

FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT REPORT

FOR

HONEY HEIGHTS DEVELOPMENT LTD. PHASE 2C

**2080 WHITFIELD ROAD
PART OF LOTS 21 & 22, CONCESSION 8
TOWNSHIP OF SCUGOG
REGIONAL MUNICIPALITY OF DURHAM**

PROJECT NO. 112112
2026

DATE: August

March 18, 2025

Last Revised: August 7, 2026

Honey Heights Development Ltd.
513 Westney Road South, Unit 4
Ajax, ON
L1S 6W8

Attention: Mr. Shawn Rondeau

**Re: Functional Servicing and Stormwater Management Report
Proposed Draft Plan of Subdivision and Zoning By-Law Amendment
Honey Heights Development Ltd. – Phase 2C
2080 Whitfield Road, Part of Lots 21 & 22, Concession 8
Township of Scugog
Our File: 112112**

Dear Sir:

In support of the Draft Plan of Subdivision and Zoning By-Law Amendment applications for the above-referenced 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 Township of Scugog and Kawartha Conservation Authority and identify the infrastructure required to service the proposed development.

We trust the Township of Scugog 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



David McNaull, P. Eng.
Senior Project Engineer, Associate
Civil Group
DDM/sla
Encl.



X:\Staff\Job Files\112000\112112 Rondeau – Port Perry\112112 Reports\112112 20260807 Functional Servicing and SWM Report Rev3.doc

TABLE OF CONTENTS

1.0 INTRODUCTION

- 1.1 Purpose
- 1.2 Site Location and Description

2.0 WATER SUPPLY AND DISTRIBUTION

- 2.1 Existing System
- 2.2 Proposed System

3.0 SANITARY SERVICING

- 3.1 Existing System
- 3.2 Proposed System

4.0 STORM SERVICING

- 4.1 Existing System
- 4.2 Proposed System

5.0 PERMANENT STORMWATER QUALITY CONTROLS

- 5.1 Extended Detention Wet Pond Design Characteristics
- 5.2 Sediment Forebay
- 5.3 Mitigating Thermal Impacts
 - 5.3.1 Pond Configuration
 - 5.3.2 Riparian Planting Strategy
 - 5.3.3 Bottom Draw Outlet
 - 5.3.4 Night-time Release
- 5.4 Monitoring and Maintenance
- 5.5 Water Balance
- 5.6 Water Quality During Construction

6.0 STORMWATER QUANTITY CONTROLS

- 6.1 Pre-Development Conditions
- 6.2 Post-Development Conditions

7.0 LOT LEVEL CONTROLS

8.0 ROAD NETWORK AND SITE GRADING

9.0 CONCLUSIONS



LIST OF FIGURES

1. FIGURE 1: Site Location Plan
2. DWG DP-1: Draft Plan of Subdivision
3. 00098 A1: Phasing Plan completed by URS Cole, Sherman & Associates
4. FIGURE 1b: LID Locations
5. FIGURE 2a: Pre-Development Storm Drainage Scheme
6. FIGURE 2b: Overall Pre-Development Storm Drainage Scheme
7. FIGURE 3: Post-Development Storm Drainage Scheme
8. FIGURE 4: Stormwater Management Facility
9. FIGURE 5: Visual Otthymo Scheme (Appendix 3)

LIST OF DRAWINGS

1. LG-1 TO LG-3 Conceptual Lot Grading Plans
2. D-1 Functional Servicing and Storm Drainage Plan
3. ES-1 & ES-2 Erosion & Sediment Control Plans

LIST OF APPENDICES

1. APPENDIX 1: -Storm Sewer Design Sheet
2. APPENDIX 2: -Storm Drainage Area Plan, Drawing 00098-G1 prepared by Cole Engineering
3. APPENDIX 3: -LID Sand Bar Sizing Calculations
-Fire Fighting Calculations
-Time of Concentration Calculations
-Pond Design Calculations (Stage/Storage/Discharge)
-Figure 6 Visual Otthymo Scheme
-Visual Otthymo Outputs (25mm, Pre-Development, Post-Development)



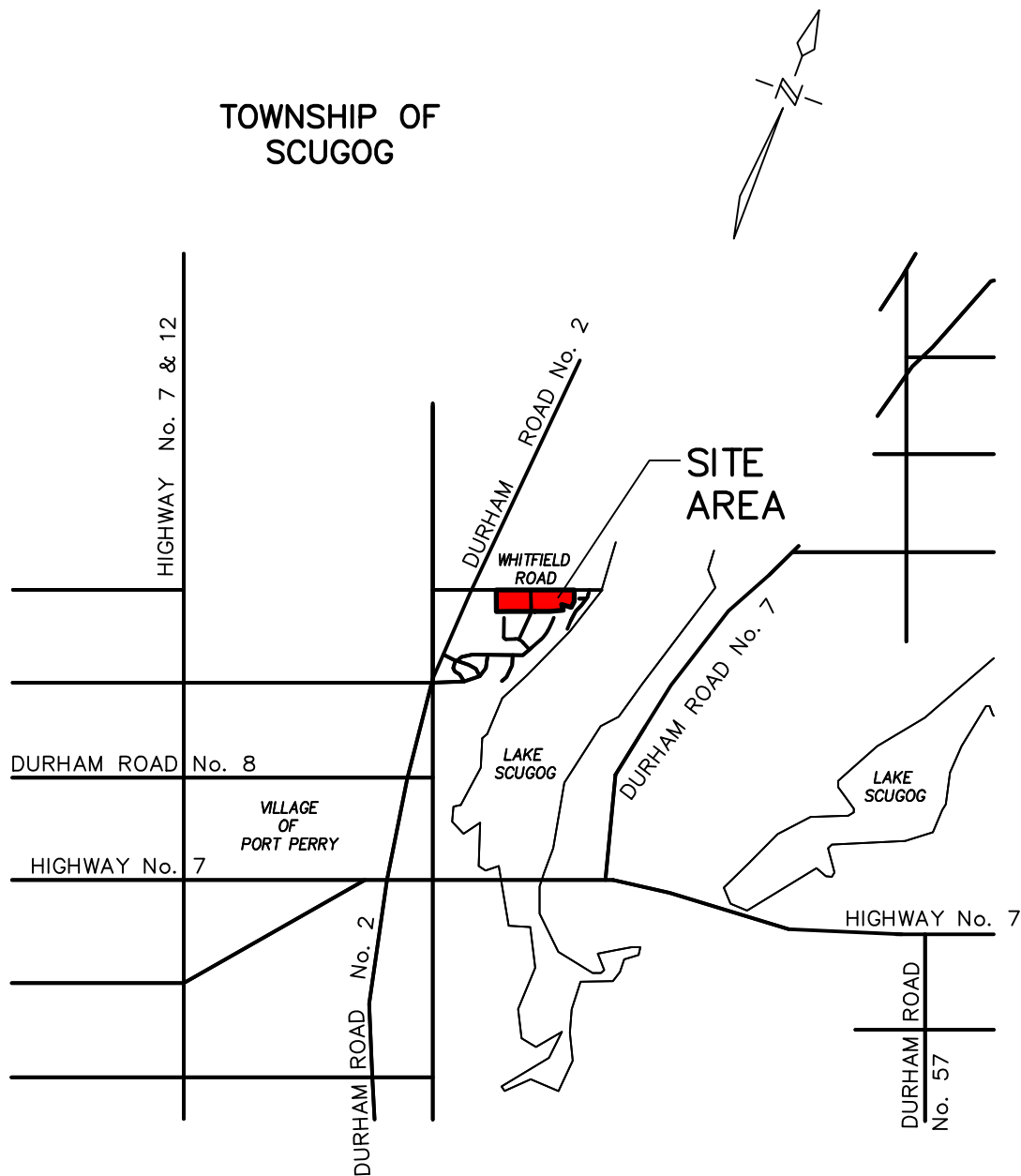
1.0 INTRODUCTION

- 1.1 Purpose:** This Functional Servicing and Stormwater Management Report has been prepared recommend and illustrate the infrastructure required to provide municipal services for the proposed Draft Plan of Subdivision. 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 Township of Scugog and Kawartha Conservation Authority (KCA).
- 1.2 Site Location and Description:** The subject property is located approximately 1km east of the intersection of Whitfield Road and Durham Road No. 2 (Simcoe Street) in the Township of Scugog. It is part of Phase 2C development as shown in Phasing Plan, Drawing 00098-A1. The subject site is approximately 19.90ha in size, and consists of farmland, forest and un-evaluated natural heritage features. The proposed development is bounded on the north by Whitfield Road, on the west by existing agricultural lands, and on the south and east by existing residential properties. Indian Way currently bisects the proposed residential lands. A Site Location Plan, Figure 1, illustrates the study area in relation to the surrounding areas.

The Draft Plan proposes a residential subdivision consisting of 26 estate lots, a stormwater management pond block, a drainage easement block and a 20.0m road allowance. It is noted that, due to potential odours, the future homes on Lots 16 through 20 are subject to a minimum distance separation of 237m from an existing barn located north of Whitfield Road. A copy of the Draft Plan is attached as drawing 112112 DP-1.

The proposed development straddles a drainage divide running north to south near the eastern property line. West of the drainage divide, the majority of the property drains to an existing culvert at Whitfield Road, approximately 150m west of Indian Way, via overland sheet flow and open ditch drainage conveyance system. The existing culvert drains north and ultimately outlets into Lake Scugog. East of the

drainage divide, flows are ultimately intercepted either by an existing roadside ditch on Honey's Beach Road or by an existing detention pond installed with the neighbouring subdivision.



PHASE 2C – 2080 WHITFIELD ROAD, SCUGOG FOR: HONEY HEIGHTS DEVELOPMENT INC.

SITE LOCATION PLAN



**D.G. BIDDLE
& ASSOCIATES**
CONSULTING ENGINEERS & PLANNERS

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PROJECT NO.

112112

DRAWING NO.

FIGURE 1

DRAWN BY:

M.R.W.

CHECKED BY:

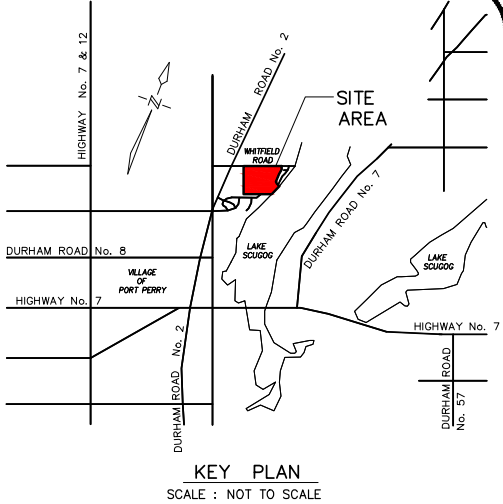
D.D.M.

DATE:

MAR 2026

SCALE:

N/A



LAND USE SCHEDULE				
PROPOSED USE	LOT/BLK #	# OF LOTS/BLKS	# OF UNITS	AREA (ha)
RESIDENTIAL				
LOW DENSITY RESIDENTIAL SINGLE DETACHED	LOTS 1-26	26	26	15.5231
INDUSTRIAL				
RETENTION POND	BLOCK 27	1	0	0.7025
OPEN SPACE	BLOCK 28	1	0	3.4618
ROAD WIDENING	BLOCKS 29, 32	2	0	1.1284
30m RESERVE	BLOCKS 30, 31, 35	3	0	0.0011
LANDS OWNED BY SCUGOG				
30m RESERVE	BLOCKS 33&34, 36-47	14	0	0.0142
50m BLOCKS	BLOCKS 48-57	10	0	0.0721
NOTE:				
- EXISTING RESERVE BLOCKS ALONG INDIAN WAY TO BE CONVEYED BACK TO THE DEVELOPER.				
- AREAS OF EXIST. 0.30m RESERVES HAVE BEEN INCLUDED IN THE TOTAL AREA OF 19.9032ha.				
TOTALS		57	26	19.9032

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 OF THE PLANNING ACT	
NORTH –AGRICULTURE LANDS	G –SHOWN ON PLAN
SOUTH –RESIDENTIAL	
EAST –RESIDENTIAL	
WEST –AGRICULTURE LANDS	
H –INDIVIDUAL DRILLED WELLS	
–TILL	
K –NO MUNICIPAL SERVICES	

OWNER'S AUTHORIZATION	SURVEYOR'S CERTIFICATE
WE, _____ BEING THE REGISTERED OWNER OF THE SUBJECT LANDS HEREBY AUTHORIZE _____ TO PREPARE AND SUBMIT A DRAFT PLAN OF SUBDIVISION FOR APPROVAL SIGNED _____ TITLE _____ DATE _____	I HEREBY CERTIFY THAT THE BOUNDARY OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN ONTARIO LAND SURVEYORS SIGNED _____ O.L.S. _____ DATE _____

o.	REVISION	DATE	BY APPROVED
REVISIONS			

**DRAFT PLAN
OF SUBDIVISION**

**PART OF LOT 21 & 22, CONCESSION 8
FORMERLY IN THE TOWNSHIP OF REACH
NOW IN THE
TOWNSHIP OF SCUGOG
REGIONAL MUNICIPALITY OF DURHAM**

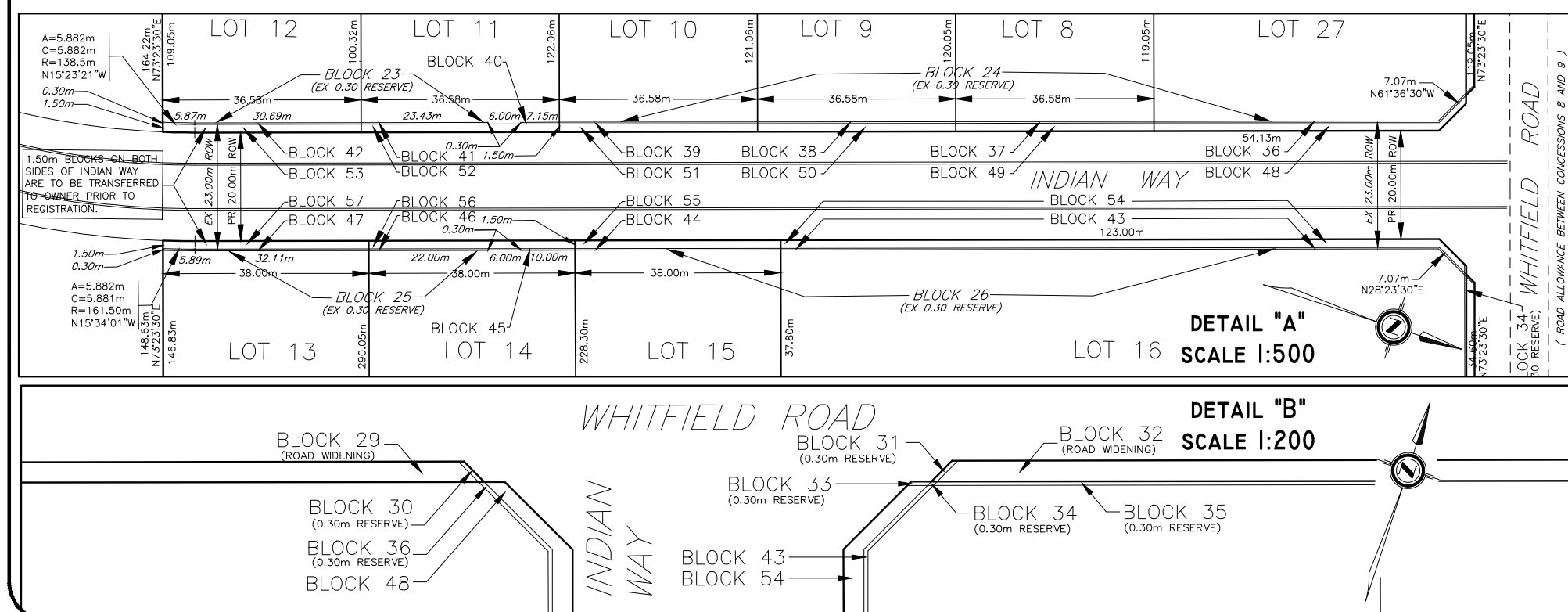
 **D.G. BIDDLE
& ASSOCIATES**
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SCALE: 1:1500	112112 DP-
DRAWN BY: B.B.	
DESIGN BY: M.J.F.	
CHECKED BY: M.J.F.	
PLOT DATE: 03/13/2025	





LOT 20,
CONCESSION 9
AGRICULTURAL

LOT 21 CONCESSION 9
ZONING - RURAL RESIDENTIAL (RU)
AGRICULTURAL

WHITFIELD (ROAD ALLOWANCE BETWEEN CONCESSIONS 8 AND 9) ROAD

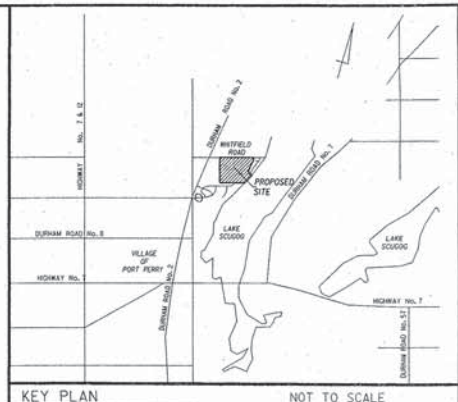
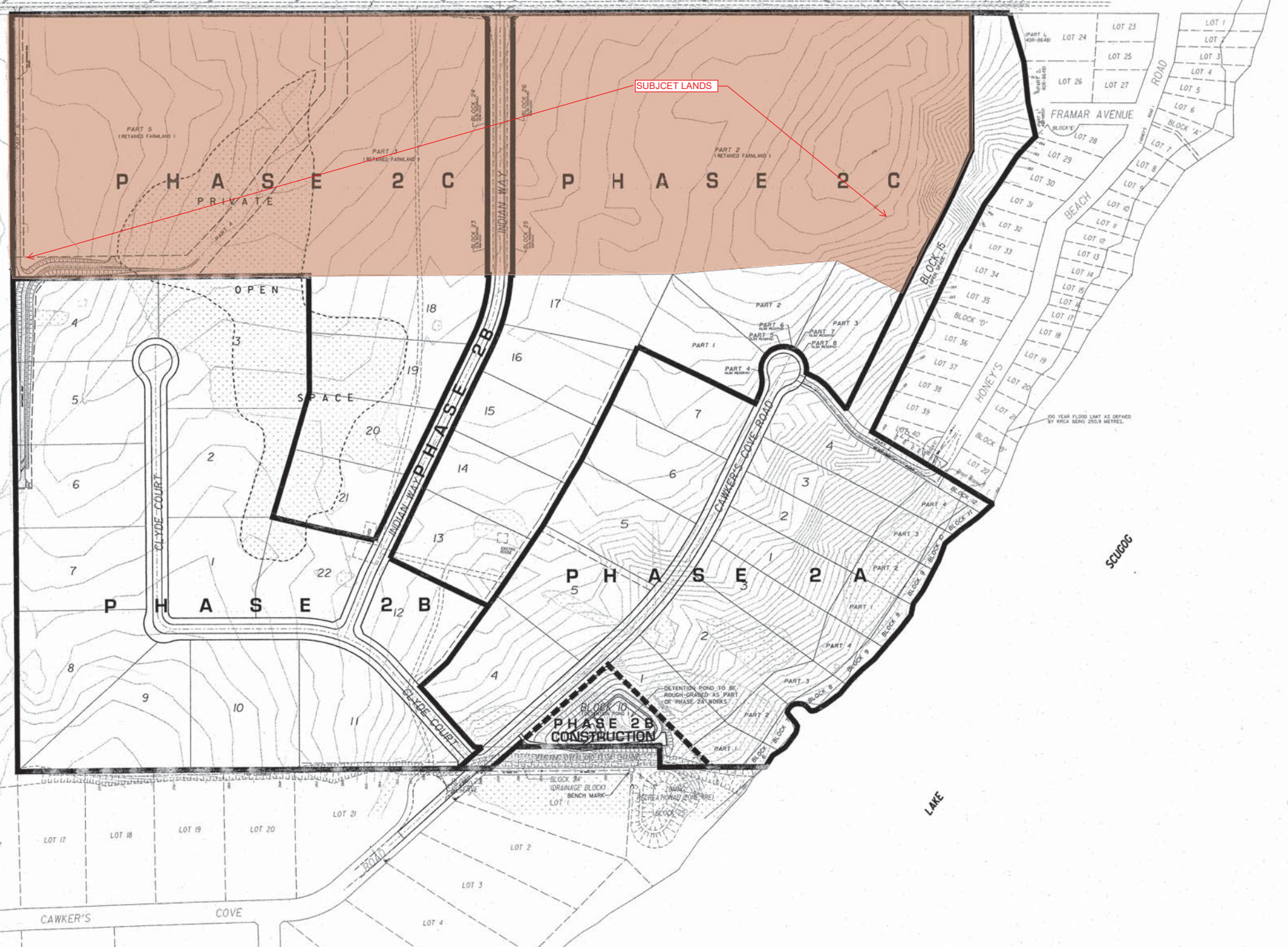
ZONING - RURAL RESIDENTIAL (RU)
AGRICULTURAL

ZONING - RURAL RESIDENTIAL (RU)
AGRICULTURAL

ZONING RECREATIONAL COMMERCIAL (C2-1)
(PLAN 40R - 50ST)
MARINA

AGRICULTURAL

CONCESSION 20



KEY PLAN NOT TO SCALE

TOWNSHIP OF SCUGOG ACCEPTANCE APPLIES TO PHASE 2B/2C WORKS ONLY

BENCHMARK
CUT CROSS ON TOP OF THE EAST EDGE OF A CONCRETE STORM DRAINAGE CHAMBER LOCATED AT THE END OF A TOWNSHIP MAINTENANCE ROAD NORTH OF HOUSE NO 62 CAWKER'S COVE ROAD. THE CONCRETE CHAMBER IS APPROXIMATELY 142m EAST OF THE EAST CURB OF CAWKER'S COVE ROAD MEASURED ALONG THE CENTRE OF THE TOWNSHIP MAINTENANCE ROAD.
ELEVATION 254.75m

No.	Revision	Date	By	Approved
1	LOT NUMBERS REVISED AS PER SURVEY PLANS	NOV 19 2003	E.N.	

ACCEPTED TO BE IN GENERAL CONFORMANCE WITH THE TOWNSHIP OF SCUGOG STANDARDS
THIS ACCEPTANCE IS NOT TO BE CONSTRUED AS VERIFICATION OF ENGINEERING CONTENT
J.D. McEwen, P.Eng.
TOTTEN: SMS HUBCK ASSOCIATES (1997) LIMITED
DATE: Dec 17, 2003

APPROVED
DEPARTMENT OF WORKS
REGIONAL MUNICIPALITY OF DURHAM
DATE



CORPORATION OF THE TOWNSHIP OF SCUGOG
HONEY HARBOUR HEIGHTS ESTATES - PHASE 2
PHASING PLAN

URS COLE, SHERMAN
Scale 1:2000
Date JANUARY 2004
Drawn By: E.N.
Designed By: K.A.
Checked By: G.L.

75 Commerce Valley Dr. E.
Thornhill, Ontario, L3T-7N9
Tel: (905) 882-4401
Fax: (905) 882-4399
Project No. 00098
Dwg. No. AI

Mod-183

2.0 WATER SUPPLY AND 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 Whitfield Road or Indian Way.

2.2 Proposed System: The domestic water supply will be provided privately on-site. Domestic water 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. Further details and locations of the wells will occur at building permit submission.

On-site fire protection is not required as the subject site is within 8km of one of the Township of Scugog Fire Departments, namely Station 61 (30 Crandell Street, Port Perry) – Class 7. This fire department received Tanker Shuttle Accreditation which has demonstrated they can deliver a continuous flow of 200 gallons per minute (gpm) of water for a period of 120 minutes, which equates to a supply volume of 90,850L. According to the OBC requirements, the required fire fighting volume for a proposed 400m² unit with 2 storeys, is approximately 64,400L, which necessitates a fire fighting flow rate of 2,700L/min (713 gpm) for 30min or an equivalent volume of 81,000L. Therefore, the fire tanker is adequate in providing the minimum firefighting water supply for the subject site. Detailed calculations are provided in Appendix 3.

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 Whitfield Road nor Indian Way.
- 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 Whitfield Road; however, a storm sewer system is present on Indian Way south of the subject site, installed with the previous subdivision phase. This storm sewer system provides minor storm conveyance to an existing stormwater detention pond located east of the intersection of Clyde Court and Cawker's Cove Road. The storm sewers and pond have been sized to mainly accommodate the previously developed phases, 2A and 2B, south of the proposed site. However, due to the existing drainage divide, the sewers and pond were also sized to accommodate 0.47ha of the subject development at the southeast corner of the property. Refer to the Storm Drainage Area Plan, Drawing 00098-G1 prepared by URS, Cole, Sherman & Associates, attached in Appendix 2.

Storm drainage conveyance for the remainder of the existing property is provided via open ditch drainage conveyance systems on Indian Way and Whitfield Road. A majority of the subject property is tributary to an existing culvert in Whitfield Road draining north.

4.2 Proposed System: Under proposed conditions, Indian Way will be urbanized with a new paved road structure complete with concrete curbs and gutter to match the existing road profile at the south limit of the site. A new storm sewer system will be installed in Indian Way to convey minor storm events up to the 5-year storm for approximately 9.64ha of the subject site, as per Township of Scugog design criteria.

The storm drainage system will convey minor flows to a proposed stormwater management facility located southwest of the intersection of Whitfield Road and Indian Way. Minor system flows will be conveyed to the east end of the pond to extend the distance between the inlet and outlet. The storm sewer will discharge to a sediment forebay which will be lined with cable concrete to facilitate cleaning. The

pond facility will outlet flows via a concrete headwall into the existing ditch adjacent to the culvert draining north under Whitfield Road.

The Township of Scugog design criteria also requires that overland flows from major storm events, including the 100-year storm, be contained within the road right-of-way or conveyance routes. Consequently, road grades and lot grades are designed to positively convey the major storm system to an acceptable outfall. The road grades on Indian Way have been designed to positively convey the major storm system to a low point adjacent to the stormwater management facility. Overland flows are proposed to discharge via a depressed curb, weir, overland flow channel and reinforced pond slope to the main cell of the pond to reduce resuspension of sediment collected in the forebay.

Stormwater runoff from site areas not tributary to the pond will continue to drain uncontrolled towards the existing culvert in Whitfield Road, as per pre-development conditions. A stormwater drainage easement bisecting the west side of the subject property will provide storm drainage conveyance for internal and external lands draining through the subject property, as per pre-development conditions. The existing open ditch drainage systems on Whitfield Road are to remain and will include the use of culverts to maintain positive drainage to the outlets.

Given the above, the attached Functional Servicing and Storm Drainage Plan, Drawing 112112 D-1, provides a proposed design for the minor and major storm systems for this development. This plan indicates the location of manholes, pipe sizes, and pipe grades. It also illustrates the direction of overland flow routes and storm catchment areas. A Storm Sewer Design Sheet is provided in Appendix 1 based on the catchment areas delineated on drawing D-1.

5.0 PERMANENT STORMWATER QUALITY CONTROLS

A Stormwater Management Pond is proposed to provide quality, erosion and quantity controls at the end of the proposed storm sewer system within the subject property as required by Township of Scugog design criteria.

An enhanced detention wet pond has been selected as the end of pipe facility to provide water quality control for the development. Engineering drawings illustrating the details of the Stormwater Management Facility will be provided at detailed engineering stage. For the purposes of this report, functional level details of the pond have been provided.

The pond is ultimately sized to accommodate 9.63ha of minor drainage flows from the eastern half of the subject property and discharges north to the existing ditch on Whitfield Road.

The minor storm sewer drainage area tributary to the pond is 10.36ha, including the pond block. This tributary consists of single-family estate residential lots and portions of Indian Way and Whitfield Road. An average percent imperviousness of 27% (RC 0.39) was calculated for the drainage area flowing to the pond. The pond block has an imperviousness of 70%. Quality control volume requirements for Level 1 Enhanced fisheries protection were extracted from the Stormwater Management Practices Planning and Design Manual (MOEE, March 2003). Given the above information, the permanent and active (fluctuating) water quality storage requirements are tabulated below:

TABLE 1 – PERMANENT POOL STORAGE VOLUME REQUIREMENTS

IMPERVIOUS LEVEL (%)	PERMANENT STORAGE VOLUME REQUIRED (m ³ /ha)	FLUCTUATING STORAGE VOLUME REQUIRED (m ³ /ha)	TOTAL DRAINAGE AREA (ha)	PERMANENT VOLUME REQUIRED (m ³)	FLUCTUATING VOLUME REQUIRED (m ³)
27 (Lots 8-26)	85	40	9.64	819	386
70 (Pond)	185	40	0.72	133	29
			10.36	953	414

In addition to the above requirements for quality controls, additional fluctuating volume is recommended within the stormwater facility to minimize further erosion downstream. The active (fluctuating) storage volume has been extended to include the runoff generated by a 25mm storm event. This volume will be detained for a minimum duration of 24 hours. The required volume for erosion control is as follows:

TABLE 2 – ACTIVE POOL STORAGE VOLUME REQUIREMENTS

IMPERVIOUS LEVEL (%)	TOTAL RAINFALL (mm)	RUN-OFF DEPTH (mm)	TOTAL DRAINAGE AREA (ha)	VOLUME REQUIRED (m ³)
27 (Lots 8-26)	25	7.98	9.64	769
70 (Pond)	25	18.08	0.72	130
			10.36	899

The Visual Otthymo Summary Files for determining the erosion control volume are attached in Appendix 3 of this report.

5.1 Extended Detention Wet Pond Design Characteristics: The proposed design for the wet pond, shown on Figure 4, has the following characteristics:

- 4:1 side slopes (max) above active (fluctuating) water surface elevation.
- 5:1 side slopes below permanent pool water surface elevation.
- 6:1 bench at permanent pool water surface elevation.
- 262.75m permanent pool elevation.
- 1.5m permanent pool depth.
- 1,627m³ permanent volume provided.
- 0.50m water surface fluctuation.
- 263.25m maximum water quality fluctuating elevation.
- 1,213m³ water quality fluctuating volume provided.
- sediment forebay at inlet location.
- detention time between 24-48 hours.
- 4.0m maintenance access.
- 263.93m maximum 100-year water surface elevation.
- 2,322m³ maximum fluctuating volume provided.
- 1.50m forebay depth
- 0.30m freeboard from max WSE to top of bank.
- 3:1 length to width ratio
- Emergency spillway to convey Regulatory storm event

The pond discharges to the existing ditch in Whitfield Road via a proposed storm sewer outfall. Given the above characteristics, the proposed stormwater management pond will provide the permanent and fluctuating volumes required to obtain Level 1 fisheries habitat protection in addition to minimizing downstream erosion.

5.2 Sediment Forebay: One storm sewer outfall is proposed for the stormwater management facility. The sediment forebay is proposed with a hard bottom surface consisting of cable concrete blocks to facilitate maintenance. The forebay will be separated from the rest of the pond by a submerged earth berm which is set at the

permanent water surface level. In addition to the above, the sediment forebay has been designed with the following characteristics:

- The forebay will be designed to settle out 150 µm particles.
- The forebay will not exceed 1/3 of the pond surface area.
- The forebay length will be such that the dispersion velocity will be 0.5m/s at the forebay berm.

5.3 Mitigating Thermal Impacts: In accordance with Section 4.4 of the MOE Stormwater Management Planning and Design Manual, the following mitigation measures were reviewed with the design to minimize increased temperature of the stormwater effluent.

5.3.1 Pond Configuration: The proposed pond has been configured with a length to width ratio of approximately 3:1 to prevent the occurrence of large open areas of water which cannot be shaded with the planting strategy. In addition, the location of the pond outlet is proposed at the opposite end of the facility from the inlet to ensure conveyance of stormwater through the facility and minimize the occurrence of 'dead-zones'.

5.3.2 Riparian Planting Strategy: The purpose of providing planting for a wet pond facility is to provide shading, aesthetics, safety and enhanced pollutant removal. In wet ponds there are varying zones for plantings based on water depths and the expected frequency of wetting.

5.3.3 Bottom Draw Outlet: The design proposed for the water quality pond discharge structure for the stormwater management pond will be a combination of a reverse slope outlet pipe and an internal perforated riser with a control discharge orifice plate. The reverse slope pipe allows flows to discharge the pond from the lower permanent pool, while the perforated riser with an 80mm control discharge orifice plate provides the minimum 24-hour drawdown time to

allow sediment removal. Calculations for the water quality discharge structure orifice sizing can be found in Appendix 3.

The discharge structure is proposed with a 300mm gate valve to assist in pond draw down for maintenance of the facility. Pumps are required to completely draw down the facility during infrequent maintenance requirements. Pump lines for maintenance should discharge to DCBMH C.

5.3.4 Night-time Release: The outlet of the facility has been designed to operate hydraulically, to minimize monitoring and maintenance requirements. Therefore, the implementation of electrical and mechanical devices to provide real time outlet controls is not recommended.

5.4 Monitoring and Maintenance: In order to ensure that the stormwater management pond will function and operate as intended, a monitoring and maintenance plan must be developed. The following monitoring and inspection program is recommended for the wet pond facility. The monitoring program described below is recommended for the Township of Scugog Maintenance Staff once the facilities have been assumed by the Township.

- Monitoring and inspection after every significant rainfall event during the first two years of operation (approximately 4 inspections per year). Annual inspections after the initial two years.
- The monitoring and inspections should include observations of the hydraulic operation (draw down time, inlet and outlet function); condition of vegetation in all zones of the pond (wet and dry); evidence of grease/oil contamination; trash build-up.

The following maintenance program is recommended for the wet pond facility:

- Grass cutting and weed control are not recommended.

- Once the upland plantings are stabilized there will be little need of maintenance in this area. Shoreline plantings and aquatic plantings may require re-establishment every 2-5 years as observation dictates.
- Sediment removal frequency is dependent on several factors from upstream land use and development activities to municipal street sanding practices. We have recommended an annual measurement of sediment depth accumulation and removal frequency should be based on this observation with a suggested removal frequency of every 10 years.
- Inlet and outlet structures should be maintained to clear blockage as required by observation. Maintenance replacement of these structures is based on life span of the materials.
- Trash removal is recommended on a yearly basis or as observation requires based on surrounding airborne trash accumulation.

Monitoring and maintenance of the pond prior to being assumed by the Township is the responsibility of the Developer. The same schedule described above is recommended.

5.5 Water Balance: An evaluation of the water balance will be completed by the Hydrogeologist but will be coordinated with the LID design completed by this office. The water balance is to demonstrate that the proposed development does not significantly impede groundwater recharge. This assessment is to be completed in conjunction with the LID design, as mentioned above, to ensure post development infiltration volumes will match pre development targets.

To promote water filtering and infiltration on the individual detached dwelling units, all roof water leaders are to discharge at grade. All lots will be dressed with 300mm of topsoil. This will lengthen the time available for run-off to and infiltrate into the topsoil before entering the storm sewer. Furthermore, once the roof discharge from the units, fronting Indian Way, reaches the roadway via swales, the sand bars will intercept additional flow volumes to facilitate groundwater recharge. The sand bars are located

on private property adjacent to the public right-of-way. They have been sized to capture the rooftop, driveway and front yard for a 10mm event providing a combined infiltration volume of $\sim 179.6\text{m}^3$. Excess rainfall would drain overland in the storm sewer network. The locations of the sand bars are shown schematically in Figure 1b and calculations are provided in Appendix 3.

5.6 Water Quality During Construction: During the construction period, the removal of the natural vegetation could cause the transport of large amounts of sediment from the site during rainfall events. Therefore, measures to prevent this sediment removal from the site must be implemented. As a minimum, the following sediment and erosion control techniques will be implemented for this development:

- 1) Perimeter Enviro / Snow Fence with perimeter swales
- 2) Controlled Construction Vehicle Access Route
- 3) Restricted Catch Basin Inlets
- 4) Temporary Sediment Control Ponds
- 5) Rock Check Dams
- 6) Good Housekeeping Practices

A perimeter enviro-fence and interceptor swale shall be installed along the property limits with a snow fence being installed to add additional support, as required. Perimeter enviro fencing will be installed along the edge of the tree line and forest edge prior to any activities on-site to prevent encroachment during construction.

A “mud mat” will be installed, at all construction entry points, to control mud and sediment removal at the site entrance during construction. This mud mat is to be installed prior to rough grading the site and is to be left in place until the road is being prepared for asphalt. In order to provide a control of sediment during construction, it is recommended that when construction phasing is better known the plan will need to be evaluated for the need of temporary erosion control.

During detail design, the outlet design and pond placement will be further clarified. In accordance with the Storm Water Management Planning and Design Manual (MOEE, 2003) temporary sediment ponds are to be sized to provide a volume equal to 125m³/ha. Cleaning of accumulated sediment during construction will be necessary.

The proposed storm water detention pond may be considered for a dual-purpose temporary sediment pond, as well as the permanent quality and quantity control pond. Should the storm water pond block be used as a temporary sediment pond, any accumulated sediment shall be removed, as the permanent pond evolves as the tributary areas are stabilized with final construction and landscaping.

Upon completion of the minor storm sewer system, catch basin filters should be provided to restrict the amount of sediment entering the storm sewer system and discharging into the ditch.

The use of good housekeeping practices should be employed during construction. These measures should include, but not be limited to, inspection and maintenance of the temporary sediment ponds, as well as the storage and stockpiling of topsoil, contractor materials and equipment within the perimeter enviro fence.

Through the implementation of the above temporary sediment control measures, the sediment laden storm water leaving the site will be reduced significantly.

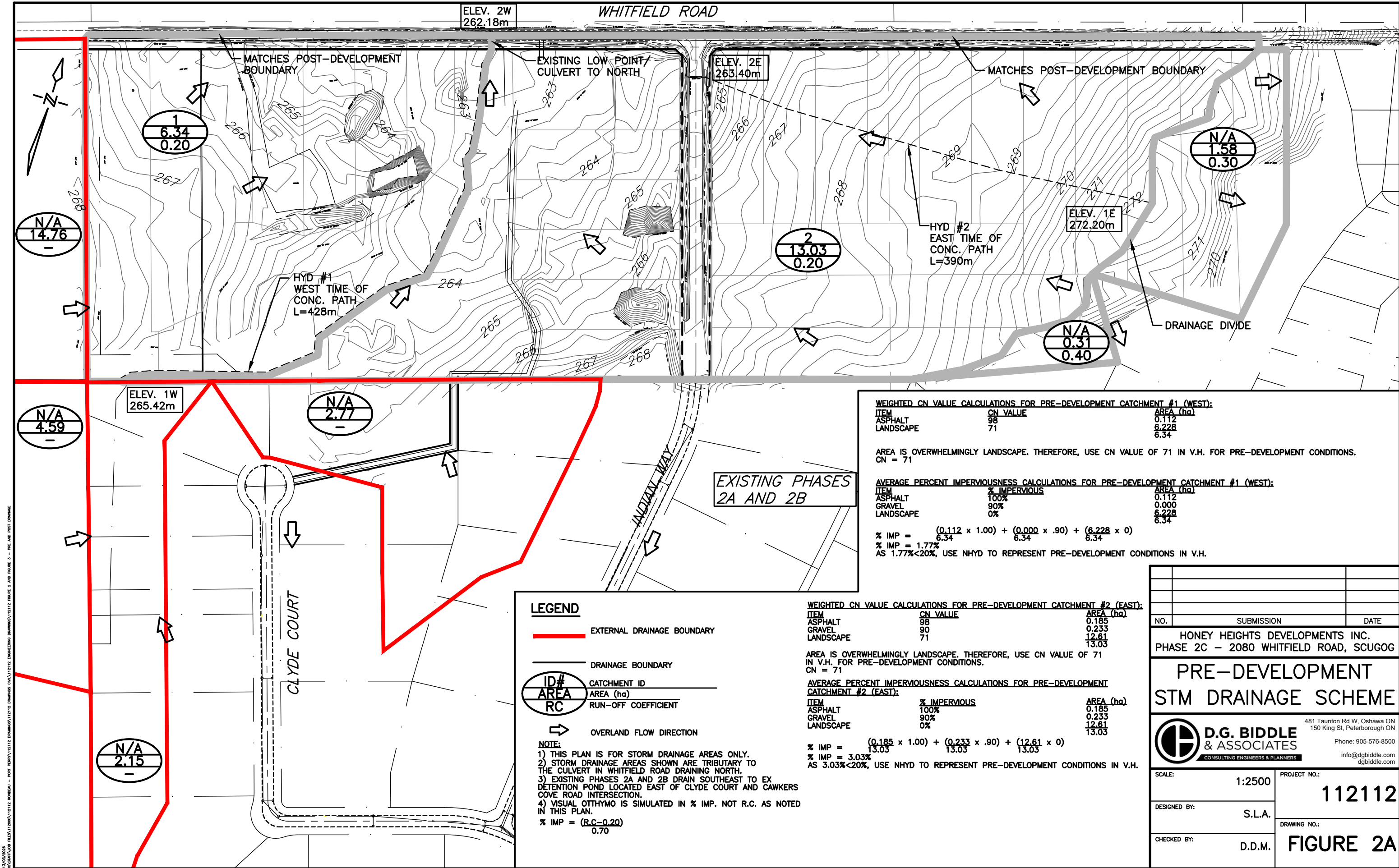
6.0 STORMWATER QUANTITY CONTROLS

Ultimate storm drainage for a majority of the development area will be collected at a stormwater management pond which will control post-development flow releases to the existing ditch on Whitfield Road. Pre-development and post-development flows were calculated for the drainage area flowing to the ditch using the VISUAL OTTHYMO 6.2 program. Upon urbanization, Indian Way will be drained via catch basins and storm sewer network that will discharge to the stormwater facility for quality treatment.

The storm water pond has been sized to control all post-development discharges for the subject property to be equal to or below the pre-development levels.

6.1 Pre-Development Conditions: The existing land use in the subject property is predominantly agricultural. Trees, gravel roads, and natural heritage features make up the remaining portions of the site.

As illustrated on Figure 2a and 2b, the pre-development tributary drainage area to the existing culvert draining north in Whitfield Road is 43.64ha, including 19.37ha from the subject site. Approximately, 1.89ha of the lands within the subject site to the east will drain uncontrolled to the existing neighbourhood. Based on the existing land use, a CN value of 72 was used to simulate pre-development conditions. The average percent imperviousness for pre-development conditions was found to be less than 20%; therefore, the NASHHYD sub-routine in the computer modelling software Visual Otthymo 6.2 was used to simulate the impervious surfaces of the site and calculate the pre-development peak flows for the drainage area. Peak flows were computed using multiple distribution rainfall events for the 2 year to 100 year return frequency events, including the 4-hour Chicago, 6-hour SCS, 12-hour SCS and 24-hour SCS. Tabulated below, in Table 3, are the anticipated pre-development peak flows to Whitfield Road. Refer to Figure 2 for pre-development calculations for the CN and percent impervious values used in the Visual Otthymo 6.2 simulation.



WEIGHTED CN VALUE CALCULATIONS FOR PRE-DEVELOPMENT CATCHMENT #1 (WEST):

ITEM	CN VALUE	AREA (ha)
ASPHALT	98	0.112
LANDSCAPE	71	6.228
		6.34

AREA IS OVERWHELMINGLY LANDSCAPE. THEREFORE, USE CN VALUE OF 71 IN V.H. FOR PRE-DEVELOPMENT CONDITIONS.
CN = 71

AVERAGE PERCENT IMPERVIOUSNESS CALCULATIONS FOR PRE-DEVELOPMENT CATCHMENT #1 (WEST):

ITEM	% IMPERVIOUS	AREA (ha)
ASPHALT	100%	0.112
GRAVEL	90%	0.000
LANDSCAPE	0%	6.228
		6.34

% IMP = $\frac{(0.112 \times 1.00) + (0.000 \times .90) + (6.228 \times 0)}{6.34}$
% IMP = 1.77%
AS 1.77% < 20%, USE NHYD TO REPRESENT PRE-DEVELOPMENT CONDITIONS IN V.H.

WEIGHTED CN VALUE CALCULATIONS FOR PRE-DEVELOPMENT CATCHMENT #2 (EAST):

ITEM	CN VALUE	AREA (ha)
ASPHALT	98	0.185
GRAVEL	90	0.233
LANDSCAPE	71	12.61
		13.03

AREA IS OVERWHELMINGLY LANDSCAPE. THEREFORE, USE CN VALUE OF 71 IN V.H. FOR PRE-DEVELOPMENT CONDITIONS.
CN = 71

AVERAGE PERCENT IMPERVIOUSNESS CALCULATIONS FOR PRE-DEVELOPMENT CATCHMENT #2 (EAST):

ITEM	% IMPERVIOUS	AREA (ha)
ASPHALT	100%	0.185
GRAVEL	90%	0.233
LANDSCAPE	0%	12.61
		13.03

% IMP = $\frac{(0.185 \times 1.00) + (0.233 \times .90) + (12.61 \times 0)}{13.03}$
% IMP = 3.03%
AS 3.03% < 20%, USE NHYD TO REPRESENT PRE-DEVELOPMENT CONDITIONS IN V.H.

LEGEND

- EXTERNAL DRAINAGE BOUNDARY
- DRAINAGE BOUNDARY
- CATCHMENT ID
- AREA (ha)
- RUN-OFF COEFFICIENT
- OVERLAND FLOW DIRECTION

NOTE:
1) THIS PLAN IS FOR STORM DRAINAGE AREAS ONLY.
2) STORM DRAINAGE AREAS SHOWN ARE TRIBUTARY TO THE CULVERT IN WHITFIELD ROAD DRAINING NORTH.
3) EXISTING PHASES 2A AND 2B DRAIN SOUTHEAST TO EXISTING DETENTION POND LOCATED EAST OF CLYDE COURT AND CAWKERS COVE ROAD INTERSECTION.
4) VISUAL OTTHYMO IS SIMULATED IN % IMP. NOT R.C. AS NOTED IN THIS PLAN.
% IMP = $\frac{(R.C-0.20)}{0.70}$

NO.	SUBMISSION	DATE
HONEY HEIGHTS DEVELOPMENTS INC. PHASE 2C - 2080 WHITFIELD ROAD, SCUGOG		
PRE-DEVELOPMENT STM DRAINAGE SCHEME		
D.G. BIDDLE & ASSOCIATES CONSULTING ENGINEERS & PLANNERS 481 Taunton Rd W, Oshawa ON 150 King St, Peterborough ON Phone: 905-576-8500 info@dgbbiddle.com dgbiddle.com		
SCALE:	1:2500	PROJECT NO.: 112112
DESIGNED BY:	S.L.A.	DRAWING NO.: FIGURE 2A
CHECKED BY:	D.D.M.	

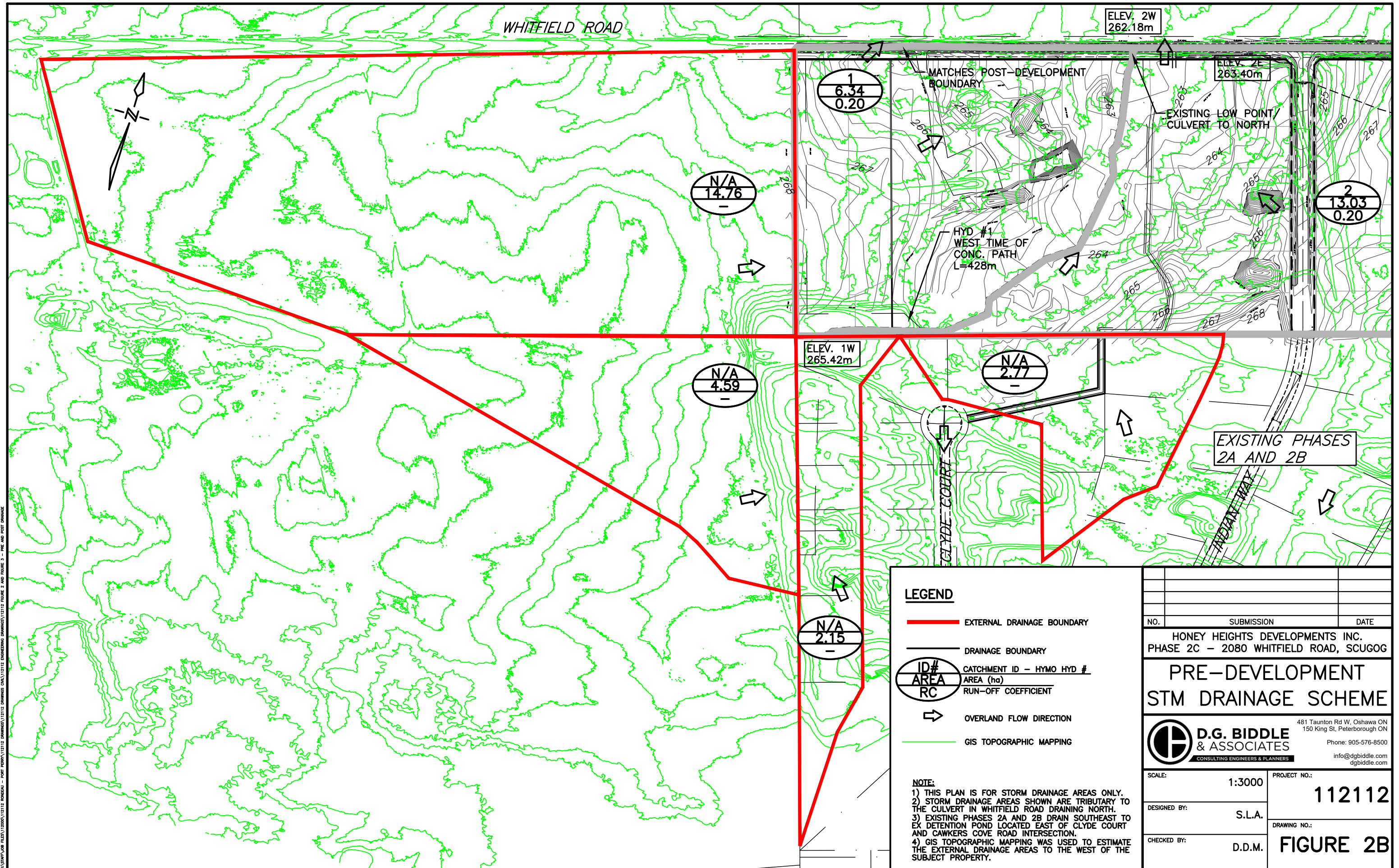
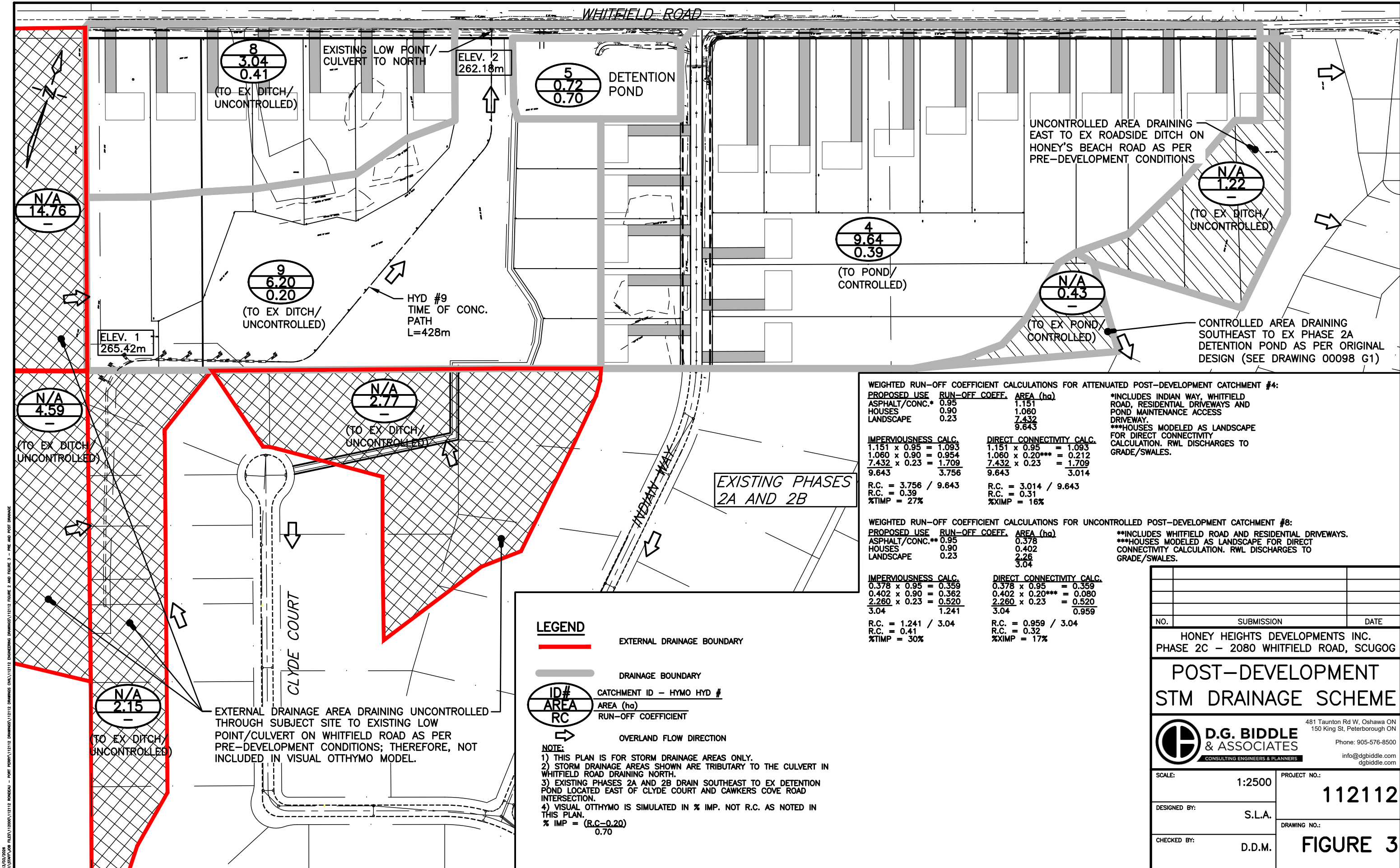


TABLE 3 – PRE-DEVELOPMENT PEAK FLOWS TO WHITFIELD ROAD CULVERT

RET. PERIOD (Years)	4hr CHIC. (m ³ /s)	SCS (II) 6hr (m ³ /s)	SCS (II) 12hr (m ³ /s)	SCS(II) 24hr (m ³ /s)	TIMMINS (m ³ /s)
2	0.265	0.366	0.475	0.634	-
5	0.540	0.639	0.835	1.016	-
10	0.751	0.863	1.088	1.319	-
25	1.049	1.162	1.427	1.776	-
50	-	1.391	1.720	2.051	-
100	1.671	1.634	2.026	2.407	-
Regional	-	-	-	-	1.626

The time of concentration for the pre-development flows has been determined based on cumulative travel time through the watershed. One hydraulic point of analysis has been chosen to compare pre-development and post-development flows. The time of concentration calculations associated with the pre-development flows are provided in Appendix 3 and the time of concentration path is shown in Figure 2.

6.2 Post-Development Conditions: The proposed development will result in estate residential lands in conjunction with a Stormwater Management Pond and the Environmentally Protected lands located in the interior of the site. Referring to Figure 3, the Post-Development Storm Drainage Scheme, the tributary drainage area to the existing culvert draining north in Whitfield Road is 43.87ha, including 19.60ha from the subject site. Approximately, 1.65ha of the lands within the subject site to the east will drain uncontrolled to the existing neighbourhood. The small additional drainage area is due to the drainage divide shift to the east pertaining to the uncontrolled areas flowing to the existing neighbourhood. Approximately, 6.20ha drainage area will remain undeveloped in post-development conditions and, therefore, its drainage impact is expected to be negligible. The 3.04ha of drainage fronting Whitfield Road



NO.	SUBMISSION	DATE
HONEY HEIGHTS DEVELOPMENTS INC. PHASE 2C - 2080 WHITFIELD ROAD, SCUGOG		
POST-DEVELOPMENT STM DRAINAGE SCHEME		
 D.G. BIDDLE & ASSOCIATES CONSULTING ENGINEERS & PLANNERS		
481 Taunton Rd W, Oshawa ON 150 King St, Peterborough ON Phone: 905-576-8500 info@dgibiddle.com dgibiddle.com		
SCALE:	1:2500	PROJECT NO.: 112112
DESIGNED BY:	S.L.A.	DRAWING NO.: FIGURE 3
CHECKED BY:	D.D.M.	

will drain uncontrolled to the culvert and the remainder of the subject site tributary to the pond, being 10.36ha, including the pond block, will be attenuated.

Referring to the Storm Drainage Area Plan for the previous subdivision phases, drawing 00098-G1 attached in Appendix 2, combined with the estimated areas from GIS mapping shown in Figure 2b, there is also $(14.76+4.59+2.15+2.77)$ 24.27ha of external drainage area from the south and west draining uncontrolled through the subject site to the existing ditch in Whitfield Road. Their drainage impact is also expected to be negligible as post-development conditions will remain unchanged.

The 0.43ha drainage area along the east property line of the subject property will drain southeast to the existing detention pond installed with the previous subdivision phase. This area was accounted for in the original design of the pond, refer to drawing 00098-G1 prepared by Cole Engineering. It is noted that there is a reduction in area of $(0.47 - 0.43)$ 0.04ha draining to the existing pond under proposed conditions as compared to the original design. Therefore, no impacts to the existing storm sewers and pond are expected. Similarly, another 1.22ha drainage area along the east property line of the subject site will drain east to an existing roadside ditch on Honey's Beach Road which effectively matches pre-development conditions.

The post-development watershed has been reviewed using the STANDHYD sub-routines of the computer modelling software Visual Otthymo 6.2. For a direct comparison with pre-development, the post-development watershed for the subject property has been modelled using the 4-hour Chicago, 6-hour SCS, 12-hour SCS and 24-hour SCS distribution rainfall event for the 2, 5, 10, 25, and 100 year events. As mentioned above, impervious levels of 27%, 30%, and 70% were used for the attenuated area, the uncontrolled area, and the pond block, respectively.

A quantity control storage volume of 2,038m³ is achieved in the pond through the excavation and berming of the facility, providing 300mm freeboard above the maximum 100-year water surface elevation. Through the introduction of high-level

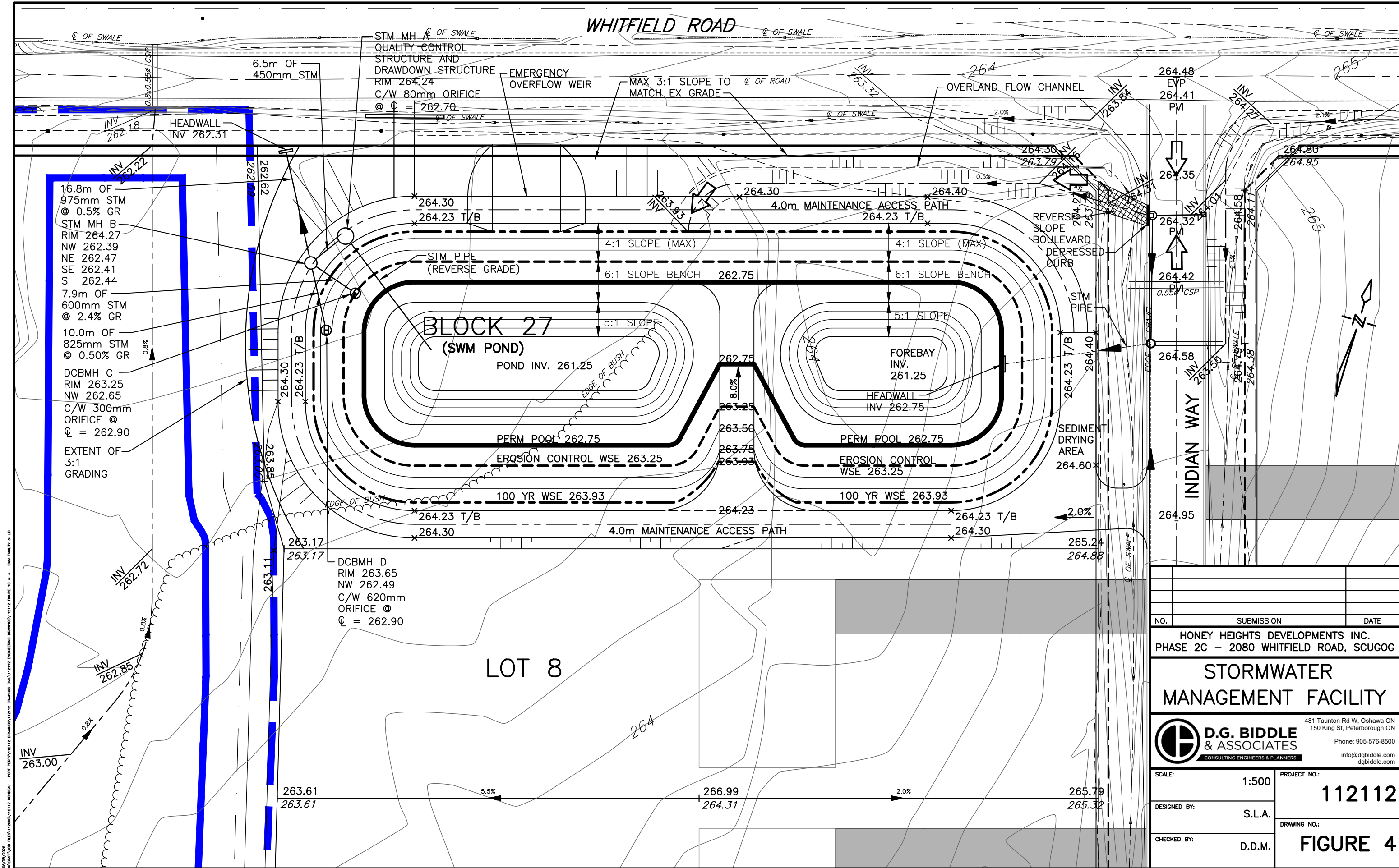
overflow structures with inlet control devices, the proposed stormwater pond will attenuate post-development peak flows to the pre-development peak flows specified in Table 3 above. The ROUTE RESERVOIR sub-routine was used to simulate the performance of the facility.

A comparison of the pre- and routed post-development peak flows is tabulated below in Table 4 for the 4-hour Chicago, 6-hour SCS (II), 12-hour SCS (II) and the 24-hour SCS (II) storm distributions. The detailed Visual Otthymo output files, as well as pond design specifications of the stage-storage-discharge and inlet control device calculations, are included in Appendix 3.

TABLE 4 – PRE- vs POST-DEVELOPMENT PEAK FLOWS

STORM DISTRIBUTION	RETURN PERIOD (Years)	PRE-DEVELOPMENT PEAK FLOWS (m ³ /s)	ROUTED POST-DEVELOPMENT PEAK FLOWS (m ³ /s)	USED STORAGE (m ³)
Chicago – 4 hour	2	0.265	0.270	394
	5	0.540	0.441	812
	10	0.751	0.746	944
	25	1.049	1.107	1,106
	100	1.671	1.596	1,514
SCS (II) – 6 hour	2	0.366	0.306	495
	5	0.639	0.481	829
	10	0.863	0.789	957
	25	1.162	1.149	1,118
	50	1.391	1.418	1,234
	100	1.634	1.607	1,383
SCS (II) – 12 hour	2	0.475	0.357	723
	5	0.835	0.706	1,067
	10	1.088	1.014	1,163
	25	1.427	1.401	1,340
	50	1.720	1.636	1,509
	100	2.026	1.781	1,746
SCS (II) – 24 hour	2	0.634	0.428	1,059
	5	1.016	0.874	1,371
	10	1.319	1.225	1,568
	25	1.776	1.653	1,815
	50	2.051	1.782	2,117
	100	2.407	1.975	2,283
	Timmins	1.626	1.664	1,354

As reported above, all post-development flows up to and including the 100-year return frequency will be effectively attenuated to their respective pre-development levels for the culvert draining north in Whitfield Road. Therefore, no adverse impact to the downstream drainage system is anticipated. Functional level details of the pond are attached as Figure 4.



NO.	SUBMISSION		DATE
HONEY HEIGHTS DEVELOPMENTS INC. PHASE 2C – 2080 WHITFIELD ROAD, SCUGOG			
STORMWATER MANAGEMENT FACILITY			
		481 Taunton Rd W, Oshawa ON 150 King St, Peterborough ON Phone: 905-576-8500 info@dgbiddle.com dgbiddle.com	
D.G. BIDDLE & ASSOCIATES CONSULTING ENGINEERS & PLANNERS			
SCALE:	1:500	PROJECT NO.: 112112	
DESIGNED BY:	S.L.A.	DRAWING NO.:	
CHECKED BY:	D.D.M.	FIGURE 4	

7.0 LOT LEVEL CONTROLS

Lot level controls include those that are applied to individual lots within the plan. To promote infiltration on the individual residential building lots, roof water leaders will be discharged to grade and all disturbed areas within the lots will be dressed with 300mm of topsoil. Discharging roof water leaders to grade will lengthen the time available for run off to infiltrate into the topsoil before entering the storm sewer. Infiltration is further maximized by allowing a majority of stormwater runoff from the subject property to be conveyed via open ditches and drainage swales.

8.0 ROAD NETWORK AND SITE GRADING

The proposed draft plan includes for a right-of-way width of 20.0m for Indian Way. The road will match into the existing Indian Way road profile at the south limit of the site and will extend north to Whitfield Road. The existing gravel roadway encompassing Indian Way will be raised to accommodate the new paved road structure, and the existing ditches will be infilled to create the new urbanized estate residential road profile.

The overall site will be raised to achieve Township of Scugog road and lot grading criteria, which includes the following:

- Minimum Road Grade: 0.5%
- Maximum Road Grade: 5.0%
- Minimum Landscape Area Grade: 2.0%
- Maximum Landscape Area Grade: 5.0%

The road and lot grades have been conceptually designed to provide continuous grades for overland flow conveyance while minimizing the cut/fill differential. Details of the site grading design are illustrated on the Conceptual Lot Grading Plans, drawings 112112 LG-1 to LG-3, attached at the end of this report.

It should also be noted that the interior of the subject lands is composed of a wetland, located just west of Indian Way. This area is to remain relatively undisturbed although some wetland removal is proposed near the culvert inlet at Whitfield Road. However, as shown on the Draft Plan Drawing, there is wetland compensation with an equivalent area proposed primarily along the eastern flank of the existing wetland boundary.

9.0 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:

- 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.
- 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.
- A conceptual storm water pond has been proposed for the tributary drainage area. Post-development controls will be provided for the proposed development within the stormwater management pond. The pond is located on Block 27 to provide Level 1 enhanced quality control and post to pre-development quantity control.
- Minor system flows will be conveyed by a conventional storm sewer system. The proposed storm sewer system has been shown on the Functional Servicing and Storm Drainage Plan. The storm sewer will discharge into a hard bottom sediment forebay in the pond.
- Overland flows will be conveyed to the main cell of the proposed storm water facility via an overland flow channel. The 100-year post-development peak flow has been controlled to the pre-development peak flow.
- Through the implementation of temporary sediment control measures as set out in Section 5.5 – Water Quality During Construction, the sediment laden storm water leaving the site will be significantly reduced.
- The existing urban collector road at the south limit of the property will be extended north to Whitfield Road to improve vehicular movements and to complete the road network for the Honey Harbour Heights Estates subdivision.

APPENDIX 1

-STORM SEWER DESIGN SHEET



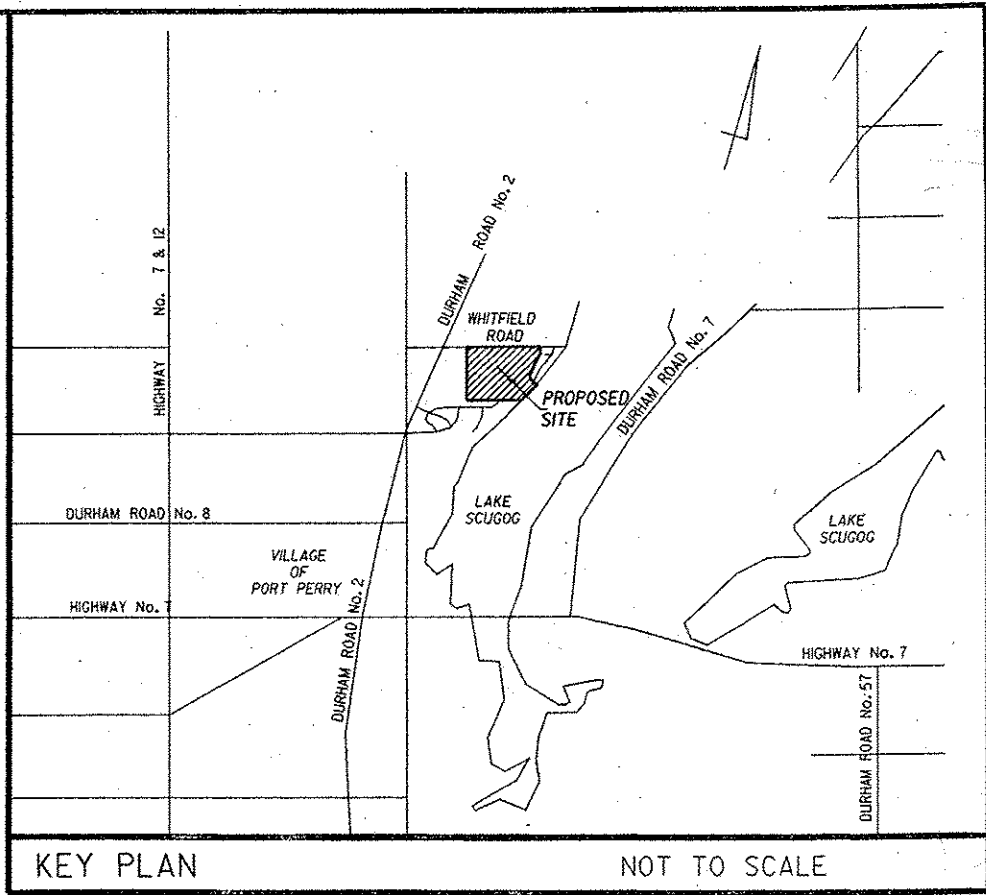
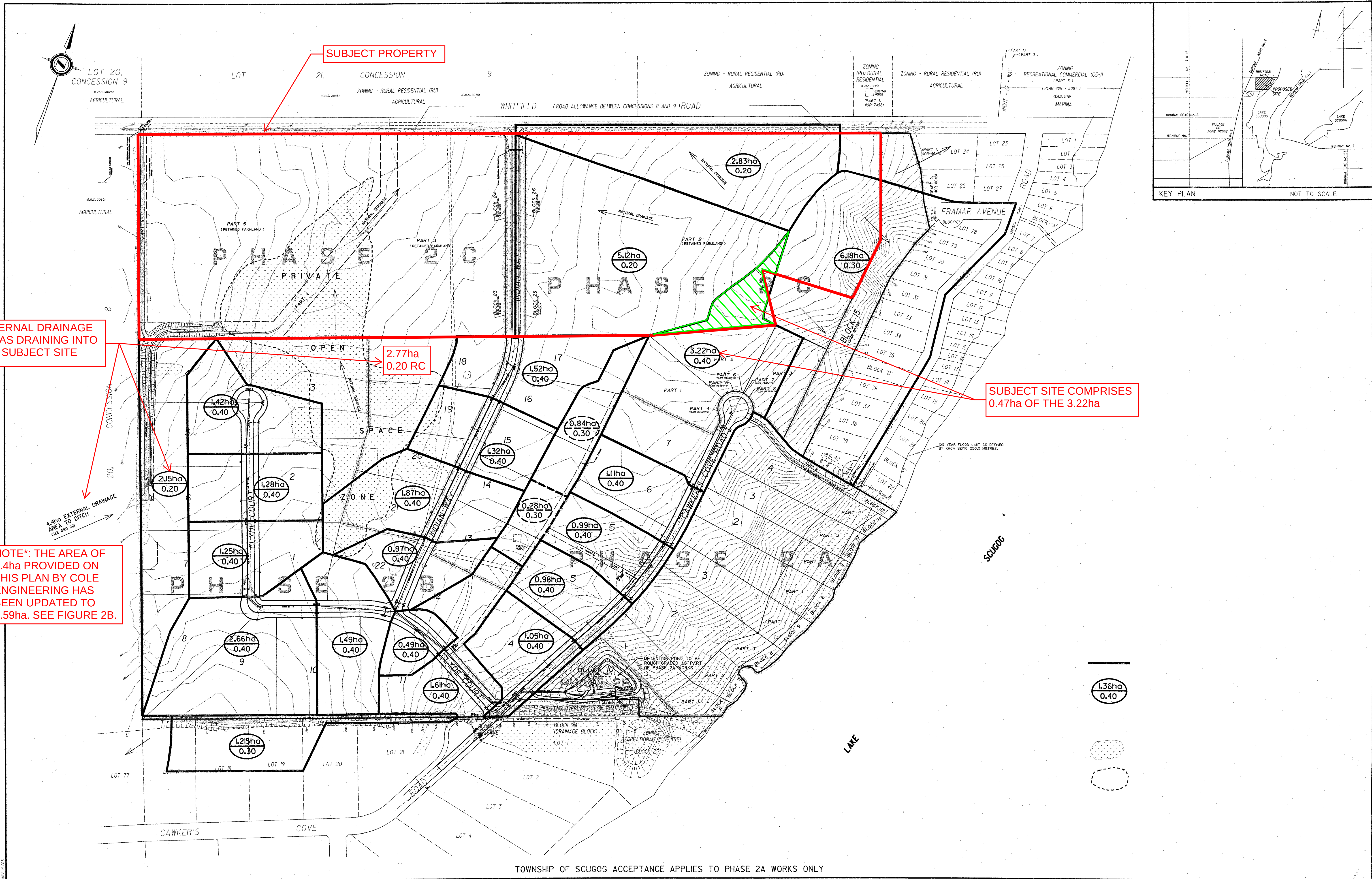
STORM SEWER DESIGN SHEET												PAGE 1 OF 1					
D.G.BIDDLE & ASSOCIATES LTD.																	
consulting engineers																	
MUNICIPALITY			DESIGN BY			CRITERIA			5-YR			RUN OFF CO-EFFICIENTS					
PROJECT			CHK'D BY			n			0.013			PARK/OPEN SPACE					
PROJECT #			DATE			A			904			S.F. RESIDENTIAL (URBAN)					
						B			5			S.F. RESIDENTIAL (ESTATE)					
						C			0.788			APARTMENTS/SCHOOL					
												COMM./INDUS./IMPERVIOUS					
LOCATION			DRAINAGE DATA				RATIONAL DESIGN			PIPE DATA							
STREET	FROM MH	TO MH	AREA (ha)	I *	AxI	ACCUM AxI	T.C min	R mm/hr	FLOW L/sec	SIZE mm	GRADE %	CAPACITY L/sec	VELOCITY m/s	LENGTH m	TIME min	TOTAL TIME	% LOAD
INDIAN WAY	CB 7	CBMH 6	1.35	0.39	0.527	0.527	10.00	107.01	156.62	375	1.00	182.90	1.60	8.01	0.08	10.08	85.63
	CBMH 6	CBMH 4	0.51	0.39	0.199	0.725	10.08	106.54	214.85	450	1.39	350.64	2.14	73.15	0.57	10.65	61.27
	CB 5	CBMH 4	1.81	0.39	0.706	0.706	10.00	107.01	209.99	450	1.00	297.41	1.81	8.00	0.07	10.07	70.61
	CBMH 4	MH 1	0.51	0.39	0.199	1.630	10.65	103.47	468.91	600	1.26	718.98	2.46	66.68	0.45	11.11	65.22
	CB 3	CBMH 2	0.17	0.39	0.066	0.066	10.00	107.01	19.72	300	0.51	72.04	0.99	7.83	0.13	10.13	27.38
	CBMH 2	MH 1	0.31	0.39	0.121	0.187	10.13	106.27	55.30	300	0.64	80.70	1.11	18.80	0.28	10.42	68.53
	CULVERT	MH 1	4.98	0.39	1.942	1.942	10.00	107.01	577.76	600	1.20	701.66	2.40	10.48	0.07	10.07	82.34
	MH 1	HEADWALL	0.00	0.00	0.000	3.760	11.11	101.18	1057.47	900	0.72	1602.44	2.44	21.78	0.15	11.25	65.99

* WEIGHTED RUN-OFF COEFFICIENT OF 0.39 APPLIES TO ATTENUATED AREA OF SITE - REFER TO FIGURE 3 FOR CALCULATIONS.

APPENDIX 2

**-STORM DRAINAGE AREA PLAN, DWG 00098-G1
PREPARED BY COLE ENGINEERING**





BENCHMARK	No.	Revision	Date	By	Approved	ACCEPTED TO BE IN GENERAL CONFORMANCE WITH THE TOWNSHIP OF SCUGOG STANDARDS THIS ACCEPTANCE IS NOT TO BE CONSTRUED AS VERIFICATION OF ENGINEERING CONTENT P. PENG TORONTO SMS HUBICKI ASSOCIATES (1997) LIMITED DATE Dec. 17, 2003	APPROVED DEPARTMENT OF WORKS REGIONAL MUNICIPALITY OF DURHAM DATE		CORPORATION OF THE TOWNSHIP OF SCUGOG HONEY HARBOUR HEIGHTS ESTATES - PHASE 2 SUPPLEMENTAL GENERAL PLAN OF SERVICES AND STORM DRAINAGE AREA PLAN	URS COLE, SHERMAN 75 Commerce Valley Dr. E. Thornhill, Ontario, L3T 7N9 Tel: (905) 882-4401 Fax: (905) 882-4399
	1	LOT NUMBERS REVISED AS PER SURVEY PLANS	NOV 19 2003	E.N.						
CUT CROSS ON TOP OF THE EAST EDGE OF A CONCRETE STORM DRAINAGE CHAMBER LOCATED AT THE END OF A TOWNSHIP MAINTENANCE ROAD NORTH OF HOUSE No 82 CAWKER'S COVE ROAD. THE CONCRETE CHAMBER IS APPROXIMATELY 142m EAST OF THE EAST CURB OF CAWKER'S COVE ROAD MEASURED ALONG THE CENTRE OF THE TOWNSHIP MAINTENANCE ROAD.										
ELEVATION 254.175m										

APPENDIX 3

- LID SAND BAR SIZING CALCULATIONS**
- FIREFIGHTING CALCULATIONS**
- TIME OF CONCENTRATION CALCULATIONS**
- POND DESIGN CALCULATIONS
(STAGE / STORAGE / DISCHARGE)**
- VISUAL OTTHYMO OUTPUTS
(25mm, PRE-DEV., POST-DEV.)**



PROJECT
PROJECT #

Honey Harbour Heights Estates - Phase 2C
112112

Sand Bar Sizing

	<u>Sand Bar #1-10</u>		<u>Sand Bar #11-16</u>	
Drainage Area / Sand Bar	1060	m ² (Figure 1B)	1100	m ² (Figure 1B)
Storm event	10	mm	10	mm
Porosity (n)	0.35		0.35	
Vol. of Water / Sand Bar	10.60	m ³	11.00	m ³
Volume of Water and Sand Needed / Sand Bar	30.29	m³	31.43	m³
Max Ponding	5	mm	5	mm
*Infiltration Rate	10	mm/hr	10	mm/hr
Drainage Time	48	hr	48	hr
Max Stone Depth=	$\frac{(infiltration\ rate) \times (drainage\ time - \frac{ponding}{infiltration\ rate})}{porosity}$			
Max LID Depth	1.4	m	1.4	m
<u>Dimensions</u>				
**Depth	0.95	m	0.95	m
Length	7.50	m	7.50	m
Width	4.50	m	4.50	m
Vol. Provided / Sand Bar	32.06	m³	32.06	m³
Number of Drainage Areas	10		6	
Total Vol. Provided w/ Sand	320.63		192.38	m ³
Total Drainage Infiltrated (n=0.35)	112.22		67.33	m ³
Cumulative Drainage Infiltration	179.55		m³	

* Conservative assumption of 10mm/hr was used. Infiltration tests to confirm if rate is sufficient.

**Depth includes 0.15m of Topsoil and the remaining depth to be sand material.

Honey Harbour

Job File: 112112

On-Site Firefighting Water Supply Calculation

Required Water Supply Equation

$$Q = KVS_{\text{tot}}$$

Q = Min. Water Supply (Litres)
K = Water Supply Coefficient (Table 1 - OBC - Div. B * A-3.2.5.7)
V = Total Building Volume (m³)
S_{tot} = Total Spatial Coefficients (max 2.0)

K Value

K = Water Supply Coefficient (Table 1 - OBC - Div. B * A-3.2.5.7)
K = 23

Building Volume

Average building footprint 400 m² or 1,312 ft²
Typical height (2 storey's -3.5m each) 7 m
Average House Volume = 2800 m³ or 98,881 ft³

Spatial Coefficient

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

$$S_{\text{tot}} = 1.00 + [S_{\text{side}} + S_{\text{side2}} + S_{\text{side3}} + S_{\text{side4}}]$$

S_{side} = 0.00 (From Figure 1 - OBC Appendix A, Vol. 2)
(All new buildings should not have an exposure less than 10m) 1.0 + [0 + 0 + 0 + 0]
S_{tot} = 1.00

Required Minimum Water Supply (L) and Flow Rate (L/min)

$$Q = KVS_{\text{tot}}$$

Q = 23 x 2800 x 1.00
Q = 64,400 L

Therefore, the minimum required volume supply for one dwelling unit is **64,400 L**

As per Table 2 (OBC - Div. B * A-3.2.5.7), Q ≤ 108,000 L;

the minimum required water supply flow rate would be **2700 L/min**

The above supply flow rate is based off of a minimum 30 minute water supply. Refer to OBC - Div. B - A-3.2.5.7 (Paragraph 3c). Therefore, the equivalent required water supply was calculated using the above required flow rate and supply duration of 30 min.

Water Supply Flow Rate = 2700 L/min
Water Supply Duration = 30 min
Min. Water Supply Volume = 81,000 L

The subject site is subject to Tanker Shuttle Accreditation* which requires neighbouring fire departments (within 5km) to deliver a continuous 200 gallons per minute of water for a period of 120 minutes.

Flow Rate = 200 Gal./min
757 L/min
Water Supply Duration = 120 min
Volume Provided = 90,850 L > 81,000 L

Therefore, the fire department can deliver an equivalent firefighting water supply volume. The tanker truck should have the ability to increase its fire flow rate to the minimum 2700L/min and have enough volume for the required sustained duration of 30 minutes.

