.43	23.58	0.95
5.667	2.70	11.667	3.29	17.667	1.43	23.67	0.95
5.750	2.89	11.750	3.16	17.750	1.41	23.75	0.94
5.833	2.89	11.833	3.16	17.833	1.41	23.83	0.94
5.917	3.10	11.917	3.05	17.917	1.39	23.92	0.94
6.000	3.10	12.000	3.05	18.000	1.39	24.00	0.94

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.051 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 49.570
TOTAL RAINFALL (mm)= 113.601
RUNOFF COEFFICIENT = 0.436

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

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	3.17	0.458	8.00	55.06
	+ ID2= 2 (0002):	1.04	0.131	8.00	49.57
	ID = 3 (0006):	4.21	0.590	8.00	53.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0006):	4.21	0.590	8.00	53.71
	+ ID2= 2 (0003):	0.40	0.051	8.00	49.57
	ID = 1 (0006):	4.62	0.640	8.00	53.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   4.62      0.64      8.00   53.35
     ==================================================
     MAJOR SYS.(ID= 2):   1.27      0.51      8.00   53.35
     MINOR SYS.(ID= 3):   3.35      0.13      7.83   53.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                           0.0000      0.0004   |    0.2061      0.0090
                           0.0363      0.0008   |    0.2510      0.0135
                           0.0555      0.0027   |    0.2886      0.0201
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)     1.266     0.508      8.00      53.35
   OUTFLOW: ID= 1 (  0008)     1.266     0.301      8.25      53.06

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 59.11
                  TIME SHIFT OF PEAK FLOW          (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0229

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| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

        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    0.96 | 6.083    3.36 |12.083    2.94 | 18.08    1.37
 0.167    0.96 | 6.167    3.36 |12.167    2.94 | 18.17    1.37
 0.250    0.97 | 6.250    3.66 |12.250    2.84 | 18.25    1.35
 0.333    0.97 | 6.333    3.66 |12.333    2.84 | 18.33    1.35
 0.417    0.99 | 6.417    4.04 |12.417    2.75 | 18.42    1.33
 0.500    0.99 | 6.500    4.04 |12.500    2.75 | 18.50    1.33
 0.583    1.01 | 6.583    4.51 |12.583    2.66 | 18.58    1.31
 0.667    1.01 | 6.667    4.51 |12.667    2.66 | 18.67    1.31
 0.750    1.03 | 6.750    5.12 |12.750    2.58 | 18.75    1.30
 0.833    1.03 | 6.833    5.12 |12.833    2.58 | 18.83    1.30
 0.917    1.05 | 6.917    5.94 |12.917    2.51 | 18.92    1.28
 1.000    1.05 | 7.000    5.94 |13.000    2.51 | 19.00    1.28
 1.083    1.07 | 7.083    7.11 |13.083    2.44 | 19.08    1.26
 1.167    1.07 | 7.167    7.11 |13.167    2.44 | 19.17    1.26
 1.250    1.09 | 7.250    8.92 |13.250    2.37 | 19.25    1.25
 1.333    1.09 | 7.333    8.92 |13.333    2.37 | 19.33    1.25
 1.417    1.12 | 7.417   12.10 |13.417    2.31 | 19.42    1.23
 1.500    1.12 | 7.500   12.10 |13.500    2.31 | 19.50    1.23
 1.583    1.14 | 7.583   19.08 |13.583    2.25 | 19.58    1.22
 1.667    1.14 | 7.667   19.08 |13.667    2.25 | 19.67    1.22
 1.750    1.17 | 7.750   45.84 |13.750    2.19 | 19.75    1.20
 1.833    1.17 | 7.833   45.85 |13.833    2.19 | 19.83    1.20
 1.917    1.19 | 7.917  147.78 |13.917    2.14 | 19.92    1.19
 2.000    1.19 | 8.000  147.77 |14.000    2.14 | 20.00    1.19
 2.083    1.22 | 8.083   59.56 |14.083    2.09 | 20.08    1.18
 2.167    1.22 | 8.167   59.56 |14.167    2.09 | 20.17    1.18
 2.250    1.25 | 8.250   32.19 |14.250    2.04 | 20.25    1.16
 2.333    1.25 | 8.333   32.19 |14.333    2.04 | 20.33    1.16
 2.417    1.29 | 8.417   21.78 |14.417    2.00 | 20.42    1.15
 2.500    1.29 | 8.500   21.78 |14.500    2.00 | 20.50    1.15
 2.583    1.32 | 8.583   16.42 |14.583    1.96 | 20.58    1.14
 2.667    1.32 | 8.667   16.42 |14.667    1.96 | 20.67    1.14
 2.750    1.36 | 8.750   13.19 |14.750    1.91 | 20.75    1.12
 2.833    1.36 | 8.833   13.19 |14.833    1.91 | 20.83    1.12
 2.917    1.39 | 8.917   11.04 |14.917    1.88 | 20.92    1.11
 3.000    1.39 | 9.000   11.04 |15.000    1.88 | 21.00    1.11
 3.083    1.43 | 9.083    9.51 |15.083    1.84 | 21.08    1.10
 3.167    1.43 | 9.167    9.51 |15.167    1.84 | 21.17    1.10
 3.250    1.48 | 9.250    8.36 |15.250    1.80 | 21.25    1.09
 3.333    1.48 | 9.333    8.36 |15.333    1.80 | 21.33    1.09
 3.417    1.52 | 9.417    7.47 |15.417    1.77 | 21.42    1.08
 3.500    1.52 | 9.500    7.47 |15.500    1.77 | 21.50    1.08
 3.583    1.57 | 9.583    6.77 |15.583    1.74 | 21.58    1.07
 3.667    1.57 | 9.667    6.77 |15.667    1.74 | 21.67    1.07
 3.750    1.63 | 9.750    6.19 |15.750    1.70 | 21.75    1.06
 3.833    1.63 | 9.833    6.19 |15.833    1.70 | 21.83    1.06
 3.917    1.69 | 9.917    5.71 |15.917    1.67 | 21.92    1.05
 4.000    1.69 |10.000    5.71 |16.000    1.67 | 22.00    1.05
 4.083    1.75 |10.083    5.30 |16.083    1.64 | 22.08    1.04
 4.167    1.75 |10.167    5.30 |16.167    1.64 | 22.17    1.04
 4.250    1.82 |10.250    4.95 |16.250    1.62 | 22.25    1.03
 4.333    1.82 |10.333    4.95 |16.333    1.62 | 22.33    1.03
 4.417    1.89 |10.417    4.65 |16.417    1.59 | 22.42    1.02
 4.500    1.89 |10.500    4.65 |16.500    1.59 | 22.50    1.02
 4.583    1.97 |10.583    4.38 |16.583    1.56 | 22.58    1.01
 4.667    1.97 |10.667    4.38 |16.667    1.56 | 22.67    1.01
 4.750    2.06 |10.750    4.15 |16.750    1.54 | 22.75    1.00
 4.833    2.06 |10.833    4.15 |16.833    1.54 | 22.83    1.00
 4.917    2.16 |10.917    3.94 |16.917    1.51 | 22.92    0.99
 5.000    2.16 |11.000    3.94 |17.000    1.51 | 23.00    0.99
 5.083    2.27 |11.083    3.75 |17.083    1.49 | 23.08    0.98
 5.167    2.27 |11.167    3.75 |17.167    1.49 | 23.17    0.98
 5.250    2.40 |11.250    3.58 |17.250    1.47 | 23.25    0.97
 5.333    2.40 |11.333    3.58 |17.333    1.47 | 23.33    0.97
 5.417    2.54 |11.417    3.43 |17.417    1.45 | 23.42    0.96
 5.500    2.54 |11.500    3.43 |17.500    1.45 | 23.50    0.96
 5.583    2.70 |11.583    3.29 |17.583    1.43 | 23.58    0.95
 5.667    2.70 |11.667    3.29 |17.667    1.43 | 23.67    0.95
 5.750    2.89 |11.750    3.16 |17.750    1.41 | 23.75    0.94
 5.833    2.89 |11.833    3.16 |17.833    1.41 | 23.83    0.94
 5.917    3.10 |11.917    3.05 |17.917    1.39 | 23.92    0.94
 6.000    3.10 |12.000    3.05 |18.000    1.39 | 24.00    0.94

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.190 (i)
     TIME TO PEAK    (hrs)=   8.250
     RUNOFF VOLUME    (mm)=  50.441
     TOTAL RAINFALL   (mm)= 113.601
     RUNOFF COEFFICIENT   =   0.444

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

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--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.070     8.00    11.40
     + ID2= 2 (  0005):     2.30   0.190     8.25    50.44
       ================================================
       ID = 3 (  0007):     4.00   0.210     8.17    33.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0007):     4.00   0.210     8.17    33.87
     + ID2= 2 (  0008):     1.27   0.301     8.25    53.06
       ================================================
       ID = 1 (  0007):     5.26   0.509     8.25    38.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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  --------------------------
  | Junction Command(0010) |
  --------------------------

                             AREA     QPEAK    TPEAK     R.V.
                             (ha)     (cms)    (hrs)     (mm)
  INFLOW : ID= 9(  0009)     3.35      0.13     7.83    53.35
  OUTFLOW: ID= 2(  0010)     3.35      0.13     7.83    53.35

  --------------------------------------------------------------------------------
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** SIMULATION:25) 100YR MODIFIED 12HR CHICAGO **
****

READ STORM	Filename: C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\14373f89
Ptotal= 99.42 mm	Comments: 100YR MODIFIED 12HR CHICAGO

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	1.20	3.00	6.42	6.00	4.49	9.00	1.77
0.17	1.25	3.17	8.45	6.17	4.13	9.17	1.71
0.33	1.31	3.33	12.18	6.33	3.83	9.33	1.66
0.50	1.38	3.50	20.78	6.50	3.56	9.50	1.61
0.67	1.45	3.67	53.97	6.67	3.33	9.67	1.56
0.83	1.54	3.83	163.47	6.83	3.13	9.83	1.52
1.00	1.63	4.00	70.71	7.00	2.95	10.00	1.48
1.17	1.73	4.17	37.30	7.17	2.80	10.17	1.44
1.33	1.86	4.33	24.16	7.33	2.65	10.33	1.40
1.50	2.00	4.50	17.45	7.50	2.53	10.50	1.36
1.67	2.16	4.67	13.49	7.67	2.41	10.67	1.33
1.83	2.35	4.83	10.91	7.83	2.30	10.83	1.30
2.00	2.59	5.00	9.12	8.00	2.21	11.00	1.27
2.17	2.87	5.17	7.81	8.17	2.12	11.17	1.24
2.33	3.23	5.33	6.81	8.33	2.04	11.33	1.21
2.50	3.69	5.50	6.04	8.50	1.96	11.50	1.19
2.67	4.30	5.67	5.42	8.67	1.89	11.67	1.16
2.83	5.15	5.83	4.91	8.83	1.83	11.83	1.14

CALIB					
NASHYD (0004)	Area	(ha)=	1.70	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.03		

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	1.20	3.083	6.42	6.083	4.49	9.08	1.77
0.167	1.20	3.167	6.42	6.167	4.49	9.17	1.77
0.250	1.25	3.250	8.45	6.250	4.13	9.25	1.71
0.333	1.25	3.333	8.45	6.333	4.13	9.33	1.71
0.417	1.31	3.417	12.18	6.417	3.83	9.42	1.66
0.500	1.31	3.500	12.18	6.500	3.83	9.50	1.66
0.583	1.38	3.583	20.78	6.583	3.56	9.58	1.61
0.667	1.38	3.667	20.78	6.667	3.56	9.67	1.61
0.750	1.45	3.750	53.97	6.750	3.33	9.75	1.56
0.833	1.45	3.833	53.97	6.833	3.33	9.83	1.56
0.917	1.54	3.917	163.46	6.917	3.13	9.92	1.52
1.000	1.54	4.000	163.47	7.000	3.13	10.00	1.52
1.083	1.63	4.083	70.72	7.083	2.95	10.08	1.48
1.167	1.63	4.167	70.71	7.167	2.95	10.17	1.48
1.250	1.73	4.250	37.30	7.250	2.80	10.25	1.44
1.333	1.73	4.333	37.30	7.333	2.80	10.33	1.44
1.417	1.86	4.417	24.16	7.417	2.65	10.42	1.40
1.500	1.86	4.500	24.16	7.500	2.65	10.50	1.40
1.583	2.00	4.583	17.45	7.583	2.53	10.58	1.36
1.667	2.00	4.667	17.45	7.667	2.53	10.67	1.36
1.750	2.16	4.750	13.49	7.750	2.41	10.75	1.33
1.833	2.16	4.833	13.49	7.833	2.41	10.83	1.33
1.917	2.35	4.917	10.91	7.917	2.30	10.92	1.30
2.000	2.35	5.000	10.91	8.000	2.30	11.00	1.30
2.083	2.59	5.083	9.12	8.083	2.21	11.08	1.27
2.167	2.59	5.167	9.12	8.167	2.21	11.17	1.27
2.250	2.87	5.250	7.81	8.250	2.12	11.25	1.24
2.333	2.87	5.333	7.81	8.333	2.12	11.33	1.24
2.417	3.23	5.417	6.81	8.417	2.04	11.42	1.21
2.500	3.23	5.500	6.81	8.500	2.04	11.50	1.21
2.583	3.69	5.583	6.04	8.583	1.96	11.58	1.19
2.667	3.69	5.667	6.04	8.667	1.96	11.67	1.19
2.750	4.30	5.750	5.42	8.750	1.89	11.75	1.16
2.833	4.30	5.833	5.42	8.833	1.89	11.83	1.16
2.917	5.15	5.917	4.91	8.917	1.83	11.92	1.14
3.000	5.15	6.000	4.91	9.000	1.83	12.00	1.14

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.073 (i)

TIME TO PEAK (hrs)= 4.000
RUNOFF VOLUME (mm)= 9.175
TOTAL RAINFALL (mm)= 99.424
RUNOFF COEFFICIENT = 0.092

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

CALIB					
NASHYD (0001)	Area	(ha)=	3.17	Curve Number	(CN)= 71.4
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.11		

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	1.20	3.083	6.42	6.083	4.49	9.08	1.77
0.167	1.20	3.167	6.42	6.167	4.49	9.17	1.77
0.250	1.25	3.250	8.45	6.250	4.13	9.25	1.71
0.333	1.25	3.333	8.45	6.333	4.13	9.33	1.71
0.417	1.31	3.417	12.18	6.417	3.83	9.42	1.66
0.500	1.31	3.500	12.18	6.500	3.83	9.50	1.66
0.583	1.38	3.583	20.78	6.583	3.56	9.58	1.61
0.667	1.38	3.667	20.78	6.667	3.56	9.67	1.61
0.750	1.45	3.750	53.97	6.750	3.33	9.75	1.56
0.833	1.45	3.833	53.97	6.833	3.33	9.83	1.56
0.917	1.54	3.917	163.46	6.917	3.13	9.92	1.52
1.000	1.54	4.000	163.47	7.000	3.13	10.00	1.52
1.083	1.63	4.083	70.72	7.083	2.95	10.08	1.48
1.167	1.63	4.167	70.71	7.167	2.95	10.17	1.48
1.250	1.73	4.250	37.30	7.250	2.80	10.25	1.44
1.333	1.73	4.333	37.30	7.333	2.80	10.33	1.44
1.417	1.86	4.417	24.16	7.417	2.65	10.42	1.40
1.500	1.86	4.500	24.16	7.500	2.65	10.50	1.40
1.583	2.00	4.583	17.45	7.583	2.53	10.58	1.36
1.667	2.00	4.667	17.45	7.667	2.53	10.67	1.36
1.750	2.16	4.750	13.49	7.750	2.41	10.75	1.33
1.833	2.16	4.833	13.49	7.833	2.41	10.83	1.33
1.917	2.35	4.917	10.91	7.917	2.30	10.92	1.30
2.000	2.35	5.000	10.91	8.000	2.30	11.00	1.30
2.083	2.59	5.083	9.12	8.083	2.21	11.08	1.27
2.167	2.59	5.167	9.12	8.167	2.21	11.17	1.27
2.250	2.87	5.250	7.81	8.250	2.12	11.25	1.24
2.333	2.87	5.333	7.81	8.333	2.12	11.33	1.24
2.417	3.23	5.417	6.81	8.417	2.04	11.42	1.21
2.500	3.23	5.500	6.81	8.500	2.04	11.50	1.21
2.583	3.69	5.583	6.04	8.583	1.96	11.58	1.19
2.667	3.69	5.667	6.04	8.667	1.96	11.67	1.19
2.750	4.30	5.750	5.42	8.750	1.89	11.75	1.16
2.833	4.30	5.833	5.42	8.833	1.89	11.83	1.16
2.917	5.15	5.917	4.91	8.917	1.83	11.92	1.14
3.000	5.15	6.000	4.91	9.000	1.83	12.00	1.14

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.463 (i)
TIME TO PEAK (hrs)= 4.000
RUNOFF VOLUME (mm)= 44.630
TOTAL RAINFALL (mm)= 99.424
RUNOFF COEFFICIENT = 0.449

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

CALIB					
NASHYD (0002)	Area	(ha)=	1.04	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.11		

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	1.20	3.083	6.42	6.083	4.49	9.08	1.77
0.167	1.20	3.167	6.42	6.167	4.49	9.17	1.77
0.250	1.25	3.250	8.45	6.250	4.13	9.25	1.71
0.333	1.25	3.333	8.45	6.333	4.13	9.33	1.71

0.417	1.31	3.417	12.18	6.417	3.83	9.42	1.66
0.500	1.31	3.500	12.18	6.500	3.83	9.50	1.66
0.583	1.38	3.583	20.78	6.583	3.56	9.58	1.61
0.667	1.38	3.667	20.78	6.667	3.56	9.67	1.61
0.750	1.45	3.750	53.97	6.750	3.33	9.75	1.56
0.833	1.45	3.833	53.97	6.833	3.33	9.83	1.56
0.917	1.54	3.917	163.46	6.917	3.13	9.92	1.52
1.000	1.54	4.000	163.47	7.000	3.13	10.00	1.52
1.083	1.63	4.083	70.72	7.083	2.95	10.08	1.48
1.167	1.63	4.167	70.71	7.167	2.95	10.17	1.48
1.250	1.73	4.250	37.30	7.250	2.80	10.25	1.44
1.333	1.73	4.333	37.30	7.333	2.80	10.33	1.44
1.417	1.86	4.417	24.16	7.417	2.65	10.42	1.40
1.500	1.86	4.500	24.16	7.500	2.65	10.50	1.40
1.583	2.00	4.583	17.45	7.583	2.53	10.58	1.36
1.667	2.00	4.667	17.45	7.667	2.53	10.67	1.36
1.750	2.16	4.750	13.49	7.750	2.41	10.75	1.33
1.833	2.16	4.833	13.49	7.833	2.41	10.83	1.33
1.917	2.35	4.917	10.91	7.917	2.30	10.92	1.30
2.000	2.35	5.000	10.91	8.000	2.30	11.00	1.30
2.083	2.59	5.083	9.12	8.083	2.21	11.08	1.27
2.167	2.59	5.167	9.12	8.167	2.21	11.17	1.27
2.250	2.87	5.250	7.81	8.250	2.12	11.25	1.24
2.333	2.87	5.333	7.81	8.333	2.12	11.33	1.24
2.417	3.23	5.417	6.81	8.417	2.04	11.42	1.21
2.500	3.23	5.500	6.81	8.500	2.04	11.50	1.21
2.583	3.69	5.583	6.04	8.583	1.96	11.58	1.19
2.667	3.69	5.667	6.04	8.667	1.96	11.67	1.19
2.750	4.30	5.750	5.42	8.750	1.89	11.75	1.16
2.833	4.30	5.833	5.42	8.833	1.89	11.83	1.16
2.917	5.15	5.917	4.91	8.917	1.83	11.92	1.14
3.000	5.15	6.000	4.91	9.000	1.83	12.00	1.14

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.132 (i)
TIME TO PEAK (hrs)= 4.000
RUNOFF VOLUME (mm)= 39.893
TOTAL RAINFALL (mm)= 99.424
RUNOFF COEFFICIENT = 0.401

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

CALIB					
NASHYD (0003)	Area (ha)=	0.40	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	1.20	3.083	6.42	6.083	4.49	9.08	1.77
0.167	1.20	3.167	6.42	6.167	4.49	9.17	1.77
0.250	1.25	3.250	8.45	6.250	4.13	9.25	1.71
0.333	1.25	3.333	8.45	6.333	4.13	9.33	1.71
0.417	1.31	3.417	12.18	6.417	3.83	9.42	1.66
0.500	1.31	3.500	12.18	6.500	3.83	9.50	1.66
0.583	1.38	3.583	20.78	6.583	3.56	9.58	1.61
0.667	1.38	3.667	20.78	6.667	3.56	9.67	1.61
0.750	1.45	3.750	53.97	6.750	3.33	9.75	1.56
0.833	1.45	3.833	53.97	6.833	3.33	9.83	1.56
0.917	1.54	3.917	163.46	6.917	3.13	9.92	1.52
1.000	1.54	4.000	163.47	7.000	3.13	10.00	1.52
1.083	1.63	4.083	70.72	7.083	2.95	10.08	1.48
1.167	1.63	4.167	70.71	7.167	2.95	10.17	1.48
1.250	1.73	4.250	37.30	7.250	2.80	10.25	1.44
1.333	1.73	4.333	37.30	7.333	2.80	10.33	1.44
1.417	1.86	4.417	24.16	7.417	2.65	10.42	1.40
1.500	1.86	4.500	24.16	7.500	2.65	10.50	1.40
1.583	2.00	4.583	17.45	7.583	2.53	10.58	1.36
1.667	2.00	4.667	17.45	7.667	2.53	10.67	1.36
1.750	2.16	4.750	13.49	7.750	2.41	10.75	1.33
1.833	2.16	4.833	13.49	7.833	2.41	10.83	1.33
1.917	2.35	4.917	10.91	7.917	2.30	10.92	1.30
2.000	2.35	5.000	10.91	8.000	2.30	11.00	1.30
2.083	2.59	5.083	9.12	8.083	2.21	11.08	1.27
2.167	2.59	5.167	9.12	8.167	2.21	11.17	1.27
2.250	2.87	5.250	7.81	8.250	2.12	11.25	1.24
2.333	2.87	5.333	7.81	8.333	2.12	11.33	1.24
2.417	3.23	5.417	6.81	8.417	2.04	11.42	1.21
2.500	3.23	5.500	6.81	8.500	2.04	11.50	1.21
2.583	3.69	5.583	6.04	8.583	1.96	11.58	1.19
2.667	3.69	5.667	6.04	8.667	1.96	11.67	1.19
2.750	4.30	5.750	5.42	8.750	1.89	11.75	1.16
2.833	4.30	5.833	5.42	8.833	1.89	11.83	1.16
2.917	5.15	5.917	4.91	8.917	1.83	11.92	1.14
3.000	5.15	6.000	4.91	9.000	1.83	12.00	1.14

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.051 (i)
TIME TO PEAK (hrs)= 4.000
RUNOFF VOLUME (mm)= 39.892
TOTAL RAINFALL (mm)= 99.424
RUNOFF COEFFICIENT = 0.401

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

ADD HYD (0006)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.463	4.00	44.63
+ ID2= 2 (0002):	1.04	0.132	4.00	39.89
ID = 3 (0006):	4.21	0.595	4.00	43.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0006):	4.21	0.595	4.00	43.46
+ ID2= 2 (0003):	0.40	0.051	4.00	39.89
ID = 1 (0006):	4.62	0.646	4.00	43.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)				
Inlet Cap.= 0.132				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	4.62	0.65	4.00	43.15
MAJOR SYS.(ID= 2):	1.74	0.51	4.00	43.15
MINOR SYS.(ID= 3):	2.88	0.13	3.92	43.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0008)	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	0.1450	0.0045
	0.0000	0.0004	0.2061	0.0090
	0.0363	0.0008	0.2510	0.0135
	0.0555	0.0027	0.2886	0.0201

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	1.739	0.514	4.00	43.15
OUTFLOW: ID= 1 (0008)	1.739	0.316	4.25	42.92

PEAK FLOW REDUCTION [Qout/Qin](%)= 61.49
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0251

CALIB					
NASHYD (0005)	Area (ha)=	2.30	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.28			

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	1.20	3.083	6.42	6.083	4.49	9.08	1.77
0.167	1.20	3.167	6.42	6.167	4.49	9.17	1.77
0.250	1.25	3.250	8.45	6.250	4.13	9.25	1.71
0.333	1.25	3.333	8.45	6.333	4.13	9.33	1.71
0.417	1.31	3.417	12.18	6.417	3.83	9.42	1.66
0.500	1.31	3.500	12.18	6.500	3.83	9.50	1.66
0.583	1.38	3.583	20.78	6.583	3.56	9.58	1.61
0.667	1.38	3.667	20.78	6.667	3.56	9.67	1.61
0.750	1.45	3.750	53.97	6.750	3.33	9.75	1.56
0.833	1.45	3.833	53.97	6.833	3.33	9.83	1.56
0.917	1.54	3.917	163.46	6.917	3.13	9.92	1.52
1.000	1.54	4.000	163.47	7.000	3.13	10.00	1.52
1.083	1.63	4.083	70.72	7.083	2.95	10.08	1.48
1.167	1.63	4.167	70.71	7.167	2.95	10.17	1.48
1.250	1.73	4.250	37.30	7.250	2.80	10.25	1.44
1.333	1.73	4.333	37.30	7.333	2.80	10.33	1.44
1.417	1.86	4.417	24.16	7.417	2.65	10.42	1.40
1.500	1.86	4.500	24.16	7.500	2.65	10.50	1.40
1.583	2.00	4.583	17.45	7.583	2.53	10.58	1.36
1.667	2.00	4.667	17.45	7.667	2.53	10.67	1.36
1.750	2.16	4.750	13.49	7.750	2.41	10.75	1.33
1.833	2.16	4.833	13.49	7.833	2.41	10.83	1.33
1.917	2.35	4.917	10.91	7.917	2.30	10.92	1.30
2.000	2.35	5.000	10.91	8.000	2.30	11.00	1.30
2.083	2.59	5.083	9.12	8.083	2.21	11.08	1.27
2.167	2.59	5.167	9.12	8.167	2.21	11.17	1.27
2.250	2.87	5.250	7.81	8.250	2.12	11.25	1.24
2.333	2.87	5.333	7.81	8.333	2.12	11.33	1.24
2.417	3.23	5.417	6.81	8.417	2.04	11.42	1.21
2.500	3.23	5.500	6.81	8.500	2.04	11.50	1.21
2.583	3.69	5.583	6.04	8.583	1.96	11.58	1.19
2.667	3.69	5.667	6.04	8.667	1.96	11.67	1.19
2.750	4.30	5.750	5.42	8.750	1.89	11.75	1.16
2.833	4.30	5.833	5.42	8.833	1.89	11.83	1.16
2.917	5.15	5.917	4.91	8.917	1.83	11.92	1.14
3.000	5.15	6.000	4.91	9.000	1.83	12.00	1.14

