Stormwater Management Report

Russell Farm – Southeast Georgetown

March 2025 — Project # 100160
Russell Pines Property Corp.

TYLin

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1 Introduction

TYLin has been retained by Russell Pines Property Corp. to prepare a Stormwater Management Report in support of the Draft Plan lands, referred to as the 'Site' throughout this report. The Site is bounded on the north by the Silver Creek and its associated valley lands, existing residential to the west along 10th Line, on the south by 10 Side Road, and on the east by natural heritage lands and Adamson Road. The lands are approximately 51.7 ha and are currently under active agriculture.

Refer to **Figure 1-1**.

This report will:

- Provide background information regarding the subject property.
- Provide information regarding the proposed development conditions, and
- Outline the design of the proposed stormwater management servicing and strategy for the Site.

The recommended stormwater management design has been developed in accordance with the applicable design criteria and requirements of the Municipality of Halton Hills and Credit Valley Conservation Authority (CVC), and considers the recommendations of the *Southeast Georgetown Scoped Subwatershed Study*' (SWS) by WSP was completed in September 2024.

See background information in **Appendix D**.

Figure 1-1: Location Plan

1.1 PROJECT BACKGROUND

The '*Preferred Land Use Alternative Paper*' by SGL was completed in September 2024. The Secondary Plan Study prepared a land use and infrastructure plan for the Southeast Georgetown area. The Secondary Plan considered the impacts of the future Norval West By-pass, located on the subject lands, as well as impacts of the updated Credit Valley Conservation (CVC) floodplain mapping within the study area.

The background planning and engineering studies for Southeast Georgetown Secondary Plan Area have been recently completed and form the basis for this report. The Phase 4 report, '*Southeast Georgetown Scoped Subwatershed Study*' by WSP was completed in September 2024. The objectives of the Scoped Subwatershed Study included ensuring the protection of natural heritage features and hydrological functions and involved detailed study to determine the limits of development, confirm the extent of the Natural Heritage System, and make preliminary stormwater management recommendations.

To facilitate traffic due to the increase in population due to the plan growth for the Southeast Georgetown Secondary Plan area, a new Norval West Bypass is proposed from Guelph Street (Highway 7) to 10 Side Road (Regional Road 10). Halton Region has initiated a Municipal Class Environmental Assessment (Municipal Class EA) for the bypass as well as road improvements for the surrounding roads and the EA is currently on-going. The bypass is proposed to vertically and

horizontally cut through the subject site.

1.2 Existing Conditions

The headwater features on site drain to three different sub watersheds within the CVC jurisdiction: Silver Creek in the north, Credit River in the southeast, and Levi Creek in the south-central region. Soils throughout the Site are Chinguacousy clay loam and fox sandy loam and are characterized as type BC and AB soils and as such have a generally low permeability.

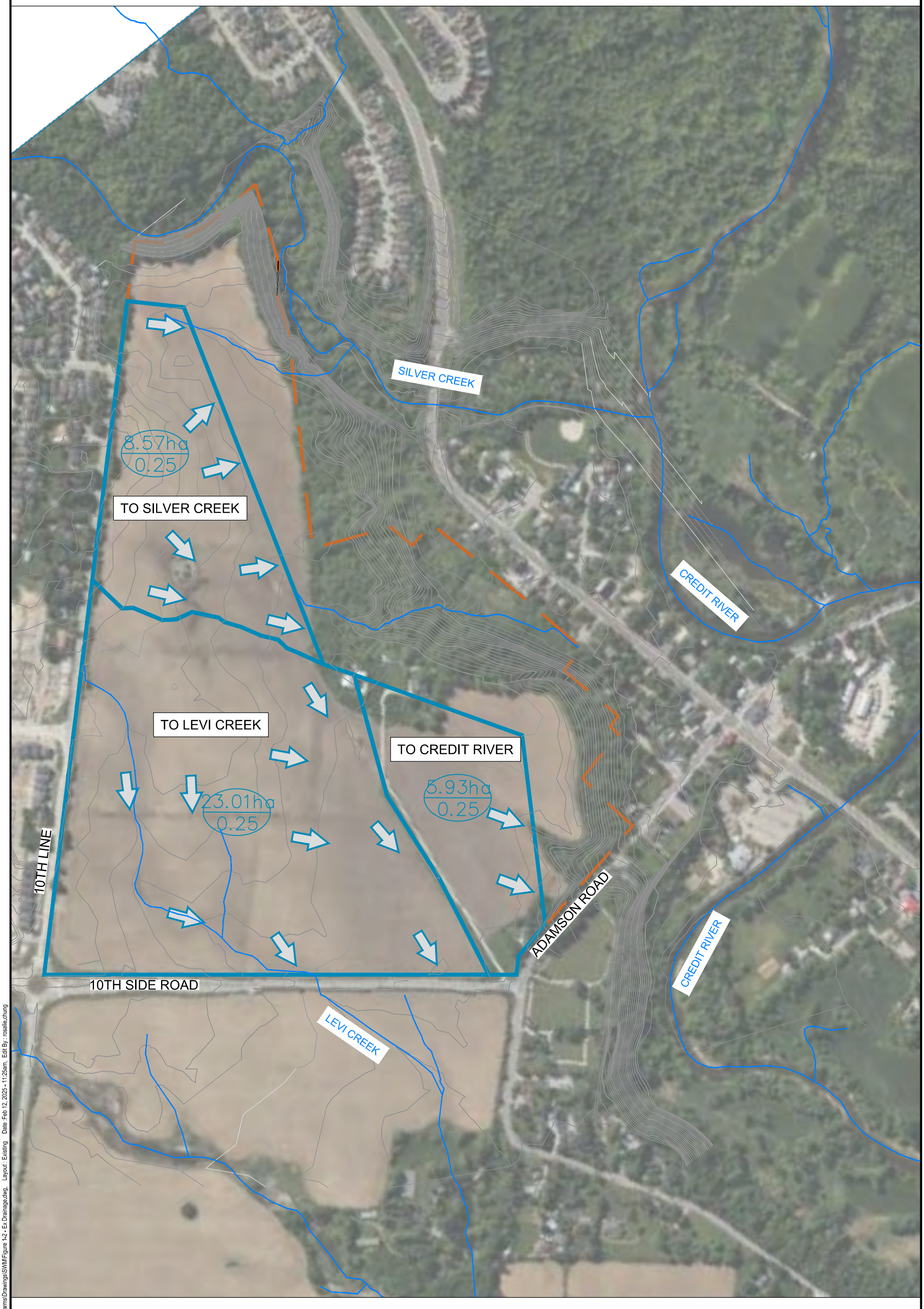
Based on the Greenbelt, Norval Bypass and other environmental limits, only a portion of the 51.7ha site is available for the development. **Table 1-1** summarizes the drainage areas within the developable portion of the Site, and **Table 1-2** summarizes the existing peak flows.

Table 1-1: Existing Developable Site Drainage Areas

Subwatershed	Drainage Area (ha)	Time to Peak (hr.)	Runoff Coefficient (CN) Average Weighted
Silver Creek	8.57	0.47	64
Levi Creek	23.01	0.87	69
Credit River	5.93	0.49	71
TOTAL	37.51		

Table 1-2: Existing Peak Flows

Subwatershed	Return Period Peak Flow (m^3/s)					
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Silver Creek	0.116	0.219	0.258	0.416	0.511	0.612
Levi Creek	0.281	0.516	0.603	0.953	1.160	1.374
Credit River	0.094	0.173	0.203	0.323	0.394	0.468



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EXISTING DRAINAGE AREAS

FIELDGATE - RUSSELL FARM

SCALE: 1:5,000		PROJECT No. 100160
DATE: FEBRUARY 2025		
DESIGNED BY:	DRAWN BY:CAD	FIGURE No. 1-2
CHECKED BY:	CHECKED BY:	

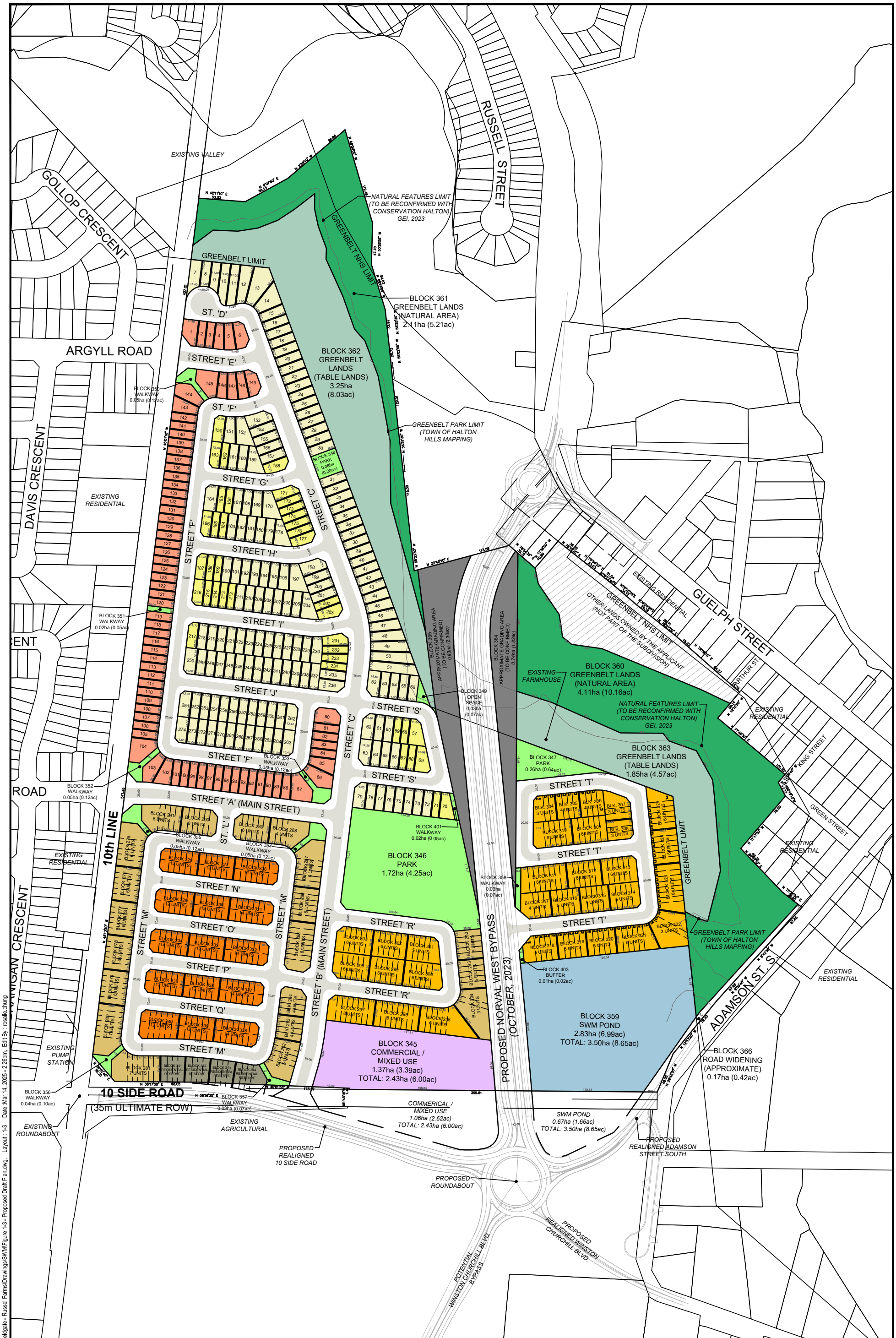
File : G:\Projects\2024\100160 - Fieldgate - Russel Farms\Drawings\SWM\Figure 1-2 - Ex Drainage.dwg, Layout : Existing Date :Feb 12, 2025 - 11:25am, Edit By : rosalie.chung