* <https://www.scugog.ca/news/posts/tanker-shuttle-accreditation-scugog-fire-emergency-services/>

PROJECT Honey Harbour Heights Estates - Phase 2C
PROJECT # 112112

Time of Concentration Calculation for Whitfield Road Culvert

HYD 2 - Pre-Development to Whitfield Road Culvert (East) (Refer to Fig 2)

$$L = 390 \text{ m}$$
$$S = \frac{272.2 - 263.40}{390} = 2.26\%$$

$$V = 1.05 \text{ ft/sec} \quad (\text{See attached Figure 15-2. Existing land use is 'Short grass pasture'})$$
$$V = 0.32 \text{ m/sec}$$

$$V = \frac{L}{tc}$$

$$tc = \frac{390 \text{ m}}{0.320 \text{ m/sec}}$$

$$tc = \frac{1219 \text{ sec}}{0.34} \text{ hr}$$

$$tc = 0.34 \text{ hr}$$
$$tp = 0.67 * tc$$
$$tp = 0.23 \text{ hr}$$

Therefore, use Time to Peak of 0.23 hours in the Visual Otthymo Model.

PROJECT Honey Harbour Heights Estates - Phase 2C
PROJECT # 112112

Time of Concentration Calculation for Whitfield Road Culvert

HYD 1 - Pre-Development to Whitfield Road Culvert (West) (Refer to Fig 2)

HYD 9 - Post-Development to Whitfield Road Culvert (Refer to Fig 3)

$$L = 428 \text{ m}$$
$$S = \frac{265.42 - 262.18}{428} = 0.75\%$$

$$V = 0.60 \text{ ft/sec} \quad (\text{See attached Figure 15-2. Existing land use is 'Short grass pasture'})$$
$$V = 0.18 \text{ m/sec}$$

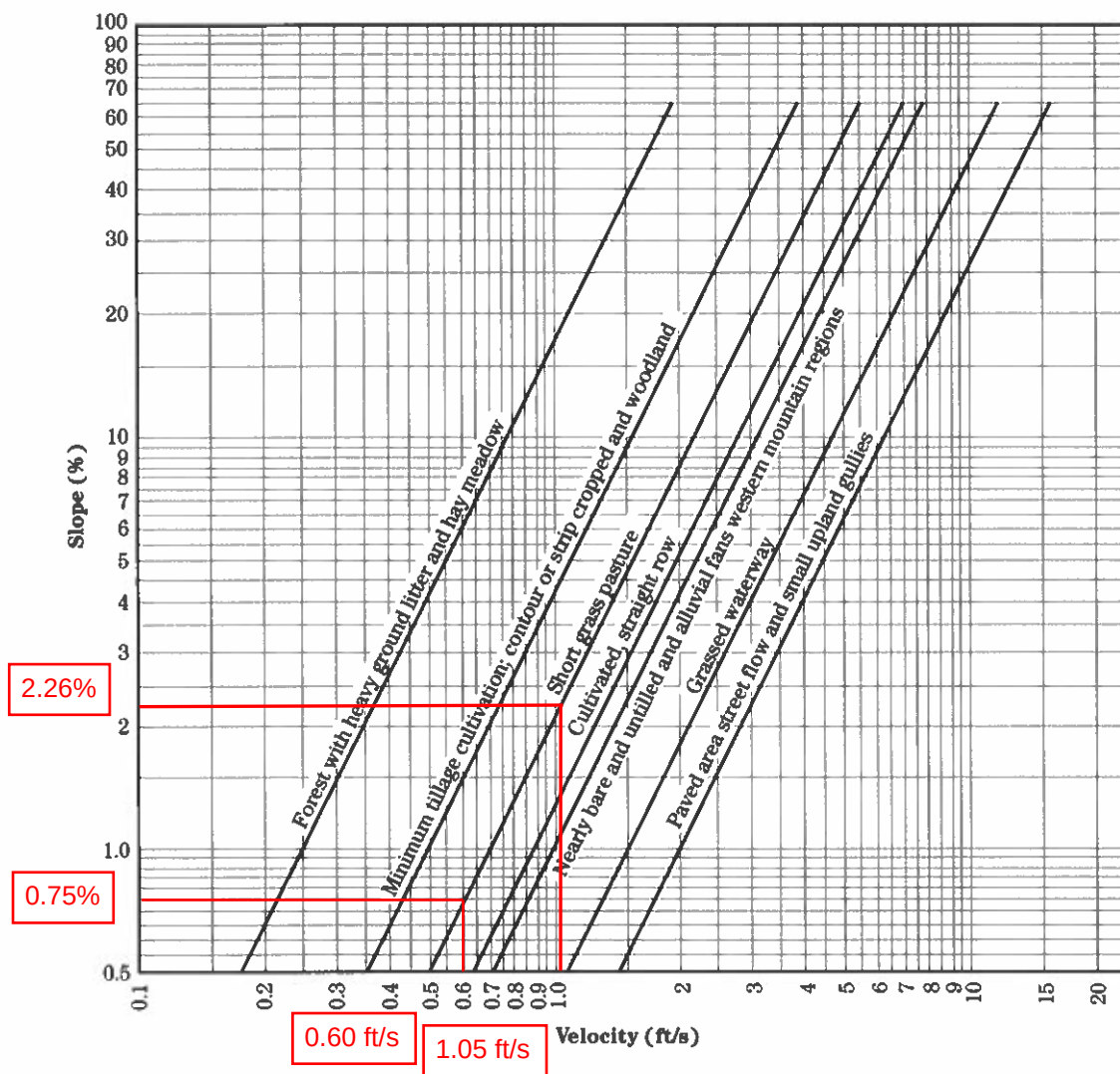
$$V = \frac{L}{tc}$$

$$tc = \frac{428 \text{ m}}{0.183 \text{ m/sec}}$$

$$tc = \frac{2340 \text{ sec}}{0.65 \text{ hr}}$$

$$tc = 0.65 \text{ hr}$$
$$tp = 0.67 * tc$$
$$tp = 0.44 \text{ hr}$$

Therefore, use Time to Peak of 0.44 hours in the Visual Otthymo Model.

Figure 15-2 Velocity versus slope for shallow concentrated flow

Pond A Volume Requirements

Impervious Level	Permanent Storage Volume Required (m ³ /ha)	Fluctuating Storage Volume Required (m ³ /ha)	Total Drainage Area (ha) *	Permanent Volume Required (m ³)	Fluctuating Volume Required (m ³)
27% (Lots 8-26)	85	40	9.64	819	386
70% (Pond)	185	40	0.72	133	29
Total			10.36	953	414

* Note: Refer to Figure 3 for Drainage Areas

Impervious Level	Total Rainfall (mm)	Run-off Depth (mm) *	Total Drainage Area (ha)	Volume Required (m ³)
27% (Lots 8-26)	25	7.98	9.64	769
70% (Pond)	25	18.08	0.72	130
Total			10.36	899

* Note: Refer to Visual Otthymo Output for 25mm storm event, Nodes 4 and 5

Pond A Forebay Requirements

Contributing Area	10.360	ha
Permanent Pool Required	953	m ³
Active Pool Required	899	m ³

Pond Characteristics

Pond Invert Elevation	261.25	m
Permanent Pool Elevation	262.75	m
Active Pool Elevation	263.25	m
Max Water Surface Elevation	263.93	m

<u>Permanent</u> Pool Volume Provided	1,627.23	m ³
<u>Active</u> Pool Volume Provided	1,213.30	m ³

Orifice Sizing Calculations

From MOE Stormwater Management Practices Manual

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

$$172800 = \frac{2 \times 2,799.06}{0.61 \times A_o (2 \times 9.81)^{0.5}} \times (0.55^{0.5} - 0.05^{0.5})$$

$$A_o = \frac{2899.90}{172800 \times 2.70196}$$

$$A_o = 0.006211 \text{ m}^2$$

t=Drawdown Time(s)	172,800 s
A _p = Pond Area(@ Eros. WSE)=	2,799.06 m ²
C= Discharge Coefficient=	0.61
h ₁ =Max. head(m)	
=	263.25 - 262.70 = 0.55 m
h ₂ =Min. head(m)	
=	262.75 - 262.70 = 0.05 m
C/L Orifice=	262.70 m
g=Gravity=	9.81 m/s ²

Orifice Diameter

$$\text{Dia} = \frac{4 \times A_o}{\pi}$$

Dia= 0.09 m (recommended)

Check Drawdown time

$$\text{Ave Q} = Cx A_o x (2gh)^{0.5}$$

$$= 0.007439 \text{ m}^3/\text{s}$$

$$t = \frac{\text{Vol}}{Q}$$

$$= \frac{1,213.30}{0.007} = 163101.68 \text{ s} = 45.306021 \text{ hrs}$$

D= Orifice Diameter	0.08 m
A _o = Orifice Area	0.0050265 m ²
g=Gravity=	9.81 m/s ²
Average Head=	0.3 m
C= Discharge Coefficient=	0.61

Pond Forebay Requirements (Continued)

Maximum Discharge

$$Q = C \times A_o \times (2gh)^{0.5}$$

$$= 0.0101 \text{ m}^3/\text{s}$$

D= Orifice Diameter	0.08 m
A _o = Orifice Area	0.00503 m ²
g=Gravity=	9.81 m/s ²
Maximum Head(h)=	0.55 m
C= Discharge Coefficient=	0.61

Equation 4.5 - Forebay Settling Length

$$\text{Distance} = \sqrt{\frac{r \times Q_p}{V_s}}$$

$$= \sqrt{\frac{0.03022}{0.0003}}$$

$$= 10 \text{ m}$$

r=Length:Width Ratio	3.0 :1
Q _p =Orifice Peak Discharge=	0.0101 m ³ /s
V _s =Settling Velocity	0.0003 m/s

Equation 4.6 - Forebay Dispersion Length

$$\text{Distance} = \frac{8 \times Q}{dxV_p}$$

$$= \frac{2.14}{0.225}$$

$$= 9.5 \text{ m}$$

d=Depth of Forebay	1.5 m
V _p =Velocity in Forebay	0.15 m/s
Q= $\frac{CiA}{360}$ m ³ /s	0.254433 m ³ /s
C=Runoff Coefficient	0.39
i=43xC+5.9	22.67 mm/hr
A=Area(ha)	10.360 ha
Or	
Q (25mm4hr) =	0.267 m ³ /s

Equation 4.7 - Minimum Bottom Width

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

$$= 1.19 \text{ m}$$

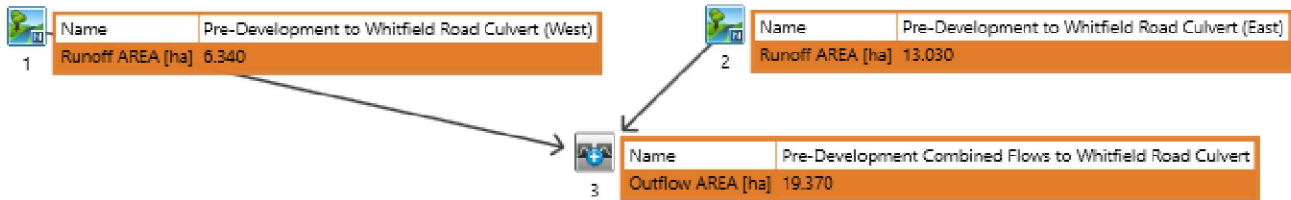
Note: Use the greater Q (above) for Equation 4.6

Pond Volumes and Discharge

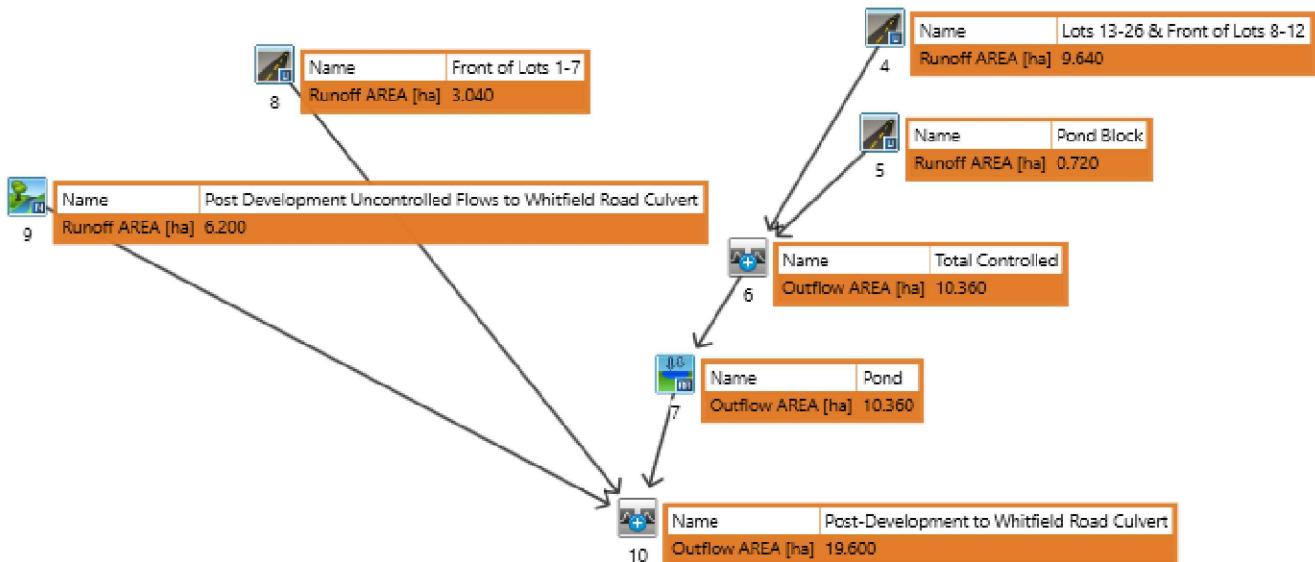
Orifice 1			Orifice 2			Orifice 3		
Q=CA(2gh)^0.5			Q=CA(2gh)^0.5			Q=CA(2gh)^0.5		
Diameter=	0.080	m	Diameter=	0.300	m	Diameter=	0.620	m
Area=	0.0050	m2	Area=	0.07	m2	Area=	0.30	m2
C=	0.61	(PLATE)	C=	0.61	(PLATE)	C=	0.61	(PLATE)
C/L Elev=	262.70	m	C/L Elev=	262.90	m	C/L Elev=	262.90	m

	Elevation m	Area m ²	Average Area m ²	Depth m	Volume m ³	Total Volume m ³	Orifice 1		Orifice 2		Orifice 3		Total Flow m ³ /sec
							Head m	Flow m ³ /sec	Head m	Flow m ³ /sec	Head m	Flow m ³ /sec	
Permanent	261.25	414.87				0.00							
Pool			501.45	0.25	125.36								
	261.50	588.02				125.36							
			684.41	0.25	171.10								
	261.75	780.79				296.46							
			886.99	0.25	221.75								
	262.00	993.19				518.21							
			1,125.05	0.25	281.26								
	262.25	1,256.90				799.47							
			1,655.52	0.50	827.76								
	262.75	2,054.14				1,627.23							
Fluctuating	262.75	2,054.14				0.00	0.05	0.0000					0.0000
Pool			2,426.60	0.50	1,213.30								
	263.25	2,799.06				1,213.30	0.55	0.0101					0.0101
Quantity	263.25	2,799.06				0.00	0.55	0.0101	0.35	0.1130	0.00	0.0000	0.1231
Control			3,017.52	0.25	754.38								
	263.50	3,235.97				754.38	0.80	0.0121	0.60	0.1479	0.00	0.0000	0.1601
			3,370.64	0.15	505.60								
	263.65	3,505.31				1,259.98	0.95	0.0132	0.75	0.1654	0.75	0.7065	0.8851
			3,595.09	0.10	359.51								
	263.75	3,684.87				1,619.48	1.05	0.0139	0.85	0.1761	0.85	0.7521	0.9421
			3,869.50	0.15	580.42								
	263.90	4054.13				2,199.91	1.20	0.0149	1.00	0.1910	1.00	0.8157	1.0216
			4,077.07	0.03	122.31								
	263.93	4100.00				2,322.22	1.23	0.0151	1.03	0.1938	1.03	0.8279	1.0368

PRE-DEVELOPMENT



POST-DEVELOPMENT



PHASE 2C – 2080 WHITFIELD ROAD, SCUGOG FOR: HONEY HEIGHTS DEVELOPMENT INC.

VISUAL OTTHYMO SCHEME



481 Taunton Rd W, Oshawa ON
150 King St, Peterborough ON

Phone: 905-576-8500

info@dgbiddle.com
dgbiddle.com

PROJECT NO.

112112

DRAWING NO.

FIGURE 5

DRAWN BY:

S.L.A.

CHECKED BY:

D.D.M.

DATE:

MAR 2026

SCALE:

N/A

V V I SSSSS U U A L (v 6.2.2022)
V V I SS U U A A A L
V V I SS U U A A A L
V V I SSSSS UUUU A A LLLL
000 TTTT TTTT H H Y Y M M 000 TM
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
000 T T H H Y Y M M 000
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***** DETAILED OUTPUT *****

Input filename: C:\Program Files (x86)\Visual OTTHMO 6.2\VO2\voind.dat
Output filename: C:\Users\shane.armstrong\AppData\Local\Civica\VH5\4742f66b-df54-430d-b69a-8eb5fb689660\aac
Summary Filename: C:\Users\shane.armstrong\AppData\Local\Civica\VH5\4742f66b-df54-430d-b69a-8eb5fb689660\aac

DATE: 03-05-2026 TIME: 05:07:22

USER:

COMMENTS:

***** SIMULATION 0.25MMHr.STM *****

READ STORM Filename: C:\Users\shane.armstrong\AppData
ata\Local\Temp\
Ptotal= 25.00 mm e73f97d3-10b5-42ce-b9cb-cl2430559c6f\ab4fdbal
Comments: Twenty Five mm Four Hour Chicago Storm

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	2.07	1.00	5.70	2.00	5.19	3.00	2.80
0.17	2.27	1.17	10.78	2.17	4.47	3.17	2.62
0.33	2.52	1.33	50.21	2.33	3.95	3.33	2.48
0.50	2.88	1.50	13.37	2.50	3.56	3.50	2.35
0.67	3.38	1.67	8.29	2.67	3.25	3.67	2.23
0.83	4.18	1.83	6.30	2.83	3.01	3.83	2.14

CALIB
STANDHYD (0009)
ID= 1 DT= 5.0 min
Area (ha)= 6.20
Total Imp(%)= 5.00
Dir. Conn.(%)= 0.43
Curve Number (CN)= 71.0
of Linear Res. (N)= 3.00
U.H. Tp(hrs)= 0.43

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	2.07	1.083	5.70	2.083	5.19	3.08	2.80
0.167	2.07	1.167	5.70	2.167	5.19	3.17	2.80
0.250	2.27	1.250	10.78	2.250	4.47	3.25	2.62
0.333	2.27	1.333	10.78	2.333	4.47	3.33	2.62
0.417	2.52	1.417	50.21	2.417	3.95	3.42	2.48
0.500	2.52	1.500	50.21	2.500	3.95	3.50	2.48
0.583	2.88	1.583	13.37	2.583	3.56	3.58	2.35
0.667	2.88	1.667	13.37	2.667	3.56	3.67	2.35
0.750	3.38	1.750	8.29	2.750	3.25	3.75	2.23
0.833	3.38	1.833	8.29	2.833	3.25	3.83	2.23
0.917	4.18	1.917	6.30	2.917	3.01	3.92	2.14
1.000	4.18	2.000	6.30	3.000	3.01	4.00	2.14

Unit Hyd. Tpeak (cms)= 0.551

0.500	2.52	1.500	50.21	2.500	3.95	3.50	2.48
0.583	2.88	1.583	13.37	2.583	3.56	3.58	2.35
0.667	2.88	1.667	13.37	2.667	3.56	3.67	2.35
0.750	3.38	1.750	8.29	2.750	3.25	3.75	2.23
0.833	3.38	1.833	8.29	2.833	3.25	3.83	2.23
0.917	4.18	1.917	6.30	2.917	3.01	3.92	2.14
1.000	4.18	2.000	6.30	3.000	3.01	4.00	2.14

Max.Eff.Inten.(mm/hr)= 50.21
over (min)= 5.00
Storage Coeff. (min)= 5.88 (ii)
Unit Hyd. Tpeak (min)= 5.00
Unit Hyd. peak (cms)= 0.19
PEAK FLOW (cms)= 0.18
TIME TO PEAK (hrs)= 1.50
RUNOFF VOLUME (mm)= 24.00
TOTAL RAINFALL (mm)= 25.00
RUNOFF COEFFICIENT = 0.96

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN⁶ = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)
1 + 2 = 3
AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 1 (0004): 9.64 0.198 1.50 7.98
+ ID2= 2 (0005): 0.72 0.069 1.50 18.08
ID = 3 (0006): 10.36 0.267 1.50 8.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0007)
IN= 2--> OUT= 1
DT= 5.0 min
OVERFLOW IS OFF
OUTFLOW STORAGE
(cms) (ha.m.) (cms) (ha.m.)
0.0000 0.0000 | 0.6776 0.1501
0.1276 0.0694 | 0.7265 0.2038
AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
INFLOW: ID= 2 (0006) 10.360 0.267 1.50 8.68
OUTFLOW: ID= 1 (0007) 10.360 0.066 2.58 8.67

PEAK FLOW REDUCTION [Qout/Qin](%)= 24.75
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0359

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min
Area (ha)= 3.04
Total Imp(%)= 30.00
Dir. Conn.(%)= 17.00

Surface Area (ha)= 0.91
Dep. Storage (mm)= 1.00
Average Slope (%)= 1.00
Length (m)= 142.36
Mannings n = 0.013

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	2.07	1.083	5.70	2.083	5.19	3.08	2.80
0.167	2.07	1.167	5.70	2.167	5.19	3.17	2.80
0.250	2.27	1.250	10.78	2.250	4.47	3.25	2.62
0.333	2.27	1.333	10.78	2.333	4.47	3.33	2.62
0.417	2.52	1.417	50.21	2.417	3.95	3.42	2.48
0.500	2.52	1.500	50.21	2.500	3.95	3.50	2.48

PEAK FLOW (cms)= 0.029 (i)
TIME TO PEAK (hrs)= 2.083
RUNOFF VOLUME (mm)= 3.231
TOTAL RAINFALL (mm)= 24.997
RUNOFF COEFFICIENT = 0.129

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

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min
Area (ha)= 0.72
Total Imp(%)= 70.00
Dir. Conn.(%)= 70.00

Surface Area (ha)= 0.50
Dep. Storage (mm)= 1.00
Average Slope (%)= 1.00
Length (m)= 69.28
Mannings n = 0.013

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	2.07	1.083	5.70	2.083	5.19	3.08	2.80
0.167	2.07	1.167	5.70	2.167	5.19	3.17	2.80
0.250	2.27	1.250	10.78	2.250	4.47	3.25	2.62
0.333	2.27	1.333	10.78	2.333	4.47	3.33	2.62
0.417	2.52	1.417	50.21	2.417	3.95	3.42	2.48
0.500	2.52	1.500	50.21	2.500	3.95	3.50	2.48
0.583	2.88	1.583	13.37	2.583	3.56	3.58	2.35
0.667	2.88	1.667	13.37	2.667	3.56	3.67	2.35
0.750	3.38	1.750	8.29	2.750	3.25	3.75	2.23
0.833	3.38	1.833	8.29	2.833	3.25	3.83	2.23
0.917	4.18	1.917	6.30	2.917	3.01	3.92	2.14
1.000	4.18	2.000	6.30	3.000	3.01	4.00	2.14

Max.Eff.Inten.(mm/hr)= 50.21
over (min)= 5.00
Storage Coeff. (min)= 2.70 (ii)
Unit Hyd. Tpeak (min)= 5.00
Unit Hyd. peak (cms)= 0.29

PEAK FLOW (cms)= 0.07
TIME TO PEAK (hrs)= 1.50
RUNOFF VOLUME (mm)= 24.00
TOTAL RAINFALL (mm)= 25.00
RUNOFF COEFFICIENT = 0.96

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN⁶ = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0004)
ID= 1 DT= 5.0 min
Area (ha)= 9.64
Total Imp(%)= 27.00
Dir. Conn.(%)= 16.00

Surface Area (ha)= 2.60
Dep. Storage (mm)= 1.00
Average Slope (%)= 1.00
Length (m)= 253.51
Mannings n = 0.013

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	2.07	1.083	5.70	2.083	5.19	3.08	2.80
0.167	2.07	1.167	5.70	2.167	5.19	3.17	2.80
0.250	2.27	1.250	10.78	2.250	4.47	3.25	2.62
0.333	2.27	1.333	10.78	2.333	4.47	3.33	2.62
0.417	2.52	1.417	50.21	2.417	3.95	3.42	2.48

0.583	2.88	1.583	13.37	2.583	3.56	3.58	2.35
0.667	2.88	1.667	13.37	2.667	3.56	3.67	2.35
0.750	3.38	1.750	8.29	2.750	3.25	3.75	2.23
0.833	3.38	1.833	8.29	2.833	3.25	3.83	2.23
0.917	4.18	1.917	6.30	2.917	3.01	3.92	2.14
1.000	4.18	2.000	6.30	3.000	3.01	4.00	2.14

Max.Eff.Inten.(mm/hr)= 50.21
over (min)= 5.00
Storage Coeff. (min)= 4.16 (ii)
Unit Hyd. Tpeak (min)= 5.00
Unit Hyd. peak (cms)= 0.24

PEAK FLOW (cms)= 0.07
TIME TO PEAK (hrs)= 1.50
RUNOFF VOLUME (mm)= 24.00
TOTAL RAINFALL (mm)= 25.00
RUNOFF COEFFICIENT = 0.96

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN⁶ = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)
1 + 2 = 3
AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 1 (0007): 10.36 0.066 2.58 8.67
+ ID2= 2 (0008): 3.04 0.072 1.50 8.28
ID = 3 (0010): 13.40 0.102 1.50 8.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)
3 + 2 = 1
AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 3 (0010): 13.40 0.102 1.50 8.58
+ ID2= 2 (0009): 6.20 0.029 2.08 3.23
ID = 1 (0010): 19.60 0.118 2.08 6.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

=====

V V I SSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A L
V V I SS U U A A L
V V I SSSS UUUU A A LLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\78540
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\78540

DATE: 03-13-2026 TIME: 06:57:09

USER:

COMMENTS: Pre development

** SIMULATION : A- 2 year Chicago **

CHICAGO STORM | IDF curve parameters: A= 645.000
Ptotal= 34.17 mm | B= 5.000
C= 0.786

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	2.25	1.00	17.56	2.00	5.28	3.00	2.67
0.17	2.57	1.17	76.76	2.17	4.49	3.17	2.48
0.33	3.02	1.33	23.03	2.33	3.93	3.33	2.32
0.50	3.71	1.50	12.12	2.50	3.50	3.50	2.18
0.67	4.88	1.67	8.35	2.67	3.16	3.67	2.06
0.83	7.39	1.83	6.44	2.83	2.89	3.83	1.95

CALIB |
NASHYD (0002) | Area (ha)= 13.03 Curve Number (CN)= 71.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.23

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

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	2.25	1.083	17.56	2.083	5.28	3.08	2.67
0.167	2.25	1.167	17.56	2.167	5.28	3.17	2.67
0.250	2.57	1.250	76.76	2.250	4.49	3.25	2.48
0.333	2.57	1.333	76.76	2.333	4.49	3.33	2.48
0.417	3.02	1.417	23.03	2.417	3.93	3.42	2.32
0.500	3.02	1.500	23.03	2.500	3.93	3.50	2.32
0.583	3.71	1.583	12.12	2.583	3.50	3.58	2.18
0.667	3.71	1.667	12.12	2.667	3.50	3.67	2.18
0.750	4.88	1.750	8.35	2.750	3.16	3.75	2.06
0.833	4.88	1.833	8.35	2.833	3.16	3.83	2.06
0.917	7.39	1.917	6.44	2.917	2.89	3.92	1.95
1.000	7.39	2.000	6.44	3.000	2.89	4.00	1.95

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.213 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 6.393
TOTAL RAINFALL (mm)= 34.166
RUNOFF COEFFICIENT = 0.187

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

CALIB |
NASHYD (0001) | Area (ha)= 6.34 Curve Number (CN)= 71.0
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	2.25	1.083	17.56	2.083	5.28	3.08	2.67
0.167	2.25	1.167	17.56	2.167	5.28	3.17	2.67
0.250	2.57	1.250	76.76	2.250	4.49	3.25	2.48
0.333	2.57	1.333	76.76	2.333	4.49	3.33	2.48
0.417	3.02	1.417	23.03	2.417	3.93	3.42	2.32
0.500	3.02	1.500	23.03	2.500	3.93	3.50	2.32
0.583	3.71	1.583	12.12	2.583	3.50	3.58	2.18
0.667	3.71	1.667	12.12	2.667	3.50	3.67	2.18
0.750	4.88	1.750	8.35	2.750	3.16	3.75	2.06
0.833	4.88	1.833	8.35	2.833	3.16	3.83	2.06
0.917	7.39	1.917	6.44	2.917	2.89	3.92	1.95
1.000	7.39	2.000	6.44	3.000	2.89	4.00	1.95

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.070 (i)
TIME TO PEAK (hrs)= 1.917
RUNOFF VOLUME (mm)= 6.399
TOTAL RAINFALL (mm)= 34.166
RUNOFF COEFFICIENT = 0.187

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

ADD HYD (0003) |
1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	6.34	0.070	1.92	6.40
+ ID2= 2 (0002):	13.03	0.213	1.58	6.39
ID = 3 (0003):	19.37	0.265	1.58	6.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V V I SSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A L
V V I SS U U A A L
V V I SSSS UUUU A A LLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d0e41
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d0e41

DATE: 03-13-2026 TIME: 06:57:09

USER:

COMMENTS: _____

** SIMULATION : B- 5 year Chicago **

CHICAGO STORM
Ptotal= 47.36 mm

IDF curve parameters: A= 904.000
B= 5.000
C= 0.788
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	24.35	2.00	7.28	3.00	3.67
0.17	3.54	1.17	107.01	2.17	6.19	3.17	3.41
0.33	4.16	1.33	31.95	2.33	5.41	3.33	3.19
0.50	5.11	1.50	16.78	2.50	4.82	3.50	3.00
0.67	6.73	1.67	11.54	2.67	4.36	3.67	2.83
0.83	10.20	1.83	8.89	2.83	3.98	3.83	2.68

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

Area (ha)= 13.03 Curve Number (CN)= 71.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.23

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

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	3.09	1.083	24.35	2.083	7.28	3.08	3.67
0.167	3.09	1.167	24.35	2.167	7.28	3.17	3.67
0.250	3.54	1.250	107.01	2.250	6.19	3.25	3.41
0.333	3.54	1.333	107.01	2.333	6.19	3.33	3.41
0.417	4.16	1.417	31.95	2.417	5.41	3.42	3.19
0.500	4.16	1.500	31.95	2.500	5.41	3.50	3.19
0.583	5.11	1.583	16.78	2.583	4.82	3.58	3.00
0.667	5.11	1.667	16.78	2.667	4.82	3.67	3.00
0.750	6.73	1.750	11.54	2.750	4.36	3.75	2.83
0.833	6.73	1.833	11.54	2.833	4.36	3.83	2.83
0.917	10.20	1.917	8.89	2.917	3.98	3.92	2.68
1.000	10.20	2.000	8.89	3.000	3.98	4.00	2.68

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.430 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 12.268
TOTAL RAINFALL (mm)= 47.361
RUNOFF COEFFICIENT = 0.259

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

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

Area (ha)= 6.34 Curve Number (CN)= 71.0
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	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	24.35	2.083	7.28	3.08	3.67
0.167	3.09	1.167	24.35	2.167	7.28	3.17	3.67
0.250	3.54	1.250	107.01	2.250	6.19	3.25	3.41
0.333	3.54	1.333	107.01	2.333	6.19	3.33	3.41
0.417	4.16	1.417	31.95	2.417	5.41	3.42	3.19
0.500	4.16	1.500	31.95	2.500	5.41	3.50	3.19
0.583	5.11	1.583	16.78	2.583	4.82	3.58	3.00
0.667	5.11	1.667	16.78	2.667	4.82	3.67	3.00
0.750	6.73	1.750	11.54	2.750	4.36	3.75	2.83
0.833	6.73	1.833	11.54	2.833	4.36	3.83	2.83
0.917	10.20	1.917	8.89	2.917	3.98	3.92	2.68
1.000	10.20	2.000	8.89	3.000	3.98	4.00	2.68

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.141 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 12.280
TOTAL RAINFALL (mm)= 47.361
RUNOFF COEFFICIENT = 0.259

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

ADD HYD (0003)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	6.34	0.141	1.83	12.28
+ ID2= 2 (0002):	13.03	0.430	1.58	12.27
=====				
ID = 3 (0003):	19.37	0.540	1.58	12.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\es809.
Summary filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\es809.

DATE: 03-13-2026 TIME: 06:57:10

USER:

COMMENTS: _____

** SIMULATION : C- 10 year Chiacgo **

CHICAGO STORM
Ptotal= 55.80 mm

IDF curve parameters: A=1065.000
B= 5.000
C= 0.788
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	3.64	1.00	28.69	2.00	8.57	3.00	4.32
0.17	4.17	1.17	126.06	2.17	7.30	3.17	4.02
0.33	4.90	1.33	37.65	2.33	6.38	3.33	3.76
0.50	6.02	1.50	19.77	2.50	5.68	3.50	3.53
0.67	7.93	1.67	13.60	2.67	5.13	3.67	3.33
0.83	12.02	1.83	10.47	2.83	4.69	3.83	3.16

CALIB			
NASHYD (0002)	Area (ha)= 13.03	Curve Number (CN)= 71.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.23		

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	3.64	1.083	28.69	2.083	8.57	3.08	4.32
0.167	3.64	1.167	28.69	2.167	8.57	3.17	4.32
0.250	4.17	1.250	126.06	2.250	7.30	3.25	4.02
0.333	4.17	1.333	126.06	2.333	7.30	3.33	4.02
0.417	4.90	1.417	37.65	2.417	6.38	3.42	3.76
0.500	4.90	1.500	37.65	2.500	6.38	3.50	3.76
0.583	6.02	1.583	19.77	2.583	5.68	3.58	3.53
0.667	6.02	1.667	19.77	2.667	5.68	3.67	3.53
0.750	7.93	1.750	13.60	2.750	5.13	3.75	3.33
0.833	7.93	1.833	13.60	2.833	5.13	3.83	3.33
0.917	12.02	1.917	10.47	2.917	4.69	3.92	3.16
1.000	12.02	2.000	10.47	3.000	4.69	4.00	3.16

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.596 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 16.677
TOTAL RAINFALL (mm)= 55.796
RUNOFF COEFFICIENT = 0.299

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

CALIB			
NASHYD (0001)	Area (ha)= 6.34	Curve Number (CN)= 71.0	
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.

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	3.64	1.083	28.69	2.083	8.57	3.08	4.32
0.167	3.64	1.167	28.69	2.167	8.57	3.17	4.32
0.250	4.17	1.250	126.06	2.250	7.30	3.25	4.02
0.333	4.17	1.333	126.06	2.333	7.30	3.33	4.02
0.417	4.90	1.417	37.65	2.417	6.38	3.42	3.76
0.500	4.90	1.500	37.65	2.500	6.38	3.50	3.76
0.583	6.02	1.583	19.77	2.583	5.68	3.58	3.53
0.667	6.02	1.667	19.77	2.667	5.68	3.67	3.53
0.750	7.93	1.750	13.60	2.750	5.13	3.75	3.33
0.833	7.93	1.833	13.60	2.833	5.13	3.83	3.33
0.917	12.02	1.917	10.47	2.917	4.69	3.92	3.16
1.000	12.02	2.000	10.47	3.000	4.69	4.00	3.16

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.195 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 16.694
TOTAL RAINFALL (mm)= 55.796
RUNOFF COEFFICIENT = 0.299

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

ADD HYD (0003)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	6.34	0.195	1.83	16.69
+ ID2= 2 (0002):	13.03	0.596	1.58	16.68
ID = 3 (0003):	19.37	0.751	1.58	16.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

(v 6.2.2021)

V	V	I	SSSS	U	U	A	L	
V	V	I	SS	U	U	A A	L	
V	V	I	SS	U	U	AAAA	L	
V	V	I	SS	U	U	A A	L	
VV	I	SSSS	UUUU	A	A	LLLL		

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T H H Y M M OOO

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

Input filename: C:\Program Files (x86)\visual OTTHYMO 6.2\vo2\voin.dat
Output filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d01d1
Summary filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d01d1

DATE: 03-13-2026

TIME: 06:57:09

USER:

COMMENTS: _____

** SIMULATION : D- 25 year Chicago **

CHICAGO STORM	IDF curve parameters: A=1243.000
Ptotal= 65.69 mm	B= 4.000
	C= 0.787

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	4.23	1.00	32.40	2.00	9.83	3.00	5.02
0.17	4.84	1.17	155.76	2.17	8.39	3.17	4.67
0.33	5.68	1.33	42.52	2.33	7.35	3.33	4.37
0.50	6.95	1.50	22.32	2.50	6.56	3.50	4.11
0.67	9.10	1.67	15.45	2.67	5.94	3.67	3.88
0.83	13.68	1.83	11.95	2.83	5.44	3.83	3.68

CALIB			
NASHYD (0002)	Area (ha)= 13.03	Curve Number (CN)= 71.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.23		

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr

0.083	4.23	1.083	32.40	2.083	9.83	3.08	5.02
0.167	4.23	1.167	32.40	2.167	9.83	3.17	5.02
0.250	4.84	1.250	155.76	2.250	8.39	3.25	4.67
0.333	4.84	1.333	155.76	2.333	8.39	3.33	4.67
0.417	5.68	1.417	42.52	2.417	7.35	3.42	4.37
0.500	5.68	1.500	42.52	2.500	7.35	3.50	4.37
0.583	6.95	1.583	22.32	2.583	6.56	3.58	4.11
0.667	6.95	1.667	22.32	2.667	6.56	3.67	4.11
0.750	9.10	1.750	15.45	2.750	5.94	3.75	3.88
0.833	9.10	1.833	15.45	2.833	5.94	3.83	3.88
0.917	13.68	1.917	11.95	2.917	5.44	3.92	3.68
1.000	13.68	2.000	11.95	3.000	5.44	4.00	3.68

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.836 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 22.376
TOTAL RAINFALL (mm)= 65.692
RUNOFF COEFFICIENT = 0.341

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

CALIB					
NASHYD (0001)	Area (ha)=	6.34	Curve Number (CN)=	71.0	
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.

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.23	1.083	32.40	2.083	9.83	3.08	5.02
0.167	4.23	1.167	32.40	2.167	9.83	3.17	5.02
0.250	4.84	1.250	155.76	2.250	8.39	3.25	4.67
0.333	4.84	1.333	155.76	2.333	8.39	3.33	4.67
0.417	5.68	1.417	42.52	2.417	7.35	3.42	4.37
0.500	5.68	1.500	42.52	2.500	7.35	3.50	4.37
0.583	6.95	1.583	22.32	2.583	6.56	3.58	4.11
0.667	6.95	1.667	22.32	2.667	6.56	3.67	4.11
0.750	9.10	1.750	15.45	2.750	5.94	3.75	3.88
0.833	9.10	1.833	15.45	2.833	5.94	3.83	3.88
0.917	13.68	1.917	11.95	2.917	5.44	3.92	3.68
1.000	13.68	2.000	11.95	3.000	5.44	4.00	3.68

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.269 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 22.399
TOTAL RAINFALL (mm)= 65.692
RUNOFF COEFFICIENT = 0.341

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

ADD HYD (0003)					
1 + 2 = 3					
ID1= 1 (0001):	6.34	0.269	1.83	22.40	
+ ID2= 2 (0002):	13.03	0.836	1.50	22.38	
ID = 3 (0003):	19.37	1.049	1.58	22.38	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
V	V	I	SS	U	U	A A	L	
V	V	I	SS	U	U	AAAAA	L	
V	V	I	SS	U	U	A A	L	
VV		I	SSSSS	UUUUU	A	A	LLLLL	
000	TTTTT	TTTTT	H	H	Y	Y	M M	000 TM
0	O	T	T	H	H	Y Y	MM MM	O O
0	O	T	T	H	H	Y	M M	O O
000	T	T	H	H	Y	M	M	000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnaul\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\61d25
Summary filename: C:\Users\david.mcnaul\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\61d25

DATE: 03-13-2026

TIME: 06:57:09

USER:

COMMENTS: _____

** SIMULATION : E- 100 year Chicago

CHICAGO STORM	IDF curve parameters: A=1799.000
Ptotal= 83.51 mm	B= 5.000
	C= 0.810

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	4.96	1.00	42.97	2.00	12.10	3.00	5.93
0.17	5.70	1.17	200.63	2.17	10.22	3.17	5.49
0.33	6.76	1.33	56.98	2.33	8.88	3.33	5.12
0.50	8.37	1.50	29.02	2.50	7.87	3.50	4.80
0.67	11.15	1.67	19.61	2.67	7.08	3.67	4.52
0.83	17.24	1.83	14.91	2.83	6.45	3.83	4.28

CALIB					
NASHYD (0002)	Area (ha)=	13.03	Curve Number (CN)=	71.0	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.23			

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.96	1.083	42.97	2.083	12.10	3.08	5.93
0.167	4.96	1.167	42.97	2.167	12.10	3.17	5.93
0.250	5.70	1.250	200.63	2.250	10.22	3.25	5.49
0.333	5.70	1.333	200.63	2.333	10.22	3.33	5.49
0.417	6.76	1.417	56.98	2.417	8.88	3.42	5.12
0.500	6.76	1.500	56.98	2.500	8.88	3.50	5.12
0.583	8.37	1.583	29.02	2.583	7.87	3.58	4.80
0.667	8.37	1.667	29.02	2.667	7.87	3.67	4.80
0.750	11.15	1.750	19.61	2.750	7.08	3.75	4.52
0.833	11.15	1.833	19.61	2.833	7.08	3.83	4.52
0.917	17.24	1.917	14.91	2.917	6.45	3.92	4.28
1.000	17.24	2.000	14.91	3.000	6.45	4.00	4.28

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.335 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 33.781
TOTAL RAINFALL (mm)= 83.508
RUNOFF COEFFICIENT = 0.405

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

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

Area (ha)= 6.34
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.44

Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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

TIME		RAIN		TIME		RAIN		TIME		RAIN	
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.96	1.083	42.97	2.083	12.10	3.08	5.93				
0.167	4.96	1.167	42.97	2.167	12.10	3.17	5.93				
0.250	5.70	1.250	200.63	2.250	10.22	3.25	5.49				
0.333	5.70	1.333	200.63	2.333	10.22	3.33	5.49				
0.417	6.76	1.417	56.98	2.417	8.88	3.42	5.12				
0.500	6.76	1.500	56.98	2.500	8.88	3.50	5.12				
0.583	8.37	1.583	29.02	2.583	7.87	3.58	4.80				
0.667	8.37	1.667	29.02	2.667	7.87	3.67	4.80				
0.750	11.15	1.750	19.61	2.750	7.08	3.75	4.52				
0.833	11.15	1.833	19.61	2.833	7.08	3.83	4.52				
0.917	17.24	1.917	14.91	2.917	6.45	3.92	4.28				
1.000	17.24	2.000	14.91	3.000	6.45	4.00	4.28				

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.426 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 33.815
TOTAL RAINFALL (mm)= 83.508
RUNOFF COEFFICIENT = 0.405

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

ADD HYD (0003)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	6.34	0.426	1.83	33.82
+ ID2= 2 (0002):	13.03	1.335	1.50	33.78
ID = 3 (0003):	19.37	1.671	1.58	33.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voain.dat
Output filename: C:\Users\david.mcnaul1\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\2b1b7
Summary filename: C:\Users\david.mcnaul1\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\2b1b7

DATE: 03-13-2026

TIME: 06:57:10

USER:

COMMENTS: _____

** SIMULATION : F- SCS (II) 6hr 2 Year **

READ STORM
Ptotal= 37.20 mm

Filename: C:\Users\david.mcnaul1\AppData\Local\Temp\bfe103d-54ba-467d-9411-7f3175abfbc2\c801de4f
Comments: 2yr 6hr 10min SCS Type II

TIME		RAIN		TIME		RAIN		TIME		RAIN	
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	1.67	2.74	3.33	8.78	5.00	2.15				
0.17	1.67	1.83	3.05	3.50	6.86	5.17	1.97				
0.33	1.68	2.00	3.39	3.67	4.89	5.33	1.89				
0.50	1.68	2.17	3.83	3.83	4.17	5.50	1.83				
0.67	1.70	2.33	4.55	4.00	3.73	5.67	1.77				
0.83	1.81	2.50	5.36	4.17	3.26	5.83	1.71				
1.00	1.95	2.67	8.66	4.33	2.99	6.00	1.65				
1.17	2.11	2.83	25.57	4.50	2.75						
1.33	2.30	3.00	59.39	4.67	2.50						
1.50	2.50	3.17	34.04	4.83	2.32						

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

Area (ha)= 13.03
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.23

Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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

TIME		RAIN		TIME		RAIN		TIME		RAIN	
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	2.50	3.250	34.04	4.83	2.50				
0.167	0.00	1.750	2.74	3.333	34.04	4.92	2.32				
0.250	1.67	1.833	2.74	3.417	8.78	5.00	2.32				
0.333	1.67	1.917	3.05	3.500	8.78	5.08	2.15				
0.417	1.68	2.000	3.05	3.583	6.86	5.17	2.15				
0.500	1.68	2.083	3.39	3.667	6.86	5.25	1.97				
0.583	1.68	2.167	3.39	3.750	4.89	5.33	1.97				
0.667	1.68	2.250	3.83	3.833	4.89	5.42	1.89				
0.750	1.70	2.333	3.83	3.917	4.17	5.50	1.89				
0.833	1.70	2.417	4.55	4.000	4.17	5.58	1.83				
0.917	1.81	2.500	4.55	4.083	3.73	5.67	1.83				
1.000	1.81	2.583	5.36	4.167	3.73	5.75	1.77				
1.083	1.95	2.667	5.36	4.250	3.26	5.83	1.77				
1.167	1.95	2.750	8.66	4.333	3.26	5.92	1.71				
1.250	2.11	2.833	8.66	4.417	2.99	6.00	1.71				
1.333	2.11	2.917	25.57	4.500	2.99	6.08	1.65				
1.417	2.30	3.000	25.57	4.583	2.75	6.17	1.65				
1.500	2.30	3.083	59.39	4.667	2.75						
1.583	2.50	3.167	59.39	4.750	2.50						

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.291 (i)
TIME TO PEAK (hrs)= 3.417
RUNOFF VOLUME (mm)= 7.618
TOTAL RAINFALL (mm)= 37.200
RUNOFF COEFFICIENT = 0.205

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

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

Area (ha)= 6.34
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.44

Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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

TIME		RAIN		TIME		RAIN		TIME		RAIN	
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	2.50	3.250	34.04	4.83	2.50				
0.167	0.00	1.750	2.74	3.333	34.04	4.92	2.32				
0.250	1.67	1.833	2.74	3.417	8.78	5.00	2.32				
0.333	1.67	1.917	3.05	3.500	8.78	5.08	2.15				

0.417	1.68	2.000	3.05	3.583	6.86	5.17	2.15
0.500	1.68	2.083	3.39	3.667	6.86	5.25	1.97
0.583	1.68	2.167	3.39	3.750	4.89	5.33	1.97
0.667	1.68	2.250	3.83	3.833	4.89	5.42	1.89
0.750	1.70	2.333	3.83	3.917	4.17	5.50	1.89
0.833	1.70	2.417	4.55	4.000	4.17	5.58	1.83
0.917	1.81	2.500	4.55	4.083	3.73	5.67	1.83
1.000	1.81	2.583	5.36	4.167	3.73	5.75	1.77
1.083	1.95	2.667	5.36	4.250	3.26	5.83	1.77
1.167	1.95	2.750	8.66	4.333	3.26	5.92	1.71
1.250	2.11	2.833	8.66	4.417	2.99	6.00	1.71
1.333	2.11	2.917	25.57	4.500	2.99	6.08	1.65
1.417	2.30	3.000	25.57	4.583	2.75	6.17	1.65
1.500	2.30	3.083	59.39	4.667	2.75		
1.583	2.50	3.167	59.39	4.750	2.50		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.093 (i)
TIME TO PEAK (hrs)= 3.667
RUNOFF VOLUME (mm)= 7.626
TOTAL RAINFALL (mm)= 37.200
RUNOFF COEFFICIENT = 0.205

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

ADD HYD (0003)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0001):	6.34	0.093	3.67	7.63
+ ID2= 2 (0002):	13.03	0.291	3.42	7.62
ID = 3 (0003):	19.37	0.366	3.42	7.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A A A L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLLL
000 TTTT TTTT H H Y Y M M M 000 TM
O O T T H H Y Y MM MM O O O
O O T T H H Y Y M M O O O
000 T T H H Y Y M M 000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnau1\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\889c3
Summary filename: C:\Users\david.mcnau1\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\889c3

DATE: 03-13-2026 TIME: 06:57:10

USER:

COMMENTS: _____

** SIMULATION : G- SCS (II) 6hr 5 Year **

READ STORM	Filename: C:\Users\david.mcnau1\AppData\Local\Temp\bfef103d-54ba-467d-9411-7f3175abfbc2\41cddcb
Ptotal= 49.20 mm	Comments: 5yr 6hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	1.67	4.92	3.33	10.82	5.00	2.95
0.17	1.97	1.83	4.92	3.50	10.82	5.17	1.97
0.33	1.97	2.00	4.92	3.67	4.92	5.33	1.97
0.50	1.97	2.17	5.90	3.83	4.92	5.50	1.97
0.67	2.95	2.33	5.90	4.00	4.92	5.67	1.97
0.83	2.95	2.50	5.90	4.17	3.94	5.83	1.97
1.00	2.95	2.67	29.52	4.33	3.94	6.00	1.97
1.17	2.95	2.83	53.14	4.50	3.94		
1.33	2.95	3.00	76.75	4.67	2.95		
1.50	2.95	3.17	10.82	4.83	2.95		

CALIB	Area (ha)= 13.03	Curve Number (CN)= 71.0
NASHYD (0002)	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp(hrs)= 0.23	

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

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	2.95	3.250	10.82	4.83	2.95
0.167	0.00	1.750	4.92	3.333	10.82	4.92	2.95
0.250	1.97	1.833	4.92	3.417	10.82	5.00	2.95
0.333	1.97	1.917	4.92	3.500	10.82	5.08	2.95
0.417	1.97	2.000	4.92	3.583	10.82	5.17	2.95
0.500	1.97	2.083	4.92	3.667	10.82	5.25	1.97
0.583	1.97	2.167	4.92	3.750	4.92	5.33	1.97
0.667	1.97	2.250	5.90	3.833	4.92	5.42	1.97
0.750	2.95	2.333	5.90	3.917	4.92	5.50	1.97
0.833	2.95	2.417	5.90	4.000	4.92	5.58	1.97
0.917	2.95	2.500	5.90	4.083	4.92	5.67	1.97
1.000	2.95	2.583	5.90	4.167	4.92	5.75	1.97
1.083	2.95	2.667	5.90	4.250	3.94	5.83	1.97
1.167	2.95	2.750	29.52	4.333	3.94	5.92	1.97
1.250	2.95	2.833	29.52	4.417	3.94	6.00	1.97
1.333	2.95	2.917	53.14	4.500	3.94	6.08	1.97
1.417	2.95	3.000	53.14	4.583	3.94	6.17	1.97
1.500	2.95	3.083	76.75	4.667	3.94		
1.583	2.95	3.167	76.75	4.750	2.95		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.517 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 13.190
TOTAL RAINFALL (mm)= 49.200
RUNOFF COEFFICIENT = 0.268

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

CALIB	Area (ha)= 6.34	Curve Number (CN)= 71.0
NASHYD (0001)	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp(hrs)= 0.44	

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

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	2.95	3.250	10.82	4.83	2.95
0.167	0.00	1.750	4.92	3.333	10.82	4.92	2.95
0.250	1.97	1.833	4.92	3.417	10.82	5.00	2.95
0.333	1.97	1.917	4.92	3.500	10.82	5.08	2.95
0.417	1.97	2.000	4.92	3.583	10.82	5.17	2.95
0.500	1.97	2.083	4.92	3.667	10.82	5.25	1.97
0.583	1.97	2.167	4.92	3.750	4.92	5.33	1.97
0.667	1.97	2.250	5.90	3.833	4.92	5.42	1.97
0.750	2.95	2.333	5.90	3.917	4.92	5.50	1.97
0.833	2.95	2.417	5.90	4.000	4.92	5.58	1.97
0.917	2.95	2.500	5.90	4.083	4.92	5.67	1.97
1.000	2.95	2.583	5.90	4.167	4.92	5.75	1.97
1.083	2.95	2.667	5.90	4.250	3.94	5.83	1.97

1.167	2.95	2.750	29.52	4.333	3.94	5.92	1.97
1.250	2.95	2.833	29.52	4.417	3.94	6.00	1.97
1.333	2.95	2.917	53.14	4.500	3.94	6.08	1.97
1.417	2.95	3.000	53.14	4.583	3.94	6.17	1.97
1.500	2.95	3.083	76.75	4.667	3.94		
1.583	2.95	3.167	76.75	4.750	2.95		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.160 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 13.204
TOTAL RAINFALL (mm)= 49.200
RUNOFF COEFFICIENT = 0.268

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

ADD HYD (0003)				
1 + 2 = 3				
ID1= 1 (0001):	6.34	0.160	3.50	13.20
+ ID2= 2 (0002):	13.03	0.517	3.25	13.19
ID = 3 (0003):	19.37	0.639	3.33	13.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
V	V	I	SS	U	U	A	A	L
V	V	I	SS	U	U	AAAAA	L	
V	V	I	SS	U	U	A	A	L
VV		I	SSSSS	UUUUU	A	A	LLLLL	

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\david.mcnault\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\9303b
Summary filename: C:\Users\david.mcnault\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\9303b

DATE: 03-13-2026 TIME: 06:57:09

USER:

COMMENTS: _____

** SIMULATION : H- SCS (II) 6hr 10 Year **

READ STORM	Filename: C:\Users\david.mcnault\AppData\Local\Temp\bfef103d-54ba-467d-9411-7f3175abfbc2\5087824
Ptotal= 57.60 mm	Comments: 10yr 6hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	1.67	5.76	3.33	12.67	5.00	3.46
0.17	2.30	1.83	5.76	3.50	12.67	5.17	2.30
0.33	2.30	2.00	5.76	3.67	5.76	5.33	2.30
0.50	2.30	2.17	6.91	3.83	5.76	5.50	2.30
0.67	3.46	2.33	6.91	4.00	5.76	5.67	2.30
0.83	3.46	2.50	6.91	4.17	4.61	5.83	2.30

1.00	3.46	2.67	34.56	4.33	4.61	6.00	2.30
1.17	3.46	2.83	62.21	4.50	4.61		
1.33	3.46	3.00	89.86	4.67	3.46		
1.50	3.46	3.17	12.67	4.83	3.46		

CALIB				
NASHYD (0002)	Area (ha)= 13.03	Curve Number (CN)= 71.0		
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.23			

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

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	3.46	3.250	12.67	4.83	3.46
0.167	0.00	1.750	5.76	3.333	12.67	4.92	3.46
0.250	2.30	1.833	5.76	3.417	12.67	5.00	3.46
0.333	2.30	1.917	5.76	3.500	12.67	5.08	3.46
0.417	2.30	2.000	5.76	3.583	12.67	5.17	3.46
0.500	2.30	2.083	5.76	3.667	12.67	5.25	2.30
0.583	2.30	2.167	5.76	3.750	5.76	5.33	2.30
0.667	2.30	2.250	6.91	3.833	5.76	5.42	2.30
0.750	3.46	2.333	6.91	3.917	5.76	5.50	2.30
0.833	3.46	2.417	6.91	4.000	5.76	5.58	2.30
0.917	3.46	2.500	6.91	4.083	5.76	5.67	2.30
1.000	3.46	2.583	6.91	4.167	5.76	5.75	2.30
1.083	3.46	2.667	6.91	4.250	4.61	5.83	2.30
1.167	3.46	2.750	34.56	4.333	4.61	5.92	2.30
1.250	3.46	2.833	34.56	4.417	4.61	6.00	2.30
1.333	3.46	2.917	62.21	4.500	4.61	6.08	2.30
1.417	3.46	3.000	62.21	4.583	4.61	6.17	2.30
1.500	3.46	3.083	89.86	4.667	4.61		
1.583	3.46	3.167	89.86	4.750	3.46		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.699 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 17.677
TOTAL RAINFALL (mm)= 57.600
RUNOFF COEFFICIENT = 0.307

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

CALIB				
NASHYD (0001)	Area (ha)= 6.34	Curve Number (CN)= 71.0		
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.

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	3.46	3.250	12.67	4.83	3.46
0.167	0.00	1.750	5.76	3.333	12.67	4.92	3.46
0.250	2.30	1.833	5.76	3.417	12.67	5.00	3.46
0.333	2.30	1.917	5.76	3.500	12.67	5.08	3.46
0.417	2.30	2.000	5.76	3.583	12.67	5.17	3.46
0.500	2.30	2.083	5.76	3.667	12.67	5.25	2.30
0.583	2.30	2.167	5.76	3.750	5.76	5.33	2.30
0.667	2.30	2.250	6.91	3.833	5.76	5.42	2.30
0.750	3.46	2.333	6.91	3.917	5.76	5.50	2.30
0.833	3.46	2.417	6.91	4.000	5.76	5.58	2.30
0.917	3.46	2.500	6.91	4.083	5.76	5.67	2.30
1.000	3.46	2.583	6.91	4.167	5.76	5.75	2.30
1.083	3.46	2.667	6.91	4.250	4.61	5.83	2.30
1.167	3.46	2.750	34.56	4.333	4.61	5.92	2.30
1.250	3.46	2.833	34.56	4.417	4.61	6.00	2.30
1.333	3.46	2.917	62.21	4.500	4.61	6.08	2.30
1.417	3.46	3.000	62.21	4.583	4.61	6.17	2.30
1.500	3.46	3.083	89.86	4.667	4.61		
1.583	3.46	3.167	89.86	4.750	3.46		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.217 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 17.695
TOTAL RAINFALL (mm)= 57.600
RUNOFF COEFFICIENT = 0.307

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

```
-----  
| ADD HYD ( 0003) |  
| 1 + 2 = 3 |  
-----  
ID1= 1 ( 0001): 6.34 0.217 3.50 17.69  
+ ID2= 2 ( 0002): 13.03 0.699 3.25 17.68  
=====
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
=====
V V I SSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A L
V V I SS U U A A L
V V I SSSS UUUU A A LLLL
O O T T T T T H H Y Y M M O O TM
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
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```

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d1311
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d1311

DATE: 03-13-2026 TIME: 06:57:10

USER:

COMMENTS: _____

```
*****
** SIMULATION : I- SCS (II) 6hr 25 Year **
*****
```

```
-----
| READ STORM | Filename: C:\Users\david.mcnaull\AppData
|             |   ata\Local\Temp\
|             |   bfef103d-54ba-467d-9411-7f3175abfbc2\d4418498
| Ptotal= 67.80 mm | Comments: 25yr 6hr 10min SCS Type II
|             |
| TIME RAIN | TIME RAIN | ' TIME RAIN | TIME RAIN |
| hrs mm/hr | hrs mm/hr | ' hrs mm/hr | hrs mm/hr |
|-----|-----|-----|-----|
| 0.00 0.00 | 1.67 6.78 | 3.33 14.92 | 5.00 4.07 |
| 0.17 2.71 | 1.83 6.78 | 3.50 14.92 | 5.17 2.71 |
| 0.33 2.71 | 2.00 6.78 | 3.67 6.78 | 5.33 2.71 |
| 0.50 2.71 | 2.17 8.14 | 3.83 6.78 | 5.50 2.71 |
| 0.67 4.07 | 2.33 8.14 | 4.00 6.78 | 5.67 2.71 |
| 0.83 4.07 | 2.50 8.14 | 4.17 5.42 | 5.83 2.71 |
| 1.00 4.07 | 2.67 40.68 | 4.33 5.42 | 6.00 2.71 |
| 1.17 4.07 | 2.83 73.22 | 4.50 5.42 | 6.17 2.71 |
| 1.33 4.07 | 3.00 105.77 | 4.67 4.07 | 6.33 2.71 |
| 1.50 4.07 | 3.17 14.92 | 4.83 4.07 | 6.50 2.71 |
|-----|-----|-----|-----|
```

| CALIB |

| NASHYD (0002) | Area (ha)= 13.03 Curve Number (CN)= 71.0
| ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
|-----| U.H. Tp(hrs)= 0.23

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

```
----- TRANSFORMED HYETOGRAPH -----
TIME RAIN | TIME RAIN | ' TIME RAIN | TIME RAIN |
hrs mm/hr | hrs mm/hr | ' hrs mm/hr | hrs mm/hr |
|-----|-----|-----|-----|
| 0.083 0.00 | 1.667 4.07 | 3.250 14.92 | 4.83 4.07 |
| 0.167 0.00 | 1.750 6.78 | 3.333 14.92 | 4.92 4.07 |
| 0.250 2.71 | 1.833 6.78 | 3.417 14.92 | 5.00 4.07 |
| 0.333 2.71 | 1.917 6.78 | 3.500 14.92 | 5.08 4.07 |
| 0.417 2.71 | 2.000 6.78 | 3.583 14.92 | 5.17 4.07 |
| 0.500 2.71 | 2.083 6.78 | 3.667 14.92 | 5.25 2.71 |
| 0.583 2.71 | 2.167 6.78 | 3.750 6.78 | 5.33 2.71 |
| 0.667 2.71 | 2.250 8.14 | 3.833 6.78 | 5.42 2.71 |
| 0.750 4.07 | 2.333 8.14 | 3.917 6.78 | 5.50 2.71 |
| 0.833 4.07 | 2.417 8.14 | 4.000 6.78 | 5.58 2.71 |
| 0.917 4.07 | 2.500 8.14 | 4.083 6.78 | 5.67 2.71 |
| 1.000 4.07 | 2.583 8.14 | 4.167 6.78 | 5.75 2.71 |
| 1.083 4.07 | 2.667 8.14 | 4.250 5.42 | 5.83 2.71 |
| 1.167 4.07 | 2.750 40.68 | 4.333 5.42 | 5.92 2.71 |
| 1.250 4.07 | 2.833 40.68 | 4.417 5.42 | 6.00 2.71 |
| 1.333 4.07 | 2.917 73.22 | 4.500 5.42 | 6.08 2.71 |
| 1.417 4.07 | 3.000 73.22 | 4.583 5.42 | 6.17 2.71 |
| 1.500 4.07 | 3.083 105.77 | 4.667 5.42 | 6.33 2.71 |
| 1.583 4.07 | 3.167 105.77 | 4.750 4.07 | 6.50 2.71 |
|-----|-----|-----|-----|
```

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.944 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 23.654
TOTAL RAINFALL (mm)= 67.800
RUNOFF COEFFICIENT = 0.349

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

| CALIB |
| NASHYD (0001) | Area (ha)= 6.34 Curve Number (CN)= 71.0
| 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 0.00 | 1.667 4.07 | 3.250 14.92 | 4.83 4.07 |
| 0.167 0.00 | 1.750 6.78 | 3.333 14.92 | 4.92 4.07 |
| 0.250 2.71 | 1.833 6.78 | 3.417 14.92 | 5.00 4.07 |
| 0.333 2.71 | 1.917 6.78 | 3.500 14.92 | 5.08 4.07 |
| 0.417 2.71 | 2.000 6.78 | 3.583 14.92 | 5.17 4.07 |
| 0.500 2.71 | 2.083 6.78 | 3.667 14.92 | 5.25 2.71 |
| 0.583 2.71 | 2.167 6.78 | 3.750 6.78 | 5.33 2.71 |
| 0.667 2.71 | 2.250 8.14 | 3.833 6.78 | 5.42 2.71 |
| 0.750 4.07 | 2.333 8.14 | 3.917 6.78 | 5.50 2.71 |
| 0.833 4.07 | 2.417 8.14 | 4.000 6.78 | 5.58 2.71 |
| 0.917 4.07 | 2.500 8.14 | 4.083 6.78 | 5.67 2.71 |
| 1.000 4.07 | 2.583 8.14 | 4.167 6.78 | 5.75 2.71 |
| 1.083 4.07 | 2.667 8.14 | 4.250 5.42 | 5.83 2.71 |
| 1.167 4.07 | 2.750 40.68 | 4.333 5.42 | 5.92 2.71 |
| 1.250 4.07 | 2.833 40.68 | 4.417 5.42 | 6.00 2.71 |
| 1.333 4.07 | 2.917 73.22 | 4.500 5.42 | 6.08 2.71 |
| 1.417 4.07 | 3.000 73.22 | 4.583 5.42 | 6.17 2.71 |
| 1.500 4.07 | 3.083 105.77 | 4.667 5.42 | 6.33 2.71 |
| 1.583 4.07 | 3.167 105.77 | 4.750 4.07 | 6.50 2.71 |
|-----|-----|-----|-----|
```

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.293 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 23.678
TOTAL RAINFALL (mm)= 67.800
RUNOFF COEFFICIENT = 0.349

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

ADD HYD (0003)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	6.34	0.293	3.50	23.68
+ ID2= 2 (0002):	13.03	0.944	3.25	23.65
=====				
ID = 3 (0003):	19.37	1.162	3.33	23.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T H H Y M M OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\david.mcnault\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\2d1c0
Summary filename: C:\Users\david.mcnault\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\2d1c0

DATE: 03-13-2026 TIME: 06:57:09

USER:

COMMENTS: _____

** SIMULATION : J- SCS (II) 6hr 50 Year **

READ STORM
Ptotal= 75.00 mm

Filename: C:\Users\david.mcnault\AppData
ata\Local\Temp\
bfef103d-54ba-467d-9411-7f3175abfbc2\92cdd035
Comments: 50yr 6hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	'	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	1.67	7.50	3.33	16.50	5.00	4.50	
0.17	3.00	1.83	7.50	3.50	16.50	5.17	3.00	
0.33	3.00	2.00	7.50	3.67	7.50	5.33	3.00	
0.50	3.00	2.17	9.00	3.83	7.50	5.50	3.00	
0.67	4.50	2.33	9.00	4.00	7.50	5.67	3.00	
0.83	4.50	2.50	9.00	4.17	6.00	5.83	3.00	
1.00	4.50	2.67	45.00	4.33	6.00	6.00	3.00	
1.17	4.50	2.83	81.00	4.50	6.00			
1.33	4.50	3.00	117.00	4.67	4.50			
1.50	4.50	3.17	16.50	4.83	4.50			

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

Area (ha)= 13.03 Curve Number (CN)= 71.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.23

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

----- TRANSFORMED HYETOGRAPH -----
TIME RAIN | TIME RAIN | ' TIME RAIN | TIME RAIN

hrs	mm/hr	hrs	mm/hr	'	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	4.50	3.250	16.50	4.83	4.50	
0.167	0.00	1.750	7.50	3.333	16.50	4.92	4.50	
0.250	3.00	1.833	7.50	3.417	16.50	5.00	4.50	
0.333	3.00	1.917	7.50	3.500	16.50	5.08	4.50	
0.417	3.00	2.000	7.50	3.583	16.50	5.17	4.50	
0.500	3.00	2.083	7.50	3.667	16.50	5.25	3.00	
0.583	3.00	2.167	7.50	3.750	7.50	5.33	3.00	
0.667	3.00	2.250	9.00	3.833	7.50	5.42	3.00	
0.750	4.50	2.333	9.00	3.917	7.50	5.50	3.00	
0.833	4.50	2.417	9.00	4.000	7.50	5.58	3.00	
0.917	4.50	2.500	9.00	4.083	7.50	5.67	3.00	
1.000	4.50	2.583	9.00	4.167	7.50	5.75	3.00	
1.083	4.50	2.667	9.00	4.250	6.00	5.83	3.00	
1.167	4.50	2.750	45.00	4.333	6.00	5.92	3.00	
1.250	4.50	2.833	45.00	4.417	6.00	6.00	3.00	
1.333	4.50	2.917	81.00	4.500	6.00	6.08	3.00	
1.417	4.50	3.000	81.00	4.583	6.00	6.17	3.00	
1.500	4.50	3.083	117.00	4.667	6.00			
1.583	4.50	3.167	117.00	4.750	4.50			

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.129 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 28.171
TOTAL RAINFALL (mm)= 75.000
RUNOFF COEFFICIENT = 0.376

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

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

Area (ha)= 6.34 Curve Number (CN)= 71.0
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 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 4.50 | 3.250 16.50 | 4.83 4.50
0.167 0.00 | 1.750 7.50 | 3.333 16.50 | 4.92 4.50
0.250 3.00 | 1.833 7.50 | 3.417 16.50 | 5.00 4.50
0.333 3.00 | 1.917 7.50 | 3.500 16.50 | 5.08 4.50
0.417 3.00 | 2.000 7.50 | 3.583 16.50 | 5.17 4.50
0.500 3.00 | 2.083 7.50 | 3.667 16.50 | 5.25 3.00
0.583 3.00 | 2.167 7.50 | 3.750 7.50 | 5.33 3.00
0.667 3.00 | 2.250 9.00 | 3.833 7.50 | 5.42 3.00
0.750 4.50 | 2.333 9.00 | 3.917 7.50 | 5.50 3.00
0.833 4.50 | 2.417 9.00 | 4.000 7.50 | 5.58 3.00
0.917 4.50 | 2.500 9.00 | 4.083 7.50 | 5.67 3.00
1.000 4.50 | 2.583 9.00 | 4.167 7.50 | 5.75 3.00
1.083 4.50 | 2.667 9.00 | 4.250 6.00 | 5.83 3.00
1.167 4.50 | 2.750 45.00 | 4.333 6.00 | 5.92 3.00
1.250 4.50 | 2.833 45.00 | 4.417 6.00 | 6.00 3.00
1.333 4.50 | 2.917 81.00 | 4.500 6.00 | 6.08 3.00
1.417 4.50 | 3.000 81.00 | 4.583 6.00 | 6.17 3.00
1.500 4.50 | 3.083 117.00 | 4.667 6.00 |
1.583 4.50 | 3.167 117.00 | 4.750 4.50 |

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.351 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 28.199
TOTAL RAINFALL (mm)= 75.000
RUNOFF COEFFICIENT = 0.376

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

ADD HYD (0003)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	6.34	0.351	3.50	28.20
+ ID2= 2 (0002):	13.03	1.129	3.25	28.17
=====				
ID = 3 (0003):	19.37	1.391	3.25	28.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
V V I SSSS UUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\ae09
Summary filename: C:\Users\david.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\ae09

DATE: 03-13-2026 TIME: 06:57:10

USER:

COMMENTS: _____

** SIMULATION : K- SCS (II) 6hr 100 Year **

READ STORM Filename: C:\Users\david.mcnau11\AppData
ata\Local\Temp\
Ptotal= 82.20 mm Comments: 100yr 6hr 10min SCS Type II
bfef103d-54ba-467d-9411-7f3175abfbc2\436071d2

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	1.67	8.22	3.33	18.08	5.00	4.93
0.17	3.29	1.83	8.22	3.50	18.08	5.17	3.29
0.33	3.29	2.00	8.22	3.67	8.22	5.33	3.29
0.50	3.29	2.17	9.86	3.83	8.22	5.50	3.29
0.67	4.93	2.33	9.86	4.00	8.22	5.67	3.29
0.83	4.93	2.50	9.86	4.17	6.58	5.83	3.29
1.00	4.93	2.67	49.32	4.33	6.58	6.00	3.29
1.17	4.93	2.83	88.78	4.50	6.58		
1.33	4.93	3.00	128.23	4.67	4.93		
1.50	4.93	3.17	18.08	4.83	4.93		

CALIB NASHYD (0002) Area (ha)= 13.03 Curve Number (CN)= 71.0
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.23

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	0.00	1.667	4.93	3.250	18.09	4.83	4.93
0.167	0.00	1.750	8.22	3.333	18.08	4.92	4.93
0.250	3.29	1.833	8.22	3.417	18.08	5.00	4.93
0.333	3.29	1.917	8.22	3.500	18.08	5.08	4.93
0.417	3.29	2.000	8.22	3.583	18.08	5.17	4.93
0.500	3.29	2.083	8.22	3.667	18.08	5.25	3.29
0.583	3.29	2.167	8.22	3.750	8.22	5.33	3.29
0.667	3.29	2.250	9.86	3.833	8.22	5.42	3.29

0.750	4.93	2.333	9.86	3.917	8.22	5.50	3.29
0.833	4.93	2.417	9.86	4.000	8.22	5.58	3.29
0.917	4.93	2.500	9.86	4.083	8.22	5.67	3.29
1.000	4.93	2.583	9.86	4.167	8.22	5.75	3.29
1.083	4.93	2.667	9.86	4.250	6.58	5.83	3.29
1.167	4.93	2.750	49.32	4.333	6.58	5.92	3.29
1.250	4.93	2.833	49.32	4.417	6.58	6.00	3.29
1.333	4.93	2.917	88.78	4.500	6.58	6.08	3.29
1.417	4.93	3.000	88.78	4.583	6.58	6.17	3.29
1.500	4.93	3.083	128.23	4.667	6.58		
1.583	4.93	3.167	128.23	4.750	4.93		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.324 (i)
TIME TO PEAK (hrs)= 3.250
RUNOFF VOLUME (mm)= 32.901
TOTAL RAINFALL (mm)= 82.200
RUNOFF COEFFICIENT = 0.400

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

CALIB NASHYD (0001) Area (ha)= 6.34 Curve Number (CN)= 71.0
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.

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	4.93	3.250	18.09	4.83	4.93
0.167	0.00	1.750	8.22	3.333	18.08	4.92	4.93
0.250	3.29	1.833	8.22	3.417	18.08	5.00	4.93
0.333	3.29	1.917	8.22	3.500	18.08	5.08	4.93
0.417	3.29	2.000	8.22	3.583	18.08	5.17	4.93
0.500	3.29	2.083	8.22	3.667	18.08	5.25	3.29
0.583	3.29	2.167	8.22	3.750	8.22	5.33	3.29
0.667	3.29	2.250	9.86	3.833	8.22	5.42	3.29
0.750	4.93	2.333	9.86	3.917	8.22	5.50	3.29
0.833	4.93	2.417	9.86	4.000	8.22	5.58	3.29
0.917	4.93	2.500	9.86	4.083	8.22	5.67	3.29
1.000	4.93	2.583	9.86	4.167	8.22	5.75	3.29
1.083	4.93	2.667	9.86	4.250	6.58	5.83	3.29
1.167	4.93	2.750	49.32	4.333	6.58	5.92	3.29
1.250	4.93	2.833	49.32	4.417	6.58	6.00	3.29
1.333	4.93	2.917	88.78	4.500	6.58	6.08	3.29
1.417	4.93	3.000	88.78	4.583	6.58	6.17	3.29
1.500	4.93	3.083	128.23	4.667	6.58		
1.583	4.93	3.167	128.23	4.750	4.93		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.411 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 32.934
TOTAL RAINFALL (mm)= 82.200
RUNOFF COEFFICIENT = 0.401

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

ADD HYD (0003) 1 + 2 = 3
ID1= 1 (0001): 6.34 0.411 3.50 32.93
+ ID2= 2 (0002): 13.03 1.324 3.25 32.90
ID = 3 (0003): 19.37 1.634 3.25 32.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L

VV I SSSS UUUU A A LLLLL
OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnau11\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\aa210
Summary filename: C:\Users\david.mcnau11\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\aa210

DATE: 03-23-2026 TIME: 06:57:10

USER:

COMMENTS: _____

** SIMULATION : L- SCS (II) 12hr 2 Year **

READ STORM
Ptotal= 45.60 mm
Filename: C:\Users\david.mcnau11\AppData\Local\Temp\bfef103d-54ba-467d-9411-7f3175abfbc2\54d649b6
Comments: 2yr 12hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.17	1.74	6.33	7.81	9.50	1.47
0.17	0.99	3.33	1.74	6.50	5.83	9.67	1.40
0.33	1.00	3.50	1.74	6.67	4.46	9.83	1.34
0.50	1.02	3.67	1.81	6.83	4.01	10.00	1.28
0.67	1.04	3.83	1.95	7.00	3.56	10.17	1.24
0.83	1.06	4.00	2.09	7.17	3.17	10.33	1.21
1.00	1.07	4.17	2.29	7.33	2.93	10.50	1.19
1.17	1.09	4.33	2.49	7.50	2.69	10.67	1.17
1.33	1.11	4.50	2.70	7.67	2.45	10.83	1.15
1.50	1.13	4.67	3.01	7.83	2.28	11.00	1.12
1.67	1.15	4.83	3.36	8.00	2.10	11.17	1.10
1.83	1.17	5.00	3.71	8.17	1.97	11.33	1.08
2.00	1.18	5.17	4.37	8.33	1.91	11.50	1.06
2.17	1.24	5.33	5.21	8.50	1.85	11.67	1.03
2.33	1.33	5.50	6.04	8.67	1.78	11.83	1.01
2.50	1.42	5.67	18.06	8.83	1.72	12.00	0.99
2.67	1.51	5.83	44.88	9.00	1.66		
2.83	1.60	6.00	60.68	9.17	1.59		
3.00	1.69	6.17	9.79	9.33	1.53		

CALIB NASHYD (0002)
ID= 1 DT= 5.0 min
Area (ha)= 13.03
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.23
Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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	0.00	3.167	1.69	6.250	9.79	9.33	1.59
0.167	0.00	3.250	1.74	6.333	9.79	9.42	1.53
0.250	0.99	3.333	1.74	6.417	7.81	9.50	1.53
0.333	0.99	3.417	1.74	6.500	7.81	9.58	1.47
0.417	1.00	3.500	1.74	6.583	5.83	9.67	1.47
0.500	1.00	3.583	1.74	6.667	5.83	9.75	1.40
0.583	1.02	3.667	1.74	6.750	4.46	9.83	1.40
0.667	1.02	3.750	1.81	6.833	4.46	9.92	1.34

0.750	1.04	3.833	1.81	6.917	4.01	10.00	1.34
0.833	1.04	3.917	1.95	7.000	4.01	10.08	1.28
0.917	1.06	4.000	1.95	7.083	3.56	10.17	1.28
1.000	1.06	4.083	2.09	7.167	3.56	10.25	1.24
1.083	1.07	4.167	2.09	7.250	3.17	10.33	1.24
1.167	1.07	4.250	2.29	7.333	3.17	10.42	1.21
1.250	1.09	4.333	2.29	7.417	2.93	10.50	1.21
1.333	1.09	4.417	2.49	7.500	2.93	10.58	1.19
1.417	1.11	4.500	2.49	7.583	2.69	10.67	1.19
1.500	1.11	4.583	2.70	7.667	2.69	10.75	1.17
1.583	1.13	4.667	2.70	7.750	2.45	10.83	1.17
1.667	1.13	4.750	3.01	7.833	2.45	10.92	1.15
1.750	1.15	4.833	3.01	7.917	2.28	11.00	1.15
1.833	1.15	4.917	3.36	8.000	2.28	11.08	1.12
1.917	1.17	5.000	3.36	8.083	2.10	11.17	1.12
2.000	1.17	5.083	3.71	8.167	2.10	11.25	1.10
2.083	1.18	5.167	3.71	8.250	1.97	11.33	1.10
2.167	1.18	5.250	4.37	8.333	1.97	11.42	1.08
2.250	1.24	5.333	4.37	8.417	1.91	11.50	1.08
2.333	1.24	5.417	5.21	8.500	1.91	11.58	1.06
2.417	1.33	5.500	5.21	8.583	1.85	11.67	1.06
2.500	1.33	5.583	6.04	8.667	1.85	11.75	1.03
2.583	1.42	5.667	6.04	8.750	1.78	11.83	1.03
2.667	1.42	5.750	18.06	8.833	1.78	11.92	1.01
2.750	1.51	5.833	18.06	8.917	1.72	12.00	1.01
2.833	1.51	5.917	44.88	9.000	1.66	12.08	0.99
2.917	1.60	6.000	44.88	9.083	1.66	12.17	0.99
3.000	1.60	6.083	60.68	9.167	1.66		
3.083	1.69	6.167	60.68	9.250	1.59		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.383 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 11.407
TOTAL RAINFALL (mm)= 45.600
RUNOFF COEFFICIENT = 0.250

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

CALIB NASHYD (0001)
ID= 1 DT= 5.0 min
Area (ha)= 6.34
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.44
Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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	0.00	3.167	1.69	6.250	9.79	9.33	1.59
0.167	0.00	3.250	1.74	6.333	9.79	9.42	1.53
0.250	0.99	3.333	1.74	6.417	7.81	9.50	1.53
0.333	0.99	3.417	1.74	6.500	7.81	9.58	1.47
0.417	1.00	3.500	1.74	6.583	5.83	9.67	1.47
0.500	1.00	3.583	1.74	6.667	5.83	9.75	1.40
0.583	1.02	3.667	1.74	6.750	4.46	9.83	1.40
0.667	1.02	3.750	1.81	6.833	4.46	9.92	1.34
0.750	1.04	3.833	1.81	6.917	4.01	10.00	1.34
0.833	1.04	3.917	1.95	7.000	4.01	10.08	1.28
0.917	1.06	4.000	1.95	7.083	3.56	10.17	1.28
1.000	1.06	4.083	2.09	7.167	3.56	10.25	1.24
1.083	1.07	4.167	2.09	7.250	3.17	10.33	1.24
1.167	1.07	4.250	2.29	7.333	3.17	10.42	1.21
1.250	1.09	4.333	2.29	7.417	2.93	10.50	1.21
1.333	1.09	4.417	2.49	7.500	2.93	10.58	1.19
1.417	1.11	4.500	2.49	7.583	2.69	10.67	1.19
1.500	1.11	4.583	2.70	7.667	2.69	10.75	1.17
1.583	1.13	4.667	2.70	7.750	2.45	10.83	1.17
1.667	1.13	4.750	3.01	7.833	2.45	10.92	1.15
1.750	1.15	4.833	3.01	7.917	2.28	11.00	1.15
1.833	1.15	4.917	3.36	8.000	2.28	11.08	1.12
1.917	1.17	5.000	3.36	8.083	2.10	11.17	1.12
2.000	1.17	5.083	3.71	8.167	2.10	11.25	1.10
2.083	1.18	5.167	3.71	8.250	1.97	11.33	1.10
2.167	1.18	5.250	4.37	8.333	1.97	11.42	1.08
2.250	1.24	5.333	4.37	8.417	1.91	11.50	1.08
2.333	1.24	5.417	5.21	8.500	1.91	11.58	1.06
2.417	1.33	5.500	5.21	8.583	1.85	11.67	1.06
2.500	1.33	5.583	6.04	8.667	1.85	11.75	1.03
2.583	1.42	5.667	6.04	8.750	1.78	11.83	1.03

2.667	1.42	5.750	18.06	8.833	1.78	11.92	1.01
2.750	1.51	5.833	18.06	8.917	1.72	12.00	1.01
2.833	1.51	5.917	44.88	9.000	1.72	12.08	0.99
2.917	1.60	6.000	44.88	9.083	1.66	12.17	0.99
3.000	1.60	6.083	60.68	9.167	1.66		
3.083	1.69	6.167	60.68	9.250	1.59		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.120 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 11.418
TOTAL RAINFALL (mm)= 45.600
RUNOFF COEFFICIENT = 0.250

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

ADD HYD (0003)				
1 + 2 = 3				
ID1= 1 (0001):	6.34	0.120	6.50	11.42
+ ID2= 2 (0002):	13.03	0.383	6.25	11.41
ID = 3 (0003):	19.37	0.475	6.33	11.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
V	V	I	SS	U	U	A	A	L
V	V	I	SS	U	U	AAAAA	L	
V	V	I	SS	U	U	A	A	L
VV		I	SSSSS	UUUUU	A	A	LLLLL	

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\lbc6f
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\lbc6f

DATE: 03-13-2026 TIME: 06:57:10

USER:

COMMENTS: _____

** SIMULATION : M- SCS (II) 12hr 5 Year **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\bfef103d-54ba-467d-9411-7f3175abfbc2\1487d545
Ptotal= 61.20 mm	Comments: 5yr 12hr 10min SCS Type II

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	2.33	6.33	10.48	9.50	1.97
0.17	1.32	3.33	2.33	6.50	7.82	9.67	1.88
0.33	1.35	3.50	2.33	6.67	5.99	9.83	1.80
0.50	1.37	3.67	2.43	6.83	5.39	10.00	1.72
0.67	1.40	3.83	2.62	7.00	4.78	10.17	1.66
0.83	1.42	4.00	2.81	7.17	4.26	10.33	1.63

1.00	1.44	4.17	3.07	7.33	3.93	10.50	1.60
1.17	1.47	4.33	3.35	7.50	3.60	10.67	1.57
1.33	1.49	4.50	3.63	7.67	3.29	10.83	1.54
1.50	1.52	4.67	4.05	7.83	3.06	11.00	1.51
1.67	1.54	4.83	4.51	8.00	2.82	11.17	1.48
1.83	1.56	5.00	4.98	8.17	2.65	11.33	1.45
2.00	1.59	5.17	5.87	8.33	2.57	11.50	1.42
2.17	1.67	5.33	6.99	8.50	2.48	11.67	1.38
2.33	1.78	5.50	8.10	8.67	2.39	11.83	1.35
2.50	1.90	5.67	24.24	8.83	2.31	12.00	1.33
2.67	2.03	5.83	60.24	9.00	2.23		
2.83	2.15	6.00	81.44	9.17	2.14		
3.00	2.26	6.17	13.13	9.33	2.06		

CALIB	Area (ha)= 13.03	Curve Number (CN)= 71.0
NASHYD (0002)	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	U.H. Tp(hrs)= 0.23	

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

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	2.26	6.250	13.13	9.33	2.14
0.167	0.00	3.250	2.33	6.333	13.13	9.42	2.06
0.250	1.32	3.333	2.33	6.417	10.48	9.50	2.06
0.333	1.32	3.417	2.33	6.500	10.48	9.58	1.97
0.417	1.35	3.500	2.33	6.583	7.82	9.67	1.97
0.500	1.35	3.583	2.33	6.667	7.82	9.75	1.88
0.583	1.37	3.667	2.33	6.750	5.99	9.83	1.88
0.667	1.37	3.750	2.43	6.833	5.99	9.92	1.80
0.750	1.40	3.833	2.43	6.917	5.39	10.00	1.80
0.833	1.40	3.917	2.62	7.000	5.39	10.08	1.72
0.917	1.42	4.000	2.62	7.083	4.78	10.17	1.72
1.000	1.42	4.083	2.81	7.167	4.78	10.25	1.66
1.083	1.44	4.167	2.81	7.250	4.26	10.33	1.66
1.167	1.44	4.250	3.07	7.333	4.26	10.42	1.63
1.250	1.47	4.333	3.07	7.417	3.93	10.50	1.63
1.333	1.47	4.417	3.35	7.500	3.93	10.58	1.60
1.417	1.49	4.500	3.35	7.583	3.60	10.67	1.60
1.500	1.49	4.583	3.63	7.667	3.60	10.75	1.57
1.583	1.52	4.667	3.63	7.750	3.29	10.83	1.57
1.667	1.52	4.750	4.05	7.833	3.29	10.92	1.54
1.750	1.54	4.833	4.05	7.917	3.06	11.00	1.54
1.833	1.54	4.917	4.51	8.000	3.06	11.08	1.51
1.917	1.56	5.000	4.51	8.083	2.82	11.17	1.51
2.000	1.56	5.083	4.98	8.167	2.82	11.25	1.48
2.083	1.59	5.167	4.98	8.250	2.65	11.33	1.48
2.167	1.59	5.250	5.87	8.333	2.65	11.42	1.45
2.250	1.67	5.333	5.87	8.417	2.57	11.50	1.45
2.333	1.67	5.417	6.99	8.500	2.57	11.58	1.42
2.417	1.78	5.500	6.99	8.583	2.48	11.67	1.42
2.500	1.78	5.583	8.10	8.667	2.48	11.75	1.38
2.583	1.90	5.667	8.10	8.750	2.39	11.83	1.38
2.667	1.90	5.750	24.24	8.833	2.39	11.92	1.35
2.750	2.03	5.833	24.24	8.917	2.31	12.00	1.35
2.833	2.03	5.917	60.24	9.000	2.31	12.08	1.33
2.917	2.15	6.000	60.24	9.083	2.23	12.17	1.33
3.000	2.15	6.083	81.44	9.167	2.23		
3.083	2.26	6.167	81.44	9.250	2.14		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.675 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 19.725
TOTAL RAINFALL (mm)= 61.200
RUNOFF COEFFICIENT = 0.322

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

CALIB	Area (ha)= 6.34	Curve Number (CN)= 71.0
NASHYD (0001)	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
ID= 1 DT= 5.0 min	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	0.00	3.167	2.26	6.250	13.13	9.33	2.14
0.167	0.00	3.250	2.33	6.333	13.13	9.42	2.06
0.250	1.32	3.333	2.33	6.417	10.48	9.50	2.06
0.333	1.32	3.417	2.33	6.500	10.48	9.58	1.97
0.417	1.35	3.500	2.33	6.583	7.82	9.67	1.97
0.500	1.35	3.583	2.33	6.667	7.82	9.75	1.88
0.583	1.37	3.667	2.33	6.750	5.99	9.83	1.88
0.667	1.37	3.750	2.43	6.833	5.99	9.92	1.80
0.750	1.40	3.833	2.43	6.917	5.39	10.00	1.80
0.833	1.40	3.917	2.62	7.000	5.39	10.08	1.72
0.917	1.42	4.000	2.62	7.083	4.78	10.17	1.72
1.000	1.42	4.083	2.81	7.167	4.78	10.25	1.66
1.083	1.44	4.167	2.81	7.250	4.26	10.33	1.66
1.167	1.44	4.250	3.07	7.333	4.26	10.42	1.63
1.250	1.47	4.333	3.07	7.417	3.93	10.50	1.63
1.333	1.47	4.417	3.35	7.500	3.93	10.58	1.60
1.417	1.49	4.500	3.35	7.583	3.60	10.67	1.60
1.500	1.49	4.583	3.63	7.667	3.60	10.75	1.57
1.583	1.52	4.667	3.63	7.750	3.29	10.83	1.57
1.667	1.52	4.750	4.05	7.833	3.29	10.92	1.54
1.750	1.54	4.833	4.05	7.917	3.06	11.00	1.54
1.833	1.54	4.917	4.51	8.000	3.06	11.08	1.51
1.917	1.56	5.000	4.51	8.083	2.82	11.17	1.51
2.000	1.56	5.083	4.98	8.167	2.82	11.25	1.48
2.083	1.59	5.167	4.98	8.250	2.65	11.33	1.48
2.167	1.59	5.250	5.87	8.333	2.65	11.42	1.45
2.250	1.67	5.333	5.87	8.417	2.57	11.50	1.45
2.333	1.67	5.417	6.99	8.500	2.57	11.58	1.42
2.417	1.78	5.500	6.99	8.583	2.48	11.67	1.42
2.500	1.78	5.583	8.10	8.667	2.48	11.75	1.38
2.583	1.90	5.667	8.10	8.750	2.39	11.83	1.38
2.667	1.90	5.750	24.24	8.833	2.39	11.92	1.35
2.750	2.03	5.833	24.24	8.917	2.31	12.00	1.35
2.833	2.03	5.917	60.24	9.000	2.31	12.08	1.33
2.917	2.15	6.000	60.24	9.083	2.23	12.17	1.33
3.000	2.15	6.083	81.44	9.167	2.23		
3.083	2.26	6.167	81.44	9.250	2.14		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.211 (i)

TIME TO PEAK (hrs)= 6.500

RUNOFF VOLUME (mm)= 19.745

TOTAL RAINFALL (mm)= 61.200

RUNOFF COEFFICIENT = 0.323

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

ADD HYD (0003)				
1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	6.34	0.211	6.50	19.75
+ ID2= 2 (0002):	13.03	0.675	6.25	19.73
=====				
ID = 3 (0003):	19.37	0.835	6.33	19.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====											
V	V	I	SSSSS	U	U	A	L				(v 6.2.2021)
V	V	I	SS	U	U	A A	L				
V	V	I	SS	U	U	AAAAA	L				
V	V	I	SS	U	U	A A	L				
VV		I	SSSSS	UUUUU	A	A	LLLLL				
=====											
000	TTTTT	TTTTT	H	H	Y	Y	M	M	000	TM	
O	O	T	T	H	H	Y Y	MM	MM	O	O	
O	O	T	T	H	H	Y	M	M	O	O	
000	T	T	H	H	Y	M	M		000		

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\vo2\vo1n.dat
Output filename: C:\Users\david.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\70665.
Summary filename: C:\Users\david.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\70665.