Unit Hyd Qpeak (cms)= 0.310

PEAK FLOW (cms)= 0.199 (i)
TIME TO PEAK (hrs)= 4.333
RUNOFF VOLUME (mm)= 40.594
TOTAL RAINFALL (mm)= 99.424
RUNOFF COEFFICIENT = 0.408

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

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0004):	1.70	0.073	4.00	9.17
	+ ID2= 2 (0005):	2.30	0.199	4.33	40.59
	ID = 3 (0007):	4.00	0.221	4.33	27.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0007):	4.00	0.221	4.33	27.26
	+ ID2= 2 (0008):	1.74	0.316	4.25	42.92
	ID = 1 (0007):	5.73	0.535	4.25	32.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0010)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	2.88	0.13	3.92	43.15
OUTFLOW: ID= 2(0010)	2.88	0.13	3.92	43.15

****
** SIMULATION:26) 100YR MODIFIED 24HR CHICAGO **
****

READ STORM	Filename: C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2fc30f40
Ptotal=109.02 mm	Comments: 100YR MODIFIED 24HR CHICAGO

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.60	6.00	2.59	12.00	2.21	18.00	0.90
0.17	0.61	6.17	2.87	12.17	2.12	18.17	0.89
0.33	0.62	6.33	3.23	12.33	2.04	18.33	0.87
0.50	0.64	6.50	3.69	12.50	1.96	18.50	0.86
0.67	0.65	6.67	4.30	12.67	1.89	18.67	0.85
0.83	0.67	6.83	5.15	12.83	1.83	18.83	0.83
1.00	0.68	7.00	6.42	13.00	1.77	19.00	0.82
1.17	0.70	7.17	8.45	13.17	1.71	19.17	0.81
1.33	0.72	7.33	12.18	13.33	1.66	19.33	0.80
1.50	0.73	7.50	20.78	13.50	1.61	19.50	0.79
1.67	0.75	7.67	53.97	13.67	1.56	19.67	0.78
1.83	0.77	7.83	163.47	13.83	1.52	19.83	0.77
2.00	0.79	8.00	70.71	14.00	1.47	20.00	0.76
2.17	0.82	8.17	37.30	14.17	1.44	20.17	0.75
2.33	0.84	8.33	24.16	14.33	1.40	20.33	0.74
2.50	0.87	8.50	17.46	14.50	1.36	20.50	0.73
2.67	0.89	8.67	13.49	14.67	1.33	20.67	0.72
2.83	0.92	8.83	10.91	14.83	1.30	20.83	0.71
3.00	0.95	9.00	9.12	15.00	1.27	21.00	0.70
3.17	0.99	9.17	7.81	15.17	1.24	21.17	0.69
3.33	1.02	9.33	6.81	15.33	1.21	21.33	0.69
3.50	1.06	9.50	6.04	15.50	1.19	21.50	0.68
3.67	1.10	9.67	5.42	15.67	1.16	21.67	0.67
3.83	1.15	9.83	4.91	15.83	1.14	21.83	0.66
4.00	1.20	10.00	4.49	16.00	1.11	22.00	0.66
4.17	1.25	10.17	4.13	16.17	1.09	22.17	0.65
4.33	1.31	10.33	3.83	16.33	1.07	22.33	0.64
4.50	1.38	10.50	3.56	16.50	1.05	22.50	0.63
4.67	1.45	10.67	3.33	16.67	1.03	22.67	0.63
4.83	1.54	10.83	3.13	16.83	1.01	22.83	0.62
5.00	1.63	11.00	2.95	17.00	1.00	23.00	0.62
5.17	1.73	11.17	2.80	17.17	0.98	23.17	0.61
5.33	1.86	11.33	2.65	17.33	0.96	23.33	0.60
5.50	2.00	11.50	2.53	17.50	0.95	23.50	0.60
5.67	2.16	11.67	2.41	17.67	0.93	23.67	0.59
5.83	2.35	11.83	2.30	17.83	0.92	23.83	0.59

CALIB NASHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 1.70 Curve Number (CN)= 67.0 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.03

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	0.60	6.083	2.59	12.083	2.21	18.08	0.90
0.167	0.60	6.167	2.59	12.167	2.21	18.17	0.90
0.250	0.61	6.250	2.87	12.250	2.12	18.25	0.89
0.333	0.61	6.333	2.87	12.333	2.12	18.33	0.89
0.417	0.62	6.417	3.23	12.417	2.04	18.42	0.87
0.500	0.62	6.500	3.23	12.500	2.04	18.50	0.87
0.583	0.64	6.583	3.69	12.583	1.96	18.58	0.86
0.667	0.64	6.667	3.69	12.667	1.96	18.67	0.86
0.750	0.65	6.750	4.30	12.750	1.89	18.75	0.85
0.833	0.65	6.833	4.30	12.833	1.89	18.83	0.85
0.917	0.67	6.917	5.15	12.917	1.83	18.92	0.83
1.000	0.67	7.000	5.15	13.000	1.83	19.00	0.83
1.083	0.68	7.083	6.42	13.083	1.77	19.08	0.82
1.167	0.68	7.167	6.42	13.167	1.77	19.17	0.82
1.250	0.70	7.250	8.45	13.250	1.71	19.25	0.81

1.333	0.70	7.333	8.45	13.333	1.71	19.33	0.81
1.417	0.72	7.417	12.18	13.417	1.66	19.42	0.80
1.500	0.72	7.500	12.18	13.500	1.66	19.50	0.80
1.583	0.73	7.583	20.78	13.583	1.61	19.58	0.79
1.667	0.73	7.667	20.78	13.667	1.61	19.67	0.79
1.750	0.75	7.750	53.97	13.750	1.56	19.75	0.78
1.833	0.75	7.833	53.98	13.833	1.56	19.83	0.78
1.917	0.77	7.917	163.47	13.917	1.52	19.92	0.77
2.000	0.77	8.000	163.46	14.000	1.52	20.00	0.77
2.083	0.79	8.083	70.71	14.083	1.47	20.08	0.76
2.167	0.79	8.167	70.71	14.167	1.47	20.17	0.76
2.250	0.82	8.250	37.30	14.250	1.44	20.25	0.75
2.333	0.82	8.333	37.30	14.333	1.44	20.33	0.75
2.417	0.84	8.417	24.16	14.417	1.40	20.42	0.74
2.500	0.84	8.500	24.16	14.500	1.40	20.50	0.74
2.583	0.87	8.583	17.46	14.583	1.36	20.58	0.73
2.667	0.87	8.667	17.46	14.667	1.36	20.67	0.73
2.750	0.89	8.750	13.49	14.750	1.33	20.75	0.72
2.833	0.89	8.833	13.49	14.833	1.33	20.83	0.72
2.917	0.92	8.917	10.91	14.917	1.30	20.92	0.71
3.000	0.92	9.000	10.91	15.000	1.30	21.00	0.71
3.083	0.95	9.083	9.12	15.083	1.27	21.08	0.70
3.167	0.95	9.167	9.12	15.167	1.27	21.17	0.70
3.250	0.99	9.250	7.81	15.250	1.24	21.25	0.69
3.333	0.99	9.333	7.81	15.333	1.24	21.33	0.69
3.417	1.02	9.417	6.81	15.417	1.21	21.42	0.69
3.500	1.02	9.500	6.81	15.500	1.21	21.50	0.69
3.583	1.06	9.583	6.04	15.583	1.19	21.58	0.68
3.667	1.06	9.667	6.04	15.667	1.19	21.67	0.68
3.750	1.10	9.750	5.42	15.750	1.16	21.75	0.67
3.833	1.10	9.833	5.42	15.833	1.16	21.83	0.67
3.917	1.15	9.917	4.91	15.917	1.14	21.92	0.66
4.000	1.15	10.000	4.91	16.000	1.14	22.00	0.66
4.083	1.20	10.083	4.49	16.083	1.11	22.08	0.66
4.167	1.20	10.167	4.49	16.167	1.11	22.17	0.66
4.250	1.25	10.250	4.13	16.250	1.09	22.25	0.65
4.333	1.25	10.333	4.13	16.333	1.09	22.33	0.65
4.417	1.31	10.417	3.83	16.417	1.07	22.42	0.64
4.500	1.31	10.500	3.83	16.500	1.07	22.50	0.64
4.583	1.38	10.583	3.56	16.583	1.05	22.58	0.63
4.667	1.38	10.667	3.56	16.667	1.05	22.67	0.63
4.750	1.45	10.750	3.33	16.750	1.03	22.75	0.63
4.833	1.45	10.833	3.33	16.833	1.03	22.83	0.63
4.917	1.54	10.917	3.13	16.917	1.01	22.92	0.62
5.000	1.54	11.000	3.13	17.000	1.01	23.00	0.62
5.083	1.63	11.083	2.95	17.083	1.00	23.08	0.62
5.167	1.63	11.167	2.95	17.167	1.00	23.17	0.62
5.250	1.73	11.250	2.80	17.250	0.98	23.25	0.61
5.333	1.73	11.333	2.80	17.333	0.98	23.33	0.61
5.417	1.86	11.417	2.65	17.417	0.96	23.42	0.60
5.500	1.86	11.500	2.65	17.500	0.96	23.50	0.60
5.583	2.00	11.583	2.53	17.583	0.95	23.58	0.60
5.667	2.00	11.667	2.53	17.667	0.95	23.67	0.60
5.750	2.16	11.750	2.41	17.750	0.93	23.75	0.59
5.833	2.16	11.833	2.41	17.833	0.93	23.83	0.59
5.917	2.35	11.917	2.30	17.917	0.92	23.92	0.59
6.000	2.35	12.000	2.30	18.000	0.92	24.00	0.58

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.077 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 10.667
TOTAL RAINFALL (mm)= 109.016
RUNOFF COEFFICIENT = 0.098

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

CALIB			
NASHYD (0001)	Area (ha)=	3.17	Curve Number (CN)= 71.4
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	0.60	6.083	2.59	12.083	2.21	18.08	0.90
0.167	0.60	6.167	2.59	12.167	2.21	18.17	0.90
0.250	0.61	6.250	2.87	12.250	2.12	18.25	0.89
0.333	0.61	6.333	2.87	12.333	2.12	18.33	0.89
0.417	0.62	6.417	3.23	12.417	2.04	18.42	0.87
0.500	0.62	6.500	3.23	12.500	2.04	18.50	0.87
0.583	0.64	6.583	3.69	12.583	1.96	18.58	0.86
0.667	0.64	6.667	3.69	12.667	1.96	18.67	0.86
0.750	0.65	6.750	4.30	12.750	1.89	18.75	0.85
0.833	0.65	6.833	4.30	12.833	1.89	18.83	0.85
0.917	0.67	6.917	5.15	12.917	1.83	18.92	0.83
1.000	0.67	7.000	5.15	13.000	1.83	19.00	0.83
1.083	0.68	7.083	6.42	13.083	1.77	19.08	0.82
1.167	0.68	7.167	6.42	13.167	1.77	19.17	0.82
1.250	0.70	7.250	8.45	13.250	1.71	19.25	0.81
1.333	0.70	7.333	8.45	13.333	1.71	19.33	0.81
1.417	0.72	7.417	12.18	13.417	1.66	19.42	0.80
1.500	0.72	7.500	12.18	13.500	1.66	19.50	0.80
1.583	0.73	7.583	20.78	13.583	1.61	19.58	0.79
1.667	0.73	7.667	20.78	13.667	1.61	19.67	0.79
1.750	0.75	7.750	53.97	13.750	1.56	19.75	0.78
1.833	0.75	7.833	53.98	13.833	1.56	19.83	0.78
1.917	0.77	7.917	163.47	13.917	1.52	19.92	0.77
2.000	0.77	8.000	163.46	14.000	1.52	20.00	0.77
2.083	0.79	8.083	70.71	14.083	1.47	20.08	0.76
2.167	0.79	8.167	70.71	14.167	1.47	20.17	0.76
2.250	0.82	8.250	37.30	14.250	1.44	20.25	0.75
2.333	0.82	8.333	37.30	14.333	1.44	20.33	0.75
2.417	0.84	8.417	24.16	14.417	1.40	20.42	0.74
2.500	0.84	8.500	24.16	14.500	1.40	20.50	0.74
2.583	0.87	8.583	17.46	14.583	1.36	20.58	0.73
2.667	0.87	8.667	17.46	14.667	1.36	20.67	0.73
2.750	0.89	8.750	13.49	14.750	1.33	20.75	0.72
2.833	0.89	8.833	13.49	14.833	1.33	20.83	0.72
2.917	0.92	8.917	10.91	14.917	1.30	20.92	0.71
3.000	0.92	9.000	10.91	15.000	1.30	21.00	0.71
3.083	0.95	9.083	9.12	15.083	1.27	21.08	0.70
3.167	0.95	9.167	9.12	15.167	1.27	21.17	0.70
3.250	0.99	9.250	7.81	15.250	1.24	21.25	0.69
3.333	0.99	9.333	7.81	15.333	1.24	21.33	0.69
3.417	1.02	9.417	6.81	15.417	1.21	21.42	0.69
3.500	1.02	9.500	6.81	15.500	1.21	21.50	0.69
3.583	1.06	9.583	6.04	15.583	1.19	21.58	0.68
3.667	1.06	9.667	6.04	15.667	1.19	21.67	0.68
3.750	1.10	9.750	5.42	15.750	1.16	21.75	0.67
3.833	1.10	9.833	5.42	15.833	1.16	21.83	0.67
3.917	1.15	9.917	4.91	15.917	1.14	21.92	0.66
4.000	1.15	10.000	4.91	16.000	1.14	22.00	0.66
4.083	1.20	10.083	4.49	16.083	1.11	22.08	0.66
4.167	1.20	10.167	4.49	16.167	1.11	22.17	0.66
4.250	1.25	10.250	4.13	16.250	1.09	22.25	0.65
4.333	1.25	10.333	4.13	16.333	1.09	22.33	0.65
4.417	1.31	10.417	3.83	16.417	1.07	22.42	0.64
4.500	1.31	10.500	3.83	16.500	1.07	22.50	0.64
4.583	1.38	10.583	3.56	16.583	1.05	22.58	0.63
4.667	1.38	10.667	3.56	16.667	1.05	22.67	0.63
4.750	1.45	10.750	3.33	16.750	1.03	22.75	0.63
4.833	1.45	10.833	3.33	16.833	1.03	22.83	0.63
4.917	1.54	10.917	3.13	16.917	1.01	22.92	0.62
5.000	1.54	11.000	3.13	17.000	1.01	23.00	0.62
5.083	1.63	11.083	2.95	17.083	1.00	23.08	0.62
5.167	1.63	11.167	2.95	17.167	1.00	23.17	0.62
5.250	1.73	11.250	2.80	17.250	0.98	23.25	0.61
5.333	1.73	11.333	2.80	17.333	0.98	23.33	0.61
5.417	1.86	11.417	2.65	17.417	0.96	23.42	0.60
5.500	1.86	11.500	2.65	17.500	0.96	23.50	0.60
5.583	2.00	11.583	2.53	17.583	0.95	23.58	0.60
5.667	2.00	11.667	2.53	17.667	0.95	23.67	0.60
5.750	2.16	11.750	2.41	17.750	0.93	23.75	0.59
5.833	2.16	11.833	2.41	17.833	0.93	23.83	0.59
5.917	2.35	11.917	2.30	17.917	0.92	23.92	0.59
6.000	2.35	12.000	2.30	18.000	0.92	24.00	0.58

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.496 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 51.634
TOTAL RAINFALL (mm)= 109.016
RUNOFF COEFFICIENT = 0.474

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

CALIB			
NASHYD (0002)	Area (ha)=	1.04	Curve Number (CN)= 67.0

|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
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| | U.H. Tp(hrs)= 0.11

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	0.60	6.083	2.59	12.083	2.21	18.08	0.90
0.167	0.60	6.167	2.59	12.167	2.21	18.17	0.90
0.250	0.61	6.250	2.87	12.250	2.12	18.25	0.89
0.333	0.61	6.333	2.87	12.333	2.12	18.33	0.89
0.417	0.62	6.417	3.23	12.417	2.04	18.42	0.87
0.500	0.62	6.500	3.23	12.500	2.04	18.50	0.87
0.583	0.64	6.583	3.69	12.583	1.96	18.58	0.86
0.667	0.64	6.667	3.69	12.667	1.96	18.67	0.86
0.750	0.65	6.750	4.30	12.750	1.89	18.75	0.85
0.833	0.65	6.833	4.30	12.833	1.89	18.83	0.85
0.917	0.67	6.917	5.15	12.917	1.83	18.92	0.83
1.000	0.67	7.000	5.15	13.000	1.83	19.00	0.83
1.083	0.68	7.083	6.42	13.083	1.77	19.08	0.82
1.167	0.68	7.167	6.42	13.167	1.77	19.17	0.82
1.250	0.70	7.250	8.45	13.250	1.71	19.25	0.81
1.333	0.70	7.333	8.45	13.333	1.71	19.33	0.81
1.417	0.72	7.417	12.18	13.417	1.66	19.42	0.80
1.500	0.72	7.500	12.18	13.500	1.66	19.50	0.80
1.583	0.73	7.583	20.78	13.583	1.61	19.58	0.79
1.667	0.73	7.667	20.78	13.667	1.61	19.67	0.79
1.750	0.75	7.750	53.97	13.750	1.56	19.75	0.78
1.833	0.75	7.833	53.98	13.833	1.56	19.83	0.78
1.917	0.77	7.917	163.47	13.917	1.52	19.92	0.77
2.000	0.77	8.000	163.46	14.000	1.52	20.00	0.77
2.083	0.79	8.083	70.71	14.083	1.47	20.08	0.76
2.167	0.79	8.167	70.71	14.167	1.47	20.17	0.76
2.250	0.82	8.250	37.30	14.250	1.44	20.25	0.75
2.333	0.82	8.333	37.30	14.333	1.44	20.33	0.75
2.417	0.84	8.417	24.16	14.417	1.40	20.42	0.74
2.500	0.84	8.500	24.16	14.500	1.40	20.50	0.74
2.583	0.87	8.583	17.46	14.583	1.36	20.58	0.73
2.667	0.87	8.667	17.46	14.667	1.36	20.67	0.73
2.750	0.89	8.750	13.49	14.750	1.33	20.75	0.72
2.833	0.89	8.833	13.49	14.833	1.33	20.83	0.72
2.917	0.92	8.917	10.91	14.917	1.30	20.92	0.71
3.000	0.92	9.000	10.91	15.000	1.30	21.00	0.71
3.083	0.95	9.083	9.12	15.083	1.27	21.08	0.70
3.167	0.95	9.167	9.12	15.167	1.27	21.17	0.70
3.250	0.99	9.250	7.81	15.250	1.24	21.25	0.69
3.333	0.99	9.333	7.81	15.333	1.24	21.33	0.69
3.417	1.02	9.417	6.81	15.417	1.21	21.42	0.69
3.500	1.02	9.500	6.81	15.500	1.21	21.50	0.69
3.583	1.06	9.583	6.04	15.583	1.19	21.58	0.68
3.667	1.06	9.667	6.04	15.667	1.19	21.67	0.68
3.750	1.10	9.750	5.42	15.750	1.16	21.75	0.67
3.833	1.10	9.833	5.42	15.833	1.16	21.83	0.67
3.917	1.15	9.917	4.91	15.917	1.14	21.92	0.66
4.000	1.15	10.000	4.91	16.000	1.14	22.00	0.66
4.083	1.20	10.083	4.49	16.083	1.11	22.08	0.66
4.167	1.20	10.167	4.49	16.167	1.11	22.17	0.66
4.250	1.25	10.250	4.13	16.250	1.09	22.25	0.65
4.333	1.25	10.333	4.13	16.333	1.09	22.33	0.65
4.417	1.31	10.417	3.83	16.417	1.07	22.42	0.64
4.500	1.31	10.500	3.83	16.500	1.07	22.50	0.64
4.583	1.38	10.583	3.56	16.583	1.05	22.58	0.63
4.667	1.38	10.667	3.56	16.667	1.05	22.67	0.63
4.750	1.45	10.750	3.33	16.750	1.03	22.75	0.63
4.833	1.45	10.833	3.33	16.833	1.03	22.83	0.63
4.917	1.54	10.917	3.13	16.917	1.01	22.92	0.62
5.000	1.54	11.000	3.13	17.000	1.01	23.00	0.62
5.083	1.63	11.083	2.95	17.083	1.00	23.08	0.62
5.167	1.63	11.167	2.95	17.167	1.00	23.17	0.62
5.250	1.73	11.250	2.80	17.250	0.98	23.25	0.61
5.333	1.73	11.333	2.80	17.333	0.98	23.33	0.61
5.417	1.86	11.417	2.65	17.417	0.96	23.42	0.60
5.500	1.86	11.500	2.65	17.500	0.96	23.50	0.60
5.583	2.00	11.583	2.53	17.583	0.95	23.58	0.60
5.667	2.00	11.667	2.53	17.667	0.95	23.67	0.60
5.750	2.16	11.750	2.41	17.750	0.93	23.75	0.59
5.833	2.16	11.833	2.41	17.833	0.93	23.83	0.59
5.917	2.35	11.917	2.30	17.917	0.92	23.92	0.59
6.000	2.35	12.000	2.30	18.000	0.92	24.00	0.58

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.142 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 46.383
TOTAL RAINFALL (mm)= 109.016
RUNOFF COEFFICIENT = 0.425

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

CALIB NASHYD (0003)	Area (ha)= 0.40 Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11

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	0.60	6.083	2.59	12.083	2.21	18.08	0.90
0.167	0.60	6.167	2.59	12.167	2.21	18.17	0.90
0.250	0.61	6.250	2.87	12.250	2.12	18.25	0.89
0.333	0.61	6.333	2.87	12.333	2.12	18.33	0.89
0.417	0.62	6.417	3.23	12.417	2.04	18.42	0.87
0.500	0.62	6.500	3.23	12.500	2.04	18.50	0.87
0.583	0.64	6.583	3.69	12.583	1.96	18.58	0.86
0.667	0.64	6.667	3.69	12.667	1.96	18.67	0.86
0.750	0.65	6.750	4.30	12.750	1.89	18.75	0.85
0.833	0.65	6.833	4.30	12.833	1.89	18.83	0.85
0.917	0.67	6.917	5.15	12.917	1.83	18.92	0.83
1.000	0.67	7.000	5.15	13.000	1.83	19.00	0.83
1.083	0.68	7.083	6.42	13.083	1.77	19.08	0.82
1.167	0.68	7.167	6.42	13.167	1.77	19.17	0.82
1.250	0.70	7.250	8.45	13.250	1.71	19.25	0.81
1.333	0.70	7.333	8.45	13.333	1.71	19.33	0.81
1.417	0.72	7.417	12.18	13.417	1.66	19.42	0.80
1.500	0.72	7.500	12.18	13.500	1.66	19.50	0.80
1.583	0.73	7.583	20.78	13.583	1.61	19.58	0.79
1.667	0.73	7.667	20.78	13.667	1.61	19.67	0.79
1.750	0.75	7.750	53.97	13.750	1.56	19.75	0.78
1.833	0.75	7.833	53.98	13.833	1.56	19.83	0.78
1.917	0.77	7.917	163.47	13.917	1.52	19.92	0.77
2.000	0.77	8.000	163.46	14.000	1.52	20.00	0.77
2.083	0.79	8.083	70.71	14.083	1.47	20.08	0.76
2.167	0.79	8.167	70.71	14.167	1.47	20.17	0.76
2.250	0.82	8.250	37.30	14.250	1.44	20.25	0.75
2.333	0.82	8.333	37.30	14.333	1.44	20.33	0.75
2.417	0.84	8.417	24.16	14.417	1.40	20.42	0.74
2.500	0.84	8.500	24.16	14.500	1.40	20.50	0.74
2.583	0.87	8.583	17.46	14.583	1.36	20.58	0.73
2.667	0.87	8.667	17.46	14.667	1.36	20.67	0.73
2.750	0.89	8.750	13.49	14.750	1.33	20.75	0.72
2.833	0.89	8.833	13.49	14.833	1.33	20.83	0.72
2.917	0.92	8.917	10.91	14.917	1.30	20.92	0.71
3.000	0.92	9.000	10.91	15.000	1.30	21.00	0.71
3.083	0.95	9.083	9.12	15.083	1.27	21.08	0.70
3.167	0.95	9.167	9.12	15.167	1.27	21.17	0.70
3.250	0.99	9.250	7.81	15.250	1.24	21.25	0.69
3.333	0.99	9.333	7.81	15.333	1.24	21.33	0.69
3.417	1.02	9.417	6.81	15.417	1.21	21.42	0.69
3.500	1.02	9.500	6.81	15.500	1.21	21.50	0.69
3.583	1.06	9.583	6.04	15.583	1.19	21.58	0.68
3.667	1.06	9.667	6.04	15.667	1.19	21.67	0.68
3.750	1.10	9.750	5.42	15.750	1.16	21.75	0.67
3.833	1.10	9.833	5.42	15.833	1.16	21.83	0.67
3.917	1.15	9.917	4.91	15.917	1.14	21.92	0.66
4.000	1.15	10.000	4.91	16.000	1.14	22.00	0.66
4.083	1.20	10.083	4.49	16.083	1.11	22.08	0.66
4.167	1.20	10.167	4.49	16.167	1.11	22.17	0.66
4.250	1.25	10.250	4.13	16.250	1.09	22.25	0.65
4.333	1.25	10.333	4.13	16.333	1.09	22.33	0.65
4.417	1.31	10.417	3.83	16.417	1.07	22.42	0.64
4.500	1.31	10.500	3.83	16.500	1.07	22.50	0.64
4.583	1.38	10.583	3.56	16.583	1.05	22.58	0.63
4.667	1.38	10.667	3.56	16.667	1.05	22.67	0.63
4.750	1.45	10.750	3.33	16.750	1.03	22.75	0.63
4.833	1.45	10.833	3.33	16.833	1.03	22.83	0.63
4.917	1.54	10.917	3.13	16.917	1.01	22.92	0.62
5.000	1.54	11.000	3.13	17.000	1.01	23.00	0.62
5.083	1.63	11.083	2.95	17.083	1.00	23.08	0.62
5.167	1.63	11.167	2.95	17.167	1.00	23.17	0.62
5.250	1.73	11.250	2.80	17.250	0.98	23.25	0.61