1.3 PROPOSED CONDITIONS

The Site is held within the single ownership of Russell Pines Property Corp. and is intended to be developed into a residential community with a mix of housing types with community and commercial spaces. In addition to the planned development, the future Norval Bypass bisects the Site and will connect a realigned Winston Churchill Blvd. in the south to Guelph Street/Highway 7 in the north. The Draft Plan for the Site as shown in **Figure 1-3**, is approximately 52 ha and the distribution of land uses is provided in **Table 1-3**.

Table 1-3: Proposed Land Use (Draft Plan dated January 30, 2025)

Land Use	Area (ha)
Single Detached Lots	9.52
Townhomes	8.19
Residential Reserve	0.32
Commercial/Mixed Use	1.37
Park/Open Space/Walkway/Servicing/Buffer	2.47
Stormwater Pond	2.83
Greenbelt Lands	6.22
Tableland Greenbelt	5.10
Road Widening	0.17
Local Roads	8.23
Collector Roads	3.11
Norval Bypass and Grading	4.33
TOTAL	51.86



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PROPOSED DRAFT PLAN
FIELDGATE - RUSSELL FARM

SCALE: 1:4,000			PROJECT No. 100160
DATE: FEBRUARY 2025			
DESIGNED BY: RC	DRAWN BY: RC		FIGURE No. 1-3
CHECKED BY: AK	CHECKED BY: LK		

File : G:\Projects\2024\100160 - Fieldgate - Russel Farms\Drawings\SWM\Figure 1-3 - Proposed Draft Plan.dwg, Layout : 1-3 Date : Mar 14, 2025 - 2:26pm, Edit By : rosalie.chung

2 Stormwater Management

The hydrology analysis for this report has been completed using Visual Otthymo (VO) and is based on the MECP 2003 Stormwater Management Planning & Design (SWMPD), the Town of Halton Hills (1999), the Credit Valley Conservation (CVC) Authority "Stormwater Management Guideline" (2022).

2.1 Stormwater Management Background

As noted in **Section 1.1,** the WSP SWS made preliminary recommendations regarding stormwater management for the future development. The report also provides information on the studies and reports to be undertaken as the development process move forwards.

The WSP report presents a stormwater management strategy that shows the majority of the Site draining to stormwater ponds located east and west of the future Bypass and discharging to the Levi Creek headwaters, with on-site LID measures for the balance of the lands draining to Silver Creek and the Credit River.

At the time of the WSP report, the alignment of the Bypass had not been established and the WSP report spoke to the potential of alternative stormwater solutions.

Similarly, regarding the implementation of LID measures to provide stormwater treatment in the Silver Creek and Credit River sub watersheds, relatively little information was available on the Site hydrogeology conditions and infiltration potential. A further discussion on the limiting groundwater and infiltration potential is provided in **Section 2.3.1.2**, and an alternative LID strategy is proposed based on surface type LIDs located in the Tableland Greenbelt areas.

As shown in **Figure 1-3** the Bypass location will ultimately be located further to the east and as such an alternative development plan is now proposed and includes a single stormwater facility located east of the Bypass ROW. The deviation from the plan presented in the WSP report necessitated a change to the Site's drainage strategy.

In reviewing the future Bypass and development plan a number of constraints and complications were identified. The foremost constraint is the existing elevation of the Levi Creek receiving watercourse. The elevation and condition of the Levi Creek headwater drainage feature that was identified as the stormwater receiver in the WSP report, presents a significant drainage and design challenge because it is a poorly defined shallow surficial feature on the landscape.

An excessive amount of fill and grading across the Site would be needed to achieve a stormwater servicing strategy and stormwater facility for the Site that discharges to Levi Creek, that also follows the standards of servicing depth and provides a gravity driven outlet. Additionally, only a small portion of the Bypass ROW would be able to drain to the single stormwater facility given the elevation of the Levi Creek outlet.

This constraint is further exacerbated by the profile of the future Bypass which is, by contrast proposed to be lower than the surrounding lands in the northern half of the Site. It will not be possible to raise the portions of the development Site adjacent to the Bypass without increasing

the extent of the footprint and height of the grading slopes for the Bypass.

It has been determined through an iterative grading and drainage analysis that the Levi Creek outlet is not viable as the main stormwater outlet for the Site. Discussions with Agency staff through the SWS process indicated that an alternative outlet to the Credit River could be pursued. It is anticipated that the diversion of flows from Levi Creek will have negligible impact to the watercourses or the natural heritage system as less than 1% of the drainage area will be diverted.

The Credit River has a greater receiving capacity in terms of relative flows and is at a much lower elevation than the existing, poorly defined Levi Creek headwater swales. The single Pond strategy has merit in that no serious impacts have been identified, and further it will create a more balanced site with regards to drainage and grading impacts, and results in enhanced land use opportunities and efficiencies to achieve a much more cohesive overall community. More information is being gathered to assess the outlet to the Credit River and the mitigation that may be required if impacts to the watercourse or channel corridor are identified.

2.2 Stormwater Management Design Criteria

Stormwater management for the Site is required to address the following criteria:

- **Stormwater Quality Control:** 'Enhanced' Total Suspended Solids (TSS) removal according to MECP criteria through use of site, conveyance or end of pipe measures.
- **Erosion Control:** Detain the runoff generated by the 25 mm storm event for 48 hours.
- **Stormwater Quantity Control:** Control post development runoff to predevelopment peak flow rates for return period storm 2-Year to 100-Year
- **Thermal Impact Mitigation:** Mitigation of increased runoff temperature being discharged to the natural system per the MNRF Guidelines
- **Site Water Balance:** Maintain predevelopment site recharge to shallow groundwater system per Source Protection Plan: CTC Source Protection Region (2015).

2.3 Stormwater Management Strategy

The proposed stormwater strategy will include a stormwater treatment pond as shown on the Draft Plan, located east of the Bypass and another facility located in the Silver Creek sub watershed within the tableland Greenbelt. Flow to Levi Creek will be maintained to the extent feasible by diverting runoff from the commercial block located west of the Bypass ROW and the residential rear lots north of the commercial/mixed-use block only due to site limitations further described in **Section 2.3.1**.

The proposed strategy for the Site maintains existing drainage patterns to the extent possible and provides opportunities for maintaining recharge throughout the Site. The following sections

provide functional level details on the stormwater management strategy and the proposed stormwater infrastructure.

This report addresses stormwater management within the Draft Plan area and partially addresses the future ultimate scenario in which the stormwater management pond is expanded, Norval West Bypass, realignment of Winston Churchill Blvd, Side Road 10, Adamson St S. and the roundabout are in place.

2.3.1 Site Limitations

2.3.1.1 Existing Ground and Proposed Norval Bypass Limitations

As mentioned in **Section 1.2**, the Site drains to three different subwatersheds. Typically, the Site would be graded to outlet in a similar fashion to the same three subwatersheds. However, the outlet to Levi Creek is at the headwater where the watercourse is not well defined and shallow. In order to drain the Site with storm sewers, the Site will need to be graded at least 2.5m above the existing ground to provide sufficient cover for the sewers. However, the proposed grades for the Norval Bypass as well as the other realigned roads and roundabout is proposed to remain similar to the existing grades or lower which makes it challenging to grade the Site to match the proposed road grades.

Whereas the Credit River is located in a deep valley which provides approximately 20m of elevation difference, which allows for a lower outfall. Therefore, the Site will not be required to be raised as much and can better match the proposed grades along the existing boundary roads and future proposed roads.

In the scoped subwatershed study the Levi Creek where the Site outlets during existing condition was recommended to be preserved. However, the roundabout and the proposed realigned Winston Churchill Boulevard has the same alignment as the existing Levi Creek which will create a discontinuous watercourse.

2.3.1.2 High Groundwater Limitations and Low Hydraulic Conductivity

Based on the site-specific hydrogeological report, the groundwater varies between 0.4m and 18.17m below ground surface. The hydraulic conductivity of the clayey glacial tills is on the order of 10^{-7} to 10^{-8} m/s and the surficial silty sand was measured to be 10^{-7} m/s. The glacial till is an aquitard with very low groundwater flow rates and limited groundwater transmission. The sandy patches that are found within the Site are discontinuous and in a moist to wet condition. As such, it doesn't represent a significant groundwater transmission zone or aquifer.