DATE: 03-13-2026

TIME: 06:57:10

USER:

COMMENTS: _____

** SIMULATION : N- SCS (II) 12hr 10 Year **

READ STORM		Filename: C:\Users\david.mcnau11\AppData\Local\Temp\bfe103d-54ba-467d-9411-7f3175abfbc2\fe0d8e1c	
Ptotal= 70.80 mm		Comments: 10yr 12hr 10min SCS Type II	

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.17	2.69	6.33	12.12	9.50	2.28
0.17	1.53	3.33	2.69	6.50	9.05	9.67	2.18
0.33	1.56	3.50	2.69	6.67	6.93	9.83	2.08
0.50	1.58	3.67	2.82	6.83	6.23	10.00	1.99
0.67	1.61	3.83	3.03	7.00	5.53	10.17	1.92
0.83	1.64	4.00	3.25	7.17	4.92	10.33	1.88
1.00	1.67	4.17	3.55	7.33	4.55	10.50	1.85
1.17	1.70	4.33	3.87	7.50	4.17	10.67	1.81
1.33	1.73	4.50	4.20	7.67	3.81	10.83	1.78
1.50	1.75	4.67	4.68	7.83	3.54	11.00	1.74
1.67	1.78	4.83	5.22	8.00	3.27	11.17	1.71
1.83	1.81	5.00	5.76	8.17	3.06	11.33	1.67
2.00	1.84	5.17	6.79	8.33	2.97	11.50	1.64
2.17	1.93	5.33	8.08	8.50	2.87	11.67	1.60
2.33	2.06	5.50	9.37	8.67	2.77	11.83	1.57
2.50	2.20	5.67	28.04	8.83	2.67	12.00	1.53
2.67	2.35	5.83	69.69	9.00	2.58		
2.83	2.48	6.00	94.21	9.17	2.47		
3.00	2.62	6.17	15.19	9.33	2.38		

CALIB		Area (ha)= 13.03		Curve Number (CN)= 71.0	
NASHYD (0002)		Ia (mm)= 5.00		# of Linear Res.(N)= 3.00	
ID= 1 DT= 5.0 min		U.H. Tp(hrs)= 0.23			

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

----- TRANSFORMED HYETOGRAPH -----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.62	6.250	15.19	9.33	2.47
0.167	0.00	3.250	2.69	6.333	15.19	9.42	2.38
0.250	1.53	3.333	2.69	6.417	12.12	9.50	2.38
0.333	1.53	3.417	2.69	6.500	12.12	9.58	2.28
0.417	1.56	3.500	2.69	6.583	9.05	9.67	2.28
0.500	1.56	3.583	2.69	6.667	9.05	9.75	2.18
0.583	1.58	3.667	2.69	6.750	6.93	9.83	2.18
0.667	1.58	3.750	2.82	6.833	6.93	9.92	2.08
0.750	1.61	3.833	2.82	6.917	6.23	10.00	2.08
0.833	1.61	3.917	3.03	7.000	6.23	10.08	1.99
0.917	1.64	4.000	3.03	7.083	5.53	10.17	1.99
1.000	1.64	4.083	3.25	7.167	5.53	10.25	1.92
1.083	1.67	4.167	3.25	7.250	4.92	10.33	1.92
1.167	1.67	4.250	3.55	7.333	4.92	10.42	1.88
1.250	1.70	4.333	3.55	7.417	4.55	10.50	1.88
1.333	1.70	4.417	3.87	7.500	4.55	10.58	1.85
1.417	1.73	4.500	3.87	7.583	4.17	10.67	1.85
1.500	1.73	4.583	4.20	7.667	4.17	10.75	1.81
1.583	1.75	4.667	4.20	7.750	3.81	10.83	1.81
1.667	1.75	4.750	4.68	7.833	3.81	10.92	1.78

1.750	1.78	4.833	4.68	7.917	3.54	11.00	1.78
1.833	1.78	4.917	5.22	8.000	3.54	11.08	1.74
1.917	1.81	5.000	5.22	8.083	3.27	11.17	1.74
2.000	1.81	5.083	5.76	8.167	3.27	11.25	1.71
2.083	1.84	5.167	5.76	8.250	3.06	11.33	1.71
2.167	1.84	5.250	6.79	8.333	3.06	11.42	1.67
2.250	1.93	5.333	6.79	8.417	2.97	11.50	1.67
2.333	1.93	5.417	8.08	8.500	2.97	11.58	1.64
2.417	2.06	5.500	8.08	8.583	2.87	11.67	1.64
2.500	2.06	5.583	9.37	8.667	2.87	11.75	1.60
2.583	2.20	5.667	9.38	8.750	2.77	11.83	1.60
2.667	2.20	5.750	28.04	8.833	2.77	11.92	1.57
2.750	2.35	5.833	28.04	8.917	2.67	12.00	1.57
2.833	2.35	5.917	69.69	9.000	2.67	12.08	1.53
2.917	2.48	6.000	69.69	9.083	2.58	12.17	1.53
3.000	2.48	6.083	94.21	9.167	2.58		
3.083	2.62	6.167	94.21	9.250	2.47		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.880 (i)
 TIME TO PEAK (hrs)= 6.250
 RUNOFF VOLUME (mm)= 25.508
 TOTAL RAINFALL (mm)= 70.800
 RUNOFF COEFFICIENT = 0.360

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

CALIB							
NASHYD (0001)	Area (ha)=	6.34	Curve Number (CN)=	71.0			
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	0.00	3.167	2.62	6.250	15.19	9.33	2.47
0.167	0.00	3.250	2.69	6.333	15.19	9.42	2.38
0.250	1.53	3.333	2.69	6.417	12.12	9.50	2.38
0.333	1.53	3.417	2.69	6.500	12.12	9.58	2.28
0.417	1.56	3.500	2.69	6.583	9.05	9.67	2.28
0.500	1.56	3.583	2.69	6.667	9.05	9.75	2.18
0.583	1.58	3.667	2.69	6.750	6.93	9.83	2.18
0.667	1.58	3.750	2.82	6.833	6.93	9.92	2.08
0.750	1.61	3.833	2.82	6.917	6.23	10.00	2.08
0.833	1.61	3.917	3.03	7.000	6.23	10.08	1.99
0.917	1.64	4.000	3.03	7.083	5.53	10.17	1.99
1.000	1.64	4.083	3.25	7.167	5.53	10.25	1.92
1.083	1.67	4.167	3.25	7.250	4.92	10.33	1.92
1.167	1.67	4.250	3.55	7.333	4.92	10.42	1.88
1.250	1.70	4.333	3.55	7.417	4.55	10.50	1.88
1.333	1.70	4.417	3.87	7.500	4.55	10.58	1.85
1.417	1.73	4.500	3.87	7.583	4.17	10.67	1.85
1.500	1.73	4.583	4.20	7.667	4.17	10.75	1.81
1.583	1.75	4.667	4.20	7.750	3.81	10.83	1.81
1.667	1.75	4.750	4.68	7.833	3.81	10.92	1.78
1.750	1.78	4.833	4.68	7.917	3.54	11.00	1.78
1.833	1.78	4.917	5.22	8.000	3.54	11.08	1.74
1.917	1.81	5.000	5.22	8.083	3.27	11.17	1.74
2.000	1.81	5.083	5.76	8.167	3.27	11.25	1.71
2.083	1.84	5.167	5.76	8.250	3.06	11.33	1.71
2.167	1.84	5.250	6.79	8.333	3.06	11.42	1.67
2.250	1.93	5.333	6.79	8.417	2.97	11.50	1.67
2.333	1.93	5.417	8.08	8.500	2.97	11.58	1.64
2.417	2.06	5.500	8.08	8.583	2.87	11.67	1.64
2.500	2.06	5.583	9.37	8.667	2.87	11.75	1.60
2.583	2.20	5.667	9.38	8.750	2.77	11.83	1.60
2.667	2.20	5.750	28.04	8.833	2.77	11.92	1.57
2.750	2.35	5.833	28.04	8.917	2.67	12.00	1.57
2.833	2.35	5.917	69.69	9.000	2.67	12.08	1.53
2.917	2.48	6.000	69.69	9.083	2.58	12.17	1.53
3.000	2.48	6.083	94.21	9.167	2.58		
3.083	2.62	6.167	94.21	9.250	2.47		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.275 (i)
 TIME TO PEAK (hrs)= 6.500
 RUNOFF VOLUME (mm)= 25.534

TOTAL RAINFALL (mm)= 70.800
 RUNOFF COEFFICIENT = 0.361

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

ADD HYD (0003)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0001):	6.34	0.275	6.50	25.53
+ ID2= 2 (0002):	13.03	0.880	6.25	25.51
=====				
ID = 3 (0003):	19.37	1.088	6.25	25.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\vo2\vo1n.dat
 Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\444a8.
 Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\444a8.

DATE: 03-13-2026 TIME: 06:57:10

USER:

COMMENTS: _____

 ** SIMULATION : 0- SCS (II) 12hr 25 Year **

READ STORM		Filename: C:\Users\david.mcnaull\AppData\Local\Temp\bfe103d-54ba-467d-9411-7f3175abfbc2\33eb42cb									
Ptotal= 82.80 mm		Comments: 25yr 12hr 10min SCS Type II									
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	3.17	3.31	6.33	14.90	9.50	2.90				
0.17	2.07	3.33	3.31	6.50	14.90	9.67	2.90				
0.33	2.07	3.50	3.31	6.67	6.62	9.83	2.90				
0.50	2.07	3.67	3.31	6.83	6.62	10.00	2.90				
0.67	2.07	3.83	3.31	7.00	6.62	10.17	1.66				
0.83	2.07	4.00	3.31	7.17	4.97	10.33	1.66				
1.00	2.07	4.17	4.97	7.33	4.97	10.50	1.66				
1.17	2.07	4.33	4.97	7.50	4.97	10.67	1.66				
1.33	2.07	4.50	4.97	7.67	4.97	10.83	1.66				
1.50	2.07	4.67	6.62	7.83	4.97	11.00	1.66				
1.67	2.07	4.83	6.62	8.00	4.97	11.17	1.66				
1.83	2.07	5.00	6.62	8.17	2.90	11.33	1.66				
2.00	2.07	5.17	9.94	8.33	2.90	11.50	1.66				
2.17	2.48	5.33	9.94	8.50	2.90	11.67	1.66				
2.33	2.48	5.50	9.94	8.67	2.90	11.83	1.66				
2.50	2.48	5.67	39.74	8.83	2.90	12.00	1.66				
2.67	2.48	5.83	74.52	9.00	2.90						
2.83	2.48	6.00	109.30	9.17	2.90						

----- TRANSFORMED HETEROGRAPH -----							
TIME	RAIN	---	TIME	RAIN	---	TIME	RAIN
mm/hr	mm/hr	hrs	mm/hr	mm/hr	hrs	mm/hr	mm/hr
0.333	0.00	3.0	6.250	14.90	9.42	2.90	
0.167	0.00	3.250	3.333	14.90	9.83	2.90	
0.250	2.07	3.333	3.31	6.417	14.90	9.50	2.90
0.333	2.07	3.417	3.31	6.500	14.90	9.58	2.90
0.417	2.07	3.500	3.31	6.583	14.90	9.67	2.90
0.500	2.07	3.583	3.31	6.667	14.90	9.75	2.90
0.583	2.07	3.667	3.31	6.750	6.62	9.83	2.90

USER:

COMMENTS: _____

** SIMULATION : P- SCS (II) 12hr 50 Year **

READ STORM	Filename: C:\Users\david.mcnall\AppD ata\Local\Temp\ bfef103d-54ba-467d-9411-7f3175abfbc2\7fb32021
Ptotal= 92.40 mm	Comments: 50yr 12hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.17	3.70	6.33	16.63	9.50	3.23
0.17	2.31	3.33	3.70	6.50	16.63	9.67	3.23
0.33	2.31	3.50	3.70	6.67	7.39	9.83	3.23
0.50	2.31	3.67	3.70	6.83	7.39	10.00	3.23
0.67	2.31	3.83	3.70	7.00	7.39	10.17	1.85
0.83	2.31	4.00	3.70	7.17	5.54	10.33	1.85
1.00	2.31	4.17	5.54	7.33	5.54	10.50	1.85
1.17	2.31	4.33	5.54	7.50	5.54	10.67	1.85
1.33	2.31	4.50	5.54	7.67	5.54	10.83	1.85
1.50	2.31	4.67	7.39	7.83	5.54	11.00	1.85
1.67	2.31	4.83	7.39	8.00	5.54	11.17	1.85
1.83	2.31	5.00	7.39	8.17	3.23	11.33	1.85
2.00	2.31	5.17	11.09	8.33	3.23	11.50	1.85
2.17	2.77	5.33	11.09	8.50	3.23	11.67	1.85
2.33	2.77	5.50	11.09	8.67	3.23	11.83	1.85
2.50	2.77	5.67	44.35	8.83	3.23	12.00	1.85
2.67	2.77	5.83	83.16	9.00	3.23		
2.83	2.77	6.00	121.97	9.17	3.23		
3.00	2.77	6.17	16.63	9.33	3.23		

CALIB NASHYD (0002) ID= 1 DT= 5.0 min	Area (ha)= 13.03 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.23	Curve Number (CN)= 71.0 # of Linear Res.(N)= 3.00
--	---	--

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	0.00	3.167	2.77	6.250	16.63	9.33	3.23
0.167	0.00	3.250	3.70	6.333	16.63	9.42	3.23
0.250	2.31	3.333	3.70	6.417	16.63	9.50	3.23
0.333	2.31	3.417	3.70	6.500	16.63	9.58	3.23
0.417	2.31	3.500	3.70	6.583	16.63	9.67	3.23
0.500	2.31	3.583	3.70	6.667	16.63	9.75	3.23
0.583	2.31	3.667	3.70	6.750	7.39	9.83	3.23
0.667	2.31	3.750	3.70	6.833	7.39	9.92	3.23
0.750	2.31	3.833	3.70	6.917	7.39	10.00	3.23
0.833	2.31	3.917	3.70	7.000	7.39	10.08	3.23
0.917	2.31	4.000	3.70	7.083	7.39	10.17	3.23
1.000	2.31	4.083	3.70	7.167	7.39	10.25	1.85
1.083	2.31	4.167	3.70	7.250	5.54	10.33	1.85
1.167	2.31	4.250	5.54	7.333	5.54	10.42	1.85
1.250	2.31	4.333	5.54	7.417	5.54	10.50	1.85
1.333	2.31	4.417	5.54	7.500	5.54	10.58	1.85
1.417	2.31	4.500	5.54	7.583	5.54	10.67	1.85
1.500	2.31	4.583	5.54	7.667	5.54	10.75	1.85
1.583	2.31	4.667	5.54	7.750	5.54	10.83	1.85
1.667	2.31	4.750	7.39	7.833	5.54	10.92	1.85
1.750	2.31	4.833	7.39	7.917	5.54	11.00	1.85
1.833	2.31	4.917	7.39	8.000	5.54	11.08	1.85
1.917	2.31	5.000	7.39	8.083	5.54	11.17	1.85
2.000	2.31	5.083	7.39	8.167	5.54	11.25	1.85
2.083	2.31	5.167	7.39	8.250	3.23	11.33	1.85
2.167	2.31	5.250	11.09	8.333	3.23	11.42	1.85
2.250	2.77	5.333	11.09	8.417	3.23	11.50	1.85
2.333	2.77	5.417	11.09	8.500	3.23	11.58	1.85
2.417	2.77	5.500	11.09	8.583	3.23	11.67	1.85
2.500	2.77	5.583	11.09	8.667	3.23	11.75	1.85
2.583	2.77	5.667	11.09	8.750	3.23	11.83	1.85
2.667	2.77	5.750	44.35	8.833	3.23	11.92	1.85

2.750	2.77	5.833	44.35	8.917	3.23	12.00	1.85
2.833	2.77	5.917	83.16	9.000	3.23	12.08	1.85
2.917	2.77	6.000	83.16	9.083	3.23	12.17	1.85
3.000	2.77	6.083	121.97	9.167	3.23		
3.083	2.77	6.167	121.97	9.250	3.23		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.380 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 39.919
TOTAL RAINFALL (mm)= 92.400
RUNOFF COEFFICIENT = 0.432

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

CALIB NASHYD (0001) ID= 1 DT= 5.0 min	Area (ha)= 6.34 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.44	Curve Number (CN)= 71.0 # of Linear Res.(N)= 3.00
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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	0.00	3.167	2.77	6.250	16.63	9.33	3.23
0.167	0.00	3.250	3.70	6.333	16.63	9.42	3.23
0.250	2.31	3.333	3.70	6.417	16.63	9.50	3.23
0.333	2.31	3.417	3.70	6.500	16.63	9.58	3.23
0.417	2.31	3.500	3.70	6.583	16.63	9.67	3.23
0.500	2.31	3.583	3.70	6.667	16.63	9.75	3.23
0.583	2.31	3.667	3.70	6.750	7.39	9.83	3.23
0.667	2.31	3.750	3.70	6.833	7.39	9.92	3.23
0.750	2.31	3.833	3.70	6.917	7.39	10.00	3.23
0.833	2.31	3.917	3.70	7.000	7.39	10.08	3.23
0.917	2.31	4.000	3.70	7.083	7.39	10.17	3.23
1.000	2.31	4.083	3.70	7.167	7.39	10.25	1.85
1.083	2.31	4.167	3.70	7.250	5.54	10.33	1.85
1.167	2.31	4.250	5.54	7.333	5.54	10.42	1.85
1.250	2.31	4.333	5.54	7.417	5.54	10.50	1.85
1.333	2.31	4.417	5.54	7.500	5.54	10.58	1.85
1.417	2.31	4.500	5.54	7.583	5.54	10.67	1.85
1.500	2.31	4.583	5.54	7.667	5.54	10.75	1.85
1.583	2.31	4.667	5.54	7.750	5.54	10.83	1.85
1.667	2.31	4.750	7.39	7.833	5.54	10.92	1.85
1.750	2.31	4.833	7.39	7.917	5.54	11.00	1.85
1.833	2.31	4.917	7.39	8.000	5.54	11.08	1.85
1.917	2.31	5.000	7.39	8.083	5.54	11.17	1.85
2.000	2.31	5.083	7.39	8.167	5.54	11.25	1.85
2.083	2.31	5.167	7.39	8.250	3.23	11.33	1.85
2.167	2.31	5.250	11.09	8.333	3.23	11.42	1.85
2.250	2.77	5.333	11.09	8.417	3.23	11.50	1.85
2.333	2.77	5.417	11.09	8.500	3.23	11.58	1.85
2.417	2.77	5.500	11.09	8.583	3.23	11.67	1.85
2.500	2.77	5.583	11.09	8.667	3.23	11.75	1.85
2.583	2.77	5.667	11.09	8.750	3.23	11.83	1.85
2.667	2.77	5.750	44.35	8.833	3.23	11.92	1.85
2.750	2.77	5.833	44.35	8.917	3.23	12.00	1.85
2.833	2.77	5.917	83.16	9.000	3.23	12.08	1.85
2.917	2.77	6.000	83.16	9.083	3.23	12.17	1.85
3.000	2.77	6.083	121.97	9.167	3.23		
3.083	2.77	6.167	121.97	9.250	3.23		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.432 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 39.959
TOTAL RAINFALL (mm)= 92.400
RUNOFF COEFFICIENT = 0.432

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

ADD HYD (0003) 1 + 2 = 3	AREA (ha)= 6.34 QPEAK (cms)= 0.432 TPEAK (hrs)= 6.50 R.V. (mm)= 39.96
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+ ID2= 2 (0002): 13.03 1.380 6.25 39.92
ID = 3 (0003): 19.37 1.720 6.25 39.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\david.mcnaul\AppData\Local\Civica\WH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\bf79a
Summary filename: C:\Users\david.mcnaul\AppData\Local\Civica\WH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\bf79a

DATE: 03-13-2026 TIME: 06:57:11

USER:

COMMENTS:

** SIMULATION : Q- SCS (II) 12hr 100 Year **

READ STORM Filename: C:\Users\david.mcnaul\AppData\Local\Temp\bfef103d-54ba-467d-9411-7f3175abfbc2\130419db
Ptotal=102.00 mm Comments: 100yr 12hr 10min SCS type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.17	4.08	6.33	18.36	9.50	3.57
0.17	2.55	3.33	4.08	6.50	18.36	9.67	3.57
0.33	2.55	3.50	4.08	6.67	8.16	9.83	3.57
0.50	2.55	3.67	4.08	6.83	8.16	10.00	3.57
0.67	2.55	3.83	4.08	7.00	8.16	10.17	2.04
0.83	2.55	4.00	4.08	7.17	6.12	10.33	2.04
1.00	2.55	4.17	6.12	7.33	6.12	10.50	2.04
1.17	2.55	4.33	6.12	7.50	6.12	10.67	2.04
1.33	2.55	4.50	6.12	7.67	6.12	10.83	2.04
1.50	2.55	4.67	8.16	7.83	6.12	11.00	2.04
1.67	2.55	4.83	8.16	8.00	6.12	11.17	2.04
1.83	2.55	5.00	8.16	8.17	3.57	11.33	2.04
2.00	2.55	5.17	12.24	8.33	3.57	11.50	2.04
2.17	3.06	5.33	12.24	8.50	3.57	11.67	2.04
2.33	3.06	5.50	12.24	8.67	3.57	11.83	2.04
2.50	3.06	5.67	48.96	8.83	3.57	12.00	2.04
2.67	3.06	5.83	91.80	9.00	3.57		
2.83	3.06	6.00	134.64	9.17	3.57		
3.00	3.06	6.17	18.36	9.33	3.57		

CALIB NASHYD (0002) Area (ha)= 13.03 Curve Number (CN)= 71.0
ID= 1 DT= 5.0 min Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.23

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	0.00	3.167	3.06	6.250	18.36	9.33	3.57
0.167	0.00	3.250	4.08	6.333	18.36	9.42	3.57
0.250	2.55	3.333	4.08	6.417	18.36	9.50	3.57
0.333	2.55	3.417	4.08	6.500	18.36	9.58	3.57
0.417	2.55	3.500	4.08	6.583	18.36	9.67	3.57
0.500	2.55	3.583	4.08	6.667	18.36	9.75	3.57
0.583	2.55	3.667	4.08	6.750	8.16	9.83	3.57
0.667	2.55	3.750	4.08	6.833	8.16	9.92	3.57
0.750	2.55	3.833	4.08	6.917	8.16	10.00	3.57
0.833	2.55	3.917	4.08	7.000	8.16	10.08	3.57
0.917	2.55	4.000	4.08	7.083	8.16	10.17	3.57
1.000	2.55	4.083	4.08	7.167	8.16	10.25	2.04
1.083	2.55	4.167	4.08	7.250	6.12	10.33	2.04
1.167	2.55	4.250	6.12	7.333	6.12	10.42	2.04
1.250	2.55	4.333	6.12	7.417	6.12	10.50	2.04
1.333	2.55	4.417	6.12	7.500	6.12	10.58	2.04
1.417	2.55	4.500	6.12	7.583	6.12	10.67	2.04
1.500	2.55	4.583	6.12	7.667	6.12	10.75	2.04
1.583	2.55	4.667	6.12	7.750	6.12	10.83	2.04
1.667	2.55	4.750	8.16	7.833	6.12	10.92	2.04
1.750	2.55	4.833	8.16	7.917	6.12	11.00	2.04
1.833	2.55	4.917	8.16	8.000	6.12	11.08	2.04
1.917	2.55	5.000	8.16	8.083	6.12	11.17	2.04
2.000	2.55	5.083	8.16	8.167	6.12	11.25	2.04
2.083	2.55	5.167	8.16	8.250	3.57	11.33	2.04
2.167	2.55	5.250	12.24	8.333	3.57	11.42	2.04
2.250	3.06	5.333	12.24	8.417	3.57	11.50	2.04
2.333	3.06	5.417	12.24	8.500	3.57	11.58	2.04
2.417	3.06	5.500	12.24	8.583	3.57	11.67	2.04
2.500	3.06	5.583	12.24	8.667	3.57	11.75	2.04
2.583	3.06	5.667	12.24	8.750	3.57	11.83	2.04
2.667	3.06	5.750	48.96	8.833	3.57	11.92	2.04
2.750	3.06	5.833	48.96	8.917	3.57	12.00	2.04
2.833	3.06	5.917	91.80	9.000	3.57	12.08	2.04
2.917	3.06	6.000	91.80	9.083	3.57	12.17	2.04
3.000	3.06	6.083	134.64	9.167	3.57		
3.083	3.06	6.167	134.64	9.250	3.57		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.623 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 46.818
TOTAL RAINFALL (mm)= 102.000
RUNOFF COEFFICIENT = 0.459

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

CALIB NASHYD (0001) Area (ha)= 6.34 Curve Number (CN)= 71.0
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.

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	3.06	6.250	18.36	9.33	3.57
0.167	0.00	3.250	4.08	6.333	18.36	9.42	3.57
0.250	2.55	3.333	4.08	6.417	18.36	9.50	3.57
0.333	2.55	3.417	4.08	6.500	18.36	9.58	3.57
0.417	2.55	3.500	4.08	6.583	18.36	9.67	3.57
0.500	2.55	3.583	4.08	6.667	18.36	9.75	3.57
0.583	2.55	3.667	4.08	6.750	8.16	9.83	3.57
0.667	2.55	3.750	4.08	6.833	8.16	9.92	3.57
0.750	2.55	3.833	4.08	6.917	8.16	10.00	3.57
0.833	2.55	3.917	4.08	7.000	8.16	10.08	3.57
0.917	2.55	4.000	4.08	7.083	8.16	10.17	3.57
1.000	2.55	4.083	4.08	7.167	8.16	10.25	2.04
1.083	2.55	4.167	4.08	7.250	6.12	10.33	2.04
1.167	2.55	4.250	6.12	7.333	6.12	10.42	2.04
1.250	2.55	4.333	6.12	7.417	6.12	10.50	2.04
1.333	2.55	4.417	6.12	7.500	6.12	10.58	2.04
1.417	2.55	4.500	6.12	7.583	6.12	10.67	2.04
1.500	2.55	4.583	6.12	7.667	6.12	10.75	2.04
1.583	2.55	4.667	6.12	7.750	6.12	10.83	2.04

1.667	2.55	4.750	8.16	7.833	6.12	10.92	2.04
1.750	2.55	4.833	8.16	7.917	6.12	11.00	2.04
1.833	2.55	4.917	8.16	8.000	6.12	11.08	2.04
1.917	2.55	5.000	8.16	8.083	6.12	11.17	2.04
2.000	2.55	5.083	8.16	8.167	6.12	11.25	2.04
2.083	2.55	5.167	8.16	8.250	3.57	11.33	2.04
2.167	2.55	5.250	12.24	8.333	3.57	11.42	2.04
2.250	3.06	5.333	12.24	8.417	3.57	11.50	2.04
2.333	3.06	5.417	12.24	8.500	3.57	11.58	2.04
2.417	3.06	5.500	12.24	8.583	3.57	11.67	2.04
2.500	3.06	5.583	12.24	8.667	3.57	11.75	2.04
2.583	3.06	5.667	12.24	8.750	3.57	11.83	2.04
2.667	3.06	5.750	48.96	8.833	3.57	11.92	2.04
2.750	3.06	5.833	48.96	8.917	3.57	12.00	2.04
2.833	3.06	5.917	91.80	9.000	3.57	12.08	2.04
2.917	3.06	6.000	91.80	9.083	3.57	12.17	2.04
3.000	3.06	6.083	134.64	9.167	3.57		
3.083	3.06	6.167	134.64	9.250	3.57		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.508 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 46.866
TOTAL RAINFALL (mm)= 102.000
RUNOFF COEFFICIENT = 0.459

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

ADD HYD (0003)				
1 + 2 = 3				
ID1= 1 (0001):	6.34	0.508	6.50	46.87
+ ID2= 2 (0002):	13.03	1.623	6.25	46.82
=====				
ID = 3 (0003):	19.37	2.026	6.25	46.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\david.mcnaul\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\al247
Summary filename: C:\Users\david.mcnaul\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\al247

DATE: 03-13-2026 TIME: 06:57:11

USER:

COMMENTS: _____

** SIMULATION : R- SCS (II) 24hr 2 Year

READ STORM Filename: C:\Users\david.mcnaul\AppData

ata\Local\Temp\
bfef103d-54ba-467d-9411-7f3175abfbc2\f455d114
Ptotal= 57.60 mm Comments: 2yr 24hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.17	1.05	12.33	8.29	18.50	0.98
0.17	0.58	6.33	1.07	12.50	6.19	18.67	0.95
0.33	0.59	6.50	1.08	12.67	4.74	18.83	0.93
0.50	0.60	6.67	1.10	12.83	4.26	19.00	0.91
0.67	0.61	6.83	1.12	13.00	3.78	19.17	0.88
0.83	0.62	7.00	1.14	13.17	3.37	19.33	0.86
1.00	0.63	7.17	1.16	13.33	3.11	19.50	0.83
1.17	0.64	7.33	1.18	13.50	2.85	19.67	0.81
1.33	0.65	7.50	1.20	13.67	2.60	19.83	0.78
1.50	0.66	7.67	1.22	13.83	2.42	20.00	0.76
1.67	0.67	7.83	1.24	14.00	2.23	20.17	0.75
1.83	0.68	8.00	1.26	14.17	2.10	20.33	0.74
2.00	0.69	8.17	1.32	14.33	2.03	20.50	0.74
2.17	0.70	8.33	1.41	14.50	1.97	20.67	0.73
2.33	0.71	8.50	1.50	14.67	1.89	20.83	0.73
2.50	0.72	8.67	1.61	14.83	1.83	21.00	0.72
2.67	0.72	8.83	1.70	15.00	1.76	21.17	0.72
2.83	0.73	9.00	1.79	15.17	1.69	21.33	0.71
3.00	0.74	9.17	1.84	15.33	1.63	21.50	0.71
3.17	0.75	9.33	1.84	15.50	1.56	21.67	0.70
3.33	0.76	9.50	1.84	15.67	1.49	21.83	0.70
3.50	0.77	9.67	1.93	15.83	1.43	22.00	0.69
3.67	0.78	9.83	2.07	16.00	1.36	22.17	0.69
3.83	0.79	10.00	2.22	16.17	1.31	22.33	0.68
4.00	0.80	10.17	2.43	16.33	1.29	22.50	0.68
4.17	0.82	10.33	2.65	16.50	1.27	22.67	0.67
4.33	0.84	10.50	2.87	16.67	1.24	22.83	0.67
4.50	0.85	10.67	3.20	16.83	1.22	23.00	0.66
4.67	0.87	10.83	3.57	17.00	1.19	23.17	0.66
4.83	0.89	11.00	3.94	17.17	1.17	23.33	0.66
5.00	0.91	11.17	4.64	17.33	1.15	23.50	0.65
5.17	0.93	11.33	5.53	17.50	1.12	23.67	0.65
5.33	0.95	11.50	6.41	17.67	1.10	23.83	0.64
5.50	0.97	11.67	19.19	17.83	1.07	24.00	0.64
5.67	0.99	11.83	47.68	18.00	1.05		
5.83	1.01	12.00	64.46	18.17	1.02		
6.00	1.03	12.17	10.40	18.33	1.00		

CALIB
NASHYD (0002)
ID= 1 DT= 5.0 min
Area (ha)= 13.03
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.23
Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.03	12.250	10.40	18.33	1.02
0.167	0.00	6.250	1.05	12.333	10.40	18.42	1.00
0.250	0.58	6.333	1.05	12.417	8.29	18.50	1.00
0.333	0.58	6.417	1.07	12.500	8.29	18.58	0.98
0.417	0.59	6.500	1.07	12.583	6.19	18.67	0.98
0.500	0.59	6.583	1.08	12.667	6.19	18.75	0.95
0.583	0.60	6.667	1.08	12.750	4.74	18.83	0.95
0.667	0.60	6.750	1.10	12.833	4.74	18.92	0.93
0.750	0.61	6.833	1.10	12.917	4.26	19.00	0.93
0.833	0.61	6.917	1.12	13.000	4.26	19.08	0.91
0.917	0.62	7.000	1.12	13.083	3.78	19.17	0.91
1.000	0.62	7.083	1.14	13.167	3.78	19.25	0.88
1.083	0.63	7.167	1.14	13.250	3.37	19.33	0.88
1.167	0.63	7.250	1.16	13.333	3.37	19.42	0.86
1.250	0.64	7.333	1.16	13.417	3.11	19.50	0.86
1.333	0.64	7.417	1.18	13.500	3.11	19.58	0.83
1.417	0.65	7.500	1.18	13.583	2.85	19.67	0.83
1.500	0.65	7.583	1.20	13.667	2.85	19.75	0.81
1.583	0.66	7.667	1.20	13.750	2.60	19.83	0.81
1.667	0.66	7.750	1.22	13.833	2.60	19.92	0.78
1.750	0.67	7.833	1.22	13.917	2.42	20.00	0.78
1.833	0.67	7.917	1.24	14.000	2.42	20.08	0.76
1.917	0.68	8.000	1.24	14.083	2.23	20.17	0.76
2.000	0.68	8.083	1.26	14.167	2.23	20.25	0.75
2.083	0.69	8.167	1.26	14.250	2.10	20.33	0.75
2.167	0.69	8.250	1.32	14.333	2.10	20.42	0.74

2.250	0.70	8.333	1.32	14.417	2.03	20.50	0.74
2.333	0.70	8.407	1.41	14.500	2.03	20.58	0.74
2.377	0.71	8.511	1.40	14.583	1.97	20.67	0.74
2.500	0.71	8.583	1.50	14.667	1.97	20.75	0.73
2.583	0.72	8.667	1.50	14.750	1.89	20.83	0.73
2.667	0.72	8.750	1.61	14.833	1.89	20.92	0.73
2.750	0.72	8.833	1.61	14.917	1.83	21.00	0.73
2.833	0.72	8.917	1.70	15.000	1.83	21.08	0.72
2.917	0.73	9.000	1.70	15.083	1.76	21.17	0.72
3.000	0.73	9.083	1.79	15.167	1.76	21.25	0.72
3.083	0.74	9.167	1.79	15.250	1.69	21.33	0.72
3.167	0.74	9.250	1.84	15.333	1.69	21.42	0.71
3.250	0.75	9.333	1.84	15.417	1.63	21.50	0.71
3.333	0.75	9.417	1.84	15.500	1.63	21.58	0.71
3.417	0.76	9.500	1.84	15.583	1.56	21.67	0.71
3.500	0.76	9.583	1.84	15.667	1.56	21.75	0.70
3.583	0.77	9.667	1.84	15.750	1.49	21.83	0.70
3.667	0.77	9.750	1.93	15.833	1.49	21.92	0.70
3.750	0.78	9.833	1.93	15.917	1.43	22.00	0.70
3.833	0.78	9.917	2.07	16.000	1.43	22.08	0.69
3.917	0.79	10.000	2.07	16.083	1.36	22.17	0.69
4.000	0.79	10.083	2.22	16.167	1.36	22.25	0.69
4.083	0.80	10.167	2.22	16.250	1.31	22.33	0.69
4.167	0.80	10.250	2.43	16.333	1.31	22.42	0.68
4.250	0.82	10.333	2.43	16.417	1.29	22.50	0.68
4.333	0.82	10.417	2.65	16.500	1.29	22.58	0.68
4.417	0.84	10.500	2.65	16.583	1.27	22.67	0.68
4.500	0.84	10.583	2.87	16.667	1.27	22.75	0.67
4.583	0.85	10.667	2.87	16.750	1.24	22.83	0.67
4.667	0.85	10.750	3.20	16.833	1.24	22.92	0.67
4.750	0.87	10.833	3.20	16.917	1.22	23.00	0.67
4.833	0.87	10.917	3.57	17.000	1.22	23.08	0.66
4.917	0.89	11.000	3.57	17.083	1.19	23.17	0.66
5.000	0.89	11.083	3.57	17.167	1.19	23.25	0.66
5.083	0.91	11.167	3.94	17.250	1.17	23.33	0.66
5.167	0.91	11.250	4.64	17.333	1.17	23.42	0.66
5.250	0.93	11.333	4.64	17.417	1.15	23.50	0.66
5.333	0.93	11.417	5.53	17.500	1.15	23.58	0.65
5.417	0.95	11.500	5.53	17.583	1.12	23.67	0.65
5.500	0.95	11.583	6.41	17.667	1.12	23.75	0.65
5.583	0.97	11.667	6.41	17.750	1.10	23.83	0.65
5.667	0.97	11.750	19.19	17.833	1.10	23.92	0.64
5.750	0.99	11.833	19.19	17.917	1.07	24.00	0.64
5.833	0.99	11.917	47.68	18.000	1.07	24.08	0.64
5.917	1.01	12.000	47.68	18.083	1.05	24.17	0.64
6.000	1.01	12.083	64.46	18.167	1.05		
6.083	1.03	12.167	64.46	18.250	1.02		

PEAK FLOW	(cms)=	0.511	(i)
TIME TO PEAK	(hrs)=	12.250	
RUNOFF VOLUME	(mm)=	17.677	
TOTAL RAINFALL	(mm)=	57.600	
RUNOFF COEFFICIENT	=	0.307	

CALIB	Area (ha)=	6.34	Curve Number (CN)=	71.0
NASHYD (0001)	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
ID= 1 DT= 5.0 min	U.H. Tp(hrs)=	0.44		

----- 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	6.167	1.03	12.250	10.40	18.33	1.02
0.167	0.00	6.250	1.05	12.333	10.40	18.42	1.00
0.250	0.58	6.333	1.05	12.417	8.29	18.50	1.00
0.333	0.58	6.417	1.07	12.500	8.29	18.58	0.98
0.417	0.59	6.500	1.07	12.583	6.19	18.67	0.98
0.500	0.59	6.583	1.08	12.667	6.19	18.75	0.95
0.583	0.60	6.667	1.08	12.750	4.74	18.83	0.95
0.667	0.60	6.750	1.10	12.833	4.74	18.92	0.93
0.750	0.61	6.833	1.10	12.917	4.26	19.00	0.93
0.833	0.61	6.917	1.12	13.000	4.26	19.08	0.91
0.917	0.62	7.000	1.12	13.083	3.78	19.17	0.91
1.000	0.62	7.083	1.14	13.167	3.78	19.25	0.88
1.083	0.63	7.167	1.14	13.250	3.37	19.33	0.88

Unit Hyd Qpeak (cms)= 0.550

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

ADD HYD (0003) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	6.34	0.160	12.50	17.69
+ ID2= 2 (0002):	13.03	0.511	12.25	17.68
ID = 3 (0003):	19.37	0.634	12.25	17.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V V I SSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A L
V V I SS U U A A L
V V I SSSS UUUU A A LLLLL

000 TTTT TTTT H H Y Y M M 000 TM
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
000 T T H H Y Y M M 000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\dauid.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\26c8a
Summary filename: C:\Users\dauid.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\26c8a

DATE: 03-13-2026 TIME: 06:57:12

USER:

COMMENTS: _____

** SIMULATION : S- SCS (II) 24hr 5 Year **

READ STORM	Filename: C:\Users\dauid.mcnau11\AppData\Local\Temp\bfef103d-54ba-467d-9411-7f3175abfbc2\29183f1
Ptotal= 74.40 mm	Comments: 5yr 24hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.17	1.34	12.33	10.71	18.50	1.34
0.17	0.82	6.33	1.34	12.50	10.71	18.67	1.34
0.33	0.82	6.50	1.34	12.67	5.51	18.83	1.34
0.50	0.82	6.67	1.34	12.83	5.51	19.00	1.34
0.67	0.82	6.83	1.34	13.00	5.51	19.17	1.34
0.83	0.82	7.00	1.34	13.17	4.02	19.33	1.34
1.00	0.82	7.17	1.64	13.33	4.02	19.50	1.34
1.17	0.82	7.33	1.64	13.50	4.02	19.67	1.34
1.33	0.82	7.50	1.64	13.67	3.12	19.83	1.34
1.50	0.82	7.67	1.64	13.83	3.12	20.00	1.34
1.67	0.82	7.83	1.64	14.00	3.12	20.17	0.89
1.83	0.82	8.00	1.64	14.17	2.23	20.33	0.89
2.00	0.82	8.17	1.93	14.33	2.23	20.50	0.89
2.17	0.97	8.33	1.93	14.50	2.23	20.67	0.89
2.33	0.97	8.50	1.93	14.67	2.23	20.83	0.89
2.50	0.97	8.67	2.08	14.83	2.23	21.00	0.89
2.67	0.97	8.83	2.08	15.00	2.23	21.17	0.89
2.83	0.97	9.00	2.08	15.17	2.23	21.33	0.89
3.00	0.97	9.17	2.38	15.33	2.23	21.50	0.89
3.17	0.97	9.33	2.38	15.50	2.23	21.67	0.89
3.33	0.97	9.50	2.38	15.67	2.23	21.83	0.89
3.50	0.97	9.67	2.68	15.83	2.23	22.00	0.89
3.67	0.97	9.83	2.68	16.00	2.23	22.17	0.89
3.83	0.97	10.00	2.68	16.17	1.34	22.33	0.89
4.00	0.97	10.17	3.42	16.33	1.34	22.50	0.89
4.17	1.19	10.33	3.42	16.50	1.34	22.67	0.89
4.33	1.19	10.50	3.42	16.67	1.34	22.83	0.89
4.50	1.19	10.67	4.61	16.83	1.34	23.00	0.89
4.67	1.19	10.83	4.61	17.00	1.34	23.17	0.89
4.83	1.19	11.00	4.61	17.17	1.34	23.33	0.89
5.00	1.19	11.17	7.14	17.33	1.34	23.50	0.89
5.17	1.19	11.33	7.14	17.50	1.34	23.67	0.89
5.33	1.19	11.50	7.14	17.67	1.34	23.83	0.89
5.50	1.19	11.67	22.02	17.83	1.34	24.00	0.89
5.67	1.19	11.83	56.54	18.00	1.34		
5.83	1.19	12.00	91.07	18.17	1.34		

6.00 1.19 | 12.17 10.71 | 18.33 1.34 |

CALIB	(ha)=	13.03	Curve Number	(CN)=	71.0
NASHYD	(mm)=	5.00	# of Linear Res.(N)=	3.00	
ID= 1 DT= 5.0 min	U.H. Tp(hrs)=	0.23			

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	0.00	6.167	1.19	12.250	10.72	18.33	1.34
0.167	0.00	6.250	1.34	12.333	10.71	18.42	1.34
0.250	0.82	6.333	1.34	12.417	10.71	18.50	1.34
0.333	0.82	6.417	1.34	12.500	10.71	18.58	1.34
0.417	0.82	6.500	1.34	12.583	10.71	18.67	1.34
0.500	0.82	6.583	1.34	12.667	10.71	18.75	1.34
0.583	0.82	6.667	1.34	12.750	5.51	18.83	1.34
0.667	0.82	6.750	1.34	12.833	5.51	18.92	1.34
0.750	0.82	6.833	1.34	12.917	5.51	19.00	1.34
0.833	0.82	6.917	1.34	13.000	5.51	19.08	1.34
0.917	0.82	7.000	1.34	13.083	5.51	19.17	1.34
1.000	0.82	7.083	1.34	13.167	5.51	19.25	1.34
1.083	0.82	7.167	1.34	13.250	4.02	19.33	1.34
1.167	0.82	7.250	1.64	13.333	4.02	19.42	1.34
1.250	0.82	7.333	1.64	13.417	4.02	19.50	1.34
1.333	0.82	7.417	1.64	13.500	4.02	19.58	1.34
1.417	0.82	7.500	1.64	13.583	4.02	19.67	1.34
1.500	0.82	7.583	1.64	13.667	4.02	19.75	1.34
1.583	0.82	7.667	1.64	13.750	3.12	19.83	1.34
1.667	0.82	7.750	1.64	13.833	3.12	19.92	1.34
1.750	0.82	7.833	1.64	13.917	3.12	20.00	1.34
1.833	0.82	7.917	1.64	14.000	3.12	20.08	1.34
1.917	0.82	8.000	1.64	14.083	3.12	20.17	1.34
2.000	0.82	8.083	1.64	14.167	3.12	20.25	0.89
2.083	0.82	8.167	1.64	14.250	2.23	20.33	0.89
2.167	0.82	8.250	1.93	14.333	2.23	20.42	0.89
2.250	0.97	8.333	1.93	14.417	2.23	20.50	0.89
2.333	0.97	8.417	1.93	14.500	2.23	20.58	0.89
2.417	0.97	8.500	1.93	14.583	2.23	20.67	0.89
2.500	0.97	8.583	1.93	14.667	2.23	20.75	0.89
2.583	0.97	8.667	1.93	14.750	2.23	20.83	0.89
2.667	0.97	8.750	2.08	14.833	2.23	20.92	0.89
2.750	0.97	8.833	2.08	14.917	2.23	21.00	0.89
2.833	0.97	8.917	2.08	15.000	2.23	21.08	0.89
2.917	0.97	9.000	2.08	15.083	2.23	21.17	0.89
3.000	0.97	9.083	2.08	15.167	2.23	21.25	0.89
3.083	0.97	9.167	2.08	15.250	2.23	21.33	0.89
3.167	0.97	9.250	2.38	15.333	2.23	21.42	0.89
3.250	0.97	9.333	2.38	15.417	2.23	21.50	0.89
3.333	0.97	9.417	2.38	15.500	2.23	21.58	0.89
3.417	0.97	9.500	2.38	15.583	2.23	21.67	0.89
3.500	0.97	9.583	2.38	15.667	2.23	21.75	0.89
3.583	0.97	9.667	2.38	15.750	2.23	21.83	0.89
3.667	0.97	9.750	2.68	15.833	2.23	21.92	0.89
3.750	0.97	9.833	2.68	15.917	2.23	22.00	0.89
3.833	0.97	9.917	2.68	16.000	2.23	22.08	0.89
3.917	0.97	10.000	2.68	16.083	2.23	22.17	0.89
4.000	0.97	10.083	2.68	16.167	2.23	22.25	0.89
4.083	0.97	10.167	2.68	16.250	1.34	22.33	0.89
4.167	0.97	10.250	3.42	16.333	1.34	22.42	0.89
4.250	1.19	10.333	3.42	16.417	1.34	22.50	0.89
4.333	1.19	10.417	3.42	16.500	1.34	22.58	0.89
4.417	1.19	10.500	3.42	16.583	1.34	22.67	0.89
4.500	1.19	10.583	3.42	16.667	1.34	22.75	0.89
4.583	1.19	10.667	3.42	16.750	1.34	22.83	0.89
4.667	1.19	10.750	4.61	16.833	1.34	22.92	0.89
4.750	1.19	10.833	4.61	16.917	1.34	23.00	0.89
4.833	1.19	10.917	4.61	17.000	1.34	23.08	0.89
4.917	1.19	11.000	4.61	17.083	1.34	23.17	0.89
5.000	1.19	11.083	4.61	17.167	1.34	23.25	0.89
5.083	1.19	11.167	4.61	17.250	1.34	23.33	0.89
5.167	1.19	11.250	7.14	17.333	1.34	23.42	0.89
5.250	1.19	11.333	7.14	17.417	1.34	23.50	0.89
5.333	1.19	11.417	7.14	17.500	1.34	23.58	0.89
5.417	1.19	11.500	7.14	17.583	1.34	23.67	0.89
5.500	1.19	11.583	7.14	17.667	1.34	23.75	0.89
5.583	1.19	11.667	7.14	17.750	1.34	23.83	0.89
5.667	1.19	11.750	22.02	17.833	1.34	23.92	0.89

5.750	1.19	11.833	22.02	17.917	1.34	24.00	0.89
5.833	1.19	11.917	56.54	18.000	1.34	24.08	0.89
5.917	1.19	12.000	56.54	18.083	1.34	24.17	0.89
6.000	1.19	12.083	91.06	18.167	1.34		
6.083	1.19	12.167	91.07	18.250	1.34		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 0.822 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 27.786
TOTAL RAINFALL (mm)= 74.400
RUNOFF COEFFICIENT = 0.373

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

CALIB							
NASHYD	(0001)	Area	(ha)= 6.34	Curve Number	(CN)= 71.0		
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.

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.19	12.250	10.72	18.33	1.34
0.167	0.00	6.250	1.34	12.333	10.71	18.42	1.34
0.250	0.82	6.333	1.34	12.417	10.71	18.50	1.34
0.333	0.82	6.417	1.34	12.500	10.71	18.58	1.34
0.417	0.82	6.500	1.34	12.583	10.71	18.67	1.34
0.500	0.82	6.583	1.34	12.667	10.71	18.75	1.34
0.583	0.82	6.667	1.34	12.750	5.51	18.83	1.34
0.667	0.82	6.750	1.34	12.833	5.51	18.92	1.34
0.750	0.82	6.833	1.34	12.917	5.51	19.00	1.34
0.833	0.82	6.917	1.34	13.000	5.51	19.08	1.34
0.917	0.82	7.000	1.34	13.083	5.51	19.17	1.34
1.000	0.82	7.083	1.34	13.167	5.51	19.25	1.34
1.083	0.82	7.167	1.34	13.250	4.02	19.33	1.34
1.167	0.82	7.250	1.64	13.333	4.02	19.42	1.34
1.250	0.82	7.333	1.64	13.417	4.02	19.50	1.34
1.333	0.82	7.417	1.64	13.500	4.02	19.58	1.34
1.417	0.82	7.500	1.64	13.583	4.02	19.67	1.34
1.500	0.82	7.583	1.64	13.667	4.02	19.75	1.34
1.583	0.82	7.667	1.64	13.750	3.12	19.83	1.34
1.667	0.82	7.750	1.64	13.833	3.12	19.92	1.34
1.750	0.82	7.833	1.64	13.917	3.12	20.00	1.34
1.833	0.82	7.917	1.64	14.000	3.12	20.08	1.34
1.917	0.82	8.000	1.64	14.083	3.12	20.17	1.34
2.000	0.82	8.083	1.64	14.167	3.12	20.25	0.89
2.083	0.82	8.167	1.64	14.250	2.23	20.33	0.89
2.167	0.82	8.250	1.93	14.333	2.23	20.42	0.89
2.250	0.97	8.333	1.93	14.417	2.23	20.50	0.89
2.333	0.97	8.417	1.93	14.500	2.23	20.58	0.89
2.417	0.97	8.500	1.93	14.583	2.23	20.67	0.89
2.500	0.97	8.583	1.93	14.667	2.23	20.75	0.89
2.583	0.97	8.667	1.93	14.750	2.23	20.83	0.89
2.667	0.97	8.750	2.08	14.833	2.23	20.92	0.89
2.750	0.97	8.833	2.08	14.917	2.23	21.00	0.89
2.833	0.97	8.917	2.08	15.000	2.23	21.08	0.89
2.917	0.97	9.000	2.08	15.083	2.23	21.17	0.89
3.000	0.97	9.083	2.08	15.167	2.23	21.25	0.89
3.083	0.97	9.167	2.08	15.250	2.23	21.33	0.89
3.167	0.97	9.250	2.38	15.333	2.23	21.42	0.89
3.250	0.97	9.333	2.38	15.417	2.23	21.50	0.89
3.333	0.97	9.417	2.38	15.500	2.23	21.58	0.89
3.417	0.97	9.500	2.38	15.583	2.23	21.67	0.89
3.500	0.97	9.583	2.38	15.667	2.23	21.75	0.89
3.583	0.97	9.667	2.38	15.750	2.23	21.83	0.89
3.667	0.97	9.750	2.68	15.833	2.23	21.92	0.89
3.750	0.97	9.833	2.68	15.917	2.23	22.00	0.89
3.833	0.97	9.917	2.68	16.000	2.23	22.08	0.89
3.917	0.97	10.000	2.68	16.083	2.23	22.17	0.89
4.000	0.97	10.083	2.68	16.167	2.23	22.25	0.89
4.083	0.97	10.167	2.68	16.250	1.34	22.33	0.89
4.167	0.97	10.250	3.42	16.333	1.34	22.42	0.89
4.250	1.19	10.333	3.42	16.417	1.34	22.50	0.89
4.333	1.19	10.417	3.42	16.500	1.34	22.58	0.89
4.417	1.19	10.500	3.42	16.583	1.34	22.67	0.89
4.500	1.19	10.583	3.42	16.667	1.34	22.75	0.89
4.583	1.19	10.667	3.42	16.750	1.34	22.83	0.89

4.667	1.19	10.750	4.61	16.833	1.34	22.92	0.89
4.750	1.19	10.833	4.61	16.917	1.34	23.00	0.89
4.833	1.19	10.917	4.61	17.000	1.34	23.08	0.89
4.917	1.19	11.000	4.61	17.083	1.34	23.17	0.89
5.000	1.19	11.083	4.61	17.167	1.34	23.25	0.89
5.083	1.19	11.167	4.61	17.250	1.34	23.33	0.89
5.167	1.19	11.250	7.14	17.333	1.34	23.42	0.89
5.250	1.19	11.333	7.14	17.417	1.34	23.50	0.89
5.333	1.19	11.417	7.14	17.500	1.34	23.58	0.89
5.417	1.19	11.500	7.14	17.583	1.34	23.67	0.89
5.500	1.19	11.583	7.14	17.667	1.34	23.75	0.89
5.583	1.19	11.667	7.14	17.750	1.34	23.83	0.89
5.667	1.19	11.750	22.02	17.833	1.34	23.92	0.89
5.750	1.19	11.833	22.02	17.917	1.34	24.00	0.89
5.833	1.19	11.917	56.54	18.000	1.34	24.08	0.89
5.917	1.19	12.000	56.54	18.083	1.34	24.17	0.89
6.000	1.19	12.083	91.06	18.167	1.34		
6.083	1.19	12.167	91.07	18.250	1.34		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.253 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 27.814
TOTAL RAINFALL (mm)= 74.400
RUNOFF COEFFICIENT = 0.374

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

ADD HYD (0003)				
1 + 2 = 3				
ID1= 1 (0001):	6.34	0.253	12.50	27.81
+ ID2= 2 (0002):	13.03	0.822	12.25	27.79
ID = 3 (0003):	19.37	1.016	12.25	27.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

V	V	I	SSSSS	U	U	A	L		(v 6.2.2021)
V	V	I	SS	U	U	A	A	L	
V	V	I	SS	U	U	AAAA	L		
V	V	I	SS	U	U	A	A	L	
VV	I	SSSSS	UUUUU	A	A	LLLLL			
OOO	TTTT	TTTT	H	H	Y	Y	M	M	OOO TM
O	O	T	T	H	H	Y	Y	MM	O O
O	O	T	T	H	H	Y	M	M	O O
OOO	T	T	H	H	Y	M	M	O	OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnaul\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\552a2
Summary filename: C:\Users\david.mcnaul\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\552a2

DATE: 03-13-2026

TIME: 06:57:11

USER:

COMMENTS: _____

** SIMULATION : T- SCS (II) 24hr 10 Year **

READ STORM
Ptotal= 86.40 mm

Filename: C:\Users\david.mcnau11\AppData
ata\Local\Temp\
bfe103d-54ba-467d-9411-7f3175abfbc2\c68516f7
Comments: 10yr 24hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.17	1.56	12.33	12.44	18.50	1.56
0.17	0.95	6.33	1.56	12.50	12.44	18.67	1.56
0.33	0.95	6.50	1.56	12.67	6.39	18.83	1.56
0.50	0.95	6.67	1.56	12.83	6.39	19.00	1.56
0.67	0.95	6.83	1.56	13.00	6.39	19.17	1.56
0.83	0.95	7.00	1.56	13.17	4.67	19.33	1.56
1.00	0.95	7.17	1.90	13.33	4.67	19.50	1.56
1.17	0.95	7.33	1.90	13.50	4.67	19.67	1.56
1.33	0.95	7.50	1.90	13.67	3.63	19.83	1.56
1.50	0.95	7.67	1.90	13.83	3.63	20.00	1.56
1.67	0.95	7.83	1.90	14.00	3.63	20.17	1.04
1.83	0.95	8.00	1.90	14.17	2.59	20.33	1.04
2.00	0.95	8.17	2.25	14.33	2.59	20.50	1.04
2.17	1.12	8.33	2.25	14.50	2.59	20.67	1.04
2.33	1.12	8.50	2.25	14.67	2.59	20.83	1.04
2.50	1.12	8.67	2.42	14.83	2.59	21.00	1.04
2.67	1.12	8.83	2.42	15.00	2.59	21.17	1.04
2.83	1.12	9.00	2.42	15.17	2.59	21.33	1.04
3.00	1.12	9.17	2.76	15.33	2.59	21.50	1.04
3.17	1.12	9.33	2.76	15.50	2.59	21.67	1.04
3.33	1.12	9.50	2.76	15.67	2.59	21.83	1.04
3.50	1.12	9.67	3.11	15.83	2.59	22.00	1.04
3.67	1.12	9.83	3.11	16.00	2.59	22.17	1.04
3.83	1.12	10.00	3.11	16.17	1.56	22.33	1.04
4.00	1.12	10.17	3.97	16.33	1.56	22.50	1.04
4.17	1.38	10.33	3.97	16.50	1.56	22.67	1.04
4.33	1.38	10.50	3.97	16.67	1.56	22.83	1.04
4.50	1.38	10.67	5.36	16.83	1.56	23.00	1.04
4.67	1.38	10.83	5.36	17.00	1.56	23.17	1.04
4.83	1.38	11.00	5.36	17.17	1.56	23.33	1.04
5.00	1.38	11.17	8.29	17.33	1.56	23.50	1.04
5.17	1.38	11.33	8.29	17.50	1.56	23.67	1.04
5.33	1.38	11.50	8.29	17.67	1.56	23.83	1.04
5.50	1.38	11.67	25.57	17.83	1.56	24.00	1.04
5.67	1.38	11.83	65.66	18.00	1.56		
5.83	1.38	12.00	105.75	18.17	1.56		
6.00	1.38	12.17	12.44	18.33	1.56		

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

Area (ha)= 13.03 Curve Number (CN)= 71.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.23

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	0.00	6.167	1.38	12.250	12.45	18.33	1.56
0.167	0.00	6.250	1.56	12.333	12.44	18.42	1.56
0.250	0.95	6.333	1.56	12.417	12.44	18.50	1.56
0.333	0.95	6.417	1.56	12.500	12.44	18.58	1.56
0.417	0.95	6.500	1.56	12.583	12.44	18.67	1.56
0.500	0.95	6.583	1.56	12.667	12.44	18.75	1.56
0.583	0.95	6.667	1.56	12.750	6.39	18.83	1.56
0.667	0.95	6.750	1.56	12.833	6.39	18.92	1.56
0.750	0.95	6.833	1.56	12.917	6.39	19.00	1.56
0.833	0.95	6.917	1.56	13.000	6.39	19.08	1.56
0.917	0.95	7.000	1.56	13.083	6.39	19.17	1.56
1.000	0.95	7.083	1.56	13.167	6.39	19.25	1.56
1.083	0.95	7.167	1.56	13.250	4.67	19.33	1.56
1.167	0.95	7.250	1.90	13.333	4.67	19.42	1.56
1.250	0.95	7.333	1.90	13.417	4.67	19.50	1.56
1.333	0.95	7.417	1.90	13.500	4.67	19.58	1.56
1.417	0.95	7.500	1.90	13.583	4.67	19.67	1.56
1.500	0.95	7.583	1.90	13.667	4.67	19.75	1.56
1.583	0.95	7.667	1.90	13.750	3.63	19.83	1.56
1.667	0.95	7.750	1.90	13.833	3.63	19.92	1.56
1.750	0.95	7.833	1.90	13.917	3.63	20.00	1.56
1.833	0.95	7.917	1.90	14.000	3.63	20.08	1.56

1.917	0.95	8.000	1.90	14.083	3.63	20.17	1.56
2.000	0.95	8.083	1.90	14.167	3.63	20.25	1.04
2.083	0.95	8.167	1.90	14.250	2.59	20.33	1.04
2.167	0.95	8.250	2.25	14.333	2.59	20.42	1.04
2.250	1.12	8.333	2.25	14.417	2.59	20.50	1.04
2.333	1.12	8.417	2.25	14.500	2.59	20.58	1.04
2.417	1.12	8.500	2.25	14.583	2.59	20.67	1.04
2.500	1.12	8.583	2.25	14.667	2.59	20.75	1.04
2.583	1.12	8.667	2.25	14.750	2.59	20.83	1.04
2.667	1.12	8.750	2.42	14.833	2.59	20.92	1.04
2.750	1.12	8.833	2.42	14.917	2.59	21.00	1.04
2.833	1.12	8.917	2.42	15.000	2.59	21.08	1.04
2.917	1.12	9.000	2.42	15.083	2.59	21.17	1.04
3.000	1.12	9.083	2.42	15.167	2.59	21.25	1.04
3.083	1.12	9.167	2.42	15.250	2.59	21.33	1.04
3.167	1.12	9.250	2.76	15.333	2.59	21.42	1.04
3.250	1.12	9.333	2.76	15.417	2.59	21.50	1.04
3.333	1.12	9.417	2.76	15.500	2.59	21.58	1.04
3.417	1.12	9.500	2.76	15.583	2.59	21.67	1.04
3.500	1.12	9.583	2.76	15.667	2.59	21.75	1.04
3.583	1.12	9.667	2.76	15.750	2.59	21.83	1.04
3.667	1.12	9.750	3.11	15.833	2.59	21.92	1.04
3.750	1.12	9.833	3.11	15.917	2.59	22.00	1.04
3.833	1.12	9.917	3.11	16.000	2.59	22.08	1.04
3.917	1.12	10.000	3.11	16.083	2.59	22.17	1.04
4.000	1.12	10.083	3.11	16.167	2.59	22.25	1.04
4.083	1.12	10.167	3.11	16.250	1.56	22.33	1.04
4.167	1.12	10.250	3.97	16.333	1.56	22.42	1.04
4.250	1.38	10.333	3.97	16.417	1.56	22.50	1.04
4.333	1.38	10.417	3.97	16.500	1.56	22.58	1.04
4.417	1.38	10.500	3.97	16.583	1.56	22.67	1.04
4.500	1.38	10.583	3.97	16.667	1.56	22.75	1.04
4.583	1.38	10.667	3.97	16.750	1.56	22.83	1.04
4.667	1.38	10.750	5.36	16.833	1.56	22.92	1.04
4.750	1.38	10.833	5.36	16.917	1.56	23.00	1.04
4.833	1.38	10.917	5.36	17.000	1.56	23.08	1.04
4.917	1.38	11.000	5.36	17.083	1.56	23.17	1.04
5.000	1.38	11.083	5.36	17.167	1.56	23.25	1.04
5.083	1.38	11.167	5.36	17.250	1.56	23.33	1.04
5.167	1.38	11.250	8.29	17.333	1.56	23.42	1.04
5.250	1.38	11.333	8.29	17.417	1.56	23.50	1.04
5.333	1.38	11.417	8.29	17.500	1.56	23.58	1.04
5.417	1.38	11.500	8.29	17.583	1.56	23.67	1.04
5.500	1.38	11.583	8.29	17.667	1.56	23.75	1.04
5.583	1.38	11.667	8.29	17.750	1.56	23.83	1.04
5.667	1.38	11.750	25.57	17.833	1.56	23.92	1.04
5.750	1.38	11.833	25.57	17.917	1.56	24.00	1.04
5.833	1.38	11.917	65.66	18.000	1.56	24.08	1.04
5.917	1.38	12.000	65.66	18.083	1.56	24.17	1.04
6.000	1.38	12.083	105.75	18.167	1.56		
6.083	1.38	12.167	105.75	18.250	1.56		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.064 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 35.748
TOTAL RAINFALL (mm)= 86.400
RUNOFF COEFFICIENT = 0.414

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

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

Area (ha)= 6.34 Curve Number (CN)= 71.0
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.