5.333	1.73	11.333	2.80	17.333	0.98	23.33	0.61
5.417	1.86	11.417	2.65	17.417	0.96	23.42	0.60
5.500	1.86	11.500	2.65	17.500	0.96	23.50	0.60
5.583	2.00	11.583	2.53	17.583	0.95	23.58	0.60
5.667	2.00	11.667	2.53	17.667	0.95	23.67	0.60
5.750	2.16	11.750	2.41	17.750	0.93	23.75	0.59
5.833	2.16	11.833	2.41	17.833	0.93	23.83	0.59
5.917	2.35	11.917	2.30	17.917	0.92	23.92	0.59
6.000	2.35	12.000	2.30	18.000	0.92	24.00	0.58

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.055 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 46.383
TOTAL RAINFALL (mm)= 109.016
RUNOFF COEFFICIENT = 0.425

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

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	3.17	0.496	8.00	51.63
	+ ID2= 2 (0002):	1.04	0.142	8.00	46.38
	ID = 3 (0006):	4.21	0.638	8.00	50.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0006):	4.21	0.638	8.00	50.34
	+ ID2= 2 (0003):	0.40	0.055	8.00	46.38
	ID = 1 (0006):	4.62	0.692	8.00	49.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)
Inlet Cap.= 0.132
#of Inlets= 1
Total(cms)= 0.1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	4.62	0.69	8.00	49.99
MAJOR SYS.(ID= 2):	1.62	0.56	8.00	49.99
MINOR SYS.(ID= 3):	2.99	0.13	7.83	49.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0008) 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	0.1450	0.0045
0.0000	0.0004	0.2061	0.0090
0.0363	0.0008	0.2510	0.0135
0.0555	0.0027	0.2886	0.0201

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	1.625	0.560	8.00	49.99
OUTFLOW: ID= 1 (0008)	1.625	0.332	8.25	49.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.23
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0279

CALIB
NASHYD (0005) | Area (ha)= 2.30 Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 0.28

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	0.60	6.083	2.59	12.083	2.21	18.08	0.90
0.167	0.60	6.167	2.59	12.167	2.21	18.17	0.90
0.250	0.61	6.250	2.87	12.250	2.12	18.25	0.89
0.333	0.61	6.333	2.87	12.333	2.12	18.33	0.89
0.417	0.62	6.417	3.23	12.417	2.04	18.42	0.87
0.500	0.62	6.500	3.23	12.500	2.04	18.50	0.87
0.583	0.64	6.583	3.69	12.583	1.96	18.58	0.86
0.667	0.64	6.667	3.69	12.667	1.96	18.67	0.86
0.750	0.65	6.750	4.30	12.750	1.89	18.75	0.85
0.833	0.65	6.833	4.30	12.833	1.89	18.83	0.85
0.917	0.67	6.917	5.15	12.917	1.83	18.92	0.83
1.000	0.67	7.000	5.15	13.000	1.83	19.00	0.83
1.083	0.68	7.083	6.42	13.083	1.77	19.08	0.82
1.167	0.68	7.167	6.42	13.167	1.77	19.17	0.82
1.250	0.70	7.250	8.45	13.250	1.71	19.25	0.81
1.333	0.70	7.333	8.45	13.333	1.71	19.33	0.81
1.417	0.72	7.417	12.18	13.417	1.66	19.42	0.80
1.500	0.72	7.500	12.18	13.500	1.66	19.50	0.80
1.583	0.73	7.583	20.78	13.583	1.61	19.58	0.79
1.667	0.73	7.667	20.78	13.667	1.61	19.67	0.79
1.750	0.75	7.750	53.97	13.750	1.56	19.75	0.78
1.833	0.75	7.833	53.98	13.833	1.56	19.83	0.78
1.917	0.77	7.917	163.47	13.917	1.52	19.92	0.77
2.000	0.77	8.000	163.46	14.000	1.52	20.00	0.77
2.083	0.79	8.083	70.71	14.083	1.47	20.08	0.76
2.167	0.79	8.167	70.71	14.167	1.47	20.17	0.76
2.250	0.82	8.250	37.30	14.250	1.44	20.25	0.75
2.333	0.82	8.333	37.30	14.333	1.44	20.33	0.75
2.417	0.84	8.417	24.16	14.417	1.40	20.42	0.74
2.500	0.84	8.500	24.16	14.500	1.40	20.50	0.74
2.583	0.87	8.583	17.46	14.583	1.36	20.58	0.73
2.667	0.87	8.667	17.46	14.667	1.36	20.67	0.73
2.750	0.89	8.750	13.49	14.750	1.33	20.75	0.72
2.833	0.89	8.833	13.49	14.833	1.33	20.83	0.72
2.917	0.92	8.917	10.91	14.917	1.30	20.92	0.71
3.000	0.92	9.000	10.91	15.000	1.30	21.00	0.71
3.083	0.95	9.083	9.12	15.083	1.27	21.08	0.70
3.167	0.95	9.167	9.12	15.167	1.27	21.17	0.70
3.250	0.99	9.250	7.81	15.250	1.24	21.25	0.69
3.333	0.99	9.333	7.81	15.333	1.24	21.33	0.69
3.417	1.02	9.417	6.81	15.417	1.21	21.42	0.69
3.500	1.02	9.500	6.81	15.500	1.21	21.50	0.69
3.583	1.06	9.583	6.04	15.583	1.19	21.58	0.68
3.667	1.06	9.667	6.04	15.667	1.19	21.67	0.68
3.750	1.10	9.750	5.42	15.750	1.16	21.75	0.67
3.833	1.10	9.833	5.42	15.833	1.16	21.83	0.67
3.917	1.15	9.917	4.91	15.917	1.14	21.92	0.66
4.000	1.15	10.000	4.91	16.000	1.14	22.00	0.66
4.083	1.20	10.083	4.49	16.083	1.11	22.08	0.66
4.167	1.20	10.167	4.49	16.167	1.11	22.17	0.66
4.250	1.25	10.250	4.13	16.250	1.09	22.25	0.65
4.333	1.25	10.333	4.13	16.333	1.09	22.33	0.65
4.417	1.31	10.417	3.83	16.417	1.07	22.42	0.64
4.500	1.31	10.500	3.83	16.500	1.07	22.50	0.64
4.583	1.38	10.583	3.56	16.583	1.05	22.58	0.63
4.667	1.38	10.667	3.56	16.667	1.05	22.67	0.63
4.750	1.45	10.750	3.33	16.750	1.03	22.75	0.63
4.833	1.45	10.833	3.33	16.833	1.03	22.83	0.63
4.917	1.54	10.917	3.13	16.917	1.01	22.92	0.62
5.000	1.54	11.000	3.13	17.000	1.01	23.00	0.62
5.083	1.63	11.083	2.95	17.083	1.00	23.08	0.62
5.167	1.63	11.167	2.95	17.167	1.00	23.17	0.62
5.250	1.73	11.250	2.80	17.250	0.98	23.25	0.61
5.333	1.73	11.333	2.80	17.333	0.98	23.33	0.61
5.417	1.86	11.417	2.65	17.417	0.96	23.42	0.60
5.500	1.86	11.500	2.65	17.500	0.96	23.50	0.60
5.583	2.00	11.583	2.53	17.583	0.95	23.58	0.60
5.667	2.00	11.667	2.53	17.667	0.95	23.67	0.60
5.750	2.16	11.750	2.41	17.750	0.93	23.75	0.59
5.833	2.16	11.833	2.41	17.833	0.93	23.83	0.59
5.917	2.35	11.917	2.30	17.917	0.92	23.92	0.59
6.000	2.35	12.000	2.30	18.000	0.92	24.00	0.58

Unit Hyd Qpeak (cms)= 0.310

PEAK FLOW (cms)= 0.211 (i)

```
     TIME TO PEAK    (hrs)=   8.333
     RUNOFF VOLUME    (mm)=  47.198
     TOTAL RAINFALL   (mm)= 109.016
     RUNOFF COEFFICIENT   =   0.433

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

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0004):	1.70	0.077	8.00	10.67
	+ ID2= 2 (0005):	2.30	0.211	8.33	47.20
	ID = 3 (0007):	4.00	0.234	8.33	31.69

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

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0007):	4.00	0.234	8.33	31.69
	+ ID2= 2 (0008):	1.62	0.332	8.25	49.77
	ID = 1 (0007):	5.62	0.565	8.25	36.92

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

Junction Command(0010)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	2.99	0.13	7.83	49.99
OUTFLOW: ID= 2(0010)	2.99	0.13	7.83	49.99

```
**********
** SIMULATION:27) Timmins     **
**********

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\97ce3df3
| Ptotal=289.50 mm |    Comments: TIMMINS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	15.00	4.50	3.00	9.00	43.00	13.50	13.00
0.50	15.00	5.00	3.00	9.50	43.00	14.00	13.00
1.00	15.00	5.50	3.00	10.00	43.00	14.50	13.00
1.50	20.00	6.00	5.00	10.50	20.00	15.00	13.00
2.00	20.00	6.50	5.00	11.00	20.00	15.50	13.00
2.50	20.00	7.00	5.00	11.50	20.00	16.00	13.00
3.00	10.00	7.50	20.00	12.00	23.00	16.50	8.00
3.50	10.00	8.00	20.00	12.50	23.00	17.00	8.00
4.00	10.00	8.50	20.00	13.00	23.00	17.50	8.00

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--------------------
| CALIB            |
| NASHYD  ( 0004)  |   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

        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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

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     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.037 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)=  44.640
     TOTAL RAINFALL   (mm)= 289.500
     RUNOFF COEFFICIENT   =   0.154

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| NASHYD  ( 0001)  |   Area    (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00

1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.318 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 205.803
TOTAL RAINFALL (mm)= 289.500
RUNOFF COEFFICIENT = 0.711

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

CALIB					
NASHYD (0002)	Area (ha)=	1.04	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.099 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 194.102
TOTAL RAINFALL (mm)= 289.500
RUNOFF COEFFICIENT = 0.670

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

CALIB					
NASHYD (0003)	Area (ha)=	0.40	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00

2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.038 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 194.102
TOTAL RAINFALL (mm)= 289.500
RUNOFF COEFFICIENT = 0.670

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

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0001):		3.17	0.318	10.50	205.80
+ ID2= 2 (0002):		1.04	0.099	10.50	194.10
ID = 3 (0006):		4.21	0.416	10.50	202.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0006):		4.21	0.416	10.50	202.92
+ ID2= 2 (0003):		0.40	0.038	10.50	194.10
ID = 1 (0006):		4.62	0.455	10.50	202.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.= 0.132					
#of Inlets= 1					
Total(cms)= 0.1		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		4.62	0.45	10.50	202.15
MAJOR SYS.(ID= 2):		1.56	0.32	10.50	202.15
MINOR SYS.(ID= 3):		3.05	0.13	7.75	202.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0008)	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	0.1450	0.0045
	0.0000	0.0004	0.2061	0.0090
	0.0363	0.0008	0.2510	0.0135
	0.0555	0.0027	0.2886	0.0201

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	1.562	0.323	10.50	202.15
OUTFLOW: ID= 1 (0008)	1.562	0.304	10.50	201.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 94.02
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0230

CALIB			
NASHYD (0005)	Area (ha)=	2.30	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.28	

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	15.00	4.583	3.00	9.083	43.00	13.58	13.00
0.167	15.00	4.667	3.00	9.167	43.00	13.67	13.00
0.250	15.00	4.750	3.00	9.250	43.00	13.75	13.00
0.333	15.00	4.833	3.00	9.333	43.00	13.83	13.00
0.417	15.00	4.917	3.00	9.417	43.00	13.92	13.00
0.500	15.00	5.000	3.00	9.500	43.00	14.00	13.00
0.583	15.00	5.083	3.00	9.583	43.00	14.08	13.00
0.667	15.00	5.167	3.00	9.667	43.00	14.17	13.00
0.750	15.00	5.250	3.00	9.750	43.00	14.25	13.00
0.833	15.00	5.333	3.00	9.833	43.00	14.33	13.00
0.917	15.00	5.417	3.00	9.917	43.00	14.42	13.00
1.000	15.00	5.500	3.00	10.000	43.00	14.50	13.00
1.083	15.00	5.583	3.00	10.083	43.00	14.58	13.00
1.167	15.00	5.667	3.00	10.167	43.00	14.67	13.00
1.250	15.00	5.750	3.00	10.250	43.00	14.75	13.00
1.333	15.00	5.833	3.00	10.333	43.00	14.83	13.00
1.417	15.00	5.917	3.00	10.417	43.00	14.92	13.00
1.500	15.00	6.000	3.00	10.500	43.00	15.00	13.00
1.583	20.00	6.083	5.00	10.583	20.00	15.08	13.00
1.667	20.00	6.167	5.00	10.667	20.00	15.17	13.00
1.750	20.00	6.250	5.00	10.750	20.00	15.25	13.00
1.833	20.00	6.333	5.00	10.833	20.00	15.33	13.00
1.917	20.00	6.417	5.00	10.917	20.00	15.42	13.00
2.000	20.00	6.500	5.00	11.000	20.00	15.50	13.00
2.083	20.00	6.583	5.00	11.083	20.00	15.58	13.00
2.167	20.00	6.667	5.00	11.167	20.00	15.67	13.00
2.250	20.00	6.750	5.00	11.250	20.00	15.75	13.00
2.333	20.00	6.833	5.00	11.333	20.00	15.83	13.00
2.417	20.00	6.917	5.00	11.417	20.00	15.92	13.00
2.500	20.00	7.000	5.00	11.500	20.00	16.00	13.00
2.583	20.00	7.083	5.00	11.583	20.00	16.08	13.00
2.667	20.00	7.167	5.00	11.667	20.00	16.17	13.00
2.750	20.00	7.250	5.00	11.750	20.00	16.25	13.00
2.833	20.00	7.333	5.00	11.833	20.00	16.33	13.00
2.917	20.00	7.417	5.00	11.917	20.00	16.42	13.00
3.000	20.00	7.500	5.00	12.000	20.00	16.50	13.00
3.083	10.00	7.583	20.00	12.083	23.00	16.58	8.00
3.167	10.00	7.667	20.00	12.167	23.00	16.67	8.00
3.250	10.00	7.750	20.00	12.250	23.00	16.75	8.00
3.333	10.00	7.833	20.00	12.333	23.00	16.83	8.00
3.417	10.00	7.917	20.00	12.417	23.00	16.92	8.00
3.500	10.00	8.000	20.00	12.500	23.00	17.00	8.00
3.583	10.00	8.083	20.00	12.583	23.00	17.08	8.00
3.667	10.00	8.167	20.00	12.667	23.00	17.17	8.00
3.750	10.00	8.250	20.00	12.750	23.00	17.25	8.00
3.833	10.00	8.333	20.00	12.833	23.00	17.33	8.00
3.917	10.00	8.417	20.00	12.917	23.00	17.42	8.00
4.000	10.00	8.500	20.00	13.000	23.00	17.50	8.00
4.083	10.00	8.583	20.00	13.083	23.00	17.58	8.00
4.167	10.00	8.667	20.00	13.167	23.00	17.67	8.00
4.250	10.00	8.750	20.00	13.250	23.00	17.75	8.00
4.333	10.00	8.833	20.00	13.333	23.00	17.83	8.00
4.417	10.00	8.917	20.00	13.417	23.00	17.92	8.00
4.500	10.00	9.000	20.00	13.500	23.00	18.00	8.00

```
     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.218 (i)
     TIME TO PEAK    (hrs)=  10.500
     RUNOFF VOLUME    (mm)= 197.510
     TOTAL RAINFALL   (mm)= 289.500
     RUNOFF COEFFICIENT   =   0.682

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

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--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):      1.70   0.037    10.50    44.64
     + ID2= 2 (  0005):      2.30   0.218    10.50   197.51
       ================================================
       ID = 3 (  0007):      4.00   0.256    10.50   132.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0007):      4.00   0.256    10.50   132.62
     + ID2= 2 (  0008):      1.56   0.304    10.50   201.90
       ================================================
       ID = 1 (  0007):      5.56   0.559    10.50   152.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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  | Junction Command(0010) |
  --------------------------

                          AREA     QPEAK    TPEAK     R.V.
                          (ha)     (cms)    (hrs)     (mm)
  INFLOW : ID= 9(  0009)    3.05     0.13     7.75   202.15
  OUTFLOW: ID= 2(  0010)    3.05     0.13     7.75   202.15

  --------------------------------------------------------------------------------
**********************************
** SIMULATION:3) PTBO 4HR 10 Yr **
**********************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1560.000
| Ptotal= 53.50 mm |                          B=  13.000
--------------------                          C=   0.860
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.00    2.91 |  1.00   33.34 |'  2.00    8.57 |  3.00    3.62
               0.17    3.45 |  1.17  105.21 |'  2.17    7.00 |  3.17    3.30
               0.33    4.24 |  1.33   43.73 |'  2.33    5.91 |  3.33    3.03
               0.50    5.50 |  1.50   22.99 |'  2.50    5.10 |  3.50    2.80
               0.67    7.78 |  1.67   15.02 |'  2.67    4.49 |  3.67    2.61
               0.83   12.98 |  1.83   10.97 |'  2.83    4.01 |  3.83    2.44


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| CALIB            |
| NASHYD   (  0004)|   Area     (ha)=   1.70   Curve Number    (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

        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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
              0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
              0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
              0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
              0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
              0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
              0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
              0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
              0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
              0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
              0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
              1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44

     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.028 (i)
     TIME TO PEAK    (hrs)=   1.333
     RUNOFF VOLUME    (mm)=   3.061
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.057

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

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--------------------
| CALIB            |
| NASHYD   (  0001)|   Area     (ha)=   3.17   Curve Number    (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
              0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
              0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
              0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
              0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
              0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
              0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
              0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
              0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
              0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
              0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
              1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44

     Unit Hyd Qpeak  (cms)=   1.092

     PEAK FLOW       (cms)=   0.178 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  15.373
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.287

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

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--------------------
| CALIB            |
| NASHYD   (  0002)|   Area     (ha)=   1.04   Curve Number    (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
              0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
              0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
              0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
              0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
              0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
              0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
              0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
              0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
              0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
              0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
              1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44
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     Unit Hyd Qpeak  (cms)=   0.357

     PEAK FLOW       (cms)=   0.049 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  13.309
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.249

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

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--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   0.40   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

         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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
    0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
    0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
    0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
    0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
    0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
    0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
    0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
    0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
    0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
    0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
    1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44

     Unit Hyd Qpeak  (cms)=   0.138

     PEAK FLOW       (cms)=   0.019 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  13.309
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.249

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

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

--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):     3.17   0.178     1.42    15.37
     + ID2= 2 (  0002):     1.04   0.049     1.42    13.31
       ================================================
       ID = 3 (  0006):     4.21   0.227     1.42    14.86

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0006):     4.21   0.227     1.42    14.86
     + ID2= 2 (  0003):     0.40   0.019     1.42    13.31
       ================================================
       ID = 1 (  0006):     4.62   0.246     1.42    14.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0009)|
| Inlet Cap.= 0.132|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   4.62      0.25      1.42   14.73
     ================================================
     MAJOR SYS.(ID= 2):   0.77      0.11      1.42   14.73
     MINOR SYS.(ID= 3):   3.85      0.13      1.33   14.73

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

```
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                          0.0000      0.0004   |    0.2061      0.0090
                          0.0363      0.0008   |    0.2510      0.0135
                          0.0555      0.0027   |    0.2886      0.0201

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
   INFLOW : ID= 2 (  0009)      0.769     0.114      1.42      14.73
   OUTFLOW: ID= 1 (  0008)      0.769     0.098      1.50      14.20

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 85.88
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0036

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

         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    2.91 | 1.083   33.34 | 2.083    8.57 |  3.08    3.62
    0.167    2.91 | 1.167   33.34 | 2.167    8.57 |  3.17    3.62
    0.250    3.45 | 1.250  105.21 | 2.250    7.00 |  3.25    3.30
    0.333    3.45 | 1.333  105.21 | 2.333    7.00 |  3.33    3.30
    0.417    4.24 | 1.417   43.73 | 2.417    5.91 |  3.42    3.03
    0.500    4.24 | 1.500   43.73 | 2.500    5.91 |  3.50    3.03
    0.583    5.50 | 1.583   22.99 | 2.583    5.10 |  3.58    2.80
    0.667    5.50 | 1.667   22.99 | 2.667    5.10 |  3.67    2.80
    0.750    7.78 | 1.750   15.02 | 2.750    4.49 |  3.75    2.61
    0.833    7.78 | 1.833   15.02 | 2.833    4.49 |  3.83    2.61
    0.917   12.98 | 1.917   10.97 | 2.917    4.01 |  3.92    2.44
    1.000   12.98 | 2.000   10.97 | 3.000    4.01 |  4.00    2.44

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.075 (i)
     TIME TO PEAK    (hrs)=   1.667
     RUNOFF VOLUME    (mm)=  13.543
     TOTAL RAINFALL   (mm)=  53.500
     RUNOFF COEFFICIENT   =   0.253

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

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

--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.028     1.33     3.06
     + ID2= 2 (  0005):     2.30   0.075     1.67    13.54
       ================================================
       ID = 3 (  0007):     4.00   0.084     1.67     9.09

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

--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0007):     4.00   0.084     1.67     9.09
     + ID2= 2 (  0008):     0.77   0.098     1.50    14.20
       ================================================
       ID = 1 (  0007):     4.76   0.177     1.50     9.92

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

  -------------------------
  | Junction Command(0010) |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	3.85	0.13	1.33	14.73
OUTFLOW: ID= 2(0010)	3.85	0.13	1.33	14.73

****
** SIMULATION:4) PTBO 4HR 25 Yr **
****

CHICAGO STORM	Ptotal= 61.50 mm

IDF curve parameters: A=2010.000
B= 14.000
C= 0.880
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	3.09	1.00	39.20	2.00	9.66	3.00	3.89
0.17	3.70	1.17	122.63	2.17	7.82	3.17	3.53
0.33	4.60	1.33	51.58	2.33	6.53	3.33	3.22
0.50	6.06	1.50	26.88	2.50	5.60	3.50	2.97
0.67	8.73	1.67	17.34	2.67	4.89	3.67	2.75
0.83	14.90	1.83	12.51	2.83	4.33	3.83	2.56

CALIB	NASHYD (0004)	ID= 1 DT= 5.0 min

Area (ha)= 1.70 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.03

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.038 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 3.971
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.065

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

CALIB	NASHYD (0001)	ID= 1 DT= 5.0 min

Area (ha)= 3.17 Curve Number (CN)= 71.4
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.238 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 19.807
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.322

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

CALIB	NASHYD (0002)	ID= 1 DT= 5.0 min

Area (ha)= 1.04 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.067 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 17.265
TOTAL RAINFALL (mm)= 61.498
RUNOFF COEFFICIENT = 0.281

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

CALIB	NASHYD (0003)	ID= 1 DT= 5.0 min

Area (ha)= 0.40 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.026 (i)

```
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  17.265
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.281

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

ADD HYD (0006)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0001):	3.17	0.238	1.42	19.81
	+ ID2= 2 (0002):	1.04	0.067	1.42	17.27
	ID = 3 (0006):	4.21	0.304	1.42	19.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0006):	4.21	0.304	1.42	19.18
	+ ID2= 2 (0003):	0.40	0.026	1.42	17.26
	ID = 1 (0006):	4.62	0.330	1.42	19.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.= 0.132					
#of Inlets= 1					
Total(cms)= 0.1	TOTAL HYD.(ID= 1):	4.62	0.33	1.42	19.01
	MAJOR SYS.(ID= 2):	1.20	0.20	1.42	19.01
	MINOR SYS.(ID= 3):	3.42	0.13	1.25	19.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0008)	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	0.1450	0.0045
0.0000	0.0004	0.2061	0.0090
0.0363	0.0008	0.2510	0.0135
0.0555	0.0027	0.2886	0.0201

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	1.200	0.198	1.42	19.01
OUTFLOW: ID= 1 (0008)	1.200	0.164	1.50	18.70

```
     PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.53
     TIME SHIFT OF PEAK FLOW         (min)=  5.00
     MAXIMUM  STORAGE   USED       (ha.m.)=  0.0060
```

CALIB					
NASHYD (0005)	Area (ha)=	2.30	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.28			

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	3.09	1.083	39.20	2.083	9.66	3.08	3.89
0.167	3.09	1.167	39.20	2.167	9.66	3.17	3.89
0.250	3.70	1.250	122.63	2.250	7.82	3.25	3.53
0.333	3.70	1.333	122.63	2.333	7.82	3.33	3.53
0.417	4.60	1.417	51.58	2.417	6.53	3.42	3.22
0.500	4.60	1.500	51.58	2.500	6.53	3.50	3.22
0.583	6.06	1.583	26.88	2.583	5.60	3.58	2.97
0.667	6.06	1.667	26.88	2.667	5.60	3.67	2.97
0.750	8.73	1.750	17.34	2.750	4.89	3.75	2.75
0.833	8.73	1.833	17.34	2.833	4.89	3.83	2.75
0.917	14.90	1.917	12.51	2.917	4.33	3.92	2.56
1.000	14.90	2.000	12.51	3.000	4.33	4.00	2.56