Therefore, infiltration into the deeper ground layer may not provide significant benefit. Surficial infiltration to retain runoff can still provide some erosion control and water balance for the Site. Due to the soil limitations, the low impact development most suitable for the Site are bio-swales and increased topsoil in landscaped areas.

Deeper infiltration facilities can be feasible at locations where the groundwater is deeper below ground. Detail design of these facilities will be subject to further groundwater monitoring and in-situ infiltration testing as per Appendix C of the LID Manual.

2.3.2 Proposed Drainage Areas

Two facilities are proposed to satisfy the stormwater management criteria for the Site: one located in the Silver Creek subwatershed, and one located in the Credit River sub watershed. The post development drainage areas are as summarized in **Table 2-1** and illustrated on **Figure 2-1.** The areas identified as tableland Greenbelt, road widening, and portions of the Bypass are not included in the post development stormwater drainage assessment as they are not tributary to either of the facilities.

The SWM Pond located east of the Bypass will accept drainage from a majority of the Site and a portion of the Bypass. This facility will discharge to the Credit River and will be overcontrolled to match existing peak flows.

The Silver Creek facility is proposed as an underground storage tank, located in the Tableland Greenbelt.

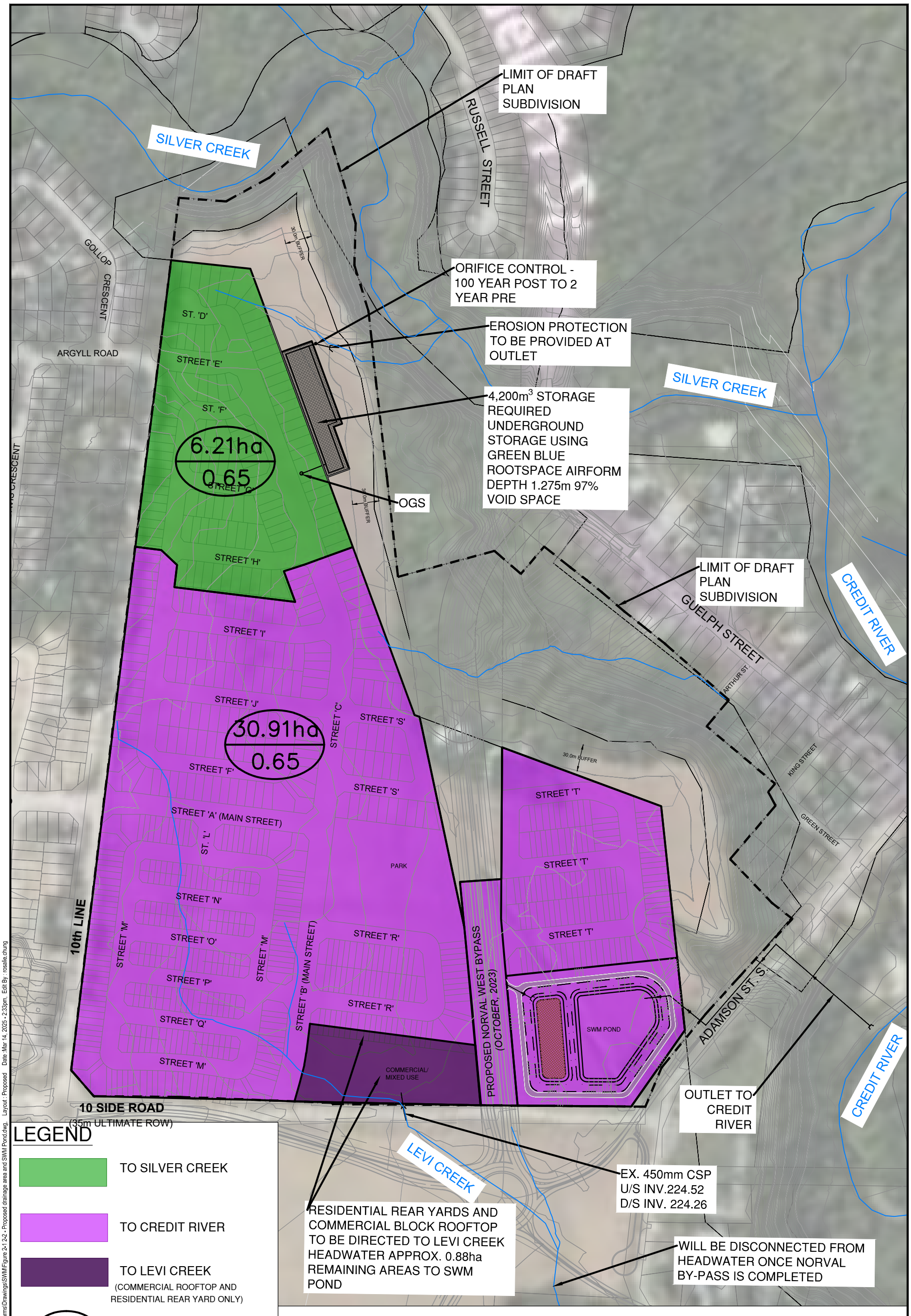
Flow to Levi Creek will be maintained to the extent feasible by diverting runoff from the local residential rooftops and commercial/mixed-use block rooftops located west of the Bypass ROW and the residential rear lots north of the commercial/mixed-use block (Blocks 295-297).

Where applicable, the Site has been modelled using Visual OTTHYMO (VO). Hydrology model output and stormwater calculations are provided in **Appendix A**.

Table 2-1: Site Drainage Areas

Drainage Area Description	Drainage Area (ha)	Composite Runoff Coefficient
Silver Creek	6.21	0.65
Levi Creek[1]	0.88	0.75
Credit River[2]	30.91	0.65

[1] Commercial rooftop and rear yard of residential lots north of the commercial site to be directed to Levi Creek.
[2] Includes the area to Levi Creek to size the SWM pond conservatively



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PROPOSED STORMWATER STRATEGY

FIELDGATE - RUSSELL FARM

SCALE: N.T.S.		PROJECT No.	100160
DATE: FEBRUARY 2025			
DESIGNED BY: RC	DRAWN BY: RC	FIGURE No.	2-1
CHECKED BY: AK	CHECKED BY: LK		

2.3.3 Erosion Control

The SWM facilities proposed within each of the catchment areas will provide erosion detention of post development runoff.

In the northern Silver Creek underground storage facility, sufficient dead storage will be provided to capture runoff from the 25 mm rainfall event with no outflow., and runoff will infiltrate into the soil underneath.

For the drainage area to the SWM facility, the erosion storage requirement was calculated by using VO to determine the volume of runoff generated by the 25mm storm. The peak flow target was calculated by determining the average outflow to retain the resulting runoff volume for 48 hours. The estimated peak flow target is 1.5 times the average outflow.

The design of the SWM Pond will incorporate a flow structure to provide the required extended detention storage and outflow. A summary of the erosion storage and outflow is in **Table 2-2**, below and calculations are provided in **Appendix A**.

Table 2-2: Erosion Control Targets

SWM Facility	25mm Runoff Depth (mm)	Erosion Storage (m^3)	Peak Outflow (m^3/s)
Silver Creek	25.00	1,552	n/a
Credit River	15.47	4,781	0.041

2.3.4 Water Quality Control

Water quality treatment for the Silver Creek SMW facility will be provided via an OGS unit located upstream of the underground storage facility. Several types of units have certification to provide Enhanced 80% TSS removal and the specific unit will be identified during the detailed design stage.

Water quality treatment for the Credit River facility will be provided via the permanent pool which has been designed in accordance with the MOE SWM Planning & Design Manual, to meet an Enhanced level of protection, which is consistent with the SWM design criteria. With a total tributary area of 30.91 ha and average imperviousness of 64%, the SWM Pond facility requires a permanent pool volume of 5,295 m^3. The total permanent pool volume provided within SWM Pond is 20,672 m^3 which exceeds the volumes required.

The proposed flow to Levi Creek is from the commercial building rooftops and adjacent residential rear lots. The runoff, which is considered clean, will require no additional water quality treatment.

Calculations are provided in **Appendix A**.

2.3.5 Water Quantity Control

The proposed development will be required to provide water quantity control to reduce the 2-year through 100-year design storm post-development peak flows to targets based on existing peak flows. Target release rates were set for each development sub catchment as summarized in **Table 1-2.** The Visual OTTHYMO hydrologic model was used to determine the required storage and outflow conditions for each facility.

A test model was simulated using the 6-hour AES, the 4-hour Chicago and the 24-hour SCS distribution. Results indicate that the 24-hour SCS storm requires the largest or most conservative volume and results presented below are based on that distribution.

The required and provided quantity storage volumes for each SWM facility is summarized in **Table 2-3**, **Table 2-4**, and **Table 2-5**. The detailed output files can be found in **Appendix A**.

The storage is provided within the proposed LID for Silver Creek and within the proposed SWM pond for Credit River. Additional 2.4.1

Table 2-3: Silver Creek Quantity Control Requirements

Return Period	Target Flow (m^3/s)	Modeled Peak Flow (m^3/s)	Required Storage (m^3)	Provided Storage (m^3)
2-year	0.116	0.038	1,390	4,200
5-year	0.219	0.057	2,050	4,200
10-year	0.258	0.063	2,270	4,200
25-year	0.416	0.086	3,130	4,200
50-year	0.511	0.100	3,610	4,200
100-year	0.612	0.113	4,100	4,200

Table 2-4: Credit River Quantity Control Requirements

Return Period	Target Flow (m^3/s)	Modeled Peak Flow (m^3/s)	Required Storage (m^3)	Provided Storage (m^3)*
2-year	0.094	0.093	8,660	23,940
5-year	0.173	0.169	12,380	23,940
10-year	0.203	0.199	13,630	23,940
25-year	0.323	0.318	18,210	23,940
50-year	0.394	0.386	20,780	23,940
100-year	0.468	0.434	23,470	23,940

* Detailed provided storage for each storm event will be provided during detailed design. The provided storage in the table represents the maximum storage provided with the SWM Pond.