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.38	12.250	12.45	18.33	1.56
0.167	0.00	6.250	1.56	12.333	12.44	18.42	1.56
0.250	0.95	6.333	1.56	12.417	12.44	18.50	1.56
0.333	0.95	6.417	1.56	12.500	12.44	18.58	1.56
0.417	0.95	6.500	1.56	12.583	12.44	18.67	1.56
0.500	0.95	6.583	1.56	12.667	12.44	18.75	1.56
0.583	0.95	6.667	1.56	12.750	6.39	18.83	1.56
0.667	0.95	6.750	1.56	12.833	6.39	18.92	1.56
0.750	0.95	6.833	1.56	12.917	6.39	19.00	1.56

0.833	0.95	6.917	1.56	13.000	6.39	19.08	1.56
0.917	0.95	7.000	1.56	13.083	6.39	19.17	1.56
1.000	0.95	7.083	1.56	13.167	6.39	19.25	1.56
1.083	0.95	7.167	1.56	13.250	4.67	19.33	1.56
1.167	0.95	7.250	1.90	13.333	4.67	19.42	1.56
1.250	0.95	7.333	1.90	13.417	4.67	19.50	1.56
1.333	0.95	7.417	1.90	13.500	4.67	19.58	1.56
1.417	0.95	7.500	1.90	13.583	4.67	19.67	1.56
1.500	0.95	7.583	1.90	13.667	4.67	19.75	1.56
1.583	0.95	7.667	1.90	13.750	3.63	19.83	1.56
1.667	0.95	7.750	1.90	13.833	3.63	19.92	1.56
1.750	0.95	7.833	1.90	13.917	3.63	20.00	1.56
1.833	0.95	7.917	1.90	14.000	3.63	20.08	1.56
1.917	0.95	8.000	1.90	14.083	3.63	20.17	1.56
2.000	0.95	8.083	1.90	14.167	3.63	20.25	1.04
2.083	0.95	8.167	1.90	14.250	2.59	20.33	1.04
2.167	0.95	8.250	2.25	14.333	2.59	20.42	1.04
2.250	1.12	8.333	2.25	14.417	2.59	20.50	1.04
2.333	1.12	8.417	2.25	14.500	2.59	20.58	1.04
2.417	1.12	8.500	2.25	14.583	2.59	20.67	1.04
2.500	1.12	8.583	2.25	14.667	2.59	20.75	1.04
2.583	1.12	8.667	2.25	14.750	2.59	20.83	1.04
2.667	1.12	8.750	2.42	14.833	2.59	20.92	1.04
2.750	1.12	8.833	2.42	14.917	2.59	21.00	1.04
2.833	1.12	8.917	2.42	15.000	2.59	21.08	1.04
2.917	1.12	9.000	2.42	15.083	2.59	21.17	1.04
3.000	1.12	9.083	2.42	15.167	2.59	21.25	1.04
3.083	1.12	9.167	2.42	15.250	2.59	21.33	1.04
3.167	1.12	9.250	2.76	15.333	2.59	21.42	1.04
3.250	1.12	9.333	2.76	15.417	2.59	21.50	1.04
3.333	1.12	9.417	2.76	15.500	2.59	21.58	1.04
3.417	1.12	9.500	2.76	15.583	2.59	21.67	1.04
3.500	1.12	9.583	2.76	15.667	2.59	21.75	1.04
3.583	1.12	9.667	2.76	15.750	2.59	21.83	1.04
3.667	1.12	9.750	3.11	15.833	2.59	21.92	1.04
3.750	1.12	9.833	3.11	15.917	2.59	22.00	1.04
3.833	1.12	9.917	3.11	16.000	2.59	22.08	1.04
3.917	1.12	10.000	3.11	16.083	2.59	22.17	1.04
4.000	1.12	10.083	3.11	16.167	2.59	22.25	1.04
4.083	1.12	10.167	3.11	16.250	1.56	22.33	1.04
4.167	1.12	10.250	3.97	16.333	1.56	22.42	1.04
4.250	1.38	10.333	3.97	16.417	1.56	22.50	1.04
4.333	1.38	10.417	3.97	16.500	1.56	22.58	1.04
4.417	1.38	10.500	3.97	16.583	1.56	22.67	1.04
4.500	1.38	10.583	3.97	16.667	1.56	22.75	1.04
4.583	1.38	10.667	3.97	16.750	1.56	22.83	1.04
4.667	1.38	10.750	5.36	16.833	1.56	22.92	1.04
4.750	1.38	10.833	5.36	16.917	1.56	23.00	1.04
4.833	1.38	10.917	5.36	17.000	1.56	23.08	1.04
4.917	1.38	11.000	5.36	17.083	1.56	23.17	1.04
5.000	1.38	11.083	5.36	17.167	1.56	23.25	1.04
5.083	1.38	11.167	5.36	17.250	1.56	23.33	1.04
5.167	1.38	11.250	8.29	17.333	1.56	23.42	1.04
5.250	1.38	11.333	8.29	17.417	1.56	23.50	1.04
5.333	1.38	11.417	8.29	17.500	1.56	23.58	1.04
5.417	1.38	11.500	8.29	17.583	1.56	23.67	1.04
5.500	1.38	11.583	8.29	17.667	1.56	23.75	1.04
5.583	1.38	11.667	8.29	17.750	1.56	23.83	1.04
5.667	1.38	11.750	25.57	17.833	1.56	23.92	1.04
5.750	1.38	11.833	25.57	17.917	1.56	24.00	1.04
5.833	1.38	11.917	65.66	18.000	1.56	24.08	1.04
5.917	1.38	12.000	65.66	18.083	1.56	24.17	1.04
6.000	1.38	12.083	105.75	18.167	1.56		
6.083	1.38	12.167	105.75	18.250	1.56		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.328 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 35.784
TOTAL RAINFALL (mm)= 86.400
RUNOFF COEFFICIENT = 0.414

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

ADD HYD (0003)	AREA	OPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0001):	6.34	0.328	12.50	35.78
+ ID2= 2 (0002):	13.03	1.064	12.25	35.75

ID = 3 (0003): 19.37 1.319 12.25 35.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A L
V V I SSSSS UUUU A A LLLLL
000 TTTT TTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\e74dd
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\e74dd

DATE: 03-13-2026

TIME: 06:57:11

USER:

COMMENTS: _____

** SIMULATION : U- SCS (II) 24hr 25 Year **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\bfef103d-54ba-467d-9411-7f3175abfbc2\elabfbc2c
Ptotal=103.20 mm	Comments: 25yr 24hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.17	1.86	12.33	14.86	18.50	1.86
0.17	1.14	6.33	1.86	12.50	14.86	18.67	1.86
0.33	1.14	6.50	1.86	12.67	7.64	18.83	1.86
0.50	1.14	6.67	1.86	12.83	7.64	19.00	1.86
0.67	1.14	6.83	1.86	13.00	7.64	19.17	1.86
0.83	1.14	7.00	1.86	13.17	5.57	19.33	1.86
1.00	1.14	7.17	2.27	13.33	5.57	19.50	1.86
1.17	1.14	7.33	2.27	13.50	5.57	19.67	1.86
1.33	1.14	7.50	2.27	13.67	4.33	19.83	1.86
1.50	1.14	7.67	2.27	13.83	4.33	20.00	1.86
1.67	1.14	7.83	2.27	14.00	4.33	20.17	1.24
1.83	1.14	8.00	2.27	14.17	3.10	20.33	1.24
2.00	1.14	8.17	2.68	14.33	3.10	20.50	1.24
2.17	1.34	8.33	2.68	14.50	3.10	20.67	1.24
2.33	1.34	8.50	2.68	14.67	3.10	20.83	1.24
2.50	1.34	8.67	2.89	14.83	3.10	21.00	1.24
2.67	1.34	8.83	2.89	15.00	3.10	21.17	1.24
2.83	1.34	9.00	2.89	15.17	3.10	21.33	1.24
3.00	1.34	9.17	3.30	15.33	3.10	21.50	1.24
3.17	1.34	9.33	3.30	15.50	3.10	21.67	1.24
3.33	1.34	9.50	3.30	15.67	3.10	21.83	1.24
3.50	1.34	9.67	3.72	15.83	3.10	22.00	1.24
3.67	1.34	9.83	3.72	16.00	3.10	22.17	1.24
3.83	1.34	10.00	3.72	16.17	1.86	22.33	1.24
4.00	1.34	10.17	4.75	16.33	1.86	22.50	1.24
4.17	1.65	10.33	4.75	16.50	1.86	22.67	1.24
4.33	1.65	10.50	4.75	16.67	1.86	22.83	1.24
4.50	1.65	10.67	6.40	16.83	1.86	23.00	1.24
4.67	1.65	10.83	6.40	17.00	1.86	23.17	1.24
4.83	1.65	11.00	6.40	17.17	1.86	23.33	1.24
5.00	1.65	11.17	9.91	17.33	1.86	23.50	1.24
5.17	1.65	11.33	9.91	17.50	1.86	23.67	1.24

5.33	1.65	11.50	9.91	17.67	1.86	23.83	1.24
5.50	1.65	11.67	30.55	17.83	1.86	24.00	1.24
5.67	1.65	11.83	78.43	18.00	1.86		
5.83	1.65	12.00	126.32	18.17	1.86		
6.00	1.65	12.17	14.86	18.33	1.86		

CALIB							
NASHYD (0002)	Area (ha)=	13.03	Curve Number (CN)=	71.0			
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00			
	U.H. Tp(hrs)=	0.23					

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

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.65	12.250	14.87	18.33	1.86
0.167	0.00	6.250	1.86	12.333	14.86	18.42	1.86
0.250	1.14	6.333	1.86	12.417	14.86	18.50	1.86
0.333	1.14	6.417	1.86	12.500	14.86	18.58	1.86
0.417	1.14	6.500	1.86	12.583	14.86	18.67	1.86
0.500	1.14	6.583	1.86	12.667	14.86	18.75	1.86
0.583	1.14	6.667	1.86	12.750	7.64	18.83	1.86
0.667	1.14	6.750	1.86	12.833	7.64	18.92	1.86
0.750	1.14	6.833	1.86	12.917	7.64	19.00	1.86
0.833	1.14	6.917	1.86	13.000	7.64	19.08	1.86
0.917	1.14	7.000	1.86	13.083	7.64	19.17	1.86
1.000	1.14	7.083	1.86	13.167	7.64	19.25	1.86
1.083	1.14	7.167	1.86	13.250	5.57	19.33	1.86
1.167	1.14	7.250	2.27	13.333	5.57	19.42	1.86
1.250	1.14	7.333	2.27	13.417	5.57	19.50	1.86
1.333	1.14	7.417	2.27	13.500	5.57	19.58	1.86
1.417	1.14	7.500	2.27	13.583	5.57	19.67	1.86
1.500	1.14	7.583	2.27	13.667	5.57	19.75	1.86
1.583	1.14	7.667	2.27	13.750	4.33	19.83	1.86
1.667	1.14	7.750	2.27	13.833	4.33	19.92	1.86
1.750	1.14	7.833	2.27	13.917	4.33	20.00	1.86
1.833	1.14	7.917	2.27	14.000	4.33	20.08	1.86
1.917	1.14	8.000	2.27	14.083	4.33	20.17	1.86
2.000	1.14	8.083	2.27	14.167	4.33	20.25	1.86
2.083	1.14	8.167	2.27	14.250	3.10	20.33	1.24
2.167	1.14	8.250	2.68	14.333	3.10	20.42	1.24
2.250	1.34	8.333	2.68	14.417	3.10	20.50	1.24
2.333	1.34	8.417	2.68	14.500	3.10	20.58	1.24
2.417	1.34	8.500	2.68	14.583	3.10	20.67	1.24
2.500	1.34	8.583	2.68	14.667	3.10	20.75	1.24
2.583	1.34	8.667	2.68	14.750	3.10	20.83	1.24
2.667	1.34	8.750	2.89	14.833	3.10	20.92	1.24
2.750	1.34	8.833	2.89	14.917	3.10	21.00	1.24
2.833	1.34	8.917	2.89	15.000	3.10	21.08	1.24
2.917	1.34	9.000	2.89	15.083	3.10	21.17	1.24
3.000	1.34	9.083	2.89	15.167	3.10	21.25	1.24
3.083	1.34	9.167	2.89	15.250	3.10	21.33	1.24
3.167	1.34	9.250	3.30	15.333	3.10	21.42	1.24
3.250	1.34	9.333	3.30	15.417	3.10	21.50	1.24
3.333	1.34	9.417	3.30	15.500	3.10	21.58	1.24
3.417	1.34	9.500	3.30	15.583	3.10	21.67	1.24
3.500	1.34	9.583	3.30	15.667	3.10	21.75	1.24
3.583	1.34	9.667	3.30	15.750	3.10	21.83	1.24
3.667	1.34	9.750	3.72	15.833	3.10	21.92	1.24
3.750	1.34	9.833	3.72	15.917	3.10	22.00	1.24
3.833	1.34	9.917	3.72	16.000	3.10	22.08	1.24
3.917	1.34	10.000	3.72	16.083	3.10	22.17	1.24
4.000	1.34	10.083	3.72	16.167	3.10	22.25	1.24
4.083	1.34	10.167	3.72	16.250	1.86	22.33	1.24
4.167	1.34	10.250	4.75	16.333	1.86	22.42	1.24
4.250	1.65	10.333	4.75	16.417	1.86	22.50	1.24
4.333	1.65	10.417	4.75	16.500	1.86	22.58	1.24
4.417	1.65	10.500	4.75	16.583	1.86	22.67	1.24
4.500	1.65	10.583	4.75	16.667	1.86	22.75	1.24
4.583	1.65	10.667	4.75	16.750	1.86	22.83	1.24
4.667	1.65	10.750	6.40	16.833	1.86	22.92	1.24
4.750	1.65	10.833	6.40	16.917	1.86	23.00	1.24
4.833	1.65	10.917	6.40	17.000	1.86	23.08	1.24
4.917	1.65	11.000	6.40	17.083	1.86	23.17	1.24
5.000	1.65	11.083	6.40	17.167	1.86	23.25	1.24
5.083	1.65	11.167	6.40	17.250	1.86	23.33	1.24
5.167	1.65	11.250	9.91	17.333	1.86	23.42	1.24
5.250	1.65	11.333	9.91	17.417	1.86	23.50	1.24
5.333	1.65	11.417	9.91	17.500	1.86	23.58	1.24

5.417	1.65	11.500	9.91	17.583	1.86	23.67	1.24
5.500	1.65	11.583	9.91	17.667	1.86	23.75	1.24
5.583	1.65	11.667	9.91	17.750	1.86	23.83	1.24
5.667	1.65	11.750	30.54	17.833	1.86	23.92	1.24
5.750	1.65	11.833	30.55	17.917	1.86	24.00	1.24
5.833	1.65	11.917	78.43	18.000	1.86	24.08	1.24
5.917	1.65	12.000	78.43	18.083	1.86	24.17	1.24
6.000	1.65	12.083	126.31	18.167	1.86		
6.083	1.65	12.167	126.32	18.250	1.86		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.430 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 47.699
TOTAL RAINFALL (mm)= 103.200
RUNOFF COEFFICIENT = 0.462

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

CALIB							
NASHYD (0001)	Area (ha)=	6.34	Curve Number (CN)=	71.0			
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	0.00	6.167	1.65	12.250	14.87	18.33	1.86
0.167	0.00	6.250	1.86	12.333	14.86	18.42	1.86
0.250	1.14	6.333	1.86	12.417	14.86	18.50	1.86
0.333	1.14	6.417	1.86	12.500	14.86	18.58	1.86
0.417	1.14	6.500	1.86	12.583	14.86	18.67	1.86
0.500	1.14	6.583	1.86	12.667	14.86	18.75	1.86
0.583	1.14	6.667	1.86	12.750	7.64	18.83	1.86
0.667	1.14	6.750	1.86	12.833	7.64	18.92	1.86
0.750	1.14	6.833	1.86	12.917	7.64	19.00	1.86
0.833	1.14	6.917	1.86	13.000	7.64	19.08	1.86
0.917	1.14	7.000	1.86	13.083	7.64	19.17	1.86
1.000	1.14	7.083	1.86	13.167	7.64	19.25	1.86
1.083	1.14	7.167	1.86	13.250	5.57	19.33	1.86
1.167	1.14	7.250	2.27	13.333	5.57	19.42	1.86
1.250	1.14	7.333	2.27	13.417	5.57	19.50	1.86
1.333	1.14	7.417	2.27	13.500	5.57	19.58	1.86
1.417	1.14	7.500	2.27	13.583	5.57	19.67	1.86
1.500	1.14	7.583	2.27	13.667	5.57	19.75	1.86
1.583	1.14	7.667	2.27	13.750	4.33	19.83	1.86
1.667	1.14	7.750	2.27	13.833	4.33	19.92	1.86
1.750	1.14	7.833	2.27	13.917	4.33	20.00	1.86
1.833	1.14	7.917	2.27	14.000	4.33	20.08	1.86
1.917	1.14	8.000	2.27	14.083	4.33	20.17	1.86
2.000	1.14	8.083	2.27	14.167	4.33	20.25	1.24
2.083	1.14	8.167	2.27	14.250	3.10	20.33	1.24
2.167	1.14	8.250	2.68	14.333	3.10	20.42	1.24
2.250	1.34	8.333	2.68	14.417	3.10	20.50	1.24
2.333	1.34	8.417	2.68	14.500	3.10	20.58	1.24
2.417	1.34	8.500	2.68	14.583	3.10	20.67	1.24
2.500	1.34	8.583	2.68	14.667	3.10	20.75	1.24
2.583	1.34	8.667	2.68	14.750	3.10	20.83	1.24
2.667	1.34	8.750	2.89	14.833	3.10	20.92	1.24
2.750	1.34	8.833	2.89	14.917	3.10	21.00	1.24
2.833	1.34	8.917	2.89	15.000	3.10	21.08	1.24
2.917	1.34	9.000	2.89	15.083	3.10	21.17	1.24
3.000	1.34	9.083	2.89	15.167	3.10	21.25	1.24
3.083	1.34	9.167	2.89	15.250	3.10	21.33	1.24
3.167	1.34	9.250	3.30	15.333	3.10	21.42	1.24
3.250	1.34	9.333	3.30	15.417	3.10	21.50	1.24
3.333	1.34	9.417	3.30	15.500	3.10	21.58	1.24
3.417	1.34	9.500	3.30	15.583	3.10	21.67	1.24
3.500	1.34	9.583	3.30	15.667	3.10	21.75	1.24
3.583	1.34	9.667	3.30	15.750	3.10	21.83	1.24
3.667	1.34	9.750	3.72	15.833	3.10	21.92	1.24
3.750	1.34	9.833	3.72	15.917	3.10	22.00	1.24
3.833	1.34	9.917	3.72	16.000	3.10	22.08	1.24
3.917	1.34	10.000	3.72	16.083	3.10	22.17	1.24
4.000	1.34	10.083	3.72	16.167	3.10	22.25	1.24
4.083	1.34	10.167	3.72	16.250	1.86	22.33	1.24
4.167	1.34	10.250	4.75	16.333	1.86	22.42	1.24
4.250	1.65	10.333	4.75	16.417	1.86	22.50	1.24

4.333	1.65	10.417	4.75	16.500	1.86	22.58	1.24
4.417	1.65	10.500	4.75	16.583	1.86	22.67	1.24
4.500	1.65	10.583	4.75	16.667	1.86	22.75	1.24
4.583	1.65	10.667	4.75	16.750	1.86	22.83	1.24
4.667	1.65	10.750	6.40	16.833	1.86	22.92	1.24
4.750	1.65	10.833	6.40	16.917	1.86	23.00	1.24
4.833	1.65	10.917	6.40	17.000	1.86	23.08	1.24
4.917	1.65	11.000	6.40	17.083	1.86	23.17	1.24
5.000	1.65	11.083	6.40	17.167	1.86	23.25	1.24
5.083	1.65	11.167	6.40	17.250	1.86	23.33	1.24
5.167	1.65	11.250	9.91	17.333	1.86	23.42	1.24
5.250	1.65	11.333	9.91	17.417	1.86	23.50	1.24
5.333	1.65	11.417	9.91	17.500	1.86	23.58	1.24
5.417	1.65	11.500	9.91	17.583	1.86	23.67	1.24
5.500	1.65	11.583	9.91	17.667	1.86	23.75	1.24
5.583	1.65	11.667	9.91	17.750	1.86	23.83	1.24
5.667	1.65	11.750	30.54	17.833	1.86	23.92	1.24
5.750	1.65	11.833	30.55	17.917	1.86	24.00	1.24
5.833	1.65	11.917	78.43	18.000	1.86	24.08	1.24
5.917	1.65	12.000	78.43	18.083	1.86	24.17	1.24
6.000	1.65	12.083	126.31	18.167	1.86		
6.083	1.65	12.167	126.32	18.250	1.86		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.441 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 47.747
TOTAL RAINFALL (mm)= 103.200
RUNOFF COEFFICIENT = 0.463

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

ADD HYD (0003)				
1 + 2 = 3				
ID1= 1 (0001):	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (0002):	6.34	0.441	12.50	47.75
	13.03	1.430	12.25	47.70
ID = 3 (0003):	19.37	1.776	12.25	47.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
V	V	I	SS	U	U	A	A	L
V	V	I	SS	U	U	AAAAA	L	
V	V	I	SS	U	U	A	A	L
VV	I	SSSSS	UUUUU	A	A	LLLLL		
OOO	TTTTT	TTTTT	H	H	Y	Y	M	M
O	O	T	T	H	H	Y	Y	MM
O	O	T	T	H	H	Y	M	M
OOO	T	T	H	H	Y	M	M	OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\david.mcnaul\AppData\Local\Civica\WH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\5ab95
Summary filename: C:\Users\david.mcnaul\AppData\Local\Civica\WH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\5ab95

DATE: 03-13-2026 TIME: 06:57:11

USER:

COMMENTS:

** SIMULATION : V- SCS (II) 24hr 50 Year **

READ STORM	Filename: C:\Users\david.mcnaul\AppData\Local\Temp\bfe103d-54ba-467d-9411-7f3175abfbc2\6be7034b
Ptotal=112.80 mm	Comments: 50yr 24hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.17	2.03	12.33	16.24	18.50	2.03
0.17	1.24	6.33	2.03	12.50	16.24	18.67	2.03
0.33	1.24	6.50	2.03	12.67	8.35	18.83	2.03
0.50	1.24	6.67	2.03	12.83	8.35	19.00	2.03
0.67	1.24	6.83	2.03	13.00	8.35	19.17	2.03
0.83	1.24	7.00	2.03	13.17	6.09	19.33	2.03
1.00	1.24	7.17	2.48	13.33	6.09	19.50	2.03
1.17	1.24	7.33	2.48	13.50	6.09	19.67	2.03
1.33	1.24	7.50	2.48	13.67	4.74	19.83	2.03
1.50	1.24	7.67	2.48	13.83	4.74	20.00	2.03
1.67	1.24	7.83	2.48	14.00	4.74	20.17	1.35
1.83	1.24	8.00	2.48	14.17	3.38	20.33	1.35
2.00	1.24	8.17	2.93	14.33	3.38	20.50	1.35
2.17	1.47	8.33	2.93	14.50	3.38	20.67	1.35
2.33	1.47	8.50	2.93	14.67	3.38	20.83	1.35
2.50	1.47	8.67	3.16	14.83	3.38	21.00	1.35
2.67	1.47	8.83	3.16	15.00	3.38	21.17	1.35
2.83	1.47	9.00	3.16	15.17	3.38	21.33	1.35
3.00	1.47	9.17	3.61	15.33	3.38	21.50	1.35
3.17	1.47	9.33	3.61	15.50	3.38	21.67	1.35
3.33	1.47	9.50	3.61	15.67	3.38	21.83	1.35
3.50	1.47	9.67	4.06	15.83	3.38	22.00	1.35
3.67	1.47	9.83	4.06	16.00	3.38	22.17	1.35
3.83	1.47	10.00	4.06	16.17	2.03	22.33	1.35
4.00	1.47	10.17	5.19	16.33	2.03	22.50	1.35
4.17	1.80	10.33	5.19	16.50	2.03	22.67	1.35
4.33	1.80	10.50	5.19	16.67	2.03	22.83	1.35
4.50	1.80	10.67	6.99	16.83	2.03	23.00	1.35
4.67	1.80	10.83	6.99	17.00	2.03	23.17	1.35
4.83	1.80	11.00	6.99	17.17	2.03	23.33	1.35
5.00	1.80	11.17	10.83	17.33	2.03	23.50	1.35
5.17	1.80	11.33	10.83	17.50	2.03	23.67	1.35
5.33	1.80	11.50	10.83	17.67	2.03	23.83	1.35
5.50	1.80	11.67	33.39	17.83	2.03	24.00	1.35
5.67	1.80	11.83	85.73	18.00	2.03		
5.83	1.80	12.00	138.07	18.17	2.03		
6.00	1.80	12.17	16.24	18.33	2.03		

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.80	12.250	16.26	18.33	2.03
0.167	0.00	6.250	2.03	12.333	16.24	18.42	2.03
0.250	1.24	6.333	2.03	12.417	16.24	18.50	2.03
0.333	1.24	6.417	2.03	12.500	16.24	18.58	2.03
0.417	1.24	6.500	2.03	12.583	16.24	18.67	2.03
0.500	1.24	6.583	2.03	12.667	16.24	18.75	2.03
0.583	1.24	6.667	2.03	12.750	8.35	18.83	2.03
0.667	1.24	6.750	2.03	12.833	8.35	18.92	2.03
0.750	1.24	6.833	2.03	12.917	8.35	19.00	2.03
0.833	1.24	6.917	2.03	13.000	8.35	19.08	2.03
0.917	1.24	7.000	2.03	13.083	8.35	19.17	2.03
1.000	1.24	7.083	2.03	13.167	8.35	19.25	2.03
1.083	1.24	7.167	2.03	13.250	6.09	19.33	2.03
1.167	1.24	7.250	2.48	13.333	6.09	19.42	2.03
1.250	1.24	7.333	2.48	13.417	6.09	19.50	2.03
1.333	1.24	7.417	2.48	13.500	6.09	19.58	2.03
1.417	1.24	7.500	2.48	13.583	6.09	19.67	2.03
1.500	1.24	7.583	2.48	13.667	6.09	19.75	2.03
1.583	1.24	7.667	2.48	13.750	4.74	19.83	2.03
1.667	1.24	7.750	2.48	13.833	4.74	19.92	2.03
1.750	1.24	7.833	2.48	13.917	4.74	20.00	2.03
1.833	1.24	7.917	2.48	14.000	4.74	20.08	2.03

1.917	1.24	8.000	2.48	14.083	4.74	20.17	2.03
2.000	1.24	8.083	2.48	14.167	4.74	20.25	1.35
2.083	1.24	8.167	2.48	14.250	3.38	20.33	1.35
2.167	1.24	8.250	2.93	14.333	3.38	20.42	1.35
2.250	1.47	8.333	2.93	14.417	3.38	20.50	1.35
2.333	1.47	8.417	2.93	14.500	3.38	20.58	1.35
2.417	1.47	8.500	2.93	14.583	3.38	20.67	1.35
2.500	1.47	8.583	2.93	14.667	3.38	20.75	1.35
2.583	1.47	8.667	2.93	14.750	3.38	20.83	1.35
2.667	1.47	8.750	3.16	14.833	3.38	20.92	1.35
2.750	1.47	8.833	3.16	14.917	3.38	21.00	1.35
2.833	1.47	8.917	3.16	15.000	3.38	21.08	1.35
2.917	1.47	9.000	3.16	15.083	3.38	21.17	1.35
3.000	1.47	9.083	3.16	15.167	3.38	21.25	1.35
3.083	1.47	9.167	3.16	15.250	3.38	21.33	1.35
3.167	1.47	9.250	3.61	15.333	3.38	21.42	1.35
3.250	1.47	9.333	3.61	15.417	3.38	21.50	1.35
3.333	1.47	9.417	3.61	15.500	3.38	21.58	1.35
3.417	1.47	9.500	3.61	15.583	3.38	21.67	1.35
3.500	1.47	9.583	3.61	15.667	3.38	21.75	1.35
3.583	1.47	9.667	3.61	15.750	3.38	21.83	1.35
3.667	1.47	9.750	4.06	15.833	3.38	21.92	1.35
3.750	1.47	9.833	4.06	15.917	3.38	22.00	1.35
3.833	1.47	9.917	4.06	16.000	3.38	22.08	1.35
3.917	1.47	10.000	4.06	16.083	3.38	22.17	1.35
4.000	1.47	10.083	4.06	16.167	3.38	22.25	1.35
4.083	1.47	10.167	4.06	16.250	2.03	22.33	1.35
4.167	1.47	10.250	5.19	16.333	2.03	22.42	1.35
4.250	1.80	10.333	5.19	16.417	2.03	22.50	1.35
4.333	1.80	10.417	5.19	16.500	2.03	22.58	1.35
4.417	1.80	10.500	5.19	16.583	2.03	22.67	1.35
4.500	1.80	10.583	5.19	16.667	2.03	22.75	1.35
4.583	1.80	10.667	5.19	16.750	2.03	22.83	1.35
4.667	1.80	10.750	6.99	16.833	2.03	22.92	1.35
4.750	1.80	10.833	6.99	16.917	2.03	23.00	1.35
4.833	1.80	10.917	6.99	17.000	2.03	23.08	1.35
4.917	1.80	11.000	6.99	17.083	2.03	23.17	1.35
5.000	1.80	11.083	6.99	17.167	2.03	23.25	1.35
5.083	1.80	11.167	6.99	17.250	2.03	23.33	1.35
5.167	1.80	11.250	10.83	17.333	2.03	23.42	1.35
5.250	1.80	11.333	10.83	17.417	2.03	23.50	1.35
5.333	1.80	11.417	10.83	17.500	2.03	23.58	1.35
5.417	1.80	11.500	10.83	17.583	2.03	23.67	1.35
5.500	1.80	11.583	10.83	17.667	2.03	23.75	1.35
5.583	1.80	11.667	10.83	17.750	2.03	23.83	1.35
5.667	1.80	11.750	33.39	17.833	2.03	23.92	1.35
5.750	1.80	11.833	33.39	17.917	2.03	24.00	1.35
5.833	1.80	11.917	85.72	18.000	2.03	24.08	1.35
5.917	1.80	12.000	85.73	18.083	2.03	24.17	1.35
6.000	1.80	12.083	138.06	18.167	2.03		
6.083	1.80	12.167	138.07	18.250	2.03		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.651 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 54.872
TOTAL RAINFALL (mm)= 112.800
RUNOFF COEFFICIENT = 0.486

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

CALIB					
NASHYD (0001)	Area (ha)=	6.34	Curve Number (CN)=	71.0	
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	0.00	6.167	1.80	12.250	16.26	18.33	2.03
0.167	0.00	6.250	2.03	12.333	16.24	18.42	2.03
0.250	1.24	6.333	2.03	12.417	16.24	18.50	2.03
0.333	1.24	6.417	2.03	12.500	16.24	18.58	2.03
0.417	1.24	6.500	2.03	12.583	16.24	18.67	2.03
0.500	1.24	6.583	2.03	12.667	16.24	18.75	2.03
0.583	1.24	6.667	2.03	12.750	8.35	18.83	2.03
0.667	1.24	6.750	2.03	12.833	8.35	18.92	2.03
0.750	1.24	6.833	2.03	12.917	8.35	19.00	2.03

0.833	1.24	6.917	2.03	13.000	8.35	19.08	2.03
0.917	1.24	7.000	2.03	13.083	8.35	19.17	2.03
1.000	1.24	7.083	2.03	13.167	8.35	19.25	2.03
1.083	1.24	7.167	2.03	13.250	6.09	19.33	2.03
1.167	1.24	7.250	2.48	13.333	6.09	19.42	2.03
1.250	1.24	7.333	2.48	13.417	6.09	19.50	2.03
1.333	1.24	7.417	2.48	13.500	6.09	19.58	2.03
1.417	1.24	7.500	2.48	13.583	6.09	19.67	2.03
1.500	1.24	7.583	2.48	13.667	6.09	19.75	2.03
1.583	1.24	7.667	2.48	13.750	4.74	19.83	2.03
1.667	1.24	7.750	2.48	13.833	4.74	19.92	2.03
1.750	1.24	7.833	2.48	13.917	4.74	20.00	2.03
1.833	1.24	7.917	2.48	14.000	4.74	20.08	2.03
1.917	1.24	8.000	2.48	14.083	4.74	20.17	2.03
2.000	1.24	8.083	2.48	14.167	4.74	20.25	1.35
2.083	1.24	8.167	2.48	14.250	3.38	20.33	1.35
2.167	1.24	8.250	2.93	14.333	3.38	20.42	1.35
2.250	1.47	8.333	2.93	14.417	3.38	20.50	1.35
2.333	1.47	8.417	2.93	14.500	3.38	20.58	1.35
2.417	1.47	8.500	2.93	14.583	3.38	20.67	1.35
2.500	1.47	8.583	2.93	14.667	3.38	20.75	1.35
2.583	1.47	8.667	2.93	14.750	3.38	20.83	1.35
2.667	1.47	8.750	3.16	14.833	3.38	20.92	1.35
2.750	1.47	8.833	3.16	14.917	3.38	21.00	1.35
2.833	1.47	8.917	3.16	15.000	3.38	21.08	1.35
2.917	1.47	9.000	3.16	15.083	3.38	21.17	1.35
3.000	1.47	9.083	3.16	15.167	3.38	21.25	1.35
3.083	1.47	9.167	3.16	15.250	3.38	21.33	1.35
3.167	1.47	9.250	3.61	15.333	3.38	21.42	1.35
3.250	1.47	9.333	3.61	15.417	3.38	21.50	1.35
3.333	1.47	9.417	3.61	15.500	3.38	21.58	1.35
3.417	1.47	9.500	3.61	15.583	3.38	21.67	1.35
3.500	1.47	9.583	3.61	15.667	3.38	21.75	1.35
3.583	1.47	9.667	3.61	15.750	3.38	21.83	1.35
3.667	1.47	9.750	4.06	15.833	3.38	21.92	1.35
3.750	1.47	9.833	4.06	15.917	3.38	22.00	1.35
3.833	1.47	9.917	4.06	16.000	3.38	22.08	1.35
3.917	1.47	10.000	4.06	16.083	3.38	22.17	1.35
4.000	1.47	10.083	4.06	16.167	3.38	22.25	1.35
4.083	1.47	10.167	4.06	16.250	2.03	22.33	1.35
4.167	1.47	10.250	5.19	16.333	2.03	22.42	1.35
4.250	1.80	10.333	5.19	16.417	2.03	22.50	1.35
4.333	1.80	10.417	5.19	16.500	2.03	22.58	1.35
4.417	1.80	10.500	5.19	16.583	2.03	22.67	1.35
4.500	1.80	10.583	5.19	16.667	2.03	22.75	1.35
4.583	1.80	10.667	5.19	16.750	2.03	22.83	1.35
4.667	1.80	10.750	6.99	16.833	2.03	22.92	1.35
4.750	1.80	10.833	6.99	16.917	2.03	23.00	1.35
4.833	1.80	10.917	6.99	17.000	2.03	23.08	1.35
4.917	1.80	11.000	6.99	17.083	2.03	23.17	1.35
5.000	1.80	11.083	6.99	17.167	2.03	23.25	1.35
5.083	1.80	11.167	6.99	17.250	2.03	23.33	1.35
5.167	1.80	11.250	10.83	17.333	2.03	23.42	1.35
5.250	1.80	11.333	10.83	17.417	2.03	23.50	1.35
5.333	1.80	11.417	10.83	17.500	2.03	23.58	1.35
5.417	1.80	11.500	10.83	17.583	2.03	23.67	1.35
5.500	1.80	11.583	10.83	17.667	2.03	23.75	1.35
5.583	1.80	11.667	10.83	17.750	2.03	23.83	1.35
5.667	1.80	11.750	33.39	17.833	2.03	23.92	1.35
5.750	1.80	11.833	33.39	17.917	2.03	24.00	1.35
5.833	1.80	11.917	85.72	18.000	2.03	24.08	1.35
5.917	1.80	12.000	85.73	18.083	2.03	24.17	1.35
6.000	1.80	12.083	138.06	18.167	2.03		
6.083	1.80	12.167	138.07	18.250	2.03		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.509 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 54.928
TOTAL RAINFALL (mm)= 112.800
RUNOFF COEFFICIENT = 0.487

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

ADD HYD (0003)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0001):	6.34	0.509	12.50	54.93	
+ ID2= 2 (0002):	13.03	1.651	12.25	54.87	

ID = 3 (0003): 19.37 2.051 12.25 54.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A A L
V V I SSSSS UUUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\vo2\voain.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\9530c
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\9530c

DATE: 03-13-2026 TIME: 06:57:11

USER:

COMMENTS: _____

** SIMULATION : W- SCS (II) 24hr 100 Year **

READ STORM Filename: C:\Users\david.mcnaull\AppData
ata\Local\Temp\
bfe103d-54ba-467d-9411-7f3175abfbc2\9b795083
Ptotal=124.80 mm Comments: 100yr 24hr 10min SCS type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	' hrs	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.17	2.25	12.33	17.97	18.50	2.25	
0.17	1.37	6.33	2.25	12.50	17.97	18.67	2.25	
0.33	1.37	6.50	2.25	12.67	9.24	18.83	2.25	
0.50	1.37	6.67	2.25	12.83	9.24	19.00	2.25	
0.67	1.37	6.83	2.25	13.00	9.24	19.17	2.25	
0.83	1.37	7.00	2.25	13.17	6.74	19.33	2.25	
1.00	1.37	7.17	2.75	13.33	6.74	19.50	2.25	
1.17	1.37	7.33	2.75	13.50	6.74	19.67	2.25	
1.33	1.37	7.50	2.75	13.67	5.24	19.83	2.25	
1.50	1.37	7.67	2.75	13.83	5.24	20.00	2.25	
1.67	1.37	7.83	2.75	14.00	5.24	20.17	1.50	
1.83	1.37	8.00	2.75	14.17	3.74	20.33	1.50	
2.00	1.37	8.17	3.24	14.33	3.74	20.50	1.50	
2.17	1.62	8.33	3.24	14.50	3.74	20.67	1.50	
2.33	1.62	8.50	3.24	14.67	3.74	20.83	1.50	
2.50	1.62	8.67	3.49	14.83	3.74	21.00	1.50	
2.67	1.62	8.83	3.49	15.00	3.74	21.17	1.50	
2.83	1.62	9.00	3.49	15.17	3.74	21.33	1.50	
3.00	1.62	9.17	3.99	15.33	3.74	21.50	1.50	
3.17	1.62	9.33	3.99	15.50	3.74	21.67	1.50	
3.33	1.62	9.50	3.99	15.67	3.74	21.83	1.50	
3.50	1.62	9.67	4.49	15.83	3.74	22.00	1.50	
3.67	1.62	9.83	4.49	16.00	3.74	22.17	1.50	
3.83	1.62	10.00	4.49	16.17	2.25	22.33	1.50	
4.00	1.62	10.17	5.74	16.33	2.25	22.50	1.50	
4.17	2.00	10.33	5.74	16.50	2.25	22.67	1.50	
4.33	2.00	10.50	5.74	16.67	2.25	22.83	1.50	
4.50	2.00	10.67	7.74	16.83	2.25	23.00	1.50	
4.67	2.00	10.83	7.74	17.00	2.25	23.17	1.50	
4.83	2.00	11.00	7.74	17.17	2.25	23.33	1.50	
5.00	2.00	11.17	11.98	17.33	2.25	23.50	1.50	
5.17	2.00	11.33	11.98	17.50	2.25	23.67	1.50	

5.33	2.00	11.50	11.98	17.67	2.25	23.83	1.50
5.50	2.00	11.67	36.94	17.83	2.25	24.00	1.50
5.67	2.00	11.83	94.85	18.00	2.25		
5.83	2.00	12.00	152.76	18.17	2.25		
6.00	2.00	12.17	17.97	18.33	2.25		

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

Area (ha)= 13.03
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.23

Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	' hrs	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.00	12.250	17.99	18.33	2.25	
0.167	0.00	6.250	2.25	12.333	17.97	18.42	2.25	
0.250	1.37	6.333	2.25	12.417	17.97	18.50	2.25	
0.333	1.37	6.417	2.25	12.500	17.97	18.58	2.25	
0.417	1.37	6.500	2.25	12.583	17.97	18.67	2.25	
0.500	1.37	6.583	2.25	12.667	17.97	18.75	2.25	
0.583	1.37	6.667	2.25	12.750	9.24	18.83	2.25	
0.667	1.37	6.750	2.25	12.833	9.24	18.92	2.25	
0.750	1.37	6.833	2.25	12.917	9.24	19.00	2.25	
0.833	1.37	6.917	2.25	13.000	9.24	19.08	2.25	
0.917	1.37	7.000	2.25	13.083	9.24	19.17	2.25	
1.000	1.37	7.083	2.25	13.167	9.24	19.25	2.25	
1.083	1.37	7.167	2.25	13.250	6.74	19.33	2.25	
1.167	1.37	7.250	2.75	13.333	6.74	19.42	2.25	
1.250	1.37	7.333	2.75	13.417	6.74	19.50	2.25	
1.333	1.37	7.417	2.75	13.500	6.74	19.58	2.25	
1.417	1.37	7.500	2.75	13.583	6.74	19.67	2.25	
1.500	1.37	7.583	2.75	13.667	6.74	19.75	2.25	
1.583	1.37	7.667	2.75	13.750	5.24	19.83	2.25	
1.667	1.37	7.750	2.75	13.833	5.24	19.92	2.25	
1.750	1.37	7.833	2.75	13.917	5.24	20.00	2.25	
1.833	1.37	7.917	2.75	14.000	5.24	20.08	2.25	
1.917	1.37	8.000	2.75	14.083	5.24	20.17	2.25	
2.000	1.37	8.083	2.75	14.167	5.24	20.25	1.50	
2.083	1.37	8.167	2.75	14.250	3.74	20.33	1.50	
2.167	1.37	8.250	3.24	14.333	3.74	20.42	1.50	
2.250	1.62	8.333	3.24	14.417	3.74	20.50	1.50	
2.333	1.62	8.417	3.24	14.500	3.74	20.58	1.50	
2.417	1.62	8.500	3.24	14.583	3.74	20.67	1.50	
2.500	1.62	8.583	3.24	14.667	3.74	20.75	1.50	
2.583	1.62	8.667	3.24	14.750	3.74	20.83	1.50	
2.667	1.62	8.750	3.49	14.833	3.74	20.92	1.50	
2.750	1.62	8.833	3.49	14.917	3.74	21.00	1.50	
2.833	1.62	8.917	3.49	15.000	3.74	21.08	1.50	
2.917	1.62	9.000	3.49	15.083	3.74	21.17	1.50	
3.000	1.62	9.083	3.49	15.167	3.74	21.25	1.50	
3.083	1.62	9.167	3.49	15.250	3.74	21.33	1.50	
3.167	1.62	9.250	3.99	15.333	3.74	21.42	1.50	
3.250	1.62	9.333	3.99	15.417	3.74	21.50	1.50	
3.333	1.62	9.417	3.99	15.500	3.74	21.58	1.50	
3.417	1.62	9.500	3.99	15.583	3.74	21.67	1.50	
3.500	1.62	9.583	3.99	15.667	3.74	21.75	1.50	
3.583	1.62	9.667	3.99	15.750	3.74	21.83	1.50	
3.667	1.62	9.750	4.49	15.833	3.74	21.92	1.50	
3.750	1.62	9.833	4.49	15.917	3.74	22.00	1.50	
3.833	1.62	9.917	4.49	16.000	3.74	22.08	1.50	
3.917	1.62	10.000	4.49	16.083	3.74	22.17	1.50	
4.000	1.62	10.083	4.49	16.167	3.74	22.25	1.50	
4.083	1.62	10.167	4.49	16.250	2.25	22.33	1.50	
4.167	1.62	10.250	5.74	16.333	2.25	22.42	1.50	
4.250	2.00	10.333	5.74	16.417	2.25	22.50	1.50	
4.333	2.00	10.417	5.74	16.500	2.25	22.58	1.50	
4.417	2.00	10.500	5.74	16.583	2.25	22.67	1.50	
4.500	2.00	10.583	5.74	16.667	2.25	22.75	1.50	
4.583	2.00	10.667	5.74	16.750	2.25	22.83	1.50	
4.667	2.00	10.750	7.74	16.833	2.25	22.92	1.50	
4.750	2.00	10.833	7.74	16.917	2.25	23.00	1.50	
4.833	2.00	10.917	7.74	17.000	2.25	23.08	1.50	
4.917	2.00	11.000	7.74	17.083	2.25	23.17	1.50	
5.000	2.00	11.083	7.74	17.167	2.25	23.25	1.50	
5.083	2.00	11.167	7.74	17.250	2.25	23.33	1.50	
5.167	2.00	11.250	11.98	17.333	2.25	23.42	1.50	
5.250	2.00	11.333	11.98	17.417	2.25	23.50	1.50	
5.333	2.00	11.417	11.98	17.500	2.25	23.58	1.50	

5.417	2.00	11.500	11.98	17.583	2.25	23.67	1.50
5.500	2.00	11.583	11.98	17.667	2.25	23.75	1.50
5.583	2.00	11.667	11.98	17.750	2.25	23.83	1.50
5.667	2.00	11.750	36.94	17.833	2.25	23.92	1.50
5.750	2.00	11.833	36.94	17.917	2.25	24.00	1.50
5.833	2.00	11.917	94.84	18.000	2.25	24.08	1.50
5.917	2.00	12.000	94.85	18.083	2.25	24.17	1.50
6.000	2.00	12.083	152.75	18.167	2.25		
6.083	2.00	12.167	152.76	18.250	2.25		

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.935 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 64.131
TOTAL RAINFALL (mm)= 124.800
RUNOFF COEFFICIENT = 0.514

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

CALIB					
NASHYD (0001)	Area (ha)=	6.34	Curve Number (CN)=	71.0	
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.

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	2.00	12.250	17.99	18.33	2.25
0.167	0.00	6.250	2.25	12.333	17.97	18.42	2.25
0.250	1.37	6.333	2.25	12.417	17.97	18.50	2.25
0.333	1.37	6.417	2.25	12.500	17.97	18.58	2.25
0.417	1.37	6.500	2.25	12.583	17.97	18.67	2.25
0.500	1.37	6.583	2.25	12.667	17.97	18.75	2.25
0.583	1.37	6.667	2.25	12.750	9.24	18.83	2.25
0.667	1.37	6.750	2.25	12.833	9.24	18.92	2.25
0.750	1.37	6.833	2.25	12.917	9.24	19.00	2.25
0.833	1.37	6.917	2.25	13.000	9.24	19.08	2.25
0.917	1.37	7.000	2.25	13.083	9.24	19.17	2.25
1.000	1.37	7.083	2.25	13.167	9.24	19.25	2.25
1.083	1.37	7.167	2.25	13.250	6.74	19.33	2.25
1.167	1.37	7.250	2.75	13.333	6.74	19.42	2.25
1.250	1.37	7.333	2.75	13.417	6.74	19.50	2.25
1.333	1.37	7.417	2.75	13.500	6.74	19.58	2.25
1.417	1.37	7.500	2.75	13.583	6.74	19.67	2.25
1.500	1.37	7.583	2.75	13.667	6.74	19.75	2.25
1.583	1.37	7.667	2.75	13.750	5.24	19.83	2.25
1.667	1.37	7.750	2.75	13.833	5.24	19.92	2.25
1.750	1.37	7.833	2.75	13.917	5.24	20.00	2.25
1.833	1.37	7.917	2.75	14.000	5.24	20.08	2.25
1.917	1.37	8.000	2.75	14.083	5.24	20.17	2.25
2.000	1.37	8.083	2.75	14.167	5.24	20.25	1.50
2.083	1.37	8.167	2.75	14.250	3.74	20.33	1.50
2.167	1.37	8.250	3.24	14.333	3.74	20.42	1.50
2.250	1.62	8.333	3.24	14.417	3.74	20.50	1.50
2.333	1.62	8.417	3.24	14.500	3.74	20.58	1.50
2.417	1.62	8.500	3.24	14.583	3.74	20.67	1.50
2.500	1.62	8.583	3.24	14.667	3.74	20.75	1.50
2.583	1.62	8.667	3.24	14.750	3.74	20.83	1.50
2.667	1.62	8.750	3.49	14.833	3.74	20.92	1.50
2.750	1.62	8.833	3.49	14.917	3.74	21.00	1.50
2.833	1.62	8.917	3.49	15.000	3.74	21.08	1.50
2.917	1.62	9.000	3.49	15.083	3.74	21.17	1.50
3.000	1.62	9.083	3.49	15.167	3.74	21.25	1.50
3.083	1.62	9.167	3.49	15.250	3.74	21.33	1.50
3.167	1.62	9.250	3.99	15.333	3.74	21.42	1.50
3.250	1.62	9.333	3.99	15.417	3.74	21.50	1.50
3.333	1.62	9.417	3.99	15.500	3.74	21.58	1.50
3.417	1.62	9.500	3.99	15.583	3.74	21.67	1.50
3.500	1.62	9.583	3.99	15.667	3.74	21.75	1.50
3.583	1.62	9.667	3.99	15.750	3.74	21.83	1.50
3.667	1.62	9.750	4.49	15.833	3.74	21.92	1.50
3.750	1.62	9.833	4.49	15.917	3.74	22.00	1.50
3.833	1.62	9.917	4.49	16.000	3.74	22.08	1.50
3.917	1.62	10.000	4.49	16.083	3.74	22.17	1.50
4.000	1.62	10.083	4.49	16.167	3.74	22.25	1.50
4.083	1.62	10.167	4.49	16.250	2.25	22.33	1.50
4.167	1.62	10.250	5.74	16.333	2.25	22.42	1.50
4.250	2.00	10.333	5.74	16.417	2.25	22.50	1.50

4.333	2.00	10.417	5.74	16.500	2.25	22.58	1.50
4.417	2.00	10.500	5.74	16.583	2.25	22.67	1.50
4.500	2.00	10.583	5.74	16.667	2.25	22.75	1.50
4.583	2.00	10.667	5.74	16.750	2.25	22.83	1.50
4.667	2.00	10.750	7.74	16.833	2.25	22.92	1.50
4.750	2.00	10.833	7.74	16.917	2.25	23.00	1.50
4.833	2.00	10.917	7.74	17.000	2.25	23.08	1.50
4.917	2.00	11.000	7.74	17.083	2.25	23.17	1.50
5.000	2.00	11.083	7.74	17.167	2.25	23.25	1.50
5.083	2.00	11.167	7.74	17.250	2.25	23.33	1.50
5.167	2.00	11.250	11.98	17.333	2.25	23.42	1.50
5.250	2.00	11.333	11.98	17.417	2.25	23.50	1.50
5.333	2.00	11.417	11.98	17.500	2.25	23.58	1.50
5.417	2.00	11.500	11.98	17.583	2.25	23.67	1.50
5.500	2.00	11.583	11.98	17.667	2.25	23.75	1.50
5.583	2.00	11.667	11.98	17.750	2.25	23.83	1.50
5.667	2.00	11.750	36.94	17.833	2.25	23.92	1.50
5.750	2.00	11.833	36.94	17.917	2.25	24.00	1.50
5.833	2.00	11.917	94.84	18.000	2.25	24.08	1.50
5.917	2.00	12.000	94.85	18.083	2.25	24.17	1.50
6.000	2.00	12.083	152.75	18.167	2.25		
6.083	2.00	12.167	152.76	18.250	2.25		

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.597 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 64.196
TOTAL RAINFALL (mm)= 124.800
RUNOFF COEFFICIENT = 0.514

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

ADD HYD (0003)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0001):	6.34	0.597	12.50	64.20
+ ID2= 2 (0002):	13.03	1.935	12.25	64.13
ID = 3 (0003):	19.37	2.407	12.25	64.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
V	V	I	SS	U	U	A	A	L
V	V	I	SS	U	U	AAAA	L	
V	V	I	SS	U	U	A	A	L
VV	I	SSSSS	UUUUU	A	A	LLLL		
OOO	TTTT	TTTT	H	H	Y	Y	M	M
O	O	T	T	H	H	Y	Y	M
O	O	T	T	H	H	Y	M	M
OOO	T	T	H	H	Y	M	M	OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\VOIN.DAT
Output filename: C:\Users\David.McNaull\AppData\Local\Civica\WH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d8e16
Summary filename: C:\Users\David.McNaull\AppData\Local\Civica\WH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d8e16

DATE: 03-13-2026

TIME: 06:57:11

USER:

COMMENTS:

** SIMULATION : X- Timmins **

READ STORM
Ptotal=193.00 mm

Filename: C:\Users\david.mcnau11\AppData\Local\Temp\bfe103d-54ba-467d-9411-7f3175abfbc2\ddecdaed
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	3.00	3.00	6.00	43.00	9.00	13.00
0.50	15.00	3.50	3.00	6.50	43.00	9.50	13.00
1.00	20.00	4.00	5.00	7.00	20.00	10.00	13.00
1.50	20.00	4.50	5.00	7.50	20.00	10.50	13.00
2.00	10.00	5.00	20.00	8.00	23.00	11.00	8.00
2.50	10.00	5.50	20.00	8.50	23.00	11.50	8.00

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

Area (ha)= 13.03 Curve Number (CN)= 71.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.23

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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 2.164

PEAK FLOW (cms)= 1.138 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 121.013
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.627

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

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

Area (ha)= 6.34 Curve Number (CN)= 71.0
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.

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW (cms)= 0.499 (i)
TIME TO PEAK (hrs)= 7.083
RUNOFF VOLUME (mm)= 121.136
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.628

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

ADD HYD (0003)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0001):	6.34	0.499	7.08	121.14
+ ID2= 2 (0002):	13.03	1.138	7.00	121.01
ID = 3 (0003):	19.37	1.626	7.00	121.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V V I SSSS U U A L (v 6.2.2021)

V V I SS U U A A L

V V I SS U U A A A A L

V V I SS U U A A L

V V I SSSS UUUU A A LLLLL

000 TTTT TTTT H H Y Y M M 000 TM

O O T T H H Y Y M M O O

O O T T H H Y Y M M O O

000 T T H H Y Y M M 000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat

Output filename: C:\Users\david.mcnaul1\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\78540

Summary filename: C:\Users\david.mcnaul1\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\78540

DATE: 03-13-2026 TIME: 06:58:49

USER:

COMMENTS: **Post Development**

** SIMULATION : A- 2 year Chicago **

CHICAGO STORM IDF curve parameters: A= 645.000

Ptotal= 34.17 mm B= 5.000

C= 0.786

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	2.25	1.00	17.56	2.00	5.28	3.00	2.67
0.17	2.57	1.17	76.76	2.17	4.49	3.17	2.48
0.33	3.02	1.33	23.03	2.33	3.93	3.33	2.32
0.50	3.71	1.50	12.12	2.50	3.50	3.50	2.18
0.67	4.88	1.67	8.35	2.67	3.16	3.67	2.06
0.83	7.39	1.83	6.44	2.83	2.89	3.83	1.95

CALIB STANDHYD (0005) Area (ha)= 0.72

ID= 1 DT= 5.0 min Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00

Surface Area (ha)= 0.50 IMPERVIOUS 0.22

Dep. Storage (mm)= 1.00 PERVIOUS (i) 1.50

Average Slope (%)= 1.00 2.00

Length (m)= 69.28 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	2.25	1.083	17.56	2.083	5.28	3.08	2.67
0.167	2.25	1.167	17.56	2.167	5.28	3.17	2.67
0.250	2.57	1.250	76.76	2.250	4.49	3.25	2.48
0.333	2.57	1.333	76.76	2.333	4.49	3.33	2.48
0.417	3.02	1.417	23.03	2.417	3.93	3.42	2.32
0.500	3.02	1.500	23.03	2.500	3.93	3.50	2.32

0.583	3.71	1.583	12.12	2.583	3.50	3.58	2.18
0.667	3.71	1.667	12.12	2.667	3.50	3.67	2.18
0.750	4.88	1.750	8.35	2.750	3.16	3.75	2.06
0.833	4.88	1.833	8.35	2.833	3.16	3.83	2.06
0.917	7.39	1.917	6.44	2.917	2.89	3.92	1.95
1.000	7.39	2.000	6.44	3.000	2.89	4.00	1.95

Max.Eff.Inten.(mm/hr)= 76.76 10.77

over (min)= 5.00 20.00

Storage Coeff. (min)= 2.28 (ii) 19.49 (ii)

Unit Hyd. Tpeak (min)= 5.00 20.00

Unit Hyd. peak (cms)= 0.30 0.06

PEAK FLOW (cms)= 0.11 0.00 *TOTALS*

TIME TO PEAK (hrs)= 1.33 1.58 0.108 (iii)

RUNOFF VOLUME (mm)= 33.17 7.82 1.33

TOTAL RAINFALL (mm)= 34.17 34.17 25.55

RUNOFF COEFFICIENT = 0.97 0.23 34.17

0.75

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 71.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.

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

CALIB STANDHYD (0004) Area (ha)= 9.64

ID= 1 DT= 5.0 min Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

Surface Area (ha)= 2.60 IMPERVIOUS 7.04

Dep. Storage (mm)= 1.00 1.50

Average Slope (%)= 1.00 2.00

Length (m)= 253.51 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	2.25	1.083	17.56	2.083	5.28	3.08	2.67
0.167	2.25	1.167	17.56	2.167	5.28	3.17	2.67
0.250	2.57	1.250	76.76	2.250	4.49	3.25	2.48
0.333	2.57	1.333	76.76	2.333	4.49	3.33	2.48
0.417	3.02	1.417	23.03	2.417	3.93	3.42	2.32
0.500	3.02	1.500	23.03	2.500	3.93	3.50	2.32
0.583	3.71	1.583	12.12	2.583	3.50	3.58	2.18
0.667	3.71	1.667	12.12	2.667	3.50	3.67	2.18
0.750	4.88	1.750	8.35	2.750	3.16	3.75	2.06
0.833	4.88	1.833	8.35	2.833	3.16	3.83	2.06
0.917	7.39	1.917	6.44	2.917	2.89	3.92	1.95
1.000	7.39	2.000	6.44	3.000	2.89	4.00	1.95

Max.Eff.Inten.(mm/hr)= 76.76 15.68

over (min)= 5.00 20.00

Storage Coeff. (min)= 4.96 (ii) 19.77 (ii)

Unit Hyd. Tpeak (min)= 5.00 20.00

Unit Hyd. peak (cms)= 0.22 0.06

PEAK FLOW (cms)= 0.29 0.16 *TOTALS*

TIME TO PEAK (hrs)= 1.33 1.58 0.350 (iii)

RUNOFF VOLUME (mm)= 33.17 8.78 1.33

TOTAL RAINFALL (mm)= 34.17 34.17 12.68

RUNOFF COEFFICIENT = 0.97 0.26 34.17

0.37

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

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%

YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 71.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.

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

ADD HYD (0006)				
1 + 2 = 3				
ID1= 1 (0004):	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (0005):	9.64	0.350	1.33	12.68
	0.72	0.108	1.33	25.55
ID = 3 (0006):	10.36	0.457	1.33	13.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min				
**** WARNING : FIRST	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.1231	0.0000	0.9421	0.1619
	0.1601	0.0754	1.0216	0.2200
	0.8851	0.1260	1.0368	0.2322
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0006)	10.360	0.457	1.33	13.57
OUTFLOW: ID= 1 (0007)	10.360	0.142	2.08	13.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.01
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.0394

CALIB		
NASHYD (0009)	Area (ha)= 6.20	Curve Number (CN)= 71.0
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	2.25	1.083	17.56	2.083	5.28	3.08	2.67
0.167	2.25	1.167	17.56	2.167	5.28	3.17	2.67
0.250	2.57	1.250	76.76	2.250	4.49	3.25	2.48
0.333	2.57	1.333	76.76	2.333	4.49	3.33	2.48
0.417	3.02	1.417	23.03	2.417	3.93	3.42	2.32
0.500	3.02	1.500	23.03	2.500	3.93	3.50	2.32
0.583	3.71	1.583	12.12	2.583	3.50	3.58	2.18
0.667	3.71	1.667	12.12	2.667	3.50	3.67	2.18
0.750	4.88	1.750	8.35	2.750	3.16	3.75	2.06
0.833	4.88	1.833	8.35	2.833	3.16	3.83	2.06
0.917	7.39	1.917	6.44	2.917	2.89	3.92	1.95
1.000	7.39	2.000	6.44	3.000	2.89	4.00	1.95

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.068 (i)
TIME TO PEAK (hrs)= 1.917
RUNOFF VOLUME (mm)= 6.399
TOTAL RAINFALL (mm)= 34.166
RUNOFF COEFFICIENT = 0.187

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

CALIB			
STANDHYD (0008)		Area (ha)=	3.04
ID= 1 DT= 5.0 min		Total Imp(%)=	30.00
		Dir. Conn.(%)=	17.00
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.91	2.13
Dep. Storage	(mm)=	1.00	1.50
Average slope	(%)=	1.00	2.00
Length	(m)=	142.36	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	2.25	1.083	17.56	2.083	5.28	3.08	2.67
0.167	2.25	1.167	17.56	2.167	5.28	3.17	2.67
0.250	2.57	1.250	76.76	2.250	4.49	3.25	2.48
0.333	2.57	1.333	76.76	2.333	4.49	3.33	2.48
0.417	3.02	1.417	23.03	2.417	3.93	3.42	2.32
0.500	3.02	1.500	23.03	2.500	3.93	3.50	2.32
0.583	3.71	1.583	12.12	2.583	3.50	3.58	2.18
0.667	3.71	1.667	12.12	2.667	3.50	3.67	2.18
0.750	4.88	1.750	8.35	2.750	3.16	3.75	2.06
0.833	4.88	1.833	8.35	2.833	3.16	3.83	2.06
0.917	7.39	1.917	6.44	2.917	2.89	3.92	1.95
1.000	7.39	2.000	6.44	3.000	2.89	4.00	1.95

Max.Eff.Inten.(mm/hr)= 76.76
over (min)= 5.00
Storage Coeff. (min)= 3.51 (ii)
Unit Hyd. Tpeak (min)= 5.00
Unit Hyd. peak (cms)= 0.26

PEAK FLOW (cms)= 0.11
TIME TO PEAK (hrs)= 1.33
RUNOFF VOLUME (mm)= 33.17
TOTAL RAINFALL (mm)= 34.17
RUNOFF COEFFICIENT = 0.97

TOTALS
0.124 (iii)
1.33
13.10
34.17
0.38

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)				
1 + 2 = 3				
ID1= 1 (0007):	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (0008):	10.36	0.142	2.08	13.58
	3.04	0.124	1.33	13.10
ID = 3 (0010):	13.40	0.253	1.33	13.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)				
3 + 2 = 1				
ID1= 3 (0010):	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (0009):	13.40	0.253	1.33	13.47
	6.20	0.068	1.92	6.40
ID = 1 (0010):	19.60	0.270	1.67	11.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUU A A LLLLL
000 TTTTT TTTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\david.mcnault\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d0e41'
Summary filename: C:\Users\david.mcnault\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d0e41'

DATE: 03-13-2026 TIME: 06:58:49

USER:

COMMENTS: _____

** SIMULATION : B- 5 year Chicago **

CHICAGO STORM
Ptotal= 47.36 mm

IDF curve parameters: A= 904.000
B= 5.000
C= 0.788
used in: INTENSITY = A / (t + B)^AC

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	24.35	2.00	7.28	3.00	3.67
0.17	3.54	1.17	107.01	2.17	6.19	3.17	3.41
0.33	4.16	1.33	31.95	2.33	5.41	3.33	3.19
0.50	5.11	1.50	16.78	2.50	4.82	3.50	3.00
0.67	6.73	1.67	11.54	2.67	4.36	3.67	2.83
0.83	10.20	1.83	8.89	2.83	3.98	3.83	2.68

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min

Area (ha)= 0.72
Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00
IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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

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	24.35	2.083	7.28	3.08	3.67
0.167	3.09	1.167	24.35	2.167	7.28	3.17	3.67
0.250	3.54	1.250	107.01	2.250	6.19	3.25	3.41
0.333	3.54	1.333	107.01	2.333	6.19	3.33	3.41
0.417	4.16	1.417	31.95	2.417	5.41	3.42	3.19
0.500	4.16	1.500	31.95	2.500	5.41	3.50	3.19
0.583	5.11	1.583	16.78	2.583	4.82	3.58	3.00
0.667	5.11	1.667	16.78	2.667	4.82	3.67	3.00
0.750	6.73	1.750	11.54	2.750	4.36	3.75	2.83
0.833	6.73	1.833	11.54	2.833	4.36	3.83	2.83
0.917	10.20	1.917	8.89	2.917	3.98	3.92	2.68
1.000	10.20	2.000	8.89	3.000	3.98	4.00	2.68

Max.Eff.Inten.(mm/hr)= 107.01 27.51
over (min)= 5.00 10.00
Storage Coeff. (min)= 1.99 (ii) 6.89 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.31 0.14

TOTALS
PEAK FLOW (cms)= 0.15 0.01 0.159 (iii)
TIME TO PEAK (hrs)= 1.33 1.42 1.33
RUNOFF VOLUME (mm)= 46.36 14.06 36.66
TOTAL RAINFALL (mm)= 47.36 47.36 47.36
RUNOFF COEFFICIENT = 0.98 0.30 0.77

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00
IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 40.00
Mannings n = 0.013 0.250

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

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	24.35	2.083	7.28	3.08	3.67
0.167	3.09	1.167	24.35	2.167	7.28	3.17	3.67
0.250	3.54	1.250	107.01	2.250	6.19	3.25	3.41
0.333	3.54	1.333	107.01	2.333	6.19	3.33	3.41
0.417	4.16	1.417	31.95	2.417	5.41	3.42	3.19
0.500	4.16	1.500	31.95	2.500	5.41	3.50	3.19
0.583	5.11	1.583	16.78	2.583	4.82	3.58	3.00
0.667	5.11	1.667	16.78	2.667	4.82	3.67	3.00
0.750	6.73	1.750	11.54	2.750	4.36	3.75	2.83
0.833	6.73	1.833	11.54	2.833	4.36	3.83	2.83
0.917	10.20	1.917	8.89	2.917	3.98	3.92	2.68
1.000	10.20	2.000	8.89	3.000	3.98	4.00	2.68

Max.Eff.Inten.(mm/hr)= 107.01 28.78
over (min)= 5.00 20.00
Storage Coeff. (min)= 4.34 (ii) 15.96 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.23 0.07

TOTALS
PEAK FLOW (cms)= 0.42 0.33 0.543 (iii)
TIME TO PEAK (hrs)= 1.33 1.58 1.33
RUNOFF VOLUME (mm)= 46.36 15.37 20.50
TOTAL RAINFALL (mm)= 47.36 47.36 47.36
RUNOFF COEFFICIENT = 0.98 0.33 0.43

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)
1 + 2 = 3

AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm)
ID1= 1 (0004): 9.64 0.543 1.33 20.50
+ ID2= 2 (0005): 0.72 0.159 1.33 36.66
=====

ID = 3 (0006): 10.36 0.702 1.33 21.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)
IN= 2--> OUT= 1
DT= 5.0 min

OVERFLOW IS OFF

OUTFLOW (cms) STORAGE (ha.m.) | OUTFLOW (cms) STORAGE (ha.m.)
**** WARNING : FIRST OUTFLOW IS NOT ZERO.
0.1231 0.0000 | 0.9421 0.1619
0.1601 0.0754 | 1.0216 0.2200
0.8851 0.1260 | 1.0368 0.2322

AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm)
INFLOW : ID= 2 (0006) 10.360 0.702 1.33 21.62
OUTFLOW: ID= 1 (0007) 10.360 0.241 2.00 21.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.28
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.0812

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

Area (ha)= 6.20
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.44

Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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

--- TRANSFORMED HYETOGRAPH ---			
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.09	1.083	24.35
0.167	3.09	1.167	24.35
0.250	3.54	1.250	107.01
0.333	3.54	1.333	107.01
0.417	4.16	1.417	31.95
0.500	4.16	1.500	31.95
0.583	5.11	1.583	16.78
0.667	5.11	1.667	16.78
0.750	6.73	1.750	11.54
0.833	6.73	1.833	11.54
0.917	10.20	1.917	8.89
1.000	10.20	2.000	8.89

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.138 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 12.280
TOTAL RAINFALL (mm)= 47.361
RUNOFF COEFFICIENT = 0.259

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

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min

Area (ha)= 3.04
Total Imp(%)= 30.00
Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)

Surface Area (ha)= 0.91
Dep. Storage (mm)= 1.00
Average Slope (%)= 1.00
Length (m)= 142.36
Mannings n = 0.013

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

--- TRANSFORMED HYETOGRAPH ---			
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.09	1.083	24.35
0.167	3.09	1.167	24.35
0.250	3.54	1.250	107.01
0.333	3.54	1.333	107.01
0.417	4.16	1.417	31.95
0.500	4.16	1.500	31.95
0.583	5.11	1.583	16.78
0.667	5.11	1.667	16.78
0.750	6.73	1.750	11.54
0.833	6.73	1.833	11.54
0.917	10.20	1.917	8.89
1.000	10.20	2.000	8.89

Max.Eff.Inten.(mm/hr)= 107.01
over (min)= 5.00
Storage Coeff. (min)= 3.07 (ii)
Unit Hyd. Tpeak (min)= 5.00
Unit Hyd. peak (cms)= 0.27

TOTALS
PEAK FLOW (cms)= 0.15
TIME TO PEAK (hrs)= 1.33
RUNOFF VOLUME (mm)= 46.36
TOTAL RAINFALL (mm)= 47.36
RUNOFF COEFFICIENT = 0.98

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.241	2.00	21.64
+ ID2= 2 (0008):	3.04	0.206	1.33	21.08
ID = 3 (0010):	13.40	0.340	1.33	21.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	0.340	1.33	21.51
+ ID2= 2 (0009):	6.20	0.138	1.83	12.28
ID = 1 (0010):	19.60	0.441	1.92	18.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSS UUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\dauid.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\es809.
Summary filename: C:\Users\dauid.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\es809.

DATE: 03-13-2026

TIME: 06:58:50

USER:

COMMENTS: _____

** SIMULATION : C- 10 year Chiacgo **

CHICAGO STORM
Ptotal= 55.80 mm

IDF curve parameters: A=1065.000
B= 5.000
C= 0.788

used in: INTENSITY = A / (t + B)^AC

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	3.64	1.00	28.69	2.00	8.57	3.00	4.32
0.17	4.17	1.17	126.06	2.17	7.30	3.17	4.02
0.33	4.90	1.33	37.65	2.33	6.38	3.33	3.76
0.50	6.02	1.50	19.77	2.50	5.68	3.50	3.53
0.67	7.93	1.67	13.60	2.67	5.13	3.67	3.33
0.83	12.02	1.83	10.47	2.83	4.69	3.83	3.16

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min

Area (ha)= 0.72
Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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	3.64	1.083	28.69	2.083	8.57	3.08	4.32
0.167	3.64	1.167	28.69	2.167	8.57	3.17	4.32
0.250	4.17	1.250	126.06	2.250	7.30	3.25	4.02
0.333	4.17	1.333	126.06	2.333	7.30	3.33	4.02
0.417	4.90	1.417	37.65	2.417	6.38	3.42	3.76
0.500	4.90	1.500	37.65	2.500	6.38	3.50	3.76
0.583	6.02	1.583	19.77	2.583	5.68	3.58	3.53
0.667	6.02	1.667	19.77	2.667	5.68	3.67	3.53
0.750	7.93	1.750	13.60	2.750	5.13	3.75	3.33
0.833	7.93	1.833	13.60	2.833	5.13	3.83	3.33
0.917	12.02	1.917	10.47	2.917	4.69	3.92	3.16
1.000	12.02	2.000	10.47	3.000	4.69	4.00	3.16

Max.Eff.Inten.(mm/hr)= 126.06 37.15
over (min)= 5.00 10.00
Storage Coeff. (min)= 1.87 (ii) 6.45 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.32 0.14

PEAK FLOW (cms)= 0.18 0.02 *TOTALS*
TIME TO PEAK (hrs)= 1.33 1.42 0.190 (iii)
RUNOFF VOLUME (mm)= 54.80 18.65 1.33
TOTAL RAINFALL (mm)= 55.80 55.80 43.95
RUNOFF COEFFICIENT = 0.98 0.33 0.79

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 40.00
Mannings n = 0.013 0.250

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	3.64	1.083	28.69	2.083	8.57	3.08	4.32
0.167	3.64	1.167	28.69	2.167	8.57	3.17	4.32

0.250	4.17	1.250	126.06	2.250	7.30	3.25	4.02
0.333	4.17	1.333	126.06	2.333	7.30	3.33	4.02
0.417	4.90	1.417	37.65	2.417	6.38	3.42	3.76
0.500	4.90	1.500	37.65	2.500	6.38	3.50	3.76
0.583	6.02	1.583	19.77	2.583	5.68	3.58	3.53
0.667	6.02	1.667	19.77	2.667	5.68	3.67	3.53
0.750	7.93	1.750	13.60	2.750	5.13	3.75	3.33
0.833	7.93	1.833	13.60	2.833	5.13	3.83	3.33
0.917	12.02	1.917	10.47	2.917	4.69	3.92	3.16
1.000	12.02	2.000	10.47	3.000	4.69	4.00	3.16

Max.Eff.Inten.(mm/hr)= 126.06 47.77
over (min)= 5.00 15.00
Storage Coeff. (min)= 4.07 (ii) 13.55 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.24 0.08

PEAK FLOW (cms)= 0.50 0.50 *TOTALS*
TIME TO PEAK (hrs)= 1.33 1.50 0.754 (iii)
RUNOFF VOLUME (mm)= 54.80 20.53 1.33
TOTAL RAINFALL (mm)= 55.80 55.80 26.01
RUNOFF COEFFICIENT = 0.98 0.37 0.47

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	0.754	1.33	26.01
+ ID2= 2 (0005):	0.72	0.190	1.33	43.95
ID = 3 (0006):	10.36	0.944	1.33	27.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
**** WARNING : FIRST OUTFLOW IS NOT ZERO.	0.1231	0.0000	0.9421	0.1619
	0.1601	0.0754	1.0216	0.2200
	0.8851	0.1260	1.0368	0.2322

INFLOW : ID= 2 (0006)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
OUTFLOW: ID= 1 (0007)	10.360	0.944	1.33	27.26
	10.360	0.429	1.75	27.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 45.42
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0944

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

Area (ha)= 6.20 Curve Number (CN)= 71.0
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.

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.64	1.083	28.69	2.083	8.57	3.08	4.32
0.167	3.64	1.167	28.69	2.167	8.57	3.17	4.32
0.250	4.17	1.250	126.06	2.250	7.30	3.25	4.02
0.333	4.17	1.333	126.06	2.333	7.30	3.33	4.02
0.417	4.90	1.417	37.65	2.417	6.38	3.42	3.76
0.500	4.90	1.500	37.65	2.500	6.38	3.50	3.76

0.583	6.02	1.583	19.77	2.583	5.68	3.58	3.53
0.667	6.02	1.667	19.77	2.667	5.68	3.67	3.53
0.750	7.93	1.750	13.60	2.750	5.13	3.75	3.33
0.833	7.93	1.833	13.60	2.833	5.13	3.83	3.33
0.917	12.02	1.917	10.47	2.917	4.69	3.92	3.16
1.000	12.02	2.000	10.47	3.000	4.69	4.00	3.16

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.191 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 16.694
TOTAL RAINFALL (mm)= 55.796
RUNOFF COEFFICIENT = 0.299

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

CALIB STANDHYD (0008) ID= 1 DT= 5.0 min	Area (ha)= 3.04 Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00
--	--

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.91	2.13
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	142.36	40.00
Mannings n =	0.013	0.250

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

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	3.64	1.083	28.69	2.083	8.57	3.08	4.32
0.167	3.64	1.167	28.69	2.167	8.57	3.17	4.32
0.250	4.17	1.250	126.06	2.250	7.30	3.25	4.02
0.333	4.17	1.333	126.06	2.333	7.30	3.33	4.02
0.417	4.90	1.417	37.65	2.417	6.38	3.42	3.76
0.500	4.90	1.500	37.65	2.500	6.38	3.50	3.76
0.583	6.02	1.583	19.77	2.583	5.68	3.58	3.53
0.667	6.02	1.667	19.77	2.667	5.68	3.67	3.53
0.750	7.93	1.750	13.60	2.750	5.13	3.75	3.33
0.833	7.93	1.833	13.60	2.833	5.13	3.83	3.33
0.917	12.02	1.917	10.47	2.917	4.69	3.92	3.16
1.000	12.02	2.000	10.47	3.000	4.69	4.00	3.16

Max.Eff.Inten.(mm/hr)=	126.06	50.36
over (min)	5.00	15.00
Storage Coeff. (min)=	2.88 (ii)	12.16 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.09

TOTALS
0.262 (iii)
0.48

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010) 1 + 2 = 3	AREA (ha)= 10.36 Total Imp(%)= 3.04 Dir. Conn.(%)= 17.00	QPEAK (cms)= 0.429 TPEAK (hrs)= 1.75 R.V. (mm)= 27.28
------------------------------	--	---

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010) 3 + 2 = 1	AREA (ha)= 13.40 Total Imp(%)= 6.20 Dir. Conn.(%)= 17.00	QPEAK (cms)= 0.560 TPEAK (hrs)= 1.75 R.V. (mm)= 27.15
------------------------------	--	---

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

(v 6.2.2021)

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

Input filename: C:\Program Files (x86)\visual OTTHYMO 6.2\vo2\voin.dat
Output filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d01d1
Summary filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d01d1

DATE: 03-13-2026

TIME: 06:58:49

USER:

COMMENTS: _____

** SIMULATION : D- 25 year Chicago **

CHICAGO STORM Ptotal= 65.69 mm	IDF curve parameters: A=1243.000 B= 4.000 C= 0.787 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	4.23	1.00	32.40	2.00	9.83	3.00	5.02
0.17	4.84	1.17	155.76	2.17	8.39	3.17	4.67
0.33	5.68	1.33	42.52	2.33	7.35	3.33	4.37
0.50	6.95	1.50	22.32	2.50	6.56	3.50	4.11
0.67	9.10	1.67	15.45	2.67	5.94	3.67	3.88
0.83	13.68	1.83	11.95	2.83	5.44	3.83	3.68

CALIB STANDHYD (0005) ID= 1 DT= 5.0 min	Area (ha)= 0.72 Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00
--	--

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.22
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	69.28	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.23	1.083	32.40	2.083	9.83	3.08	5.02
0.167	4.23	1.167	32.40	2.167	9.83	3.17	5.02
0.250	4.84	1.250	155.76	2.250	8.39	3.25	4.67
0.333	4.84	1.333	155.76	2.333	8.39	3.33	4.67
0.417	5.68	1.417	42.52	2.417	7.35	3.42	4.37
0.500	5.68	1.500	42.52	2.500	7.35	3.50	4.37
0.583	6.95	1.583	22.32	2.583	6.56	3.58	4.11
0.667	6.95	1.667	22.32	2.667	6.56	3.67	4.11
0.750	9.10	1.750	15.45	2.750	5.94	3.75	3.88
0.833	9.10	1.833	15.45	2.833	5.94	3.83	3.88
0.917	13.68	1.917	11.95	2.917	5.44	3.92	3.68
1.000	13.68	2.000	11.95	3.000	5.44	4.00	3.68

Max.Eff.Inten.(mm/hr)= 155.76
over (min)= 5.00
Storage Coeff. (min)= 1.72 (ii)
Unit Hyd. Tpeak (min)= 5.00
Unit Hyd. peak (cms)= 0.32

PEAK FLOW (cms)= 0.22
TIME TO PEAK (hrs)= 1.33
RUNOFF VOLUME (mm)= 64.69
TOTAL RAINFALL (mm)= 65.69
RUNOFF COEFFICIENT = 0.98

52.44
10.00
5.93 (ii)
10.00
0.15

TOTALS
0.238 (iii)
1.42
52.64
65.69
0.80

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00	Dir. Conn.(%)= 16.00
--	--	----------------------

Surface Area (ha)= 2.60 Dep. Storage (mm)= 1.00 Average Slope (%)= 1.00 Length (m)= 253.51 Mannings n = 0.013	IMPERVIOUS 7.04 PERVIOUS (i) 1.50 2.00 40.00 0.250
---	--

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

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.23	1.083	32.40	2.083	9.83	3.08	5.02
0.167	4.23	1.167	32.40	2.167	9.83	3.17	5.02
0.250	4.84	1.250	155.76	2.250	8.39	3.25	4.67
0.333	4.84	1.333	155.76	2.333	8.39	3.33	4.67
0.417	5.68	1.417	42.52	2.417	7.35	3.42	4.37
0.500	5.68	1.500	42.52	2.500	7.35	3.50	4.37
0.583	6.95	1.583	22.32	2.583	6.56	3.58	4.11
0.667	6.95	1.667	22.32	2.667	6.56	3.67	4.11
0.750	9.10	1.750	15.45	2.750	5.94	3.75	3.88
0.833	9.10	1.833	15.45	2.833	5.94	3.83	3.88
0.917	13.68	1.917	11.95	2.917	5.44	3.92	3.68
1.000	13.68	2.000	11.95	3.000	5.44	4.00	3.68

Max.Eff.Inten.(mm/hr)= 155.76
over (min)= 5.00
Storage Coeff. (min)= 3.74 (ii)
Unit Hyd. Tpeak (min)= 5.00
Unit Hyd. peak (cms)= 0.25

PEAK FLOW (cms)= 0.63
TIME TO PEAK (hrs)= 1.33
RUNOFF VOLUME (mm)= 64.69
TOTAL RAINFALL (mm)= 65.69
RUNOFF COEFFICIENT = 0.98

66.96
15.00
12.02 (ii)
15.00
0.09

TOTALS
1.002 (iii)
1.50
32.88
65.69
0.50

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

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006) 1 + 2 = 3	AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm)	9.64 1.002 1.33 32.88	0.72 0.238 1.33 52.64	10.36 1.240 1.33 34.26
------------------------------	--	--------------------------------	--------------------------------	---------------------------------

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) IN= 2---> OUT= 1 DT= 5.0 min	OVERFLOW IS OFF	OUTFLOW (cms) STORAGE (ha.m.)	OUTFLOW (cms) STORAGE (ha.m.)		
***** WARNING : FIRST OUTFLOW IS NOT ZERO.		0.1231 0.1601 0.8851	0.0000 0.0754 0.1260	0.9421 1.0216 1.0368	0.1619 0.2200 0.2322

INFLOW : ID= 2 (0006) OUTFLOW: ID= 1 (0007)	AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm)	10.360 1.240 1.67 34.26	0.656 1.33 34.30
--	--	----------------------------------	------------------------

PEAK FLOW REDUCTION [Qout/Qin](%)= 52.90
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.1106

CALIB NASHYD (0009) ID= 1 DT= 5.0 min	Area (ha)= 6.20 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.44	Curve Number (CN)= 71.0 # of Linear Res.(N)= 3.00
--	--	--

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

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.23	1.083	32.40	2.083	9.83	3.08	5.02
0.167	4.23	1.167	32.40	2.167	9.83	3.17	5.02
0.250	4.84	1.250	155.76	2.250	8.39	3.25	4.67
0.333	4.84	1.333	155.76	2.333	8.39	3.33	4.67
0.417	5.68	1.417	42.52	2.417	7.35	3.42	4.37
0.500	5.68	1.500	42.52	2.500	7.35	3.50	4.37
0.583	6.95	1.583	22.32	2.583	6.56	3.58	4.11
0.667	6.95	1.667	22.32	2.667	6.56	3.67	4.11
0.750	9.10	1.750	15.45	2.750	5.94	3.75	3.88
0.833	9.10	1.833	15.45	2.833	5.94	3.83	3.88
0.917	13.68	1.917	11.95	2.917	5.44	3.92	3.68
1.000	13.68	2.000	11.95	3.000	5.44	4.00	3.68

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.263 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 22.399
TOTAL RAINFALL (mm)= 65.692
RUNOFF COEFFICIENT = 0.341

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

CALIB STANDHYD (0008) ID= 1 DT= 5.0 min	Area (ha)= 3.04 Total Imp(%)= 30.00	Dir. Conn.(%)= 17.00
--	--	----------------------

IMPERVIOUS PERVIOUS (i)

Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 40.00
Mannings n = 0.013 0.250

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

TIME		RAIN		TIME		RAIN		TIME		RAIN	
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.23	1.083	32.40	2.083	9.83	3.08	5.02				
0.167	4.23	1.167	32.40	2.167	9.83	3.17	5.02				
0.250	4.84	1.250	155.76	2.250	8.39	3.25	4.67				
0.333	4.84	1.333	155.76	2.333	8.39	3.33	4.67				
0.417	5.68	1.417	42.52	2.417	7.35	3.42	4.37				
0.500	5.68	1.500	42.52	2.500	7.35	3.50	4.37				
0.583	6.95	1.583	22.32	2.583	6.56	3.58	4.11				
0.667	6.95	1.667	22.32	2.667	6.56	3.67	4.11				
0.750	9.10	1.750	15.45	2.750	5.94	3.75	3.88				
0.833	9.10	1.833	15.45	2.833	5.94	3.83	3.88				
0.917	13.68	1.917	11.95	2.917	5.44	3.92	3.68				
1.000	13.68	2.000	11.95	3.000	5.44	4.00	3.68				

Max.Eff.Inten.(mm/hr)= 155.76 70.50
over (min)= 5.00 15.00
Storage Coeff. (min)= 2.64 (ii) 10.76 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.29 0.09

PEAK FLOW (cms)= 0.22 0.24 *TOTALS* 0.346 (iii)
TIME TO PEAK (hrs)= 1.33 1.50 1.33
RUNOFF VOLUME (mm)= 64.69 27.32 33.67
TOTAL RAINFALL (mm)= 65.69 65.69 65.69
RUNOFF COEFFICIENT = 0.98 0.42 0.51

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0007):	10.36	0.656	1.67	34.30
+ ID2= 2 (0008):	3.04	0.346	1.33	33.67
ID = 3 (0010):	13.40	0.863	1.67	34.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 (0010):	13.40	0.863	1.67	34.16
+ ID2= 2 (0009):	6.20	0.263	1.83	22.40
ID = 1 (0010):	19.60	1.107	1.67	30.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL
000 TTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnaul\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\61d25
Summary filename: C:\Users\david.mcnaul\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\61d25

DATE: 03-13-2026 TIME: 06:58:49

USER:

COMMENTS: _____

** SIMULATION : E- 100 year Chicago

CHICAGO STORM IDF curve parameters: A=1799.000
Ptotal= 83.51 mm B= 5.000
C= 0.810
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	4.96	1.00	42.97	2.00	12.10	3.00	5.93
0.17	5.70	1.17	200.63	2.17	10.22	3.17	5.49
0.33	6.76	1.33	56.98	2.33	8.88	3.33	5.12
0.50	8.37	1.50	29.02	2.50	7.87	3.50	4.80
0.67	11.15	1.67	19.61	2.67	7.08	3.67	4.52
0.83	17.24	1.83	14.91	2.83	6.45	3.83	4.28

CALIB STANDHYD (0005)
ID= 1 DT= 5.0 min Area (ha)= 0.72
Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.22
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	69.28	40.00
Mannings n =	0.013	0.250

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

TIME		RAIN		TIME		RAIN		TIME		RAIN	
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	4.96	1.083	42.97	2.083	12.10	3.08	5.93				
0.167	4.96	1.167	42.97	2.167	12.10	3.17	5.93				
0.250	5.70	1.250	200.63	2.250	10.22	3.25	5.49				
0.333	5.70	1.333	200.63	2.333	10.22	3.33	5.49				
0.417	6.76	1.417	56.98	2.417	8.88	3.42	5.12				
0.500	6.76	1.500	56.98	2.500	8.88	3.50	5.12				
0.583	8.37	1.583	29.02	2.583	7.87	3.58	4.80				
0.667	8.37	1.667	29.02	2.667	7.87	3.67	4.80				
0.750	11.15	1.750	19.61	2.750	7.08	3.75	4.52				
0.833	11.15	1.833	19.61	2.833	7.08	3.83	4.52				
0.917	17.24	1.917	14.91	2.917	6.45	3.92	4.28				
1.000	17.24	2.000	14.91	3.000	6.45	4.00	4.28				

Max.Eff.Inten.(mm/hr)= 200.63 80.58
over (min)= 5.00 10.00
Storage Coeff. (min)= 1.55 (ii) 5.36 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.33 0.16

PEAK FLOW (cms)= 0.28 0.04 0.314 (iii)
TIME TO PEAK (hrs)= 1.33 1.42 1.33
RUNOFF VOLUME (mm)= 82.51 36.21 68.61
TOTAL RAINFALL (mm)= 83.51 83.51 83.51
RUNOFF COEFFICIENT = 0.99 0.43 0.82

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 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
0.083	4.96	1.083	42.97	2.083	12.10
0.167	4.96	1.167	42.97	2.167	12.10
0.250	5.70	1.250	200.63	2.250	10.22
0.333	5.70	1.333	200.63	2.333	10.22
0.417	6.76	1.417	56.98	2.417	8.88
0.500	6.76	1.500	56.98	2.500	8.88
0.583	8.37	1.583	29.02	2.583	7.87
0.667	8.37	1.667	29.02	2.667	7.87
0.750	11.15	1.750	19.61	2.750	7.08
0.833	11.15	1.833	19.61	2.833	7.08
0.917	17.24	1.917	14.91	2.917	6.45
1.000	17.24	2.000	14.91	3.000	6.45

Max.Eff.Inten.(mm/hr)= 200.63 101.86
over (min)= 5.00 15.00
Storage Coeff. (min)= 3.38 (ii) 10.38 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.26 0.09

PEAK FLOW (cms)= 0.82 1.18 1.453 (iii)
TIME TO PEAK (hrs)= 1.33 1.50 1.50
RUNOFF VOLUME (mm)= 82.51 39.21 46.13
TOTAL RAINFALL (mm)= 83.51 83.51 83.51
RUNOFF COEFFICIENT = 0.99 0.47 0.55

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)
1 + 2 = 3

AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 1 (0004): 9.64 1.453 1.50 46.13
+ ID2= 2 (0005): 0.72 0.314 1.33 68.61
ID = 3 (0006): 10.36 1.760 1.33 47.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) OVERFLOW IS OFF

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

OUTFLOW STORAGE
(cms) (ha.m.)
OUTFLOW STORAGE
(cms) (ha.m.)