```
     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.101 (i)
     TIME TO PEAK    (hrs)=   1.667
     RUNOFF VOLUME    (mm)=  17.568
     TOTAL RAINFALL   (mm)=  61.498
     RUNOFF COEFFICIENT   =   0.286

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

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0004):	1.70	0.038	1.33	3.97
	+ ID2= 2 (0005):	2.30	0.101	1.67	17.57
	ID = 3 (0007):	4.00	0.113	1.67	11.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0007):	4.00	0.113	1.67	11.80
	+ ID2= 2 (0008):	1.20	0.164	1.50	18.70
	ID = 1 (0007):	5.20	0.271	1.50	13.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0010)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	3.42	0.13	1.25	19.01
OUTFLOW: ID= 2(0010)	3.42	0.13	1.25	19.01

```
************************************
** SIMULATION:5) PTBO 4HR 50 Yr  **
************************************
```

CHICAGO STORM	IDF curve parameters: A=2110.000
Ptotal= 68.70 mm	B= 12.000
	C= 0.870

```
                    used in:   INTENSITY =  A / (t + B)^C

                    Duration of storm  =  4.00 hrs
                    Storm time step    = 10.00 min
                    Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	3.49	1.00	42.63	2.00	10.48	3.00	4.35
0.17	4.15	1.17	143.34	2.17	8.52	3.17	3.96
0.33	5.11	1.33	56.43	2.33	7.17	3.33	3.63
0.50	6.66	1.50	28.88	2.50	6.17	3.50	3.36
0.67	9.49	1.67	18.62	2.67	5.42	3.67	3.12
0.83	16.03	1.83	13.49	2.83	4.82	3.83	2.92

CALIB					
NASHYD (0004)	Area (ha)=	1.70	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.03			

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.050 (i)
TIME TO PEAK (hrs)= 1.333
RUNOFF VOLUME (mm)= 4.856
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.071

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

CALIB					
NASHYD (0001)	Area	(ha)= 3.17	Curve Number	(CN)= 71.4
ID= 1 DT= 5.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11		

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.302 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 24.085
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.351

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

CALIB					
NASHYD (0002)	Area	(ha)= 1.04	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11		

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.085 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 21.113
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.307

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

CALIB					
NASHYD (0003)	Area	(ha)= 0.40	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.11		

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	3.49	1.083	42.63	2.083	10.48	3.08	4.35
0.167	3.49	1.167	42.63	2.167	10.48	3.17	4.35
0.250	4.15	1.250	143.34	2.250	8.52	3.25	3.96
0.333	4.15	1.333	143.34	2.333	8.52	3.33	3.96
0.417	5.11	1.417	56.43	2.417	7.17	3.42	3.63
0.500	5.11	1.500	56.43	2.500	7.17	3.50	3.63
0.583	6.66	1.583	28.88	2.583	6.17	3.58	3.36
0.667	6.66	1.667	28.88	2.667	6.17	3.67	3.36
0.750	9.49	1.750	18.62	2.750	5.42	3.75	3.12
0.833	9.49	1.833	18.62	2.833	5.42	3.83	3.12
0.917	16.03	1.917	13.49	2.917	4.82	3.92	2.92
1.000	16.03	2.000	13.49	3.000	4.82	4.00	2.92

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.033 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 21.112
TOTAL RAINFALL (mm)= 68.705
RUNOFF COEFFICIENT = 0.307

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

ADD HYD (0006)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.302	1.42	24.09
+ ID2= 2 (0002):	1.04	0.085	1.42	21.11
ID = 3 (0006):	4.21	0.388	1.42	23.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0006):	4.21	0.388	1.42	23.35
+ ID2= 2 (0003):	0.40	0.033	1.42	21.11
ID = 1 (0006):	4.62	0.421	1.42	23.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)				
Inlet Cap.= 0.132				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	4.62	0.42	1.42	23.16

```
     ================================================
     MAJOR SYS.(ID= 2):   1.54      0.29      1.42   23.16
     MINOR SYS.(ID= 3):   3.07      0.13      1.25   23.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0008)|     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   |    0.1450      0.0045
                         0.0000      0.0004   |    0.2061      0.0090
                         0.0363      0.0008   |    0.2510      0.0135
                         0.0555      0.0027   |    0.2886      0.0201

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0009)    1.542     0.289      1.42      23.16
   OUTFLOW: ID= 1 (  0008)    1.542     0.214      1.50      22.90

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 73.99
                  TIME SHIFT OF PEAK FLOW        (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0102

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=   2.30   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.28

        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    3.49 | 1.083   42.63 | 2.083   10.48 |  3.08    4.35
              0.167    3.49 | 1.167   42.63 | 2.167   10.48 |  3.17    4.35
              0.250    4.15 | 1.250  143.34 | 2.250    8.52 |  3.25    3.96
              0.333    4.15 | 1.333  143.34 | 2.333    8.52 |  3.33    3.96
              0.417    5.11 | 1.417   56.43 | 2.417    7.17 |  3.42    3.63
              0.500    5.11 | 1.500   56.43 | 2.500    7.17 |  3.50    3.63
              0.583    6.66 | 1.583   28.88 | 2.583    6.17 |  3.58    3.36
              0.667    6.66 | 1.667   28.88 | 2.667    6.17 |  3.67    3.36
              0.750    9.49 | 1.750   18.62 | 2.750    5.42 |  3.75    3.12
              0.833    9.49 | 1.833   18.62 | 2.833    5.42 |  3.83    3.12
              0.917   16.03 | 1.917   13.49 | 2.917    4.82 |  3.92    2.92
              1.000   16.03 | 2.000   13.49 | 3.000    4.82 |  4.00    2.92

     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.126 (i)
     TIME TO PEAK    (hrs)=   1.667
     RUNOFF VOLUME    (mm)=  21.483
     TOTAL RAINFALL   (mm)=  68.705
     RUNOFF COEFFICIENT   =   0.313

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

--------------------------------------------------------------------------------
--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.050     1.33     4.86
     + ID2= 2 (  0005):     2.30   0.126     1.67    21.48
       ================================================
       ID = 3 (  0007):     4.00   0.141     1.67    14.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0007):     4.00   0.141     1.67    14.43
     + ID2= 2 (  0008):     1.54   0.214     1.50    22.90
       ================================================
       ID = 1 (  0007):     5.54   0.349     1.50    16.79
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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  --------------------------
  | Junction Command(0010) |
  --------------------------

                             AREA     QPEAK    TPEAK     R.V.
                             (ha)     (cms)    (hrs)     (mm)
  INFLOW : ID= 9(  0009)     3.07      0.13     1.25    23.16
  OUTFLOW: ID= 2(  0010)     3.07      0.13     1.25    23.16

  --------------------------------------------------------------------------------
************************************
** SIMULATION:6) PTBO 4HR 100 Yr **
************************************
--------------------
| CHICAGO STORM    |     IDF curve parameters: A=2518.000
| Ptotal= 76.41 mm |                           B=  13.200
--------------------                           C=   0.882
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.00     3.74 |  1.00   48.41 |  2.00   11.70 |  3.00    4.70
              0.17     4.47 |  1.17  157.29 |  2.17    9.45 |  3.17    4.26
              0.33     5.56 |  1.33   64.01 |  2.33    7.90 |  3.33    3.90
              0.50     7.32 |  1.50   32.88 |  2.50    6.77 |  3.50    3.59
              0.67    10.56 |  1.67   21.09 |  2.67    5.91 |  3.67    3.33
              0.83    18.10 |  1.83   15.17 |  2.83    5.24 |  3.83    3.10

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

        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    3.74 | 1.083   48.41 | 2.083   11.70 |  3.08    4.70
              0.167    3.74 | 1.167   48.41 | 2.167   11.70 |  3.17    4.70
              0.250    4.47 | 1.250  157.29 | 2.250    9.45 |  3.25    4.26
              0.333    4.47 | 1.333  157.29 | 2.333    9.45 |  3.33    4.26
              0.417    5.56 | 1.417   64.01 | 2.417    7.90 |  3.42    3.90
              0.500    5.56 | 1.500   64.01 | 2.500    7.90 |  3.50    3.90
              0.583    7.32 | 1.583   32.88 | 2.583    6.77 |  3.58    3.59
              0.667    7.32 | 1.667   32.88 | 2.667    6.77 |  3.67    3.59
              0.750   10.56 | 1.750   21.09 | 2.750    5.91 |  3.75    3.33
              0.833   10.56 | 1.833   21.09 | 2.833    5.91 |  3.83    3.33
              0.917   18.10 | 1.917   15.17 | 2.917    5.24 |  3.92    3.10
              1.000   18.10 | 2.000   15.17 | 3.000    5.24 |  4.00    3.10

     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.060 (i)
     TIME TO PEAK    (hrs)=   1.333
     RUNOFF VOLUME    (mm)=   5.861
     TOTAL RAINFALL   (mm)=  76.405
     RUNOFF COEFFICIENT   =   0.077

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.365 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 28.915
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.378

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

CALIB			
NASHYD (0002)	Area (ha)=	1.04	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.104 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 25.486
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.334

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

CALIB			
NASHYD (0003)	Area (ha)=	0.40	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.11	

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.040 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 25.486
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.334

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

ADD HYD (0006)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0001):	3.17	0.365	1.42	28.91
	+ ID2= 2 (0002):	1.04	0.104	1.42	25.49
	ID = 3 (0006):	4.21	0.468	1.42	28.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 1 = 1	ID1= 3 (0006):	4.21	0.468	1.42	28.07
	+ ID2= 2 (0003):	0.40	0.040	1.42	25.49
	ID = 1 (0006):	4.62	0.509	1.42	27.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.= 0.132					
#of Inlets= 1					
Total(cms)= 0.1	TOTAL HYD.(ID= 1):	4.62	0.51	1.42	27.84
	MAJOR SYS.(ID= 2):	1.82	0.38	1.42	27.84
	MINOR SYS.(ID= 3):	2.80	0.13	1.25	27.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0008)	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	0.1450	0.0045
	0.0000	0.0004	0.2061	0.0090
	0.0363	0.0008	0.2510	0.0135
	0.0555	0.0027	0.2886	0.0201

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	1.816	0.377	1.42	27.84
OUTFLOW: ID= 1 (0008)	1.816	0.257	1.58	27.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 68.33
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0151

CALIB			
NASHYD (0005)	Area (ha)=	2.30	Curve Number (CN)= 67.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.28	

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	3.74	1.083	48.41	2.083	11.70	3.08	4.70
0.167	3.74	1.167	48.41	2.167	11.70	3.17	4.70
0.250	4.47	1.250	157.29	2.250	9.45	3.25	4.26
0.333	4.47	1.333	157.29	2.333	9.45	3.33	4.26
0.417	5.56	1.417	64.01	2.417	7.90	3.42	3.90
0.500	5.56	1.500	64.01	2.500	7.90	3.50	3.90
0.583	7.32	1.583	32.88	2.583	6.77	3.58	3.59
0.667	7.32	1.667	32.88	2.667	6.77	3.67	3.59
0.750	10.56	1.750	21.09	2.750	5.91	3.75	3.33
0.833	10.56	1.833	21.09	2.833	5.91	3.83	3.33
0.917	18.10	1.917	15.17	2.917	5.24	3.92	3.10
1.000	18.10	2.000	15.17	3.000	5.24	4.00	3.10

Unit Hyd Qpeak (cms)= 0.310

PEAK FLOW (cms)= 0.154 (i)
TIME TO PEAK (hrs)= 1.667
RUNOFF VOLUME (mm)= 25.933
TOTAL RAINFALL (mm)= 76.405
RUNOFF COEFFICIENT = 0.339

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

ADD HYD (0007)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0004):		1.70	0.060	1.33	5.86
+ ID2= 2 (0005):		2.30	0.154	1.67	25.93
ID = 3 (0007):		4.00	0.172	1.67	17.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0007)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0007):		4.00	0.172	1.67	17.41
+ ID2= 2 (0008):		1.82	0.257	1.58	27.64
ID = 1 (0007):		5.81	0.425	1.58	20.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0010)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	2.80	0.13	1.25	27.84
OUTFLOW: ID= 2(0010)	2.80	0.13	1.25	27.84

****
** SIMULATION:7) 6 HR SCS - 2 YR **
****

READ STORM	Filename: C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\17a48e57
Ptotal= 38.75 mm	Comments: PETERBOROUGH SCS 6HR 2YR

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	1.75	3.90	3.50	8.50	5.25	1.60
0.25	1.60	2.00	3.90	3.75	3.90	5.50	1.60
0.50	1.60	2.25	4.60	4.00	3.90	5.75	1.60
0.75	2.30	2.50	4.60	4.25	3.10	6.00	1.60
1.00	2.30	2.75	23.20	4.50	3.10		
1.25	2.30	3.00	60.40	4.75	2.30		
1.50	2.30	3.25	8.50	5.00	2.30		

CALIB					
NASHYD (0004)	Area (ha)= 1.70	Curve Number (CN)= 67.0	ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
				U.H. Tp(hrs)= 0.03	

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	0.00	1.667	2.30	3.250	60.40	4.83	2.30
0.167	0.00	1.750	2.30	3.333	8.50	4.92	2.30
0.250	0.00	1.833	3.90	3.417	8.50	5.00	2.30
0.333	1.60	1.917	3.90	3.500	8.50	5.08	2.30
0.417	1.60	2.000	3.90	3.583	8.50	5.17	2.30
0.500	1.60	2.083	3.90	3.667	8.50	5.25	2.30
0.583	1.60	2.167	3.90	3.750	8.50	5.33	1.60
0.667	1.60	2.250	3.90	3.833	3.90	5.42	1.60
0.750	1.60	2.333	4.60	3.917	3.90	5.50	1.60
0.833	2.30	2.417	4.60	4.000	3.90	5.58	1.60
0.917	2.30	2.500	4.60	4.083	3.90	5.67	1.60
1.000	2.30	2.583	4.60	4.167	3.90	5.75	1.60
1.083	2.30	2.667	4.60	4.250	3.90	5.83	1.60
1.167	2.30	2.750	4.60	4.333	3.10	5.92	1.60
1.250	2.30	2.833	23.20	4.417	3.10	6.00	1.60
1.333	2.30	2.917	23.20	4.500	3.10	6.08	1.60
1.417	2.30	3.000	23.20	4.583	3.10	6.17	1.60
1.500	2.30	3.083	60.40	4.667	3.10	6.25	1.60
1.583	2.30	3.167	60.40	4.750	3.10		

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.017 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 1.620
TOTAL RAINFALL (mm)= 38.750
RUNOFF COEFFICIENT = 0.042

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

CALIB					
NASHYD (0001)	Area (ha)= 3.17	Curve Number (CN)= 71.4	ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
				U.H. Tp(hrs)= 0.11	

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	0.00	1.667	2.30	3.250	60.40	4.83	2.30
0.167	0.00	1.750	2.30	3.333	8.50	4.92	2.30
0.250	0.00	1.833	3.90	3.417	8.50	5.00	2.30
0.333	1.60	1.917	3.90	3.500	8.50	5.08	2.30
0.417	1.60	2.000	3.90	3.583	8.50	5.17	2.30
0.500	1.60	2.083	3.90	3.667	8.50	5.25	2.30
0.583	1.60	2.167	3.90	3.750	8.50	5.33	1.60
0.667	1.60	2.250	3.90	3.833	3.90	5.42	1.60
0.750	1.60	2.333	4.60	3.917	3.90	5.50	1.60
0.833	2.30	2.417	4.60	4.000	3.90	5.58	1.60
0.917	2.30	2.500	4.60	4.083	3.90	5.67	1.60
1.000	2.30	2.583	4.60	4.167	3.90	5.75	1.60
1.083	2.30	2.667	4.60	4.250	3.90	5.83	1.60
1.167	2.30	2.750	4.60	4.333	3.10	5.92	1.60
1.250	2.30	2.833	23.20	4.417	3.10	6.00	1.60
1.333	2.30	2.917	23.20	4.500	3.10	6.08	1.60
1.417	2.30	3.000	23.20	4.583	3.10	6.17	1.60
1.500	2.30	3.083	60.40	4.667	3.10	6.25	1.60
1.583	2.30	3.167	60.40	4.750	3.10		

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.125 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 8.254
TOTAL RAINFALL (mm)= 38.750
RUNOFF COEFFICIENT = 0.213

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

CALIB					
NASHYD (0002)	Area	(ha)=	1.04	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.11		

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	0.00	1.667	2.30	3.250	60.40	4.83	2.30
0.167	0.00	1.750	2.30	3.333	8.50	4.92	2.30
0.250	0.00	1.833	3.90	3.417	8.50	5.00	2.30
0.333	1.60	1.917	3.90	3.500	8.50	5.08	2.30
0.417	1.60	2.000	3.90	3.583	8.50	5.17	2.30
0.500	1.60	2.083	3.90	3.667	8.50	5.25	2.30
0.583	1.60	2.167	3.90	3.750	8.50	5.33	1.60
0.667	1.60	2.250	3.90	3.833	3.90	5.42	1.60
0.750	1.60	2.333	4.60	3.917	3.90	5.50	1.60
0.833	2.30	2.417	4.60	4.000	3.90	5.58	1.60
0.917	2.30	2.500	4.60	4.083	3.90	5.67	1.60
1.000	2.30	2.583	4.60	4.167	3.90	5.75	1.60
1.083	2.30	2.667	4.60	4.250	3.90	5.83	1.60
1.167	2.30	2.750	4.60	4.333	3.10	5.92	1.60
1.250	2.30	2.833	23.20	4.417	3.10	6.00	1.60
1.333	2.30	2.917	23.20	4.500	3.10	6.08	1.60
1.417	2.30	3.000	23.20	4.583	3.10	6.17	1.60
1.500	2.30	3.083	60.40	4.667	3.10	6.25	1.60
1.583	2.30	3.167	60.40	4.750	3.10		

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.035 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 7.043
TOTAL RAINFALL (mm)= 38.750
RUNOFF COEFFICIENT = 0.182

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

CALIB					
NASHYD (0003)	Area	(ha)=	0.40	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.11		

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	0.00	1.667	2.30	3.250	60.40	4.83	2.30
0.167	0.00	1.750	2.30	3.333	8.50	4.92	2.30
0.250	0.00	1.833	3.90	3.417	8.50	5.00	2.30
0.333	1.60	1.917	3.90	3.500	8.50	5.08	2.30
0.417	1.60	2.000	3.90	3.583	8.50	5.17	2.30
0.500	1.60	2.083	3.90	3.667	8.50	5.25	2.30
0.583	1.60	2.167	3.90	3.750	8.50	5.33	1.60
0.667	1.60	2.250	3.90	3.833	3.90	5.42	1.60
0.750	1.60	2.333	4.60	3.917	3.90	5.50	1.60
0.833	2.30	2.417	4.60	4.000	3.90	5.58	1.60
0.917	2.30	2.500	4.60	4.083	3.90	5.67	1.60
1.000	2.30	2.583	4.60	4.167	3.90	5.75	1.60
1.083	2.30	2.667	4.60	4.250	3.90	5.83	1.60
1.167	2.30	2.750	4.60	4.333	3.10	5.92	1.60
1.250	2.30	2.833	23.20	4.417	3.10	6.00	1.60
1.333	2.30	2.917	23.20	4.500	3.10	6.08	1.60
1.417	2.30	3.000	23.20	4.583	3.10	6.17	1.60
1.500	2.30	3.083	60.40	4.667	3.10	6.25	1.60
1.583	2.30	3.167	60.40	4.750	3.10		

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.013 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 7.043
TOTAL RAINFALL (mm)= 38.750
RUNOFF COEFFICIENT = 0.182

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

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	3.17	0.125	3.25	8.25
	+ ID2= 2 (0002):	1.04	0.035	3.25	7.04
	ID = 3 (0006):	4.21	0.160	3.25	7.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0006):	4.21	0.160	3.25	7.96
	+ ID2= 2 (0003):	0.40	0.013	3.25	7.04
	ID = 1 (0006):	4.62	0.173	3.25	7.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)					
Inlet Cap.= 0.132					
#of Inlets= 1					
Total(cms)= 0.1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	TOTAL HYD.(ID= 1):	4.62	0.17	3.25	7.88
	MAJOR SYS.(ID= 2):	0.16	0.04	3.25	7.88
	MINOR SYS.(ID= 3):	4.46	0.13	3.25	7.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0008)	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	0.1450	0.0045
	0.0000	0.0004	0.2061	0.0090
	0.0363	0.0008	0.2510	0.0135
	0.0555	0.0027	0.2886	0.0201

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	0.157	0.041	3.25	7.88
OUTFLOW: ID= 1 (0008)	0.157	0.022	3.33	5.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.08
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0010

CALIB					
NASHYD (0005)	Area	(ha)=	2.30	Curve Number	(CN)= 67.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.28		

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	0.00	1.667	2.30	3.250	60.40	4.83	2.30
0.167	0.00	1.750	2.30	3.333	8.50	4.92	2.30
0.250	0.00	1.833	3.90	3.417	8.50	5.00	2.30
0.333	1.60	1.917	3.90	3.500	8.50	5.08	2.30
0.417	1.60	2.000	3.90	3.583	8.50	5.17	2.30
0.500	1.60	2.083	3.90	3.667	8.50	5.25	2.30
0.583	1.60	2.167	3.90	3.750	8.50	5.33	1.60
0.667	1.60	2.250	3.90	3.833	3.90	5.42	1.60
0.750	1.60	2.333	4.60	3.917	3.90	5.50	1.60
0.833	2.30	2.417	4.60	4.000	3.90	5.58	1.60
0.917	2.30	2.500	4.60	4.083	3.90	5.67	1.60
1.000	2.30	2.583	4.60	4.167	3.90	5.75	1.60
1.083	2.30	2.667	4.60	4.250	3.90	5.83	1.60

1.167	2.30	2.750	4.60	4.333	3.10	5.92	1.60
1.250	2.30	2.833	23.20	4.417	3.10	6.00	1.60
1.333	2.30	2.917	23.20	4.500	3.10	6.08	1.60
1.417	2.30	3.000	23.20	4.583	3.10	6.17	1.60
1.500	2.30	3.083	60.40	4.667	3.10	6.25	1.60
1.583	2.30	3.167	60.40	4.750	3.10		

Unit Hyd Qpeak (cms)= 0.310

PEAK FLOW (cms)= 0.042 (i)
TIME TO PEAK (hrs)= 3.417
RUNOFF VOLUME (mm)= 7.167
TOTAL RAINFALL (mm)= 38.750
RUNOFF COEFFICIENT = 0.185

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

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0004):	1.70	0.017	3.25	1.62
	+ ID2= 2 (0005):	2.30	0.042	3.42	7.17
	ID = 3 (0007):	4.00	0.047	3.25	4.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0007):	4.00	0.047	3.25	4.81
	+ ID2= 2 (0008):	0.16	0.022	3.33	5.69
	ID = 1 (0007):	4.15	0.065	3.33	4.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0010)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	4.46	0.13	3.25	7.88
OUTFLOW: ID= 2(0010)	4.46	0.13	3.25	7.88

****
** SIMULATION:8) 6 HR SCS - 5 YR **
****

READ STORM | Ptotal= 52.44 mm

Filename: C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\3fa47f69
Comments: PETERBOROUGH SCS 6HR 5YR

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	1.75	5.20	3.50	11.50	5.25	2.10
0.25	2.10	2.00	5.20	3.75	5.20	5.50	2.10
0.50	2.10	2.25	6.30	4.00	5.20	5.75	2.10
0.75	3.20	2.50	6.30	4.25	4.20	6.00	2.10
1.00	3.20	2.75	31.40	4.50	4.20		
1.25	3.20	3.00	81.78	4.75	3.20		
1.50	3.20	3.25	11.50	5.00	3.20		

CALIB | NASHYD (0004) | ID= 1 DT= 5.0 min

Area (ha)= 1.70 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.03

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	0.00	1.667	3.20	3.250	81.78	4.83	3.20
0.167	0.00	1.750	3.20	3.333	11.50	4.92	3.20
0.250	0.00	1.833	5.20	3.417	11.50	5.00	3.20
0.333	2.10	1.917	5.20	3.500	11.50	5.08	3.20
0.417	2.10	2.000	5.20	3.583	11.50	5.17	3.20
0.500	2.10	2.083	5.20	3.667	11.50	5.25	3.20
0.583	2.10	2.167	5.20	3.750	11.50	5.33	2.10
0.667	2.10	2.250	5.20	3.833	5.20	5.42	2.10
0.750	2.10	2.333	6.30	3.917	5.20	5.50	2.10
0.833	3.20	2.417	6.30	4.000	5.20	5.58	2.10
0.917	3.20	2.500	6.30	4.083	5.20	5.67	2.10
1.000	3.20	2.583	6.30	4.167	5.20	5.75	2.10
1.083	3.20	2.667	6.30	4.250	5.20	5.83	2.10
1.167	3.20	2.750	6.30	4.333	4.20	5.92	2.10
1.250	3.20	2.833	31.40	4.417	4.20	6.00	2.10
1.333	3.20	2.917	31.40	4.500	4.20	6.08	2.10
1.417	3.20	3.000	31.40	4.583	4.20	6.17	2.10
1.500	3.20	3.083	81.78	4.667	4.20	6.25	2.10
1.583	3.20	3.167	81.78	4.750	4.20		

Unit Hyd Qpeak (cms)= 2.465

PEAK FLOW (cms)= 0.030 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 2.947
TOTAL RAINFALL (mm)= 52.445
RUNOFF COEFFICIENT = 0.056