Table 2-5: Levi Creek Quantity Control Requirements

Return Period	Target Flow (m^3/s)	Modeled Peak Flow (m^3/s)	Required Storage (m^3)*
2-year	0.281	0.051	n/a
5-year	0.516	0.073	n/a
10-year	0.603	0.080	n/a
25-year	0.953	0.108	n/a
50-year	1.16	0.123	n/a
100-year	1.374	0.138	n/a

* no quantity control required

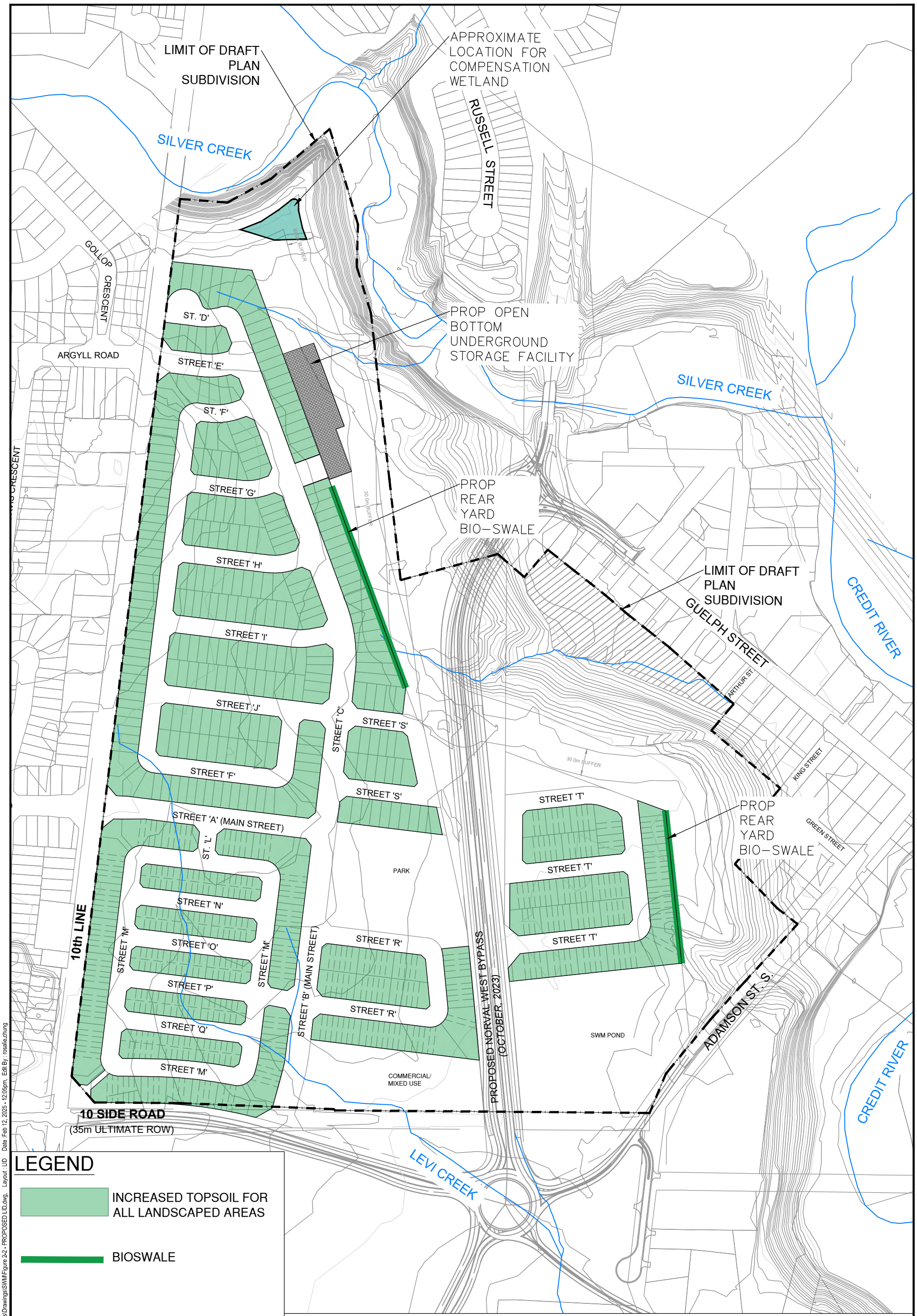
2.3.6 Water Balance/Runoff Reduction

The site water balance will be provided through the implementation of LID facilities for the development. As per the hydrogeologic studies, site conditions are not optimal for infiltration for most areas on the Site due to high groundwater. Therefore, the intent of the design is to maximize the potential infiltration to the extent feasible and with a focus on surface infiltration such as bio-swales and increased topsoil on landscaped areas.

As mentioned previously, the design of the underground storage facility in Silver Creek will incorporate a dead storage volume and an open bottom to allow for infiltration. The dead storage volume is based on retaining 25mm from the contributing catchment area. The proposed location for the underground storage facility is in a rare location where groundwater is deeper below ground and an open bottom infiltration facility is feasible. However, the design of the underground storage facility is subject to change depending on further groundwater monitoring data.

In two locations within the Tableland Greenbelt to the southeast, the use of surface type bio-swales will be used where possible to provide opportunities for infiltration and evapotranspiration. In combination, allowing for both evapotranspiration and infiltration to occur will maximize the site's retention potential, and mimic existing conditions to the extent that is practically feasible.

The proposed LID locations are illustrated on **Figure 2-2**.



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PROPOSED LOW IMPACT DEVELOPMENT (LID)
FIELDGATE - RUSSELL FARM

SCALE: N.T.S.			PROJECT No. 100160
DATE: FEBRUARY 2025			
DESIGNED BY: RC	DRAWN BY: RC		FIGURE No. 2-2
CHECKED BY: AK	CHECKED BY: LK		

File : G:\Projects\2024\100160 - Fieldgate - Russel Farms\Drawings\SWM\Figure 2-2 - PROPOSED LID.dwg, Layout : LID Date: Feb 12, 2025 - 12:05pm, Edit By: rosalie.chung

2.4 STORMWATER INFRASTRUCTURE

2.4.1 Stormwater Facilities

As previously discussed, the stormwater treatment facilities proposed for the Site include a Wet Pond (**Figure 2-3**) and an underground stormwater storage facility LID (**Figure 2-4**).

Stormwater Pond

The SWM Pond has been designed as a wet pond with an active storage volume and a permanent pool volume. All reasonable assumptions have been made based on current standard engineering practice and the drawings are considered preliminary designs to support the draft plan. The preliminary design of the SWM pond has been completed to establish the required size of the SWM block to ensure sufficient lands are provided. The initial drafting process of the SWM pond was iterative and attempted to optimize use of the SWM block and minimize impacts to the surrounding lands. Outfall configurations and specific locations at this time have not been established. What has been shown at this level is a conceptual design of the outlet location and elevation to demonstrate feasibility.

During the detailed design process, coordination with several disciplines including but not limited to; ecology, fluvial geomorphology, engineering, and hydrogeology will be required to establish the outlets and outfall locations. Options for outlet treatments will be discussed at the detailed design and will be coordinated with more detailed investigations.

Several assumptions were made when optimizing the design grading of the pond; these assumptions are listed below:

- The side slopes within the ponds are 5:1 below the permanent pool as well as 5:1 between the high-water level and the permanent pool.
- The side slopes on the outside of the pond are 3:1 and were graded to match the existing ground and proposed grades at the pond block boundaries.
- The access road is currently located around the SWM facility at the free board elevation.
- The width of the access road is 5.0m. The purpose of the access road is to provide a suitable road for machinery at the time of maintenance to reach the outlet/inlet structures and the bottom of the sediment forebays to be properly cleaned.
- Freeboard for the SWM pond is provided in compliance with SWM design criteria above the 100-year active storage water level.
- Invert elevations of inlet pipes in the SWM facilities were assumed at the permanent pool elevation.
- The pond outlets discharge to the Credit River via outlet sewer.
- Further detailed design will be completed in accordance with the Town Subdivision Manual. Refinements will be made to the inlet and outlet structures, and access roads.

Underground Storage Facility LID

The underground stormwater facility proposed in the north end of the Site is proposed to be in the tableland Greenbelt, just off the rear lots along Street C. The proposed underground storage will provide 4,200m^3 of active storage and 1,552m^3 of dead storage for infiltration.

The underground storage will discharge to a draw which eventually drains to Silver Creek.

A conceptual design and cross section of the underground storage facility is shown on **Figure 2-4**. During detail design, the depth and configuration of the underground storage will be reconfigured according to groundwater level measurements and soil type under the proposed underground storage area. In-situ infiltration testing of the area according to the LID guidelines will also be required.