**** WARNING : FIRST OUTFLOW IS NOT ZERO.

0.1231 0.0000 0.9421 0.1619
0.1601 0.0754 1.0216 0.2200
0.8851 0.1260 1.0368 0.2322

AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
INFLOW : ID= 2 (0006) 10.360 1.760 1.33 47.70
OUTFLOW: ID= 1 (0007) 10.360 0.923 1.67 47.84

PEAK FLOW REDUCTION [Qout/Qin] (%) = 52.44
TIME SHIFT OF PEAK FLOW (min) = 20.00
MAXIMUM STORAGE USED (ha.m.) = 0.1514

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

Area (ha)= 6.20 Curve Number (CN)= 71.0
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	4.96	1.083	42.97	2.083	12.10	3.08	5.93
0.167	4.96	1.167	42.97	2.167	12.10	3.17	5.93
0.250	5.70	1.250	200.63	2.250	10.22	3.25	5.49
0.333	5.70	1.333	200.63	2.333	10.22	3.33	5.49
0.417	6.76	1.417	56.98	2.417	8.88	3.42	5.12
0.500	6.76	1.500	56.98	2.500	8.88	3.50	5.12
0.583	8.37	1.583	29.02	2.583	7.87	3.58	4.80
0.667	8.37	1.667	29.02	2.667	7.87	3.67	4.80
0.750	11.15	1.750	19.61	2.750	7.08	3.75	4.52
0.833	11.15	1.833	19.61	2.833	7.08	3.83	4.52
0.917	17.24	1.917	14.91	2.917	6.45	3.92	4.28
1.000	17.24	2.000	14.91	3.000	6.45	4.00	4.28

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.417 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 33.815
TOTAL RAINFALL (mm)= 83.508
RUNOFF COEFFICIENT = 0.405

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

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min

Area (ha)= 3.04
Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 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	4.96	1.083	42.97	2.083	12.10	3.08	5.93
0.167	4.96	1.167	42.97	2.167	12.10	3.17	5.93
0.250	5.70	1.250	200.63	2.250	10.22	3.25	5.49
0.333	5.70	1.333	200.63	2.333	10.22	3.33	5.49
0.417	6.76	1.417	56.98	2.417	8.88	3.42	5.12
0.500	6.76	1.500	56.98	2.500	8.88	3.50	5.12
0.583	8.37	1.583	29.02	2.583	7.87	3.58	4.80
0.667	8.37	1.667	29.02	2.667	7.87	3.67	4.80
0.750	11.15	1.750	19.61	2.750	7.08	3.75	4.52
0.833	11.15	1.833	19.61	2.833	7.08	3.83	4.52
0.917	17.24	1.917	14.91	2.917	6.45	3.92	4.28
1.000	17.24	2.000	14.91	3.000	6.45	4.00	4.28

Max.Eff.Inten.(mm/hr)= 200.63 107.01
over (min)= 5.00 10.00
Storage Coeff. (min)= 2.39 (ii) 9.26 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.30 0.12

PEAK FLOW (cms)= 0.28 0.42
TIME TO PEAK (hrs)= 1.33 1.42
RUNOFF VOLUME (mm)= 82.51 39.85
TOTAL RAINFALL (mm)= 83.51 83.51
RUNOFF COEFFICIENT = 0.99 0.48

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)				
1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.923	1.67	47.84
+ ID2= 2 (0008):	3.04	0.617	1.33	47.10
=====				
ID = 3 (0010):	13.40	1.320	1.50	47.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)				
3 + 2 = 1				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	1.320	1.50	47.67
+ ID2= 2 (0009):	6.20	0.417	1.83	33.82
=====				
ID = 1 (0010):	19.60	1.596	1.50	43.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
V	V	I	SS	U	U	A A	L	
V	V	I	SS	U	U	AAAAA	L	
V	V	I	SS	U	U	A A	L	
VV	I	SSSSS	UUUUU	A	A	LLLLL		
OOO	TTTTT	TTTTT	H	H	Y	Y	M	M
O	O	T	T	H	H	Y Y	MM	MM
O	O	T	T	H	H	Y	M	M
OOO	T	T	H	H	Y	M	M	OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voain.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\2b1b7
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\2b1b7

DATE: 03-13-2026 TIME: 06:58:50

USER:

COMMENTS: _____

** SIMULATION : F- SCS (II) 6hr 2 Year **

READ STORM		Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\c801de4f	
Ptotal= 37.20 mm		Comments: 2yr 6hr 10min SCS Type II	
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	1.67	2.74
0.17	1.67	1.83	3.05
0.33	1.68	2.00	3.39
0.50	1.68	2.17	3.83
0.67	1.70	2.33	4.55
0.83	1.81	2.50	5.36
1.00	1.95	2.67	8.66
1.17	2.11	2.83	25.57
1.33	2.30	3.00	59.39
1.50	2.50	3.17	34.04

CALIB STANDHYD (0005)		Area (ha)= 0.72	
ID= 1 DT= 5.0 min		Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	0.22
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	69.28	40.00
Mannings n	=	0.013	0.250

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

--- TRANSFORMED HYETOGRAPH ---							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.50	3.250	34.04	4.83	2.50
0.167	0.00	1.750	2.74	3.333	34.04	4.92	2.32
0.250	1.67	1.833	2.74	3.417	8.78	5.00	2.32
0.333	1.67	1.917	3.05	3.500	8.78	5.08	2.15
0.417	1.68	2.000	3.05	3.583	6.86	5.17	2.15
0.500	1.68	2.083	3.39	3.667	6.86	5.25	1.97
0.583	1.68	2.167	3.39	3.750	4.89	5.33	1.97
0.667	1.68	2.250	3.83	3.833	4.89	5.42	1.89
0.750	1.70	2.333	3.83	3.917	4.17	5.50	1.89
0.833	1.70	2.417	4.55	4.000	4.17	5.58	1.83
0.917	1.81	2.500	4.55	4.083	3.73	5.67	1.83
1.000	1.81	2.583	5.36	4.167	3.73	5.75	1.77
1.083	1.95	2.667	5.36	4.250	3.26	5.83	1.77
1.167	1.95	2.750	8.66	4.333	3.26	5.92	1.71
1.250	2.11	2.833	8.66	4.417	2.99	6.00	1.71
1.333	2.11	2.917	25.57	4.500	2.99	6.08	1.65
1.417	2.30	3.000	25.57	4.583	2.75	6.17	1.65
1.500	2.30	3.083	59.39	4.667	2.75		
1.583	2.50	3.167	59.39	4.750	2.50		

Max.Eff.Inten.(mm/hr)= 59.39 13.05
over (min)= 5.00 20.00
Storage Coeff. (min)= 2.52 (ii) 18.46 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.29 0.06

PEAK FLOW (cms)= 0.08 0.00
TIME TO PEAK (hrs)= 3.17 3.42
RUNOFF VOLUME (mm)= 36.20 9.14
TOTAL RAINFALL (mm)= 37.20 37.20
RUNOFF COEFFICIENT = 0.97 0.25

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 40.00
Mannings n = 0.013 0.250

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

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.50	3.250	34.04	4.83	2.50
0.167	0.00	1.750	2.74	3.333	34.04	4.92	2.32
0.250	1.67	1.833	2.74	3.417	8.78	5.00	2.32
0.333	1.67	1.917	3.05	3.500	8.78	5.08	2.15
0.417	1.68	2.000	3.05	3.583	6.86	5.17	2.15
0.500	1.68	2.083	3.39	3.667	6.86	5.25	1.97
0.583	1.68	2.167	3.39	3.750	4.89	5.33	1.97
0.667	1.68	2.250	3.83	3.833	4.89	5.42	1.89
0.750	1.70	2.333	3.83	3.917	4.17	5.50	1.89
0.833	1.70	2.417	4.55	4.000	4.17	5.58	1.83
0.917	1.81	2.500	4.55	4.083	3.73	5.67	1.83
1.000	1.81	2.583	5.36	4.167	3.73	5.75	1.77
1.083	1.95	2.667	5.36	4.250	3.26	5.83	1.77
1.167	1.95	2.750	8.66	4.333	3.26	5.92	1.71
1.250	2.11	2.833	8.66	4.417	2.99	6.00	1.71
1.333	2.11	2.917	25.57	4.500	2.99	6.08	1.65
1.417	2.30	3.000	25.57	4.583	2.75	6.17	1.65
1.500	2.30	3.083	59.39	4.667	2.75		
1.583	2.50	3.167	59.39	4.750	2.50		

Max.Eff.Inten.(mm/hr)= 59.39 17.35
over (min)= 5.00 20.00
Storage Coeff. (min)= 5.50 (ii) 19.72 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. Tpeak (cms)= 0.20 0.06

PEAK FLOW (cms)= 0.23 0.20
TIME TO PEAK (hrs)= 3.17 3.50
RUNOFF VOLUME (mm)= 36.20 10.22
TOTAL RAINFALL (mm)= 37.20 37.20
RUNOFF COEFFICIENT = 0.97 0.27

TOTALS

0.330 (iii)
3.33
14.38
37.20
0.39

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	0.330	3.33	14.38
+ ID2= 2 (0005):	0.72	0.084	3.17	28.07
ID = 3 (0006):	10.36	0.395	3.17	15.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)
IN= 2----> OUT= 1
DT= 5.0 min

OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.1231	0.0000	0.9421	0.1619
0.1601	0.0754	1.0216	0.2200
0.8851	0.1260	1.0368	0.2322

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

***** WARNING : FIRST OUTFLOW IS NOT ZERO.

INFLOW : ID= 2 (0006) 10.360 0.395 3.17 15.33
OUTFLOW: ID= 1 (0007) 10.360 0.145 3.92 15.40

PEAK FLOW REDUCTION [Qout/Qin](%)= 36.61
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.0495

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

Area (ha)= 6.20 Curve Number (CN)= 71.0
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	0.00	1.667	2.50	3.250	34.04	4.83	2.50
0.167	0.00	1.750	2.74	3.333	34.04	4.92	2.32
0.250	1.67	1.833	2.74	3.417	8.78	5.00	2.32
0.333	1.67	1.917	3.05	3.500	8.78	5.08	2.15
0.417	1.68	2.000	3.05	3.583	6.86	5.17	2.15
0.500	1.68	2.083	3.39	3.667	6.86	5.25	1.97
0.583	1.68	2.167	3.39	3.750	4.89	5.33	1.97
0.667	1.68	2.250	3.83	3.833	4.89	5.42	1.89
0.750	1.70	2.333	3.83	3.917	4.17	5.50	1.89
0.833	1.70	2.417	4.55	4.000	4.17	5.58	1.83
0.917	1.81	2.500	4.55	4.083	3.73	5.67	1.83
1.000	1.81	2.583	5.36	4.167	3.73	5.75	1.77
1.083	1.95	2.667	5.36	4.250	3.26	5.83	1.77
1.167	1.95	2.750	8.66	4.333	3.26	5.92	1.71
1.250	2.11	2.833	8.66	4.417	2.99	6.00	1.71
1.333	2.11	2.917	25.57	4.500	2.99	6.08	1.65
1.417	2.30	3.000	25.57	4.583	2.75	6.17	1.65
1.500	2.30	3.083	59.39	4.667	2.75		
1.583	2.50	3.167	59.39	4.750	2.50		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.091 (i)
TIME TO PEAK (hrs)= 3.667
RUNOFF VOLUME (mm)= 7.626
TOTAL RAINFALL (mm)= 37.200
RUNOFF COEFFICIENT = 0.205

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

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min

Area (ha)= 3.04
Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 40.00
Mannings n = 0.013 0.250

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

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.50	3.250	34.04	4.83	2.50
0.167	0.00	1.750	2.74	3.333	34.04	4.92	2.32
0.250	1.67	1.833	2.74	3.417	8.78	5.00	2.32
0.333	1.67	1.917	3.05	3.500	8.78	5.08	2.15
0.417	1.68	2.000	3.05	3.583	6.86	5.17	2.15
0.500	1.68	2.083	3.39	3.667	6.86	5.25	1.97
0.583	1.68	2.167	3.39	3.750	4.89	5.33	1.97
0.667	1.68	2.250	3.83	3.833	4.89	5.42	1.89
0.750	1.70	2.333	3.83	3.917	4.17	5.50	1.89
0.833	1.70	2.417	4.55	4.000	4.17	5.58	1.83
0.917	1.81	2.500	4.55	4.083	3.73	5.67	1.83
1.000	1.81	2.583	5.36	4.167	3.73	5.75	1.77
1.083	1.95	2.667	5.36	4.250	3.26	5.83	1.77
1.167	1.95	2.750	8.66	4.333	3.26	5.92	1.71
1.250	2.11	2.833	8.66	4.417	2.99	6.00	1.71

1.333	2.11	2.917	25.57	4.500	2.99	6.08	1.65
1.417	2.30	3.000	25.57	4.583	2.75	6.17	1.65
1.500	2.30	3.083	59.39	4.667	2.75		
1.583	2.50	3.167	59.39	4.750	2.50		

Max.Eff.Inten.(mm/hr)=	59.39	18.32	
over (min)	5.00	20.00	
Storage Coeff. (min)=	3.89 (ii)	17.80 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.25	0.06	
PEAK FLOW (cms)=	0.08	0.07	*TOTALS*
TIME TO PEAK (hrs)=	3.17	3.42	0.109 (iii)
RUNOFF VOLUME (mm)=	36.20	10.46	3.17
TOTAL RAINFALL (mm)=	37.20	37.20	14.83
RUNOFF COEFFICIENT =	0.97	0.28	37.20
			0.40

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0007):	10.36	0.145	3.92	15.40
+ ID2= 2 (0008):	3.04	0.109	3.17	14.83
ID = 3 (0010):	13.40	0.245	3.33	15.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0010):	13.40	0.245	3.33	15.27
+ ID2= 2 (0009):	6.20	0.091	3.67	7.63
ID = 1 (0010):	19.60	0.306	3.50	12.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
V	V	I	SS	U	U	A A	L	
V	V	I	SS	U	U	AAAAA	L	
V	V	I	SS	U	U	A A	L	
VV	I	SSSSS	UUUUU	A	A	LLLLL		
OOO	TTTTT	TTTTT	H	H	Y	M	M	TM
O	O	T	T	H	H	Y Y	MM	O O
O	O	T	T	H	H	Y	M	M O O
O	O	T	T	H	H	Y	M	M O O

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\889c3
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\889c3

DATE: 03-13-2026 TIME: 06:58:51

USER:

COMMENTS: _____

** SIMULATION : G- SCS (II) 6hr 5 Year

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\41cddcb
Ptotal= 49.20 mm	Comments: 5yr 6hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	1.67	4.92	3.33	10.82	5.00	2.95
0.17	1.97	1.83	4.92	3.50	10.82	5.17	1.97
0.33	1.97	2.00	4.92	3.67	4.92	5.33	1.97
0.50	1.97	2.17	5.90	3.83	4.92	5.50	1.97
0.67	2.95	2.33	5.90	4.00	4.92	5.67	1.97
0.83	2.95	2.50	5.90	4.17	3.94	5.83	1.97
1.00	2.95	2.67	29.52	4.33	3.94	6.00	1.97
1.17	2.95	2.83	53.14	4.50	3.94		
1.33	2.95	3.00	76.75	4.67	2.95		
1.50	2.95	3.17	10.82	4.83	2.95		

CALIB	Area	(ha)=	0.72
STANDHYD (0005)	Total	Imp(%)=	70.00
ID= 1 DT= 5.0 min		Dir. Conn.(%)=	70.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.22
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	69.28	40.00
Mannings n =	0.013	0.250

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

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	2.95	3.250	10.82	4.83	2.95
0.167	0.00	1.750	4.92	3.333	10.82	4.92	2.95
0.250	1.97	1.833	4.92	3.417	10.82	5.00	2.95
0.333	1.97	1.917	4.92	3.500	10.82	5.08	2.95
0.417	1.97	2.000	4.92	3.583	10.82	5.17	2.95
0.500	1.97	2.083	4.92	3.667	10.82	5.25	1.97
0.583	1.97	2.167	4.92	3.750	4.92	5.33	1.97
0.667	1.97	2.250	5.90	3.833	4.92	5.42	1.97
0.750	2.95	2.333	5.90	3.917	4.92	5.50	1.97
0.833	2.95	2.417	5.90	4.000	4.92	5.58	1.97
0.917	2.95	2.500	5.90	4.083	4.92	5.67	1.97
1.000	2.95	2.583	5.90	4.167	4.92	5.75	1.97
1.083	2.95	2.667	5.90	4.250	3.94	5.83	1.97
1.167	2.95	2.750	29.52	4.333	3.94	5.92	1.97
1.250	2.95	2.833	29.52	4.417	3.94	6.00	1.97
1.333	2.95	2.917	53.14	4.500	3.94	6.08	1.97
1.417	2.95	3.000	53.14	4.583	3.94	6.17	1.97
1.500	2.95	3.083	76.75	4.667	3.94		
1.583	2.95	3.167	76.75	4.750	2.95		

Max.Eff.Inten.(mm/hr)=	76.75	24.51	
over (min)	5.00	15.00	
Storage Coeff. (min)=	2.28 (ii)	14.66 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.30	0.08	
PEAK FLOW (cms)=	0.11	0.01	*TOTALS*
TIME TO PEAK (hrs)=	3.17	3.25	0.115 (iii)
RUNOFF VOLUME (mm)=	48.20	15.02	38.23
TOTAL RAINFALL (mm)=	49.20	49.20	49.20
RUNOFF COEFFICIENT =	0.98	0.31	0.78

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00	Dir. Conn.(%)= 16.00
IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)= 2.60	7.04	
Dep. Storage (mm)= 1.00	1.50	
Average Slope (%)= 1.00	2.00	
Length (m)= 253.51	40.00	
Mannings n = 0.013	0.250	

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

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.95	3.250	10.82	4.83	2.95
0.167	0.00	1.750	4.92	3.333	10.82	4.92	2.95
0.250	1.97	1.833	4.92	3.417	10.82	5.00	2.95
0.333	1.97	1.917	4.92	3.500	10.82	5.08	2.95
0.417	1.97	2.000	4.92	3.583	10.82	5.17	2.95
0.500	1.97	2.083	4.92	3.667	10.82	5.25	1.97
0.583	1.97	2.167	4.92	3.750	4.92	5.33	1.97
0.667	1.97	2.250	5.90	3.833	4.92	5.42	1.97
0.750	2.95	2.333	5.90	3.917	4.92	5.50	1.97
0.833	2.95	2.417	5.90	4.000	4.92	5.58	1.97
0.917	2.95	2.500	5.90	4.083	4.92	5.67	1.97
1.000	2.95	2.583	5.90	4.167	4.92	5.75	1.97
1.083	2.95	2.667	5.90	4.250	3.94	5.83	1.97
1.167	2.95	2.750	29.52	4.333	3.94	5.92	1.97
1.250	2.95	2.833	29.52	4.417	3.94	6.00	1.97
1.333	2.95	2.917	53.14	4.500	3.94	6.08	1.97
1.417	2.95	3.000	53.14	4.583	3.94	6.17	1.97
1.500	2.95	3.083	76.75	4.667	3.94		
1.583	2.95	3.167	76.75	4.750	2.95		

Max.Eff.Inten.(mm/hr)=	76.75	31.25
over (min)=	5.00	20.00
Storage Coeff. (min)=	4.96 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.22	0.06
PEAK FLOW (cms)=	0.31	0.36
TIME TO PEAK (hrs)=	3.17	3.33
RUNOFF VOLUME (mm)=	48.20	16.62
TOTAL RAINFALL (mm)=	49.20	21.67
RUNOFF COEFFICIENT =	0.98	0.34
		TOTALS
		0.566 (iii)

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD. (0006) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	0.566	3.17	21.67
+ ID2= 2 (0005):	0.72	0.115	3.17	38.23
ID = 3 (0006):	10.36	0.681	3.17	22.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) IN= 2--> OUT= 1 DT= 5.0 min	OVERFLOW IS OFF	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
**** WARNING : FIRST OUTFLOW IS NOT ZERO.		0.1231	0.0000	0.9421	0.1619

0.1601 0.8851	0.0754 0.1260	1.0216 1.0368	0.2200 0.2322
AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0006)	10.360	0.681	3.17
OUTFLOW: ID= 1 (0007)	10.360	0.255	3.67

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.40
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0829

CALIB NASHYD (0009) ID= 1 DT= 5.0 min	Area (ha)= 6.20 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.44	Curve Number (CN)= 71.0 # of Linear Res.(N)= 3.00
--	--	--

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	2.95	3.250	10.82	4.83	2.95
0.167	0.00	1.750	4.92	3.333	10.82	4.92	2.95
0.250	1.97	1.833	4.92	3.417	10.82	5.00	2.95
0.333	1.97	1.917	4.92	3.500	10.82	5.08	2.95
0.417	1.97	2.000	4.92	3.583	10.82	5.17	2.95
0.500	1.97	2.083	4.92	3.667	10.82	5.25	1.97
0.583	1.97	2.167	4.92	3.750	4.92	5.33	1.97
0.667	1.97	2.250	5.90	3.833	4.92	5.42	1.97
0.750	2.95	2.333	5.90	3.917	4.92	5.50	1.97
0.833	2.95	2.417	5.90	4.000	4.92	5.58	1.97
0.917	2.95	2.500	5.90	4.083	4.92	5.67	1.97
1.000	2.95	2.583	5.90	4.167	4.92	5.75	1.97
1.083	2.95	2.667	5.90	4.250	3.94	5.83	1.97
1.167	2.95	2.750	29.52	4.333	3.94	5.92	1.97
1.250	2.95	2.833	29.52	4.417	3.94	6.00	1.97
1.333	2.95	2.917	53.14	4.500	3.94	6.08	1.97
1.417	2.95	3.000	53.14	4.583	3.94	6.17	1.97
1.500	2.95	3.083	76.75	4.667	3.94		
1.583	2.95	3.167	76.75	4.750	2.95		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.157 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 13.204
TOTAL RAINFALL (mm)= 49.200
RUNOFF COEFFICIENT = 0.268

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

CALIB STANDHYD (0008) ID= 1 DT= 5.0 min	Area (ha)= 3.04 Total Imp(%)= 30.00	Dir. Conn.(%)= 17.00
IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)= 0.91	2.13	
Dep. Storage (mm)= 1.00	1.50	
Average Slope (%)= 1.00	2.00	
Length (m)= 142.36	40.00	
Mannings n = 0.013	0.250	

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

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.95	3.250	10.82	4.83	2.95
0.167	0.00	1.750	4.92	3.333	10.82	4.92	2.95
0.250	1.97	1.833	4.92	3.417	10.82	5.00	2.95
0.333	1.97	1.917	4.92	3.500	10.82	5.08	2.95
0.417	1.97	2.000	4.92	3.583	10.82	5.17	2.95
0.500	1.97	2.083	4.92	3.667	10.82	5.25	1.97
0.583	1.97	2.167	4.92	3.750	4.92	5.33	1.97
0.667	1.97	2.250	5.90	3.833	4.92	5.42	1.97
0.750	2.95	2.333	5.90	3.917	4.92	5.50	1.97
0.833	2.95	2.417	5.90	4.000	4.92	5.58	1.97

0.917	2.95	2.500	5.90	4.083	4.92	5.67	1.97
1.000	2.95	2.583	5.90	4.167	4.92	5.75	1.97
1.083	2.95	2.667	5.90	4.250	3.94	5.83	1.97
1.167	2.95	2.750	29.52	4.333	3.94	5.92	1.97
1.250	2.95	2.833	29.52	4.417	3.94	6.00	1.97
1.333	2.95	2.917	53.14	4.500	3.94	6.08	1.97
1.417	2.95	3.000	53.14	4.583	3.94	6.17	1.97
1.500	2.95	3.083	76.75	4.667	3.94		
1.583	2.95	3.167	76.75	4.750	2.95		

Max.Eff.Inten.(mm/hr)= 76.75 32.89
over (min) 5.00 15.00
Storage Coeff. (min)= 3.51 (ii) 14.52 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.26 0.08

TOTALS
PEAK FLOW (cms)= 0.11 0.13 0.212 (iii)
TIME TO PEAK (hrs)= 3.17 3.25 3.17
RUNOFF VOLUME (mm)= 48.20 16.97 22.27
TOTAL RAINFALL (mm)= 49.20 49.20 49.20
RUNOFF COEFFICIENT = 0.98 0.34 0.45

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0007):	10.36	0.255	3.67	22.89
+ ID2= 2 (0008):	3.04	0.212	3.17	22.27
ID = 3 (0010):	13.40	0.354	3.17	22.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0010):	13.40	0.354	3.17	22.75
+ ID2= 2 (0009):	6.20	0.157	3.50	13.20
ID = 1 (0010):	19.60	0.481	3.67	19.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A A L (v 6.2.2021)
V V I SS U U A A A L
V V I SS U U A A A A L
V V I SS U U A A A L
VV I SSSSS UUUUU A A LLLLL
OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\david.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\9303b
Summary filename: C:\Users\david.mcnau11\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\9303b

DATE: 03-13-2026

TIME: 06:58:50

USER:

COMMENTS: _____

** SIMULATION : H- SCS (II) 6hr 10 Year **

READ STORM	Filename: C:\Users\david.mcnau11\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\F5087824
Ptotal= 57.60 mm	Comments: 10yr 6hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	1.67	5.76	3.33	12.67	5.00	3.46
0.17	2.30	1.83	5.76	3.50	12.67	5.17	2.30
0.33	2.30	2.00	5.76	3.67	5.76	5.33	2.30
0.50	2.30	2.17	6.91	3.83	5.76	5.50	2.30
0.67	3.46	2.33	6.91	4.00	5.76	5.67	2.30
0.83	3.46	2.50	6.91	4.17	4.61	5.83	2.30
1.00	3.46	2.67	34.56	4.33	4.61	6.00	2.30
1.17	3.46	2.83	62.21	4.50	4.61		
1.33	3.46	3.00	89.86	4.67	3.46		
1.50	3.46	3.17	12.67	4.83	3.46		

CALIB	Area	(ha)=	0.72
STANDHYD (0005)	Total Imp(%)=	70.00	Dir. Conn.(%)= 70.00
ID= 1 DT= 5.0 min			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.22
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	69.28	40.00
Mannings n	0.013	0.250

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

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	3.46	3.250	12.67	4.83	3.46
0.167	0.00	1.750	5.76	3.333	12.67	4.92	3.46
0.250	2.30	1.833	5.76	3.417	12.67	5.00	3.46
0.333	2.30	1.917	5.76	3.500	12.67	5.08	3.46
0.417	2.30	2.000	5.76	3.583	12.67	5.17	3.46
0.500	2.30	2.083	5.76	3.667	12.67	5.25	2.30
0.583	2.30	2.167	5.76	3.750	5.76	5.33	2.30
0.667	2.30	2.250	6.91	3.833	5.76	5.42	2.30
0.750	3.46	2.333	6.91	3.917	5.76	5.50	2.30
0.833	3.46	2.417	6.91	4.000	5.76	5.58	2.30
0.917	3.46	2.500	6.91	4.083	5.76	5.67	2.30
1.000	3.46	2.583	6.91	4.167	5.76	5.75	2.30
1.083	3.46	2.667	6.91	4.250	4.61	5.83	2.30
1.167	3.46	2.750	34.56	4.333	4.61	5.92	2.30
1.250	3.46	2.833	34.56	4.417	4.61	6.00	2.30
1.333	3.46	2.917	62.21	4.500	4.61	6.08	2.30
1.417	3.46	3.000	62.21	4.583	4.61	6.17	2.30
1.500	3.46	3.083	89.86	4.667	4.61		
1.583	3.46	3.167	89.86	4.750	3.46		

Max.Eff.Inten.(mm/hr)= 89.86 32.18
over (min) 5.00 15.00
Storage Coeff. (min)= 2.14 (ii) 13.25 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.31 0.08

TOTALS
PEAK FLOW (cms)= 0.13 0.01 0.136 (iii)
TIME TO PEAK (hrs)= 3.17 3.25 3.17
RUNOFF VOLUME (mm)= 56.60 19.69 45.51
TOTAL RAINFALL (mm)= 57.60 57.60 57.60
RUNOFF COEFFICIENT = 0.98 0.34 0.79

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00	Dir. Conn.(%)= 16.00
--	--	----------------------

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.60	7.04
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	253.51	40.00
Mannings n =	0.013	0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	3.46	3.250	12.67	4.83	3.46
0.167	0.00	1.750	5.76	3.333	12.67	4.92	3.46
0.250	2.30	1.833	5.76	3.417	12.67	5.00	3.46
0.333	2.30	1.917	5.76	3.500	12.67	5.08	3.46
0.417	2.30	2.000	5.76	3.583	12.67	5.17	3.46
0.500	2.30	2.083	5.76	3.667	12.67	5.25	2.30
0.583	2.30	2.167	5.76	3.750	5.76	5.33	2.30
0.667	2.30	2.250	6.91	3.833	5.76	5.42	2.30
0.750	3.46	2.333	6.91	3.917	5.76	5.50	2.30
0.833	3.46	2.417	6.91	4.000	5.76	5.58	2.30
0.917	3.46	2.500	6.91	4.083	5.76	5.67	2.30
1.000	3.46	2.583	6.91	4.167	5.76	5.75	2.30
1.083	3.46	2.667	6.91	4.250	4.61	5.83	2.30
1.167	3.46	2.750	34.56	4.333	4.61	5.92	2.30
1.250	3.46	2.833	34.56	4.417	4.61	6.00	2.30
1.333	3.46	2.917	62.21	4.500	4.61	6.08	2.30
1.417	3.46	3.000	62.21	4.583	4.61	6.17	2.30
1.500	3.46	3.083	89.86	4.667	4.61		
1.583	3.46	3.167	89.86	4.750	3.46		

Max.Eff.Inten.(mm/hr)=	89.86	48.01
over (min)	5.00	15.00
Storage Coeff. (min)=	4.66 (ii)	14.12 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.22	0.08

PEAK FLOW (cms)=	0.37	0.52	*TOTALS*
TIME TO PEAK (hrs)=	3.17	3.25	0.806 (iii)
RUNOFF VOLUME (mm)=	56.60	21.64	3.17
TOTAL RAINFALL (mm)=	57.60	57.60	27.23
RUNOFF COEFFICIENT =	0.98	0.38	45.51
			0.47

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

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	0.806	3.17	27.23
+ ID2= 2 (0005):	0.72	0.136	3.17	45.51
ID = 3 (0006):	10.36	0.942	3.17	28.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) OVERFLOW IS OFF

IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
***** WARNING : FIRST	0.1231	0.0000	0.9421	0.1619
	0.1601	0.0754	1.0216	0.2200
	0.8851	0.1260	1.0368	0.2322

INFLOW : ID= 2 (0006)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
OUTFLOW: ID= 1 (0007)	10.360	0.942	3.17	28.50
	10.360	0.443	3.50	28.60
PEAK FLOW REDUCTION [qout/qin](%)= 47.02				
TIME SHIFT OF PEAK FLOW (min)= 20.00				
MAXIMUM STORAGE USED (ha.m.)= 0.0957				

CALIB NASHYD (0009) ID= 1 DT= 5.0 min	Area (ha)= 6.20 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.44	Curve Number (CN)= 71.0 # of Linear Res.(N)= 3.00
--	--	--

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

----- 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	3.46	3.250	12.67	4.83	3.46
0.167	0.00	1.750	5.76	3.333	12.67	4.92	3.46
0.250	2.30	1.833	5.76	3.417	12.67	5.00	3.46
0.333	2.30	1.917	5.76	3.500	12.67	5.08	3.46
0.417	2.30	2.000	5.76	3.583	12.67	5.17	3.46
0.500	2.30	2.083	5.76	3.667	12.67	5.25	2.30
0.583	2.30	2.167	5.76	3.750	5.76	5.33	2.30
0.667	2.30	2.250	6.91	3.833	5.76	5.42	2.30
0.750	3.46	2.333	6.91	3.917	5.76	5.50	2.30
0.833	3.46	2.417	6.91	4.000	5.76	5.58	2.30
0.917	3.46	2.500	6.91	4.083	5.76	5.67	2.30
1.000	3.46	2.583	6.91	4.167	5.76	5.75	2.30
1.083	3.46	2.667	6.91	4.250	4.61	5.83	2.30
1.167	3.46	2.750	34.56	4.333	4.61	5.92	2.30
1.250	3.46	2.833	34.56	4.417	4.61	6.00	2.30
1.333	3.46	2.917	62.21	4.500	4.61	6.08	2.30
1.417	3.46	3.000	62.21	4.583	4.61	6.17	2.30
1.500	3.46	3.083	89.86	4.667	4.61		
1.583	3.46	3.167	89.86	4.750	3.46		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)=	0.212 (i)
TIME TO PEAK (hrs)=	3.500
RUNOFF VOLUME (mm)=	17.695
TOTAL RAINFALL (mm)=	57.600
RUNOFF COEFFICIENT =	0.307

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

CALIB STANDHYD (0008) ID= 1 DT= 5.0 min	Area (ha)= 3.04 Total Imp(%)= 30.00	Dir. Conn.(%)= 17.00
--	--	----------------------

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.91	2.13
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	142.36	40.00
Mannings n =	0.013	0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	3.46	3.250	12.67	4.83	3.46
0.167	0.00	1.750	5.76	3.333	12.67	4.92	3.46
0.250	2.30	1.833	5.76	3.417	12.67	5.00	3.46
0.333	2.30	1.917	5.76	3.500	12.67	5.08	3.46
0.417	2.30	2.000	5.76	3.583	12.67	5.17	3.46

0.500	2.30	2.083	5.76	3.667	12.67	5.25	2.30
0.583	2.30	2.167	5.76	3.750	5.76	5.33	2.30
0.667	2.30	2.250	6.91	3.833	5.76	5.42	2.30
0.750	3.46	2.333	6.91	3.917	5.76	5.50	2.30
0.833	3.46	2.417	6.91	4.000	5.76	5.58	2.30
0.917	3.46	2.500	6.91	4.083	5.76	5.67	2.30
1.000	3.46	2.583	6.91	4.167	5.76	5.75	2.30
1.083	3.46	2.667	6.91	4.250	4.61	5.83	2.30
1.167	3.46	2.750	34.56	4.333	4.61	5.92	2.30
1.250	3.46	2.833	34.56	4.417	4.61	6.00	2.30
1.333	3.46	2.917	62.21	4.500	4.61	6.08	2.30
1.417	3.46	3.000	62.21	4.583	4.61	6.17	2.30
1.500	3.46	3.083	89.86	4.667	4.61		
1.583	3.46	3.167	89.86	4.750	3.46		

Max.Eff.Inten.(mm/hr)= 89.86 50.42
over (min) 5.00 15.00
Storage Coeff. (min)= 3.30 (ii) 12.58 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.08

PEAK FLOW (cms)= 0.13 0.18 *TOTALS*
TIME TO PEAK (hrs)= 3.17 3.25 0.274 (iii)
RUNOFF VOLUME (mm)= 56.60 22.06 3.17
TOTAL RAINFALL (mm)= 57.60 57.60 27.93
RUNOFF COEFFICIENT = 0.98 0.38 0.48

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)				
1 + 2 = 3				
ID1= 1 (0007):	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (0008):	10.36	0.443	3.50	28.60
	3.04	0.274	3.17	27.93
ID = 3 (0010):	13.40	0.583	3.42	28.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)				
3 + 2 = 1				
ID1= 3 (0010):	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (0009):	13.40	0.583	3.42	28.45
	6.20	0.212	3.50	17.69
ID = 1 (0010):	19.60	0.789	3.42	25.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A A A L
V V I SS U U A A L
V V I SSSSS UUUUU A A LLLLL
OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\dauid.mcnaul\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d1311

Summary filename: C:\Users\dauid.mcnaul\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d1311

DATE: 03-13-2026

TIME: 06:58:51

USER:

COMMENTS: _____

** SIMULATION : I- SCS (II) 6hr 25 Year **

READ STORM Filename: C:\Users\dauid.mcnaul\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\d4418498
Ptotal= 67.80 mm Comments: 25yr 6hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	1.67	6.78	3.33	14.92	5.00	4.07
0.17	2.71	1.83	6.78	3.50	14.92	5.17	2.71
0.33	2.71	2.00	6.78	3.67	6.78	5.33	2.71
0.50	2.71	2.17	8.14	3.83	6.78	5.50	2.71
0.67	4.07	2.33	8.14	4.00	6.78	5.67	2.71
0.83	4.07	2.50	8.14	4.17	5.42	5.83	2.71
1.00	4.07	2.67	40.68	4.33	5.42	6.00	2.71
1.17	4.07	2.83	73.22	4.50	5.42		
1.33	4.07	3.00	105.77	4.67	4.07		
1.50	4.07	3.17	14.92	4.83	4.07		

CALIB STANDHYD (0005)
ID= 1 DT= 5.0 min Area (ha)= 0.72
Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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

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	4.07	3.250	14.92	4.83	4.07
0.167	0.00	1.750	6.78	3.333	14.92	4.92	4.07
0.250	2.71	1.833	6.78	3.417	14.92	5.00	4.07
0.333	2.71	1.917	6.78	3.500	14.92	5.08	4.07
0.417	2.71	2.000	6.78	3.583	14.92	5.17	4.07
0.500	2.71	2.083	6.78	3.667	14.92	5.25	2.71
0.583	2.71	2.167	6.78	3.750	6.78	5.33	2.71
0.667	2.71	2.250	8.14	3.833	6.78	5.42	2.71
0.750	4.07	2.333	8.14	3.917	6.78	5.50	2.71
0.833	4.07	2.417	8.14	4.000	6.78	5.58	2.71
0.917	4.07	2.500	8.14	4.083	6.78	5.67	2.71
1.000	4.07	2.583	8.14	4.167	6.78	5.75	2.71
1.083	4.07	2.667	8.14	4.250	5.42	5.83	2.71
1.167	4.07	2.750	40.68	4.333	5.42	5.92	2.71
1.250	4.07	2.833	40.68	4.417	5.42	6.00	2.71
1.333	4.07	2.917	73.22	4.500	5.42	6.08	2.71
1.417	4.07	3.000	73.22	4.583	5.42	6.17	2.71
1.500	4.07	3.083	105.77	4.667	5.42		
1.583	4.07	3.167	105.77	4.750	4.07		

Max.Eff.Inten.(mm/hr)= 105.77 49.83
over (min) 5.00 10.00
Storage Coeff. (min)= 2.00 (ii) 6.92 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.31 0.14

PEAK FLOW (cms)= 0.15 0.02 *TOTALS*
0.171 (iii)

TIME TO PEAK (hrs)= 3.17 3.17 3.17
RUNOFF VOLUME (mm)= 66.80 25.85 54.51
TOTAL RAINFALL (mm)= 67.80 67.80 67.80
RUNOFF COEFFICIENT = 0.99 0.38 0.80

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 40.00
Mannings n = 0.013 0.250

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

--- TRANSFORMED HYETOGRAPH ---

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.07	3.250	14.92	4.83	4.07
0.167	0.00	1.750	6.78	3.333	14.92	4.92	4.07
0.250	2.71	1.833	6.78	3.417	14.92	5.00	4.07
0.333	2.71	1.917	6.78	3.500	14.92	5.08	4.07
0.417	2.71	2.000	6.78	3.583	14.92	5.17	4.07
0.500	2.71	2.083	6.78	3.667	14.92	5.25	2.71
0.583	2.71	2.167	6.78	3.750	6.78	5.33	2.71
0.667	2.71	2.250	8.14	3.833	6.78	5.42	2.71
0.750	4.07	2.333	8.14	3.917	6.78	5.50	2.71
0.833	4.07	2.417	8.14	4.000	6.78	5.58	2.71
0.917	4.07	2.500	8.14	4.083	6.78	5.67	2.71
1.000	4.07	2.583	8.14	4.167	6.78	5.75	2.71
1.083	4.07	2.667	8.14	4.250	5.42	5.83	2.71
1.167	4.07	2.750	40.68	4.333	5.42	5.92	2.71
1.250	4.07	2.833	40.68	4.417	5.42	6.00	2.71
1.333	4.07	2.917	73.22	4.500	5.42	6.08	2.71
1.417	4.07	3.000	73.22	4.583	5.42	6.17	2.71
1.500	4.07	3.083	105.77	4.667	5.42		
1.583	4.07	3.167	105.77	4.750	4.07		

Max.Eff.Inten.(mm/hr)= 105.77 62.47
over (min)= 5.00 15.00
Storage Coeff. (min)= 4.37 (ii) 12.88 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.23 0.08

TOTALS
PEAK FLOW (cms)= 0.44 0.72 1.039 (iii)
TIME TO PEAK (hrs)= 3.17 3.25 3.17
RUNOFF VOLUME (mm)= 66.80 28.23 34.40
TOTAL RAINFALL (mm)= 67.80 67.80 67.80
RUNOFF COEFFICIENT = 0.99 0.42 0.51

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)
1 + 2 = 3

AREA (ha) OPEAK (cms) TPEAK (hrs) R.V. (mm)
ID1= 1 (0004): 9.64 1.039 3.17 34.40
+ ID2= 2 (0005): 0.72 0.171 3.17 54.51

ID = 3 (0006): 10.36 1.210 3.17 35.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)
IN= 2---> OUT= 1
DT= 5.0 min

OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.1231	0.0000	0.9421	0.1619
0.1601	0.0754	1.0216	0.2200
0.8851	0.1260	1.0368	0.2322

***** WARNING : FIRST OUTFLOW IS NOT ZERO.

AREA (ha)	OPEAK (cms)	TPEAK (hrs)	R.V. (mm)
10.360	1.210	3.17	35.79
10.360	0.674	3.42	35.82

INFLOW : ID= 2 (0006)
OUTFLOW: ID= 1 (0007)

PEAK FLOW REDUCTION [Qout/Qin](%)= 55.68
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1118

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

Area (ha)= 6.20 Curve Number (CN)= 71.0
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	0.00	1.667	4.07	3.250	14.92	4.83	4.07
0.167	0.00	1.750	6.78	3.333	14.92	4.92	4.07
0.250	2.71	1.833	6.78	3.417	14.92	5.00	4.07
0.333	2.71	1.917	6.78	3.500	14.92	5.08	4.07
0.417	2.71	2.000	6.78	3.583	14.92	5.17	4.07
0.500	2.71	2.083	6.78	3.667	14.92	5.25	2.71
0.583	2.71	2.167	6.78	3.750	6.78	5.33	2.71
0.667	2.71	2.250	8.14	3.833	6.78	5.42	2.71
0.750	4.07	2.333	8.14	3.917	6.78	5.50	2.71
0.833	4.07	2.417	8.14	4.000	6.78	5.58	2.71
0.917	4.07	2.500	8.14	4.083	6.78	5.67	2.71
1.000	4.07	2.583	8.14	4.167	6.78	5.75	2.71
1.083	4.07	2.667	8.14	4.250	5.42	5.83	2.71
1.167	4.07	2.750	40.68	4.333	5.42	5.92	2.71
1.250	4.07	2.833	40.68	4.417	5.42	6.00	2.71
1.333	4.07	2.917	73.22	4.500	5.42	6.08	2.71
1.417	4.07	3.000	73.22	4.583	5.42	6.17	2.71
1.500	4.07	3.083	105.77	4.667	5.42		
1.583	4.07	3.167	105.77	4.750	4.07		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.286 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 23.678
TOTAL RAINFALL (mm)= 67.800
RUNOFF COEFFICIENT = 0.349

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

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min

Area (ha)= 3.04
Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 40.00
Mannings n = 0.013 0.250

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

--- TRANSFORMED HYETOGRAPH ---

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
-------------	---------------	-------------	---------------	-------------	---------------	-------------	---------------

0.083	0.00	1.667	4.07	3.250	14.92	4.83	4.07
0.167	0.00	1.750	6.78	3.333	14.92	4.92	4.07
0.250	2.71	1.833	6.78	3.417	14.92	5.00	4.07
0.333	2.71	1.917	6.78	3.500	14.92	5.08	4.07
0.417	2.71	2.000	6.78	3.583	14.92	5.17	4.07
0.500	2.71	2.083	6.78	3.667	14.92	5.25	2.71
0.583	2.71	2.167	6.78	3.750	6.78	5.33	2.71
0.667	2.71	2.250	8.14	3.833	6.78	5.42	2.71
0.750	4.07	2.333	8.14	3.917	6.78	5.50	2.71
0.833	4.07	2.417	8.14	4.000	6.78	5.58	2.71
0.917	4.07	2.500	8.14	4.083	6.78	5.67	2.71
1.000	4.07	2.583	8.14	4.167	6.78	5.75	2.71
1.083	4.07	2.667	8.14	4.250	5.42	5.83	2.71
1.167	4.07	2.750	40.68	4.333	5.42	5.92	2.71
1.250	4.07	2.833	40.68	4.417	5.42	6.00	2.71
1.333	4.07	2.917	73.22	4.500	5.42	6.08	2.71
1.417	4.07	3.000	73.22	4.583	5.42	6.17	2.71
1.500	4.07	3.083	105.77	4.667	5.42		
1.583	4.07	3.167	105.77	4.750	4.07		

Max.Eff.Inten.(mm/hr)=	105.77	65.51
over (min)	5.00	15.00
Storage Coeff. (min)=	3.09 (ii)	11.45 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.27	0.09
PEAK FLOW (cms)=	0.15	0.24
TIME TO PEAK (hrs)=	3.17	3.25
RUNOFF VOLUME (mm)=	66.80	28.74
TOTAL RAINFALL (mm)=	67.80	67.80
RUNOFF COEFFICIENT =	0.99	0.42

TOTALS
0.352 (iii)

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0007):	10.36	0.674	3.42	35.82
+ ID2= 2 (0008):	3.04	0.352	3.17	35.21
=====				
ID = 3 (0010):	13.40	0.894	3.33	35.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0010):	13.40	0.894	3.33	35.68
+ ID2= 2 (0009):	6.20	0.286	3.50	23.68
=====				
ID = 1 (0010):	19.60	1.149	3.33	31.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
O	O	T	SS	U	U	A A	L	
V	V	I	SS	U	U	AAAAA	L	
V	V	I	SS	U	U	A A	L	
VV	I	SSSSS	UUUUU	A	A	LLLLL		
=====								
OOO	TTTTT	TTTTT	H	H	Y	Y	M	M
O	O	T	T	H	H	Y Y	MM	MM
O	O	T	T	H	H	Y	M	M
OOO	T	T	H	H	Y	M	M	OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\2d1c0
Summary filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\2d1c0

DATE: 03-13-2026

TIME: 06:58:48

USER:

COMMENTS: _____

** SIMULATION : J- SCS (II) 6hr 50 Year **

READ STORM	Filename: C:\Users\dauid.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\92cdd035						
Ptotal= 75.00 mm	Comments: 50yr 6hr 10min SCS Type II						
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	1.67	7.50	3.33	16.50	5.00	4.50
0.17	3.00	1.83	7.50	3.50	16.50	5.17	3.00
0.33	3.00	2.00	7.50	3.67	7.50	5.33	3.00
0.50	3.00	2.17	9.00	3.83	7.50	5.50	3.00
0.67	4.50	2.33	9.00	4.00	7.50	5.67	3.00
0.83	4.50	2.50	9.00	4.17	6.00	5.83	3.00
1.00	4.50	2.67	45.00	4.33	6.00	6.00	3.00
1.17	4.50	2.83	81.00	4.50	6.00		
1.33	4.50	3.00	117.00	4.67	4.50		
1.50	4.50	3.17	16.50	4.83	4.50		

CALIB	Area	(ha)=	0.72
STANDHYD (0005)	Total Imp(%)=	70.00	Dir. Conn.(%)= 70.00
ID= 1 DT= 5.0 min			
Surface Area	(ha)=	0.50	0.22
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	69.28	40.00
Mannings n	=	0.013	0.250

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

--- TRANSFORMED HYETOGRAPH ---							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	4.50	3.250	16.50	4.83	4.50
0.167	0.00	1.750	7.50	3.333	16.50	4.92	4.50
0.250	3.00	1.833	7.50	3.417	16.50	5.00	4.50
0.333	3.00	1.917	7.50	3.500	16.50	5.08	4.50
0.417	3.00	2.000	7.50	3.583	16.50	5.17	4.50
0.500	3.00	2.083	7.50	3.667	16.50	5.25	3.00
0.583	3.00	2.167	7.50	3.750	7.50	5.33	3.00
0.667	3.00	2.250	9.00	3.833	7.50	5.42	3.00
0.750	4.50	2.333	9.00	3.917	7.50	5.50	3.00
0.833	4.50	2.417	9.00	4.000	7.50	5.58	3.00
0.917	4.50	2.500	9.00	4.083	7.50	5.67	3.00
1.000	4.50	2.583	9.00	4.167	7.50	5.75	3.00
1.083	4.50	2.667	9.00	4.250	6.00	5.83	3.00
1.167	4.50	2.750	45.00	4.333	6.00	5.92	3.00
1.250	4.50	2.833	45.00	4.417	6.00	6.00	3.00
1.333	4.50	2.917	81.00	4.500	6.00	6.08	3.00
1.417	4.50	3.000	81.00	4.583	6.00	6.17	3.00
1.500	4.50	3.083	117.00	4.667	6.00		
1.583	4.50	3.167	117.00	4.750	4.50		

Max.Eff.Inten.(mm/hr)=	117.00	58.66
over (min)	5.00	10.00

Storage Coeff. (min)= 1.92 (ii) 6.65 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.31 0.14

PEAK FLOW (cms)= 0.16 0.03
TIME TO PEAK (hrs)= 3.17 3.17
RUNOFF VOLUME (mm)= 74.00 30.48
TOTAL RAINFALL (mm)= 75.00 75.00
RUNOFF COEFFICIENT = 0.99 0.41

TOTALS
0.191 (iii)
3.17
60.94
75.00
0.81

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 40.00
Mannings n = 0.013 0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.50	3.250	16.50	4.83	4.50
0.167	0.00	1.750	7.50	3.333	16.50	4.92	4.50
0.250	3.00	1.833	7.50	3.417	16.50	5.00	4.50
0.333	3.00	1.917	7.50	3.500	16.50	5.08	4.50
0.417	3.00	2.000	7.50	3.583	16.50	5.17	4.50
0.500	3.00	2.083	7.50	3.667	16.50	5.25	3.00
0.583	3.00	2.167	7.50	3.750	7.50	5.33	3.00
0.667	3.00	2.250	9.00	3.833	7.50	5.42	3.00
0.750	4.50	2.333	9.00	3.917	7.50	5.50	3.00
0.833	4.50	2.417	9.00	4.000	7.50	5.58	3.00
0.917	4.50	2.500	9.00	4.083	7.50	5.67	3.00
1.000	4.50	2.583	9.00	4.167	7.50	5.75	3.00
1.083	4.50	2.667	9.00	4.250	6.00	5.83	3.00
1.167	4.50	2.750	45.00	4.333	6.00	5.92	3.00
1.250	4.50	2.833	45.00	4.417	6.00	6.00	3.00
1.333	4.50	2.917	81.00	4.500	6.00	6.08	3.00
1.417	4.50	3.000	81.00	4.583	6.00	6.17	3.00
1.500	4.50	3.083	117.00	4.667	6.00		
1.583	4.50	3.167	117.00	4.750	4.50		

Max.Eff.Inten.(mm/hr)= 117.00 73.22
over (min)= 5.00 15.00
Storage Coeff. (min)= 4.19 (ii) 12.19 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.24 0.09

PEAK FLOW (cms)= 0.49 0.86
TIME TO PEAK (hrs)= 3.17 3.25
RUNOFF VOLUME (mm)= 74.00 33.15
TOTAL RAINFALL (mm)= 75.00 75.00
RUNOFF COEFFICIENT = 0.99 0.44

TOTALS
1.216 (iii)
3.17
39.68
75.00
0.53

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)
1 + 2 = 3

AREA QPEAK TPEAK R.V.

(ha) (cms) (hrs) (mm)
ID1= 1 (0004): 9.64 1.216 3.17 39.68
+ ID2= 2 (0005): 0.72 0.191 3.17 60.94
ID = 3 (0006): 10.36 1.407 3.17 41.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)
IN= 2--> OUT= 1
DT= 5.0 min

OVERFLOW IS OFF

OUTFLOW (cms) STORAGE (ha.m.) OUTFLOW (cms) STORAGE (ha.m.)

**** WARNING : FIRST OUTFLOW IS NOT ZERO.

0.1231	0.0000	0.9421	0.1619
0.1601	0.0754	1.0216	0.2200
0.8851	0.1260	1.0368	0.2322

AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm)
INFLOW : ID= 2 (0006) 10.360 1.407 3.17 41.16
OUTFLOW: ID= 1 (0007) 10.360 0.829 3.42 41.30

PEAK FLOW REDUCTION [Qout/Qin](%)= 58.94
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1234

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

Area (ha)= 6.20 Curve Number (CN)= 71.0
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	0.00	1.667	4.50	3.250	16.50	4.83	4.50
0.167	0.00	1.750	7.50	3.333	16.50	4.92	4.50
0.250	3.00	1.833	7.50	3.417	16.50	5.00	4.50
0.333	3.00	1.917	7.50	3.500	16.50	5.08	4.50
0.417	3.00	2.000	7.50	3.583	16.50	5.17	4.50
0.500	3.00	2.083	7.50	3.667	16.50	5.25	3.00
0.583	3.00	2.167	7.50	3.750	7.50	5.33	3.00
0.667	3.00	2.250	9.00	3.833	7.50	5.42	3.00
0.750	4.50	2.333	9.00	3.917	7.50	5.50	3.00
0.833	4.50	2.417	9.00	4.000	7.50	5.58	3.00
0.917	4.50	2.500	9.00	4.083	7.50	5.67	3.00
1.000	4.50	2.583	9.00	4.167	7.50	5.75	3.00
1.083	4.50	2.667	9.00	4.250	6.00	5.83	3.00
1.167	4.50	2.750	45.00	4.333	6.00	5.92	3.00
1.250	4.50	2.833	45.00	4.417	6.00	6.00	3.00
1.333	4.50	2.917	81.00	4.500	6.00	6.08	3.00
1.417	4.50	3.000	81.00	4.583	6.00	6.17	3.00
1.500	4.50	3.083	117.00	4.667	6.00		
1.583	4.50	3.167	117.00	4.750	4.50		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.343 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 28.199
TOTAL RAINFALL (mm)= 75.000
RUNOFF COEFFICIENT = 0.376

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

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min

Area (ha)= 3.04
Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 40.00
Mannings n = 0.013 0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	4.50	3.250	16.50	4.83	4.50
0.167	0.00	1.750	7.50	3.333	16.50	4.92	4.50
0.250	3.00	1.833	7.50	3.417	16.50	5.00	4.50
0.333	3.00	1.917	7.50	3.500	16.50	5.08	4.50
0.417	3.00	2.000	7.50	3.583	16.50	5.17	4.50
0.500	3.00	2.083	7.50	3.667	16.50	5.25	3.00
0.583	3.00	2.167	7.50	3.750	7.50	5.33	3.00
0.667	3.00	2.250	9.00	3.833	7.50	5.42	3.00
0.750	4.50	2.333	9.00	3.917	7.50	5.50	3.00
0.833	4.50	2.417	9.00	4.000	7.50	5.58	3.00
0.917	4.50	2.500	9.00	4.083	7.50	5.67	3.00
1.000	4.50	2.583	9.00	4.167	7.50	5.75	3.00
1.083	4.50	2.667	9.00	4.250	6.00	5.83	3.00
1.167	4.50	2.750	45.00	4.333	6.00	5.92	3.00
1.250	4.50	2.833	45.00	4.417	6.00	6.00	3.00
1.333	4.50	2.917	81.00	4.500	6.00	6.08	3.00
1.417	4.50	3.000	81.00	4.583	6.00	6.17	3.00
1.500	4.50	3.083	117.00	4.667	6.00		
1.583	4.50	3.167	117.00	4.750	4.50		

Max.Eff.Inten.(mm/hr)= 117.00 76.72
over (min)= 5.00 15.00
Storage Coeff. (min)= 2.97 (ii) 10.81 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.28 0.09

TOTALS

PEAK FLOW (cms)= 0.17 0.29 0.410 (iii)
TIME TO PEAK (hrs)= 3.17 3.25 3.17
RUNOFF VOLUME (mm)= 74.00 33.72 40.57
TOTAL RAINFALL (mm)= 75.00 75.00 75.00
RUNOFF COEFFICIENT = 0.99 0.45 0.54

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)				
1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.829	3.42	41.30
+ ID2= 2 (0008):	3.04	0.410	3.17	40.57
=====				
ID = 3 (0010):	13.40	1.112	3.33	41.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)				
3 + 2 = 1				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	1.112	3.33	41.13
+ ID2= 2 (0009):	6.20	0.343	3.50	28.20
=====				
ID = 1 (0010):	19.60	1.418	3.33	37.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y Y M M O O
OOO T T H H Y Y M M OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\ae09
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\ae09

DATE: 03-13-2026

TIME: 06:58:50

USER:

COMMENTS: _____

** SIMULATION : K- SCS (II) 6hr 100 Year **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\436071d2
Ptotal= 82.20 mm	Comments: 100yr 6hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	1.67	8.22	3.33	18.08	5.00	4.93
0.17	3.29	1.83	8.22	3.50	18.08	5.17	3.29
0.33	3.29	2.00	8.22	3.67	8.22	5.33	3.29
0.50	3.29	2.17	9.86	3.83	8.22	5.50	3.29
0.67	4.93	2.33	9.86	4.00	8.22	5.67	3.29
0.83	4.93	2.50	9.86	4.17	6.58	5.83	3.29
1.00	4.93	2.67	49.32	4.33	6.58	6.00	3.29
1.17	4.93	2.83	88.78	4.50	6.58		
1.33	4.93	3.00	128.23	4.67	4.93		
1.50	4.93	3.17	18.08	4.83	4.93		

CALIB	Area (ha)= 0.72
STANDHYD (0005)	Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00
ID= 1 DT= 5.0 min	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.22
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	69.28	40.00
Mannings n =	0.013	0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	4.93	3.250	18.09	4.83	4.93
0.167	0.00	1.750	8.22	3.333	18.08	4.92	4.93
0.250	3.29	1.833	8.22	3.417	18.08	5.00	4.93
0.333	3.29	1.917	8.22	3.500	18.08	5.08	4.93
0.417	3.29	2.000	8.22	3.583	18.08	5.17	4.93
0.500	3.29	2.083	8.22	3.667	18.08	5.25	3.29
0.583	3.29	2.167	8.22	3.750	8.22	5.33	3.29
0.667	3.29	2.250	9.86	3.833	8.22	5.42	3.29
0.750	4.93	2.333	9.86	3.917	8.22	5.50	3.29
0.833	4.93	2.417	9.86	4.000	8.22	5.58	3.29
0.917	4.93	2.500	9.86	4.083	8.22	5.67	3.29
1.000	4.93	2.583	9.86	4.167	8.22	5.75	3.29
1.083	4.93	2.667	9.86	4.250	6.58	5.83	3.29
1.167	4.93	2.750	49.32	4.333	6.58	5.92	3.29
1.250	4.93	2.833	49.32	4.417	6.58	6.00	3.29
1.333	4.93	2.917	88.78	4.500	6.58	6.08	3.29
1.417	4.93	3.000	88.78	4.583	6.58	6.17	3.29

1.500	4.93	3.083	128.23	4.667	6.58
1.583	4.93	3.167	128.23	4.750	4.93

Max.Eff.Inten.(mm/hr)= 128.23 67.85
over (min)= 5.00 10.00
Storage Coeff. (min)= 1.86 (ii) 6.41 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.32 0.14

TOTALS
PEAK FLOW (cms)= 0.18 0.03 0.211 (iii)
TIME TO PEAK (hrs)= 3.17 3.17 3.17
RUNOFF VOLUME (mm)= 81.20 35.31 67.43
TOTAL RAINFALL (mm)= 82.20 82.20 82.20
RUNOFF COEFFICIENT = 0.99 0.43 0.82

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00	Dir. Conn.(%)= 16.00
--	--	----------------------

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 40.00
Mannings n = 0.013 0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.93	3.250	18.09	4.83	4.93
0.167	0.00	1.750	8.22	3.333	18.08	4.92	4.93
0.250	3.29	1.833	8.22	3.417	18.08	5.00	4.93
0.333	3.29	1.917	8.22	3.500	18.08	5.08	4.93
0.417	3.29	2.000	8.22	3.583	18.08	5.17	4.93
0.500	3.29	2.083	8.22	3.667	18.08	5.25	3.29
0.583	3.29	2.167	8.22	3.750	8.22	5.33	3.29
0.667	3.29	2.250	9.86	3.833	8.22	5.42	3.29
0.750	4.93	2.333	9.86	3.917	8.22	5.50	3.29
0.833	4.93	2.417	9.86	4.000	8.22	5.58	3.29
0.917	4.93	2.500	9.86	4.083	8.22	5.67	3.29
1.000	4.93	2.583	9.86	4.167	8.22	5.75	3.29
1.083	4.93	2.667	9.86	4.250	6.58	5.83	3.29
1.167	4.93	2.750	49.32	4.333	6.58	5.92	3.29
1.250	4.93	2.833	49.32	4.417	6.58	6.00	3.29
1.333	4.93	2.917	88.78	4.500	6.58	6.08	3.29
1.417	4.93	3.000	88.78	4.583	6.58	6.17	3.29
1.500	4.93	3.083	128.23	4.667	6.58		
1.583	4.93	3.167	128.23	4.750	4.93		

Max.Eff.Inten.(mm/hr)= 128.23 84.35
over (min)= 5.00 15.00
Storage Coeff. (min)= 4.04 (ii) 11.60 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.24 0.09

TOTALS
PEAK FLOW (cms)= 0.53 1.02 1.400 (iii)
TIME TO PEAK (hrs)= 3.17 3.25 3.17
RUNOFF VOLUME (mm)= 81.20 38.26 45.13
TOTAL RAINFALL (mm)= 82.20 82.20 82.20
RUNOFF COEFFICIENT = 0.99 0.47 0.55

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006) 1 + 2 = 3	AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm)
ID1= 1 (0004): + ID2= 2 (0005): ID = 3 (0006):	9.64 1.400 3.17 45.13 0.72 0.211 3.17 67.43 10.36 1.612 3.17 46.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) IN= 2---> OUT= 1 DT= 5.0 min	OVERFLOW IS OFF	OUTFLOW (cms) STORAGE (ha.m.) OUTFLOW (cms) STORAGE (ha.m.)
**** WARNING : FIRST	OUTFLOW IS NOT ZERO.	0.1231 0.0000 0.9421 0.1619 0.1601 0.0754 1.0216 0.2200 0.8851 0.1260 1.0368 0.2322

INFLOW : ID= 2 (0006) AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm)
OUTFLOW: ID= 1 (0007) 10.360 1.612 3.17 46.68
10.360 0.903 3.42 46.71

PEAK FLOW REDUCTION [Qout/Qin](%)= 56.04
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1383

CALIB NASHYD (0009) ID= 1 DT= 5.0 min	Area (ha)= 6.20 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.44	Curve Number (CN)= 71.0 # of Linear Res.(N)= 3.00
--	--	--

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	4.93	3.250	18.09	4.83	4.93
0.167	0.00	1.750	8.22	3.333	18.08	4.92	4.93
0.250	3.29	1.833	8.22	3.417	18.08	5.00	4.93
0.333	3.29	1.917	8.22	3.500	18.08	5.08	4.93
0.417	3.29	2.000	8.22	3.583	18.08	5.17	4.93
0.500	3.29	2.083	8.22	3.667	18.08	5.25	3.29
0.583	3.29	2.167	8.22	3.750	8.22	5.33	3.29
0.667	3.29	2.250	9.86	3.833	8.22	5.42	3.29
0.750	4.93	2.333	9.86	3.917	8.22	5.50	3.29
0.833	4.93	2.417	9.86	4.000	8.22	5.58	3.29
0.917	4.93	2.500	9.86	4.083	8.22	5.67	3.29
1.000	4.93	2.583	9.86	4.167	8.22	5.75	3.29
1.083	4.93	2.667	9.86	4.250	6.58	5.83	3.29
1.167	4.93	2.750	49.32	4.333	6.58	5.92	3.29
1.250	4.93	2.833	49.32	4.417	6.58	6.00	3.29
1.333	4.93	2.917	88.78	4.500	6.58	6.08	3.29
1.417	4.93	3.000	88.78	4.583	6.58	6.17	3.29
1.500	4.93	3.083	128.23	4.667	6.58		
1.583	4.93	3.167	128.23	4.750	4.93		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.402 (i)
TIME TO PEAK (hrs)= 3.500
RUNOFF VOLUME (mm)= 32.934
TOTAL RAINFALL (mm)= 82.200
RUNOFF COEFFICIENT = 0.401

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

CALIB STANDHYD (0008) ID= 1 DT= 5.0 min	Area (ha)= 3.04 Total Imp(%)= 30.00	Dir. Conn.(%)= 17.00
--	--	----------------------

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50

Average Slope (%)= 1.00 2.00
Length (m)= 142.36 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	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	4.93	3.250	18.09	4.83	4.93		
0.167	0.00	1.750	8.22	3.333	18.08	4.92	4.93		
0.250	3.29	1.833	8.22	3.417	18.08	5.00	4.93		
0.333	3.29	1.917	8.22	3.500	18.08	5.08	4.93		
0.417	3.29	2.000	8.22	3.583	18.08	5.17	4.93		
0.500	3.29	2.083	8.22	3.667	18.08	5.25	3.29		
0.583	3.29	2.167	8.22	3.750	8.22	5.33	3.29		
0.667	3.29	2.250	9.86	3.833	8.22	5.42	3.29		
0.750	4.93	2.333	9.86	3.917	8.22	5.50	3.29		
0.833	4.93	2.417	9.86	4.000	8.22	5.58	3.29		
0.917	4.93	2.500	9.86	4.083	8.22	5.67	3.29		
1.000	4.93	2.583	9.86	4.167	8.22	5.75	3.29		
1.083	4.93	2.667	9.86	4.250	6.58	5.83	3.29		
1.167	4.93	2.750	49.32	4.333	6.58	5.92	3.29		
1.250	4.93	2.833	49.32	4.417	6.58	6.00	3.29		
1.333	4.93	2.917	88.78	4.500	6.58	6.08	3.29		
1.417	4.93	3.000	88.78	4.583	6.58	6.17	3.29		
1.500	4.93	3.083	128.23	4.667	6.58				
1.583	4.93	3.167	128.23	4.750	4.93				

Max.Eff.Inten.(mm/hr)= 128.23 88.30
over (min) 5.00 15.00
Storage Coeff. (min)= 2.86 (ii) 10.28 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.28 0.09

PEAK FLOW (cms)= 0.18 0.34
TIME TO PEAK (hrs)= 3.17 3.25
RUNOFF VOLUME (mm)= 81.20 38.89
TOTAL RAINFALL (mm)= 82.20 82.20
RUNOFF COEFFICIENT = 0.99 0.47

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)				
1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.903	3.42	46.71
+ ID2= 2 (0008):	3.04	0.471	3.17	46.08
ID = 3 (0010):	13.40	1.262	3.25	46.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)				
3 + 2 = 1				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	1.262	3.25	46.57
+ ID2= 2 (0009):	6.20	0.402	3.50	32.93
ID = 1 (0010):	19.60	1.607	3.33	42.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A A A L
V V I SS U U A A L
V V I SSSSS UUUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\visual OTTHYMO 6.2\vo2\voin.dat
Output filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\aa210\
Summary filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\aa210\

DATE: 03-13-2026

TIME: 06:58:51

USER:

COMMENTS: _____

** SIMULATION : L- SCS (II) 12hr 2 year **

READ STORM Filename: C:\Users\dauid.mcnaull\AppData
ata\Local\Temp\
38fb46dd-c845-4d2b-9301-5d5a59ce4953\54d649b6
Ptotal= 45.60 mm Comments: 2yr 12hr 10min SCS Type II

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	1.74	6.33	7.81	9.50	1.47
0.17	0.99	3.33	1.74	6.50	5.83	9.67	1.40
0.33	1.00	3.50	1.74	6.67	4.46	9.83	1.34
0.50	1.02	3.67	1.81	6.83	4.01	10.00	1.28
0.67	1.04	3.83	1.95	7.00	3.56	10.17	1.24
0.83	1.06	4.00	2.09	7.17	3.17	10.33	1.21
1.00	1.07	4.17	2.29	7.33	2.93	10.50	1.19
1.17	1.09	4.33	2.49	7.50	2.69	10.67	1.17
1.33	1.11	4.50	2.70	7.67	2.45	10.83	1.15
1.50	1.13	4.67	3.01	7.83	2.28	11.00	1.12
1.67	1.15	4.83	3.36	8.00	2.10	11.17	1.10
1.83	1.17	5.00	3.71	8.17	1.97	11.33	1.08
2.00	1.18	5.17	4.37	8.33	1.91	11.50	1.06
2.17	1.24	5.33	5.21	8.50	1.85	11.67	1.03
2.33	1.33	5.50	6.04	8.67	1.78	11.83	1.01
2.50	1.42	5.67	18.06	8.83	1.72	12.00	0.99
2.67	1.51	5.83	44.88	9.00	1.66		
2.83	1.60	6.00	60.68	9.17	1.59		
3.00	1.69	6.17	9.79	9.33	1.53		

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min
Area (ha)= 0.72
Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	1.69	6.250	9.79	9.33	1.59
0.167	0.00	3.250	1.74	6.333	9.79	9.42	1.53
0.250	0.99	3.333	1.74	6.417	7.81	9.50	1.53

0.333	0.99	3.417	1.74	6.500	7.81	9.58	1.47
0.417	1.00	3.500	1.74	6.583	5.83	9.67	1.47
0.500	1.00	3.583	1.74	6.667	5.83	9.75	1.40
0.583	1.02	3.667	1.74	6.750	4.46	9.83	1.40
0.667	1.02	3.750	1.81	6.833	4.46	9.92	1.34
0.750	1.04	3.833	1.81	6.917	4.01	10.00	1.34
0.833	1.04	3.917	1.95	7.000	4.01	10.08	1.28
0.917	1.06	4.000	1.95	7.083	3.56	10.17	1.28
1.000	1.06	4.083	2.09	7.167	3.56	10.25	1.24
1.083	1.07	4.167	2.09	7.250	3.17	10.33	1.24
1.167	1.07	4.250	2.29	7.333	3.17	10.42	1.21
1.250	1.09	4.333	2.29	7.417	2.93	10.50	1.21
1.333	1.09	4.417	2.49	7.500	2.93	10.58	1.19
1.417	1.11	4.500	2.49	7.583	2.69	10.67	1.19
1.500	1.11	4.583	2.70	7.667	2.69	10.75	1.17
1.583	1.13	4.667	2.70	7.750	2.45	10.83	1.17
1.667	1.13	4.750	3.01	7.833	2.45	10.92	1.15
1.750	1.15	4.833	3.01	7.917	2.28	11.00	1.15
1.833	1.15	4.917	3.36	8.000	2.28	11.08	1.12
1.917	1.17	5.000	3.36	8.083	2.10	11.17	1.12
2.000	1.17	5.083	3.71	8.167	2.10	11.25	1.10
2.083	1.18	5.167	3.71	8.250	1.97	11.33	1.10
2.167	1.18	5.250	4.37	8.333	1.97	11.42	1.08
2.250	1.24	5.333	4.37	8.417	1.91	11.50	1.08
2.333	1.24	5.417	5.21	8.500	1.91	11.58	1.06
2.417	1.33	5.500	5.21	8.583	1.85	11.67	1.06
2.500	1.33	5.583	6.04	8.667	1.85	11.75	1.03
2.583	1.42	5.667	6.04	8.750	1.78	11.83	1.03
2.667	1.42	5.750	18.06	8.833	1.78	11.92	1.01
2.750	1.51	5.833	18.06	8.917	1.72	12.00	1.01
2.833	1.51	5.917	44.88	9.000	1.72	12.08	0.99
2.917	1.60	6.000	44.88	9.083	1.66	12.17	0.99
3.000	1.60	6.083	60.68	9.167	1.66		
3.083	1.69	6.167	60.68	9.250	1.59		

Max.Eff.Inten.(mm/hr)= 60.68 18.28
over (min) 5.00 20.00
Storage Coeff. (min)= 2.50 (ii) 16.43 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.29 0.06

TOTALS
PEAK FLOW (cms)= 0.08 0.01 0.089 (iii)
TIME TO PEAK (hrs)= 6.17 6.33 6.17
RUNOFF VOLUME (mm)= 44.60 13.15 35.15
TOTAL RAINFALL (mm)= 45.60 45.60 45.60
RUNOFF COEFFICIENT = 0.98 0.29 0.77

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	Area (ha)= 9.64	Dir. Conn.(%)= 16.00
STANDHYD (0004)	Total Imp(%)= 27.00	
ID= 1 DT= 5.0 min		

Surface Area (ha)=	IMPERVIOUS	PERVIOUS (i)
Dep. Storage (mm)=	2.60	7.04
Average Slope (%)=	1.00	1.50
Length (m)=	253.51	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.69	6.250	9.79	9.33	1.59
0.167	0.00	3.250	1.74	6.333	9.79	9.42	1.53
0.250	0.99	3.333	1.74	6.417	7.81	9.50	1.53
0.333	0.99	3.417	1.74	6.500	7.81	9.58	1.47
0.417	1.00	3.500	1.74	6.583	5.83	9.67	1.47
0.500	1.02	3.583	1.74	6.667	5.83	9.75	1.40
0.583	1.02	3.667	1.74	6.750	4.46	9.83	1.40
0.667	1.02	3.750	1.81	6.833	4.46	9.92	1.34
0.750	1.04	3.833	1.81	6.917	4.01	10.00	1.34
0.833	1.04	3.917	1.95	7.000	4.01	10.08	1.28

0.917	1.06	4.000	1.95	7.083	3.56	10.17	1.28
1.000	1.06	4.083	2.09	7.167	3.56	10.25	1.24
1.083	1.07	4.167	2.09	7.250	3.17	10.33	1.24
1.167	1.07	4.250	2.29	7.333	3.17	10.42	1.21
1.250	1.09	4.333	2.29	7.417	2.93	10.50	1.21
1.333	1.09	4.417	2.49	7.500	2.93	10.58	1.19
1.417	1.11	4.500	2.49	7.583	2.69	10.67	1.19
1.500	1.11	4.583	2.70	7.667	2.69	10.75	1.17
1.583	1.13	4.667	2.70	7.750	2.45	10.83	1.17
1.667	1.13	4.750	3.01	7.833	2.45	10.92	1.15
1.750	1.15	4.833	3.01	7.917	2.28	11.00	1.15
1.833	1.15	4.917	3.36	8.000	2.28	11.08	1.12
1.917	1.17	5.000	3.36	8.083	2.10	11.17	1.12
2.000	1.17	5.083	3.71	8.167	2.10	11.25	1.10
2.083	1.18	5.167	3.71	8.250	1.97	11.33	1.10
2.167	1.18	5.250	4.37	8.333	1.97	11.42	1.08
2.250	1.24	5.333	4.37	8.417	1.91	11.50	1.08
2.333	1.24	5.417	5.21	8.500	1.91	11.58	1.06
2.417	1.33	5.500	5.21	8.583	1.85	11.67	1.06
2.500	1.33	5.583	6.04	8.667	1.85	11.75	1.03
2.583	1.42	5.667	6.04	8.750	1.78	11.83	1.03
2.667	1.42	5.750	18.06	8.833	1.78	11.92	1.01
2.750	1.51	5.833	18.06	8.917	1.72	12.00	1.01
2.833	1.51	5.917	44.88	9.000	1.72	12.08	0.99
2.917	1.60	6.000	44.88	9.083	1.66	12.17	0.99
3.000	1.60	6.083	60.68	9.167	1.66		
3.083	1.69	6.167	60.68	9.250	1.59		

Max.Eff.Inten.(mm/hr)= 60.68 23.41
over (min) 5.00 20.00
Storage Coeff. (min)= 5.45 (ii) 18.07 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.20 0.06

TOTALS
PEAK FLOW (cms)= 0.25 0.26 0.429 (iii)
TIME TO PEAK (hrs)= 6.17 6.33 6.17
RUNOFF VOLUME (mm)= 44.60 14.59 19.39
TOTAL RAINFALL (mm)= 45.60 45.60 45.60
RUNOFF COEFFICIENT = 0.98 0.32 0.43

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0004):	9.64	0.429	6.17	19.39
+ ID2= 2 (0005):	0.72	0.089	6.17	35.15
ID = 3 (0006):	10.36	0.518	6.17	20.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)	OVERFLOW IS OFF
IN= 2--> OUT= 1	
DT= 5.0 min	
**** WARNING : FIRST OUTFLOW IS NOT ZERO.	
0.1231	0.0000
0.1601	0.0754
0.8851	0.1260
0.9421	0.1619
1.0216	0.2200
1.0368	0.2322

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0006)	10.360	0.518	6.17	20.49
OUTFLOW: ID= 1 (0007)	10.360	0.151	6.83	20.55

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.11
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.0723

CALIB

| NASHYD (0009) | Area (ha)= 6.20 Curve Number (CN)= 71.0
| 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	0.00	3.167	1.69	6.250	9.79	9.33	1.59
0.167	0.00	3.250	1.74	6.333	9.79	9.42	1.53
0.250	0.99	3.333	1.74	6.417	7.81	9.50	1.53
0.333	0.99	3.417	1.74	6.500	7.81	9.58	1.47
0.417	1.00	3.500	1.74	6.583	5.83	9.67	1.47
0.500	1.00	3.583	1.74	6.667	5.83	9.75	1.40
0.583	1.02	3.667	1.74	6.750	4.46	9.83	1.40
0.667	1.02	3.750	1.81	6.833	4.46	9.92	1.34
0.750	1.04	3.833	1.81	6.917	4.01	10.00	1.34
0.833	1.04	3.917	1.95	7.000	4.01	10.08	1.28
0.917	1.06	4.000	1.95	7.083	3.56	10.17	1.28
1.000	1.06	4.083	2.09	7.167	3.56	10.25	1.24
1.083	1.07	4.167	2.09	7.250	3.17	10.33	1.24
1.167	1.07	4.250	2.29	7.333	3.17	10.42	1.21
1.250	1.09	4.333	2.29	7.417	2.93	10.50	1.21
1.333	1.09	4.417	2.49	7.500	2.93	10.58	1.19
1.417	1.11	4.500	2.49	7.583	2.69	10.67	1.19
1.500	1.11	4.583	2.70	7.667	2.69	10.75	1.17
1.583	1.13	4.667	2.70	7.750	2.45	10.83	1.17
1.667	1.13	4.750	3.01	7.833	2.45	10.92	1.15
1.750	1.15	4.833	3.01	7.917	2.28	11.00	1.15
1.833	1.15	4.917	3.36	8.000	2.28	11.08	1.12
1.917	1.17	5.000	3.36	8.083	2.10	11.17	1.12
2.000	1.17	5.083	3.71	8.167	2.10	11.25	1.10
2.083	1.18	5.167	3.71	8.250	1.97	11.33	1.10
2.167	1.18	5.250	4.37	8.333	1.97	11.42	1.08
2.250	1.24	5.333	4.37	8.417	1.91	11.50	1.08
2.333	1.24	5.417	5.21	8.500	1.91	11.58	1.06
2.417	1.33	5.500	5.21	8.583	1.85	11.67	1.06
2.500	1.33	5.583	6.04	8.667	1.85	11.75	1.03
2.583	1.42	5.667	6.04	8.750	1.78	11.83	1.03
2.667	1.42	5.750	18.06	8.833	1.78	11.92	1.01
2.750	1.51	5.833	18.06	8.917	1.72	12.00	1.01
2.833	1.51	5.917	44.88	9.000	1.72	12.08	0.99
2.917	1.60	6.000	44.88	9.083	1.66	12.17	0.99
3.000	1.60	6.083	60.68	9.167	1.66		
3.083	1.69	6.167	60.68	9.250	1.59		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.117 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 11.418
TOTAL RAINFALL (mm)= 45.600
RUNOFF COEFFICIENT = 0.250

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

| CALIB |
| STANDHYD (0008) | Area (ha)= 3.04
| ID= 1 DT= 5.0 min | Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 40.00
Mannings n = 0.013 0.250

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

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	1.69	6.250	9.79	9.33	1.59
0.167	0.00	3.250	1.74	6.333	9.79	9.42	1.53
0.250	0.99	3.333	1.74	6.417	7.81	9.50	1.53
0.333	0.99	3.417	1.74	6.500	7.81	9.58	1.47
0.417	1.00	3.500	1.74	6.583	5.83	9.67	1.47
0.500	1.00	3.583	1.74	6.667	5.83	9.75	1.40
0.583	1.02	3.667	1.74	6.750	4.46	9.83	1.40

0.667	1.02	3.750	1.81	6.833	4.46	9.92	1.34
0.750	1.04	3.833	1.81	6.917	4.01	10.00	1.34
0.833	1.04	3.917	1.95	7.000	4.01	10.08	1.28
0.917	1.06	4.000	1.95	7.083	3.56	10.17	1.28
1.000	1.06	4.083	2.09	7.167	3.56	10.25	1.24
1.083	1.07	4.167	2.09	7.250	3.17	10.33	1.24
1.167	1.07	4.250	2.29	7.333	3.17	10.42	1.21
1.250	1.09	4.333	2.29	7.417	2.93	10.50	1.21
1.333	1.09	4.417	2.49	7.500	2.93	10.58	1.19
1.417	1.11	4.500	2.49	7.583	2.69	10.67	1.19
1.500	1.11	4.583	2.70	7.667	2.69	10.75	1.17
1.583	1.13	4.667	2.70	7.750	2.45	10.83	1.17
1.667	1.13	4.750	3.01	7.833	2.45	10.92	1.15
1.750	1.15	4.833	3.01	7.917	2.28	11.00	1.15
1.833	1.15	4.917	3.36	8.000	2.28	11.08	1.12
1.917	1.17	5.000	3.36	8.083	2.10	11.17	1.12
2.000	1.17	5.083	3.71	8.167	2.10	11.25	1.10
2.083	1.18	5.167	3.71	8.250	1.97	11.33	1.10
2.167	1.18	5.250	4.37	8.333	1.97	11.42	1.08
2.250	1.24	5.333	4.37	8.417	1.91	11.50	1.08
2.333	1.24	5.417	5.21	8.500	1.91	11.58	1.06
2.417	1.33	5.500	5.21	8.583	1.85	11.67	1.06
2.500	1.33	5.583	6.04	8.667	1.85	11.75	1.03
2.583	1.42	5.667	6.04	8.750	1.78	11.83	1.03
2.667	1.42	5.750	18.06	8.833	1.78	11.92	1.01
2.750	1.51	5.833	18.06	8.917	1.72	12.00	1.01
2.833	1.51	5.917	44.88	9.000	1.72	12.08	0.99
2.917	1.60	6.000	44.88	9.083	1.66	12.17	0.99
3.000	1.60	6.083	60.68	9.167	1.66		
3.083	1.69	6.167	60.68	9.250	1.59		

Max.Eff.Inten.(mm/hr)= 60.68 24.66
over (min) 5.00 20.00
Storage Coeff. (min)= 3.86 (ii) 16.21 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.25 0.06

TOTALS
PEAK FLOW (cms)= 0.09 0.09 0.147 (iii)
TIME TO PEAK (hrs)= 6.17 6.33 6.17
RUNOFF VOLUME (mm)= 44.60 14.91 19.95
TOTAL RAINFALL (mm)= 45.60 45.60 45.60
RUNOFF COEFFICIENT = 0.98 0.33 0.44

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0010) |
| 1 + 2 = 3 |
AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 1 (0007): 10.36 0.151 6.83 20.55
+ ID2= 2 (0008): 3.04 0.147 6.17 19.95
===== ID = 3 (0010): 13.40 0.282 6.17 20.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0010) |
| 3 + 2 = 1 |
AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 3 (0010): 13.40 0.282 6.17 20.41
+ ID2= 2 (0009): 6.20 0.117 6.50 11.42
===== ID = 1 (0010): 19.60 0.357 6.42 17.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
V	V	I	SS	U	U	A	A	L
V	V	I	SS	U	U	AAAAA	L	
V	V	I	SS	U	U	A	A	L

VV I SSSSS UUUUU A A LLLLL
000 TTTT TTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\lbc6f
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\lbc6f

DATE: 03-13-2026 TIME: 06:58:50

USER:

COMMENTS: _____

** SIMULATION : M- SCS (II) 12hr 5 Year **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\1487d545
Ptotal= 61.20 mm	Comments: Syr 12hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.17	2.33	6.33	10.48	9.50	1.97
0.17	1.32	3.33	2.33	6.50	7.82	9.67	1.88
0.33	1.35	3.50	2.33	6.67	5.99	9.83	1.80
0.50	1.37	3.67	2.43	6.83	5.39	10.00	1.72
0.67	1.40	3.83	2.62	7.00	4.78	10.17	1.66
0.83	1.42	4.00	2.81	7.17	4.26	10.33	1.63
1.00	1.44	4.17	3.07	7.33	3.93	10.50	1.60
1.17	1.47	4.33	3.35	7.50	3.60	10.67	1.57
1.33	1.49	4.50	3.63	7.67	3.29	10.83	1.54
1.50	1.52	4.67	4.05	7.83	3.06	11.00	1.51
1.67	1.54	4.83	4.51	8.00	2.82	11.17	1.48
1.83	1.56	5.00	4.98	8.17	2.65	11.33	1.45
2.00	1.59	5.17	5.87	8.33	2.57	11.50	1.42
2.17	1.67	5.33	6.99	8.50	2.48	11.67	1.38
2.33	1.78	5.50	8.10	8.67	2.39	11.83	1.35
2.50	1.90	5.67	24.24	8.83	2.31	12.00	1.33
2.67	2.03	5.83	60.24	9.00	2.23		
2.83	2.15	6.00	81.44	9.17	2.14		
3.00	2.26	6.17	13.13	9.33	2.06		