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

CALIB | NASHYD (0001) | ID= 1 DT= 5.0 min

Area (ha)= 3.17 Curve Number (CN)= 71.4
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	0.00	1.667	3.20	3.250	81.78	4.83	3.20
0.167	0.00	1.750	3.20	3.333	11.50	4.92	3.20
0.250	0.00	1.833	5.20	3.417	11.50	5.00	3.20
0.333	2.10	1.917	5.20	3.500	11.50	5.08	3.20
0.417	2.10	2.000	5.20	3.583	11.50	5.17	3.20
0.500	2.10	2.083	5.20	3.667	11.50	5.25	3.20
0.583	2.10	2.167	5.20	3.750	11.50	5.33	2.10
0.667	2.10	2.250	5.20	3.833	5.20	5.42	2.10
0.750	2.10	2.333	6.30	3.917	5.20	5.50	2.10
0.833	3.20	2.417	6.30	4.000	5.20	5.58	2.10
0.917	3.20	2.500	6.30	4.083	5.20	5.67	2.10
1.000	3.20	2.583	6.30	4.167	5.20	5.75	2.10
1.083	3.20	2.667	6.30	4.250	5.20	5.83	2.10
1.167	3.20	2.750	6.30	4.333	4.20	5.92	2.10
1.250	3.20	2.833	31.40	4.417	4.20	6.00	2.10
1.333	3.20	2.917	31.40	4.500	4.20	6.08	2.10
1.417	3.20	3.000	31.40	4.583	4.20	6.17	2.10
1.500	3.20	3.083	81.78	4.667	4.20	6.25	2.10
1.583	3.20	3.167	81.78	4.750	4.20		

Unit Hyd Qpeak (cms)= 1.092

PEAK FLOW (cms)= 0.226 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 14.815
TOTAL RAINFALL (mm)= 52.445
RUNOFF COEFFICIENT = 0.282

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

CALIB | NASHYD (0002) | ID= 1 DT= 5.0 min

Area (ha)= 1.04 Curve Number (CN)= 67.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.11

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	0.00	1.667	3.20	3.250	81.78	4.83	3.20
0.167	0.00	1.750	3.20	3.333	11.50	4.92	3.20
0.250	0.00	1.833	5.20	3.417	11.50	5.00	3.20
0.333	2.10	1.917	5.20	3.500	11.50	5.08	3.20
0.417	2.10	2.000	5.20	3.583	11.50	5.17	3.20
0.500	2.10	2.083	5.20	3.667	11.50	5.25	3.20
0.583	2.10	2.167	5.20	3.750	11.50	5.33	2.10
0.667	2.10	2.250	5.20	3.833	5.20	5.42	2.10
0.750	2.10	2.333	6.30	3.917	5.20	5.50	2.10
0.833	3.20	2.417	6.30	4.000	5.20	5.58	2.10
0.917	3.20	2.500	6.30	4.083	5.20	5.67	2.10
1.000	3.20	2.583	6.30	4.167	5.20	5.75	2.10
1.083	3.20	2.667	6.30	4.250	5.20	5.83	2.10
1.167	3.20	2.750	6.30	4.333	4.20	5.92	2.10
1.250	3.20	2.833	31.40	4.417	4.20	6.00	2.10
1.333	3.20	2.917	31.40	4.500	4.20	6.08	2.10
1.417	3.20	3.000	31.40	4.583	4.20	6.17	2.10
1.500	3.20	3.083	81.78	4.667	4.20	6.25	2.10
1.583	3.20	3.167	81.78	4.750	4.20		

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.064 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 12.814
TOTAL RAINFALL (mm)= 52.445
RUNOFF COEFFICIENT = 0.244

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

CALIB NASHYD (0003) | ID= 1 DT= 5.0 min	Area (ha)= 0.40 Curve Number (CN)= 67.0 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.11

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	0.00	1.667	3.20	3.250	81.78	4.83	3.20
0.167	0.00	1.750	3.20	3.333	11.50	4.92	3.20
0.250	0.00	1.833	5.20	3.417	11.50	5.00	3.20
0.333	2.10	1.917	5.20	3.500	11.50	5.08	3.20
0.417	2.10	2.000	5.20	3.583	11.50	5.17	3.20
0.500	2.10	2.083	5.20	3.667	11.50	5.25	3.20
0.583	2.10	2.167	5.20	3.750	11.50	5.33	2.10
0.667	2.10	2.250	5.20	3.833	5.20	5.42	2.10
0.750	2.10	2.333	6.30	3.917	5.20	5.50	2.10
0.833	3.20	2.417	6.30	4.000	5.20	5.58	2.10
0.917	3.20	2.500	6.30	4.083	5.20	5.67	2.10
1.000	3.20	2.583	6.30	4.167	5.20	5.75	2.10
1.083	3.20	2.667	6.30	4.250	5.20	5.83	2.10
1.167	3.20	2.750	6.30	4.333	4.20	5.92	2.10
1.250	3.20	2.833	31.40	4.417	4.20	6.00	2.10
1.333	3.20	2.917	31.40	4.500	4.20	6.08	2.10
1.417	3.20	3.000	31.40	4.583	4.20	6.17	2.10
1.500	3.20	3.083	81.78	4.667	4.20	6.25	2.10
1.583	3.20	3.167	81.78	4.750	4.20		

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 12.814
TOTAL RAINFALL (mm)= 52.445
RUNOFF COEFFICIENT = 0.244

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

ADD HYD (0006) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.226	3.25	14.82
+ ID2= 2 (0002):	1.04	0.064	3.25	12.81
ID = 3 (0006):	4.21	0.290	3.25	14.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006) | 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0006):	4.21	0.290	3.25	14.32
+ ID2= 2 (0003):	0.40	0.025	3.25	12.81
ID = 1 (0006):	4.62	0.315	3.25	14.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009) | Inlet Cap.= 0.132 | #of Inlets= 1 | Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	4.62	0.31	3.25	14.19
MAJOR SYS.(ID= 2):	0.83	0.18	3.25	14.19
MINOR SYS.(ID= 3):	3.78	0.13	3.08	14.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0008) | 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	0.1450	0.0045
0.0000	0.0004	0.2061	0.0090
0.0363	0.0008	0.2510	0.0135
0.0555	0.0027	0.2886	0.0201

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	0.835	0.183	3.25	14.19
OUTFLOW: ID= 1 (0008)	0.835	0.134	3.33	13.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 73.32
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0048

CALIB NASHYD (0005) | ID= 1 DT= 5.0 min	Area (ha)= 2.30 Curve Number (CN)= 67.0 Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.28

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	0.00	1.667	3.20	3.250	81.78	4.83	3.20
0.167	0.00	1.750	3.20	3.333	11.50	4.92	3.20
0.250	0.00	1.833	5.20	3.417	11.50	5.00	3.20
0.333	2.10	1.917	5.20	3.500	11.50	5.08	3.20
0.417	2.10	2.000	5.20	3.583	11.50	5.17	3.20
0.500	2.10	2.083	5.20	3.667	11.50	5.25	3.20
0.583	2.10	2.167	5.20	3.750	11.50	5.33	2.10
0.667	2.10	2.250	5.20	3.833	5.20	5.42	2.10
0.750	2.10	2.333	6.30	3.917	5.20	5.50	2.10
0.833	3.20	2.417	6.30	4.000	5.20	5.58	2.10
0.917	3.20	2.500	6.30	4.083	5.20	5.67	2.10
1.000	3.20	2.583	6.30	4.167	5.20	5.75	2.10
1.083	3.20	2.667	6.30	4.250	5.20	5.83	2.10
1.167	3.20	2.750	6.30	4.333	4.20	5.92	2.10
1.250	3.20	2.833	31.40	4.417	4.20	6.00	2.10
1.333	3.20	2.917	31.40	4.500	4.20	6.08	2.10
1.417	3.20	3.000	31.40	4.583	4.20	6.17	2.10
1.500	3.20	3.083	81.78	4.667	4.20	6.25	2.10
1.583	3.20	3.167	81.78	4.750	4.20		

```
     Unit Hyd Qpeak  (cms)=   0.310

     PEAK FLOW       (cms)=   0.079 (i)
     TIME TO PEAK    (hrs)=   3.417
     RUNOFF VOLUME    (mm)=  13.039
     TOTAL RAINFALL   (mm)=  52.445
     RUNOFF COEFFICIENT   =   0.249

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

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--------------------
| ADD HYD  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     1.70   0.030     3.25     2.95
     + ID2= 2 (  0005):     2.30   0.079     3.42    13.04
       ================================================
       ID = 3 (  0007):     4.00   0.088     3.25     8.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0007)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0007):     4.00   0.088     3.25     8.76
     + ID2= 2 (  0008):     0.83   0.134     3.33    13.74
       ================================================
       ID = 1 (  0007):     4.83   0.213     3.33     9.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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  --------------------------
  | Junction Command(0010) |
  --------------------------

                          AREA     QPEAK    TPEAK     R.V.
                          (ha)     (cms)    (hrs)     (mm)
  INFLOW : ID= 9(  0009)    3.78     0.13     3.08    14.19
  OUTFLOW: ID= 2(  0010)    3.78     0.13     3.08    14.19

  --------------------------------------------------------------------------------
**********************************
** SIMULATION:9) 6 HR SCS - 10YR **
**********************************

--------------------
|    READ STORM    |    Filename: C:\Users\matthew.holmes\AppD
|                  |              ata\Local\Temp\
|                  |              2d559284-8204-41f2-9736-17f805a656b4\286687d0
| Ptotal= 61.60 mm |    Comments: PETERBOROUGH SCS 6HR 10YR
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.00    0.00 |  1.75    6.20 |  3.50   13.50 |  5.25    2.50
               0.25    2.50 |  2.00    6.20 |  3.75    6.20 |  5.50    2.50
               0.50    2.50 |  2.25    7.40 |  4.00    6.20 |  5.75    2.50
               0.75    3.70 |  2.50    7.40 |  4.25    4.90 |  6.00    2.50
               1.00    3.70 |  2.75   36.90 |  4.50    4.90 |
               1.25    3.70 |  3.00   95.90 |  4.75    3.70 |
               1.50    3.70 |  3.25   13.50 |  5.00    3.70 |

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| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   1.70   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.03

        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    0.00 | 1.667    3.70 | 3.250   95.90 |  4.83    3.70
               0.167    0.00 | 1.750    3.70 | 3.333   13.50 |  4.92    3.70
               0.250    0.00 | 1.833    6.20 | 3.417   13.50 |  5.00    3.70
               0.333    2.50 | 1.917    6.20 | 3.500   13.50 |  5.08    3.70
               0.417    2.50 | 2.000    6.20 | 3.583   13.50 |  5.17    3.70
               0.500    2.50 | 2.083    6.20 | 3.667   13.50 |  5.25    3.70
               0.583    2.50 | 2.167    6.20 | 3.750   13.50 |  5.33    2.50
               0.667    2.50 | 2.250    6.20 | 3.833    6.20 |  5.42    2.50
               0.750    2.50 | 2.333    7.40 | 3.917    6.20 |  5.50    2.50
               0.833    3.70 | 2.417    7.40 | 4.000    6.20 |  5.58    2.50
               0.917    3.70 | 2.500    7.40 | 4.083    6.20 |  5.67    2.50
               1.000    3.70 | 2.583    7.40 | 4.167    6.20 |  5.75    2.50
               1.083    3.70 | 2.667    7.40 | 4.250    6.20 |  5.83    2.50
               1.167    3.70 | 2.750    7.40 | 4.333    4.90 |  5.92    2.50
               1.250    3.70 | 2.833   36.90 | 4.417    4.90 |  6.00    2.50
               1.333    3.70 | 2.917   36.90 | 4.500    4.90 |  6.08    2.50
               1.417    3.70 | 3.000   36.90 | 4.583    4.90 |  6.17    2.50
               1.500    3.70 | 3.083   95.90 | 4.667    4.90 |  6.25    2.50
               1.583    3.70 | 3.167   95.90 | 4.750    4.90 |

     Unit Hyd Qpeak  (cms)=   2.465

     PEAK FLOW       (cms)=   0.040 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=   3.983
     TOTAL RAINFALL   (mm)=  61.600
     RUNOFF COEFFICIENT   =   0.065

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

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--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=   3.17   Curve Number   (CN)= 71.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    0.00 | 1.667    3.70 | 3.250   95.90 |  4.83    3.70
               0.167    0.00 | 1.750    3.70 | 3.333   13.50 |  4.92    3.70
               0.250    0.00 | 1.833    6.20 | 3.417   13.50 |  5.00    3.70
               0.333    2.50 | 1.917    6.20 | 3.500   13.50 |  5.08    3.70
               0.417    2.50 | 2.000    6.20 | 3.583   13.50 |  5.17    3.70
               0.500    2.50 | 2.083    6.20 | 3.667   13.50 |  5.25    3.70
               0.583    2.50 | 2.167    6.20 | 3.750   13.50 |  5.33    2.50
               0.667    2.50 | 2.250    6.20 | 3.833    6.20 |  5.42    2.50
               0.750    2.50 | 2.333    7.40 | 3.917    6.20 |  5.50    2.50
               0.833    3.70 | 2.417    7.40 | 4.000    6.20 |  5.58    2.50
               0.917    3.70 | 2.500    7.40 | 4.083    6.20 |  5.67    2.50
               1.000    3.70 | 2.583    7.40 | 4.167    6.20 |  5.75    2.50
               1.083    3.70 | 2.667    7.40 | 4.250    6.20 |  5.83    2.50
               1.167    3.70 | 2.750    7.40 | 4.333    4.90 |  5.92    2.50
               1.250    3.70 | 2.833   36.90 | 4.417    4.90 |  6.00    2.50
               1.333    3.70 | 2.917   36.90 | 4.500    4.90 |  6.08    2.50
               1.417    3.70 | 3.000   36.90 | 4.583    4.90 |  6.17    2.50
               1.500    3.70 | 3.083   95.90 | 4.667    4.90 |  6.25    2.50
               1.583    3.70 | 3.167   95.90 | 4.750    4.90 |

     Unit Hyd Qpeak  (cms)=   1.092

     PEAK FLOW       (cms)=   0.303 (i)
     TIME TO PEAK    (hrs)=   3.250
     RUNOFF VOLUME    (mm)=  19.866
     TOTAL RAINFALL   (mm)=  61.600
     RUNOFF COEFFICIENT   =   0.322

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

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| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.04   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.11

        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    0.00 | 1.667    3.70 | 3.250   95.90 |  4.83    3.70
```

0.167	0.00	1.750	3.70	3.333	13.50	4.92	3.70
0.250	0.00	1.833	6.20	3.417	13.50	5.00	3.70
0.333	2.50	1.917	6.20	3.500	13.50	5.08	3.70
0.417	2.50	2.000	6.20	3.583	13.50	5.17	3.70
0.500	2.50	2.083	6.20	3.667	13.50	5.25	3.70
0.583	2.50	2.167	6.20	3.750	13.50	5.33	2.50
0.667	2.50	2.250	6.20	3.833	6.20	5.42	2.50
0.750	2.50	2.333	7.40	3.917	6.20	5.50	2.50
0.833	3.70	2.417	7.40	4.000	6.20	5.58	2.50
0.917	3.70	2.500	7.40	4.083	6.20	5.67	2.50
1.000	3.70	2.583	7.40	4.167	6.20	5.75	2.50
1.083	3.70	2.667	7.40	4.250	6.20	5.83	2.50
1.167	3.70	2.750	7.40	4.333	4.90	5.92	2.50
1.250	3.70	2.833	36.90	4.417	4.90	6.00	2.50
1.333	3.70	2.917	36.90	4.500	4.90	6.08	2.50
1.417	3.70	3.000	36.90	4.583	4.90	6.17	2.50
1.500	3.70	3.083	95.90	4.667	4.90	6.25	2.50
1.583	3.70	3.167	95.90	4.750	4.90		

Unit Hyd Qpeak (cms)= 0.357

PEAK FLOW (cms)= 0.086 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 17.318
TOTAL RAINFALL (mm)= 61.600
RUNOFF COEFFICIENT = 0.281

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

CALIB					
NASHYD (0003)	Area (ha)=	0.40	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.11			

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	0.00	1.667	3.70	3.250	95.90	4.83	3.70
0.167	0.00	1.750	3.70	3.333	13.50	4.92	3.70
0.250	0.00	1.833	6.20	3.417	13.50	5.00	3.70
0.333	2.50	1.917	6.20	3.500	13.50	5.08	3.70
0.417	2.50	2.000	6.20	3.583	13.50	5.17	3.70
0.500	2.50	2.083	6.20	3.667	13.50	5.25	3.70
0.583	2.50	2.167	6.20	3.750	13.50	5.33	2.50
0.667	2.50	2.250	6.20	3.833	6.20	5.42	2.50
0.750	2.50	2.333	7.40	3.917	6.20	5.50	2.50
0.833	3.70	2.417	7.40	4.000	6.20	5.58	2.50
0.917	3.70	2.500	7.40	4.083	6.20	5.67	2.50
1.000	3.70	2.583	7.40	4.167	6.20	5.75	2.50
1.083	3.70	2.667	7.40	4.250	6.20	5.83	2.50
1.167	3.70	2.750	7.40	4.333	4.90	5.92	2.50
1.250	3.70	2.833	36.90	4.417	4.90	6.00	2.50
1.333	3.70	2.917	36.90	4.500	4.90	6.08	2.50
1.417	3.70	3.000	36.90	4.583	4.90	6.17	2.50
1.500	3.70	3.083	95.90	4.667	4.90	6.25	2.50
1.583	3.70	3.167	95.90	4.750	4.90		

Unit Hyd Qpeak (cms)= 0.138

PEAK FLOW (cms)= 0.033 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 17.317
TOTAL RAINFALL (mm)= 61.600
RUNOFF COEFFICIENT = 0.281

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

ADD HYD (0006)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	3.17	0.303	3.25	19.87
+ ID2= 2 (0002):	1.04	0.086	3.25	17.32
ID = 3 (0006):	4.21	0.389	3.25	19.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0006)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0006):	4.21	0.389	3.25	19.24
+ ID2= 2 (0003):	0.40	0.033	3.25	17.32
ID = 1 (0006):	4.62	0.423	3.25	19.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0009)				
Inlet Cap.= 0.132				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	4.62	0.42	3.25	19.07
MAJOR SYS.(ID= 2):	1.20	0.29	3.25	19.07
MINOR SYS.(ID= 3):	3.41	0.13	3.08	19.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0008)	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	0.1450	0.0045
	0.0000	0.0004	0.2061	0.0090
	0.0363	0.0008	0.2510	0.0135
	0.0555	0.0027	0.2886	0.0201

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0009)	1.204	0.291	3.25	19.07
OUTFLOW: ID= 1 (0008)	1.204	0.193	3.33	18.76

PEAK FLOW REDUCTION [Qout/Qin](%)= 66.44
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0082

CALIB					
NASHYD (0005)	Area (ha)=	2.30	Curve Number (CN)=	67.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.28			

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	0.00	1.667	3.70	3.250	95.90	4.83	3.70
0.167	0.00	1.750	3.70	3.333	13.50	4.92	3.70
0.250	0.00	1.833	6.20	3.417	13.50	5.00	3.70
0.333	2.50	1.917	6.20	3.500	13.50	5.08	3.70
0.417	2.50	2.000	6.20	3.583	13.50	5.17	3.70
0.500	2.50	2.083	6.20	3.667	13.50	5.25	3.70
0.583	2.50	2.167	6.20	3.750	13.50	5.33	2.50
0.667	2.50	2.250	6.20	3.833	6.20	5.42	2.50
0.750	2.50	2.333	7.40	3.917	6.20	5.50	2.50
0.833	3.70	2.417	7.40	4.000	6.20	5.58	2.50
0.917	3.70	2.500	7.40	4.083	6.20	5.67	2.50
1.000	3.70	2.583	7.40	4.167	6.20	5.75	2.50
1.083	3.70	2.667	7.40	4.250	6.20	5.83	2.50
1.167	3.70	2.750	7.40	4.333	4.90	5.92	2.50
1.250	3.70	2.833	36.90	4.417	4.90	6.00	2.50
1.333	3.70	2.917	36.90	4.500	4.90	6.08	2.50
1.417	3.70	3.000	36.90	4.583	4.90	6.17	2.50
1.500	3.70	3.083	95.90	4.667	4.90	6.25	2.50
1.583	3.70	3.167	95.90	4.750	4.90		