DESCRIPTION	REQUIRED STORAGE	PROVIDED STORAGE
PERMANENT POOL EL.220.00 – EL.221.50	5,295 m^3	17,204 m^3
ACTIVE POOL EL.221.50 – EL.223.30	23,473 m^3	23,937 m^3

POND GEOMETRIC DATA	
ITEM	DATA
DRAINAGE AREA	30.91 HA
POND BLOCK AREA	2.83 HA
PERMANENT POOL ELEV.	221.50m
BOTTOM OF POND ELEV.	220.00m
HWL	223.00m
FREE BOARD ELEV=ACCESS RD ELEV.	223.00m
POND SLOPES	5:1

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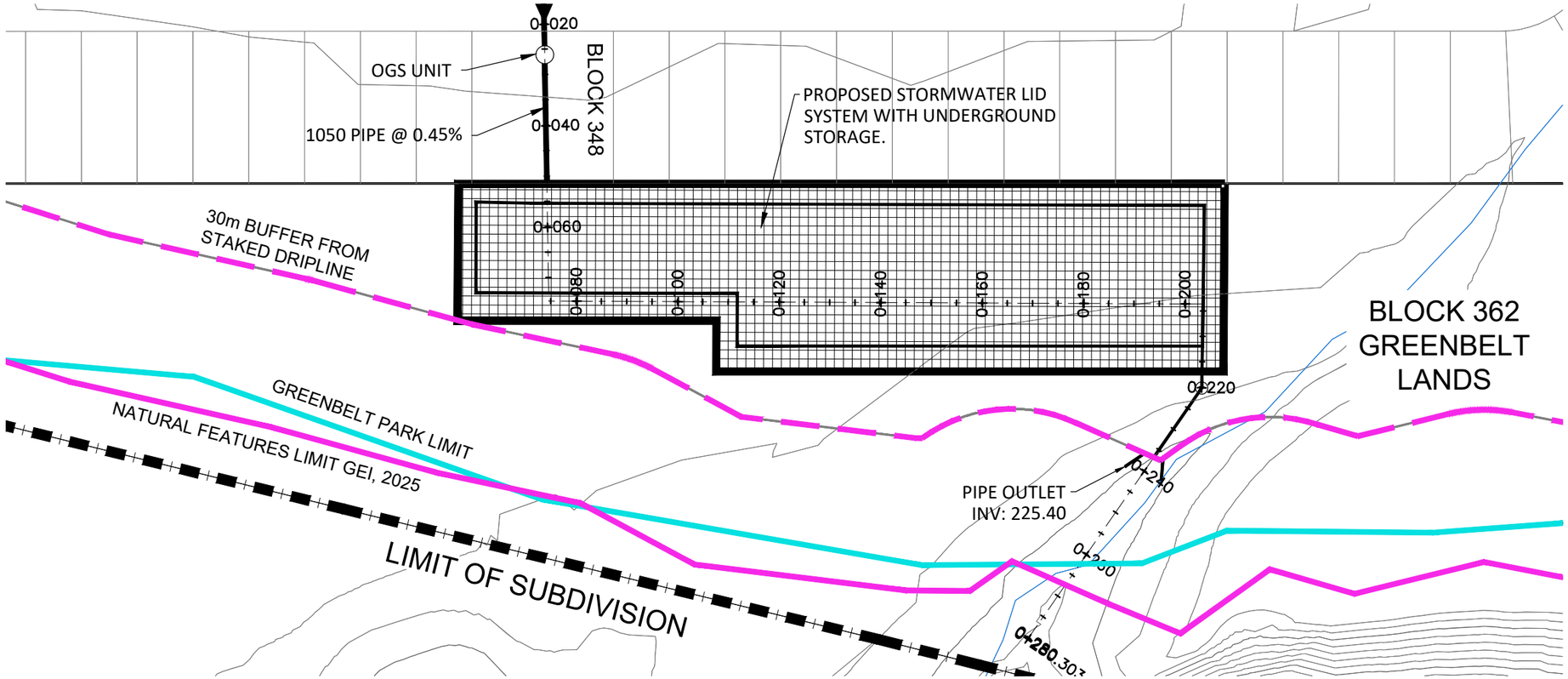
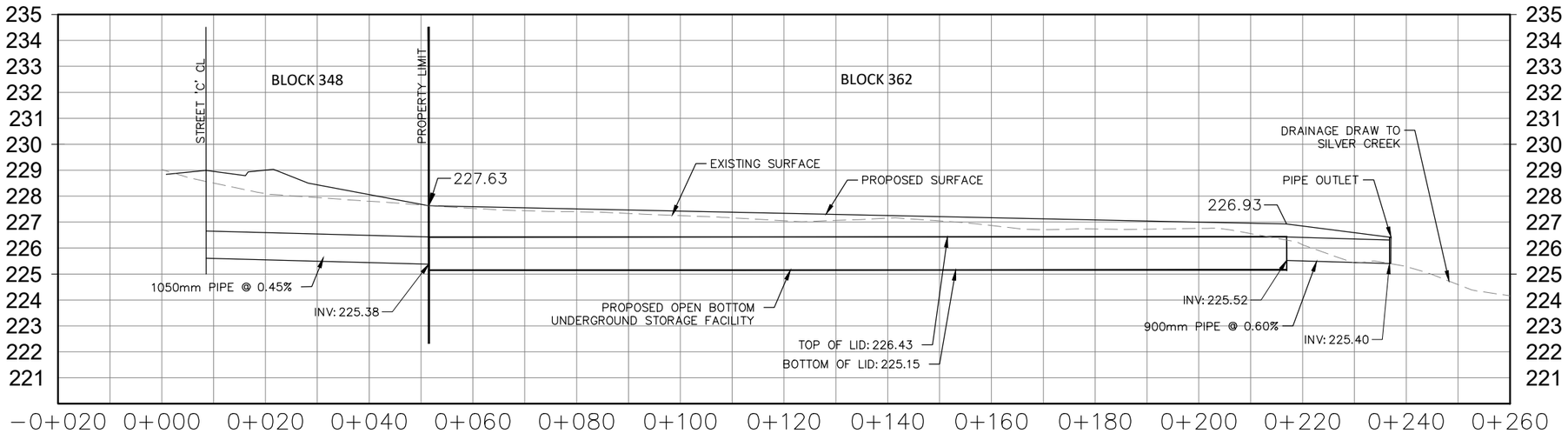
PROPOSED SWM POND
RUSSELL PINES PROPERTY CORP.

SCALE: 1:1,500		PROJECT No.	100160
DATE: MARCH 2025			
DESIGNED BY: RC	DRAWN BY:CAD	FIGURE No.	2-3
CHECKED BY: AK	CHECKED BY: LK		





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PROPOSED UNDERGROUND STORAGE FACILITY

PROPOSED LID

RUSSELL PINES PROPERTY CORP.

SCALE: NTS			PROJECT No. 100160
DATE: MARCH 2025			
DESIGNED BY: RC	DRAWN BY:CAD		FIGURE No. 2-4
CHECKED BY: AK	CHECKED BY: LK		

2.4.2 Minor System Flows

Minor system drainage networks will convey flows to the stormwater treatment facilities. A storm sewer design sheet has been developed for the ROW and accounts for the drainage conditions described above. The storm sewer design sheet and drainage plan are provided in **Appendix B.**

The storm sewers within the proposed development will be designed to convey the runoff from a 5-year storm event.

2.4.3 Major System Flows

A portion of the northern overland flows will be directed to an Oil Grit Separator (OGS) located in Block 348. This OGS will play a pivotal role in treating the stormwater by removing sediment, oil, and debris before it is conveyed to an underground storage system.

On the southern side of the development, the major system flows are carefully managed by directing runoff to Street 'R', located west of the bypass. The runoff will then be conveyed through a dedicated pipe system. This system will channel the flows to the SWM pond located east of the bypass. The use of a dedicated pipe system ensures that the stormwater does not flow across the Bypass ROW and is managed in a controlled manner, reducing the potential for localized flooding and maintaining the integrity of the stormwater infrastructure.

The area north of the SWM pond is planned to direct runoff towards the Norval Bypass. This runoff will drain to a located low point along the bypass, from where it will be captured and conveyed to the SWM pond.

The drainage from the commercial/mixed-use block rooftops and adjacent residential rear lots within the development will be conveyed to the Levi Creek system. This integration of the commercial area's stormwater into the Levi Creek drainage network is a critical aspect of the overall stormwater management strategy. It ensures that the commercial/mixed use block runoff is handled in an environmentally responsible manner, contributing to the overall sustainability of the development

A preliminary storm sewer network and overland flow routes for the proposed development has been prepared and presented in **Appendix C.**

2.4.4 Proposed Stormwater Outlet Connection

The largest deviation from the recommendation of the Scoped Subwatershed study is the change in drainage outlet for the proposed SWM Pond. As discussed in **Section 2.3.1** the existing Levi Creek drainage feature is not a feasible stormwater outlet. The alternative solution being proposed is to discharge treated stormwater flows to the Credit River which is a much larger system. The Credit River is located east of the Site and provides a suitable outlet in terms of proximity of location and elevation.

The SWM Pond outlet is proposed be located along the southeastern limit of the Pond Block

and the outlet sewer will cross Adamson Road and continue in a northeasterly direction before being directed to the discharge location. Land use in the area is primarily residential with the exception being the Hillcrest Cemetery located near the intersection of 10 Side Road and Adamson Road. A storm easement through a vacant lot is proposed to convey flows to the Credit River. To secure the lands for the storm easement, agreement and coordination with the current landowner will be pursued.

The outlet preliminary plan and profile is in **Appendix C.** The storm sewer is proposed to discharge to the Credit River and as per CVC requirements will discharge flows at a location above the 25-year floodplain elevation. In this area, based on documentation received from CVC, the discharge location is in close proximity to Cross Section 15.844 which has a 25-year flood elevation of 199.34m.

The outfall headwall will be located with consideration for the 100-year Erosion Hazard Limit which will be determined once the outlet location is secured. Disturbances to the existing natural heritage will be avoided and/or minimized to the extent possible. Guidance for the design of the outlet will be taken from Appendix C of the Stormwater Management Guideline (CVC 2022). Access to the headwall and outlet structure for maintenance will be determined once the location is finalized. The most suitable access location is via an irregularly shaped property that extends to the discharge location, and fronts onto Guelph Street.

3 Ultimate Condition

As mentioned previously, the Bypass design includes not only the ROW bisecting the Site, but also includes a roundabout, the widening and realignment of 10 Side Road and Adamson Road, a realigned Winston Churchill Blvd and a potential Winston Churchill Blvd Bypass.

As shown on **Figure 1-3**, the configuration of the proposed ROWs creates open areas south of the Site where both the SWM Pond and the Commercial area could be extended. South of 10 Side Road, a headwater tributary of Levi Creek flows southeast. The tributary feature currently flows through the future roundabout and the proposed realigned Winston Churchill Blvd. Based on the size and location of the proposed ROWs; this feature will be heavily impacted.