CALIB STANDHYD (0005) ID= 1 DT= 5.0 min	Area (ha)= 0.72 Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00
--	--

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.22
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	69.28	40.00
Mannings n =	0.013	0.250

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	0.00	3.167	2.26	6.250	13.13	9.33	2.14
0.167	0.00	3.250	2.33	6.333	13.13	9.42	2.06

0.250	1.32	3.333	2.33	6.417	10.48	9.50	2.06
0.333	1.32	3.417	2.33	6.500	10.48	9.58	1.97
0.417	1.35	3.500	2.33	6.583	7.82	9.67	1.97
0.500	1.35	3.583	2.33	6.667	7.82	9.75	1.88
0.583	1.37	3.667	2.33	6.750	5.99	9.83	1.88
0.667	1.37	3.750	2.43	6.833	5.99	9.92	1.80
0.750	1.40	3.833	2.43	6.917	5.39	10.00	1.80
0.833	1.40	3.917	2.62	7.000	5.39	10.08	1.72
0.917	1.42	4.000	2.62	7.083	4.78	10.17	1.72
1.000	1.42	4.083	2.81	7.167	4.78	10.25	1.66
1.083	1.44	4.167	2.81	7.250	4.26	10.33	1.66
1.167	1.44	4.250	3.07	7.333	4.26	10.42	1.63
1.250	1.47	4.333	3.07	7.417	3.93	10.50	1.63
1.333	1.47	4.417	3.35	7.500	3.93	10.58	1.60
1.417	1.49	4.500	3.35	7.583	3.60	10.67	1.60
1.500	1.49	4.583	3.63	7.667	3.60	10.75	1.57
1.583	1.52	4.667	3.63	7.750	3.29	10.83	1.57
1.667	1.52	4.750	4.05	7.833	3.29	10.92	1.54
1.750	1.54	4.833	4.05	7.917	3.06	11.00	1.54
1.833	1.54	4.917	4.51	8.000	3.06	11.08	1.51
1.917	1.56	5.000	4.51	8.083	2.82	11.17	1.51
2.000	1.56	5.083	4.98	8.167	2.82	11.25	1.48
2.083	1.59	5.167	4.98	8.250	2.65	11.33	1.48
2.167	1.59	5.250	5.87	8.333	2.65	11.42	1.45
2.250	1.67	5.333	5.87	8.417	2.57	11.50	1.45
2.333	1.67	5.417	6.99	8.500	2.57	11.58	1.42
2.417	1.78	5.500	6.99	8.583	2.48	11.67	1.42
2.500	1.78	5.583	8.10	8.667	2.48	11.75	1.38
2.583	1.90	5.667	8.10	8.750	2.39	11.83	1.38
2.667	1.90	5.750	24.24	8.833	2.39	11.92	1.35
2.750	2.03	5.833	24.24	8.917	2.31	12.00	1.35
2.833	2.03	5.917	60.24	9.000	2.31	12.08	1.33
2.917	2.15	6.000	60.24	9.083	2.23	12.17	1.33
3.000	2.15	6.083	81.44	9.167	2.23		
3.083	2.26	6.167	81.44	9.250	2.14		

Max.Eff.Inten.(mm/hr)=	81.44	30.49
over (min)	5.00	15.00
Storage Coeff. (min)=	2.23 (ii)	13.58 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.30	0.08

PEAK FLOW (cms)=	0.11	0.01	*TOTALS*
TIME TO PEAK (hrs)=	6.17	6.25	0.124 (iii)
RUNOFF VOLUME (mm)=	60.20	21.81	6.17
TOTAL RAINFALL (mm)=	61.20	61.20	48.67
RUNOFF COEFFICIENT =	0.98	0.36	61.20
			0.80

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00
--	--

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.60	7.04
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	253.51	40.00
Mannings n =	0.013	0.250

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	0.00	3.167	2.26	6.250	13.13	9.33	2.14
0.167	0.00	3.250	2.33	6.333	13.13	9.42	2.06
0.250	1.32	3.333	2.33	6.417	10.48	9.50	2.06
0.333	1.32	3.417	2.33	6.500	10.48	9.58	1.97
0.417	1.35	3.500	2.33	6.583	7.82	9.67	1.97
0.500	1.35	3.583	2.33	6.667	7.82	9.75	1.88
0.583	1.37	3.667	2.33	6.750	5.99	9.83	1.88
0.667	1.37	3.750	2.43	6.833	5.99	9.92	1.80
0.750	1.40	3.833	2.43	6.917	5.39	10.00	1.80

Max. Eff. Inten. (mm/hr)=	81.44	44.41
over (min)=	5.00	15.00
Storage Coeff. (min)=	4.85 (ii)	14.61 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.22	0.08

PEAK FLOW (cms)=	0.33	0.49	0.751 (iii)
TIME TO PEAK (hrs)=	6.17	6.25	6.17
RUNOFF VOLUME (mm)=	60.20	23.91	29.71
TOTAL RAINFALL (mm)=	61.20	61.20	61.20
RUNOFF COEFFICIENT =	0.98	0.39	0.49