Unit Hyd Qpeak (cms)= 0.310

PEAK FLOW (cms)= 0.108 (i)
TIME TO PEAK (hrs)= 3.417
RUNOFF VOLUME (mm)= 17.622

TOTAL RAINFALL (mm)= 61.600
RUNOFF COEFFICIENT = 0.286

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

ADD HYD (0007)|	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0004):		1.70	0.040	3.25	3.98
+ ID2= 2 (0005):		2.30	0.108	3.42	17.62
ID = 3 (0007):		4.00	0.121	3.25	11.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0007)|	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0007):		4.00	0.121	3.25	11.83
+ ID2= 2 (0008):		1.20	0.193	3.33	18.76
ID = 1 (0007):		5.20	0.302	3.33	13.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Junction Command(0010)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 9(0009)	3.41	0.13	3.08	19.07
OUTFLOW: ID= 2(0010)	3.41	0.13	3.08	19.07

```
**********************************
** SIMULATION:1) PTBO 4HR 2 Yr **
**********************************
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.01  1.33   1.23 0.04   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.07  1.42   6.33 0.19   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.02  1.42   5.37 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.01  1.42   5.37 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.09  1.42   6.09  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.09  1.42   6.03  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.09  1.42   6.03  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.09  1.42   6.03  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 34.03 mm ]
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.03  1.67   5.46 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.03  1.67   3.67  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.03  1.67   3.67  n/a   0.000
*
*************************************
** SIMULATION:10) 6 HR SCS - 25 YR **
*************************************
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.05  3.25   5.40 0.07   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.41  3.25  26.69 0.37   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.12  3.25  23.46 0.32   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.05  3.25  23.46 0.32   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.53  3.25  25.89  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.57  3.25  25.68  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.57  3.25  25.68  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.53    0.44  3.25  25.68  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    3.09    0.13  3.08  25.68  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.53    0.25  3.33  25.44  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 72.90 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\c5b18710-559e-4e08
    remark: PETERBOROUGH SCS 6HR 25YR
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.15  3.42  23.88 0.33   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.17  3.25  16.03  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.52    0.40  3.33  18.63  n/a   0.000
*
*************************************
** SIMULATION:11) 6 HR SCS - 50 YR **
*************************************
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.07  3.25   6.55 0.08   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.49  3.25  32.22 0.40   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.14  3.25  28.50 0.35   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.05  3.25  28.50 0.35   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.63  3.25  31.30  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.69  3.25  31.06  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.69  3.25  31.06  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.73    0.56  3.25  31.06  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    2.88    0.13  3.00  31.06  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.73    0.29  3.33  30.88  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 81.47 mm ]
```

```
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\71a09708-fd53-4b1c
    remark: PETERBOROUGH SCS 6HR 50YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.18  3.42  29.00 0.36   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.20  3.25  19.47  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.73    0.48  3.42  22.92  n/a   0.000
*
************************************
** SIMULATION:12) 6 HR SCS - 100YR **
************************************
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.08  3.25   7.76 0.09   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.58  3.25  37.94 0.42   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.17  3.25  33.73 0.38   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.07  3.25  33.73 0.38   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.75  3.25  36.90  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.81  3.25  36.62  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.81  3.25  36.62  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.93    0.68  3.25  36.62  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    2.69    0.13  3.00  36.62  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.93    0.33  3.42  36.42  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 89.93 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\b2061589-9b16-4cfa
    remark: PETERBOROUGH SCS 6HR 100YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.21  3.42  34.32 0.38   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.24  3.25  23.05  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.93    0.56  3.42  27.40  n/a   0.000
*
************************************
** SIMULATION:13) 12HR SCS - 2YR **
************************************
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.00  6.25   0.50 0.02   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.02  6.25   2.60 0.11   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.01  6.25   2.18 0.10   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.00  6.25   2.18 0.10   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.03  6.25   2.50  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.03  6.25   2.47  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.03  6.25   2.47  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.03  6.25   2.47  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 22.81 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\614ea0cf-598e-4bd6
    remark: 12HR SCS - 2YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.01  6.50   2.22 0.10   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.01  6.42   1.49  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.01  6.42   1.49  n/a   0.000
*
************************************
** SIMULATION:14) 12HR SCS - 5YR **
************************************
    READ STORM                 5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.01  6.25   0.76 0.03   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                 5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.03  6.25   3.94 0.14   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.01  6.25   3.31 0.12   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
```

```
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.00  6.25   3.31 0.12   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.04  6.25   3.78  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.05  6.25   3.74  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.05  6.25   3.74  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.05  6.25   3.74  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 27.30 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\726a52c8-639d-440d
    remark: 12HR SCS - 5YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.01  6.50   3.37 0.12   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.02  6.42   2.26  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.02  6.42   2.26  n/a   0.000
*
************************************
** SIMULATION:15) 12HR SCS - 10YR **
************************************
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.01  6.08   1.01 0.03   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.05  6.25   5.22 0.17   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.01  6.25   4.41 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.00  6.25   4.41 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.06  6.25   5.02  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.06  6.25   4.96  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.06  6.25   4.96  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.06  6.25   4.96  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 31.06 mm ]
```

```
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2dd516b7-a05f-47a3
    remark: 12HR SCS - 10YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.02  6.50   4.49 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.02  6.42   3.01  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.02  6.42   3.01  n/a   0.000
*
************************************
** SIMULATION:16) 12HR SCS -25YR **
************************************
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.01  6.08   1.42 0.04   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.06  6.25   7.24 0.20   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.02  6.25   6.16 0.17   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.01  6.25   6.16 0.17   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.08  6.25   6.97  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.09  6.25   6.90  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.09  6.25   6.90  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.09  6.25   6.90  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 36.32 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\01ce9d87-83f3-4e99
    remark: 12HR SCS - 25YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.03  6.50   6.27 0.17   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.04  6.42   4.21  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.04  6.42   4.21  n/a   0.000
*
************************************
** SIMULATION:17) 12HR SCS - 50YR **
************************************
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.03  6.17   6.52 0.08   0.000
    [CN=67.0         ]
```

```
    [ N = 3.0:Tp 0.03]
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.25  6.25  32.08 0.39   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.07  6.25  28.37 0.35   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.03  6.25  28.37 0.35   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.32  6.25  31.16  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.35  6.25  30.92  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.35  6.25  30.92  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.15    0.22  6.25  30.92  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    3.47    0.13  6.00  30.92  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.15    0.19  6.42  30.59  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 81.26 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\cd98c799-b379-4352
    remark: 12HR SCS - 50YR
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.13  6.50  28.87 0.36   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.15  6.50  19.38  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.14    0.33  6.42  21.89  n/a   0.000
*
************************************
** SIMULATION:18) 12HR SCS - 100YR **
************************************
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.06  4.00   9.09 0.09   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.41  4.00  44.23 0.45   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.12  4.00  39.52 0.40   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.05  4.00  39.52 0.40   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.53  4.00  43.07  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.58  4.00  42.76  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.58  4.00  42.76  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.39    0.45  4.00  42.76  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    3.23    0.13  3.92  42.76  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.39    0.28  4.25  42.53  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 98.86 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.17  4.25  40.22 0.41   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.19  4.17  27.00  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.38    0.47  4.25  31.01  n/a   0.000
*
************************************
** SIMULATION:19) 24HR SCS - 2YR **
************************************
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.00 12.08   0.67 0.03   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.01 12.25   3.49 0.13   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.00 12.25   2.93 0.11   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.00 12.25   2.93 0.11   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.01 12.25   3.35  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.01 12.25   3.32  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.01 12.25   3.32  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.01 12.25   3.32  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 25.88 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\70113baf-c77f-488d
    remark: 24HR SCS - 2YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.00 12.42   2.99 0.12   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.01 12.42   2.00  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.01 12.42   2.00  n/a   0.000
```

```
*
**********************************
** SIMULATION:2) PTBO 4HR 5 Yr **
**********************************
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.02  1.33   2.18 0.05   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.13  1.42  11.03 0.25   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.03  1.42   9.47 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.01  1.42   9.47 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.16  1.42  10.64  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.17  1.42  10.54  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.17  1.42  10.54  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.29    0.04  1.42  10.54  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.33    0.13  1.33  10.54  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.29    0.04  1.42   9.22  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.88 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.05  1.67   9.64 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.06  1.67   6.47  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.28    0.09  1.50   6.66  n/a   0.000
*
***********************************
** SIMULATION:20) 24HR SCS - 5YR **
***********************************
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.00 12.08   0.97 0.03   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.01 12.25   5.02 0.16   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.00 12.25   4.24 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.00 12.25   4.24 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.02 12.25   4.82  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.02 12.25   4.77  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.02 12.25   4.77  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.02 12.25   4.77  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
    [ Ptot= 30.49 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\03031a9f-f85a-4b37
    remark: 24HR SCS - 5YR
*
  * CALIB NASHYD         0005  1  5.0    2.30    0.01 12.42   4.31 0.14   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.01 12.42   2.90  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.01 12.42   2.90  n/a   0.000
*
***********************************
** SIMULATION:21) 24HR SCS - 10YR **
***********************************
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.00 12.08   1.27 0.04   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.02 12.25   6.49 0.19   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.00 12.25   5.51 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 5.0
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.00 12.25   5.51 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.02 12.25   6.25  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.02 12.25   6.19  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.02 12.25   6.19  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.02 12.25   6.19  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                 5.0
```

```
    [ Ptot= 34.45 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\df90f8c5-caea-4cc1
    remark: 24HR SCS -10 YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.01 12.42   5.61 0.16   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.01 12.42   3.77  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.01 12.42   3.77  n/a   0.000