A preliminary design for the ultimate stormwater pond has been drafted for the larger block size and the additional volume creates an opportunity for portions of the new Regional infrastructure to receive stormwater treatment. The extended Pond Block area creates a facility with 29% more volume. The increase in drainage area has been estimated and is not based on evaluating potential ROW drainage conditions.

Table 3-1 provides the estimated storage availability in the interim and ultimate scenario.

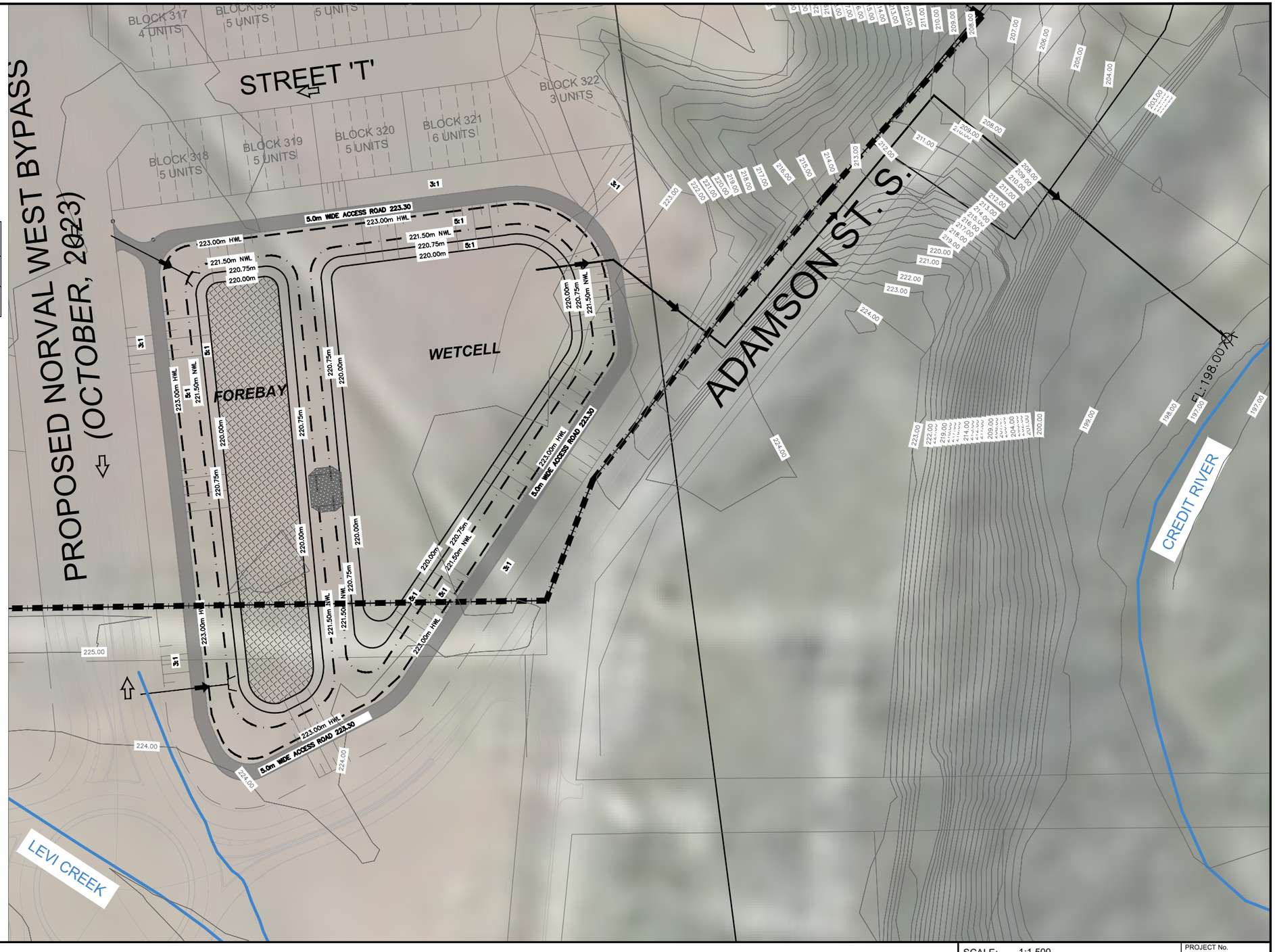
Table 3-1: Ultimate Stormwater Management Pond

Scenario	Drainage Area (ha)	Imperiousness	Permanent Pool (m^3/s)	Active Storage (m^3/s)
Interim	30.91	65%	17,204	23,937
Ultimate	37.00	70%	22,174	30,936

Currently the Municipal Class Environmental Assessment (EA) Study for Norval West Bypass Transportation Corridor Improvements Study is in progress and the preliminary drainage studies and design of this new infrastructure is not available. Coordination with the Region and EA team will be undertaken throughout the development process.

DESCRIPTION	REQUIRED STORAGE	PROVIDED STORAGE
PERMANENT POOL EL.220.00 – EL.221.50	6,792 m^3	22,174 m^3
ACTIVE POOL EL.221.50 – EL.223.30	30,560 m^3	30,936 m^3

POND GEOMETRIC DATA	
ITEM	DATA
DRAINAGE AREA	37.00 HA
ULTIMATE POND BLOCK AREA	3.50 HA
PERMANENT POOL ELEV.	221.50m
BOTTOM OF POND ELEV.	220.00m
HWL	223.00m
FREE BOARD ELEV=ACCESS RD ELEV.	223.00m
POND SLOPES	5:1



TYLin
3381 Steeles Ave. East,
Suite 315
Toronto, ON
M2H 3S8
p: 905.738.5700

PROPOSED ULTIMATE SWM POND
FIELDGATE - RUSSEL FARMS

SCALE: 1:1,500		PROJECT No.	100160
DATE: FEBRUARY 2025			
DESIGNED BY: RC	DRAWN BY:CAD	FIGURE No.	3-1
CHECKED BY: AK	CHECKED BY: LK		

4 Conclusions

We trust you find the contents of this report satisfactory. Should you have any questions or comments please do not hesitate to contact the undersigned.

Sincerely,

T.Y. LIN INTERNATIONAL CANADA INC.

Rosalie Chung, P. Eng.
Water Resource Engineer

Laura Koyanagi. B.Sc
Project Manager

Appendix A Stormwater Management Calculations

Soil Type - CN Values

PROJECT: Fieldgate - Russell Farm
PROJECT #: 100160
DATE: Jan-25
MUNICIPALITY: Halton Hills

Existing Condition CN Value Calculation

Subject Site Draining to Silvert Creek

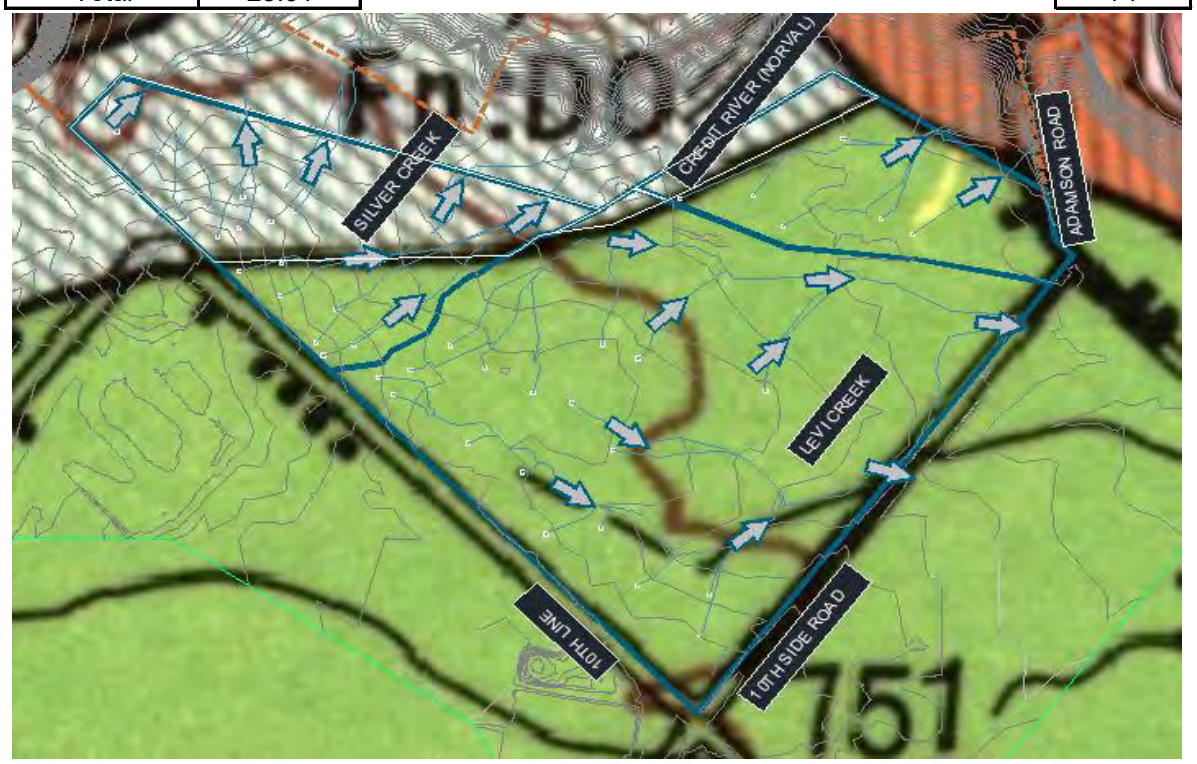
Cover	Area (ha)	Soil Type	Hydrologic Soil Group	CN value	
Cultivated	2.15	loam to clay loam	BC	71	
Cultivated	6.42	Sandy Loam	AB	62	
Cultivated					
Total	8.57			64	← Weighted CN value