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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RESERVOIR( 0007)      OVERFLOW IS OFF
IN= 2--> OUT= 1
DT= 5.0 min
-----
**** WARNING : FIRST OUTFLOW IS NOT ZERO.
              OUTFLOW      STORAGE      OUTFLOW      STORAGE
              (cms)        (ha.m.)      (cms)        (ha.m.)
              0.1231      0.0000      0.9421      0.1619
              0.1601      0.0754      1.0216      0.2200
              0.8851      0.1260      1.0368      0.2322
              AREA          QPEAK          TPEAK          R.V.
              (ha)         (cms)         (hrs)         (mm)
INFLOW : ID= 2 ( 0006)    10.360         0.875         6.17         31.03
OUTFLOW: ID= 1 ( 0007)    10.360         0.385         6.50         31.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.03
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.1067

```

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

		--- TRANSFORMED		--- HYPOTGRAPH ---			
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	2.26	6.250	13.13	9.333	2.14
0.167	0.00	3.250	2.33	6.333	13.13	9.42	2.06
0.250	1.32	3.333	2.33	6.417	10.48	9.50	2.06
0.333	1.32	3.417	2.33	6.500	10.48	9.58	1.97
0.417	1.35	3.500	2.33	6.583	7.82	9.67	1.97
0.500	1.35	3.583	2.33	6.667	7.82	9.75	1.88
0.583	1.37	3.667	2.33	6.750	5.99	9.83	1.88
0.667	1.37	3.750	2.43	6.833	5.99	9.92	1.80
0.750	1.40	3.833	2.43	6.917	5.39	10.00	1.80
0.833	1.40	3.917	2.62	7.000	5.39	10.08	1.72
0.917	1.42	4.000	2.62	7.083	4.78	10.17	1.72
1.000	1.42	4.083	2.62	7.167	4.78	10.25	1.66
1.083	1.44	4.167	2.81	7.250	4.26	10.33	1.66
1.167	1.44	4.250	3.07	7.333	4.26	10.42	1.63
1.250	1.47	4.333	3.07	7.417	3.93	10.50	1.63
1.333	1.47	4.417	3.35	7.500	3.93	10.58	1.60
1.417	1.49	4.500	3.35	7.583	3.60	10.67	1.60
1.500	1.49	4.583	3.63	7.667	3.60	10.75	1.57
1.583	1.52	4.667	3.63	7.750	3.29	10.83	1.57
1.667	1.52	4.750	4.05	7.833	3.29	10.92	1.54
1.750	1.54	4.833	4.05	7.917	3.06	11.00	1.54
1.833	1.54	4.917	4.51	8.000	3.06	11.08	1.51
1.917	1.56	5.000	4.51	8.083	2.82	11.17	1.51
2.000	1.56	5.083	4.98	8.167	2.82	11.25	1.48
2.083	1.59	5.167	4.98	8.250	2.65	11.33	1.48
2.167	1.59	5.250	5.87	8.333	2.65	11.42	1.45
2.250	1.67	5.333	5.87	8.417	2.57	11.50	1.45
2.333	1.67	5.417	6.99	8.500	2.57	11.58	1.42
2.417	1.78	5.500	6.99	8.583	2.48	11.67	1.43
2.500	1.78	5.583	8.10	8.667	2.48	11.75	1.38
2.583	1.90	5.667	8.10	8.750	2.39	11.83	1.38
2.667	1.90	5.750	24.24	8.833	2.39	11.92	1.35
2.750	2.03	5.833	24.24	8.917	2.31	12.00	1.35
2.833	2.03	5.917	60.24	9.000	2.31	12.08	1.33
2.917	2.15	6.000	60.24	9.083	2.23	12.17	1.33
3.000	2.15	6.083	81.44	9.167	2.23		
3.083	2.26	6.167	81.44	9.250	2.14		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW	(cms)=	0.206	(i)
TIME TO PEAK	(hrs)=	6.500	
RUNOFF VOLUME	(mm)=	19.745	
TOTAL RAINFALL	(mm)=	61.200	
RUNOFF COEFFICIENT	=	0.323	

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

CALIB	Area (ha)=	3.04	
STANDHYD (0008)	Total Imp(%)=	30.00	Dir. Conn.(%)= 17.00
ID= 1 DT= 5.0 min			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.91	2.13
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00
Length	(m)=	142.36	40.00
Mannings n	=	0.013	0.250

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

		--- TRANSFORMED HYPOTGRAPH ---			
TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	2.26	6.250	13.13
0.167	0.00	3.250	2.33	6.333	13.13
0.250	1.32	3.333	2.33	6.417	10.48
0.333	1.32	3.417	2.33	6.500	10.48
0.417	1.35	3.500	2.33	6.583	7.82

0.500	1.35	3.583	2.33	6.667	7.82	9.75	1.88
0.583	1.37	3.667	2.33	6.750	5.99	9.83	1.88
0.667	1.37	3.750	2.43	6.833	5.99	9.92	1.80
0.750	1.40	3.833	2.43	6.917	5.39	10.00	1.80
0.833	1.40	3.917	2.62	7.000	5.39	10.08	1.72
0.917	1.42	4.000	2.62	7.083	4.78	10.17	1.72
1.000	1.42	4.083	2.81	7.167	4.78	10.25	1.66
1.083	1.44	4.167	2.81	7.250	4.26	10.33	1.66
1.167	1.44	4.250	3.07	7.333	4.26	10.42	1.63
1.250	1.47	4.333	3.07	7.417	3.93	10.50	1.63
1.333	1.47	4.417	3.35	7.500	3.93	10.58	1.60
1.417	1.49	4.500	3.35	7.583	3.60	10.67	1.60
1.500	1.49	4.583	3.63	7.667	3.60	10.75	1.57
1.583	1.52	4.667	3.63	7.750	3.29	10.83	1.57
1.667	1.52	4.750	4.05	7.833	3.29	10.92	1.54
1.750	1.54	4.833	4.05	7.917	3.06	11.00	1.54
1.833	1.54	4.917	4.51	8.000	3.06	11.08	1.51
1.917	1.56	5.000	4.51	8.083	2.82	11.17	1.51
2.000	1.56	5.083	4.98	8.167	2.82	11.25	1.48
2.083	1.59	5.167	4.98	8.250	2.65	11.33	1.48
2.167	1.59	5.250	5.87	8.333	2.65	11.42	1.45
2.250	1.67	5.333	5.87	8.417	2.57	11.50	1.45
2.333	1.67	5.417	6.99	8.500	2.57	11.58	1.42
2.417	1.78	5.500	6.99	8.583	2.48	11.67	1.42
2.500	1.78	5.583	8.10	8.667	2.48	11.75	1.38
2.583	1.90	5.667	8.10	8.750	2.39	11.83	1.38
2.667	1.90	5.750	24.24	8.833	2.39	11.92	1.35
2.750	2.03	5.833	24.24	8.917	2.31	12.00	1.35
2.833	2.03	5.917	60.24	9.000	2.31	12.08	1.33
2.917	2.15	6.000	60.24	9.083	2.23	12.17	1.33
3.000	2.15	6.083	81.44	9.167	2.23		
3.083	2.26	6.167	81.44	9.250	2.14		

Max.Eff.Inten.(mm/hr)= 81.44 46.63
over (min) 5.00 15.00
Storage Coeff. (min)= 3.43 (ii) 13.00 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.26 0.08

TOTALS
PEAK FLOW (cms)= 0.12 0.16 0.255 (iii)
TIME TO PEAK (hrs)= 6.17 6.25 6.17
RUNOFF VOLUME (mm)= 60.20 24.37 30.45
TOTAL RAINFALL (mm)= 61.20 61.20 61.20
RUNOFF COEFFICIENT = 0.98 0.40 0.50

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0007):	10.36	0.385	6.50	31.12
+ ID2= 2 (0008):	3.04	0.255	6.17	30.45
ID = 3 (0010):	13.40	0.501	6.42	30.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0010):	13.40	0.501	6.42	30.97
+ ID2= 2 (0009):	6.20	0.206	6.50	19.75
ID = 1 (0010):	19.60	0.706	6.50	27.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A A L (v 6.2.2021)
V V I SS U U A A L

V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL
000 TTTT TTTT H H Y Y M M 000 TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
000 T T H H Y M M 000

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

Input filename: C:\Program Files (x86)\visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\70665.
Summary filename: C:\Users\dauid.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\70665.

DATE: 03-13-2026

TIME: 06:58:51

USER:

COMMENTS: _____

** SIMULATION : N- SCS (II) 12hr 10 Year **

READ STORM Filename: C:\Users\dauid.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\fe0dbe1c
Ptotal= 70.80 mm Comments: 10yr 12hr 10min SCS Type II

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	2.69	6.33	12.12	9.50	2.28
0.17	1.53	3.33	2.69	6.50	9.05	9.67	2.18
0.33	1.56	3.50	2.69	6.67	6.93	9.83	2.08
0.50	1.58	3.67	2.82	6.83	6.23	10.00	1.99
0.67	1.61	3.83	3.03	7.00	5.53	10.17	1.92
0.83	1.64	4.00	3.25	7.17	4.92	10.33	1.88
1.00	1.67	4.17	3.55	7.33	4.55	10.50	1.85
1.17	1.70	4.33	3.87	7.50	4.17	10.67	1.81
1.33	1.73	4.50	4.20	7.67	3.81	10.83	1.78
1.50	1.75	4.67	4.68	7.83	3.54	11.00	1.74
1.67	1.78	4.83	5.22	8.00	3.27	11.17	1.71
1.83	1.81	5.00	5.76	8.17	3.06	11.33	1.67
2.00	1.84	5.17	6.79	8.33	2.97	11.50	1.64
2.17	1.93	5.33	8.08	8.50	2.87	11.67	1.60
2.33	2.06	5.50	9.37	8.67	2.77	11.83	1.57
2.50	2.20	5.67	28.04	8.83	2.67	12.00	1.53
2.67	2.35	5.83	69.69	9.00	2.58		
2.83	2.48	6.00	94.21	9.17	2.47		
3.00	2.62	6.17	15.19	9.33	2.38		

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min
Area (ha)= 0.72
Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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

----- TRANSFORMED HYETOGRAPH -----
TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN
hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr

0.083	0.00	3.167	2.62	6.250	15.19	9.33	2.47
0.167	0.00	3.250	2.69	6.333	15.19	9.42	2.38
0.250	1.53	3.333	2.69	6.417	12.12	9.50	2.38
0.333	1.53	3.417	2.69	6.500	12.12	9.58	2.28
0.417	1.56	3.500	2.69	6.583	9.05	9.67	2.28
0.500	1.56	3.583	2.69	6.667	9.05	9.75	2.18
0.583	1.58	3.667	2.69	6.750	6.93	9.83	2.18
0.667	1.58	3.750	2.82	6.833	6.93	9.92	2.08
0.750	1.61	3.833	2.82	6.917	6.23	10.00	2.08
0.833	1.61	3.917	3.03	7.000	6.23	10.08	1.99
0.917	1.64	4.000	3.03	7.083	5.53	10.17	1.99
1.000	1.64	4.083	3.25	7.167	5.53	10.25	1.92
1.083	1.67	4.167	3.25	7.250	4.92	10.33	1.92
1.167	1.67	4.250	3.55	7.333	4.92	10.42	1.88
1.250	1.70	4.333	3.55	7.417	4.55	10.50	1.88
1.333	1.70	4.417	3.87	7.500	4.55	10.58	1.85
1.417	1.73	4.500	3.87	7.583	4.17	10.67	1.85
1.500	1.73	4.583	4.20	7.667	4.17	10.75	1.81
1.583	1.75	4.667	4.20	7.750	3.81	10.83	1.81
1.667	1.75	4.750	4.68	7.833	3.81	10.92	1.78
1.750	1.78	4.833	4.68	7.917	3.54	11.00	1.78
1.833	1.78	4.917	5.22	8.000	3.54	11.08	1.74
1.917	1.81	5.000	5.22	8.083	3.27	11.17	1.74
2.000	1.81	5.083	5.76	8.167	3.27	11.25	1.71
2.083	1.84	5.167	5.76	8.250	3.06	11.33	1.71
2.167	1.84	5.250	6.79	8.333	3.06	11.42	1.67
2.250	1.93	5.333	6.79	8.417	2.97	11.50	1.67
2.333	1.93	5.417	8.08	8.500	2.97	11.58	1.64
2.417	2.06	5.500	8.08	8.583	2.87	11.67	1.64
2.500	2.06	5.583	9.37	8.667	2.87	11.75	1.60
2.583	2.20	5.667	9.38	8.750	2.77	11.83	1.60
2.667	2.20	5.750	28.04	8.833	2.77	11.92	1.57
2.750	2.35	5.833	28.04	8.917	2.67	12.00	1.57
2.833	2.35	5.917	69.69	9.000	2.67	12.08	1.53
2.917	2.48	6.000	69.69	9.083	2.58	12.17	1.53
3.000	2.48	6.083	94.21	9.167	2.58		
3.083	2.62	6.167	94.21	9.250	2.47		

Max.Eff.Inten.(mm/hr)= 94.21 44.80
over (min) 5.00 15.00
Storage Coeff. (min)= 2.10 (ii) 11.83 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.31 0.09

PEAK FLOW (cms)= 0.13 0.02
TIME TO PEAK (hrs)= 6.17 6.25
RUNOFF VOLUME (mm)= 69.80 27.75
TOTAL RAINFALL (mm)= 70.80 70.80
RUNOFF COEFFICIENT = 0.99 0.39

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00	Dir. Conn.(%)= 16.00
--	--	----------------------

Surface Area (ha)= 2.60	PERVIOUS (i) 7.04
Dep. Storage (mm)= 1.00	1.50
Average Slope (%)= 1.00	2.00
Length (m)= 253.51	40.00
Mannings n = 0.013	0.250

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	0.00	3.167	2.62	6.250	15.19	9.33	2.47
0.167	0.00	3.250	2.69	6.333	15.19	9.42	2.38
0.250	1.53	3.333	2.69	6.417	12.12	9.50	2.38
0.333	1.53	3.417	2.69	6.500	12.12	9.58	2.28
0.417	1.56	3.500	2.69	6.583	9.05	9.67	2.28
0.500	1.56	3.583	2.69	6.667	9.05	9.75	2.18
0.583	1.58	3.667	2.69	6.750	6.93	9.83	2.18

0.667	1.58	3.750	2.82	6.833	6.93	9.92	2.08
0.750	1.61	3.833	2.82	6.917	6.23	10.00	2.08
0.833	1.61	3.917	3.03	7.000	6.23	10.08	1.99
0.917	1.64	4.000	3.03	7.083	5.53	10.17	1.99
1.000	1.64	4.083	3.25	7.167	5.53	10.25	1.92
1.083	1.67	4.167	3.25	7.250	4.92	10.33	1.92
1.167	1.67	4.250	3.55	7.333	4.92	10.42	1.88
1.250	1.70	4.333	3.55	7.417	4.55	10.50	1.88
1.333	1.70	4.417	3.87	7.500	4.55	10.58	1.85
1.417	1.73	4.500	3.87	7.583	4.17	10.67	1.85
1.500	1.73	4.583	4.20	7.667	4.17	10.75	1.81
1.583	1.75	4.667	4.20	7.750	3.81	10.83	1.81
1.667	1.75	4.750	4.68	7.833	3.81	10.92	1.78
1.750	1.78	4.833	4.68	7.917	3.54	11.00	1.78
1.833	1.78	4.917	5.22	8.000	3.54	11.08	1.74
1.917	1.81	5.000	5.22	8.083	3.27	11.17	1.74
2.000	1.81	5.083	5.76	8.167	3.27	11.25	1.71
2.083	1.84	5.167	5.76	8.250	3.06	11.33	1.71
2.167	1.84	5.250	6.79	8.333	3.06	11.42	1.67
2.250	1.93	5.333	6.79	8.417	2.97	11.50	1.67
2.333	1.93	5.417	8.08	8.500	2.97	11.58	1.64
2.417	2.06	5.500	8.08	8.583	2.87	11.67	1.64
2.500	2.06	5.583	9.37	8.667	2.87	11.75	1.60
2.583	2.20	5.667	9.38	8.750	2.77	11.83	1.60
2.667	2.20	5.750	28.04	8.833	2.77	11.92	1.57
2.750	2.35	5.833	28.04	8.917	2.67	12.00	1.57
2.833	2.35	5.917	69.69	9.000	2.67	12.08	1.53
2.917	2.48	6.000	69.69	9.083	2.58	12.17	1.53
3.000	2.48	6.083	94.21	9.167	2.58		
3.083	2.62	6.167	94.21	9.250	2.47		

Max.Eff.Inten.(mm/hr)= 94.21 56.14
over (min) 5.00 15.00
Storage Coeff. (min)= 4.57 (ii) 13.46 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.23 0.08

PEAK FLOW (cms)= 0.39 0.65
TIME TO PEAK (hrs)= 6.17 6.25
RUNOFF VOLUME (mm)= 69.80 30.25
TOTAL RAINFALL (mm)= 70.80 70.80
RUNOFF COEFFICIENT = 0.99 0.43

TOTALS

PEAK FLOW (cms)= 0.39 0.65 0.943 (iii)
TIME TO PEAK (hrs)= 6.17 6.25 6.17
RUNOFF VOLUME (mm)= 69.80 30.25 36.58
TOTAL RAINFALL (mm)= 70.80 70.80 70.80
RUNOFF COEFFICIENT = 0.99 0.43 0.52

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	0.943	6.17	36.58
+ ID2= 2 (0005):	0.72	0.146	6.17	57.18
ID = 3 (0006):	10.36	1.089	6.17	38.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) IN= 2--> OUT= 1 DT= 5.0 min	OVERFLOW IS OFF	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
**** WARNING : FIRST OUTFLOW IS NOT ZERO.		0.1231	0.0000	0.9421	0.1619
		0.1601	0.0754	1.0216	0.2200
		0.8851	0.1260	1.0368	0.2322

INFLOW : ID= 2 (0006)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
OUTFLOW: ID= 1 (0007)	10.360	1.089	6.17	38.01
	10.360	0.575	6.42	38.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 52.77
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1163

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

Area (ha)= 6.20
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.44

Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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	2.62	6.250	15.19	9.33	2.47
0.167	0.00	3.250	2.69	6.333	15.19	9.42	2.38
0.250	1.53	3.333	2.69	6.417	12.12	9.50	2.38
0.333	1.53	3.417	2.69	6.500	12.12	9.58	2.28
0.417	1.56	3.500	2.69	6.583	9.05	9.67	2.28
0.500	1.56	3.583	2.69	6.667	9.05	9.75	2.18
0.583	1.58	3.667	2.69	6.750	6.93	9.83	2.18
0.667	1.58	3.750	2.82	6.833	6.93	9.92	2.08
0.750	1.61	3.833	2.82	6.917	6.23	10.00	2.08
0.833	1.61	3.917	3.03	7.000	6.23	10.08	1.99
0.917	1.64	4.000	3.03	7.083	5.53	10.17	1.99
1.000	1.64	4.083	3.25	7.167	5.53	10.25	1.92
1.083	1.67	4.167	3.25	7.250	4.92	10.33	1.92
1.167	1.67	4.250	3.55	7.333	4.92	10.42	1.88
1.250	1.70	4.333	3.55	7.417	4.55	10.50	1.88
1.333	1.70	4.417	3.87	7.500	4.55	10.58	1.85
1.417	1.73	4.500	3.87	7.583	4.17	10.67	1.85
1.500	1.73	4.583	4.20	7.667	4.17	10.75	1.81
1.583	1.75	4.667	4.20	7.750	3.81	10.83	1.81
1.667	1.75	4.750	4.68	7.833	3.81	10.92	1.78
1.750	1.78	4.833	4.68	7.917	3.54	11.00	1.78
1.833	1.78	4.917	5.22	8.000	3.54	11.08	1.74
1.917	1.81	5.000	5.22	8.083	3.27	11.17	1.74
2.000	1.81	5.083	5.76	8.167	3.27	11.25	1.71
2.083	1.84	5.167	5.76	8.250	3.06	11.33	1.71
2.167	1.84	5.250	6.79	8.333	3.06	11.42	1.67
2.250	1.93	5.333	6.79	8.417	2.97	11.50	1.67
2.333	1.93	5.417	8.08	8.500	2.97	11.58	1.64
2.417	2.06	5.500	8.08	8.583	2.87	11.67	1.64
2.500	2.06	5.583	9.37	8.667	2.87	11.75	1.60
2.583	2.20	5.667	9.38	8.750	2.77	11.83	1.60
2.667	2.20	5.750	28.04	8.833	2.77	11.92	1.57
2.750	2.35	5.833	28.04	8.917	2.67	12.00	1.57
2.833	2.35	5.917	69.69	9.000	2.67	12.08	1.53
2.917	2.48	6.000	69.69	9.083	2.58	12.17	1.53
3.000	2.48	6.083	94.21	9.167	2.58		
3.083	2.62	6.167	94.21	9.250	2.47		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.269 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 25.534
TOTAL RAINFALL (mm)= 70.800
RUNOFF COEFFICIENT = 0.361

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

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min

Area (ha)= 3.04
Total Imp(%)= 30.00
Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 40.00
Mannings n = 0.013 0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.62	6.250	15.19	9.33	2.47
0.167	0.00	3.250	2.69	6.333	15.19	9.42	2.38
0.250	1.53	3.333	2.69	6.417	12.12	9.50	2.38

0.333	1.53	3.417	2.69	6.500	12.12	9.58	2.28
0.417	1.56	3.500	2.69	6.583	9.05	9.67	2.28
0.500	1.56	3.583	2.69	6.667	9.05	9.75	2.18
0.583	1.58	3.667	2.69	6.750	6.93	9.83	2.18
0.667	1.58	3.750	2.82	6.833	6.93	9.92	2.08
0.750	1.61	3.833	2.82	6.917	6.23	10.00	2.08
0.833	1.61	3.917	3.03	7.000	6.23	10.08	1.99
0.917	1.64	4.000	3.03	7.083	5.53	10.17	1.99
1.000	1.64	4.083	3.25	7.167	5.53	10.25	1.92
1.083	1.67	4.167	3.25	7.250	4.92	10.33	1.92
1.167	1.67	4.250	3.55	7.333	4.92	10.42	1.88
1.250	1.70	4.333	3.55	7.417	4.55	10.50	1.88
1.333	1.70	4.417	3.87	7.500	4.55	10.58	1.85
1.417	1.73	4.500	3.87	7.583	4.17	10.67	1.85
1.500	1.73	4.583	4.20	7.667	4.17	10.75	1.81
1.583	1.75	4.667	4.20	7.750	3.81	10.83	1.81
1.667	1.75	4.750	4.68	7.833	3.81	10.92	1.78
1.750	1.78	4.833	4.68	7.917	3.54	11.00	1.78
1.833	1.78	4.917	5.22	8.000	3.54	11.08	1.74
1.917	1.81	5.000	5.22	8.083	3.27	11.17	1.74
2.000	1.81	5.083	5.76	8.167	3.27	11.25	1.71
2.083	1.84	5.167	5.76	8.250	3.06	11.33	1.71
2.167	1.84	5.250	6.79	8.333	3.06	11.42	1.67
2.250	1.93	5.333	6.79	8.417	2.97	11.50	1.67
2.333	1.93	5.417	8.08	8.500	2.97	11.58	1.64
2.417	2.06	5.500	8.08	8.583	2.87	11.67	1.64
2.500	2.06	5.583	9.37	8.667	2.87	11.75	1.60
2.583	2.20	5.667	9.38	8.750	2.77	11.83	1.60
2.667	2.20	5.750	28.04	8.833	2.77	11.92	1.57
2.750	2.35	5.833	28.04	8.917	2.67	12.00	1.57
2.833	2.35	5.917	69.69	9.000	2.67	12.08	1.53
2.917	2.48	6.000	69.69	9.083	2.58	12.17	1.53
3.000	2.48	6.083	94.21	9.167	2.58		
3.083	2.62	6.167	94.21	9.250	2.47		

Max.Eff.Inten.(mm/hr)= 94.21 58.87
over (min) 5.00 15.00
Storage Coeff. (min)= 3.23 (ii) 11.96 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.09

TOTALS

PEAK FLOW (cms)= 0.13 0.22 0.319 (iii)
TIME TO PEAK (hrs)= 6.17 6.25 6.17
RUNOFF VOLUME (mm)= 69.80 30.79 37.42
TOTAL RAINFALL (mm)= 70.80 70.80 70.80
RUNOFF COEFFICIENT = 0.99 0.43 0.53

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.575	6.42	38.05
+ ID2= 2 (0008):	3.04	0.319	6.17	37.42
=====				
ID = 3 (0010):	13.40	0.751	6.42	37.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	0.751	6.42	37.91
+ ID2= 2 (0009):	6.20	0.269	6.50	25.53
=====				
ID = 1 (0010):	19.60	1.014	6.42	33.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A L
V V I SS U U A A L
V V I SSSS UUUU A A LLLLL

000 TTTT TTTT H H Y Y M M 000 TM
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
000 T T H H Y Y M M 000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voindat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\444a8
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\444a8

DATE: 03-13-2026 TIME: 06:58:51

USER:

COMMENTS: _____

** SIMULATION : 0- SCS (II) 12hr 25 Year **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\33eb42cb
Ptotal= 82.80 mm	Comments: 25yr 12hr 10min SCS type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.17	3.31	6.33	14.90	9.50	2.90
0.17	2.07	3.33	3.31	6.50	14.90	9.67	2.90
0.33	2.07	3.50	3.31	6.67	6.62	9.83	2.90
0.50	2.07	3.67	3.31	6.83	6.62	10.00	2.90
0.67	2.07	3.83	3.31	7.00	6.62	10.17	1.66
0.83	2.07	4.00	3.31	7.17	4.97	10.33	1.66
1.00	2.07	4.17	4.97	7.33	4.97	10.50	1.66
1.17	2.07	4.33	4.97	7.50	4.97	10.67	1.66
1.33	2.07	4.50	4.97	7.67	4.97	10.83	1.66
1.50	2.07	4.67	6.62	7.83	4.97	11.00	1.66
1.67	2.07	4.83	6.62	8.00	4.97	11.17	1.66
1.83	2.07	5.00	6.62	8.17	2.90	11.33	1.66
2.00	2.07	5.17	9.94	8.33	2.90	11.50	1.66
2.17	2.48	5.33	9.94	8.50	2.90	11.67	1.66
2.33	2.48	5.50	9.94	8.67	2.90	11.83	1.66
2.50	2.48	5.67	39.74	8.83	2.90	12.00	1.66
2.67	2.48	5.83	74.52	9.00	2.90		
2.83	2.48	6.00	109.30	9.17	2.90		
3.00	2.48	6.17	14.90	9.33	2.90		

CALIB STANDHYD (0005) ID= 1 DT= 5.0 min	Area (ha)= 0.72 Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00
--	--

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.22
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	69.28	40.00
Mannings n =	0.013	0.250

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

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

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.48	6.250	14.90	9.33	2.90
0.167	0.00	3.250	3.31	6.333	14.90	9.42	2.90
0.250	2.07	3.333	3.31	6.417	14.90	9.50	2.90
0.333	2.07	3.417	3.31	6.500	14.90	9.58	2.90
0.417	2.07	3.500	3.31	6.583	14.90	9.67	2.90
0.500	2.07	3.583	3.31	6.667	14.90	9.75	2.90
0.583	2.07	3.667	3.31	6.750	6.62	9.83	2.90
0.667	2.07	3.750	3.31	6.833	6.62	9.92	2.90
0.750	2.07	3.833	3.31	6.917	6.62	10.00	2.90
0.833	2.07	3.917	3.31	7.000	6.62	10.08	2.90
0.917	2.07	4.000	3.31	7.083	6.62	10.17	2.90
1.000	2.07	4.083	3.31	7.167	6.62	10.25	1.66
1.083	2.07	4.167	3.31	7.250	4.97	10.33	1.66
1.167	2.07	4.250	4.97	7.333	4.97	10.42	1.66
1.250	2.07	4.333	4.97	7.417	4.97	10.50	1.66
1.333	2.07	4.417	4.97	7.500	4.97	10.58	1.66
1.417	2.07	4.500	4.97	7.583	4.97	10.67	1.66
1.500	2.07	4.583	4.97	7.667	4.97	10.75	1.66
1.583	2.07	4.667	4.97	7.750	4.97	10.83	1.66
1.667	2.07	4.750	6.62	7.833	4.97	10.92	1.66
1.750	2.07	4.833	6.62	7.917	4.97	11.00	1.66
1.833	2.07	4.917	6.62	8.000	4.97	11.08	1.66
1.917	2.07	5.000	6.62	8.083	4.97	11.17	1.66
2.000	2.07	5.083	6.62	8.167	4.97	11.25	1.66
2.083	2.07	5.167	6.62	8.250	2.90	11.33	1.66
2.167	2.07	5.250	9.94	8.333	2.90	11.42	1.66
2.250	2.48	5.333	9.94	8.417	2.90	11.50	1.66
2.333	2.48	5.417	9.94	8.500	2.90	11.58	1.66
2.417	2.48	5.500	9.94	8.583	2.90	11.67	1.66
2.500	2.48	5.583	9.94	8.667	2.90	11.75	1.66
2.583	2.48	5.667	9.94	8.750	2.90	11.83	1.66
2.667	2.48	5.750	39.74	8.833	2.90	11.92	1.66
2.750	2.48	5.833	39.74	8.917	2.90	12.00	1.66
2.833	2.48	5.917	74.52	9.000	2.90	12.08	1.66
2.917	2.48	6.000	74.52	9.083	2.90	12.17	1.66
3.000	2.48	6.083	109.30	9.167	2.90		
3.083	2.48	6.167	109.29	9.250	2.90		

Max.Eff.Inten.(mm/hr)=	109.30	57.58
over (min)	5.00	10.00
Storage Coeff. (min)=	1.98	6.83 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.31	0.14
PEAK FLOW (cms)=	0.15	0.03
TIME TO PEAK (hrs)=	6.17	6.17
RUNOFF VOLUME (mm)=	81.80	35.72
TOTAL RAINFALL (mm)=	82.80	82.80
RUNOFF COEFFICIENT =	0.99	0.43

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00
--	--

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.60	7.04
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	253.51	40.00
Mannings n =	0.013	0.250

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	0.00	3.167	2.48	6.250	14.90	9.33	2.90
0.167	0.00	3.250	3.31	6.333	14.90	9.42	2.90
0.250	2.07	3.333	3.31	6.417	14.90	9.50	2.90
0.333	2.07	3.417	3.31	6.500	14.90	9.58	2.90
0.417	2.07	3.500	3.31	6.583	14.90	9.67	2.90

0.500	2.07	3.583	3.31	6.667	14.90	9.75	2.90
0.583	2.07	3.667	3.31	6.750	6.62	9.83	2.90
0.667	2.07	3.750	3.31	6.833	6.62	9.92	2.90
0.750	2.07	3.833	3.31	6.917	6.62	10.00	2.90
0.833	2.07	3.917	3.31	7.000	6.62	10.08	2.90
0.917	2.07	4.000	3.31	7.083	6.62	10.17	2.90
1.000	2.07	4.083	3.31	7.167	6.62	10.25	1.66
1.083	2.07	4.167	3.31	7.250	4.97	10.33	1.66
1.167	2.07	4.250	4.97	7.333	4.97	10.42	1.66
1.250	2.07	4.333	4.97	7.417	4.97	10.50	1.66
1.333	2.07	4.417	4.97	7.500	4.97	10.58	1.66
1.417	2.07	4.500	4.97	7.583	4.97	10.67	1.66
1.500	2.07	4.583	4.97	7.667	4.97	10.75	1.66
1.583	2.07	4.667	4.97	7.750	4.97	10.83	1.66
1.667	2.07	4.750	6.62	7.833	4.97	10.92	1.66
1.750	2.07	4.833	6.62	7.917	4.97	11.00	1.66
1.833	2.07	4.917	6.62	8.000	4.97	11.08	1.66
1.917	2.07	5.000	6.62	8.083	4.97	11.17	1.66
2.000	2.07	5.083	6.62	8.167	4.97	11.25	1.66
2.083	2.07	5.167	6.62	8.250	2.90	11.33	1.66
2.167	2.07	5.250	9.94	8.333	2.90	11.42	1.66
2.250	2.48	5.333	9.94	8.417	2.90	11.50	1.66
2.333	2.48	5.417	9.94	8.500	2.90	11.58	1.66
2.417	2.48	5.500	9.94	8.583	2.90	11.67	1.66
2.500	2.48	5.583	9.94	8.667	2.90	11.75	1.66
2.583	2.48	5.667	9.94	8.750	2.90	11.83	1.66
2.667	2.48	5.750	39.74	8.833	2.90	11.92	1.66
2.750	2.48	5.833	39.74	8.917	2.90	12.00	1.66
2.833	2.48	5.917	74.52	9.000	2.90	12.08	1.66
2.917	2.48	6.000	74.52	9.083	2.90	12.17	1.66
3.000	2.48	6.083	109.30	9.167	2.90		
3.083	2.48	6.167	109.29	9.250	2.90		

Max.Eff.Inten.(mm/hr)= 109.30 71.62
over (min) 5.00 15.00
Storage Coeff. (min)= 4.31 (ii) 12.37 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.23 0.08

TOTALS

PEAK FLOW (cms)= 0.45 0.86 1.187 (iii)
TIME TO PEAK (hrs)= 6.17 6.25 6.17
RUNOFF VOLUME (mm)= 81.80 38.69 45.59
TOTAL RAINFALL (mm)= 82.80 82.80 82.80
RUNOFF COEFFICIENT = 0.99 0.47 0.55

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0004):	9.64	1.187	6.17	45.59
+ ID2= 2 (0005):	0.72	0.180	6.17	67.97
ID = 3 (0006):	10.36	1.367	6.17	47.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)	OVERFLOW IS OFF	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2--> OUT= 1 DT= 5.0 min					
**** WARNING : FIRST OUTFLOW IS NOT ZERO.					
		0.1231	0.0000	0.9421	0.1619
		0.1601	0.0754	1.0216	0.2200
		0.8851	0.1260	1.0368	0.2322

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0006)	10.360	1.367	6.17	47.14
OUTFLOW: ID= 1 (0007)	10.360	0.805	6.42	47.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 58.90

TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1340

CALIB	Area (ha)=	6.20	Curve Number (CN)=	71.0
NASHYD (0009)	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
ID= 1 DT= 5.0 min	U.H. Tp(hrs)=	0.44		

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	0.00	3.167	2.48	6.250	14.90	9.33	2.90
0.167	0.00	3.250	3.31	6.333	14.90	9.42	2.90
0.250	2.07	3.333	3.31	6.417	14.90	9.50	2.90
0.333	2.07	3.417	3.31	6.500	14.90	9.58	2.90
0.417	2.07	3.500	3.31	6.583	14.90	9.67	2.90
0.500	2.07	3.583	3.31	6.667	14.90	9.75	2.90
0.583	2.07	3.667	3.31	6.750	6.62	9.83	2.90
0.667	2.07	3.750	3.31	6.833	6.62	9.92	2.90
0.750	2.07	3.833	3.31	6.917	6.62	10.00	2.90
0.833	2.07	3.917	3.31	7.000	6.62	10.08	2.90
0.917	2.07	4.000	3.31	7.083	6.62	10.17	2.90
1.000	2.07	4.083	3.31	7.167	6.62	10.25	1.66
1.083	2.07	4.167	3.31	7.250	4.97	10.33	1.66
1.167	2.07	4.250	4.97	7.333	4.97	10.42	1.66
1.250	2.07	4.333	4.97	7.417	4.97	10.50	1.66
1.333	2.07	4.417	4.97	7.500	4.97	10.58	1.66
1.417	2.07	4.500	4.97	7.583	4.97	10.67	1.66
1.500	2.07	4.583	4.97	7.667	4.97	10.75	1.66
1.583	2.07	4.667	4.97	7.750	4.97	10.83	1.66
1.667	2.07	4.750	6.62	7.833	4.97	10.92	1.66
1.750	2.07	4.833	6.62	7.917	4.97	11.00	1.66
1.833	2.07	4.917	6.62	8.000	4.97	11.08	1.66
1.917	2.07	5.000	6.62	8.083	4.97	11.17	1.66
2.000	2.07	5.083	6.62	8.167	4.97	11.25	1.66
2.083	2.07	5.167	6.62	8.250	2.90	11.33	1.66
2.167	2.07	5.250	9.94	8.333	2.90	11.42	1.66
2.250	2.48	5.333	9.94	8.417	2.90	11.50	1.66
2.333	2.48	5.417	9.94	8.500	2.90	11.58	1.66
2.417	2.48	5.500	9.94	8.583	2.90	11.67	1.66
2.500	2.48	5.583	9.94	8.667	2.90	11.75	1.66
2.583	2.48	5.667	9.94	8.750	2.90	11.83	1.66
2.667	2.48	5.750	39.74	8.833	2.90	11.92	1.66
2.750	2.48	5.833	39.74	8.917	2.90	12.00	1.66
2.833	2.48	5.917	74.52	9.000	2.90	12.08	1.66
2.917	2.48	6.000	74.52	9.083	2.90	12.17	1.66
3.000	2.48	6.083	109.30	9.167	2.90		
3.083	2.48	6.167	109.29	9.250	2.90		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.351 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 33.337
TOTAL RAINFALL (mm)= 82.800
RUNOFF COEFFICIENT = 0.403

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

CALIB	Area (ha)=	3.04	Dir. Conn.(%)=	17.00
STANDHYD (0008)	Total Imp(%)=	30.00		
ID= 1 DT= 5.0 min				

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.91	2.13
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	142.36	40.00
Mannings n =	0.013	0.250

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	0.00	3.167	2.48	6.250	14.90	9.33	2.90

0.167	0.00	3.250	3.31	6.333	14.90	9.42	2.90
0.250	2.07	3.333	3.31	6.417	14.90	9.50	2.90
0.333	2.07	3.417	3.31	6.500	14.90	9.58	2.90
0.417	2.07	3.500	3.31	6.583	14.90	9.67	2.90
0.500	2.07	3.583	3.31	6.667	14.90	9.75	2.90
0.583	2.07	3.667	3.31	6.750	6.62	9.83	2.90
0.667	2.07	3.750	3.31	6.833	6.62	9.92	2.90
0.750	2.07	3.833	3.31	6.917	6.62	10.00	2.90
0.833	2.07	3.917	3.31	7.000	6.62	10.08	2.90
0.917	2.07	4.000	3.31	7.083	6.62	10.17	2.90
1.000	2.07	4.083	3.31	7.167	6.62	10.25	1.66
1.083	2.07	4.167	3.31	7.250	4.97	10.33	1.66
1.167	2.07	4.250	4.97	7.333	4.97	10.42	1.66
1.250	2.07	4.333	4.97	7.417	4.97	10.50	1.66
1.333	2.07	4.417	4.97	7.500	4.97	10.58	1.66
1.417	2.07	4.500	4.97	7.583	4.97	10.67	1.66
1.500	2.07	4.583	4.97	7.667	4.97	10.75	1.66
1.583	2.07	4.667	4.97	7.750	4.97	10.83	1.66
1.667	2.07	4.750	6.62	7.833	4.97	10.92	1.66
1.750	2.07	4.833	6.62	7.917	4.97	11.00	1.66
1.833	2.07	4.917	6.62	8.000	4.97	11.08	1.66
1.917	2.07	5.000	6.62	8.083	4.97	11.17	1.66
2.000	2.07	5.083	6.62	8.167	4.97	11.25	1.66
2.083	2.07	5.167	6.62	8.250	2.90	11.33	1.66
2.167	2.07	5.250	9.94	8.333	2.90	11.42	1.66
2.250	2.48	5.333	9.94	8.417	2.90	11.50	1.66
2.333	2.48	5.417	9.94	8.500	2.90	11.58	1.66
2.417	2.48	5.500	9.94	8.583	2.90	11.67	1.66
2.500	2.48	5.583	9.94	8.667	2.90	11.75	1.66
2.583	2.48	5.667	9.94	8.750	2.90	11.83	1.66
2.667	2.48	5.750	39.74	8.833	2.90	11.92	1.66
2.750	2.48	5.833	39.74	8.917	2.90	12.00	1.66
2.833	2.48	5.917	74.52	9.000	2.90	12.08	1.66
2.917	2.48	6.000	74.52	9.083	2.90	12.17	1.66
3.000	2.48	6.083	109.30	9.167	2.90		
3.083	2.48	6.167	109.29	9.250	2.90		

Max.Eff.Inten.(mm/hr)= 109.30 74.97
over (min) 5.00 15.00
Storage Coeff. (min)= 3.05 (ii) 10.97 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.09

TOTALS
peak FLOW (cms)= 0.15 0.28 0.400 (iii)
TIME TO PEAK (hrs)= 6.17 6.25 6.17
RUNOFF VOLUME (mm)= 81.80 39.33 46.55
TOTAL RAINFALL (mm)= 82.80 82.80 82.80
RUNOFF COEFFICIENT = 0.99 0.47 0.56

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.805	6.42	47.25
+ ID2= 2 (0008):	3.04	0.400	6.17	46.55
ID = 3 (0010):	13.40	1.080	6.33	47.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	1.080	6.33	47.09
+ ID2= 2 (0009):	6.20	0.351	6.50	33.34
ID = 1 (0010):	19.60	1.401	6.33	42.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\56b1f
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\56b1f

DATE: 03-13-2026 TIME: 06:58:52

USER:

COMMENTS: _____

** SIMULATION : P- SCS (II) 12hr 50 Year **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\7fb32021
Ptotal= 92.40 mm	Comments: 50yr 12hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.17	3.70	6.33	16.63	9.50	3.23
0.17	2.31	3.33	3.70	6.50	16.63	9.67	3.23
0.33	2.31	3.50	3.70	6.67	7.39	9.83	3.23
0.50	2.31	3.67	3.70	6.83	7.39	10.00	3.23
0.67	2.31	3.83	3.70	7.00	7.39	10.17	1.85
0.83	2.31	4.00	3.70	7.17	5.54	10.33	1.85
1.00	2.31	4.17	5.54	7.33	5.54	10.50	1.85
1.17	2.31	4.33	5.54	7.50	5.54	10.67	1.85
1.33	2.31	4.50	5.54	7.67	5.54	10.83	1.85
1.50	2.31	4.67	7.39	7.83	5.54	11.00	1.85
1.67	2.31	4.83	7.39	8.00	5.54	11.17	1.85
1.83	2.31	5.00	7.39	8.17	3.23	11.33	1.85
2.00	2.31	5.17	11.09	8.33	3.23	11.50	1.85
2.17	2.77	5.33	11.09	8.50	3.23	11.67	1.85
2.33	2.77	5.50	11.09	8.67	3.23	11.83	1.85
2.50	2.77	5.67	44.35	8.83	3.23	12.00	1.85
2.67	2.77	5.83	83.16	9.00	3.23		
2.83	2.77	6.00	121.97	9.17	3.23		
3.00	2.77	6.17	16.63	9.33	3.23		

CALIB STANDHYD (0005) ID= 1 DT= 5.0 min	Area (ha)= 0.72 Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00
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	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.22
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	69.28	40.00
Mannings n =	0.013	0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.77	6.250	16.63	9.33	3.23
0.167	0.00	3.250	3.70	6.333	16.63	9.42	3.23
0.250	2.31	3.333	3.70	6.417	16.63	9.50	3.23
0.333	2.31	3.417	3.70	6.500	16.63	9.58	3.23
0.417	2.31	3.500	3.70	6.583	16.63	9.67	3.23
0.500	2.31	3.583	3.70	6.667	16.63	9.75	3.23
0.583	2.31	3.667	3.70	6.750	7.39	9.83	3.23
0.667	2.31	3.750	3.70	6.833	7.39	9.92	3.23
0.750	2.31	3.833	3.70	6.917	7.39	10.00	3.23
0.833	2.31	3.917	3.70	7.000	7.39	10.08	3.23
0.917	2.31	4.000	3.70	7.083	7.39	10.17	3.23
1.000	2.31	4.083	3.70	7.167	7.39	10.25	1.85
1.083	2.31	4.167	3.70	7.250	5.54	10.33	1.85
1.167	2.31	4.250	5.54	7.333	5.54	10.42	1.85
1.250	2.31	4.333	5.54	7.417	5.54	10.50	1.85
1.333	2.31	4.417	5.54	7.500	5.54	10.58	1.85
1.417	2.31	4.500	5.54	7.583	5.54	10.67	1.85
1.500	2.31	4.583	5.54	7.667	5.54	10.75	1.85
1.583	2.31	4.667	5.54	7.750	5.54	10.83	1.85
1.667	2.31	4.750	7.39	7.833	5.54	10.92	1.85
1.750	2.31	4.833	7.39	7.917	5.54	11.00	1.85
1.833	2.31	4.917	7.39	8.000	5.54	11.08	1.85
1.917	2.31	5.000	7.39	8.083	5.54	11.17	1.85
2.000	2.31	5.083	7.39	8.167	5.54	11.25	1.85
2.083	2.31	5.167	7.39	8.250	3.23	11.33	1.85
2.167	2.31	5.250	11.09	8.333	3.23	11.42	1.85
2.250	2.77	5.333	11.09	8.417	3.23	11.50	1.85
2.333	2.77	5.417	11.09	8.500	3.23	11.58	1.85
2.417	2.77	5.500	11.09	8.583	3.23	11.67	1.85
2.500	2.77	5.583	11.09	8.667	3.23	11.75	1.85
2.583	2.77	5.667	11.09	8.750	3.23	11.83	1.85
2.667	2.77	5.750	44.35	8.833	3.23	11.92	1.85
2.750	2.77	5.833	44.35	8.917	3.23	12.00	1.85
2.833	2.77	5.917	83.16	9.000	3.23	12.08	1.85
2.917	2.77	6.000	83.16	9.083	3.23	12.17	1.85
3.000	2.77	6.083	121.97	9.167	3.23		
3.083	2.77	6.167	121.97	9.250	3.23		

Max.Eff.Inten.(mm/hr)= 121.97 68.32
over (min)= 5.00 10.00
Storage Coeff. (min)= 1.89 (ii) 6.54 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.32 0.14

PEAK FLOW (cms)= 0.17 0.03
TIME TO PEAK (hrs)= 6.17 6.17
RUNOFF VOLUME (mm)= 91.40 42.45
TOTAL RAINFALL (mm)= 92.40 92.40
RUNOFF COEFFICIENT = 0.99 0.46

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0004)	Area (ha)= 9.64		
ID= 1 DT= 5.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 16.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.60	7.04	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	2.00	
Length (m)=	253.51	40.00	
Mannings n =	0.013	0.250	

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

----- TRANSFORMED HYETOGRAPH -----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.77	6.250	16.63	9.33	3.23
0.167	0.00	3.250	3.70	6.333	16.63	9.42	3.23
0.250	2.31	3.333	3.70	6.417	16.63	9.50	3.23

0.333	2.31	3.417	3.70	6.500	16.63	9.58	3.23
0.417	2.31	3.500	3.70	6.583	16.63	9.67	3.23
0.500	2.31	3.583	3.70	6.667	16.63	9.75	3.23
0.583	2.31	3.667	3.70	6.750	7.39	9.83	3.23
0.667	2.31	3.750	3.70	6.833	7.39	9.92	3.23
0.750	2.31	3.833	3.70	6.917	7.39	10.00	3.23
0.833	2.31	3.917	3.70	7.000	7.39	10.08	3.23
0.917	2.31	4.000	3.70	7.083	7.39	10.17	3.23
1.000	2.31	4.083	3.70	7.167	7.39	10.25	1.85
1.083	2.31	4.167	3.70	7.250	5.54	10.33	1.85
1.167	2.31	4.250	5.54	7.333	5.54	10.42	1.85
1.250	2.31	4.333	5.54	7.417	5.54	10.50	1.85
1.333	2.31	4.417	5.54	7.500	5.54	10.58	1.85
1.417	2.31	4.500	5.54	7.583	5.54	10.67	1.85
1.500	2.31	4.583	5.54	7.667	5.54	10.75	1.85
1.583	2.31	4.667	5.54	7.750	5.54	10.83	1.85
1.667	2.31	4.750	7.39	7.833	5.54	10.92	1.85
1.750	2.31	4.833	7.39	7.917	5.54	11.00	1.85
1.833	2.31	4.917	7.39	8.000	5.54	11.08	1.85
1.917	2.31	5.000	7.39	8.083	5.54	11.17	1.85
2.000	2.31	5.083	7.39	8.167	5.54	11.25	1.85
2.083	2.31	5.167	7.39	8.250	3.23	11.33	1.85
2.167	2.31	5.250	11.09	8.333	3.23	11.42	1.85
2.250	2.77	5.333	11.09	8.417	3.23	11.50	1.85
2.333	2.77	5.417	11.09	8.500	3.23	11.58	1.85
2.417	2.77	5.500	11.09	8.583	3.23	11.67	1.85
2.500	2.77	5.583	11.09	8.667	3.23	11.75	1.85
2.583	2.77	5.667	11.09	8.750	3.23	11.83	1.85
2.667	2.77	5.750	44.35	8.833	3.23	11.92	1.85
2.750	2.77	5.833	44.35	8.917	3.23	12.00	1.85
2.833	2.77	5.917	83.16	9.000	3.23	12.08	1.85
2.917	2.77	6.000	83.16	9.083	3.23	12.17	1.85
3.000	2.77	6.083	121.97	9.167	3.23		
3.083	2.77	6.167	121.97	9.250	3.23		

Max.Eff.Inten.(mm/hr)= 121.97 84.56
over (min)= 5.00 15.00
Storage Coeff. (min)= 4.12 (ii) 11.67 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.24 0.09

PEAK FLOW (cms)= 0.51 1.04
TIME TO PEAK (hrs)= 6.17 6.25
RUNOFF VOLUME (mm)= 91.40 45.78
TOTAL RAINFALL (mm)= 92.40 92.40
RUNOFF COEFFICIENT = 0.99 0.50

TOTALS

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)				
1 + 2 = 3				
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	1.404	6.17	53.08
+ ID2= 2 (0005):	0.72	0.203	6.17	76.71
=====				
ID = 3 (0006):	10.36	1.607	6.17	54.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)		OVERFLOW IS OFF		
IN= 2---> OUT= 1				
DT= 5.0 min				

**** WARNING : FIRST	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.1231	0.0000		
	0.1601	0.0754	0.9421	0.1619
	0.8851	0.1260	1.0216	0.2200
			1.0368	0.2322
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0006)	10.360	1.607	6.17	54.72
OUTFLOW: ID= 1 (0007)	10.360	0.905	6.42	54.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 56.31
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1509

CALIB
NASHYD (0009) | Area (ha)= 6.20 Curve Number (CN)= 71.0
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
0.083	0.00	3.167	2.77
0.167	0.00	3.250	3.70
0.250	2.31	3.333	3.70
0.333	2.31	3.417	3.70
0.417	2.31	3.500	3.70
0.500	2.31	3.583	3.70
0.583	2.31	3.667	3.70
0.667	2.31	3.750	3.70
0.750	2.31	3.833	3.70
0.833	2.31	3.917	3.70
0.917	2.31	4.000	3.70
1.000	2.31	4.083	3.70
1.083	2.31	4.167	3.70
1.167	2.31	4.250	5.54
1.250	2.31	4.333	5.54
1.333	2.31	4.417	5.54
1.417	2.31	4.500	5.54
1.500	2.31	4.583	5.54
1.583	2.31	4.667	5.54
1.667	2.31	4.750	7.39
1.750	2.31	4.833	7.39
1.833	2.31	4.917	7.39
1.917	2.31	5.000	7.39
2.000	2.31	5.083	7.39
2.083	2.31	5.167	7.39
2.167	2.31	5.250	11.09
2.250	2.77	5.333	11.09
2.333	2.77	5.417	11.09
2.417	2.77	5.500	11.09
2.500	2.77	5.583	11.09
2.583	2.77	5.667	11.09
2.667	2.77	5.750	44.35
2.750	2.77	5.833	44.35
2.833	2.77	5.917	83.16
2.917	2.77	6.000	83.16
3.000	2.77	6.083	121.97
3.083	2.77	6.167	121.97

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.422 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 39.959
TOTAL RAINFALL (mm)= 92.400
RUNOFF COEFFICIENT = 0.432

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

CALIB
STANDHYD (0008) | Area (ha)= 3.04
ID= 1 DT= 5.0 min | Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.91	2.13
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	142.36	40.00
Mannings n =	0.013	0.250

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

----- TRANSFORMED HYETOGRAPH -----			
TIME	RAIN	TIME	RAIN
0.083	0.00	3.167	2.77
0.167	0.00	3.250	3.70
0.250	2.31	3.333	3.70
0.333	2.31	3.417	3.70
0.417	2.31	3.500	3.70
0.500	2.31	3.583	3.70
0.583	2.31	3.667	3.70
0.667	2.31	3.750	3.70
0.750	2.31	3.833	3.70
0.833	2.31	3.917	3.70
0.917	2.31	4.000	3.70
1.000	2.31	4.083	3.70
1.083	2.31	4.167	3.70
1.167	2.31	4.250	5.54
1.250	2.31	4.333	5.54
1.333	2.31	4.417	5.54
1.417	2.31	4.500	5.54
1.500	2.31	4.583	5.54
1.583	2.31	4.667	5.54
1.667	2.31	4.750	7.39
1.750	2.31	4.833	7.39
1.833	2.31	4.917	7.39
1.917	2.31	5.000	7.39
2.000	2.31	5.083	7.39
2.083	2.31	5.167	7.39
2.167	2.31	5.250	11.09
2.250	2.77	5.333	11.09
2.333	2.77	5.417	11.09
2.417	2.77	5.500	11.09
2.500	2.77	5.583	11.09
2.583	2.77	5.667	11.09
2.667	2.77	5.750	44.35
2.750	2.77	5.833	44.35
2.833	2.77	5.917	83.16
2.917	2.77	6.000	83.16
3.000	2.77	6.083	121.97
3.083	2.77	6.167	121.97

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	2.77	6.250	16.63	9.33	3.23
0.167	0.00	3.250	3.70	6.333	16.63	9.42	3.23
0.250	2.31	3.333	3.70	6.417	16.63	9.50	3.23
0.333	2.31	3.417	3.70	6.500	16.63	9.58	3.23
0.417	2.31	3.500	3.70	6.583	16.63	9.67	3.23
0.500	2.31	3.583	3.70	6.667	16.63	9.75	3.23
0.583	2.31	3.667	3.70	6.750	7.39	9.83	3.23
0.667	2.31	3.750	3.70	6.833	7.39	9.92	3.23
0.750	2.31	3.833	3.70	6.917	7.39	10.00	3.23
0.833	2.31	3.917	3.70	7.000	7.39	10.08	3.23
0.917	2.31	4.000	3.70	7.083	7.39	10.17	3.23
1.000	2.31	4.083	3.70	7.167	7.39	10.25	1.85
1.083	2.31	4.167	3.70	7.250	5.54	10.33	1.85
1.167	2.31	4.250	5.54	7.333	5.54	10.42	1.85
1.250	2.31	4.333	5.54	7.417	5.54	10.50	1.85
1.333	2.31	4.417	5.54	7.500	5.54	10.58	1.85
1.417	2.31	4.500	5.54	7.583	5.54	10.67	1.85
1.500	2.31	4.583	5.54	7.667	5.54	10.75	1.85
1.583	2.31	4.667	5.54	7.750	5.54	10.83	1.85
1.667	2.31	4.750	7.39	7.833	5.54	10.92	1.85
1.750	2.31	4.833	7.39	7.917	5.54	11.00	1.85
1.833	2.31	4.917	7.39	8.000	5.54	11.08	1.85
1.917	2.31	5.000	7.39	8.083	5.54	11.17	1.85
2.000	2.31	5.083	7.39	8.167	5.54	11.25	1.85
2.083	2.31	5.167	7.39	8.250	3.23	11.33	1.85
2.167	2.31	5.250	11.09	8.333	3.23	11.42	1.85
2.250	2.77	5.333	11.09	8.417	3.23	11.50	1.85
2.333	2.77	5.417	11.09	8.500	3.23	11.58	1.85
2.417	2.77	5.500	11.09	8.583	3.23	11.67	1.85
2.500	2.77	5.583	11.09	8.667	3.23	11.75	1.85
2.583	2.77	5.667	11.09	8.750	3.23	11.83	1.85
2.667	2.77	5.750	44.35	8.833	3.23	11.92	1.85
2.750	2.77	5.833	44.35	8.917	3.23	12.00	1.85
2.833	2.77	5.917	83.16	9.000	3.23	12.08	1.85
2.917	2.77	6.000	83.16	9.083	3.23	12.17	1.85
3.000	2.77	6.083	121.97	9.167	3.23		
3.083	2.77	6.167	121.97	9.250	3.23		

Max.Eff.Inten.(mm/hr)= 121.97 88.44
over (min) 5.00 15.00
Storage Coeff. (min)= 2.92 (ii) 10.33 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.28 0.09

PEAK FLOW (cms)= 0.17 0.34 *TOTALS*
TIME TO PEAK (hrs)= 6.17 6.25 0.472 (iii)
RUNOFF VOLUME (mm)= 91.40 46.50 54.13
TOTAL RAINFALL (mm)= 92.40 92.40 92.40
RUNOFF COEFFICIENT = 0.99 0.50 0.59

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010) |
1 + 2 = 3 |
ID1= 1 (0007): 10.36 0.905 6.42 54.83
+ ID2= 2 (0008): 3.04 0.472 6.17 54.13
ID = 3 (0010): 13.40 1.279 6.25 54.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010) |
3 + 2 = 1 |
ID1= 3 (0010): 13.40 1.279 6.25 54.67
+ ID2= 2 (0009): 6.20 0.422 6.50 39.96
ID = 1 (0010): 19.60 1.636 6.33 50.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A L
V V I SS U U A A L
V V I SSSS UUUU A A LLLL

000 TTTT TTTT H H Y Y M M 000 TM
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
000 T T H H Y Y M M 000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\bf79a\
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\bf79a\

DATE: 03-13-2026 TIME: 06:58:53

USER:

COMMENTS: _____

** SIMULATION : Q- SCS (II) 12hr 100 Year **

READ STORM		Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\130419db					
Ptotal=102.00 mm		Comments: 100yr 12hr 10min SCS Type II					
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	4.08	6.33	18.36	9.50	3.57
0.17	2.55	3.33	4.08	6.50	18.36	9.67	3.57
0.33	2.55	3.50	4.08	6.67	8.16	9.83	3.57
0.50	2.55	3.67	4.08	6.83	8.16	10.00	3.57
0.67	2.55	3.83	4.08	7.00	8.16	10.17	2.04
0.83	2.55	4.00	4.08	7.17	6.12	10.33	2.04
1.00	2.55	4.17	6.12	7.33	6.12	10.50	2.04
1.17	2.55	4.33	6.12	7.50	6.12	10.67	2.04
1.33	2.55	4.50	6.12	7.67	6.12	10.83	2.04
1.50	2.55	4.67	8.16	7.83	6.12	11.00	2.04
1.67	2.55	4.83	8.16	8.00	6.12	11.17	2.04
1.83	2.55	5.00	8.16	8.17	3.57	11.33	2.04
2.00	2.55	5.17	12.24	8.33	3.57	11.50	2.04
2.17	3.06	5.33	12.24	8.50	3.57	11.67	2.04
2.33	3.06	5.50	12.24	8.67	3.57	11.83	2.04
2.50	3.06	5.67	48.96	8.83	3.57	12.00	2.04
2.67	3.06	5.83	91.80	9.00	3.57		
2.83	3.06	6.00	134.64	9.17	3.57		
3.00	3.06	6.17	18.36	9.33	3.57		

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min
Area (ha)= 0.72
Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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	0.00	3.167	3.06	6.250	18.36	9.33	3.57
0.167	0.00	3.250	4.08	6.333	18.36	9.42	3.57
0.250	2.55	3.333	4.08	6.417	18.36	9.50	3.57
0.333	2.55	3.417	4.08	6.500	18.36	9.58	3.57
0.417	2.55	3.500	4.08	6.583	18.36	9.67	3.57
0.500	2.55	3.583	4.08	6.667	18.36	9.75	3.57
0.583	2.55	3.667	4.08	6.750	8.16	9.83	3.57
0.667	2.55	3.750	4.08	6.833	8.16	9.92	3.57
0.750	2.55	3.833	4.08	6.917	8.16	10.00	3.57
0.833	2.55	3.917	4.08	7.000	8.16	10.08	3.57
0.917	2.55	4.000	4.08	7.083	8.16	10.17	3.57
1.000	2.55	4.083	4.08	7.167	8.16	10.25	2.04
1.083	2.55	4.167	4.08	7.250	6.12	10.33	2.04
1.167	2.55	4.250	6.12	7.333	6.12	10.42	2.04
1.250	2.55	4.333	6.12	7.417	6.12	10.50	2.04
1.333	2.55	4.417	6.12	7.500	6.12	10.58	2.04
1.417	2.55	4.500	6.12	7.583	6.12	10.67	2.04
1.500	2.55	4.583	6.12	7.667	6.12	10.75	2.04
1.583	2.55	4.667	6.12	7.750	6.12	10.83	2.04
1.667	2.55	4.750	8.16	7.833	6.12	10.92	2.04
1.750	2.55	4.833	8.16	7.917	6.12	11.00	2.04
1.833	2.55	4.917	8.16	8.000	6.12	11.08	2.04
1.917	2.55	5.000	8.16	8.083	6.12	11.17	2.04
2.000	2.55	5.083	8.16	8.167	6.12	11.25	2.04
2.083	2.55	5.167	8.16	8.250	3.57	11.33	2.04
2.167	2.55	5.250	12.24	8.333	3.57	11.42	2.04
2.250	3.06	5.333	12.24	8.417	3.57	11.50	2.04
2.333	3.06	5.417	12.24	8.500	3.57	11.58	2.04
2.417	3.06	5.500	12.24	8.583	3.57	11.67	2.04
2.500	3.06	5.583	12.24	8.667	3.57	11.75	2.04
2.583	3.06	5.667	12.24	8.750	3.57	11.83	2.04
2.667	3.06	5.750	48.96	8.833	3.57	11.92	2.04
2.750	3.06	5.833	48.96	8.917	3.57	12.00	2.04
2.833	3.06	5.917	91.80	9.000	3.57	12.08	2.04
2.917	3.06	6.000	91.80	9.083	3.57	12.17	2.04
3.000	3.06	6.083	134.64	9.167	3.57		
3.083	3.06	6.167	134.64	9.250	3.57		

Max.Eff.Inten.(mm/hr)= 134.64 79.45
over (min)= 5.00 10.00
Storage Coeff. (min)= 1.82 (ii) 6.28 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.32 0.15
TOTALS
PEAK FLOW (cms)= 0.19 0.04 0.227 (iii)
TIME TO PEAK (hrs)= 6.17 6.17 6.17
RUNOFF VOLUME (mm)= 101.00 49.45 85.53
TOTAL RAINFALL (mm)= 102.00 102.00 102.00
RUNOFF COEFFICIENT = 0.99 0.48 0.84

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00
IMPERVIOUS PERVIOUS (i)	
Surface Area (ha)= 2.60 7.04	
Dep. Storage (mm)= 1.00 1.50	
Average Slope (%)= 1.00 2.00	
Length (m)= 253.51 40.00	
Mannings n = 0.013 0.250	

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	0.00	3.167	3.06	6.250	18.36	9.33	3.57

0.167	0.00	3.250	4.08	6.333	18.36	9.42	3.57
0.250	2.55	3.333	4.08	6.417	18.36	9.50	3.57
0.333	2.55	3.417	4.08	6.500	18.36	9.58	3.57
0.417	2.55	3.500	4.08	6.583	18.36	9.67	3.57
0.500	2.55	3.583	4.08	6.667	18.36	9.75	3.57
0.583	2.55	3.667	4.08	6.750	8.16	9.83	3.57
0.667	2.55	3.750	4.08	6.833	8.16	9.92	3.57
0.750	2.55	3.833	4.08	6.917	8.16	10.00	3.57
0.833	2.55	3.917	4.08	7.000	8.16	10.08	3.57
0.917	2.55	4.000	4.08	7.083	8.16	10.17	3.57
1.000	2.55	4.083	4.08	7.167	8.16	10.25	2.04
1.083	2.55	4.167	4.08	7.250	6.12	10.33	2.04
1.167	2.55	4.250	6.12	7.333	6.12	10.42	2.04
1.250	2.55	4.333	6.12	7.417	6.12	10.50	2.04
1.333	2.55	4.417	6.12	7.500	6.12	10.58	2.04
1.417	2.55	4.500	6.12	7.583	6.12	10.67	2.04
1.500	2.55	4.583	6.12	7.667	6.12	10.75	2.04
1.583	2.55	4.667	6.12	7.750	6.12	10.83	2.04
1.667	2.55	4.750	8.16	7.833	6.12	10.92	2.04
1.750	2.55	4.833	8.16	7.917	6.12	11.00	2.04
1.833	2.55	4.917	8.16	8.000	6.12	11.08	2.04
1.917	2.55	5.000	8.16	8.083	6.12	11.17	2.04
2.000	2.55	5.083	8.16	8.167	6.12	11.25	2.04
2.083	2.55	5.167	8.16	8.250	3.57	11.33	2.04
2.167	2.55	5.250	12.24	8.333	3.57	11.42	2.04
2.250	3.06	5.333	12.24	8.417	3.57	11.50	2.04
2.333	3.06	5.417	12.24	8.500	3.57	11.58	2.04
2.417	3.06	5.500	12.24	8.583	3.57	11.67	2.04
2.500	3.06	5.583	12.24	8.667	3.57	11.75	2.04
2.583	3.06	5.667	12.24	8.750	3.57	11.83	2.04
2.667	3.06	5.750	48.96	8.833	3.57	11.92	2.04
2.750	3.06	5.833	48.96	8.917	3.57	12.00	2.04
2.833	3.06	5.917	91.80	9.000	3.57	12.08	2.04
2.917	3.06	6.000	91.80	9.083	3.57	12.17	2.04
3.000	3.06	6.083	134.64	9.167	3.57		
3.083	3.06	6.167	134.64	9.250	3.57		

Max.Eff.Inten.(mm/hr)= 134.64 97.91
over (min) 5.00 15.00
Storage Coeff. (min)= 3.96 (ii) 11.08 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.24 0.09

TOTALS
PEAK FLOW (cms)= 0.56 1.23
TIME TO PEAK (hrs)= 6.17 6.25
RUNOFF VOLUME (mm)= 101.00 53.13
TOTAL RAINFALL (mm)= 102.00 102.00
RUNOFF COEFFICIENT = 0.99 0.52

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	1.630	6.17	60.79
+ ID2= 2 (0005):	0.72	0.227	6.17	85.53
ID = 3 (0006):	10.36	1.857	6.17	62.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) IN= 2---> OUT= 1 DT= 5.0 min	OVERFLOW IS OFF	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
**** WARNING : FIRST OUTFLOW IS NOT ZERO.		0.1231	0.0000	0.9421	0.1619
		0.1601	0.0754	1.0216	0.2200
		0.8851	0.1260	1.0368	0.2322
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

INFLOW : ID= 2 (0006) 10.360 1.857 6.17 62.51
OUTFLOW: ID= 1 (0007) 10.360 0.946 6.42 62.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 50.97
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1746

CALIB NASHYD (0009) ID= 1 DT= 5.0 min	Area (ha)= 6.20 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.44	Curve Number (CN)= 71.0 # of Linear Res.(N)= 3.00
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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	0.00	3.167	3.06	6.250	18.36	9.33	3.57
0.167	0.00	3.250	4.08	6.333	18.36	9.42	3.57
0.250	2.55	3.333	4.08	6.417	18.36	9.50	3.57
0.333	2.55	3.417	4.08	6.500	18.36	9.58	3.57
0.417	2.55	3.500	4.08	6.583	18.36	9.67	3.57
0.500	2.55	3.583	4.08	6.667	18.36	9.75	3.57
0.583	2.55	3.667	4.08	6.750	8.16	9.83	3.57
0.667	2.55	3.750	4.08	6.833	8.16	9.92	3.57
0.750	2.55	3.833	4.08	6.917	8.16	10.00	3.57
0.833	2.55	3.917	4.08	7.000	8.16	10.08	3.57
0.917	2.55	4.000	4.08	7.083	8.16	10.17	3.57
1.000	2.55	4.083	4.08	7.167	8.16	10.25	2.04
1.083	2.55	4.167	4.08	7.250	6.12	10.33	2.04
1.167	2.55	4.250	6.12	7.333	6.12	10.42	2.04
1.250	2.55	4.333	6.12	7.417	6.12	10.50	2.04
1.333	2.55	4.417	6.12	7.500	6.12	10.58	2.04
1.417	2.55	4.500	6.12	7.583	6.12	10.67	2.04
1.500	2.55	4.583	6.12	7.667	6.12	10.75	2.04
1.583	2.55	4.667	6.12	7.750	6.12	10.83	2.04
1.667	2.55	4.750	8.16	7.833	6.12	10.92	2.04
1.750	2.55	4.833	8.16	7.917	6.12	11.00	2.04
1.833	2.55	4.917	8.16	8.000	6.12	11.08	2.04
1.917	2.55	5.000	8.16	8.083	6.12	11.17	2.04
2.000	2.55	5.083	8.16	8.167	6.12	11.25	2.04
2.083	2.55	5.167	8.16	8.250	3.57	11.33	2.04
2.167	2.55	5.250	12.24	8.333	3.57	11.42	2.04
2.250	3.06	5.333	12.24	8.417	3.57	11.50	2.04
2.333	3.06	5.417	12.24	8.500	3.57	11.58	2.04
2.417	3.06	5.500	12.24	8.583	3.57	11.67	2.04
2.500	3.06	5.583	12.24	8.667	3.57	11.75	2.04
2.583	3.06	5.667	12.24	8.750	3.57	11.83	2.04
2.667	3.06	5.750	48.96	8.833	3.57	11.92	2.04
2.750	3.06	5.833	48.96	8.917	3.57	12.00	2.04
2.833	3.06	5.917	91.80	9.000	3.57	12.08	2.04
2.917	3.06	6.000	91.80	9.083	3.57	12.17	2.04
3.000	3.06	6.083	134.64	9.167	3.57		
3.083	3.06	6.167	134.64	9.250	3.57		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.497 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 46.866
TOTAL RAINFALL (mm)= 102.000
RUNOFF COEFFICIENT = 0.459

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

CALIB STANDHYD (0008) ID= 1 DT= 5.0 min	Area Total	(ha)= 3.04 Imp(%)= 30.00	Dir. Conn.(%)= 17.00
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IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 40.00
Mannings n = 0.013 0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.06	6.250	18.36	9.33	3.57
0.167	0.00	3.250	4.08	6.333	18.36	9.42	3.57
0.250	2.55	3.333	4.08	6.417	18.36	9.50	3.57
0.333	2.55	3.417	4.08	6.500	18.36	9.58	3.57
0.417	2.55	3.500	4.08	6.583	18.36	9.67	3.57
0.500	2.55	3.583	4.08	6.667	18.36	9.75	3.57
0.583	2.55	3.667	4.08	6.750	8.16	9.83	3.57
0.667	2.55	3.750	4.08	6.833	8.16	9.92	3.57
0.750	2.55	3.833	4.08	6.917	8.16	10.00	3.57
0.833	2.55	3.917	4.08	7.000	8.16	10.08	3.57
0.917	2.55	4.000	4.08	7.083	8.16	10.17	3.57
1.000	2.55	4.083	4.08	7.167	8.16	10.25	2.04
1.083	2.55	4.167	4.08	7.250	6.12	10.33	2.04
1.167	2.55	4.250	6.12	7.333	6.12	10.42	2.04
1.250	2.55	4.333	6.12	7.417	6.12	10.50	2.04
1.333	2.55	4.417	6.12	7.500	6.12	10.58	2.04
1.417	2.55	4.500	6.12	7.583	6.12	10.67	2.04
1.500	2.55	4.583	6.12	7.667	6.12	10.75	2.04
1.583	2.55	4.667	6.12	7.750	6.12	10.83	2.04
1.667	2.55	4.750	8.16	7.833	6.12	10.92	2.04
1.750	2.55	4.833	8.16	7.917	6.12	11.00	2.04
1.833	2.55	4.917	8.16	8.000	6.12	11.08	2.04
1.917	2.55	5.000	8.16	8.083	6.12	11.17	2.04
2.000	2.55	5.083	8.16	8.167	6.12	11.25	2.04
2.083	2.55	5.167	8.16	8.250	3.57	11.33	2.04
2.167	2.55	5.250	12.24	8.333	3.57	11.42	2.04
2.250	3.06	5.333	12.24	8.417	3.57	11.50	2.04
2.333	3.06	5.417	12.24	8.500	3.57	11.58	2.04
2.417	3.06	5.500	12.24	8.583	3.57	11.67	2.04
2.500	3.06	5.583	12.24	8.667	3.57	11.75	2.04
2.583	3.06	5.667	12.24	8.750	3.57	11.83	2.04
2.667	3.06	5.750	48.96	8.833	3.57	11.92	2.04
2.750	3.06	5.833	48.96	8.917	3.57	12.00	2.04
2.833	3.06	5.917	91.80	9.000	3.57	12.08	2.04
2.917	3.06	6.000	91.80	9.083	3.57	12.17	2.04
3.000	3.06	6.083	134.64	9.167	3.57		
3.083	3.06	6.167	134.64	9.250	3.57		

Max.Eff.Inten.(mm/hr)=	134.64	102.29	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.80	(ii) 9.80	(ii)
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.28	0.11	
PEAK FLOW (cms)=	0.19	0.43	*TOTALS*
TIME TO PEAK (hrs)=	6.17	6.17	0.619 (iii)
RUNOFF VOLUME (mm)=	101.00	53.91	61.91
TOTAL RAINFALL (mm)=	102.00	102.00	102.00
RUNOFF COEFFICIENT =	0.99	0.53	0.61

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)					
1 + 2 = 3					
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0007):	10.36	0.946	6.42	62.57	
+ ID2= 2 (0008):	3.04	0.619	6.17	61.91	
=====					
ID = 3 (0010):	13.40	1.414	6.17	62.42	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)					
3 + 2 = 1					
-----		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0010):	13.40	1.414	6.17	62.42	
+ ID2= 2 (0009):	6.20	0.497	6.50	46.87	

ID = 1 (0010): 19.60 1.781 6.25 57.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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=====
V   V   I   SSSSS U   U   A   L           (v 6.2.2021)
V   V   I   SS   U   U   A   A   L
V   V   I   SS   U   U   AAAAA L
V   V   I   SS   U   U   A   A   L
VV   I   SSSSS UUUUU A   A   LLLLL
000   TTTTT TTTTT H   H   Y   Y   M   M   000   TM
O   O   T   T   H   H   Y   Y   MM   MM   O   O
O   O   T   T   H   H   Y   M   M   O   O
000   T   T   H   H   Y   M   M   000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\al247\
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\al247\

DATE: 03-13-2026

TIME: 06:58:52

USER:

COMMENTS: _____

** SIMULATION : R- SCS (II) 24hr 2 Year **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\455d114
Ptotal= 57.60 mm	Comments: 2yr 24hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.17	1.05	12.33	8.29	18.50	0.98
0.17	0.58	6.33	1.07	12.50	6.19	18.67	0.95
0.33	0.59	6.50	1.08	12.67	4.74	18.83	0.93
0.50	0.60	6.67	1.10	12.83	4.26	19.00	0.91
0.67	0.61	6.83	1.12	13.00	3.78	19.17	0.88
0.83	0.62	7.00	1.14	13.17	3.37	19.33	0.86
1.00	0.63	7.17	1.16	13.33	3.11	19.50	0.83
1.17	0.64	7.33	1.18	13.50	2.85	19.67	0.81
1.33	0.65	7.50	1.20	13.67	2.60	19.83	0.78
1.50	0.66	7.67	1.22	13.83	2.42	20.00	0.76
1.67	0.67	7.83	1.24	14.00	2.23	20.17	0.75
1.83	0.68	8.00	1.26	14.17	2.10	20.33	0.74
2.00	0.69	8.17	1.32	14.33	2.03	20.50	0.74
2.17	0.70	8.33	1.41	14.50	1.97	20.67	0.73
2.33	0.71	8.50	1.50	14.67	1.89	20.83	0.73
2.50	0.72	8.67	1.61	14.83	1.83	21.00	0.72
2.67	0.72	8.83	1.70	15.00	1.76	21.17	0.72
2.83	0.73	9.00	1.79	15.17	1.69	21.33	0.71
3.00	0.74	9.17	1.84	15.33	1.63	21.50	0.71
3.17	0.75	9.33	1.84	15.50	1.56	21.67	0.70
3.33	0.76	9.50	1.84	15.67	1.49	21.83	0.70
3.50	0.77	9.67	1.93	15.83	1.43	22.00	0.69
3.67	0.78	9.83	2.07	16.00	1.36	22.17	0.69
3.83	0.79	10.00	2.22	16.17	1.31	22.33	0.68
4.00	0.80	10.17	2.43	16.33	1.29	22.50	0.68
4.17	0.82	10.33	2.65	16.50	1.27	22.67	0.67
4.33	0.84	10.50	2.87	16.67	1.24	22.83	0.67
4.50	0.85	10.67	3.20	16.83	1.22	23.00	0.66
4.67	0.87	10.83	3.57	17.00	1.19	23.17	0.66
4.83	0.89	11.00	3.94	17.17	1.17	23.33	0.66
5.00	0.91	11.17	4.64	17.33	1.15	23.50	0.65
5.17	0.93	11.33	5.53	17.50	1.12	23.67	0.65

5.33	0.95	11.50	6.41	17.67	1.10	23.83	0.64
5.50	0.97	11.67	19.19	17.83	1.07	24.00	0.64
5.67	0.99	11.83	47.68	18.00	1.05		
5.83	1.01	12.00	64.46	18.17	1.02		
6.00	1.03	12.17	10.40	18.33	1.00		

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min

Area (ha)= 0.72
Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.03	12.250	10.40	18.33	1.02
0.167	0.00	6.250	1.05	12.333	10.40	18.42	1.00
0.250	0.58	6.333	1.05	12.417	8.29	18.50	1.00
0.333	0.58	6.417	1.07	12.500	8.29	18.58	0.98
0.417	0.59	6.500	1.07	12.583	6.19	18.67	0.98
0.500	0.59	6.583	1.08	12.667	6.19	18.75	0.95
0.583	0.60	6.667	1.08	12.750	4.74	18.83	0.95
0.667	0.60	6.750	1.10	12.833	4.74	18.92	0.93
0.750	0.61	6.833	1.10	12.917	4.26	19.00	0.93
0.833	0.61	6.917	1.12	13.000	4.26	19.08	0.91
0.917	0.62	7.000	1.12	13.083	3.78	19.17	0.91
1.000	0.62	7.083	1.14	13.167	3.78	19.25	0.88
1.083	0.63	7.167	1.14	13.250	3.37	19.33	0.88
1.167	0.63	7.250	1.16	13.333	3.37	19.42	0.86
1.250	0.64	7.333	1.16	13.417	3.11	19.50	0.86
1.333	0.64	7.417	1.18	13.500	3.11	19.58	0.83
1.417	0.65	7.500	1.18	13.583	2.85	19.67	0.83
1.500	0.65	7.583	1.20	13.667	2.85	19.75	0.81
1.583	0.66	7.667	1.20	13.750	2.60	19.83	0.81
1.667	0.66	7.750	1.22	13.833	2.60	19.92	0.78
1.750	0.67	7.833	1.22	13.917	2.42	20.00	0.78
1.833	0.67	7.917	1.24	14.000	2.42	20.08	0.76
1.917	0.68	8.000	1.24	14.083	2.23	20.17	0.76
2.000	0.68	8.083	1.26	14.167	2.23	20.25	0.75
2.083	0.69	8.167	1.26	14.250	2.10	20.33	0.75
2.167	0.69	8.250	1.32	14.333	2.10	20.42	0.74
2.250	0.70	8.333	1.32	14.417	2.03	20.50	0.74
2.333	0.70	8.417	1.41	14.500	2.03	20.58	0.74
2.417	0.71	8.500	1.41	14.583	1.97	20.67	0.74
2.500	0.71	8.583	1.50	14.667	1.97	20.75	0.73
2.583	0.72	8.667	1.50	14.750	1.89	20.83	0.73
2.667	0.72	8.750	1.61	14.833	1.89	20.92	0.73
2.750	0.72	8.833	1.61	14.917	1.83	21.00	0.73
2.833	0.72	8.917	1.70	15.000	1.83	21.08	0.72
2.917	0.73	9.000	1.70	15.083	1.76	21.17	0.72
3.000	0.73	9.083	1.79	15.167	1.76	21.25	0.72
3.083	0.74	9.167	1.79	15.250	1.69	21.33	0.72
3.167	0.74	9.250	1.84	15.333	1.69	21.42	0.71
3.250	0.75	9.333	1.84	15.417	1.63	21.50	0.71
3.333	0.75	9.417	1.84	15.500	1.63	21.58	0.71
3.417	0.76	9.500	1.84	15.583	1.56	21.67	0.71
3.500	0.76	9.583	1.84	15.667	1.56	21.75	0.70
3.583	0.77	9.667	1.84	15.750	1.49	21.83	0.70
3.667	0.77	9.750	1.93	15.833	1.49	21.92	0.70
3.750	0.78	9.833	1.93	15.917	1.43	22.00	0.70
3.833	0.78	9.917	2.07	16.000	1.43	22.08	0.69
3.917	0.79	10.000	2.07	16.083	1.36	22.17	0.69
4.000	0.79	10.083	2.22	16.167	1.36	22.25	0.69
4.083	0.80	10.167	2.22	16.250	1.31	22.33	0.69
4.167	0.80	10.250	2.43	16.333	1.31	22.42	0.68
4.250	0.82	10.333	2.43	16.417	1.29	22.50	0.68
4.333	0.82	10.417	2.65	16.500	1.29	22.58	0.68
4.417	0.84	10.500	2.65	16.583	1.27	22.67	0.68
4.500	0.84	10.583	2.87	16.667	1.27	22.75	0.67
4.583	0.85	10.667	2.87	16.750	1.24	22.83	0.67
4.667	0.85	10.750	3.20	16.833	1.24	22.92	0.67
4.750	0.87	10.833	3.20	16.917	1.22	23.00	0.67
4.833	0.87	10.917	3.57	17.000	1.22	23.08	0.66

4.917	0.89	11.000	3.57	17.083	1.19	23.17	0.66
5.000	0.89	11.083	3.94	17.167	1.19	23.25	0.66
5.083	0.91	11.167	3.94	17.250	1.17	23.33	0.66
5.167	0.91	11.250	4.64	17.333	1.17	23.42	0.66
5.250	0.93	11.333	4.64	17.417	1.15	23.50	0.66
5.333	0.93	11.417	5.53	17.500	1.15	23.58	0.65
5.417	0.95	11.500	5.53	17.583	1.12	23.67	0.65
5.500	0.95	11.583	6.41	17.667	1.12	23.75	0.65
5.583	0.97	11.667	6.41	17.750	1.10	23.83	0.65
5.667	0.97	11.750	19.19	17.833	1.10	23.92	0.64
5.750	0.99	11.833	19.19	17.917	1.07	24.00	0.64
5.833	0.99	11.917	47.68	18.000	1.07	24.08	0.64
5.917	1.01	12.000	47.68	18.083	1.05	24.17	0.64
6.000	1.01	12.083	64.46	18.167	1.05		
6.083	1.03	12.167	64.46	18.250	1.02		

Max.Eff.Inten.(mm/hr)= 64.46 22.98
over (min) 5.00 20.00
Storage Coeff. (min)= 2.44 (ii) 15.15 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.30 0.07

TOTALS

PEAK FLOW (cms)= 0.09 0.01 0.096 (iii)
TIME TO PEAK (hrs)= 12.17 12.33 12.17
RUNOFF VOLUME (mm)= 56.60 19.69 45.51
TOTAL RAINFALL (mm)= 57.60 57.60 57.60
RUNOFF COEFFICIENT = 0.98 0.34 0.79

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 40.00
Mannings n = 0.013 0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.03	12.250	10.40	18.33	1.02
0.167	0.00	6.250	1.05	12.333	10.40	18.42	1.00
0.250	0.58	6.333	1.05	12.417	8.29	18.50	1.00
0.333	0.58	6.417	1.07	12.500	8.29	18.58	0.98
0.417	0.59	6.500	1.07	12.583	6.19	18.67	0.98
0.500	0.59	6.583	1.08	12.667	6.19	18.75	0.95
0.583	0.60	6.667	1.08	12.750	4.74	18.83	0.95
0.667	0.60	6.750	1.10	12.833	4.44	18.92	0.93
0.750	0.61	6.833	1.10	12.917	4.26	19.00	0.93
0.833	0.61	6.917	1.12	13.000	4.26	19.08	0.91
0.917	0.62	7.000	1.12	13.083	3.78	19.17	0.91
1.000	0.62	7.083	1.14	13.167	3.78	19.25	0.88
1.083	0.63	7.167	1.14	13.250	3.37	19.33	0.88
1.167	0.63	7.250	1.16	13.333	3.37	19.42	0.86
1.250	0.64	7.333	1.16	13.417	3.11	19.50	0.86
1.333	0.64	7.417	1.18	13.500	3.11	19.58	0.83
1.417	0.65	7.500	1.18	13.583	2.85	19.67	0.83
1.500	0.65	7.583	1.20	13.667	2.85	19.75	0.81
1.583	0.66	7.667	1.20	13.750	2.60	19.83	0.81
1.667	0.66	7.750	1.22	13.833	2.60	19.92	0.78
1.750	0.67	7.833	1.22	13.917	2.42	20.00	0.78
1.833	0.67	7.917	1.24	14.000	2.42	20.08	0.76
1.917	0.68	8.000	1.24	14.083	2.23	20.17	0.76
2.000	0.68	8.083	1.26	14.167	2.23	20.25	0.75
2.083	0.69	8.167	1.26	14.250	2.10	20.33	0.75
2.167	0.69	8.250	1.32	14.333	2.10	20.42	0.74
2.250	0.70	8.333	1.32	14.417	2.03	20.50	0.74
2.333	0.70	8.417	1.41	14.500	2.03	20.58	0.74
2.417	0.71	8.500	1.41	14.583	1.97	20.67	0.74

2.500	0.71	8.583	1.50	14.667	1.97	20.75	0.73
2.583	0.72	8.667	1.50	14.750	1.89	20.83	0.73
2.667	0.72	8.750	1.61	14.833	1.89	20.92	0.73
2.750	0.72	8.833	1.61	14.917	1.83	21.00	0.73
2.833	0.72	8.917	1.70	15.000	1.83	21.08	0.72
2.917	0.73	9.000	1.70	15.083	1.76	21.17	0.72
3.000	0.73	9.083	1.79	15.167	1.76	21.25	0.72
3.083	0.74	9.167	1.79	15.250	1.69	21.33	0.72
3.167	0.74	9.250	1.84	15.333	1.69	21.42	0.71
3.250	0.75	9.333	1.84	15.417	1.63	21.50	0.71
3.333	0.75	9.417	1.84	15.500	1.63	21.58	0.71
3.417	0.76	9.500	1.84	15.583	1.56	21.67	0.71
3.500	0.76	9.583	1.84	15.667	1.56	21.75	0.70
3.583	0.77	9.667	1.84	15.750	1.49	21.83	0.70
3.667	0.77	9.750	1.93	15.833	1.49	21.92	0.70
3.750	0.78	9.833	1.93	15.917	1.43	22.00	0.70
3.833	0.78	9.917	2.07	16.000	1.43	22.08	0.69
3.917	0.79	10.000	2.07	16.083	1.36	22.17	0.69
4.000	0.79	10.083	2.22	16.167	1.36	22.25	0.69
4.083	0.80	10.167	2.22	16.250	1.31	22.33	0.69
4.167	0.80	10.250	2.43	16.333	1.31	22.42	0.68
4.250	0.82	10.333	2.43	16.417	1.29	22.50	0.68
4.333	0.82	10.417	2.65	16.500	1.29	22.58	0.68
4.417	0.84	10.500	2.65	16.583	1.27	22.67	0.68
4.500	0.84	10.583	2.87	16.667	1.27	22.75	0.67
4.583	0.85	10.667	2.87	16.750	1.24	22.83	0.67
4.667	0.85	10.750	3.20	16.833	1.24	22.92	0.67
4.750	0.87	10.833	3.20	16.917	1.22	23.00	0.67
4.833	0.87	10.917	3.57	17.000	1.22	23.08	0.66
4.917	0.89	11.000	3.57	17.083	1.19	23.17	0.66
5.000	0.89	11.083	3.94	17.167	1.19	23.25	0.66
5.083	0.91	11.167	3.94	17.250	1.17	23.33	0.66
5.167	0.91	11.250	4.64	17.333	1.17	23.42	0.66
5.250	0.93	11.333	4.64	17.417	1.15	23.50	0.66
5.333	0.93	11.417	5.53	17.500	1.15	23.58	0.65
5.417	0.95	11.500	5.53	17.583	1.12	23.67	0.65
5.500	0.95	11.583	6.41	17.667	1.12	23.75	0.65
5.583	0.97	11.667	6.41	17.750	1.10	23.83	0.65
5.667	0.97	11.750	19.19	17.833	1.10	23.92	0.64
5.750	0.99	11.833	19.19	17.917	1.07	24.00	0.64
5.833	0.99	11.917	47.68	18.000	1.07	24.08	0.64
5.917	1.01	12.000	47.68	18.083	1.05	24.17	0.64
6.000	1.01	12.083	64.46	18.167	1.05		
6.083	1.03	12.167	64.46	18.250	1.02		

Max.Eff.Inten.(mm/hr)= 64.46 29.15
over (min)= 5.00 20.00
Storage Coeff. (min)= 5.32 (ii) 16.88 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.21 0.06

TOTALS
0.512 (iii)
12.17
27.23
57.60
0.47

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)				
1 + 2 = 3				
ID1= 1 (0004):	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (0005):	9.64	0.512	12.17	27.23
	0.72	0.096	12.17	45.51
=====				
ID = 3 (0006):	10.36	0.608	12.17	28.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)			
IN= 2--> OUT= 1			
DT= 5.0 min			
OVERFLOW IS OFF			
OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

**** WARNING : FIRST OUTFLOW IS NOT ZERO.

0.1231	0.0000	0.9421	0.1619
0.1601	0.0754	1.0216	0.2200
0.8851	0.1260	1.0368	0.2322

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0006)		10.360	0.608	12.17	28.50
OUTFLOW: ID= 1 (0007)		10.360	0.165	12.83	28.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.08
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.1059

CALIB NASHYD (0009)		Area (ha)= 6.20	Curve Number (CN)= 71.0
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	0.00	6.167	1.03	12.250	10.40	18.33	1.02
0.167	0.00	6.250	1.05	12.333	10.40	18.42	1.00
0.250	0.58	6.333	1.05	12.417	8.29	18.50	1.00
0.333	0.58	6.417	1.07	12.500	8.29	18.58	0.98
0.417	0.59	6.500	1.07	12.583	6.19	18.67	0.98
0.500	0.59	6.583	1.08	12.667	6.19	18.75	0.95
0.583	0.60	6.667	1.08	12.750	4.74	18.83	0.95
0.667	0.60	6.750	1.10	12.833	4.74	18.92	0.93
0.750	0.61	6.833	1.10	12.917	4.26	19.00	0.93
0.833	0.61	6.917	1.12	13.000	4.26	19.08	0.91
0.917	0.62	7.000	1.12	13.083	3.78	19.17	0.91
1.000	0.62	7.083	1.14	13.167	3.78	19.25	0.88
1.083	0.63	7.167	1.14	13.250	3.37	19.33	0.88
1.167	0.63	7.250	1.16	13.333	3.37	19.42	0.86
1.250	0.64	7.333	1.16	13.417	3.11	19.50	0.86
1.333	0.64	7.417	1.18	13.500	3.11	19.58	0.83
1.417	0.65	7.500	1.18	13.583	2.85	19.67	0.83
1.500	0.65	7.583	1.20	13.667	2.85	19.75	0.81
1.583	0.66	7.667	1.20	13.750	2.60	19.83	0.81
1.667	0.66	7.750	1.22	13.833	2.60	19.92	0.78
1.750	0.67	7.833	1.22	13.917	2.42	20.00	0.78
1.833	0.67	7.917	1.24	14.000	2.42	20.08	0.76
1.917	0.68	8.000	1.24	14.083	2.23	20.17	0.76
2.000	0.68	8.083	1.26	14.167	2.23	20.25	0.75
2.083	0.69	8.167	1.26	14.250	2.10	20.33	0.75
2.167	0.69	8.250	1.32	14.333	2.10	20.42	0.74
2.250	0.70	8.333	1.32	14.417	2.03	20.50	0.74
2.333	0.70	8.417	1.41	14.500	2.03	20.58	0.74
2.417	0.71	8.500	1.41	14.583	1.97	20.67	0.74
2.500	0.71	8.583	1.50	14.667	1.97	20.75	0.73
2.583	0.72	8.667	1.50	14.750	1.89	20.83	0.73
2.667	0.72	8.750	1.61	14.833	1.89	20.92	0.73
2.750	0.72	8.833	1.61	14.917	1.83	21.00	0.73
2.833	0.72	8.917	1.70	15.000	1.83	21.08	0.72
2.917	0.73	9.000	1.70	15.083	1.76	21.17	0.72
3.000	0.73	9.083	1.79	15.167	1.76	21.25	0.72
3.083	0.74	9.167	1.79	15.250	1.69	21.33	0.72
3.167	0.74	9.250	1.84	15.333	1.69	21.42	0.71
3.250	0.75	9.333	1.84	15.417	1.63	21.50	0.71
3.333	0.75	9.417	1.84	15.500	1.63	21.58	0.71
3.417	0.76	9.500	1.84	15.583	1.56	21.67	0.71
3.500	0.76	9.583	1.84	15.667	1.56	21.75	0.70
3.583	0.77	9.667	1.84	15.750	1.49	21.83	0.70
3.667	0.77	9.750	1.93	15.833	1.49	21.92	0.70
3.750	0.78	9.833	1.93	15.917	1.43	22.00	0.70
3.833	0.78	9.917	2.07	16.000	1.43	22.08	0.69
3.917	0.79	10.000	2.07	16.083	1.36	22.17	0.69
4.000	0.79	10.083	2.22	16.167	1.36	22.25	0.69
4.083	0.80	10.167	2.22	16.250	1.31	22.33	0.69
4.167	0.80	10.250	2.43	16.333	1.31	22.42	0.68
4.250	0.82	10.333	2.43	16.417	1.29	22.50	0.68
4.333	0.82	10.417	2.65	16.500	1.29	22.58	0.68
4.417	0.84	10.500	2.65	16.583	1.27	22.67	0.68
4.500	0.84	10.583	2.87	16.667	1.27	22.75	0.67
4.583	0.85	10.667	2.87	16.750	1.24	22.83	0.67
4.667	0.85	10.750	3.20	16.833	1.24	22.92	0.67
4.750	0.87	10.833	3.20	16.917	1.22	23.00	0.67

4.833	0.87	10.917	3.57	17.000	1.22	23.08	0.66
4.917	0.89	11.000	3.57	17.083	1.19	23.17	0.66
5.000	0.89	11.083	3.94	17.167	1.19	23.25	0.66
5.083	0.91	11.167	3.94	17.250	1.17	23.33	0.66
5.167	0.91	11.250	4.64	17.333	1.17	23.42	0.66
5.250	0.93	11.333	4.64	17.417	1.15	23.50	0.66
5.333	0.93	11.417	5.53	17.500	1.15	23.58	0.65
5.417	0.95	11.500	5.53	17.583	1.12	23.67	0.65
5.500	0.95	11.583	6.41	17.667	1.12	23.75	0.65
5.583	0.97	11.667	6.41	17.750	1.10	23.83	0.65
5.667	0.97	11.750	19.19	17.833	1.10	23.92	0.64
5.750	0.99	11.833	19.19	17.917	1.07	24.00	0.64
5.833	0.99	11.917	47.68	18.000	1.07	24.08	0.64
5.917	1.01	12.000	47.68	18.083	1.05	24.17	0.64
6.000	1.01	12.083	64.46	18.167	1.05		
6.083	1.03	12.167	64.46	18.250	1.02		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.157 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 17.695
TOTAL RAINFALL (mm)= 57.600
RUNOFF COEFFICIENT = 0.307

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

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min

Area (ha)= 3.04
Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 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	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.03	12.250	10.40	18.33	1.02		
0.167	0.00	6.250	1.05	12.333	10.40	18.42	1.00		
0.250	0.58	6.333	1.05	12.417	8.29	18.50	1.00		
0.333	0.58	6.417	1.07	12.500	8.29	18.58	0.98		
0.417	0.59	6.500	1.07	12.583	6.19	18.67	0.98		
0.500	0.59	6.583	1.08	12.667	6.19	18.75	0.95		
0.583	0.60	6.667	1.08	12.750	4.74	18.83	0.95		
0.667	0.60	6.750	1.10	12.833	4.74	18.92	0.93		
0.750	0.61	6.833	1.10	12.917	4.26	19.00	0.93		
0.833	0.61	6.917	1.12	13.000	4.26	19.08	0.91		
0.917	0.62	7.000	1.12	13.083	3.78	19.17	0.91		
1.000	0.62	7.083	1.14	13.167	3.78	19.25	0.88		
1.083	0.63	7.167	1.14	13.250	3.37	19.33	0.88		
1.167	0.63	7.250	1.16	13.333	3.37	19.42	0.86		
1.250	0.64	7.333	1.16	13.417	3.11	19.50	0.86		
1.333	0.64	7.417	1.18	13.500	3.11	19.58	0.83		
1.417	0.65	7.500	1.18	13.583	2.85	19.67	0.83		
1.500	0.65	7.583	1.20	13.667	2.85	19.75	0.81		
1.583	0.66	7.667	1.20	13.750	2.60	19.83	0.81		
1.667	0.66	7.750	1.22	13.833	2.60	19.92	0.78		
1.750	0.67	7.833	1.22	13.917	2.42	20.00	0.78		
1.833	0.67	7.917	1.24	14.000	2.42	20.08	0.76		
1.917	0.68	8.000	1.24	14.083	2.23	20.17	0.76		
2.000	0.68	8.083	1.26	14.167	2.23	20.25	0.75		
2.083	0.69	8.167	1.26	14.250	2.10	20.33	0.75		
2.167	0.69	8.250	1.32	14.333	2.10	20.42	0.74		
2.250	0.70	8.333	1.32	14.417	2.03	20.50	0.74		
2.333	0.70	8.417	1.41	14.500	2.03	20.58	0.74		
2.417	0.71	8.500	1.41	14.583	1.97	20.67	0.74		
2.500	0.71	8.583	1.50	14.667	1.97	20.75	0.73		
2.583	0.72	8.667	1.50	14.750	1.89	20.83	0.73		
2.667	0.72	8.750	1.61	14.833	1.89	20.92	0.73		
2.750	0.72	8.833	1.61	14.917	1.83	21.00	0.73		
2.833	0.72	8.917	1.70	15.000	1.83	21.08	0.72		
2.917	0.73	9.000	1.70	15.083	1.76	21.17	0.72		
3.000	0.73	9.083	1.79	15.167	1.76	21.25	0.72		
3.083	0.74	9.167	1.79	15.250	1.69	21.33	0.72		
3.167	0.74	9.250	1.84	15.333	1.69	21.42	0.71		

3.250	0.75	9.333	1.84	15.417	1.63	21.50	0.71
3.333	0.75	9.417	1.84	15.500	1.63	21.58	0.71
3.417	0.76	9.500	1.84	15.583	1.56	21.67	0.71
3.500	0.76	9.583	1.84	15.667	1.56	21.75	0.70
3.583	0.77	9.667	1.84	15.750	1.49	21.83	0.70
3.667	0.77	9.750	1.93	15.833	1.49	21.92	0.70
3.750	0.78	9.833	1.93	15.917	1.43	22.00	0.70
3.833	0.78	9.917	2.07	16.000	1.43	22.08	0.69
3.917	0.79	10.000	2.07	16.083	1.36	22.17	0.69
4.000	0.79	10.083	2.22	16.167	1.36	22.25	0.69
4.083	0.80	10.167	2.22	16.250	1.31	22.33	0.69
4.167	0.80	10.250	2.43	16.333	1.31	22.42	0.68
4.250	0.82	10.333	2.43	16.417	1.29	22.50	0.68
4.333	0.82	10.417	2.65	16.500	1.29	22.58	0.68
4.417	0.84	10.500	2.65	16.583	1.27	22.67	0.68
4.500	0.84	10.583	2.87	16.667	1.27	22.75	0.67
4.583	0.85	10.667	2.87	16.750	1.24	22.83	0.67
4.667	0.85	10.750	3.20	16.833	1.24	22.92	0.67
4.750	0.87	10.833	3.20	16.917	1.22	23.00	0.67
4.833	0.87	10.917	3.57	17.000	1.22	23.08	0.66
4.917	0.89	11.000	3.57	17.083	1.19	23.17	0.66
5.000	0.89	11.083	3.94	17.167	1.19	23.25	0.66
5.083	0.91	11.167	3.94	17.250	1.17	23.33	0.66
5.167	0.91	11.250	4.64	17.333	1.17	23.42	0.66
5.250	0.93	11.333	4.64	17.417	1.15	23.50	0.66
5.333	0.93	11.417	5.53	17.500	1.15	23.58	0.65
5.417	0.95	11.500	5.53	17.583	1.12	23.67	0.65
5.500	0.95	11.583	6.41	17.667	1.12	23.75	0.65
5.583	0.97	11.667	6.41	17.750	1.10	23.83	0.65
5.667	0.97	11.750	19.19	17.833	1.10	23.92	0.64
5.750	0.99	11.833	19.19	17.917	1.07	24.00	0.64
5.833	0.99	11.917	47.68	18.000	1.07	24.08	0.64
5.917	1.01	12.000	47.68	18.083	1.05	24.17	0.64
6.000	1.01	12.083	64.46	18.167	1.05		
6.083	1.03	12.167	64.46	18.250	1.02		

Max.Eff.Inten.(mm/hr)= 64.46 30.65
over (min) 5.00 20.00
Storage Coeff. (min)= 3.76 (ii) 15.09 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.25 0.07

PEAK FLOW (cms)= 0.09 0.11 *TOTALS*
TIME TO PEAK (hrs)= 12.17 12.33 0.175 (iii)
RUNOFF VOLUME (mm)= 56.60 22.06 27.93
TOTAL RAINFALL (mm)= 57.60 57.60 57.60
RUNOFF COEFFICIENT = 0.98 0.38 0.48

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.165	12.83	28.58
+ ID2= 2 (0008):	3.04	0.175	12.17	27.93
ID = 3 (0010):	13.40	0.313	12.17	28.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	0.313	12.17	28.43
+ ID2= 2 (0009):	6.20	0.157	12.50	17.69
ID = 1 (0010):	19.60	0.428	12.42	25.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U A A A L
V V I SS U U A A L
VV I SSSS UUUU A A LLLLL

000 TTTT TTTT H H Y Y M M 000 TM
O O T T H H Y Y M M O O
O O T T H H Y Y M M O O
000 T T H H Y Y M M 000

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\26c8a
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\26c8a

DATE: 03-13-2026 TIME: 06:58:53

USER:

COMMENTS: _____

** SIMULATION : S- SCS (II) 24hr 5 Year **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\29183f1
Ptotal= 74.40 mm	Comments: 5yr 24hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.17	1.34	12.33	10.71	18.50	1.34
0.17	0.82	6.33	1.34	12.50	10.71	18.67	1.34
0.33	0.82	6.50	1.34	12.67	5.51	18.83	1.34
0.50	0.82	6.67	1.34	12.83	5.51	19.00	1.34
0.67	0.82	6.83	1.34	13.00	5.51	19.17	1.34
0.83	0.82	7.00	1.34	13.17	4.02	19.33	1.34
1.00	0.82	7.17	1.64	13.33	4.02	19.50	1.34
1.17	0.82	7.33	1.64	13.50	4.02	19.67	1.34
1.33	0.82	7.50	1.64	13.67	3.12	19.83	1.34
1.50	0.82	7.67	1.64	13.83	3.12	20.00	1.34
1.67	0.82	7.83	1.64	14.00	3.12	20.17	0.89
1.83	0.82	8.00	1.64	14.17	2.23	20.33	0.89
2.00	0.82	8.17	1.93	14.33	2.23	20.50	0.89
2.17	0.97	8.33	1.93	14.50	2.23	20.67	0.89
2.33	0.97	8.50	1.93	14.67	2.23	20.83	0.89
2.50	0.97	8.67	2.08	14.83	2.23	21.00	0.89
2.67	0.97	8.83	2.08	15.00	2.23	21.17	0.89
2.83	0.97	9.00	2.08	15.17	2.23	21.33	0.89
3.00	0.97	9.17	2.38	15.33	2.23	21.50	0.89
3.17	0.97	9.33	2.38	15.50	2.23	21.67	0.89
3.33	0.97	9.50	2.38	15.67	2.23	21.83	0.89
3.50	0.97	9.67	2.68	15.83	2.23	22.00	0.89
3.67	0.97	9.83	2.68	16.00	2.23	22.17	0.89
3.83	0.97	10.00	2.68	16.17	1.34	22.33	0.89
4.00	0.97	10.17	3.42	16.33	1.34	22.50	0.89
4.17	1.19	10.33	3.42	16.50	1.34	22.67	0.89
4.33	1.19	10.50	3.42	16.67	1.34	22.83	0.89
4.50	1.19	10.67	4.61	16.83	1.34	23.00	0.89
4.67	1.19	10.83	4.61	17.00	1.34	23.17	0.89
4.83	1.19	11.00	4.61	17.17	1.34	23.33	0.89
5.00	1.19	11.17	7.14	17.33	1.34	23.50	0.89
5.17	1.19	11.33	7.14	17.50	1.34	23.67	0.89
5.33	1.19	11.50	7.14	17.67	1.34	23.83	0.89
5.50	1.19	11.67	22.02	17.83	1.34	24.00	0.89
5.67	1.19	11.83	56.54	18.00	1.34		
5.83	1.19	12.00	91.07	18.17	1.34		
6.00	1.19	12.17	10.71	18.33	1.34		

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min

Area (ha)= 0.72
Total Imp(%)= 70.00
Dir. Conn.(%)= 70.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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

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

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.19	12.250	10.72	18.33	1.34
0.167	0.00	6.250	1.34	12.333	10.71	18.42	1.34
0.250	0.82	6.333	1.34	12.417	10.71	18.50	1.34
0.333	0.82	6.417	1.34	12.500	10.71	18.58	1.34
0.417	0.82	6.500	1.34	12.583	10.71	18.67	1.34
0.500	0.82	6.583	1.34	12.667	10.71	18.75	1.34
0.583	0.82	6.667	1.34	12.750	5.51	18.83	1.34
0.667	0.82	6.750	1.34	12.833	5.51	18.92	1.34
0.750	0.82	6.833	1.34	12.917	5.51	19.00	1.34
0.833	0.82	6.917	1.34	13.000	5.51	19.08	1.34
0.917	0.82	7.000	1.34	13.083	5.51	19.17	1.34
1.000	0.82	7.083	1.34	13.167	5.51	19.25	1.34
1.083	0.82	7.167	1.34	13.250	4.02	19.33	1.34
1.167	0.82	7.250	1.64	13.333	4.02	19.42	1.34
1.250	0.82	7.333	1.64	13.417	4.02	19.50	1.34
1.333	0.82	7.417	1.64	13.500	4.02	19.58	1.34
1.417	0.82	7.500	1.64	13.583	4.02	19.67	1.34
1.500	0.82	7.583	1.64	13.667	4.02	19.75	1.34
1.583	0.82	7.667	1.64	13.750	3.12	19.83	1.34
1.667	0.82	7.750	1.64	13.833	3.12	19.92	1.34
1.750	0.82	7.833	1.64	13.917	3.12	20.00	1.34
1.833	0.82	7.917	1.64	14.000	3.12	20.08	1.34
1.917	0.82	8.000	1.64	14.083	3.12	20.17	1.34
2.000	0.82	8.083	1.64	14.167	3.12	20.25	0.89
2.083	0.82	8.167	1.64	14.250	2.23	20.33	0.89
2.167	0.82	8.250	1.93	14.333	2.23	20.42	0.89
2.250	0.97	8.333	1.93	14.417	2.23	20.50	0.89
2.333	0.97	8.417	1.93	14.500	2.23	20.58	0.89
2.417	0.97	8.500	1.93	14.583	2.23	20.67	0.89
2.500	0.97	8.583	1.93	14.667	2.23	20.75	0.89
2.583	0.97	8.667	1.93	14.750	2.23	20.83	0.89
2.667	0.97	8.750	2.08	14.833	2.23	20.92	0.89
2.750	0.97	8.833	2.08	14.917	2.23	21.00	0.89
2.833	0.97	8.917	2.08	15.000	2.23	21.08	0.89
2.917	0.97	9.000	2.08	15.083	2.23	21.17	0.89
3.000	0.97	9.083	2.08	15.167	2.23	21.25	0.89
3.083	0.97	9.167	2.08	15.250	2.23	21.33	0.89
3.167	0.97	9.250	2.38	15.333	2.23	21.42	0.89
3.250	0.97	9.333	2.38	15.417	2.23	21.50	0.89
3.333	0.97	9.417	2.38	15.500	2.23	21.58	0.89
3.417	0.97	9.500	2.38	15.583	2.23	21.67	0.89
3.500	0.97	9.583	2.38	15.667	2.23	21.75	0.89
3.583	0.97	9.667	2.38	15.750	2.23	21.83	0.89
3.667	0.97	9.750	2.68	15.833	2.23	21.92	0.89
3.750	0.97	9.833	2.68	15.917	2.23	22.00	0.89
3.833	0.97	9.917	2.68	16.000	2.23	22.08	0.89
3.917	0.97	10.000	2.68	16.083	2.23	22.17	0.89
4.000	0.97	10.083	2.68	16.167	2.23	22.25	0.89
4.083	0.97	10.167	2.68	16.250	1.34	22.33	0.89
4.167	0.97	10.250	3.42	16.333	1.34	22.42	0.89
4.250	1.19	10.333	3.42	16.417	1.34	22.50	0.89
4.333	1.19	10.417	3.42	16.500	1.34	22.58	0.89
4.417	1.19	10.500	3.42	16.583	1.34	22.67	0.89
4.500	1.19	10.583	3.42	16.667	1.34	22.75	0.89
4.583	1.19	10.667	3.42	16.750	1.34	22.83	0.89
4.667	1.19	10.750	4.61	16.833	1.34	22.92	0.89
4.750	1.19	10.833	4.61	16.917	1.34	23.00	0.89
4.833	1.19	10.917	4.61	17.000	1.34	23.08	0.89
4.917	1.19	11.000	4.61	17.083	1.34	23.17	0.89
5.000	1.19	11.083	4.61	17.167	1.34	23.25	0.89
5.083	1.19	11.167	4.61	17.250	1.34	23.33	0.89
5.167	1.19	11.250	7.14	17.333	1.34	23.42	0.89
5.250	1.19	11.333	7.14	17.417	1.34	23.50	0.89

5.333	1.19	11.417	7.14	17.500	1.34	23.58	0.89
5.417	1.19	11.500	7.14	17.583	1.34	23.67	0.89
5.500	1.19	11.583	7.14	17.667	1.34	23.75	0.89
5.583	1.19	11.667	7.14	17.750	1.34	23.83	0.89
5.667	1.19	11.750	22.02	17.833	1.34	23.92	0.89
5.750	1.19	11.833	22.02	17.917	1.34	24.00	0.89
5.833	1.19	11.917	56.54	18.000	1.34	24.08	0.89
5.917	1.19	12.000	56.54	18.083	1.34	24.17	0.89
6.000	1.19	12.083	91.06	18.167	1.34		
6.083	1.19	12.167	91.07	18.250	1.34		

Max.Eff.Inten.(mm/hr)= 91.07 43.65
over (min) 5.00 15.00
Storage Coeff. (min)= 2.13 (ii) 11.96 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.31 0.09

TOTALS

PEAK FLOW (cms)=	0.13	0.02	0.140 (iii)
TIME TO PEAK (hrs)=	12.17	12.25	12.17
RUNOFF VOLUME (mm)=	73.40	30.09	60.40
TOTAL RAINFALL (mm)=	74.40	74.40	74.40
RUNOFF COEFFICIENT =	0.99	0.40	0.81

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00	IMPERVIOUS (ha)= 2.60 (mm)= 1.00 (%)= 1.00 (m)= 253.51 Mannings n = 0.013	PERVIOUS (i) 7.04 1.50 2.00 40.00 0.250
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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	0.00	6.167	1.19	12.250	10.72	18.33	1.34
0.167	0.00	6.250	1.34	12.333	10.71	18.42	1.34
0.250	0.82	6.333	1.34	12.417	10.71	18.50	1.34
0.333	0.82	6.417	1.34	12.500	10.71	18.58	1.34
0.417	0.82	6.500	1.34	12.583	10.71	18.67	1.34
0.500	0.82	6.583	1.34	12.667	10.71	18.75	1.34
0.583	0.82	6.667	1.34	12.750	5.51	18.83	1.34
0.667	0.82	6.750	1.34	12.833	5.51	18.92	1.34
0.750	0.82	6.833	1.34	12.917	5.51	19.00	1.34
0.833	0.82	6.917	1.34	13.000	5.51	19.08	1.34
0.917	0.82	7.000	1.34	13.083	5.51	19.17	1.34
1.000	0.82	7.083	1.34	13.167	5.51	19.25	1.34
1.083	0.82	7.167	1.34	13.250	4.02	19.33	1.34
1.167	0.82	7.250	1.64	13.333	4.02	19.42	1.34
1.250	0.82	7.333	1.64	13.417	4.02	19.50	1.34
1.333	0.82	7.417	1.64	13.500	4.02	19.58	1.34
1.417	0.82	7.500	1.64	13.583	4.02	19.67	1.34
1.500	0.82	7.583	1.64	13.667	4.02	19.75	1.34
1.583	0.82	7.667	1.64	13.750	3.12	19.83	1.34
1.667	0.82	7.750	1.64	13.833	3.12	19.92	1.34
1.750	0.82	7.833	1.64	13.917	3.12	20.00	1.34
1.833	0.82	7.917	1.64	14.000	3.12	20.08	1.34
1.917	0.82	8.000	1.64	14.083	3.12	20.17	1.34
2.000	0.82	8.083	1.64	14.167	3.12	20.25	0.89
2.083	0.82	8.167	1.64	14.250	2.23	20.33	0.89
2.167	0.82	8.250	1.93	14.333	2.23	20.42	0.89
2.250	0.97	8.333	1.93	14.417	2.23	20.50	0.89
2.333	0.97	8.417	1.93	14.500	2.23	20.58	0.89
2.417	0.97	8.500	1.93	14.583	2.23	20.67	0.89
2.500	0.97	8.583	1.93	14.667	2.23	20.75	0.89
2.583	0.97	8.667	1.93	14.750	2.23	20.83	0.89
2.667	0.97	8.750	2.08	14.833	2.23	20.92	0.89
2.750	0.97	8.833	2.08	14.917	2.23	21.00	0.89
2.833	0.97	8.917	2.08	15.000	2.23	21.08	0.89

2.917	0.97	9.000	2.08	15.083	2.23	21.17	0.89
3.000	0.97	9.083	2.08	15.167	2.23	21.25	0.89
3.083	0.97	9.167	2.08	15.250	2.23	21.33	0.89
3.167	0.97	9.250	2.38	15.333	2.23	21.42	0.89
3.250	0.97	9.333	2.38	15.417	2.23	21.50	0.89
3.333	0.97	9.417	2.38	15.500	2.23	21.58	0.89
3.417	0.97	9.500	2.38	15.583	2.23	21.67	0.89
3.500	0.97	9.583	2.38	15.667	2.23	21.75	0.89
3.583	0.97	9.667	2.38	15.750	2.23	21.83	0.89
3.667	0.97	9.750	2.68	15.833	2.23	21.92	0.89
3.750	0.97	9.833	2.68	15.917	2.23	22.00	0.89
3.833	0.97	9.917	2.68	16.000	2.23	22.08	0.89
3.917	0.97	10.000	2.68	16.083	2.23	22.17	0.89
4.000	0.97	10.083	2.68	16.167	2.23	22.25	0.89
4.083	0.97	10.167	2.68	16.250	1.34	22.33	0.89
4.167	0.97	10.250	3.42	16.333	1.34	22.42	0.89
4.250	1.19	10.333	3.42	16.417	1.34	22.50	0.89
4.333	1.19	10.417	3.42	16.500	1.34	22.58	0.89
4.417	1.19	10.500	3.42	16.583	1.34	22.67	0.89
4.500	1.19	10.583	3.42	16.667	1.34	22.75	0.89
4.583	1.19	10.667	3.42	16.750	1.34	22.83	0.89
4.667	1.19	10.750	4.61	16.833	1.34	22.92	0.89
4.750	1.19	10.833	4.61	16.917	1.34	23.00	0.89
4.833	1.19	10.917	4.61	17.000	1.34	23.08	0.89
4.917	1.19	11.000	4.61	17.083	1.34	23.17	0.89
5.000	1.19	11.083	4.61	17.167	1.34	23.25	0.89
5.083	1.19	11.167	4.61	17.250	1.34	23.33	0.89
5.167	1.19	11.250	7.14	17.333	1.34	23.42	0.89
5.250	1.19	11.333	7.14	17.417	1.34	23.50	0.89
5.333	1.19	11.417	7.14	17.500	1.34	23.58	0.89
5.417	1.19	11.500	7.14	17.583	1.34	23.67	0.89
5.500	1.19	11.583	7.14	17.667	1.34	23.75	0.89
5.583	1.19	11.667	7.14	17.750	1.34	23.83	0.89
5.667	1.19	11.750	22.02	17.833	1.34	23.92	0.89
5.750	1.19	11.833	22.02	17.917	1.34	24.00	0.89
5.833	1.19	11.917	56.54	18.000	1.34	24.08	0.89
5.917	1.19	12.000	56.54	18.083	1.34	24.17	0.89
6.000	1.19	12.083	91.06	18.167	1.34		
6.083	1.19	12.167	91.07	18.250	1.34		

Max.Eff.Inten.(mm/hr)= 91.07 54.67
over (min) 5.00 15.00
Storage Coeff. (min)= 4.63 (ii) 13.62 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.22 0.08

TOTALS

PEAK FLOW (cms)=	0.37	0.60	0.873 (iii)
TIME TO PEAK (hrs)=	12.17	12.25	12.17
RUNOFF VOLUME (mm)=	73.40	32.73	39.23
TOTAL RAINFALL (mm)=	74.40	74.40	74.40
RUNOFF COEFFICIENT =	0.99	0.44	0.53

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	0.873	12.17	39.23
+ ID2= 2 (0005):	0.72	0.140	12.17	60.40
=====				
ID = 3 (0006):	10.36	1.013	12.17	40.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) IN= 2---> OUT= 1 DT= 5.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
***** WARNING : FIRST OUTFLOW IS NOT ZERO.				
	0.1231	0.0000	0.9421	0.1619
	0.1601	0.0754	1.0216	0.2200
	0.8851	0.1260	1.0368	0.2322

INFLOW : ID= 2 (0006) AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm)
OUTFLOW: ID= 1 (0007) 10.360 1.013 12.17 40.71
10.360 0.475 12.50 40.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.86
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.1371

CALIB NASHYD (0009) Area (ha)= 6.20 Curve Number (CN)= 71.0
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	0.00	6.167	1.19	12.250	10.72	18.33	1.34
0.167	0.00	6.250	1.34	12.333	10.71	18.42	1.34
0.250	0.82	6.333	1.34	12.417	10.71	18.50	1.34
0.333	0.82	6.417	1.34	12.500	10.71	18.58	1.34
0.417	0.82	6.500	1.34	12.583	10.71	18.67	1.34
0.500	0.82	6.583	1.34	12.667	10.71	18.75	1.34
0.583	0.82	6.667	1.34	12.750	5.51	18.83	1.34
0.667	0.82	6.750	1.34	12.833	5.51	18.92	1.34
0.750	0.82	6.833	1.34	12.917	5.51	19.00	1.34
0.833	0.82	6.917	1.34	13.000	5.51	19.08	1.34
0.917	0.82	7.000	1.34	13.083	5.51	19.17	1.34
1.000	0.82	7.083	1.34	13.167	5.51	19.25	1.34
1.083	0.82	7.167	1.34	13.250	4.02	19.33	1.34
1.167	0.82	7.250	1.64	13.333	4.02	19.42	1.34
1.250	0.82	7.333	1.64	13.417	4.02	19.50	1.34
1.333	0.82	7.417	1.64	13.500	4.02	19.58	1.34
1.417	0.82	7.500	1.64	13.583	4.02	19.67	1.34
1.500	0.82	7.583	1.64	13.667	4.02	19.75	1.34