*
************************************
** SIMULATION:22) 24HR SCS - 25YR **
************************************
    READ STORM                5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.00 12.08   1.73 0.04   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.02 12.08   8.78 0.22   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.01 12.08   7.50 0.19   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.00 12.08   7.50 0.19   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.03 12.08   8.46  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.03 12.08   8.38  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.03 12.08   8.38  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.03 12.08   8.38  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                5.0
    [ Ptot= 39.96 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\db2980ff-c997-47e9
    remark: 24HR SCS - 25YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.01 12.42   7.63 0.19   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.02 12.42   5.13  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.02 12.42   5.13  n/a   0.000
*
************************************
** SIMULATION:23) 24HR SCS - 50YR **
************************************
    READ STORM                5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.01 12.08   2.16 0.05   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.03 12.08  10.96 0.24   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.01 12.08   9.41 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.00 12.08   9.41 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.04 12.08  10.58  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.04 12.08  10.48  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.04 12.08  10.48  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.00    0.00  0.00   0.00  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.62    0.04 12.08  10.48  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.00    0.00  0.00    NaN  n/a   0.000
*
    READ STORM                5.0
    [ Ptot= 44.74 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\0462f74d-7891-41f1
    remark: 24HR SCS - 50YR
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.02 12.42   9.58 0.21   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.02 12.25   6.43  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.00    0.02 12.25   6.43  n/a   0.000
*
************************************
** SIMULATION:24) 24HR SCS - 100YR **
************************************
    CHIC STORM               10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.07  8.00  11.40 0.10   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    CHIC STORM               10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.46  8.00  55.06 0.48   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM               10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.13  8.00  49.57 0.44   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM               10.0
    [ Ptot=113.60 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.05  8.00  49.57 0.44   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
```

```
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.59  8.00  53.71  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.64  8.00  53.35  n/a   0.000
*
    DUHYD               0009  1  5.0    4.62    0.64  8.00  53.35  n/a   0.000
       MAJOR SYSTEM:    0009  2  5.0    1.27    0.51  8.00  53.35  n/a   0.000
       MINOR SYSTEM:    0009  3  5.0    3.35    0.13  7.83  53.35  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0008  1  5.0    1.27    0.30  8.25  53.06  n/a   0.000
*
    CHIC STORM              10.0
    [ Ptot=113.60 mm ]
*
  * CALIB NASHYD         0005  1  5.0    2.30    0.19  8.25  50.44 0.44   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.21  8.17  33.87  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.26    0.51  8.25  38.49  n/a   0.000
*
*********************************************
** SIMULATION:25) 100YR MODIFIED 12HR CHICAGO  **
*********************************************
    READ STORM              10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.07  4.00   9.17 0.09   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM              10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.46  4.00  44.63 0.45   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM              10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.13  4.00  39.89 0.40   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM              10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.05  4.00  39.89 0.40   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.59  4.00  43.46  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.65  4.00  43.15  n/a   0.000
*
    DUHYD               0009  1  5.0    4.62    0.65  4.00  43.15  n/a   0.000
       MAJOR SYSTEM:    0009  2  5.0    1.74    0.51  4.00  43.15  n/a   0.000
       MINOR SYSTEM:    0009  3  5.0    2.88    0.13  3.92  43.15  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0008  1  5.0    1.74    0.32  4.25  42.92  n/a   0.000
*
    READ STORM              10.0
    [ Ptot= 99.42 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\14373f89-6187-485f
    remark: 100YR MODIFIED 12HR CHICAGO
*
  * CALIB NASHYD         0005  1  5.0    2.30    0.20  4.33  40.59 0.41   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.22  4.33  27.26  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.73    0.54  4.25  32.01  n/a   0.000
*
*********************************************
** SIMULATION:26) 100YR MODIFIED 24HR CHICAGO **
*********************************************
    READ STORM              10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.08  8.00  10.67 0.10   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM              10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.50  8.00  51.63 0.47   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM              10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.14  8.00  46.38 0.43   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM              10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.05  8.00  46.38 0.43   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.64  8.00  50.34  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.69  8.00  49.99  n/a   0.000
*
    DUHYD               0009  1  5.0    4.62    0.69  8.00  49.99  n/a   0.000
       MAJOR SYSTEM:    0009  2  5.0    1.62    0.56  8.00  49.99  n/a   0.000
       MINOR SYSTEM:    0009  3  5.0    2.99    0.13  7.83  49.99  n/a   0.000
*
 ** Reservoir
    OUTFLOW:            0008  1  5.0    1.62    0.33  8.25  49.77  n/a   0.000
*
    READ STORM              10.0
    [ Ptot=109.02 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\2fc30f40-3dca-4fcd
    remark: 100YR MODIFIED 24HR CHICAGO
*
  * CALIB NASHYD         0005  1  5.0    2.30    0.21  8.33  47.20 0.43   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.23  8.33  31.69  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.62    0.57  8.25  36.92  n/a   0.000
*
*********************************
** SIMULATION:27) Timmins     **
*********************************
    READ STORM              30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.04 10.50  44.64 0.15   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM              30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.32 10.50 205.80 0.71   0.000
    [CN=71.4         ]
```

```
    [ N = 3.0:Tp 0.11]
*
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.10 10.50 194.10 0.67   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.04 10.50 194.10 0.67   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.42 10.50 202.92  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.45 10.50 202.15  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.45 10.50 202.15  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.56    0.32 10.50 202.15  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    3.05    0.13  7.75 202.15  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.56    0.30 10.50 201.90  n/a   0.000
*
    READ STORM                30.0
    [ Ptot=289.50 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\97ce3df3-6ec4-4263
    remark: TIMMINS
*
 *  CALIB NASHYD         0005  1  5.0    2.30    0.22 10.50 197.51 0.68   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.26 10.50 132.62  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.56    0.56 10.50 152.09  n/a   0.000
*
**********************************
** SIMULATION:3) PTBO 4HR 10 Yr **
**********************************
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.03  1.33   3.06 0.06   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.18  1.42  15.37 0.29   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.05  1.42  13.31 0.25   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.02  1.42  13.31 0.25   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.23  1.42  14.86  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.25  1.42  14.73  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.25  1.42  14.73  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.77    0.11  1.42  14.73  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    3.85    0.13  1.33  14.73  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.77    0.10  1.50  14.20  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 53.50 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.07  1.67  13.54 0.25   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.08  1.67   9.09  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.76    0.18  1.50   9.92  n/a   0.000
*
**********************************
** SIMULATION:4) PTBO 4HR 25 Yr **
**********************************
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.04  1.33   3.97 0.06   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.24  1.42  19.81 0.32   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.07  1.42  17.27 0.28   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.03  1.42  17.26 0.28   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.30  1.42  19.18  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.33  1.42  19.01  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.33  1.42  19.01  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.20    0.20  1.42  19.01  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    3.42    0.13  1.25  19.01  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.20    0.16  1.50  18.70  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 61.50 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.10  1.67  17.57 0.29   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.11  1.67  11.80  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.20    0.27  1.50  13.39  n/a   0.000
*
**********************************
** SIMULATION:5) PTBO 4HR 50 Yr  **
**********************************
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.05  1.33   4.86 0.07   0.000
    [CN=67.0         ]
    [ N = 3.0:Tp 0.03]
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.30  1.42  24.09 0.35   0.000
    [CN=71.4         ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
```

```
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.09  1.42  21.11 0.31   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.03  1.42  21.11 0.31   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.39  1.42  23.35  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.42  1.42  23.16  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.42  1.42  23.16  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.54    0.29  1.42  23.16  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    3.07    0.13  1.25  23.16  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.54    0.21  1.50  22.90  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 68.70 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.13  1.67  21.48 0.31   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.14  1.67  14.43  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.54    0.35  1.50  16.79  n/a   0.000
*
***********************************
** SIMULATION:6) PTBO 4HR 100 Yr **
***********************************
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.06  1.33   5.86 0.08   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.03]
*
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.36  1.42  28.91 0.38   0.000
    [CN=71.4        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.10  1.42  25.49 0.33   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.04  1.42  25.49 0.33   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.47  1.42  28.07  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.51  1.42  27.84  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.51  1.42  27.84  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.82    0.38  1.42  27.84  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    2.80    0.13  1.25  27.84  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.82    0.26  1.58  27.64  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 76.41 mm ]
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.15  1.67  25.93 0.34   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.17  1.67  17.41  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    5.81    0.43  1.58  20.61  n/a   0.000
*
***********************************
** SIMULATION:7) 6 HR SCS - 2 YR **
***********************************
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.02  3.25   1.62 0.04   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.13  3.25   8.25 0.21   0.000
    [CN=71.4        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.03  3.25   7.04 0.18   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.01  3.25   7.04 0.18   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.16  3.25   7.96  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.17  3.25   7.88  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.17  3.25   7.88  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.16    0.04  3.25   7.88  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    4.46    0.13  3.25   7.88  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.16    0.02  3.33   5.69  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 38.75 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\17a48e57-197b-4889
    remark: PETERBOROUGH SCS 6HR 2YR
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.04  3.42   7.17 0.18   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.05  3.25   4.81  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.15    0.06  3.33   4.85  n/a   0.000
*
***********************************
** SIMULATION:8) 6 HR SCS - 5 YR **
***********************************
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.03  3.25   2.95 0.06   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
```

```
 ** CALIB NASHYD         0001  1  5.0    3.17    0.23  3.25  14.82 0.28   0.000
    [CN=71.4        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.06  3.25  12.81 0.24   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.02  3.25  12.81 0.24   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.29  3.25  14.32  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.31  3.25  14.19  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.31  3.25  14.19  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    0.83    0.18  3.25  14.19  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    3.78    0.13  3.08  14.19  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    0.83    0.13  3.33  13.74  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 52.44 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\3fa47f69-ed75-4aae
    remark: PETERBOROUGH SCS 6HR 5YR
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.08  3.42  13.04 0.25   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.28]
*
    ADD [  0004+  0005]  0007  3  5.0    4.00    0.09  3.25   8.76  n/a   0.000
*
    ADD [  0007+  0008]  0007  1  5.0    4.83    0.21  3.33   9.62  n/a   0.000
*
***********************************
** SIMULATION:9) 6 HR SCS - 10YR **
***********************************
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0004  1  5.0    1.70    0.04  3.25   3.98 0.06   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.03]
*
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0001  1  5.0    3.17    0.30  3.25  19.87 0.32   0.000
    [CN=71.4        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0002  1  5.0    1.04    0.09  3.25  17.32 0.28   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0003  1  5.0    0.40    0.03  3.25  17.32 0.28   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.11]
*
    ADD [  0001+  0002]  0006  3  5.0    4.21    0.39  3.25  19.24  n/a   0.000
*
    ADD [  0006+  0003]  0006  1  5.0    4.62    0.42  3.25  19.07  n/a   0.000