Subject Site Draining to Norval of Port Credit

Cover	Area (ha)	Soil Type	Hydrologic Soil Group	CN value	
Cultivated	4.91	loam to clay loam	BC	71	
Cultivated	1.02	Sandy Loam	AB	62	
Cultivated					
Total	5.93			69	← Weighted CN value

Subject Site Draining to Levi Creek

Cover	Area (ha)	Soil Type	Hydrologic Soil Group	CN value	
Cultivated	22.81	loam to clay loam	BC	71	
Cultivated	0.20	Sandy Loam	AB	62	
Cultivated					
Total	23.01			71	← Weighted CN value



MAP SYMBOL		SOIL TYPE	ACREAGE	GREAT GROUP	PARENT MATERIALS	DRAINAGE CLASS
Be	BERRIEN	sandy loam	1,300	Gray Brown Luvisol	Medium sand over clay	Imperfectly drained
Ba	BRADY	sandy loam	1,900	Gray Brown Luvisol	Medium sand	Imperfectly drained
Bs	BRADY	sandy loam—shallow phase	250	Gray Brown Luvisol	Medium sand over rock	Imperfectly drained
Bl	BRISBANE	loam	400	Gray Brown Luvisol	Outwash gravel	Imperfectly drained
Bu	BURFORD	loam	4,400	Gray Brown Luvisol	Outwash gravel	Well drained
Br	BURFORD	loam—rocky phase	500	Gray Brown Luvisol	Outwash gravel over bedrock	Well drained
Fl	FOX	sandy loam	4,500	Gray Brown Luvisol	Outwash medium sand	Well drained
Cl	CHINGUACOUSY	loam	150	Gray Brown Luvisol	Clay loam till	Imperfectly drained
Ch	CHINGUACOUSY	clay loam	50,650	Gray Brown Luvisol	Clay loam till	Imperfectly drained

Time of Concentration & Time to Peak Calculation - Airport Method

PROJECT: Fieldgate - Russell Farm
PROJECT #: 100160
DATE: 12/11/2024
MUNICIPALITY: Halton Hills

Area to Silver Creek- North

Input:

Drainage Area =	8.57	ha	
Runoff Coefficient (C) =	0.25		
Watershed Length =	367	m	
High Point =	234	m	
Low Point =	227	m	
Watershed Slope =	(234 - 226.5) / 367 * 100		
=	2.04	%	

Output:

$t_c = 3.26 * (1.1-C) * L^{0.5} * S_w^{-0.33}$

= 41.9 min

= 0.70 hr

where:
t_c = time of concentration, minutes
C = runoff coefficient
L = watershed length, m
S_w = watershed sloe, %

$t_p = 0.67 * t_c$

= 0.47 hr

where:
t_p = time to peak, hr

Area to Norval to Port Credit- South East

Input:

Drainage Area =	5.93	ha
Runoff Coefficient (C) =	0.25	
Watershed Length =	301	m
High Point =	226	m
Low Point =	222	m
Watershed Slope =	(226 - 222) / 300.6 * 100	
=	1.33	%

Output:

t_c = 3.26 * (1.1-C) * $L^{0.5}$ * $S_w^{-0.33}$

= 43.7 min

= 0.73 hr

where: t_c = time of concentration, minutes; C = runoff coefficient; L = watershed length, m; S_w = watershed sloe, %

t_p = 0.67 * t_c

= 0.49 hr

where: t_p = time to peak, hr

Area to Levi Creek South West

Input:

Drainage Area =	23.01	ha
Runoff Coefficient (C) =	0.25	
Watershed Length =	680	m
High Point =	230	m
Low Point =	224	m
Watershed Slope =	(229.5 - 224) / 680 * 100	
=	0.81	%

Output:

t_c = 3.26 * (1.1-C) * $L^{0.5}$ * $S_w^{-0.33}$

= 77.5 min

= 1.29 hr

where: t_c = time of concentration, minutes; C = runoff coefficient; L = watershed length, m; S_w = watershed sloe, %

t_p = 0.67 * t_c

= 0.87 hr

where: t_p = time to peak, hr

Project: Russel Farms - Georgetown
Project No: 100160
Date: Jan 2025

SWM Pond Requirements

Land Use	**Area** (ha)	**Imperviouness** (%)		
	30.91	64.0%		
Enhanced Water Quality Storage Requirement for a Wet Pond **(MOE SWM Planning & Design Manual - March 2003)**				
Impervious Level	35%	55%	70%	85%
Storage Volume (m^3/ha)	100	150	185	210
	64.0%	Impervious		
	171.29	m^3/ha		
Required Storage Volume	**5,295**	**m^3**		
Extended Detention Storage Requirement for a Wet Pond **(MOE SWM Planning & Design Manual - March 2003)**				
Extended Detention Unit Rate Storage Volume	40	m^3/ha		
Required Extended Detention Storage Volume	**1,236**	**m^3**		

Ultimate SWM Pond Storage Calculations

Project#: 100160
Date: Jan 2025

POND CHARACTERISTICS

Base of Pond:	220.00	
N.W.L.:	221.50	masl
Increment for Volume:	0.1	m
Required Permanent Pool Volume:	**6,792**	m^3
Permanent Pool Volume Provided:	**22,174**	m^3

VOLUME

Known Water Level: 199.00

	INCL. P.P.	ACTIVE ONLY
Lower Known Elevation:	#N/A	
Lower Known Volume:	#N/A	
Upper Known Elevation:	#N/A	
Upper Known Volume:	#N/A	
Volume of Known W.L. Elevation:	**#N/A**	**#N/A**
Erosion Control Storage Required:		**4,946**
Active Storage Required:		**34,891**

Water Level of Known Volume

Known Volume: 0 29099

	INCL. P.P.	ACTIVE ONLY
Lower Known Elevation:	220	221.50
Lower Known Volume:	0	0.00
Upper Known Elevation:	220.75	223.00
Upper Known Volume:	9939.5565	30935.70
W.L. Elevation of Known Volume:	**220.00**	**222.91**

STAGE / STORAGE INFORMATION

	Elevation (m)	Stage (m)	Area 1 (m^2)	Area 2 (m^2)	Total Area (m^2)	Avg. Area (m^2)	Incremental Storage (m^3)	Cumulative Storage (m^3)	Cumulative Storage above Permanent Pool (m^3)
Pond Base:	220.00	0.00	3,973.8	7,800.8	11,774.6		0.0		
	220.75	0.75	5,343.1	9,387.8	14,730.8	13,252.7	9,939.6	**9,940**	**0**
N.W.L.:	221.50	1.50	6,863.6	11,030.7	17,894.3	16,312.6	12,234.4	**22,174**	**0**
HWL	223.00	3.00	23,353.3		23,353.3	20,623.8	30,935.7	**53,110**	**30,936**
Free Board	223.30	3.30	24,312.1		24,312.1	23,832.7	7,149.8	**60,259**	**38,086**

Project: Russel Farms - Georgetown
Project No: 100160
Date: Jan 2025

Ultimate SWM Pond Requirements

Land Use	**Area** (ha)	**Imperviouness** (%)		
	37.00	70.0%		
Enhanced Water Quality Storage Requirement for a Wet Pond (MOE SWM Planning & Design Manual - March 2003)				
Impervious Level	35%	55%	70%	85%
Storage Volume (m^3/ha)	100	150	185	210
	70.0%	Impervious		
	183.58	m^3/ha		
Required Storage Volume	**6,792**	**m^3**		
Extended Detention Storage Requirement for a Wet Pond (MOE SWM Planning & Design Manual - March 2003)				
Extended Detention Unit Rate Storage Volume	40	m^3/ha		
Required Extended Detention Storage Volume	**1,480**	**m^3**		

SWM Pond Storage Calculations

Project#: 100160
Date: Jan 2025

POND CHARACTERISTICS

Base of Pond:	220.00	
N.W.L.:	221.50	masl
Increment for Volume:	0.1	m
Required Permanent Pool Volume:	**5,295**	m^3
Permanent Pool Volume Provided:	**17,204**	m^3

VOLUME

Known Water Level:	199.00	
	INCL. P.P.	ACTIVE ONLY
Lower Known Elevation:	#N/A	
Lower Known Volume:	#N/A	
Upper Known Elevation:	#N/A	
Upper Known Volume:	#N/A	
Volume of Known W.L. Elevation:	**#N/A**	**#N/A**
Erosion Control Storage Required:		**4,946**
Active Storage Required:		**34,891**

Water Level of Known Volume

Known Volume:	0	29099
	INCL. P.P.	ACTIVE ONLY
Lower Known Elevation:	220	223.00
Lower Known Volume:	0	23937.22
Upper Known Elevation:	220.75	223.30
Upper Known Volume:	7752.195	29491.33
W.L. Elevation of Known Volume:	**220.00**	**223.28**

STAGE / STORAGE INFORMATION

	Elevation (m)	Stage (m)	Area 1 (m^2)	Area 2 (m^2)	Total Area (m^2)	Avg. Area (m^2)	Incremental Storage (m^3)	Cumulative Storage (m^3)	Cumulative Storage above Permanent Pool (m^3)
Pond Base:	220.00	0.00	2,351.1	6,910.0	9,261.1		0.0		
	220.75	0.75	3,246.3	8,165.1	11,411.4	10,336.3	7,752.2	**7,752**	**0**
N.W.L.:	221.50	1.50	4,256.9	9,536.3	13,793.2	12,602.3	9,451.7	**17,204**	**0**
HWL	223.00	3.00	18,123.1		18,123.1	15,958.1	23,937.2	**41,141**	**23,937**
Free Board	223.30	3.30	18,904.3		18,904.3	18,513.7	5,554.1	**46,695**	**29,491**

Erosion Control Volume and Release Rate

PROJECT: Russel Farms
PROJECT #: 100160
DATE: Jan-25
MUNICIPALITY: Halton Hills

SWM Pond to Credit River

Input:

Area = 30.909 (ha)

R.V = 15.467 (mm)