1.583	0.82	7.667	1.64	13.750	3.12	19.83	1.34
1.667	0.82	7.750	1.64	13.833	3.12	19.92	1.34
1.750	0.82	7.833	1.64	13.917	3.12	20.00	1.34
1.833	0.82	7.917	1.64	14.000	3.12	20.08	1.34
1.917	0.82	8.000	1.64	14.083	3.12	20.17	1.34
2.000	0.82	8.083	1.64	14.167	3.12	20.25	0.89
2.083	0.82	8.167	1.64	14.250	2.23	20.33	0.89
2.167	0.82	8.250	1.93	14.333	2.23	20.42	0.89
2.250	0.97	8.333	1.93	14.417	2.23	20.50	0.89
2.333	0.97	8.417	1.93	14.500	2.23	20.58	0.89
2.417	0.97	8.500	1.93	14.583	2.23	20.67	0.89
2.500	0.97	8.583	1.93	14.667	2.23	20.75	0.89
2.583	0.97	8.667	1.93	14.750	2.23	20.83	0.89
2.667	0.97	8.750	2.08	14.833	2.23	20.92	0.89
2.750	0.97	8.833	2.08	14.917	2.23	21.00	0.89
2.833	0.97	8.917	2.08	15.000	2.23	21.08	0.89
2.917	0.97	9.000	2.08	15.083	2.23	21.17	0.89
3.000	0.97	9.083	2.08	15.167	2.23	21.25	0.89
3.083	0.97	9.167	2.08	15.250	2.23	21.33	0.89
3.167	0.97	9.250	2.38	15.333	2.23	21.42	0.89
3.250	0.97	9.333	2.38	15.417	2.23	21.50	0.89
3.333	0.97	9.417	2.38	15.500	2.23	21.58	0.89
3.417	0.97	9.500	2.38	15.583	2.23	21.67	0.89
3.500	0.97	9.583	2.38	15.667	2.23	21.75	0.89
3.583	0.97	9.667	2.38	15.750	2.23	21.83	0.89
3.667	0.97	9.750	2.68	15.833	2.23	21.92	0.89
3.750	0.97	9.833	2.68	15.917	2.23	22.00	0.89
3.833	0.97	9.917	2.68	16.000	2.23	22.08	0.89
3.917	0.97	10.000	2.68	16.083	2.23	22.17	0.89
4.000	0.97	10.083	2.68	16.167	2.23	22.25	0.89
4.083	0.97	10.167	2.68	16.250	1.34	22.33	0.89
4.167	0.97	10.250	3.42	16.333	1.34	22.42	0.89
4.250	1.19	10.333	3.42	16.417	1.34	22.50	0.89
4.333	1.19	10.417	3.42	16.500	1.34	22.58	0.89
4.417	1.19	10.500	3.42	16.583	1.34	22.67	0.89
4.500	1.19	10.583	3.42	16.667	1.34	22.75	0.89
4.583	1.19	10.667	3.42	16.750	1.34	22.83	0.89
4.667	1.19	10.750	4.61	16.833	1.34	22.92	0.89
4.750	1.19	10.833	4.61	16.917	1.34	23.00	0.89
4.833	1.19	10.917	4.61	17.000	1.34	23.08	0.89
4.917	1.19	11.000	4.61	17.083	1.34	23.17	0.89
5.000	1.19	11.083	4.61	17.167	1.34	23.25	0.89
5.083	1.19	11.167	4.61	17.250	1.34	23.33	0.89

5.167	1.19	11.250	7.14	17.333	1.34	23.42	0.89
5.250	1.19	11.333	7.14	17.417	1.34	23.50	0.89
5.333	1.19	11.417	7.14	17.500	1.34	23.58	0.89
5.417	1.19	11.500	7.14	17.583	1.34	23.67	0.89
5.500	1.19	11.583	7.14	17.667	1.34	23.75	0.89
5.583	1.19	11.667	7.14	17.750	1.34	23.83	0.89
5.667	1.19	11.750	22.02	17.833	1.34	23.92	0.89
5.750	1.19	11.833	22.02	17.917	1.34	24.00	0.89
5.833	1.19	11.917	56.54	18.000	1.34	24.08	0.89
5.917	1.19	12.000	56.54	18.083	1.34	24.17	0.89
6.000	1.19	12.083	91.06	18.167	1.34		
6.083	1.19	12.167	91.07	18.250	1.34		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.247 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 27.814
TOTAL RAINFALL (mm)= 74.400
RUNOFF COEFFICIENT = 0.374

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

CALIB STANDHYD (0008) Area (ha)= 3.04
ID= 1 DT= 5.0 min Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.91	2.13
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	142.36	40.00
Mannings n =	0.013	0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.19	12.250	10.72	18.33	1.34
0.167	0.00	6.250	1.34	12.333	10.71	18.42	1.34
0.250	0.82	6.333	1.34	12.417	10.71	18.50	1.34
0.333	0.82	6.417	1.34	12.500	10.71	18.58	1.34
0.417	0.82	6.500	1.34	12.583	10.71	18.67	1.34
0.500	0.82	6.583	1.34	12.667	10.71	18.75	1.34
0.583	0.82	6.667	1.34	12.750	5.51	18.83	1.34
0.667	0.82	6.750	1.34	12.833	5.51	18.92	1.34
0.750	0.82	6.833	1.34	12.917	5.51	19.00	1.34
0.833	0.82	6.917	1.34	13.000	5.51	19.08	1.34
0.917	0.82	7.000	1.34	13.083	5.51	19.17	1.34
1.000	0.82	7.083	1.34	13.167	5.51	19.25	1.34
1.083	0.82	7.167	1.34	13.250	4.02	19.33	1.34
1.167	0.82	7.250	1.64	13.333	4.02	19.42	1.34
1.250	0.82	7.333	1.64	13.417	4.02	19.50	1.34
1.333	0.82	7.417	1.64	13.500	4.02	19.58	1.34
1.417	0.82	7.500	1.64	13.583	4.02	19.67	1.34
1.500	0.82	7.583	1.64	13.667	4.02	19.75	1.34
1.583	0.82	7.667	1.64	13.750	3.12	19.83	1.34
1.667	0.82	7.750	1.64	13.833	3.12	19.92	1.34
1.750	0.82	7.833	1.64	13.917	3.12	20.00	1.34
1.833	0.82	7.917	1.64	14.000	3.12	20.08	1.34
1.917	0.82	8.000	1.64	14.083	3.12	20.17	1.34
2.000	0.82	8.083	1.64	14.167	3.12	20.25	0.89
2.083	0.82	8.167	1.64	14.250	2.23	20.33	0.89
2.167	0.82	8.250	1.93	14.333	2.23	20.42	0.89
2.250	0.97	8.333	1.93	14.417	2.23	20.50	0.89
2.333	0.97	8.417	1.93	14.500	2.23	20.58	0.89
2.417	0.97	8.500	1.93	14.583	2.23	20.67	0.89
2.500	0.97	8.583	1.93	14.667	2.23	20.75	0.89
2.583	0.97	8.667	1.93	14.750	2.23	20.83	0.89
2.667	0.97	8.750	2.08	14.833	2.23	20.92	0.89
2.750	0.97	8.833	2.08	14.917	2.23	21.00	0.89
2.833	0.97	8.917	2.08	15.000	2.23	21.08	0.89
2.917	0.97	9.000	2.08	15.083	2.23	21.17	0.89
3.000	0.97	9.083	2.08	15.167	2.23	21.25	0.89
3.083	0.97	9.167	2.08	15.250	2.23	21.33	0.89
3.167	0.97	9.250	2.38	15.333	2.23	21.42	0.89
3.250	0.97	9.333	2.38	15.417	2.23	21.50	0.89
3.333	0.97	9.417	2.38	15.500	2.23	21.58	0.89
3.417	0.97	9.500	2.38	15.583	2.23	21.67	0.89
3.500	0.97	9.583	2.38	15.667	2.23	21.75	0.89

3.583	0.97	9.667	2.38	15.750	2.23	21.83	0.89
3.667	0.97	9.750	2.68	15.833	2.23	21.92	0.89
3.750	0.97	9.833	2.68	15.917	2.23	22.00	0.89
3.833	0.97	9.917	2.68	16.000	2.23	22.08	0.89
3.917	0.97	10.000	2.68	16.083	2.23	22.17	0.89
4.000	0.97	10.083	2.68	16.167	2.23	22.25	0.89
4.083	0.97	10.167	2.68	16.250	1.34	22.33	0.89
4.167	0.97	10.250	3.42	16.333	1.34	22.42	0.89
4.250	1.19	10.333	3.42	16.417	1.34	22.50	0.89
4.333	1.19	10.417	3.42	16.500	1.34	22.58	0.89
4.417	1.19	10.500	3.42	16.583	1.34	22.67	0.89
4.500	1.19	10.583	3.42	16.667	1.34	22.75	0.89
4.583	1.19	10.667	3.42	16.750	1.34	22.83	0.89
4.667	1.19	10.750	4.61	16.833	1.34	22.92	0.89
4.750	1.19	10.833	4.61	16.917	1.34	23.00	0.89
4.833	1.19	10.917	4.61	17.000	1.34	23.08	0.89
4.917	1.19	11.000	4.61	17.083	1.34	23.17	0.89
5.000	1.19	11.083	4.61	17.167	1.34	23.25	0.89
5.083	1.19	11.167	4.61	17.250	1.34	23.33	0.89
5.167	1.19	11.250	7.14	17.333	1.34	23.42	0.89
5.250	1.19	11.333	7.14	17.417	1.34	23.50	0.89
5.333	1.19	11.417	7.14	17.500	1.34	23.58	0.89
5.417	1.19	11.500	7.14	17.583	1.34	23.67	0.89
5.500	1.19	11.583	7.14	17.667	1.34	23.75	0.89
5.583	1.19	11.667	7.14	17.750	1.34	23.83	0.89
5.667	1.19	11.750	22.02	17.833	1.34	23.92	0.89
5.750	1.19	11.833	22.02	17.917	1.34	24.00	0.89
5.833	1.19	11.917	56.54	18.000	1.34	24.08	0.89
5.917	1.19	12.000	56.54	18.083	1.34	24.17	0.89
6.000	1.19	12.083	91.06	18.167	1.34		
6.083	1.19	12.167	91.07	18.250	1.34		

Max.Eff.Inten.(mm/hr)= 91.07 57.32
over (min) 5.00 15.00
Storage Coeff. (min)= 3.28 (ii) 12.10 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.09

PEAK FLOW (cms)= 0.13 0.20 *TOTALS*
TIME TO PEAK (hrs)= 12.17 12.25 0.297 (iii)
RUNOFF VOLUME (mm)= 73.40 33.30 40.11
TOTAL RAINFALL (mm)= 74.40 74.40 74.40
RUNOFF COEFFICIENT = 0.99 0.45 0.54

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0007):	10.36	0.475	12.50	40.78
+ ID2= 2 (0008):	3.04	0.297	12.17	40.11
ID = 3 (0010):	13.40	0.630	12.42	40.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0010):	13.40	0.630	12.42	40.63
+ ID2= 2 (0009):	6.20	0.247	12.50	27.81
ID = 1 (0010):	19.60	0.874	12.42	36.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\552a2
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\552a2

DATE: 03-13-2026

TIME: 06:58:52

USER:

COMMENTS: _____

** SIMULATION : T- SCS (II) 24hr 10 Year **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\c68516f7
Ptotal= 86.40 mm	Comments: 10yr 24hr 10min SCS type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.17	1.56	12.33	12.44	18.50	1.56
0.17	0.95	6.33	1.56	12.50	12.44	18.67	1.56
0.33	0.95	6.50	1.56	12.67	6.39	18.83	1.56
0.50	0.95	6.67	1.56	12.83	6.39	19.00	1.56
0.67	0.95	6.83	1.56	13.00	6.39	19.17	1.56
0.83	0.95	7.00	1.56	13.17	4.67	19.33	1.56
1.00	0.95	7.17	1.90	13.33	4.67	19.50	1.56
1.17	0.95	7.33	1.90	13.50	4.67	19.67	1.56
1.33	0.95	7.50	1.90	13.67	3.63	19.83	1.56
1.50	0.95	7.67	1.90	13.83	3.63	20.00	1.56
1.67	0.95	7.83	1.90	14.00	3.63	20.17	1.04
1.83	0.95	8.00	1.90	14.17	2.59	20.33	1.04
2.00	0.95	8.17	2.25	14.33	2.59	20.50	1.04
2.17	1.12	8.33	2.25	14.50	2.59	20.67	1.04
2.33	1.12	8.50	2.25	14.67	2.59	20.83	1.04
2.50	1.12	8.67	2.42	14.83	2.59	21.00	1.04
2.67	1.12	8.83	2.42	15.00	2.59	21.17	1.04
2.83	1.12	9.00	2.42	15.17	2.59	21.33	1.04
3.00	1.12	9.17	2.76	15.33	2.59	21.50	1.04
3.17	1.12	9.33	2.76	15.50	2.59	21.67	1.04
3.33	1.12	9.50	2.76	15.67	2.59	21.83	1.04
3.50	1.12	9.67	3.11	15.83	2.59	22.00	1.04
3.67	1.12	9.83	3.11	16.00	2.59	22.17	1.04
3.83	1.12	10.00	3.11	16.17	1.56	22.33	1.04
4.00	1.12	10.17	3.97	16.33	1.56	22.50	1.04
4.17	1.38	10.33	3.97	16.50	1.56	22.67	1.04
4.33	1.38	10.50	3.97	16.67	1.56	22.83	1.04
4.50	1.38	10.67	5.36	16.83	1.56	23.00	1.04
4.67	1.38	10.83	5.36	17.00	1.56	23.17	1.04
4.83	1.38	11.00	5.36	17.17	1.56	23.33	1.04
5.00	1.38	11.17	8.29	17.33	1.56	23.50	1.04
5.17	1.38	11.33	8.29	17.50	1.56	23.67	1.04
5.33	1.38	11.50	8.29	17.67	1.56	23.83	1.04
5.50	1.38	11.67	25.57	17.83	1.56	24.00	1.04
5.67	1.38	11.83	65.66	18.00	1.56		
5.83	1.38	12.00	105.75	18.17	1.56		
6.00	1.38	12.17	12.44	18.33	1.56		

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min

Area (ha)= 0.72
Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.38	12.250	12.45	18.33	1.56
0.167	0.00	6.250	1.56	12.333	12.44	18.42	1.56
0.250	0.95	6.333	1.56	12.417	12.44	18.50	1.56
0.333	0.95	6.417	1.56	12.500	12.44	18.58	1.56
0.417	0.95	6.500	1.56	12.583	12.44	18.67	1.56
0.500	0.95	6.583	1.56	12.667	12.44	18.75	1.56
0.583	0.95	6.667	1.56	12.750	6.39	18.83	1.56
0.667	0.95	6.750	1.56	12.833	6.39	18.92	1.56
0.750	0.95	6.833	1.56	12.917	6.39	19.00	1.56
0.833	0.95	6.917	1.56	13.000	6.39	19.08	1.56
0.917	0.95	7.000	1.56	13.083	6.39	19.17	1.56
1.000	0.95	7.083	1.56	13.167	6.39	19.25	1.56
1.083	0.95	7.167	1.56	13.250	4.67	19.33	1.56
1.167	0.95	7.250	1.90	13.333	4.67	19.42	1.56
1.250	0.95	7.333	1.90	13.417	4.67	19.50	1.56
1.333	0.95	7.417	1.90	13.500	4.67	19.58	1.56
1.417	0.95	7.500	1.90	13.583	4.67	19.67	1.56
1.500	0.95	7.583	1.90	13.667	4.67	19.75	1.56
1.583	0.95	7.667	1.90	13.750	3.63	19.83	1.56
1.667	0.95	7.750	1.90	13.833	3.63	19.92	1.56
1.750	0.95	7.833	1.90	13.917	3.63	20.00	1.56
1.833	0.95	7.917	1.90	14.000	3.63	20.08	1.56
1.917	0.95	8.000	1.90	14.083	3.63	20.17	1.56
2.000	0.95	8.083	1.90	14.167	3.63	20.25	1.04
2.083	0.95	8.167	1.90	14.250	2.59	20.33	1.04
2.167	0.95	8.250	2.25	14.333	2.59	20.42	1.04
2.250	1.12	8.333	2.25	14.417	2.59	20.50	1.04
2.333	1.12	8.417	2.25	14.500	2.59	20.58	1.04
2.417	1.12	8.500	2.25	14.583	2.59	20.67	1.04
2.500	1.12	8.583	2.25	14.667	2.59	20.75	1.04
2.583	1.12	8.667	2.25	14.750	2.59	20.83	1.04
2.667	1.12	8.750	2.42	14.833	2.59	20.92	1.04
2.750	1.12	8.833	2.42	14.917	2.59	21.00	1.04
2.833	1.12	8.917	2.42	15.000	2.59	21.08	1.04
2.917	1.12	9.000	2.42	15.083	2.59	21.17	1.04
3.000	1.12	9.083	2.42	15.167	2.59	21.25	1.04
3.083	1.12	9.167	2.42	15.250	2.59	21.33	1.04
3.167	1.12	9.250	2.76	15.333	2.59	21.42	1.04
3.250	1.12	9.333	2.76	15.417	2.59	21.50	1.04
3.333	1.12	9.417	2.76	15.500	2.59	21.58	1.04
3.417	1.12	9.500	2.76	15.583	2.59	21.67	1.04
3.500	1.12	9.583	2.76	15.667	2.59	21.75	1.04
3.583	1.12	9.667	2.76	15.750	2.59	21.83	1.04
3.667	1.12	9.750	3.11	15.833	2.59	21.92	1.04
3.750	1.12	9.833	3.11	15.917	2.59	22.00	1.04
3.833	1.12	9.917	3.11	16.000	2.59	22.08	1.04
3.917	1.12	10.000	3.11	16.083	2.59	22.17	1.04
4.000	1.12	10.083	3.11	16.167	2.59	22.25	1.04
4.083	1.12	10.167	3.11	16.250	1.56	22.33	1.04
4.167	1.12	10.250	3.97	16.333	1.56	22.42	1.04
4.250	1.38	10.333	3.97	16.417	1.56	22.50	1.04
4.333	1.38	10.417	3.97	16.500	1.56	22.58	1.04
4.417	1.38	10.500	3.97	16.583	1.56	22.67	1.04
4.500	1.38	10.583	3.97	16.667	1.56	22.75	1.04
4.583	1.38	10.667	3.97	16.750	1.56	22.83	1.04
4.667	1.38	10.750	5.36	16.833	1.56	22.92	1.04
4.750	1.38	10.833	5.36	16.917	1.56	23.00	1.04
4.833	1.38	10.917	5.36	17.000	1.56	23.08	1.04
4.917	1.38	11.000	5.36	17.083	1.56	23.17	1.04
5.000	1.38	11.083	5.36	17.167	1.56	23.25	1.04
5.083	1.38	11.167	5.36	17.250	1.56	23.33	1.04
5.167	1.38	11.250	8.29	17.333	1.56	23.42	1.04
5.250	1.38	11.333	8.29	17.417	1.56	23.50	1.04

5.333	1.38	11.417	8.29	17.500	1.56	23.58	1.04
5.417	1.38	11.500	8.29	17.583	1.56	23.67	1.04
5.500	1.38	11.583	8.29	17.667	1.56	23.75	1.04
5.583	1.38	11.667	8.29	17.750	1.56	23.83	1.04
5.667	1.38	11.750	25.57	17.833	1.56	23.92	1.04
5.750	1.38	11.833	25.57	17.917	1.56	24.00	1.04
5.833	1.38	11.917	65.66	18.000	1.56	24.08	1.04
5.917	1.38	12.000	65.66	18.083	1.56	24.17	1.04
6.000	1.38	12.083	105.75	18.167	1.56		
6.083	1.38	12.167	105.75	18.250	1.56		

Max.Eff.Inten.(mm/hr)= 105.75 55.47
over (min) 5.00 10.00
Storage Coeff. (min)= 2.00 (ii) 6.92 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.31 0.14

PEAK FLOW (cms)= 0.15 0.03 *TOTALS*
TIME TO PEAK (hrs)= 12.17 12.17 0.173 (iii)
RUNOFF VOLUME (mm)= 85.40 38.21 71.24
TOTAL RAINFALL (mm)= 86.40 86.40 86.40
RUNOFF COEFFICIENT = 0.99 0.44 0.82

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 40.00
Mannings n = 0.013 0.250

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

----- TRANSFORMED HYETOGRAPH -----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.38	12.250	12.45	18.33	1.56
0.167	0.00	6.250	1.56	12.333	12.44	18.42	1.56
0.250	0.95	6.333	1.56	12.417	12.44	18.50	1.56
0.333	0.95	6.417	1.56	12.500	12.44	18.58	1.56
0.417	0.95	6.500	1.56	12.583	12.44	18.67	1.56
0.500	0.95	6.583	1.56	12.667	12.44	18.75	1.56
0.583	0.95	6.667	1.56	12.750	6.39	18.83	1.56
0.667	0.95	6.750	1.56	12.833	6.39	18.92	1.56
0.750	0.95	6.833	1.56	12.917	6.39	19.00	1.56
0.833	0.95	6.917	1.56	13.000	6.39	19.08	1.56
0.917	0.95	7.000	1.56	13.083	6.39	19.17	1.56
1.000	0.95	7.083	1.56	13.167	6.39	19.25	1.56
1.083	0.95	7.167	1.56	13.250	4.67	19.33	1.56
1.167	0.95	7.250	1.90	13.333	4.67	19.42	1.56
1.250	0.95	7.333	1.90	13.417	4.67	19.50	1.56
1.333	0.95	7.417	1.90	13.500	4.67	19.58	1.56
1.417	0.95	7.500	1.90	13.583	4.67	19.67	1.56
1.500	0.95	7.583	1.90	13.667	4.67	19.75	1.56
1.583	0.95	7.667	1.90	13.750	3.63	19.83	1.56
1.667	0.95	7.750	1.90	13.833	3.63	19.92	1.56
1.750	0.95	7.833	1.90	13.917	3.63	20.00	1.56
1.833	0.95	7.917	1.90	14.000	3.63	20.08	1.56
1.917	0.95	8.000	1.90	14.083	3.63	20.17	1.56
2.000	0.95	8.083	1.90	14.167	3.63	20.25	1.04
2.083	0.95	8.167	1.90	14.250	2.59	20.33	1.04
2.167	0.95	8.250	2.25	14.333	2.59	20.42	1.04
2.250	1.12	8.333	2.25	14.417	2.59	20.50	1.04
2.333	1.12	8.417	2.25	14.500	2.59	20.58	1.04
2.417	1.12	8.500	2.25	14.583	2.59	20.67	1.04
2.500	1.12	8.583	2.25	14.667	2.59	20.75	1.04
2.583	1.12	8.667	2.25	14.750	2.59	20.83	1.04
2.667	1.12	8.750	2.42	14.833	2.59	20.92	1.04
2.750	1.12	8.833	2.42	14.917	2.59	21.00	1.04
2.833	1.12	8.917	2.42	15.000	2.59	21.08	1.04

Max. Eff. Inten. (mm/hr)=	105.75	69.02	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.37	12.55	(ii)
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.23	0.08	
			TOTALS
PEAK FLOW (cms)=	0.43	0.79	1.099 (iii)
TIME TO PEAK (hrs)=	12.17	12.25	12.17
RUNOFF VOLUME (mm)=	85.40	41.32	48.37
TOTAL RAINFALL (mm)=	86.40	86.40	86.40
RUNOFF COEFFICIENT =	0.99	0.48	0.56

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

0.1231	0.0000	0.9421	0.1619
0.1601	0.0754	1.0216	0.2200
0.8851	0.1260	1.0368	0.2322

PEAK FLOW REDUCTION [Qout/Qin](%)= 55.00
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1568

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	6.167	1.38	12.250	12.45	18.33	1.56
0.167	0.00	6.250	1.56	12.333	12.44	18.42	1.56
0.250	0.95	6.333	1.56	12.417	12.44	18.50	1.56
0.333	0.95	6.417	1.56	12.500	12.44	18.58	1.56
0.417	0.95	6.500	1.56	12.583	12.44	18.67	1.56
0.500	0.95	6.583	1.56	12.667	12.44	18.75	1.56
0.583	0.95	6.667	1.56	12.750	6.39	18.83	1.56
0.667	0.95	6.750	1.56	12.833	6.39	18.92	1.56
0.750	0.95	6.833	1.56	12.917	6.39	19.00	1.56
0.833	0.95	6.917	1.56	13.000	6.39	19.08	1.56
0.917	0.95	7.000	1.56	13.083	6.39	19.17	1.56
1.000	0.95	7.083	1.56	13.167	6.39	19.25	1.56
1.083	0.95	7.167	1.56	13.250	4.67	19.33	1.56
1.167	0.95	7.250	1.90	13.333	4.67	19.42	1.56
1.250	0.95	7.333	1.90	13.417	4.67	19.50	1.56
1.333	0.95	7.417	1.90	13.500	4.67	19.58	1.56
1.417	0.95	7.500	1.90	13.583	4.67	19.67	1.56
1.500	0.95	7.583	1.90	13.667	4.67	19.75	1.56
1.583	0.95	7.667	1.90	13.750	3.63	19.83	1.56
1.667	0.95	7.750	1.90	13.833	3.63	19.92	1.56
1.750	0.95	7.833	1.90	13.917	3.63	20.00	1.56
1.833	0.95	7.917	1.90	14.000	3.63	20.08	1.56
1.917	0.95	8.000	1.90	14.083	3.63	20.17	1.56
2.000	0.95	8.083	1.90	14.167	3.63	20.25	1.04
2.083	0.95	8.167	1.90	14.250	2.59	20.33	1.04
2.167	0.95	8.250	2.25	14.333	2.59	20.42	1.04
2.250	1.12	8.333	2.25	14.417	2.59	20.50	1.04
2.333	1.12	8.417	2.25	14.500	2.59	20.58	1.04
2.417	1.12	8.500	2.25	14.583	2.59	20.67	1.04
2.500	1.12	8.583	2.25	14.667	2.59	20.75	1.04
2.583	1.12	8.667	2.25	14.750	2.59	20.83	1.04
2.667	1.12	8.750	2.42	14.833	2.59	20.92	1.04
2.750	1.12	8.833	2.42	14.917	2.59	21.00	1.04
2.833	1.12	8.917	2.42	15.000	2.59	21.08	1.04
2.917	1.12	9.000	2.42	15.083	2.59	21.17	1.04
3.000	1.12	9.083	2.42	15.167	2.59	21.25	1.04
3.083	1.12	9.167	2.42	15.250	2.59	21.33	1.04
3.167	1.12	9.250	2.76	15.333	2.59	21.42	1.04
3.250	1.12	9.333	2.76	15.417	2.59	21.50	1.04
3.333	1.12	9.417	2.76	15.500	2.59	21.58	1.04
3.417	1.12	9.500	2.76	15.583	2.59	21.67	1.04
3.500	1.12	9.583	2.76	15.667	2.59	21.75	1.04
3.583	1.12	9.667	2.76	15.750	2.59	21.83	1.04
3.667	1.12	9.750	3.11	15.833	2.59	21.92	1.04
3.750	1.12	9.833	3.11	15.917	2.59	22.00	1.04
3.833	1.12	9.917	3.11	16.000	2.59	22.08	1.04
3.917	1.12	10.000	3.11	16.083	2.59	22.17	1.04
4.000	1.12	10.083	3.11	16.167	2.59	22.25	1.04
4.083	1.12	10.167	3.11	16.250	1.56	22.33	1.04
4.167	1.12	10.250	3.97	16.333	1.56	22.42	1.04
4.250	1.38	10.333	3.97	16.417	1.56	22.50	1.04
4.333	1.38	10.417	3.97	16.500	1.56	22.58	1.04
4.417	1.38	10.500	3.97	16.583	1.56	22.67	1.04
4.500	1.38	10.583	3.97	16.667	1.56	22.75	1.04
4.583	1.38	10.667	3.97	16.750	1.56	22.83	1.04
4.667	1.38	10.750	5.36	16.833	1.56	22.92	1.04
4.750	1.38	10.833	5.36	16.917	1.56	23.00	1.04
4.833	1.38	10.917	5.36	17.000	1.56	23.08	1.04
4.917	1.38	11.000	5.36	17.083	1.56	23.17	1.04
5.000	1.38	11.083	5.36	17.167	1.56	23.25	1.04
5.083	1.38	11.167	5.36	17.250	1.56	23.33	1.04

5.167	1.38	11.250	8.29	17.333	1.56	23.42	1.04
5.250	1.38	11.333	8.29	17.417	1.56	23.50	1.04
5.333	1.38	11.417	8.29	17.500	1.56	23.58	1.04
5.417	1.38	11.500	8.29	17.583	1.56	23.67	1.04
5.500	1.38	11.583	8.29	17.667	1.56	23.75	1.04
5.583	1.38	11.667	8.29	17.750	1.56	23.83	1.04
5.667	1.38	11.750	25.57	17.833	1.56	23.92	1.04
5.750	1.38	11.833	25.57	17.917	1.56	24.00	1.04
5.833	1.38	11.917	65.66	18.000	1.56	24.08	1.04
5.917	1.38	12.000	65.66	18.083	1.56	24.17	1.04
6.000	1.38	12.083	105.75	18.167	1.56		
6.083	1.38	12.167	105.75	18.250	1.56		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.321 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 35.784
TOTAL RAINFALL (mm)= 86.400
RUNOFF COEFFICIENT = 0.414

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

CALIB STANDHYD (0008) ID= 1 DT= 5.0 min	Area (ha)= 3.04 Total Imp(%)= 30.00	Dir. Conn.(%)= 17.00
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Surface Area (ha)= 0.91	IMPERVIOUS	PERVIOUS (i)
Dep. Storage (mm)= 1.00		
Average Slope (%)= 1.00		
Length (m)= 142.36		
Mannings n = 0.013		

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	0.00	6.167	1.38	12.250	12.45	18.33	1.56
0.167	0.00	6.250	1.56	12.333	12.44	18.42	1.56
0.250	0.95	6.333	1.56	12.417	12.44	18.50	1.56
0.333	0.95	6.417	1.56	12.500	12.44	18.58	1.56
0.417	0.95	6.500	1.56	12.583	12.44	18.67	1.56
0.500	0.95	6.583	1.56	12.667	12.44	18.75	1.56
0.583	0.95	6.667	1.56	12.750	6.39	18.83	1.56
0.667	0.95	6.750	1.56	12.833	6.39	18.92	1.56
0.750	0.95	6.833	1.56	12.917	6.39	19.00	1.56
0.833	0.95	6.917	1.56	13.000	6.39	19.08	1.56
0.917	0.95	7.000	1.56	13.083	6.39	19.17	1.56
1.000	0.95	7.083	1.56	13.167	6.39	19.25	1.56
1.083	0.95	7.167	1.56	13.250	4.67	19.33	1.56
1.167	0.95	7.250	1.90	13.333	4.67	19.42	1.56
1.250	0.95	7.333	1.90	13.417	4.67	19.50	1.56
1.333	0.95	7.417	1.90	13.500	4.67	19.58	1.56
1.417	0.95	7.500	1.90	13.583	4.67	19.67	1.56
1.500	0.95	7.583	1.90	13.667	4.67	19.75	1.56
1.583	0.95	7.667	1.90	13.750	3.63	19.83	1.56
1.667	0.95	7.750	1.90	13.833	3.63	19.92	1.56
1.750	0.95	7.833	1.90	13.917	3.63	20.00	1.56
1.833	0.95	7.917	1.90	14.000	3.63	20.08	1.56
1.917	0.95	8.000	1.90	14.083	3.63	20.17	1.56
2.000	0.95	8.083	1.90	14.167	3.63	20.25	1.04
2.083	0.95	8.167	1.90	14.250	2.59	20.33	1.04
2.167	0.95	8.250	2.25	14.333	2.59	20.42	1.04
2.250	1.12	8.333	2.25	14.417	2.59	20.50	1.04
2.333	1.12	8.417	2.25	14.500	2.59	20.58	1.04
2.417	1.12	8.500	2.25	14.583	2.59	20.67	1.04
2.500	1.12	8.583	2.25	14.667	2.59	20.75	1.04
2.583	1.12	8.667	2.25	14.750	2.59	20.83	1.04
2.667	1.12	8.750	2.42	14.833	2.59	20.92	1.04
2.750	1.12	8.833	2.42	14.917	2.59	21.00	1.04
2.833	1.12	8.917	2.42	15.000	2.59	21.08	1.04
2.917	1.12	9.000	2.42	15.083	2.59	21.17	1.04
3.000	1.12	9.083	2.42	15.167	2.59	21.25	1.04
3.083	1.12	9.167	2.42	15.250	2.59	21.33	1.04
3.167	1.12	9.250	2.76	15.333	2.59	21.42	1.04
3.250	1.12	9.333	2.76	15.417	2.59	21.50	1.04
3.333	1.12	9.417	2.76	15.500	2.59	21.58	1.04
3.417	1.12	9.500	2.76	15.583	2.59	21.67	1.04
3.500	1.12	9.583	2.76	15.667	2.59	21.75	1.04

3.583	1.12	9.667	2.76	15.750	2.59	21.83	1.04
3.667	1.12	9.750	3.11	15.833	2.59	21.92	1.04
3.750	1.12	9.833	3.11	15.917	2.59	22.00	1.04
3.833	1.12	9.917	3.11	16.000	2.59	22.08	1.04
3.917	1.12	10.000	3.11	16.083	2.59	22.17	1.04
4.000	1.12	10.083	3.11	16.167	2.59	22.25	1.04
4.083	1.12	10.167	3.11	16.250	1.56	22.33	1.04
4.167	1.12	10.250	3.97	16.333	1.56	22.42	1.04
4.250	1.38	10.333	3.97	16.417	1.56	22.50	1.04
4.333	1.38	10.417	3.97	16.500	1.56	22.58	1.04
4.417	1.38	10.500	3.97	16.583	1.56	22.67	1.04
4.500	1.38	10.583	3.97	16.667	1.56	22.75	1.04
4.583	1.38	10.667	3.97	16.750	1.56	22.83	1.04
4.667	1.38	10.750	5.36	16.833	1.56	22.92	1.04
4.750	1.38	10.833	5.36	16.917	1.56	23.00	1.04
4.833	1.38	10.917	5.36	17.000	1.56	23.08	1.04
4.917	1.38	11.000	5.36	17.083	1.56	23.17	1.04
5.000	1.38	11.083	5.36	17.167	1.56	23.25	1.04
5.083	1.38	11.167	5.36	17.250	1.56	23.33	1.04
5.167	1.38	11.250	8.29	17.333	1.56	23.42	1.04
5.250	1.38	11.333	8.29	17.417	1.56	23.50	1.04
5.333	1.38	11.417	8.29	17.500	1.56	23.58	1.04
5.417	1.38	11.500	8.29	17.583	1.56	23.67	1.04
5.500	1.38	11.583	8.29	17.667	1.56	23.75	1.04
5.583	1.38	11.667	8.29	17.750	1.56	23.83	1.04
5.667	1.38	11.750	25.57	17.833	1.56	23.92	1.04
5.750	1.38	11.833	25.57	17.917	1.56	24.00	1.04
5.833	1.38	11.917	65.66	18.000	1.56	24.08	1.04
5.917	1.38	12.000	65.66	18.083	1.56	24.17	1.04
6.000	1.38	12.083	105.75	18.167	1.56		
6.083	1.38	12.167	105.75	18.250	1.56		

Max.Eff.Inten.(mm/hr)= 105.75 72.26
over (min) 5.00 15.00
Storage Coeff. (min)= 3.09 (ii) 11.13 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.27 0.09

PEAK FLOW (cms)= 0.15 0.26 *TOTALS*
TIME TO PEAK (hrs)= 12.17 12.25 0.372 (iii)
RUNOFF VOLUME (mm)= 85.40 41.98 49.36
TOTAL RAINFALL (mm)= 86.40 86.40 86.40
RUNOFF COEFFICIENT = 0.99 0.49 0.57

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.699	12.42	50.06
+ ID2= 2 (0008):	3.04	0.372	12.17	49.36
ID = 3 (0010):	13.40	0.931	12.33	49.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	0.931	12.33	49.90
+ ID2= 2 (0009):	6.20	0.321	12.50	35.78
ID = 1 (0010):	19.60	1.225	12.33	45.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A L
V V I SS U U AAAAA L

V V I SS U U A A L
VV I SSSS UUUUU A A LLLLL
OOO TTTT TTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O O
O O T T H H Y M M O O
OOO T H H Y M M OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\e74dd
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\e74dd

DATE: 03-13-2026 TIME: 06:58:53

USER:

COMMENTS: _____

** SIMULATION : U- SCS (II) 24hr 25 Year **

READ STORM
Ptotal=103.20 mm
Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\elabfc2c
Comments: 25yr 24hr 10min SCS Type II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.17	1.86	12.33	14.86	18.50	1.86
0.17	1.14	6.33	1.86	12.50	14.86	18.67	1.86
0.33	1.14	6.50	1.86	12.67	7.64	18.83	1.86
0.50	1.14	6.67	1.86	12.83	7.64	19.00	1.86
0.67	1.14	6.83	1.86	13.00	7.64	19.17	1.86
0.83	1.14	7.00	1.86	13.17	5.57	19.33	1.86
1.00	1.14	7.17	2.27	13.33	5.57	19.50	1.86
1.17	1.14	7.33	2.27	13.50	5.57	19.67	1.86
1.33	1.14	7.50	2.27	13.67	4.33	19.83	1.86
1.50	1.14	7.67	2.27	13.83	4.33	20.00	1.86
1.67	1.14	7.83	2.27	14.00	4.33	20.17	1.24
1.83	1.14	8.00	2.27	14.17	3.10	20.33	1.24
2.00	1.14	8.17	2.68	14.33	3.10	20.50	1.24
2.17	1.34	8.33	2.68	14.50	3.10	20.67	1.24
2.33	1.34	8.50	2.68	14.67	3.10	20.83	1.24
2.50	1.34	8.67	2.89	14.83	3.10	21.00	1.24
2.67	1.34	8.83	2.89	15.00	3.10	21.17	1.24
2.83	1.34	9.00	2.89	15.17	3.10	21.33	1.24
3.00	1.34	9.17	3.30	15.33	3.10	21.50	1.24
3.17	1.34	9.33	3.30	15.50	3.10	21.67	1.24
3.33	1.34	9.50	3.30	15.67	3.10	21.83	1.24
3.50	1.34	9.67	3.72	15.83	3.10	22.00	1.24
3.67	1.34	9.83	3.72	16.00	3.10	22.17	1.24
3.83	1.34	10.00	3.72	16.17	1.86	22.33	1.24
4.00	1.34	10.17	4.75	16.33	1.86	22.50	1.24
4.17	1.65	10.33	4.75	16.50	1.86	22.67	1.24
4.33	1.65	10.50	4.75	16.67	1.86	22.83	1.24
4.50	1.65	10.67	6.40	16.83	1.86	23.00	1.24
4.67	1.65	10.83	6.40	17.00	1.86	23.17	1.24
4.83	1.65	11.00	6.40	17.17	1.86	23.33	1.24
5.00	1.65	11.17	9.91	17.33	1.86	23.50	1.24
5.17	1.65	11.33	9.91	17.50	1.86	23.67	1.24
5.33	1.65	11.50	9.91	17.67	1.86	23.83	1.24
5.50	1.65	11.67	30.55	17.83	1.86	24.00	1.24
5.67	1.65	11.83	78.43	18.00	1.86		
5.83	1.65	12.00	126.32	18.17	1.86		
6.00	1.65	12.17	14.86	18.33	1.86		

CALIB
STANDHYD (0005)
ID= 1 DT= 5.0 min
Area (ha)= 0.72
Total Imp(%)= 70.00
Dir. Conn.(%)= 70.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 0.50 0.22
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 69.28 40.00
Mannings n = 0.013 0.250

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	0.00	6.167	1.65	12.250	14.87	18.33	1.86
0.167	0.00	6.250	1.86	12.333	14.86	18.42	1.86
0.250	1.14	6.333	1.86	12.417	14.86	18.50	1.86
0.333	1.14	6.417	1.86	12.500	14.86	18.58	1.86
0.417	1.14	6.500	1.86	12.583	14.86	18.67	1.86
0.500	1.14	6.583	1.86	12.667	14.86	18.75	1.86
0.583	1.14	6.667	1.86	12.750	7.64	18.83	1.86
0.667	1.14	6.750	1.86	12.833	7.64	18.92	1.86
0.750	1.14	6.833	1.86	12.917	7.64	19.00	1.86
0.833	1.14	6.917	1.86	13.000	7.64	19.08	1.86
0.917	1.14	7.000	1.86	13.083	7.64	19.17	1.86
1.000	1.14	7.083	1.86	13.167	7.64	19.25	1.86
1.083	1.14	7.167	1.86	13.250	5.57	19.33	1.86
1.167	1.14	7.250	2.27	13.333	5.57	19.42	1.86
1.250	1.14	7.333	2.27	13.417	5.57	19.50	1.86
1.333	1.14	7.417	2.27	13.500	5.57	19.58	1.86
1.417	1.14	7.500	2.27	13.583	5.57	19.67	1.86
1.500	1.14	7.583	2.27	13.667	5.57	19.75	1.86
1.583	1.14	7.667	2.27	13.750	4.33	19.83	1.86
1.667	1.14	7.750	2.27	13.833	4.33	19.92	1.86
1.750	1.14	7.833	2.27	13.917	4.33	20.00	1.86
1.833	1.14	7.917	2.27	14.000	4.33	20.08	1.86
1.917	1.14	8.000	2.27	14.083	4.33	20.17	1.86
2.000	1.14	8.083	2.27	14.167	4.33	20.25	1.24
2.083	1.14	8.167	2.27	14.250	3.10	20.33	1.24
2.167	1.14	8.250	2.68	14.333	3.10	20.42	1.24
2.250	1.34	8.333	2.68	14.417	3.10	20.50	1.24
2.333	1.34	8.417	2.68	14.500	3.10	20.58	1.24
2.417	1.34	8.500	2.68	14.583	3.10	20.67	1.24
2.500	1.34	8.583	2.68	14.667	3.10	20.75	1.24
2.583	1.34	8.667	2.68	14.750	3.10	20.83	1.24
2.667	1.34	8.750	2.89	14.833	3.10	20.92	1.24
2.750	1.34	8.833	2.89	14.917	3.10	21.00	1.24
2.833	1.34	8.917	2.89	15.000	3.10	21.08	1.24
2.917	1.34	9.000	2.89	15.083	3.10	21.17	1.24
3.000	1.34	9.083	2.89	15.167	3.10	21.25	1.24
3.083	1.34	9.167	2.89	15.250	3.10	21.33	1.24
3.167	1.34	9.250	3.30	15.333	3.10	21.42	1.24
3.250	1.34	9.333	3.30	15.417	3.10	21.50	1.24
3.333	1.34	9.417	3.30	15.500	3.10	21.58	1.24
3.417	1.34	9.500	3.30	15.583	3.10	21.67	1.24
3.500	1.34	9.583	3.30	15.667	3.10	21.75	1.24
3.583	1.34	9.667	3.30	15.750	3.10	21.83	1.24
3.667	1.34	9.750	3.72	15.833	3.10	21.92	1.24
3.750	1.34	9.833	3.72	15.917	3.10	22.00	1.24
3.833	1.34	9.917	3.72	16.000	3.10	22.08	1.24
3.917	1.34	10.000	3.72	16.083	3.10	22.17	1.24
4.000	1.34	10.083	3.72	16.167	3.10	22.25	1.24
4.083	1.34	10.167	3.72	16.250	1.86	22.33	1.24
4.167	1.34	10.250	4.75	16.333	1.86	22.42	1.24
4.250	1.65	10.333	4.75	16.417	1.86	22.50	1.24
4.333	1.65	10.417	4.75	16.500	1.86	22.58	1.24
4.417	1.65	10.500	4.75	16.583	1.86	22.67	1.24
4.500	1.65	10.583	4.75	16.667	1.86	22.75	1.24
4.583	1.65	10.667	4.75	16.750	1.86	22.83	1.24
4.667	1.65	10.750	6.40	16.833	1.86	22.92	1.24
4.750	1.65	10.833	6.40	16.917	1.86	23.00	1.24
4.833	1.65	10.917	6.40	17.000	1.86	23.08	1.24
4.917	1.65	11.000	6.40	17.083	1.86	23.17	1.24
5.000	1.65	11.083	6.40	17.167	1.86	23.25	1.24
5.083	1.65	11.167	6.40	17.250	1.86	23.33	1.24
5.167	1.65	11.250	9.91	17.333	1.86	23.42	1.24
5.250	1.65	11.333	9.91	17.417	1.86	23.50	1.24
5.333	1.65	11.417	9.91	17.500	1.86	23.58	1.24
5.417	1.65	11.500	9.91	17.583	1.86	23.67	1.24
5.500	1.65	11.583	9.91	17.667	1.86	23.75	1.24
5.583	1.65	11.667	9.91	17.750	1.86	23.83	1.24

5.667	1.65	11.750	30.54	17.833	1.86	23.92	1.24
5.750	1.65	11.833	30.55	17.917	1.86	24.00	1.24
5.833	1.65	11.917	78.43	18.000	1.86	24.08	1.24
5.917	1.65	12.000	78.43	18.083	1.86	24.17	1.24
6.000	1.65	12.083	126.31	18.167	1.86		
6.083	1.65	12.167	126.32	18.250	1.86		

Max.Eff.Inten.(mm/hr)=	126.32	73.07	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.87 (ii)	6.45 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.14	
			TOTALS
PEAK FLOW (cms)=	0.18	0.03	0.211 (iii)
TIME TO PEAK (hrs)=	12.17	12.17	12.17
RUNOFF VOLUME (mm)=	102.20	50.34	86.64
TOTAL RAINFALL (mm)=	103.20	103.20	103.20
RUNOFF COEFFICIENT =	0.99	0.49	0.84

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0004)	Area (ha)= 9.64		
ID= 1 DT= 5.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 16.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.60	7.04
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	253.51	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	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.65	12.250	14.87	18.33	1.86		
0.167	0.00	6.250	1.86	12.333	14.86	18.42	1.86		
0.250	1.14	6.333	1.86	12.417	14.86	18.50	1.86		
0.333	1.14	6.417	1.86	12.500	14.86	18.58	1.86		
0.417	1.14	6.500	1.86	12.583	14.86	18.67	1.86		
0.500	1.14	6.583	1.86	12.667	14.86	18.75	1.86		
0.583	1.14	6.667	1.86	12.750	7.64	18.83	1.86		
0.667	1.14	6.750	1.86	12.833	7.64	18.92	1.86		
0.750	1.14	6.833	1.86	12.917	7.64	19.00	1.86		
0.833	1.14	6.917	1.86	13.000	7.64	19.08	1.86		
0.917	1.14	7.000	1.86	13.083	7.64	19.17	1.86		
1.000	1.14	7.083	1.86	13.167	7.64	19.25	1.86		
1.083	1.14	7.167	1.86	13.250	5.57	19.33	1.86		
1.167	1.14	7.250	2.27	13.333	5.57	19.42	1.86		
1.250	1.14	7.333	2.27	13.417	5.57	19.50	1.86		
1.333	1.14	7.417	2.27	13.500	5.57	19.58	1.86		
1.417	1.14	7.500	2.27	13.583	5.57	19.67	1.86		
1.500	1.14	7.583	2.27	13.667	5.57	19.75	1.86		
1.583	1.14	7.667	2.27	13.750	4.33	19.83	1.86		
1.667	1.14	7.750	2.27	13.833	4.33	19.92	1.86		
1.750	1.14	7.833	2.27	13.917	4.33	20.00	1.86		
1.833	1.14	7.917	2.27	14.000	4.33	20.08	1.86		
1.917	1.14	8.000	2.27	14.083	4.33	20.17	1.86		
2.000	1.14	8.083	2.27	14.167	4.33	20.25	1.24		
2.083	1.14	8.167	2.27	14.250	3.10	20.33	1.24		
2.167	1.14	8.250	2.68	14.333	3.10	20.42	1.24		
2.250	1.34	8.333	2.68	14.417	3.10	20.50	1.24		
2.333	1.34	8.417	2.68	14.500	3.10	20.58	1.24		
2.417	1.34	8.500	2.68	14.583	3.10	20.67	1.24		
2.500	1.34	8.583	2.68	14.667	3.10	20.75	1.24		
2.583	1.34	8.667	2.68	14.750	3.10	20.83	1.24		
2.667	1.34	8.750	2.89	14.833	3.10	20.92	1.24		
2.750	1.34	8.833	2.89	14.917	3.10	21.00	1.24		
2.833	1.34	8.917	2.89	15.000	3.10	21.08	1.24		
2.917	1.34	9.000	2.89	15.083	3.10	21.17	1.24		
3.000	1.34	9.083	2.89	15.167	3.10	21.25	1.24		
3.083	1.34	9.167	2.89	15.250	3.10	21.33	1.24		
3.167	1.34	9.250	3.30	15.333	3.10	21.42	1.24		

3.250	1.34	9.333	3.30	15.417	3.10	21.50	1.24
3.333	1.34	9.417	3.30	15.500	3.10	21.58	1.24
3.417	1.34	9.500	3.30	15.583	3.10	21.67	1.24
3.500	1.34	9.583	3.30	15.667	3.10	21.75	1.24
3.583	1.34	9.667	3.30	15.750	3.10	21.83	1.24
3.667	1.34	9.750	3.72	15.833	3.10	21.92	1.24
3.750	1.34	9.833	3.72	15.917	3.10	22.00	1.24
3.833	1.34	9.917	3.72	16.000	3.10	22.08	1.24
3.917	1.34	10.000	3.72	16.083	3.10	22.17	1.24
4.000	1.34	10.083	3.72	16.167	3.10	22.25	1.24
4.083	1.34	10.167	3.72	16.250	1.86	22.33	1.24
4.167	1.34	10.250	4.75	16.333	1.86	22.42	1.24
4.250	1.65	10.333	4.75	16.417	1.86	22.50	1.24
4.333	1.65	10.417	4.75	16.500	1.86	22.58	1.24
4.417	1.65	10.500	4.75	16.583	1.86	22.67	1.24
4.500	1.65	10.583	4.75	16.667	1.86	22.75	1.24
4.583	1.65	10.667	4.75	16.750	1.86	22.83	1.24
4.667	1.65	10.750	6.40	16.833	1.86	22.92	1.24
4.750	1.65	10.833	6.40	16.917	1.86	23.00	1.24
4.833	1.65	10.917	6.40	17.000	1.86	23.08	1.24
4.917	1.65	11.000	6.40	17.083	1.86	23.17	1.24
5.000	1.65	11.083	6.40	17.167	1.86	23.25	1.24
5.083	1.65	11.167	6.40	17.250	1.86	23.33	1.24
5.167	1.65	11.250	9.91	17.333	1.86	23.42	1.24
5.250	1.65	11.333	9.91	17.417	1.86	23.50	1.24
5.333	1.65	11.417	9.91	17.500	1.86	23.58	1.24
5.417	1.65	11.500	9.91	17.583	1.86	23.67	1.24
5.500	1.65	11.583	9.91	17.667	1.86	23.75	1.24
5.583	1.65	11.667	9.91	17.750	1.86	23.83	1.24
5.667	1.65	11.750	30.54	17.833	1.86	23.92	1.24
5.750	1.65	11.833	30.55	17.917	1.86	24.00	1.24
5.833	1.65	11.917	78.43	18.000	1.86	24.08	1.24
5.917	1.65	12.000	78.43	18.083	1.86	24.17	1.24
6.000	1.65	12.083	126.31	18.167	1.86		
6.083	1.65	12.167	126.32	18.250	1.86		

Max.Eff.Inten.(mm/hr)=	126.32	90.20	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.07 (ii)	11.42 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.24	0.09	
		TOTALS	
PEAK FLOW (cms)=	0.52	1.08	1.438 (iii)
TIME TO PEAK (hrs)=	12.17	12.25	12.17
RUNOFF VOLUME (mm)=	102.20	54.06	61.76
TOTAL RAINFALL (mm)=	103.20	103.20	103.20
RUNOFF COEFFICIENT =	0.99	0.52	0.60

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

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
- (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
- (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	1.438	12.17	61.76
+ ID2= 2 (0005):	0.72	0.211	12.17	86.64
ID = 3 (0006):	10.36	1.649	12.17	63.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)	OVERFLOW IS OFF			
IN= 2--> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
***** WARNING : FIRST OUTFLOW IS NOT ZERO.				
	0.1231	0.0000	0.9421	0.1619
	0.1601	0.0754	1.0216	0.2200
	0.8851	0.1260	1.0368	0.2322
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0006)	10.360	1.649	12.17	63.49

OUTFLOW: ID= 1 (0007) 10.360 0.904 12.42 63.54

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.80
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1815

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

Area (ha)= 6.20
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.44

Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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	6.167	1.65	12.250	14.87	18.33	1.86
0.167	0.00	6.250	1.86	12.333	14.86	18.42	1.86
0.250	1.14	6.333	1.86	12.417	14.86	18.50	1.86
0.333	1.14	6.417	1.86	12.500	14.86	18.58	1.86
0.417	1.14	6.500	1.86	12.583	14.86	18.67	1.86
0.500	1.14	6.583	1.86	12.667	14.86	18.75	1.86
0.583	1.14	6.667	1.86	12.750	7.64	18.83	1.86
0.667	1.14	6.750	1.86	12.833	7.64	18.92	1.86
0.750	1.14	6.833	1.86	12.917	7.64	19.00	1.86
0.833	1.14	6.917	1.86	13.000	7.64	19.08	1.86
0.917	1.14	7.000	1.86	13.083	7.64	19.17	1.86
1.000	1.14	7.083	1.86	13.167	7.64	19.25	1.86
1.083	1.14	7.167	1.86	13.250	5.57	19.33	1.86
1.167	1.14	7.250	2.27	13.333	5.57	19.42	1.86
1.250	1.14	7.333	2.27	13.417	5.57	19.50	1.86
1.333	1.14	7.417	2.27	13.500	5.57	19.58	1.86
1.417	1.14	7.500	2.27	13.583	5.57	19.67	1.86
1.500	1.14	7.583	2.27	13.667	5.57	19.75	1.86
1.583	1.14	7.667	2.27	13.750	4.33	19.83	1.86
1.667	1.14	7.750	2.27	13.833	4.33	19.92	1.86
1.750	1.14	7.833	2.27	13.917	4.33	20.00	1.86
1.833	1.14	7.917	2.27	14.000	4.33	20.08	1.86
1.917	1.14	8.000	2.27	14.083	4.33	20.17	1.86
2.000	1.14	8.083	2.27	14.167	4.33	20.25	1.24
2.083	1.14	8.167	2.27	14.250	3.10	20.33	1.24
2.167	1.14	8.250	2.68	14.333	3.10	20.42	1.24
2.250	1.34	8.333	2.68	14.417	3.10	20.50	1.24
2.333	1.34	8.417	2.68	14.500	3.10	20.58	1.24
2.417	1.34	8.500	2.68	14.583	3.10	20.67	1.24
2.500	1.34	8.583	2.68	14.667	3.10	20.75	1.24
2.583	1.34	8.667	2.68	14.750	3.10	20.83	1.24
2.667	1.34	8.750	2.89	14.833	3.10	20.92	1.24
2.750	1.34	8.833	2.89	14.917	3.10	21.00	1.24
2.833	1.34	8.917	2.89	15.000	3.10	21.08	1.24
2.917	1.34	9.000	2.89	15.083	3.10	21.17	1.24
3.000	1.34	9.083	2.89	15.167	3.10	21.25	1.24
3.083	1.34	9.167	2.89	15.250	3.10	21.33	1.24
3.167	1.34	9.250	3.30	15.333	3.10	21.42	1.24
3.250	1.34	9.333	3.30	15.417	3.10	21.50	1.24
3.333	1.34	9.417	3.30	15.500	3.10	21.58	1.24
3.417	1.34	9.500	3.30	15.583	3.10	21.67	1.24
3.500	1.34	9.583	3.30	15.667	3.10	21.75	1.24
3.583	1.34	9.667	3.30	15.750	3.10	21.83	1.24
3.667	1.34	9.750	3.72	15.833	3.10	21.92	1.24
3.750	1.34	9.833	3.72	15.917	3.10	22.00	1.24
3.833	1.34	9.917	3.72	16.000	3.10	22.08	1.24
3.917	1.34	10.000	3.72	16.083	3.10	22.17	1.24
4.000	1.34	10.083	3.72	16.167	3.10	22.25	1.24
4.083	1.34	10.167	3.72	16.250	1.86	22.33	1.24
4.167	1.34	10.250	4.75	16.333	1.86	22.42	1.24
4.250	1.65	10.333	4.75	16.417	1.86	22.50	1.24
4.333	1.65	10.417	4.75	16.500	1.86	22.58	1.24
4.417	1.65	10.500	4.75	16.583	1.86	22.67	1.24
4.500	1.65	10.583	4.75	16.667	1.86	22.75	1.24
4.583	1.65	10.667	4.75	16.750	1.86	22.83	1.24
4.667	1.65	10.750	6.40	16.833	1.86	22.92	1.24
4.750	1.65	10.833	6.40	16.917	1.86	23.00	1.24
4.833	1.65	10.917	6.40	17.000	1.86	23.08	1.24
4.917	1.65	11.000	6.40	17.083	1.86	23.17	1.24
5.000	1.65	11.083	6.40	17.167	1.86	23.25	1.24
5.083	1.65	11.167	6.40	17.250	1.86	23.33	1.24
5.167	1.65	11.250	9.91	17.333	1.86	23.42	1.24
5.250	1.65	11.333	9.91	17.417	1.86	23.50	1.24
5.333	1.65	11.417	9.91	17.500	1.86	23.58	1.24
5.417	1.65	11.500	9.91	17.583	1.86	23.67	1.24

5.500	1.65	11.583	9.91	17.667	1.86	23.75	1.24
5.583	1.65	11.667	9.91	17.750	1.86	23.83	1.24
5.667	1.65	11.750	30.54	17.833	1.86	23.92	1.24
5.750	1.65	11.833	30.55	17.917	1.86	24.00	1.24
5.833	1.65	11.917	78.43	18.000	1.86	24.08	1.24
5.917	1.65	12.000	78.43	18.083	1.86	24.17	1.24
6.000	1.65	12.083	126.31	18.167	1.86		
6.083	1.65	12.167	126.32	18.250	1.86		

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.432 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 47.747
TOTAL RAINFALL (mm)= 103.200
RUNOFF COEFFICIENT = 0.463

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

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min

Area (ha)= 3.04
Total Imp(%)= 30.00
Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)

Surface Area (ha)= 0.91
Dep. Storage (mm)= 2.13
Average Slope (%)= 1.00
Length (m)= 142.36
Mannings n = 0.013

40.00
0.250

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

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

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.65	12.250	14.87	18.33	1.86
0.167	0.00	6.250	1.86	12.333	14.86	18.42	1.86
0.250	1.14	6.333	1.86	12.417	14.86	18.50	1.86
0.333	1.14	6.417	1.86	12.500	14.86	18.58	1.86
0.417	1.14	6.500	1.86	12.583	14.86	18.67	1.86
0.500	1.14	6.583	1.86	12.667	14.86	18.75	1.86
0.583	1.14	6.667	1.86	12.750	7.64	18.83	1.86
0.667	1.14	6.750	1.86	12.833	7.64	18.92	1.86
0.750	1.14	6.833	1.86	12.917	7.64	19.00	1.86
0.833	1.14	6.917	1.86	13.000	7.64	19.08	1.86
0.917	1.14	7.000	1.86	13.083	7.64	19.17	1.86
1.000	1.14	7.083	1.86	13.167	7.64	19.25	1.86
1.083	1.14	7.167	1.86	13.250	5.57	19.33	1.86
1.167	1.14	7.250	2.27	13.333	5.57	19.42	1.86
1.250	1.14	7.333	2.27	13.417	5.57	19.50	1.86
1.333	1.14	7.417	2.27	13.500	5.57	19.58	1.86
1.417	1.14	7.500	2.27	13.583	5.57	19.67	1.86
1.500	1.14	7.583	2.27	13.667	5.57	19.75	1.86
1.583	1.14	7.667	2.27	13.750	4.33	19.83	1.86
1.667	1.14	7.750	2.27	13.833	4.33	19.92	1.86
1.750	1.14	7.833	2.27	13.917	4.33	20.00	1.86
1.833	1.14	7.917	2.27	14.000	4.33	20.08	1.86
1.917	1.14	8.000	2.27	14.083	4.33	20.17	1.86
2.000	1.14	8.083	2.27	14.167	4.33	20.25	1.24
2.083	1.14	8.167	2.27	14.250	3.10	20.33	1.24
2.167	1.14	8.250	2.68	14.333	3.10	20.42	1.24
2.250	1.34	8.333	2.68	14.417	3.10	20.50	1.24
2.333	1.34	8.417	2.68	14.500	3.10	20.58	1.24
2.417	1.34	8.500	2.68	14.583	3.10	20.67	1.24
2.500	1.34	8.583	2.68	14.667	3.10	20.75	1.24
2.583	1.34	8.667	2.68	14.750	3.10	20.83	1.24
2.667	1.34	8.750	2.89	14.833	3.10	20.92	1.24
2.750	1.34	8.833	2.89	14.917	3.10	21.00	1.24
2.833	1.34	8.917	2.89	15.000	3.10	21.08	1.24
2.917	1.34	9.000	2.89	15.083	3.10	21.17	1.24
3.000	1.34	9.083	2.89	15.167	3.10	21.25	1.24
3.083	1.34	9.167	2.89	15.250	3.10	21.33	1.24
3.167	1.34	9.250	3.30	15.333	3.10	21.42	1.24
3.250	1.34	9.333	3.30	15.417	3.10	21.50	1.24
3.333	1.34	9.417	3.30	15.500	3.10	21.58	1.24
3.417	1.34	9.500	3.30	15.583	3.10	21.67	1.24
3.500	1.34	9.583	3.30	15.667	3.10	21.75	1.24
3.583	1.34	9.667	3.30	15.750	3.10	21.83	1.24
3.667	1.34	9.750	3.72	15.833	3.10	21.92	1.24
3.750	1.34	9.833	3.72	15.917	3.10	22.00	1.24
3.833	1.34	9.917	3.72	16.000	3.10	22.08	1.24

3.917	1.34	10.000	3.72	16.083	3.10	22.17	1.24
4.000	1.34	10.083	3.72	16.167	3.10	22.25	1.24
4.083	1.34	10.167	3.72	16.250	1.86	22.33	1.24
4.167	1.34	10.250	4.75	16.333	1.86	22.42	1.24
4.250	1.65	10.333	4.75	16.417	1.86	22.50	1.24
4.333	1.65	10.417	4.75	16.500	1.86	22.58	1.24
4.417	1.65	10.500	4.75	16.583	1.86	22.67	1.24
4.500	1.65	10.583	4.75	16.667	1.86	22.75	1.24
4.583	1.65	10.667	4.75	16.750	1.86	22.83	1.24
4.667	1.65	10.750	6.40	16.833	1.86	22.92	1.24
4.750	1.65	10.833	6.40	16.917	1.86	23.00	1.24
4.833	1.65	10.917	6.40	17.000	1.86	23.08	1.24
4.917	1.65	11.000	6.40	17.083	1.86	23.17	1.24
5.000	1.65	11.083	6.40	17.167	1.86	23.25	1.24
5.083	1.65	11.167	6.40	17.250	1.86	23.33	1.24
5.167	1.65	11.250	9.91	17.333	1.86	23.42	1.24
5.250	1.65	11.333	9.91	17.417	1.86	23.50	1.24
5.333	1.65	11.417	9.91	17.500	1.86	23.58	1.24
5.417	1.65	11.500	9.91	17.583	1.86	23.67	1.24
5.500	1.65	11.583	9.91	17.667	1.86	23.75	1.24
5.583	1.65	11.667	9.91	17.750	1.86	23.83	1.24
5.667	1.65	11.750	30.54	17.833	1.86	23.92	1.24
5.750	1.65	11.833	30.55	17.917	1.86	24.00	1.24
5.833	1.65	11.917	78.43	18.000	1.86	24.08	1.24
5.917	1.65	12.000	78.43	18.083	1.86	24.17	1.24
6.000	1.65	12.083	126.31	18.167	1.86		
6.083	1.65	12.167	126.32	18.250	1.86		

Max.Eff.Inten.(mm/hr)= 126.32 94.28
over (min) 5.00 15.00
Storage Coeff. (min)= 2.88 (ii) 10.10 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.28 0.10

TOTALS
PEAK FLOW (cms)= 0.18 0.36 0.484 (iii)
TIME TO PEAK (hrs)= 12.17 12.25 12.17
RUNOFF VOLUME (mm)= 102.20 54.85 62.90
TOTAL RAINFALL (mm)= 103.20 103.20 103.20
RUNOFF COEFFICIENT = 0.99 0.53 0.61

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0007):	10.36	0.904	12.42	63.54
+ ID2= 2 (0008):	3.04	0.484	12.17	62.90
ID = 3 (0010):	13.40	1.256	12.33	63.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0010):	13.40	1.256	12.33	63.39
+ ID2= 2 (0009):	6.20	0.432	12.50	47.75
ID = 1 (0010):	19.60	1.653	12.33	58.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 6.2.2021)
V V I SS U U A A
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL
OOO TTTTT TTTTT H H Y Y M M OOO TM

O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\dauid.mcnau1\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\5ab95\Summary filename: C:\Users\dauid.mcnau1\AppData\Local\Civica\XH5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\5ab95\

DATE: 03-13-2026

TIME: 06:58:52

USER:

COMMENTS: _____

** SIMULATION : V- SCS (II) 24hr 50 Year **

READ STORM	Filename: C:\Users\dauid.mcnau1\AppData\Local\Temp\38fb46dd-c845-4d2b-9301-5d5a59ce4953\6be7034b
Ptotal=112.80 mm	Comments: 50yr 24hr 10min SCS Type II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	0.00	6.17	2.03	12.33	16.24	18.50	2.03
0.17	1.24	6.33	2.03	12.50	16.24	18.67	2.03
0.33	1.24	6.50	2.03	12.67	8.35	18.83	2.03
0.50	1.24	6.67	2.03	12.83	8.35	19.00	2.03
0.67	1.24	6.83	2.03	13.00	8.35	19.17	2.03
0.83	1.24	7.00	2.03	13.17	6.09	19.33	2.03
1.00	1.24	7.17	2.48	13.33	6.09	19.50	2.03
1.17	1.24	7.33	2.48	13.50	6.09	19.67	2.03
1.33	1.24	7.50	2.48	13.67	4.74	19.83	2.03
1.50	1.24	7.67	2.48	13.83	4.74	20.00	2.03
1.67	1.24	7.83	2.48	14.00	4.74	20.17	1.35
1.83	1.24	8.00	2.48	14.17	3.38	20.33	1.35
2.00	1.24	8.17	2.93	14.33	3.38	20.50	1.35
2.17	1.47	8.33	2.93	14.50	3.38	20.67	1.35
2.33	1.47	8.50	2.93	14.67	3.38	20.83	1.35
2.50	1.47	8.67	3.16	14.83	3.38	21.00	1.35
2.67	1.47	8.83	3.16	15.00	3.38	21.17	1.35
2.83	1.47	9.00	3.16	15.17	3.38	21.33	1.35
3.00	1.47	9.17	3.61	15.33	3.38	21.50	1.35
3.17	1.47	9.33	3.61	15.50	3.38	21.67	1.35
3.33	1.47	9.50	3.61	15.67	3.38	21.83	1.35
3.50	1.47	9.67	4.06	15.83	3.38	22.00	1.35
3.67	1.47	9.83	4.06	16.00	3.38	22.17	1.35
3.83	1.47	10.00	4.06	16.17	2.03	22.33	1.35
4.00	1.47	10.17	5.19	16.33	2.03	22.50	1.35
4.17	1.80	10.33	5.19	16.50	2.03	22.67	1.35
4.33	1.80	10.50	5.19	16.67	2.03	22.83	1.35
4.50	1.80	10.67	6.99	16.83	2.03	23.00	1.35
4.67	1.80	10.83	6.99	17.00	2.03	23.17	1.35
4.83	1.80	11.00	6.99	17.17	2.03	23.33	1.35
5.00	1.80	11.17	10.83	17.33	2.03	23.50	1.35
5.17	1.80	11.33	10.83	17.50	2.03	23.67	1.35
5.33	1.80	11.50	10.83	17.67	2.03	23.83	1.35
5.50	1.80	11.67	33.39	17.83	2.03	24.00	1.35
5.67	1.80	11.83	85.73	18.00	2.03		
5.83	1.80	12.00	138.07	18.17	2.03		
6.00	1.80	12.17	16.24	18.33	2.03		

CALIB	Area (ha)= 0.72
STANDHYD (0005)	Total Imp(%)= 70.00 Dir. Conn.(%)= 70.00
ID= 1 DT= 5.0 min	

Surface Area (ha)= 0.50
Dep. Storage (mm)= 1.00
Average Slope (%)= 1.00
Length (m)= 69.28
Mannings n = 0.013

IMPERVIOUS 0.50
PERVIOUS (i) 0.22
1.00
2.00
40.00
0.250

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

--- TRANSFORMED HYETOGRAPH ---									
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.80	12.250	16.26	18.33	2.03		
0.167	0.00	6.250	2.03	12.333	16.24	18.42	2.03		
0.250	1.24	6.333	2.03	12.417	16.24	18.50	2.03		
0.333	1.24	6.417	2.03	12.500	16.24	18.58	2.03		
0.417	1.24	6.500	2.03	12.583	16.24	18.67	2.03		
0.500	1.24	6.583	2.03	12.667	16.24	18.75	2.03		
0.583	1.24	6.667	2.03	12.750	8.35	18.83	2.03		
0.667	1.24	6.750	2.03	12.833	8.35	18.92	2.03		
0.750	1.24	6.833	2.03	12.917	8.35	19.00	2.03		
0.833	1.24	6.917	2.03	13.000	8.35	19.08	2.03		
0.917	1.24	7.000	2.03	13.083	8.35	19.17	2.03		
1.000	1.24	7.083	2.03	13.167	8.35	19.25	2.03		
1.083	1.24	7.167	2.03	13.250	6.09	19.33	2.03		
1.167	1.24	7.250	2.48	13.333	6.09	19.42	2.03		
1.250	1.24	7.333	2.48	13.417	6.09	19.50	2.03		
1.333	1.24	7.417	2.48	13.500	6.09	19.58	2.03		
1.417	1.24	7.500	2.48	13.583	6.09	19.67	2.03		
1.500	1.24	7.583	2.48	13.667	6.09	19.75	2.03		
1.583	1.24	7.667	2.48	13.750	4.74	19.83	2.03		
1.667	1.24	7.750	2.48	13.833	4.74	19.92	2.03		
1.750	1.24	7.833	2.48	13.917	4.74	20.00	2.03		
1.833	1.24	7.917	2.48	14.000	4.74	20.08	2.03		
1.917	1.24	8.000	2.48	14.083	4.74	20.17	2.03		
2.000	1.24	8.083	2.48	14.167	4.74	20.25	1.35		
2.083	1.24	8.167	2.48	14.250	3.38	20.33	1.35		
2.167	1.24	8.250	2.93	14.333	3.38	20.42	1.35		
2.250	1.47	8.333	2.93	14.417	3.38	20.50	1.35		
2.333	1.47	8.417	2.93	14.500	3.38	20.58	1.35		
2.417	1.47	8.500	2.93	14.583	3.38	20.67	1.35		
2.500	1.47	8.583	2.93	14.667	3.38	20.75	1.35		
2.583	1.47	8.667	2.93	14.750	3.38	20.83	1.35		
2.667	1.47	8.750	3.16	14.833	3.38	20.92	1.35		
2.750	1.47	8.833	3.16	14.917	3.38	21.00	1.35		
2.833	1.47	8.917	3.16	15.000	3.38	21.08	1.35		
2.917	1.47	9.000	3.16	15.083	3.38	21.17	1.35		
3.000	1.47	9.083	3.16	15.167	3.38	21.25	1.35		
3.083	1.47	9.167	3.16	15.250	3.38	21.33	1.35		
3.167	1.47	9.250	3.61	15.333	3.38	21.42	1.35		
3.250	1.47	9.333	3.61	15.417	3.38	21.50	1.35		
3.333	1.47	9.417	3.61	15.500	3.38	21.58	1.35		
3.417	1.47	9.500	3.61	15.583	3.38	21.67	1.35		
3.500	1.47	9.583	3.61	15.667	3.38	21.75	1.35		
3.583	1.47	9.667	3.61	15.750	3.38	21.83	1.35		
3.667	1.47	9.750	4.06	15.833	3.38	21.92	1.35		
3.750	1.47	9.833	4.06	15.917	3.38	22.00	1.35		
3.833	1.47	9.917	4.06	16.000	3.38	22.08	1.35		
3.917	1.47	10.000	4.06	16.083	3.38	22.17	1.35		
4.000	1.47	10.083	4.06	16.167	3.38	22.25	1.35		
4.083	1.47	10.167	4.06	16.250	2.03	22.33	1.35		
4.167	1.47	10.250	5.19	16.333	2.03	22.42	1.35		
4.250	1.80	10.333	5.19	16.417	2.03	22.50	1.35		
4.333	1.80	10.417	5.19	16.500	2.03	22.58	1.35		
4.417	1.80	10.500	5.19	16.583	2.03	22.67	1.35		
4.500	1.80	10.583	5.19	16.667	2.03	22.75	1.35		
4.583	1.80	10.667	5.19	16.750	2.03	22.83	1.35		
4.667	1.80	10.750	6.99	16.833	2.03	22.92	1.35		
4.750	1.80	10.833	6.99	16.917	2.03	23.00	1.35		
4.833	1.80	10.917	6.99	17.000	2.03	23.08	1.35		
4.917	1.80	11.000	6.99	17.083	2.03	23.17	1.35		
5.000	1.80	11.083	6.99	17.167	2.03	23.25	1.35		
5.083	1.80	11.167	6.99	17.250	2.03	23.33	1.35		
5.167	1.80	11.250	10.83	17.333	2.03	23.42	1.35		
5.250	1.80	11.333	10.83	17.417	2.03	23.50	1.35		
5.333	1.80	11.417	10.83	17.500	2.03	23.58	1.35		
5.417	1.80	11.500	10.83	17.583	2.03	23.67	1.35		
5.500	1.80	11.583	10.83	17.667	2.03	23.75	1.35		
5.583	1.80	11.667	10.83	17.750	2.03	23.83	1.35		
5.667	1.80	11.750	33.39	17.833	2.03	23.92	1.35		
5.750	1.80	11.833	33.39	17.917	2.03	24.00	1.35		
5.833	1.80	11.917	85.72	18.000	2.03	24.08	1.35		
5.917	1.80	12.000	85.73	18.083	2.03	24.17	1.35		

6.000 1.80 | 12.083 138.06 | 18.167 2.03 |
6.083 1.80 | 12.167 138.07 | 18.250 2.03 |
Max.Eff.Inten.(mm/hr)= 138.07 83.56
over (min) 5.00 10.00
Storage Coeff. (min)= 1.80 (ii) 6.22 (iii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.32 0.15

PEAK FLOW (cms)= 0.19 0.04 *TOTALS*
TIME TO PEAK (hrs)= 12.17 12.17 0.233 (iii)
RUNOFF VOLUME (mm)= 111.80 57.60 12.17
TOTAL RAINFALL (mm)= 112.80 112.80 95.53
RUNOFF COEFFICIENT = 0.99 0.51 112.80 0.85

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0004)
ID= 1 DT= 5.0 min | Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

IMPERVIOUS 2.60
PERVIOUS (i) 7.04
Surface Area (ha)= 2.60
Dep. Storage (mm)= 1.00
Average Slope (%)= 1.00
Length (m)= 253.51
Mannings n = 0.013 40.00 0.250

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

--- TRANSFORMED HYETOGRAPH ---									
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.80	12.250	16.26	18.33	2.03		
0.167	0.00	6.250	2.03	12.333	16.24	18.42	2.03		
0.250	1.24	6.333	2.03	12.417	16.24	18.50	2.03		
0.333	1.24	6.417	2.03	12.500	16.24	18.58	2.03		
0.417	1.24	6.500	2.03	12.583	16.24	18.67	2.03		
0.500	1.24	6.583	2.03	12.667	16.24	18.75	2.03		
0.583	1.24	6.667	2.03	12.750	8.35	18.83	2.03		
0.667	1.24	6.750	2.03	12.833	8.35	18.92	2.03		
0.750	1.24	6.833	2.03	12.917	8.35	19.00	2.03		
0.833	1.24	6.917	2.03	13.000	8.35	19.08	2.03		
0.917	1.24	7.000	2.03	13.083	8.35	19.17	2.03		
1.000	1.24	7.083	2.03	13.167	8.35	19.25	2.03		
1.083	1.24	7.167	2.03	13.250	6.09	19.33	2.03		
1.167	1.24	7.250	2.48	13.333	6.09	19.42	2.03		
1.250	1.24	7.333	2.48	13.417	6.09	19.50	2.03		
1.333	1.24	7.417	2.48	13.500	6.09	19.58	2.03		
1.417	1.24	7.500	2.48	13.583	6.09	19.67	2.03		
1.500	1.24	7.583	2.48	13.667	6.09	19.75	2.03		
1.583	1.24	7.667	2.48	13.750	4.74	19.83	2.03		
1.667	1.24	7.750	2.48	13.833	4.74	19.92	2.03		
1.750	1.24	7.833	2.48	13.917	4.74	20.00	2.03		
1.833	1.24	7.917	2.48	14.000	4.74	20.08	2.03		
1.917	1.24	8.000	2.48	14.083	4.74	20.17	2.03		
2.000	1.24	8.083	2.48	14.167	4.74	20.25	1.35		
2.083	1.24	8.167	2.48	14.250	3.38	20.33	1.35		
2.167	1.24	8.250	2.93	14.333	3.38	20.42	1.35		
2.250	1.47	8.333	2.93	14.417	3.38	20.50	1.35		
2.333	1.47	8.417	2.93	14.500	3.38	20.58	1.35		
2.417	1.47	8.500	2.93	14.583	3.38	20.67	1.35		
2.500	1.47	8.583	2.93	14.667	3.38	20.75	1.35		
2.583	1.47	8.667	2.93	14.750	3.38	20.83	1.35		
2.667	1.47	8.750	3.16	14.833	3.38	20.92	1.35		
2.750	1.47	8.833	3.16	14.917	3.38	21.00	1.35		
2.833	1.47	8.917	3.16	15.000	3.38	21.08	1.35		
2.917	1.47	9.000	3.16	15.083	3.38	21.17	1.35		
3.000	1.47	9.083	3.16	15.167	3.38	21.25	1.35		
3.083	1.47	9.167	3.16	15.250	3.38	21.33	1.35		
3.167	1.47	9.250	3.61	15.333	3.38	21.42	1.35		
3.250	1.47	9.333	3.61	15.417	3.38	21.50	1.35		
3.333	1.47	9.417	3.61	15.500	3.38	21.58	1.35		
3.417	1.47	9.500	3.61	15.583	3.38	21.67	1.35		
3.500	1.47	9.583	3.61	15.667	3.38	21.75	1.35		

3.583	1.47	9.667	3.61	15.750	3.38	21.83	1.35
3.667	1.47	9.750	4.06	15.833	3.38	21.92	1.35
3.750	1.47	9.833	4.06	15.917	3.38	22.00	1.35
3.833	1.47	9.917	4.06	16.000	3.38	22.08	1.35
3.917	1.47	10.000	4.06	16.083	3.38	22.17	1.35
4.000	1.47	10.083	4.06	16.167	3.38	22.25	1.35
4.083	1.47	10.167	4.06	16.250	2.03	22.33	1.35
4.167	1.47	10.250	5.19	16.333	2.03	22.42	1.35
4.250	1.80	10.333	5.19	16.417	2.03	22.50	1.35
4.333	1.80	10.417	5.19	16.500	2.03	22.58	1.35
4.417	1.80	10.500	5.19	16.583	2.03	22.67	1.35
4.500	1.80	10.583	5.19	16.667	2.03	22.75	1.35
4.583	1.80	10.667	5.19	16.750	2.03	22.83	1.35
4.667	1.80	10.750	6.99	16.833	2.03	22.92	1.35
4.750	1.80	10.833	6.99	16.917	2.03	23.00	1.35
4.833	1.80	10.917	6.99	17.000	2.03	23.08	1.35
4.917	1.80	11.000	6.99	17.083	2.03	23.17	1.35
5.000	1.80	11.083	6.99	17.167	2.03	23.25	1.35
5.083	1.80	11.167	6.99	17.250	2.03	23.33	1.35
5.167	1.80	11.250	10.83	17.333	2.03	23.42	1.35
5.250	1.80	11.333	10.83	17.417	2.03	23.50	1.35
5.333	1.80	11.417	10.83	17.500	2.03	23.58	1.35
5.417	1.80	11.500	10.83	17.583	2.03	23.67	1.35
5.500	1.80	11.583	10.83	17.667	2.03	23.75	1.35
5.583	1.80	11.667	10.83	17.750	2.03	23.83	1.35
5.667	1.80	11.750	33.39	17.833	2.03	23.92	1.35
5.750	1.80	11.833	33.39	17.917	2.03	24.00	1.35
5.833	1.80	11.917	85.72	18.000	2.03	24.08	1.35
5.917	1.80	12.000	85.73	18.083	2.03	24.17	1.35
6.000	1.80	12.083	138.06	18.167	2.03		
6.083	1.80	12.167	138.07	18.250	2.03		

Max.Eff.Inten.(mm/hr)= 138.07 102.75
over (min) 5.00 15.00
Storage Coeff. (min)= 3.92 (ii) 10.91 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.24 0.09

TOTALS
PEAK FLOW (cms)= 0.57 1.26 1.643 (iii)
TIME TO PEAK (hrs)= 12.17 12.25 12.17
RUNOFF VOLUME (mm)= 111.80 61.65 69.67
TOTAL RAINFALL (mm)= 112.80 112.80 112.80
RUNOFF COEFFICIENT = 0.99 0.55 0.62

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)				
1 + 2 = 3				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0004):	9.64	1.643	12.17	69.67
+ ID2= 2 (0005):	0.72	0.233	12.17	95.53
=====				
ID = 3 (0006):	10.36	1.876	12.17	71.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)				
IN= 2--> OUT= 1				
DT= 5.0 min				
***** WARNING : FIRST OUTFLOW IS NOT ZERO.				
	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.1231	0.0000	0.9421	0.1619
	0.1601	0.0754	1.0216	0.2200
	0.8851	0.1260	1.0368	0.2322
=====				
	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0006)	10.360	1.876	12.17	71.47
OUTFLOW: ID= 1 (0007)	10.360	0.942	12.42	71.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 50.24
TIME SHIFT OF PEAK FLOW (min)= 15.00

MAXIMUM STORAGE USED (ha.m.)= 0.2117

CALIB		Area (ha)= 6.20		Curve Number (CN)= 71.0	
NASHYD (0009)		Ia (mm)= 5.00		# of Linear Res.(N)= 3.00	
ID= 1 DT= 5.0 min		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	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.80	12.250	16.26	18.33	2.03		
0.167	0.00	6.250	2.03	12.333	16.24	18.42	2.03		
0.250	1.24	6.333	2.03	12.417	16.24	18.50	2.03		
0.333	1.24	6.417	2.03	12.500	16.24	18.58	2.03		
0.417	1.24	6.500	2.03	12.583	16.24	18.67	2.03		
0.500	1.24	6.583	2.03	12.667	16.24	18.75	2.03		
0.583	1.24	6.667	2.03	12.750	8.35	18.83	2.03		
0.667	1.24	6.750	2.03	12.833	8.35	18.92	2.03		
0.750	1.24	6.833	2.03	12.917	8.35	19.00	2.03		
0.833	1.24	6.917	2.03	13.000	8.35	19.08	2.03		
0.917	1.24	7.000	2.03	13.083	8.35	19.17	2.03		
1.000	1.24	7.083	2.03	13.167	8.35	19.25	2.03		
1.083	1.24	7.167	2.03	13.250	6.09	19.33	2.03		
1.167	1.24	7.250	2.48	13.333	6.09	19.42	2.03		
1.250	1.24	7.333	2.48	13.417	6.09	19.50	2.03		
1.333	1.24	7.417	2.48	13.500	6.09	19.58	2.03		
1.417	1.24	7.500	2.48	13.583	6.09	19.67	2.03		
1.500	1.24	7.583	2.48	13.667	6.09	19.75	2.03		
1.583	1.24	7.667	2.48	13.750	4.74	19.83	2.03		
1.667	1.24	7.750	2.48	13.833	4.74	19.92	2.03		
1.750	1.24	7.833	2.48	13.917	4.74	20.00	2.03		
1.833	1.24	7.917	2.48	14.000	4.74	20.08	2.03		
1.917	1.24	8.000	2.48	14.083	4.74	20.17	2.03		
2.000	1.24	8.083	2.48	14.167	4.74	20.25	1.35		
2.083	1.24	8.167	2.48	14.250	3.38	20.33	1.35		
2.167	1.24	8.250	2.93	14.333	3.38	20.42	1.35		
2.250	1.47	8.333	2.93	14.417	3.38	20.50	1.35		
2.333	1.47	8.417	2.93	14.500	3.38	20.58	1.35		
2.417	1.47	8.500	2.93	14.583	3.38	20.67	1.35		
2.500	1.47	8.583	2.93	14.667	3.38	20.75	1.35		
2.583	1.47	8.667	2.93	14.750	3.38	20.83	1.35		
2.667	1.47	8.750	3.16	14.833	3.38	20.92	1.35		
2.750	1.47	8.833	3.16	14.917	3.38	21.00	1.35		
2.833	1.47	8.917	3.16	15.000	3.38	21.08	1.35		
2.917	1.47	9.000	3.16	15.083	3.38	21.17	1.35		
3.000	1.47	9.083	3.16	15.167	3.38	21.25	1.35		
3.083	1.47	9.167	3.16	15.250	3.38	21.33	1.35		
3.167	1.47	9.250	3.61	15.333	3.38	21.42	1.35		
3.250	1.47	9.333	3.61	15.417	3.38	21.50	1.35		
3.333	1.47	9.417	3.61	15.500	3.38	21.58	1.35		
3.417	1.47	9.500	3.61	15.583	3.38	21.67	1.35		
3.500	1.47	9.583	3.61	15.667	3.38	21.75	1.35		
3.583	1.47	9.667	3.61	15.750	3.38	21.83	1.35		
3.667	1.47	9.750	4.06	15.833	3.38	21.92	1.35		
3.750	1.47	9.833	4.06	15.917	3.38	22.00	1.35		
3.833	1.47	9.917	4.06	16.000	3.38	22.08	1.35		
3.917	1.47	10.000	4.06	16.083	3.38	22.17	1.35		
4.000	1.47	10.083	4.06	16.167	3.38	22.25	1.35		
4.083	1.47	10.167	4.06	16.250	2.03	22.33	1.35		
4.167	1.47	10.250	5.19	16.333	2.03	22.42	1.35		
4.250	1.80	10.333	5.19	16.417	2.03	22.50	1.35		
4.333	1.80	10.417	5.19	16.500	2.03	22.58	1.35		
4.417	1.80	10.500	5.19	16.583	2.03	22.67	1.35		
4.500	1.80	10.583	5.19	16.667	2.03	22.75	1.35		
4.583	1.80	10.667	5.19	16.750	2.03	22.83	1.35		
4.667	1.80	10.750	6.99	16.833	2.03	22.92	1.35		
4.750	1.80	10.833	6.99	16.917	2.03	23.00	1.35		
4.833	1.80	10.917	6.99	17.000	2.03	23.08	1.35		
4.917	1.80	11.000	6.99	17.083	2.03	23.17	1.35		
5.000	1.80	11.083	6.99	17.167	2.03	23.25	1.35		
5.083	1.80	11.167	6.99	17.250	2.03	23.33	1.35		
5.167	1.80	11.250	10.83	17.333	2.03	23.42	1.35		
5.250	1.80	11.333	10.83	17.417	2.03	23.50	1.35		
5.333	1.80	11.417	10.83	17.500	2.03	23.58	1.35		
5.417	1.80	11.500	10.83	17.583	2.03	23.67	1.35		
5.500	1.80	11.583	10.83	17.667	2.03	23.75	1.35		
5.583	1.80	11.667	10.83	17.750	2.03	23.83	1.35		
5.667	1.80	11.750	33.39	17.833	2.03	23.92	1.35		
5.750	1.80	11.833	33.39	17.917	2.03	24.00	1.35		

5.833	1.80	11.917	85.72	18.000	2.03	24.08	1.35
5.917	1.80	12.000	85.73	18.083	2.03	24.17	1.35
6.000	1.80	12.083	138.06	18.167	2.03		
6.083	1.80	12.167	138.07	18.250	2.03		

Unit Hyd Qpeak (cms)= 0.538
PEAK FLOW (cms)= 0.498 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 54.928
TOTAL RAINFALL (mm)= 112.800
RUNOFF COEFFICIENT = 0.487

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

CALIB STANDHYD (0008) ID= 1 DT= 5.0 min	Area (ha)= 3.04 Total Imp(%)= 30.00 Dir. Conn.(%)= 17.00
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	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.91	2.13
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	142.36	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.80	12.250	16.26	18.33	2.03
0.167	0.00	6.250	2.03	12.333	16.24	18.42	2.03
0.250	1.24	6.333	2.03	12.417	16.24	18.50	2.03
0.333	1.24	6.417	2.03	12.500	16.24	18.58	2.03
0.417	1.24	6.500	2.03	12.583	16.24	18.67	2.03
0.500	1.24	6.583	2.03	12.667	16.24	18.75	2.03
0.583	1.24	6.667	2.03	12.750	8.35	18.83	2.03
0.667	1.24	6.750	2.03	12.833	8.35	18.92	2.03
0.750	1.24	6.833	2.03	12.917	8.35	19.00	2.03
0.833	1.24	6.917	2.03	13.000	8.35	19.08	2.03
0.917	1.24	7.000	2.03	13.083	8.35	19.17	2.03
1.000	1.24	7.083	2.03	13.167	8.35	19.25	2.03
1.083	1.24	7.167	2.03	13.250	6.09	19.33	2.03
1.167	1.24	7.250	2.48	13.333	6.09	19.42	2.03
1.250	1.24	7.333	2.48	13.417	6.09	19.50	2.03
1.333	1.24	7.417	2.48	13.500	6.09	19.58	2.03
1.417	1.24	7.500	2.48	13.583	6.09	19.67	2.03
1.500	1.24	7.583	2.48	13.667	6.09	19.75	2.03
1.583	1.24	7.667	2.48	13.750	4.74	19.83	2.03
1.667	1.24	7.750	2.48	13.833	4.74	19.92	2.03
1.750	1.24	7.833	2.48	13.917	4.74	20.00	2.03
1.833	1.24	7.917	2.48	14.000	4.74	20.08	2.03
1.917	1.24	8.000	2.48	14.083	4.74	20.17	2.03
2.000	1.24	8.083	2.48	14.167	4.74	20.25	1.35
2.083	1.24	8.167	2.48	14.250	3.38	20.33	1.35
2.167	1.24	8.250	2.93	14.333	3.38	20.42	1.35
2.250	1.47	8.333	2.93	14.417	3.38	20.50	1.35
2.333	1.47	8.417	2.93	14.500	3.38	20.58	1.35
2.417	1.47	8.500	2.93	14.583	3.38	20.67	1.35
2.500	1.47	8.583	2.93	14.667	3.38	20.75	1.35
2.583	1.47	8.667	2.93	14.750	3.38	20.83	1.35
2.667	1.47	8.750	3.16	14.833	3.38	20.92	1.35
2.750	1.47	8.833	3.16	14.917	3.38	21.00	1.35
2.833	1.47	8.917	3.16	15.000	3.38	21.08	1.35
2.917	1.47	9.000	3.16	15.083	3.38	21.17	1.35
3.000	1.47	9.083	3.16	15.167	3.38	21.25	1.35
3.083	1.47	9.167	3.16	15.250	3.38	21.33	1.35
3.167	1.47	9.250	3.61	15.333	3.38	21.42	1.35
3.250	1.47	9.333	3.61	15.417	3.38	21.50	1.35
3.333	1.47	9.417	3.61	15.500	3.38	21.58	1.35
3.417	1.47	9.500	3.61	15.583	3.38	21.67	1.35
3.500	1.47	9.583	3.61	15.667	3.38	21.75	1.35
3.583	1.47	9.667	3.61	15.750	3.38	21.83	1.35
3.667	1.47	9.750	4.06	15.833	3.38	21.92	1.35
3.750	1.47	9.833	4.06	15.917	3.38	22.00	1.35
3.833	1.47	9.917	4.06	16.000	3.38	22.08	1.35
3.917	1.47	10.000	4.06	16.083	3.38	22.17	1.35
4.000	1.47	10.083	4.06	16.167	3.38	22.25	1.35
4.083	1.47	10.167	4.06	16.250	2.03	22.33	1.35
4.167	1.47	10.250	5.19	16.333	2.03	22.42	1.35

4.250	1.80	10.333	5.19	16.417	2.03	22.50	1.35
4.333	1.80	10.417	5.19	16.500	2.03	22.58	1.35
4.417	1.80	10.500	5.19	16.583	2.03	22.67	1.35
4.500	1.80	10.583	5.19	16.667	2.03	22.75	1.35
4.583	1.80	10.667	5.19	16.750	2.03	22.83	1.35
4.667	1.80	10.750	6.99	16.833	2.03	22.92	1.35
4.750	1.80	10.833	6.99	16.917	2.03	23.00	1.35
4.833	1.80	10.917	6.99	17.000	2.03	23.08	1.35
4.917	1.80	11.000	6.99	17.083	2.03	23.17	1.35
5.000	1.80	11.083	6.99	17.167	2.03	23.25	1.35
5.083	1.80	11.167	6.99	17.250	2.03	23.33	1.35
5.167	1.80	11.250	10.83	17.333	2.03	23.42	1.35
5.250	1.80	11.333	10.83	17.417	2.03	23.50	1.35
5.333	1.80	11.417	10.83	17.500	2.03	23.58	1.35
5.417	1.80	11.500	10.83	17.583	2.03	23.67	1.35
5.500	1.80	11.583	10.83	17.667	2.03	23.75	1.35
5.583	1.80	11.667	10.83	17.750	2.03	23.83	1.35
5.667	1.80	11.750	33.39	17.833	2.03	23.92	1.35
5.750	1.80	11.833	33.39	17.917	2.03	24.00	1.35
5.833	1.80	11.917	85.72	18.000	2.03	24.08	1.35
5.917	1.80	12.000	85.73	18.083	2.03	24.17	1.35
6.000	1.80	12.083	138.06	18.167	2.03		
6.083	1.80	12.167	138.07	18.250	2.03		

Max.Eff.Inten.(mm/hr)=	138.07	107.30
over (min)	5.00	10.00
Storage Coeff. (min)=	2.78 (ii)	9.64 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.11
PEAK FLOW (cms)=	0.20	0.44
TIME TO PEAK (hrs)=	12.17	12.17
RUNOFF VOLUME (mm)=	111.80	62.50
TOTAL RAINFALL (mm)=	112.80	112.80
RUNOFF COEFFICIENT =	0.99	0.55

TOTALS
0.634 (iii)

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.942	12.42	71.53
+ ID2= 2 (0008):	3.04	0.634	12.17	70.88
ID = 3 (0010):	13.40	1.391	12.25	71.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	1.391	12.25	71.38
+ ID2= 2 (0009):	6.20	0.498	12.50	54.93
ID = 1 (0010):	19.60	1.782	12.25	66.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V	V	I	SSSS	U	U	A	L		(v 6.2.2021)
V	V	I	SS	U	U	A	A	L	
V	V	I	SS	U	U	AAAA	L		
V	V	I	SS	U	U	A	A	L	
VV	I	SSSS	UUUU	A	A	LLLL			
000	TTTT	TTTT	H	H	Y	Y	M	M	000
0	0	T	T	H	H	Y	Y	M	M
0	0	T	T	H	H	Y	Y	M	M
000	T	T	H	H	Y	Y	M	M	000

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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	0.22
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	2.00

Max.Eff.Inten.(mm/hr)= 152.76 97.04

over (min) 5.00 10.00
Storage Coeff. (min)= 1.73 (ii) 5.98 (ii)
Unit Hyd. Tpeak (min)= 5.00 10.00
Unit Hyd. peak (cms)= 0.32 0.15

TOTALS
PEAK FLOW (cms)= 0.21 0.05 0.261 (iii)
TIME TO PEAK (hrs)= 12.17 12.17
RUNOFF VOLUME (mm)= 123.80 66.96 106.74
TOTAL RAINFALL (mm)= 124.80 124.80 124.80
RUNOFF COEFFICIENT = 0.99 0.54 0.86

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

Area (ha)= 9.64
Total Imp(%)= 27.00 Dir. Conn.(%)= 16.00

IMPERVIOUS PERVIOUS (i)
Surface Area (ha)= 2.60 7.04
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 253.51 40.00
Mannings n = 0.013 0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.00	12.250	17.99	18.33	2.25
0.167	0.00	6.250	2.25	12.333	17.97	18.42	2.25
0.250	1.37	6.333	2.25	12.417	17.97	18.50	2.25
0.333	1.37	6.417	2.25	12.500	17.97	18.58	2.25
0.417	1.37	6.500	2.25	12.583	17.97	18.67	2.25
0.500	1.37	6.583	2.25	12.667	17.97	18.75	2.25
0.583	1.37	6.667	2.25	12.750	9.24	18.83	2.25
0.667	1.37	6.750	2.25	12.833	9.24	18.92	2.25
0.750	1.37	6.833	2.25	12.917	9.24	19.00	2.25
0.833	1.37	6.917	2.25	13.000	9.24	19.08	2.25
0.917	1.37	7.000	2.25	13.083	9.24	19.17	2.25
1.000	1.37	7.083	2.25	13.167	9.24	19.25	2.25
1.083	1.37	7.167	2.25	13.250	6.74	19.33	2.25
1.167	1.37	7.250	2.75	13.333	6.74	19.42	2.25
1.250	1.37	7.333	2.75	13.417	6.74	19.50	2.25
1.333	1.37	7.417	2.75	13.500	6.74	19.58	2.25
1.417	1.37	7.500	2.75	13.583	6.74	19.67	2.25
1.500	1.37	7.583	2.75	13.667	6.74	19.75	2.25
1.583	1.37	7.667	2.75	13.750	5.24	19.83	2.25
1.667	1.37	7.750	2.75	13.833	5.24	19.92	2.25
1.750	1.37	7.833	2.75	13.917	5.24	20.00	2.25
1.833	1.37	7.917	2.75	14.000	5.24	20.08	2.25
1.917	1.37	8.000	2.75	14.083	5.24	20.17	2.25
2.000	1.37	8.083	2.75	14.167	5.24	20.25	1.50
2.083	1.37	8.167	2.75	14.250	3.74	20.33	1.50
2.167	1.37	8.250	3.24	14.333	3.74	20.42	1.50
2.250	1.62	8.333	3.24	14.417	3.74	20.50	1.50
2.333	1.62	8.417	3.24	14.500	3.74	20.58	1.50
2.417	1.62	8.500	3.24	14.583	3.74	20.67	1.50
2.500	1.62	8.583	3.24	14.667	3.74	20.75	1.50
2.583	1.62	8.667	3.24	14.750	3.74	20.83	1.50
2.667	1.62	8.750	3.49	14.833	3.74	20.92	1.50
2.750	1.62	8.833	3.49	14.917	3.74	21.00	1.50
2.833	1.62	8.917	3.49	15.000	3.74	21.08	1.50
2.917	1.62	9.000	3.49	15.083	3.74	21.17	1.50
3.000	1.62	9.083	3.49	15.167	3.74	21.25	1.50
3.083	1.62	9.167	3.49	15.250	3.74	21.33	1.50
3.167	1.62	9.250	3.99	15.333	3.74	21.42	1.50
3.250	1.62	9.333	3.99	15.417	3.74	21.50	1.50
3.333	1.62	9.417	3.99	15.500	3.74	21.58	1.50
3.417	1.62	9.500	3.99	15.583	3.74	21.67	1.50
3.500	1.62	9.583	3.99	15.667	3.74	21.75	1.50
3.583	1.62	9.667	3.99	15.750	3.74	21.83	1.50
3.667	1.62	9.750	4.49	15.833	3.74	21.92	1.50
3.750	1.62	9.833	4.49	15.917	3.74	22.00	1.50
3.833	1.62	9.917	4.49	16.000	3.74	22.08	1.50

3.917	1.62	10.000	4.49	16.083	3.74	22.17	1.50
4.000	1.62	10.083	4.49	16.167	3.74	22.25	1.50
4.083	1.62	10.167	4.49	16.250	2.25	22.33	1.50
4.167	1.62	10.250	5.74	16.333	2.25	22.42	1.50
4.250	2.00	10.333	5.74	16.417	2.25	22.50	1.50
4.333	2.00	10.417	5.74	16.500	2.25	22.58	1.50
4.417	2.00	10.500	5.74	16.583	2.25	22.67	1.50
4.500	2.00	10.583	5.74	16.667	2.25	22.75	1.50
4.583	2.00	10.667	5.74	16.750	2.25	22.83	1.50
4.667	2.00	10.750	7.74	16.833	2.25	22.92	1.50
4.750	2.00	10.833	7.74	16.917	2.25	23.00	1.50
4.833	2.00	10.917	7.74	17.000	2.25	23.08	1.50
4.917	2.00	11.000	7.74	17.083	2.25	23.17	1.50
5.000	2.00	11.083	7.74	17.167	2.25	23.25	1.50
5.083	2.00	11.167	7.74	17.250	2.25	23.33	1.50
5.167	2.00	11.250	11.98	17.333	2.25	23.42	1.50
5.250	2.00	11.333	11.98	17.417	2.25	23.50	1.50
5.333	2.00	11.417	11.98	17.500	2.25	23.58	1.50
5.417	2.00	11.500	11.98	17.583	2.25	23.67	1.50
5.500	2.00	11.583	11.98	17.667	2.25	23.75	1.50
5.583	2.00	11.667	11.98	17.750	2.25	23.83	1.50
5.667	2.00	11.750	36.94	17.833	2.25	23.92	1.50
5.750	2.00	11.833	36.94	17.917	2.25	24.00	1.50
5.833	2.00	11.917	94.84	18.000	2.25	24.08	1.50
5.917	2.00	12.000	94.85	18.083	2.25	24.17	1.50
6.000	2.00	12.083	152.75	18.167	2.25		
6.083	2.00	12.167	152.76	18.250	2.25		

Max.Eff.Inten.(mm/hr)= 152.76 118.79
over (min) 5.00 15.00
Storage Coeff. (min)= 3.77 (ii) 10.36 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.25 0.09

TOTALS
PEAK FLOW (cms)= 0.64 1.48 1.907 (iii)
TIME TO PEAK (hrs)= 12.17 12.25 12.17
RUNOFF VOLUME (mm)= 123.80 71.38 79.77
TOTAL RAINFALL (mm)= 124.80 124.80 124.80
RUNOFF COEFFICIENT = 0.99 0.57 0.64

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	1.907	12.17	79.77
+ ID2= 2 (0005):	0.72	0.261	12.17	106.74
ID = 3 (0006):	10.36	2.168	12.17	81.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007)
IN= 2--> OUT= 1
DT= 5.0 min

OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.1231	0.0000	0.9421	0.1619
0.1601	0.0754	1.0216	0.2200
0.8851	0.1260	1.0368	0.2322

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0006)	10.360	2.168	12.17	81.64
OUTFLOW: ID= 1 (0007)	10.360	0.985	12.42	81.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 45.45
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.2283

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

Area (ha)= 6.20
Ia (mm)= 5.00
U.H. Tp(hrs)= 0.44

Curve Number (CN)= 71.0
of Linear Res.(N)= 3.00

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

--- TRANSFORMED HYETOGRAPH ---									
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	2.00	12.250	17.99	18.33	2.25		
0.167	0.00	6.250	2.25	12.333	17.97	18.42	2.25		
0.250	1.37	6.333	2.25	12.417	17.97	18.50	2.25		
0.333	1.37	6.417	2.25	12.500	17.97	18.58	2.25		
0.417	1.37	6.500	2.25	12.583	17.97	18.67	2.25		
0.500	1.37	6.583	2.25	12.667	17.97	18.75	2.25		
0.583	1.37	6.667	2.25	12.750	9.24	18.83	2.25		
0.667	1.37	6.750	2.25	12.833	9.24	18.92	2.25		
0.750	1.37	6.833	2.25	12.917	9.24	19.00	2.25		
0.833	1.37	6.917	2.25	13.000	9.24	19.08	2.25		
0.917	1.37	7.000	2.25	13.083	9.24	19.17	2.25		
1.000	1.37	7.083	2.25	13.167	9.24	19.25	2.25		
1.083	1.37	7.167	2.25	13.250	6.74	19.33	2.25		
1.167	1.37	7.250	2.75	13.333	6.74	19.42	2.25		
1.250	1.37	7.333	2.75	13.417	6.74	19.50	2.25		
1.333	1.37	7.417	2.75	13.500	6.74	19.58	2.25		
1.417	1.37	7.500	2.75	13.583	6.74	19.67	2.25		
1.500	1.37	7.583	2.75	13.667	6.74	19.75	2.25		
1.583	1.37	7.667	2.75	13.750	5.24	19.83	2.25		
1.667	1.37	7.750	2.75	13.833	5.24	19.92	2.25		
1.750	1.37	7.833	2.75	13.917	5.24	20.00	2.25		
1.833	1.37	7.917	2.75	14.000	5.24	20.08	2.25		
1.917	1.37	8.000	2.75	14.083	5.24	20.17	2.25		
2.000	1.37	8.083	2.75	14.167	5.24	20.25	1.50		
2.083	1.37	8.167	2.75	14.250	3.74	20.33	1.50		
2.167	1.37	8.250	3.24	14.333	3.74	20.42	1.50		
2.250	1.62	8.333	3.24	14.417	3.74	20.50	1.50		
2.333	1.62	8.417	3.24	14.500	3.74	20.58	1.50		
2.417	1.62	8.500	3.24	14.583	3.74	20.67	1.50		
2.500	1.62	8.583	3.24	14.667	3.74	20.75	1.50		
2.583	1.62	8.667	3.24	14.750	3.74	20.83	1.50		
2.667	1.62	8.750	3.49	14.833	3.74	20.92	1.50		
2.750	1.62	8.833	3.49	14.917	3.74	21.00	1.50		
2.833	1.62	8.917	3.49	15.000	3.74	21.08	1.50		
2.917	1.62	9.000	3.49	15.083	3.74	21.17	1.50		
3.000	1.62	9.083	3.49	15.167	3.74	21.25	1.50		
3.083	1.62	9.167	3.49	15.250	3.74	21.33	1.50		
3.167	1.62	9.250	3.99	15.333	3.74	21.42	1.50		
3.250	1.62	9.333	3.99	15.417	3.74	21.50	1.50		
3.333	1.62	9.417	3.99	15.500	3.74	21.58	1.50		
3.417	1.62	9.500	3.99	15.583	3.74	21.67	1.50		
3.500	1.62	9.583	3.99	15.667	3.74	21.75	1.50		
3.583	1.62	9.667	3.99	15.750	3.74	21.83	1.50		
3.667	1.62	9.750	4.49	15.833	3.74	21.92	1.50		
3.750	1.62	9.833	4.49	15.917	3.74	22.00	1.50		
3.833	1.62	9.917	4.49	16.000	3.74	22.08	1.50		
3.917	1.62	10.000	4.49	16.083	3.74	22.17	1.50		
4.000	1.62	10.083	4.49	16.167	3.74	22.25	1.50		
4.083	1.62	10.167	4.49	16.250	2.25	22.33	1.50		
4.167	1.62	10.250	5.74	16.333	2.25	22.42	1.50		
4.250	2.00	10.333	5.74	16.417	2.25	22.50	1.50		
4.333	2.00	10.417	5.74	16.500	2.25	22.58	1.50		
4.417	2.00	10.500	5.74	16.583	2.25	22.67	1.50		
4.500	2.00	10.583	5.74	16.667	2.25	22.75	1.50		
4.583	2.00	10.667	5.74	16.750	2.25	22.83	1.50		
4.667	2.00	10.750	7.74	16.833	2.25	22.92	1.50		
4.750	2.00	10.833	7.74	16.917	2.25	23.00	1.50		
4.833	2.00	10.917	7.74	17.000	2.25	23.08	1.50		
4.917	2.00	11.000	7.74	17.083	2.25	23.17	1.50		
5.000	2.00	11.083	7.74	17.167	2.25	23.25	1.50		
5.083	2.00	11.167	7.74	17.250	2.25	23.33	1.50		
5.167	2.00	11.250	11.98	17.333	2.25	23.42	1.50		
5.250	2.00	11.333	11.98	17.417	2.25	23.50	1.50		
5.333	2.00	11.417	11.98	17.500	2.25	23.58	1.50		
5.417	2.00	11.500	11.98	17.583	2.25	23.67	1.50		
5.500	2.00	11.583	11.98	17.667	2.25	23.75	1.50		
5.583	2.00	11.667	11.98	17.750	2.25	23.83	1.50		
5.667	2.00	11.750	36.94	17.833	2.25	23.92	1.50		
5.750	2.00	11.833	36.94	17.917	2.25	24.00	1.50		
5.833	2.00	11.917	94.84	18.000	2.25	24.08	1.50		
5.917	2.00	12.000	94.85	18.083	2.25	24.17	1.50		
6.000	2.00	12.083	152.75	18.167	2.25				
6.083	2.00	12.167	152.76	18.250	2.25				

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.584 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 64.196
TOTAL RAINFALL (mm)= 124.800
RUNOFF COEFFICIENT = 0.514

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

CALIB
STANDHYD (0008)
ID= 1 DT= 5.0 min

Area (ha)= 3.04
Total Imp(%)= 30.00
Dir. Conn.(%)= 17.00

IMPERVIOUS PERVIOUS (i)

Surface Area (ha)= 0.91 2.13
Dep. Storage (mm)= 1.00 1.50
Average Slope (%)= 1.00 2.00
Length (m)= 142.36 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	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	2.00	12.250	17.99	18.33	2.25		
0.167	0.00	6.250	2.25	12.333	17.97	18.42	2.25		
0.250	1.37	6.333	2.25	12.417	17.97	18.50	2.25		
0.333	1.37	6.417	2.25	12.500	17.97	18.58	2.25		
0.417	1.37	6.500	2.25	12.583	17.97	18.67	2.25		
0.500	1.37	6.583	2.25	12.667	17.97	18.75	2.25		
0.583	1.37	6.667	2.25	12.750	9.24	18.83	2.25		
0.667	1.37	6.750	2.25	12.833	9.24	18.92	2.25		
0.750	1.37	6.833	2.25	12.917	9.24	19.00	2.25		
0.833	1.37	6.917	2.25	13.000	9.24	19.08	2.25		
0.917	1.37	7.000	2.25	13.083	9.24	19.17	2.25		
1.000	1.37	7.083	2.25	13.167	9.24	19.25	2.25		
1.083	1.37	7.167	2.25	13.250	6.74	19.33	2.25		
1.167	1.37	7.250	2.75	13.333	6.74	19.42	2.25		
1.250	1.37	7.333	2.75	13.417	6.74	19.50	2.25		
1.333	1.37	7.417	2.75	13.500	6.74	19.58	2.25		
1.417	1.37	7.500	2.75	13.583	6.74	19.67	2.25		
1.500	1.37	7.583	2.75	13.667	6.74	19.75	2.25		
1.583	1.37	7.667	2.75	13.750	5.24	19.83	2.25		
1.667	1.37	7.750	2.75	13.833	5.24	19.92	2.25		
1.750	1.37	7.833	2.75	13.917	5.24	20.00	2.25		
1.833	1.37	7.917	2.75	14.000	5.24	20.08	2.25		
1.917	1.37	8.000	2.75	14.083	5.24	20.17	2.25		
2.000	1.37	8.083	2.75	14.167	5.24	20.25	1.50		
2.083	1.37	8.167	2.75	14.250	3.74	20.33	1.50		
2.167	1.37	8.250	3.24	14.333	3.74	20.42	1.50		
2.250	1.62	8.333	3.24	14.417	3.74	20.50	1.50		
2.333	1.62	8.437	3.24	14.500	3.74	20.58	1.50		
2.417	1.62	8.500	3.24	14.583	3.74	20.67	1.50		
2.500	1.62	8.583	3.24	14.667	3.74	20.75	1.50		
2.583	1.62	8.667	3.24	14.750	3.74	20.83	1.50		
2.667	1.62	8.750	3.49	14.833	3.74	20.92	1.50		
2.750	1.62	8.833	3.49	14.917	3.74	21.00	1.50		
2.833	1.62	8.917	3.49	15.000	3.74	21.08	1.50		
2.917	1.62	9.000	3.49	15.083	3.74	21.17	1.50		
3.000	1.62	9.083	3.49	15.167	3.74	21.25	1.50		
3.083	1.62	9.167	3.49	15.250	3.74	21.33	1.50		
3.167	1.62	9.250	3.99	15.333	3.74	21.42	1.50		
3.250	1.62	9.333	3.99	15.417	3.74	21.50	1.50		
3.333	1.62	9.417	3.99	15.500	3.74	21.58	1.50		
3.417	1.62	9.500	3.99	15.583	3.74	21.67	1.50		
3.500	1.62	9.583	3.99	15.667	3.74	21.75	1.50		
3.583	1.62	9.667	3.99	15.750	3.74	21.83	1.50		
3.667	1.62	9.750	4.49	15.833	3.74	21.92	1.50		
3.750	1.62	9.833	4.49	15.917	3.74	22.00	1.50		
3.833	1.62	9.917	4.49	16.000	3.74	22.08	1.50		
3.917	1.62	10.000	4.49	16.083	3.74	22.17	1.50		
4.000	1.62	10.083	4.49	16.167	3.74	22.25	1.50		
4.083	1.62	10.167	4.49	16.250	2.25	22.33	1.50		
4.167	1.62	10.250	5.74	16.333	2.25	22.42	1.50		
4.250	2.00	10.333	5.74	16.417	2.25	22.50	1.50		
4.333	2.00	10.417	5.74	16.500	2.25	22.58	1.50		
4.417	2.00	10.500	5.74	16.583	2.25	22.67	1.50		
4.500	2.00	10.583	5.74	16.667	2.25	22.75	1.50		

4.583	2.00	10.667	5.74	16.750	2.25	22.83	1.50
4.667	2.00	10.750	7.74	16.833	2.25	22.92	1.50
4.750	2.00	10.833	7.74	16.917	2.25	23.00	1.50
4.833	2.00	10.917	7.74	17.000	2.25	23.08	1.50
4.917	2.00	11.000	7.74	17.083	2.25	23.17	1.50
5.000	2.00	11.083	7.74	17.167	2.25	23.25	1.50
5.083	2.00	11.167	7.74	17.250	2.25	23.33	1.50
5.167	2.00	11.250	11.98	17.333	2.25	23.42	1.50
5.250	2.00	11.333	11.98	17.417	2.25	23.50	1.50
5.333	2.00	11.417	11.98	17.500	2.25	23.58	1.50
5.417	2.00	11.500	11.98	17.583	2.25	23.67	1.50
5.500	2.00	11.583	11.98	17.667	2.25	23.75	1.50
5.583	2.00	11.667	11.98	17.750	2.25	23.83	1.50
5.667	2.00	11.750	36.94	17.833	2.25	23.92	1.50
5.750	2.00	11.833	36.94	17.917	2.25	24.00	1.50
5.833	2.00	11.917	94.84	18.000	2.25	24.08	1.50
5.917	2.00	12.000	94.85	18.083	2.25	24.17	1.50
6.000	2.00	12.083	152.75	18.167	2.25		
6.083	2.00	12.167	152.76	18.250	2.25		

Max.Eff.Inten.(mm/hr)=	152.76	123.94	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.67 (ii)	9.14 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.29	0.12	
PEAK FLOW (cms)=	0.22	0.52	*TOTALS*
TIME TO PEAK (hrs)=	12.17	12.17	0.735 (iii)
RUNOFF VOLUME (mm)=	123.80	72.32	81.07
TOTAL RAINFALL (mm)=	124.80	124.80	124.80
RUNOFF COEFFICIENT =	0.99	0.58	0.65

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

- (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)				
1 + 2 = 3				
ID1= 1 (0007):	10.36	0.985	12.42	81.68
+ ID2= 2 (0008):	3.04	0.735	12.17	81.07
=====				
ID = 3 (0010):	13.40	1.628	12.17	81.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010)				
3 + 2 = 1				
ID1= 3 (0010):	13.40	1.628	12.17	81.54
+ ID2= 2 (0009):	6.20	0.584	12.50	64.20
=====				
ID = 1 (0010):	19.60	1.975	12.17	76.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

=====

V	V	I	SSSSS	U	U	A	L	(v 6.2.2021)
O	V	I	SS	U	U	A	A	L
V	V	I	SS	U	U	AAAAA	L	
V	V	I	SS	U	U	A	A	L
VV	I	SSSSS	UUUUU	A	A	LLLLL		
OOO	TTTTT	TTTTT	H	H	Y	Y	M	M
O	O	T	T	H	H	Y	Y	MM
O	O	T	T	H	H	Y	M	M
OOO	T	T	H	H	Y	M	M	OOO

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voim.dat
Output filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d8e16
Summary filename: C:\Users\david.mcnaull\AppData\Local\Civica\vh5\0c476a68-1b47-4658-b1fd-9bb7ffcd1073\d8e16

DATE: 03-13-2026

TIME: 06:58:53

USER:

COMMENTS: _____

** SIMULATION : X- Timmins **

READ STORM	Filename: C:\Users\david.mcnaull\AppData\Local\Temp\38Fb46dd-c845-4d2b-9301-5d5a59ce4953\ddecdaed
Ptotal=193.00 mm	Comments: TIMMINS

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.00	15.00	3.00	3.00	6.00	43.00	9.00	13.00
0.50	15.00	3.50	3.00	6.50	43.00	9.50	13.00
1.00	20.00	4.00	5.00	7.00	20.00	10.00	13.00
1.50	20.00	4.50	5.00	7.50	20.00	10.50	13.00
2.00	10.00	5.00	20.00	8.00	23.00	11.00	8.00
2.50	10.00	5.50	20.00	8.50	23.00	11.50	8.00

CALIB	Area (ha)= 0.72		
STANDHYD (0005)	Total Imp(%)= 70.00	Dir. Conn.(%)= 70.00	
ID= 1 DT= 5.0 min			
Surface Area (ha)=	0.50	IMPERVIOUS	PERVIOUS (i)
Dep. Storage (mm)=	1.00		
Average slope (%)=	1.00		
Length (m)=	69.28		
Mannings n =	0.013		

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

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00

2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Max.Eff.Inten.(mm/hr)= 43.00 32.78
over (min) = 5.00 15.00
Storage Coeff. (min)= 2.87 (ii) 13.90 (ii)
Unit Hyd. Tpeak (min)= 5.00 15.00
Unit Hyd. peak (cms)= 0.28 0.08

TOTALS
PEAK FLOW (cms)= 0.06 0.02 0.079 (iii)
TIME TO PEAK (hrs)= 6.75 7.00 7.00
RUNOFF VOLUME (mm)= 192.00 124.21 171.65
TOTAL RAINFALL (mm)= 193.00 193.00 193.00
RUNOFF COEFFICIENT = 0.99 0.64 0.89

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0004) ID= 1 DT= 5.0 min	Area (ha)= 9.64 Total Imp(%)= 27.00	Dir. Conn.(%)= 16.00
--	--	----------------------

IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)= 2.60	7.04
Dep. Storage (mm)= 1.00	1.50
Average Slope (%)= 1.00	2.00
Length (m)= 253.51	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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00

2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Max.Eff.Inten.(mm/hr)= 43.00 39.36
over (min) = 5.00 20.00
Storage Coeff. (min)= 6.26 (ii) 16.50 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.19 0.06
TOTALS
PEAK FLOW (cms)= 0.18 0.72 0.907 (iii)
TIME TO PEAK (hrs)= 7.00 7.00 7.00
RUNOFF VOLUME (mm)= 192.00 130.38 140.24
TOTAL RAINFALL (mm)= 193.00 193.00 193.00
RUNOFF COEFFICIENT = 0.99 0.68 0.73

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0006) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0004):	9.64	0.907	7.00	140.24
+ ID2= 2 (0005):	0.72	0.079	7.00	171.65
ID = 3 (0006):	10.36	0.987	7.00	142.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0007) IN= 2---> OUT= 1 DT= 5.0 min	OVERFLOW IS OFF	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
**** WARNING : FIRST OUTFLOW IS NOT ZERO.		0.1231	0.0000	0.9421	0.1619
		0.1601	0.0754	1.0216	0.2200
		0.8851	0.1260	1.0368	0.2322

INFLOW : ID= 2 (0006)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
OUTFLOW: ID= 1 (0007)	10.360	0.987	7.00	142.42
	10.360	0.895	7.08	142.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 90.70
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.1354

CALIB NASHYD (0009) ID= 1 DT= 5.0 min	Area (ha)= 6.20 Ia (mm)= 5.00 U.H. Tp(hrs)= 0.44	Curve Number (CN)= 71.0 # of Linear Res.(N)= 3.00
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----							
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00

1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.538

PEAK FLOW (cms)= 0.488 (i)
TIME TO PEAK (hrs)= 7.083
RUNOFF VOLUME (mm)= 121.136
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.628

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

CALIB STANDHYD (0008) ID= 1 DT= 5.0 min	Area (ha)= 3.04 Total Imp(%)= 30.00	Dir. Conn.(%)= 17.00
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	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.91	2.13
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	142.36	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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00

2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Max.Eff.Inten.(mm/hr)=	43.00	40.91	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.43	14.52	(ii)
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.23	0.08	
			TOTALS
PEAK FLOW (cms)=	0.06	0.23	0.294 (iii)
TIME TO PEAK (hrs)=	6.92	7.00	7.00
RUNOFF VOLUME (mm)=	192.00	131.65	141.91
TOTAL RAINFALL (mm)=	193.00	193.00	193.00
RUNOFF COEFFICIENT =	0.99	0.68	0.74

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	10.36	0.895	7.08	142.46
+ ID2= 2 (0008):	3.04	0.294	7.00	141.91
=====				
ID = 3 (0010):	13.40	1.187	7.00	142.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0010) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0010):	13.40	1.187	7.00	142.33
+ ID2= 2 (0009):	6.20	0.488	7.08	121.14
=====				
ID = 1 (0010):	19.60	1.664	7.00	135.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.