*
    DUHYD                0009  1  5.0    4.62    0.42  3.25  19.07  n/a   0.000
       MAJOR SYSTEM:     0009  2  5.0    1.20    0.29  3.25  19.07  n/a   0.000
       MINOR SYSTEM:     0009  3  5.0    3.41    0.13  3.08  19.07  n/a   0.000
*
 ** Reservoir
    OUTFLOW:             0008  1  5.0    1.20    0.19  3.33  18.76  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 61.60 mm ]
    fname : C:\Users\matthew.holmes\AppData\Local\Temp\2d559284-8204-41f2-9736-17f805a656b4\286687d0-e53e-4f27
    remark: PETERBOROUGH SCS 6HR 10YR
*
 ** CALIB NASHYD         0005  1  5.0    2.30    0.11  3.42  17.62 0.29   0.000
    [CN=67.0        ]
    [ N = 3.0:Tp 0.28]
*
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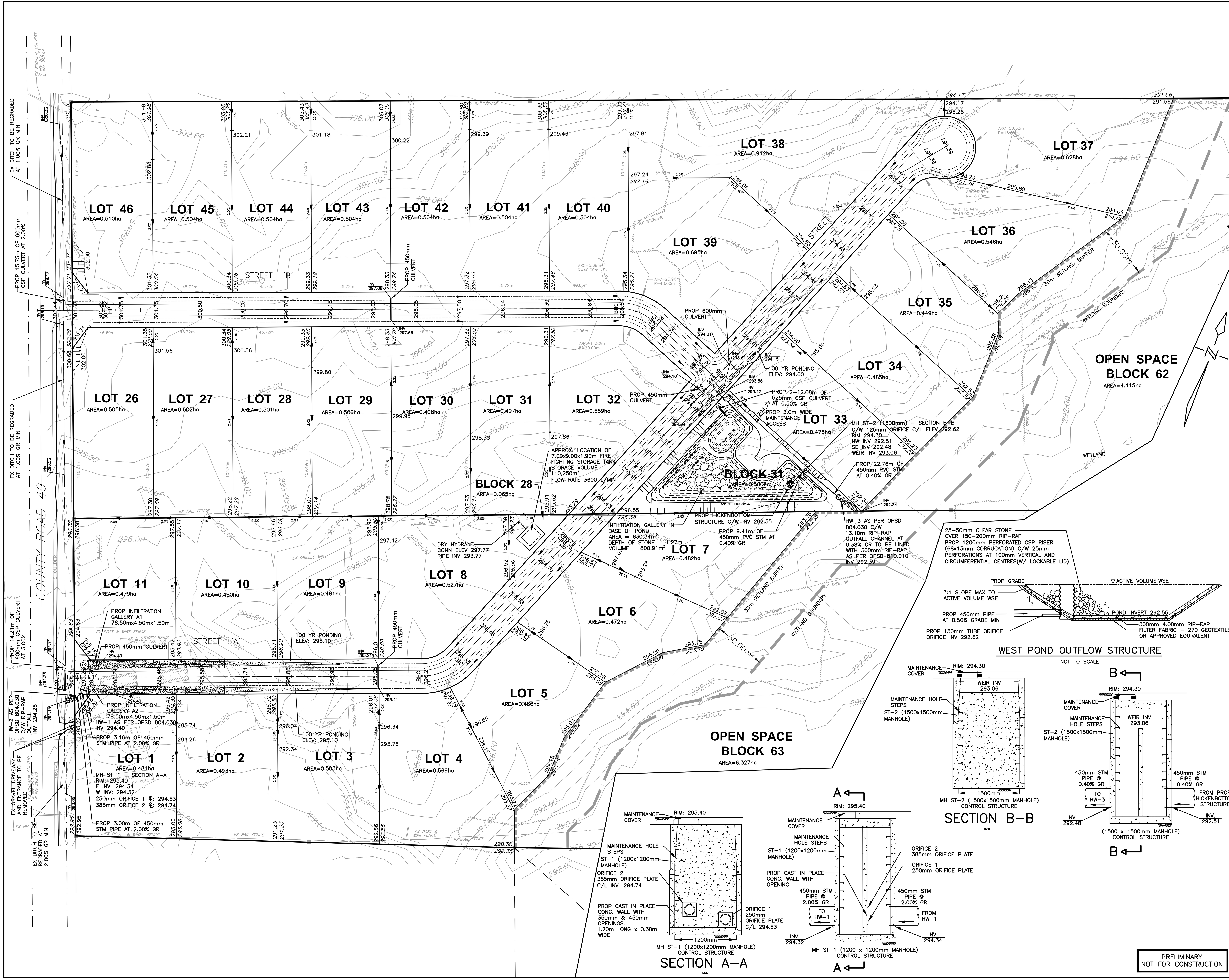

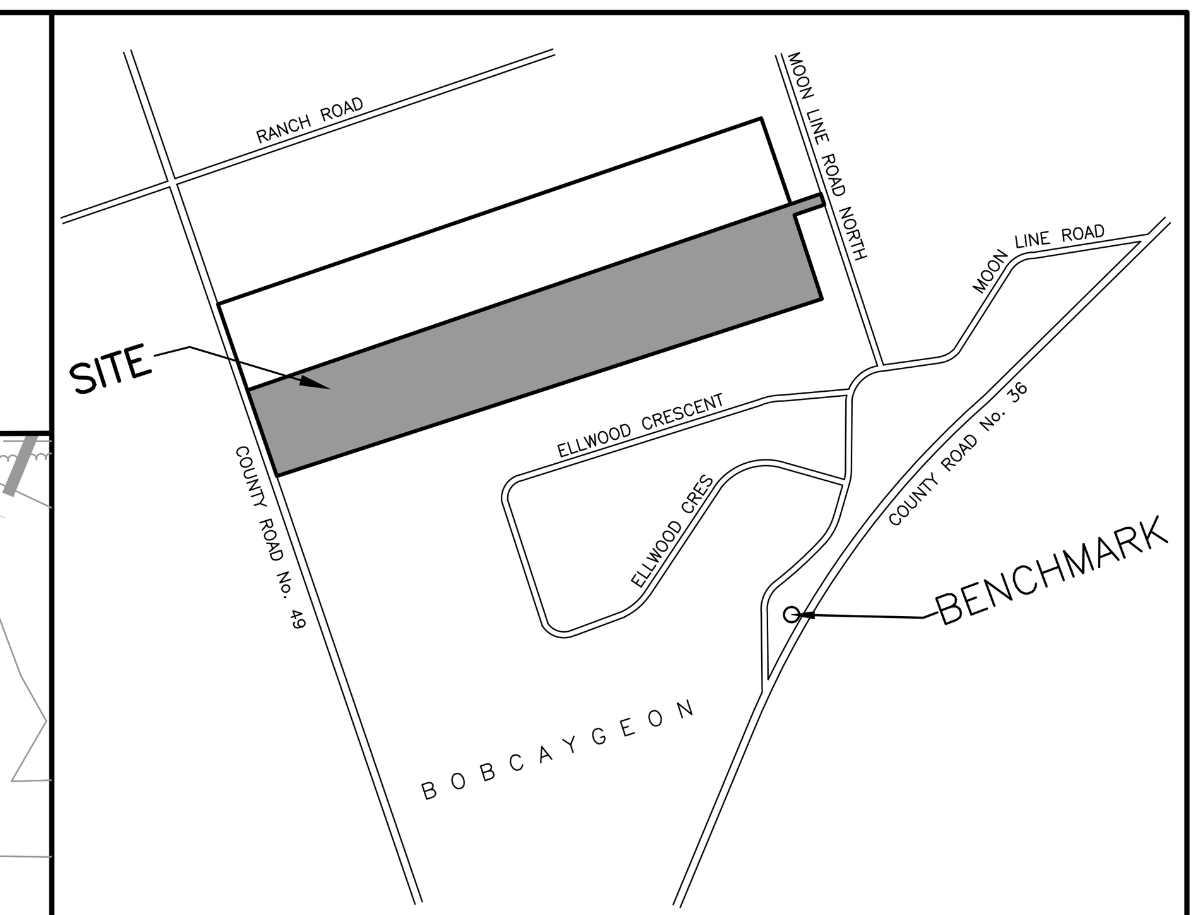

KEY PLAN
NOT TO SCALE

BENCH MARK

BENCHMARKS SHOWN HEREON ARE GEODETIC IN ORIGIN DERIVED FROM CGVD2013 BENCHMARK No. 60U3306, IRON PIPE WITH BRASS CAP ON TOP OF SAND CUT ON COUNTY ROAD 36, 76 CM SOUTHEAST OF WIRE FENCE ALONG NORTHWEST LIMIT OF RIGHT–OF–WAY, AS SHOWN ON A TOPOGRAPHIC SURVEY BY A PRIVATE OLS, DATED 20231217. ELEV = 277.33.

SITE GRADING NOTES

1. A ROAD OCCUPANCY PERMIT WILL BE REQUIRED FOR ANY WORKS WITHIN THE MUNICIPAL RIGHT OF WAY.
2. ALL WORKS OR RESTORATION WITHIN THE MUNICIPAL RIGHT OF WAY SHALL BE COMPLETED AS PER CITY OF KAWARTHA LAKES FIELD STAFF DIRECTION.
3. THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND SERVICES TO BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION. CONCERNED UTILITIES TO BE GIVEN ADVANCED NOTICE FOR STAKE OUT. THE CONSULTANT ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE UTILITIES SHOWN ON THE DRAWINGS.
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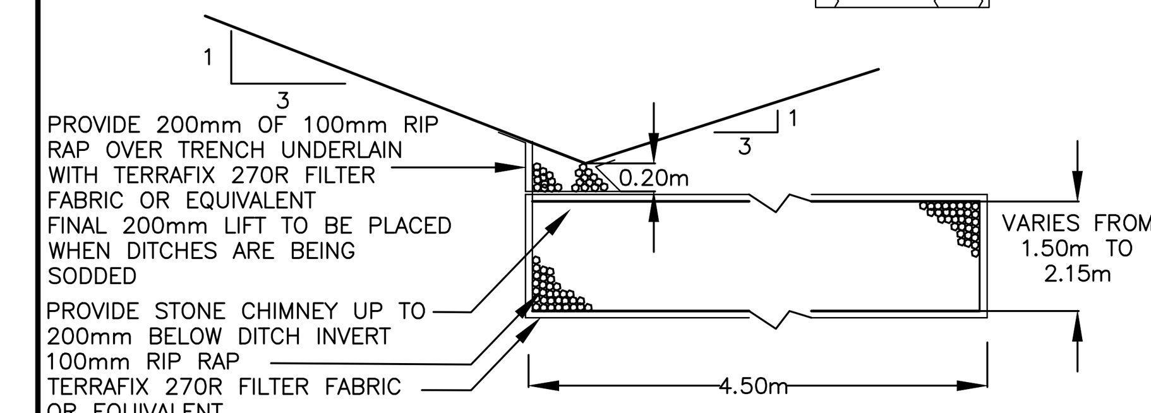
LEGEND

ORIGINAL ELEVATION TO REMAIN — 101.35
PROPOSED ELEVATIONS — 103.15
PROPOSED SWALE
DIRECTION OF DRAINAGE
DIRECTION OF OVERLAND FLOW
LIMIT OF PONDING



TYPICAL INFILTRATION GALLERY DETAIL
SCALE: NOT TO SCALE

NO.	DATE	REVISION	BY
2	20241216	REVISED AS PER CONSERVATION AUTHORITY COMMENTS	C.J.
1	20241203	REVISED AS PER MUNICIPAL COMMENTS	B.A.

REVISIONS

APPROVED	APPROVED
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF	DIRECTOR, ENGINEERING SERVICES REGION OF ....
DATE ______	DATE ______

TRENT LAKES
ENGINEERING SERVICES DEPARTMENT

JEFFERY SUBDIVISION
BOBCAYGEON

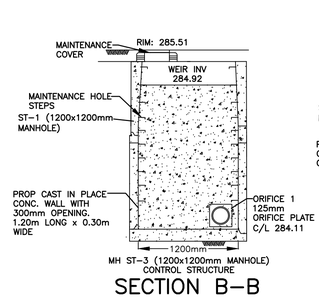
CONCEPTUAL GRADING AND SERVICING PLAN

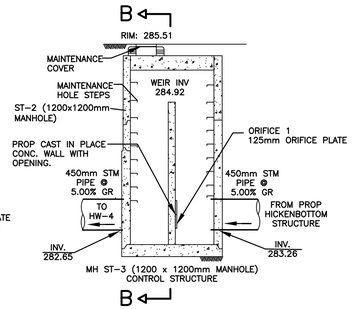
D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905–576–8500
info@dgbiddle.com
dgbiddle.com

LICENSED PROFESSIONAL ENGINEER — D. D. J. MCNAULL 100174891 — DEC 20, '24 — PROVINCE OF ONTARIO

SCALE:	1:1000	PROJECT NO.	122169
DRAWN BY:	M.J.H.	DRAWING NO.	LG–1
DESIGN BY:	M.J.H		
CHECKED BY:	D.D.M		
DATE:	JAN 2024		

X:\STAFF\JOB FILES\122000\122169 JEFFERY – BOBCAYGEON\122169 DRAWINGS\122169 DRAWINGS CIVIL\122169 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\122169-3D-SITE-PLAN.DWG
December 19, 2024





SECTION B–B

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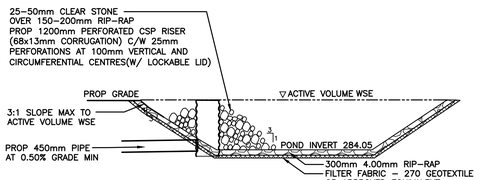
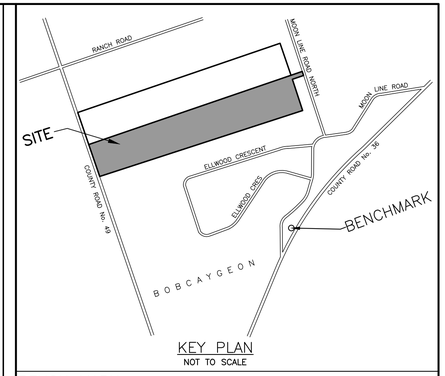


WEST POND OUTFLOW STRUCTURE

NOT TO SCALE

PRELIMINARY
NOT FOR CONSTRUCTION



KEY PLAN

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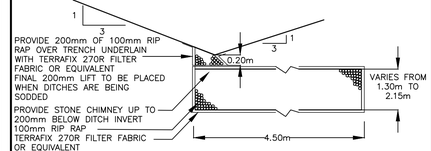
LEGEND

ORIGINAL ELEVATION TO REMAIN	+101.35
PROPOSED ELEVATIONS	+103.15
PROPOSED SWALE	
DIRECTION OF DRAINAGE	
DIRECTION OF OVERLAND FLOW	
LIMIT OF PONDING	



TYPICAL INFILTRATION GALLERY DETAIL

SCALE: NOT TO SCALE

NO.	DATE	REVISION	BY
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1	20241203	REVISED AS PER MUNICIPAL COMMENTS	B.A.

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APPROVED	APPROVED
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF	DIRECTOR, ENGINEERING SERVICES REGION OF .....
DATE	DATE

TRENT LAKES
ENGINEERING SERVICES DEPARTMENT

JEFFERY SUBDIVISION
BOBCAYGEON

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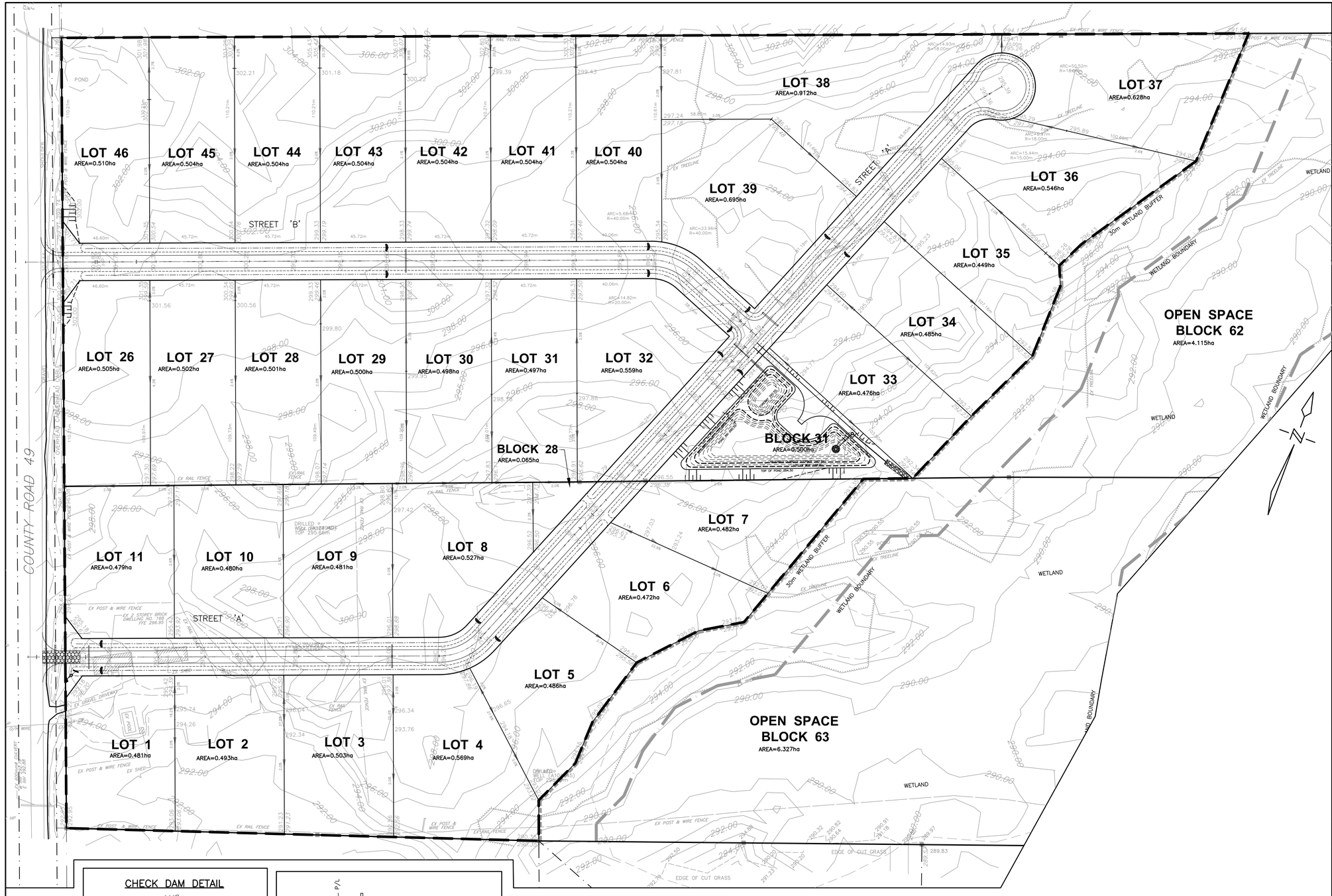
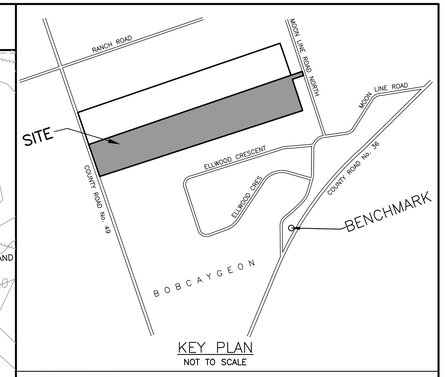
LICENSED PROFESSIONAL ENGINEER
D. D. J. MCNAULL
100174891
DEC 20, '24
PROVINCE OF ONTARIO

SCALE:	1:1000	PROJECT NO.	122169
DRAWN BY:	M.J.H.	DRAWING NO.	LG–2
DESIGN BY:	M.J.H		
CHECKED BY:	D.D.M		
DATE:	JAN 2024		

X:\STAFF\JOB FILES\122000\122169 JEFFERY - BOBCAYGEON\122169 DRAWINGS CIVIL\122169 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\122169-3D-SITE-PLAN.DWG
December 19, 2024





KEY PLAN
NOT TO SCALE

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DUST CONTROL MEASURES:

A. PRE-GRADING PLANNING

1. THE SITE SERVICING FOR THE SITE SHALL BE SCHEDULED SUCH THAT THE OVERALL TIME THE AREAS ARE LEFT OPEN TO WIND THAT CREATE BLOWING DUST FROM THE EARTHWORK OPERATIONS IS MINIMIZED.
2. THE TOPSOIL STOCKPILE (IF APPLICABLE) SHALL BE STABILIZED WITHIN 30 DAYS OF STOCKPILING MATERIALS IN ACCORDANCE WITH CITY'S CRITERIA. ALL DISTURBED LANDS OUTSIDE THE PHASE OF WORK SHALL BE STABILIZED/VEGETATED.
3. THE CONTRACTOR SHALL APPLY WATER TO HAUL ROADS AND STOCKPILES (IF APPLICABLE) BY WAY OF WATER TRUCK.

B. WATERING (POST GRADING)

4. WITHIN AREAS WHERE EARTHWORKS AND OR UNDERGROUND MUNICIPAL SERVICING IS ON-GOING, WATER IS TO BE UTILIZED AT SUFFICIENT QUANTITY TO PREVENT VISIBLE EMISSIONS FROM EXTENDING MORE THAN 30m FROM THE POINT OF ORIGIN.

C. REDUCE VEHICLE SPEED

5. THE ON-SITE SPEED LIMIT FOR CONSTRUCTION VEHICLES SHALL BE MINIMIZED AND TO BE USED IN CONJUNCTION WITH WATERING TO PREVENT VISIBLE DUST EMISSIONS.

D. RESTRICT ACTIVITIES DURING HIGH WIND PERIODS

6. THE HIGH VISIBILITY OF CERTAIN WORKS AND THE CLOSE PROXIMITY AND POPULATION IMPACT SHOULD BE TAKEN INTO CONSIDERATION WHEN SCHEDULING DUST-PRODUCING WORK. APPROPRIATE DUST CONTROL MEASURES SHALL BE IN PLACE IN SUCH SITUATIONS.

E. ROAD CLEANING

7. SPILLAGE, EROSION OR MATERIALS "TRACKED OUT" ON A ROAD TO BE CLEANED USING MECHANICAL STREET SWEEPERS OR FLUSHER TRUCK AT LEAST BY THE END OF THE WORK DAY. HOWEVER, IF SPILLAGE EXTENDS MORE THAN 15m ALONG A PAVED PUBLIC ROADWAY, IT MUST BE CLEANED UP IMMEDIATELY.
8. IMPORTING AND EXPORTING OF MATERIALS ON AND OFF-SITE WILL BE SHUT DOWN DURING AND FOLLOWING INCLEMENT WEATHER UNTIL THE ROAD SURFACES HAVE BEEN CLEANED.

SEDIMENT CONTROL CONSTRUCTION SCHEDULE

1. INSTALL PERIMETER ENVIRO FENCE AND CONSTRUCTION VEHICLE ACCESS.
2. EXCAVATE PERIMETER SWALES AND SEDIMENT PONDS AS REQUIRED.
3. STRIP SITE OF TOPSOIL AND REMOVE OFF SITE OR STOCK PILE AND PROVIDE ENVIRO FENCE AROUND BOTTOM OF PILE.
4. INSTALL MINOR STORM SEWER SYSTEM ALONG WITH OTHER SERVICES.
5. INSTALL CATCHBASIN FILTRATION ON ALL CATCHBASINS AND CATCHBASIN.
6. SEDIMENT CONTROL MEASURES ARE TO BE MAINTAINED UNTIL ALL AREAS OF THE SITE HAVE BEEN STABILIZED WITH SOD OR ASPHALT.

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY
1	20241216	REVISED AS PER CONSERVATION AUTHORITY COMMENTS	C.J.

REVISIONS

APPROVED
DIRECTOR, ENGINEERING SERVICES
MUNICIPALITY OF .....
DATE

APPROVED
DIRECTOR, ENGINEERING SERVICES
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TRENT LAKES
ENGINEERING SERVICES DEPARTMENT

JEFFERY SUBDIVISION
BOBCAYGEON

EROSION AND SEDIMENT CONTROL PLAN

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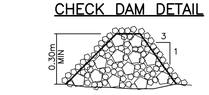
LICENSED PROFESSIONAL ENGINEER
D.D.J MCNAULL
100174891
DEC 20, '24
PROVINCE OF ONTARIO

SCALE:	1:1000
DRAWN BY:	M.J.H.
DESIGN BY:	M.J.H
CHECKED BY:	D.D.M
DATE:	JAN 2024

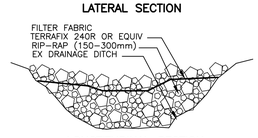
PROJECT NO. 122169
DRAWING NO. ES-1

X:\STAFF\JOB FILES\122000\122169 JEFFERY - BOBCAYGEON\122169 DRAWINGS CIVIL\122169 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\122169-3D-SITE-PLAN.DWG
December 20, 2024

CHECK DAM DETAIL



LATERAL SECTION



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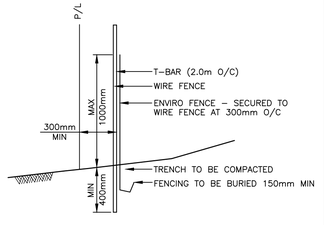
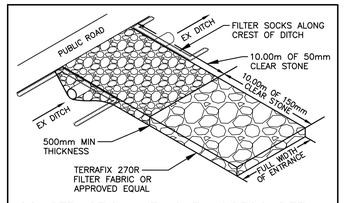


PERIMETER ENVIRO FENCE DETAIL
NOT TO SCALE



CONSTRUCTION VEHICLE ACCESS DETAIL
NOT TO SCALE

SEDIMENT CONTROL NOTES:

1. THE EROSION AND SEDIMENT CONTROL STRATEGIES ON THE PLANS ARE NOT STATIC AND MAY NEED TO BE UPGRADED/AMENDED AS SITE CONDITIONS CHANGE TO PREVENT SEDIMENT RELEASES.
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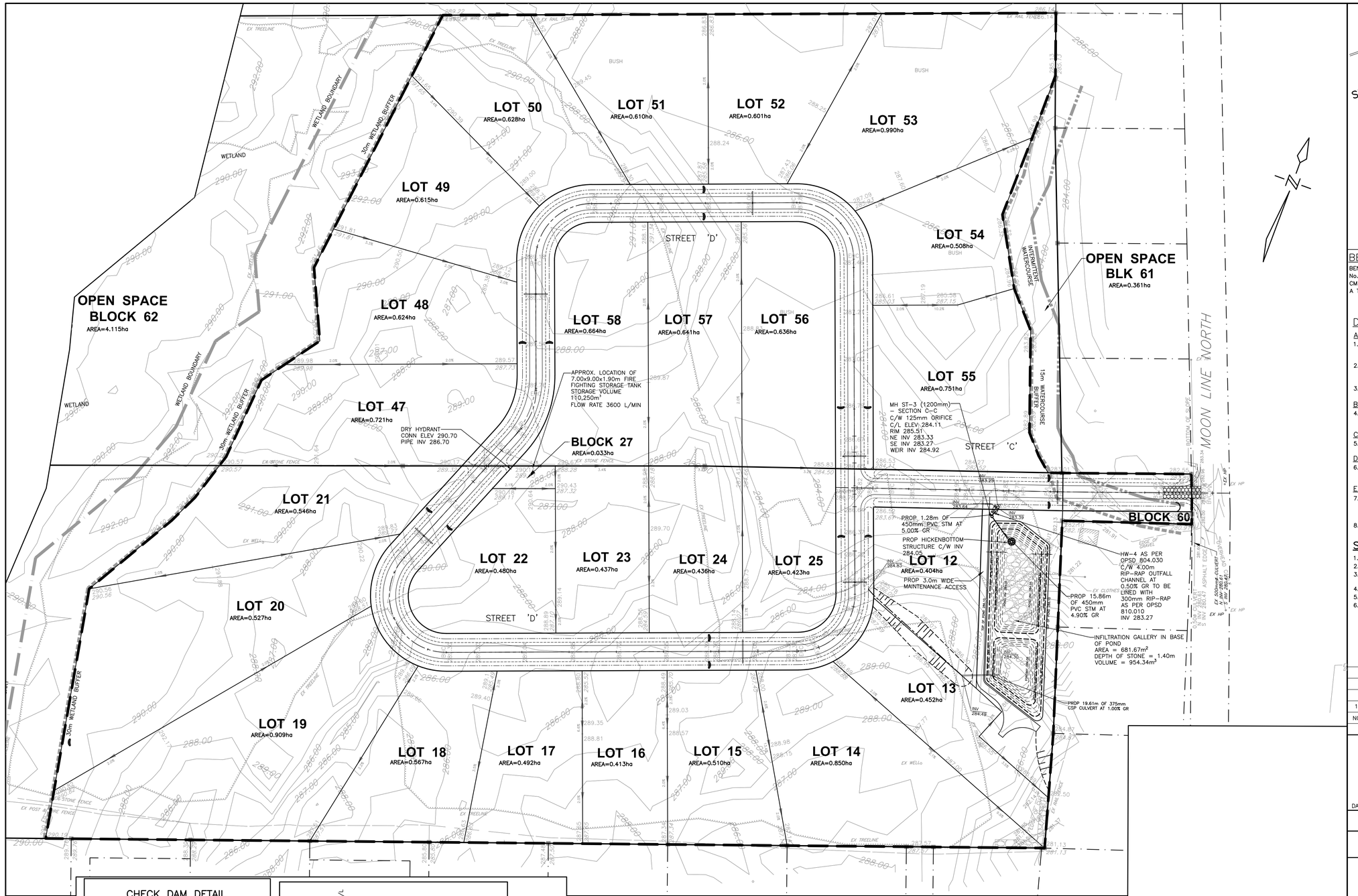
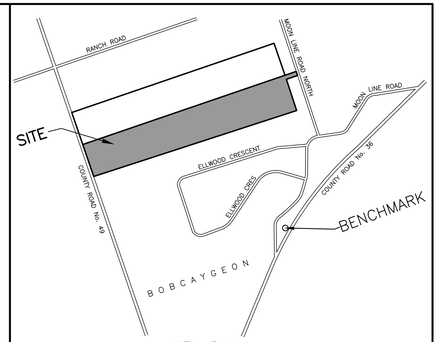
   - ROCK CHECK DAMS ARE TO BE CLEANED OF ALL ACCUMULATED SEDIMENT AS SOON AS SEDIMENT HAS A DEPTH OF 50% OF THE HEIGHT OF THE CHECK DAM.
   - ALL DAMAGED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REPAIRED AND/OR REPLACED WITHIN 24 HOURS OF INSPECTION IF RECEPTORS ARE AT IMMINENT RISK OF ADVERSE IMPACT.

LEGEND

PERIMETER ENVIRO FENCE
DIRECTION OF OVERLAND FLOW
RIP RAP CHECKDAM
CONSTRUCTION VEHICLE ACCESS





KEY PLAN
NOT TO SCALE

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PRELIMINARY
NOT FOR CONSTRUCTION

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MUNICIPALITY OF .....

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LICENSED PROFESSIONAL ENGINEER
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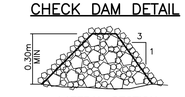
DEC 20, '24
PROVINCE OF ONTARIO

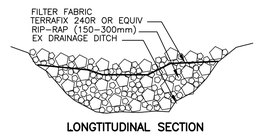
SCALE:	1:1000
DRAWN BY:	M.J.H.
DESIGN BY:	M.J.H
CHECKED BY:	D.D.M
DATE:	JAN 2024

PROJECT NO. 122169
DRAWING NO. ES-2

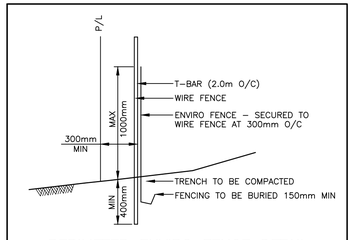
CHECK DAM DETAIL



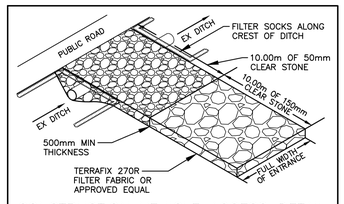
LATERAL SECTION



LONGTITUDINAL SECTION



PERIMETER ENVIRO FENCE DETAIL
NOT TO SCALE



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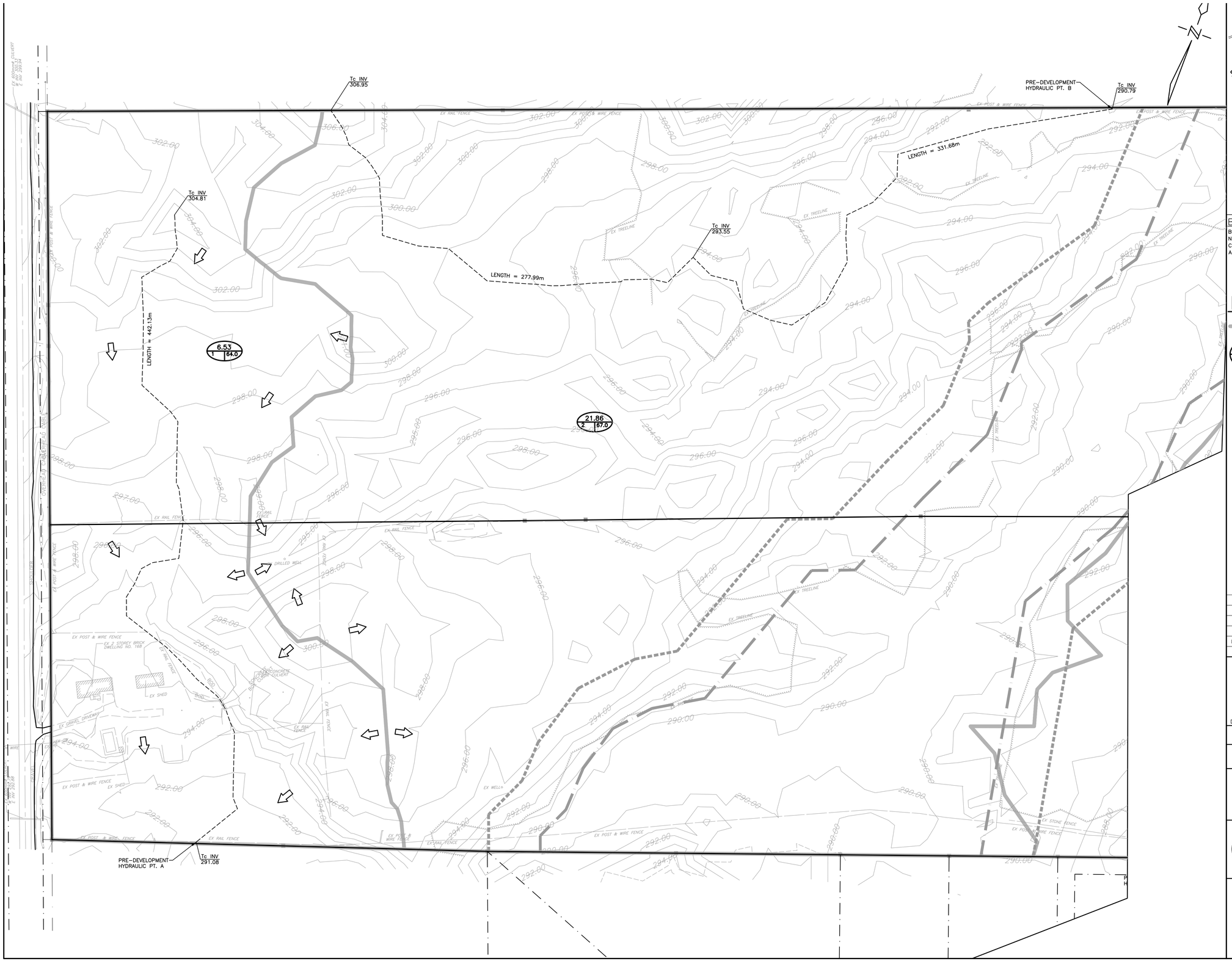
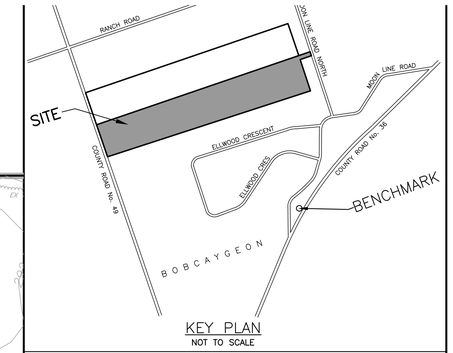
   - SILT FENCES MUST BE INSPECTED FOR RIPS OR TEARS, BROKEN STAKES, BLOW OUTS AND ACCUMULATIONS OF SEDIMENT. ACCUMULATED SEDIMENT MUST BE REMOVED FROM THE FENCE AT A DEPTH OF 300mm.
   - ROCK CHECK DAMS ARE TO BE CLEANED OF ALL ACCUMULATED SEDIMENT AS SOON AS SEDIMENT HAS A DEPTH OF 50% OF THE HEIGHT OF THE CHECK DAM.
   - ALL DAMAGED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REPAIRED AND/OR REPLACED WITHIN 24 HOURS OF INSPECTION IF RECEPTORS ARE AT IMMINENT RISK OF ADVERSE IMPACT.

LEGEND

PERIMETER ENVIRO FENCE
DIRECTION OF OVERLAND FLOW
RIP RAP CHECKDAM
CONSTRUCTION VEHICLE ACCESS

X:\DATA\JOB FILES\122000\122169 JEFFERY - BOBCAYGEON\122169 DRAWINGS CIVIL\122169 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\122169-30-SITE-PLANNING
December 20, 2024





KEY PLAN
NOT TO SCALE

BENCH MARK

BENCHMARKS SHOWN HEREON ARE GEODETIC IN ORIGIN DERIVED FROM CGVD2013 BENCHMARK No. 60U3306, IRON PIPE WITH BRASS CAP ON TOP OF SAND CUT ON COUNTY ROAD 36, 76 CM SOUTHEAST OF WIRE FENCE ALONG NORTHWEST LIMIT OF RIGHT-OF-WAY, AS SHOWN ON A TOPOGRAPHIC SURVEY BY A PRIVATE OLS, DATED 20231217. ELEV = 277.33.

LEGEND

- DRAINAGE BOUNDARY
- 0.25 / 1 | 90 — DRAINAGE AREA / ID/CURVE NUMBER
- OVERLAND FLOW DIRECTION
- WETLAND BOUNDARY
- 30m WETLAND BOUNDARY OFFSET

NOTE: THIS PLAN IS FOR STORM DRAINAGE AREAS ONLY

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY
1	20241216	REVISED AS PER CONSERVATION AUTHORITY COMMENTS	C.J.

REVISIONS

APPROVED	APPROVED
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF	DIRECTOR, ENGINEERING SERVICES REGION OF .....
DATE	DATE

TRENT LAKES
ENGINEERING SERVICES DEPARTMENT

JEFFERY SUBDIVISION
BOBCAYGEON

PRE-DEVELOPMENT STORM DRAINAGE PLAN - WEST

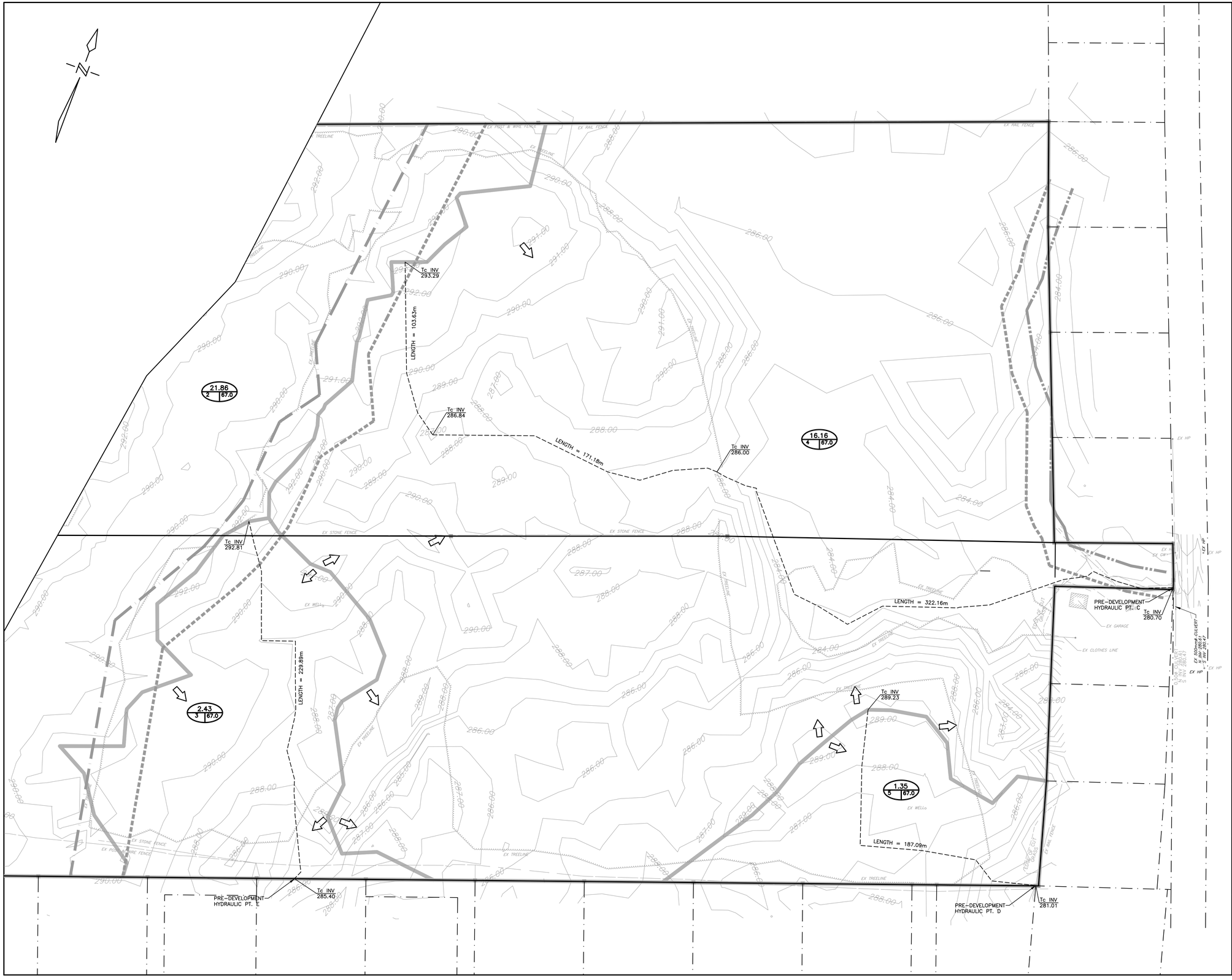
D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

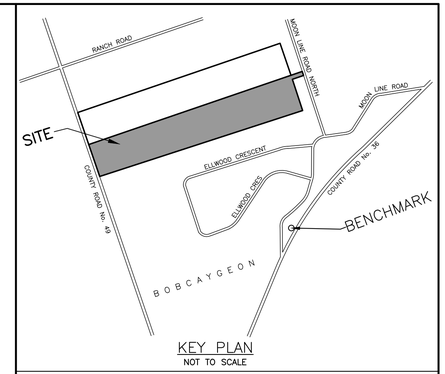
LICENSED PROFESSIONAL ENGINEER
D. D. J MCNAULL
100174891
DEC 20, '24
PROVINCE OF ONTARIO

SCALE:	1:1000
DRAWN BY:	M.J.H.
DESIGN BY:	M.J.H
CHECKED BY:	D.D.M
DATE:	JAN 2024

PROJECT NO. 122169
DRAWING NO. SD-1

X:\DRAFT\JOB FILES\122000\122169 JEFFERY - BOBCAYGEON\122169 DRAWINGS CIVIL\122169 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\122169-30-SITE-PLAN.DWG
December 19, 2024





KEY PLAN
NOT TO SCALE

BENCH MARK

BENCHMARKS SHOWN HEREON ARE GEODETIC IN ORIGIN DERIVED FROM CGVD2013 BENCHMARK No. 60U3306, IRON PIPE WITH BRASS CAP ON TOP OF SAND CUT ON COUNTY ROAD 36, 76 CM SOUTHEAST OF WIRE FENCE ALONG NORTHWEST LIMIT OF RIGHT-OF-WAY, AS SHOWN ON A TOPOGRAPHIC SURVEY BY A PRIVATE OLS, DATED 20231217. ELEV = 277.33.

LEGEND

- DRAINAGE BOUNDARY
- 0.25 / 1 | 90 — DRAINAGE AREA / ID/CURVE NUMBER
- OVERLAND FLOW DIRECTION
- WETLAND BOUNDARY
- 30m WETLAND BOUNDARY OFFSET
- INTERMITTENT WATERCOURSE
- 15m WATERCOURSE BUFFER

NOTE: THIS PLAN IS FOR STORM DRAINAGE AREAS ONLY

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY
1	20241216	REVISED AS PER CONSERVATION AUTHORITY COMMENTS	C.J.

REVISIONS

APPROVED	APPROVED
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF	DIRECTOR, ENGINEERING SERVICES REGION OF .....
DATE	DATE

TRENT LAKES
ENGINEERING SERVICES DEPARTMENT

JEFFERY SUBDIVISION
BOBCAYGEON

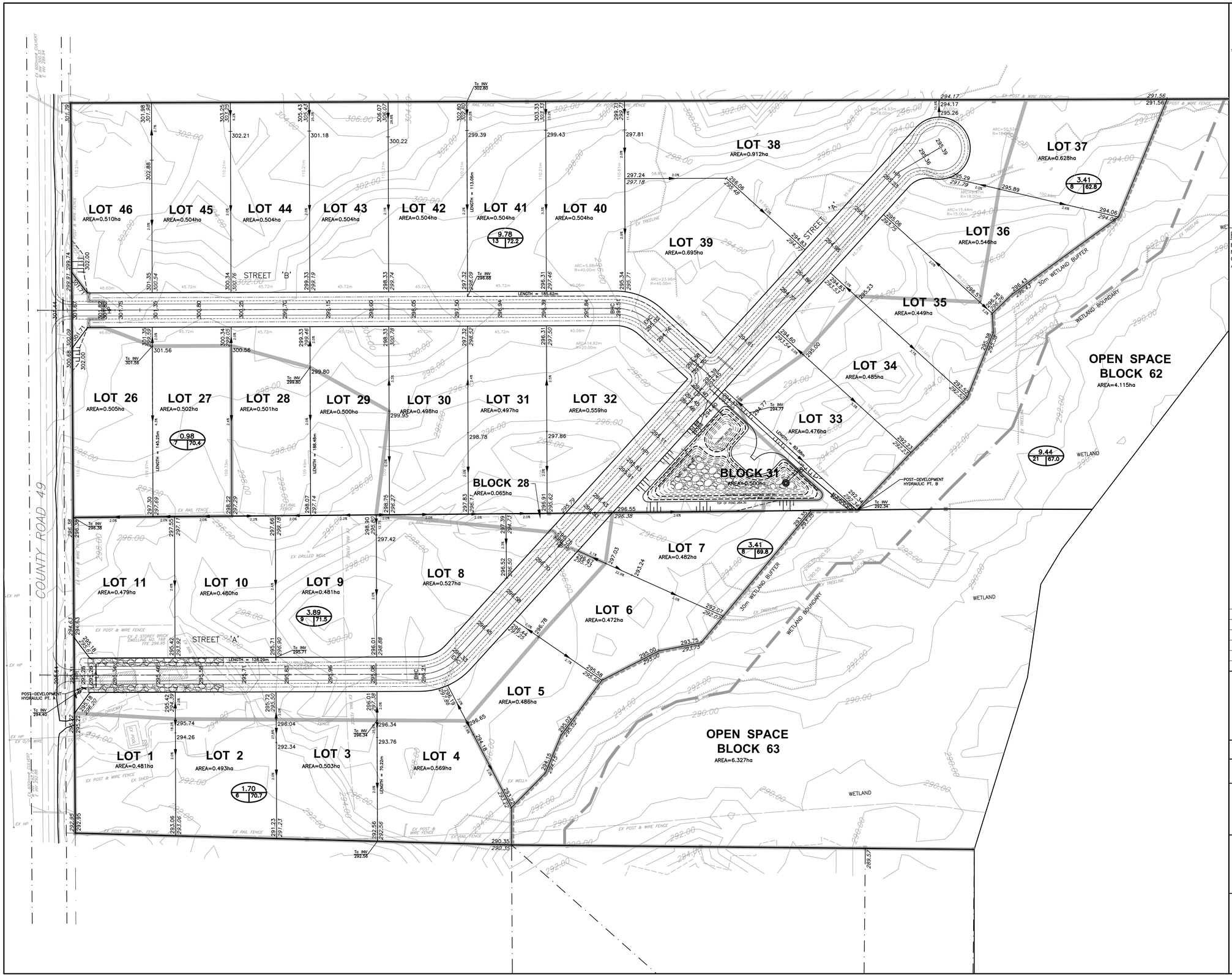
PRE-DEVELOPMENT STORM DRAINAGE PLAN - EAST

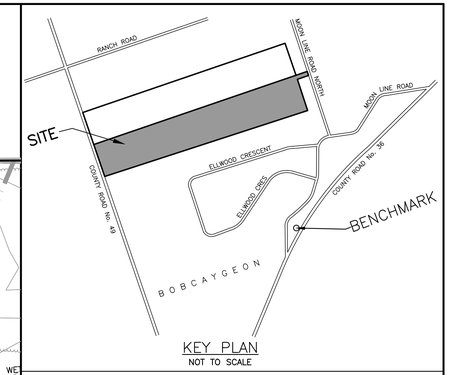
D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

LICENSED PROFESSIONAL ENGINEER
D. D. J. MCNAULL
100174891
DEC 20, '24
PROVINCE OF ONTARIO

SCALE:	1:1000	PROJECT NO.	122169
DRAWN BY:	M.J.H.	DRAWING NO.	SD-2
DESIGN BY:	M.J.H		
CHECKED BY:	D.D.M		
DATE:	JAN 2024		

X:\DRAFTING JOB FILES\122000\122169 JEFFERY - BOBCAYGEON\122169 DRAWINGS CIVIL\122169 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\122169-30-SITE-PLANLING December 19, 2024





KEY PLAN
NOT TO SCALE

BENCH MARK

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LEGEND

- DRAINAGE BOUNDARY
- 0.25 / 1 | 90 — DRAINAGE AREA ID/CURVE NUMBER
- OVERLAND FLOW DIRECTION
- WETLAND BOUNDARY
- 30m WETLAND BOUNDARY OFFSET

NOTE: THIS PLAN IS FOR STORM DRAINAGE AREAS ONLY

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY
1	20241216	REVISED AS PER CONSERVATION AUTHORITY COMMENTS	C.J.

REVISIONS

APPROVED	APPROVED
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF	DIRECTOR, ENGINEERING SERVICES REGION OF .....
DATE	DATE

TRENT LAKES
ENGINEERING SERVICES DEPARTMENT

JEFFERY SUBDIVISION
BOBCAYGEON

POST-DEVELOPMENT STORM DRAINAGE PLAN

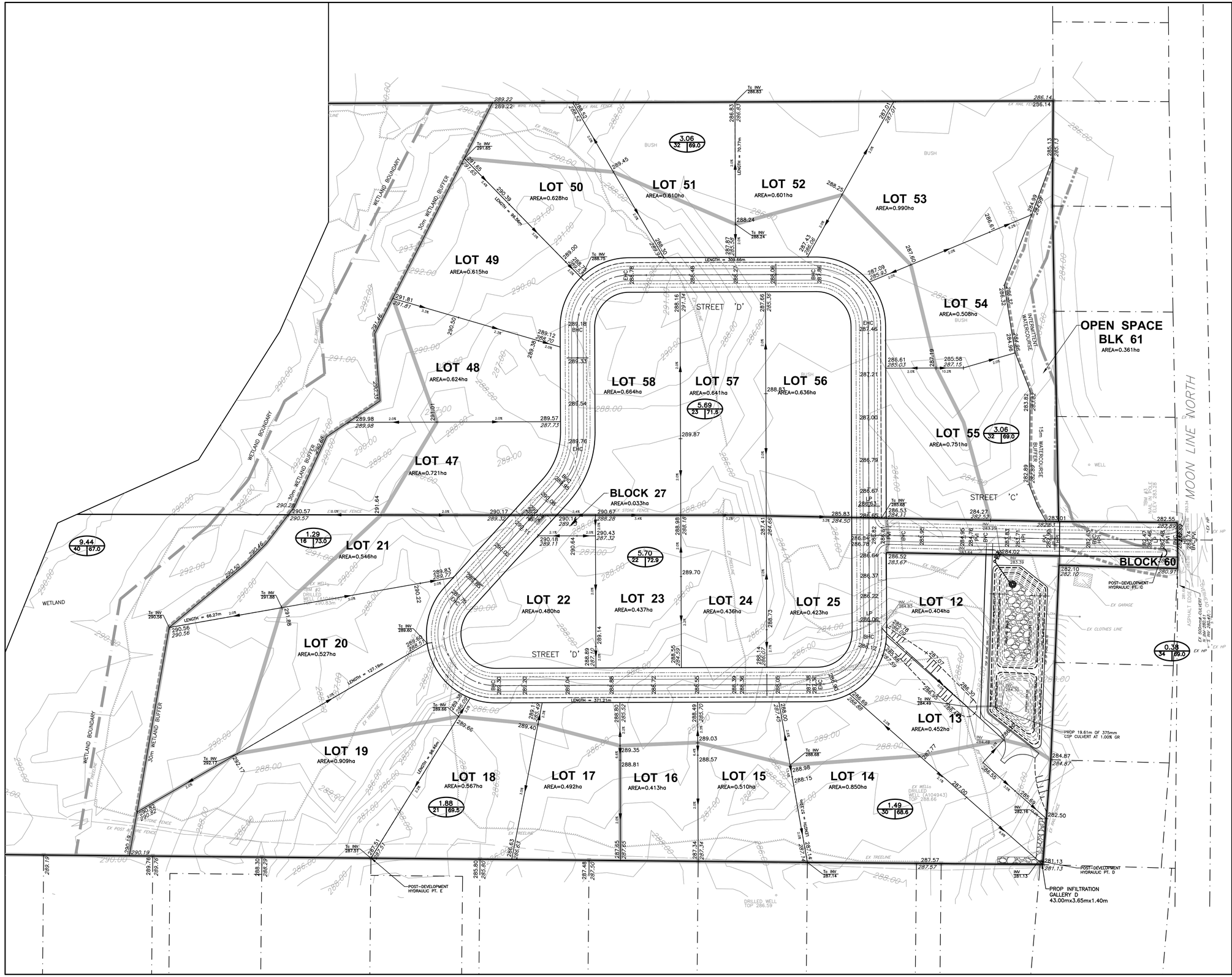
D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

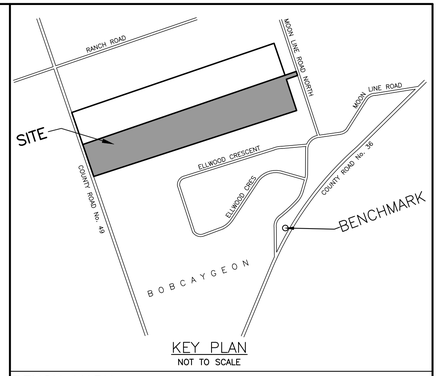
LICENSED PROFESSIONAL ENGINEER
D.D.J. MCNAULL
100174891
DEC 20, '24
PROVINCE OF ONTARIO

SCALE:	1:1000
DRAWN BY:	M.J.H.
DESIGN BY:	M.J.H
CHECKED BY:	D.D.M
DATE:	JAN 2024

PROJECT NO. 122169
DRAWING NO. SD-3

X:\STAFF_JOB FILES\122000\122169 JEFFERY - BOBCAYGEON\122169 DRAWINGS\122169 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\122169 - SD-STE-PLAN.DWG
December 19, 2024





KEY PLAN
NOT TO SCALE

BENCH MARK

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LEGEND

- DRAINAGE BOUNDARY
- 0.25 / 1 / 90 — DRAINAGE AREA ID/CURVE NUMBER
- OVERLAND FLOW DIRECTION
- WETLAND BOUNDARY
- 30m WETLAND BOUNDARY OFFSET
- INTERMITTENT WATERCOURSE
- 15m WATERCOURSE BUFFER

NOTE: THIS PLAN IS FOR STORM DRAINAGE AREAS ONLY

PRELIMINARY NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY
1	20241216	REVISED AS PER CONSERVATION AUTHORITY COMMENTS	C.J.

REVISIONS

APPROVED	APPROVED
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF	DIRECTOR, ENGINEERING SERVICES REGION OF .....
DATE	DATE

TRENT LAKES
ENGINEERING SERVICES DEPARTMENT

JEFFERY SUBDIVISION
BOBCAYGEON

POST-DEVELOPMENT STORM DRAINAGE PLAN

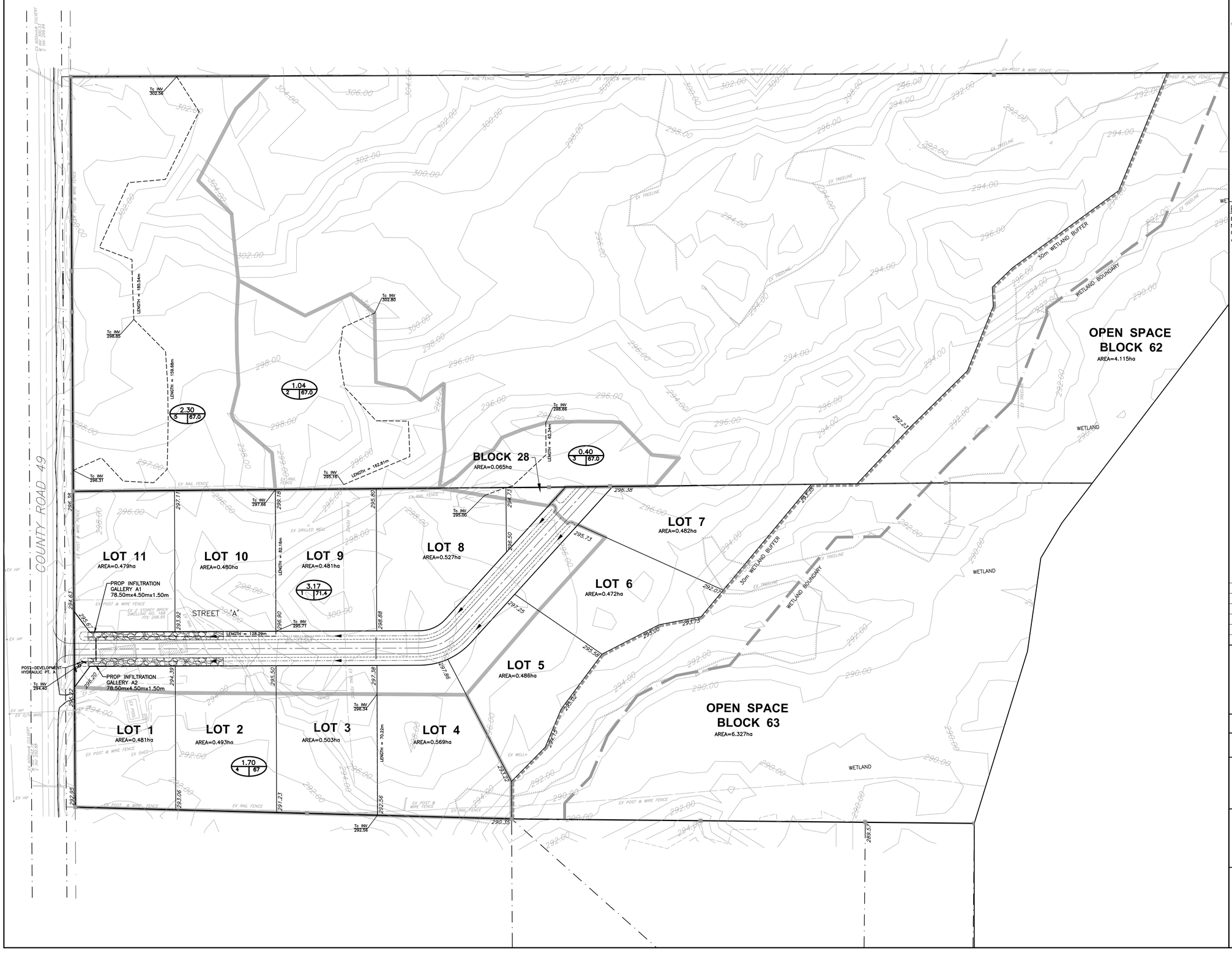
D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

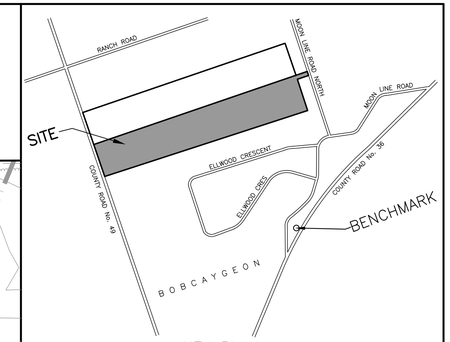
LICENSED PROFESSIONAL ENGINEER
D.D.J MCNAULL
100174891
DEC 20, '24
PROVINCE OF ONTARIO

SCALE:	1:1000
DRAWN BY:	M.J.H.
DESIGN BY:	M.J.H
CHECKED BY:	D.D.M
DATE:	JAN 2024

PROJECT NO. 122169
DRAWING NO. SD-4

X:\STAFF\JOB FILES\122000\122169 JEFFERY - BOBCAYGEON\122169 DRAWINGS\122169 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\122169-30-SITE-PLANS.dwg December 19, 2024





KEY PLAN
NOT TO SCALE

BENCH MARK

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LEGEND

- DRAINAGE BOUNDARY
- 0.25 / 1 | 90 — DRAINAGE AREA / ID/CURVE NUMBER
- OVERLAND FLOW DIRECTION
- WETLAND BOUNDARY
- 30m WETLAND BOUNDARY OFFSET

NOTE: THIS PLAN IS FOR STORM DRAINAGE AREAS ONLY

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY
1	20241216	REVISED AS PER CONSERVATION AUTHORITY COMMENTS	C.J.

REVISIONS

APPROVED	APPROVED
DIRECTOR, ENGINEERING SERVICES MUNICIPALITY OF	DIRECTOR, ENGINEERING SERVICES REGION OF .....
DATE	DATE

TRENT LAKES
ENGINEERING SERVICES DEPARTMENT

JEFFERY SUBDIVISION
BOBCAYGEON

POST-DEVELOPMENT STORM DRAINAGE PLAN (INTERIM CONDITION)

D.G. BIDDLE & ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
96 King Street East
Oshawa, Ontario, L1H 1B6
Phone: 905-576-8500
info@dgbiddle.com
dgbiddle.com

LICENSED PROFESSIONAL ENGINEER
D.D.J. MCNAULL
100174891
DEC 20, '24
PROVINCE OF ONTARIO

SCALE:	1:1000
DRAWN BY:	M.J.H.
DESIGN BY:	M.J.H
CHECKED BY:	D.D.M
DATE:	JAN 2024

PROJECT NO. 122169
DRAWING NO. SD-5

X:\STAFF\JOB FILES\122000\122169 JEFFERY - BOBCAYGEON\122169 DRAWINGS\122169 DRAWINGS CIVIL\122169 CONCEPTUAL DEVELOPMENT AND PRELIMINARY ENGINEERING\122169 20241211 INTERIM DRAINAGE CONDITION - WEST SIDE.DWG
December 19, 2024