Draw Down Time = 48 (hrs)

Calculations:

Storage = 4,781 (m^3)

Average Outflow = 0.028 (m^3/s)

Peak Outflow = 0.041 (m^3/s) - Estimated at 1.5 times Average Outflow

Run	NHYD	FlowType	DT [hr]	AREA [ha]	PKFW [m^3/s]	TP [hr]	RV [mm]
25MM4HR	17	Outflow	0.083	30.909	1.614	1.583	15.467

Run	NHYD	FlowType	DT [hr]	AREA [ha]	PKFW [m³/s]	TP [hr]	RV [mm]
s01- 2 yr SCS	1	Outflow	0.083	8.570	0.116	13.167	13.051
s02 - 5 yr SCS	1	Outflow	0.083	8.570	0.219	13.167	24.013
s03 - 10 yr SCS	1	Outflow	0.083	8.570	0.258	13.167	28.127
s04 - 25 yr SCS	1	Outflow	0.083	8.570	0.416	13.167	44.742
s05 - 50 yr SCS	1	Outflow	0.083	8.570	0.511	13.167	54.634
s06 - 100 yr SCS	1	Outflow	0.083	8.570	0.612	13.167	64.995

Run	NHYD	FlowType	DT [hr]	AREA [ha]	PKFW [m³/s]	TP [hr]	RV [mm]
s01- 2 yr SCS	2	Outflow	0.083	23.012	0.281	13.667	16.369
s02 - 5 yr SCS	2	Outflow	0.083	23.012	0.516	13.667	29.367
s03 - 10 yr SCS	2	Outflow	0.083	23.012	0.603	13.667	34.151
s04 - 25 yr SCS	2	Outflow	0.083	23.012	0.953	13.583	53.116
s05 - 50 yr SCS	2	Outflow	0.083	23.012	1.160	13.583	64.201
s06 - 100 yr SCS	2	Outflow	0.083	23.012	1.374	13.583	75.687

Run	NHYD	FlowType	DT [hr]	AREA [ha]	PKFW [m³/s]	TP [hr]	RV [mm]
s01- 2 yr SCS	3	Outflow	0.083	5.930	0.094	13.250	15.336
s02 - 5 yr SCS	3	Outflow	0.083	5.930	0.173	13.167	27.727
s03 - 10 yr SCS	3	Outflow	0.083	5.930	0.203	13.167	32.316
s04 - 25 yr SCS	3	Outflow	0.083	5.930	0.323	13.167	50.605
s05 - 50 yr SCS	3	Outflow	0.083	5.930	0.394	13.167	61.352
s06 - 100 yr SCS	3	Outflow	0.083	5.930	0.468	13.167	72.523

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

     V   V  I   SSSSS  U   U   A   L          (v 6.2.2015)
     V   V  I   SS     U   U  A A  L
      V V   I    SS    U   U  AAAAA  L
      V V   I     SS   U   U  A   A  L
       VV   I   SSSSS  UUUUU  A   A  LLLLL

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     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   OOO
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DATE: 01/10/2025                    TIME: 01:00:05

USER:


COMMENTS: _____


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


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| Ptotal= 55.20 mm |   Comments: 2-Year SCS: Pearson Intl Airport
--------------------
            TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
             hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
            0.00    0.00 |  7.00    1.05 | 14.00    2.65 | 21.00    0.72
            1.00    0.55 |  8.00    1.16 | 15.00    1.93 | 22.00    0.66
            2.00    0.66 |  9.00    1.49 | 16.00    1.38 | 23.00    0.66
            3.00    0.72 | 10.00    1.88 | 17.00    1.27 | 24.00    0.61
```

4.00	0.72	11.00	2.98	18.00	1.05
5.00	0.77	12.00	23.63	19.00	0.88
6.00	0.99	13.00	6.02	20.00	0.77

CALIB	
NASHYD (0001)	Area (ha)= 8.57 Curve Number (CN)= 64.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00

--- U.H. Tp(hrs)= 0.47

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	6.333	0.99	12.583	23.63	18.83	1.05
0.167	0.00	6.417	0.99	12.667	23.63	18.92	1.05
0.250	0.00	6.500	0.99	12.750	23.63	19.00	1.05
0.333	0.00	6.583	0.99	12.833	23.63	19.08	0.88
0.417	0.00	6.667	0.99	12.917	23.63	19.17	0.88
0.500	0.00	6.750	0.99	13.000	23.63	19.25	0.88
0.583	0.00	6.833	0.99	13.083	6.02	19.33	0.88
0.667	0.00	6.917	0.99	13.167	6.02	19.42	0.88
0.750	0.00	7.000	0.99	13.250	6.02	19.50	0.88
0.833	0.00	7.083	1.05	13.333	6.02	19.58	0.88
0.917	0.00	7.167	1.05	13.417	6.02	19.67	0.88
1.000	0.00	7.250	1.05	13.500	6.02	19.75	0.88
1.083	0.55	7.333	1.05	13.583	6.02	19.83	0.88
1.167	0.55	7.417	1.05	13.667	6.02	19.92	0.88
1.250	0.55	7.500	1.05	13.750	6.02	20.00	0.88
1.333	0.55	7.583	1.05	13.833	6.02	20.08	0.77
1.417	0.55	7.667	1.05	13.917	6.02	20.17	0.77
1.500	0.55	7.750	1.05	14.000	6.02	20.25	0.77
1.583	0.55	7.833	1.05	14.083	2.65	20.33	0.77
1.667	0.55	7.917	1.05	14.167	2.65	20.42	0.77
1.750	0.55	8.000	1.05	14.250	2.65	20.50	0.77
1.833	0.55	8.083	1.16	14.333	2.65	20.58	0.77
1.917	0.55	8.167	1.16	14.417	2.65	20.67	0.77
2.000	0.55	8.250	1.16	14.500	2.65	20.75	0.77
2.083	0.66	8.333	1.16	14.583	2.65	20.83	0.77
2.167	0.66	8.417	1.16	14.667	2.65	20.92	0.77
2.250	0.66	8.500	1.16	14.750	2.65	21.00	0.77
2.333	0.66	8.583	1.16	14.833	2.65	21.08	0.72
2.417	0.66	8.667	1.16	14.917	2.65	21.17	0.72
2.500	0.66	8.750	1.16	15.000	2.65	21.25	0.72
2.583	0.66	8.833	1.16	15.083	1.93	21.33	0.72
2.667	0.66	8.917	1.16	15.167	1.93	21.42	0.72
2.750	0.66	9.000	1.16	15.250	1.93	21.50	0.72
2.833	0.66	9.083	1.49	15.333	1.93	21.58	0.72
2.917	0.66	9.167	1.49	15.417	1.93	21.67	0.72
3.000	0.66	9.250	1.49	15.500	1.93	21.75	0.72
3.083	0.72	9.333	1.49	15.583	1.93	21.83	0.72
3.167	0.72	9.417	1.49	15.667	1.93	21.92	0.72
3.250	0.72	9.500	1.49	15.750	1.93	22.00	0.72
3.333	0.72	9.583	1.49	15.833	1.93	22.08	0.66
3.417	0.72	9.667	1.49	15.917	1.93	22.17	0.66
3.500	0.72	9.750	1.49	16.000	1.93	22.25	0.66
3.583	0.72	9.833	1.49	16.083	1.38	22.33	0.66
3.667	0.72	9.917	1.49	16.167	1.38	22.42	0.66
3.750	0.72	10.000	1.49	16.250	1.38	22.50	0.66
3.833	0.72	10.083	1.88	16.333	1.38	22.58	0.66
3.917	0.72	10.167	1.88	16.417	1.38	22.67	0.66
4.000	0.72	10.250	1.88	16.500	1.38	22.75	0.66
4.083	0.72	10.333	1.88	16.583	1.38	22.83	0.66
4.167	0.72	10.417	1.88	16.667	1.38	22.92	0.66
4.250	0.72	10.500	1.88	16.750	1.38	23.00	0.66
4.333	0.72	10.583	1.88	16.833	1.38	23.08	0.66
4.417	0.72	10.667	1.88	16.917	1.38	23.17	0.66
4.500	0.72	10.750	1.88	17.000	1.38	23.25	0.66
4.583	0.72	10.833	1.88	17.083	1.27	23.33	0.66
4.667	0.72	10.917	1.88	17.167	1.27	23.42	0.66
4.750	0.72	11.000	1.88	17.250	1.27	23.50	0.66
4.833	0.72	11.083	2.98	17.333	1.27	23.58	0.66
4.917	0.72	11.167	2.98	17.417	1.27	23.67	0.66
5.000	0.72	11.250	2.98	17.500	1.27	23.75	0.66
5.083	0.77	11.333	2.98	17.583	1.27	23.83	0.66
5.167	0.77	11.417	2.98	17.667	1.27	23.92	0.66
5.250	0.77	11.500	2.98	17.750	1.27	24.00	0.66
5.333	0.77	11.583	2.98	17.833	1.27	24.08	0.61
5.417	0.77	11.667	2.98	17.917	1.27	24.17	0.61
5.500	0.77	11.750	2.98	18.000	1.27	24.25	0.61
5.583	0.77	11.833	2.98	18.083	1.05	24.33	0.61
5.667	0.77	11.917	2.98	18.167	1.05	24.42	0.61
5.750	0.77	12.000	2.98	18.250	1.05	24.50	0.61
5.833	0.77	12.083	23.62	18.333	1.05	24.58	0.61
5.917	0.77	12.167	23.63	18.417	1.05	24.67	0.61
6.000	0.77	12.250	23.63	18.500	1.05	24.75	0.61
6.083	0.99	12.333	23.63	18.583	1.05	24.83	0.61
6.167	0.99	12.417	23.63	18.667	1.05	24.92	0.61
6.250	0.99	12.500	23.63	18.750	1.05	25.00	0.61

Unit Hyd Qpeak (cms)= 0.696

PEAK FLOW (cms)= 0.116 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 13.051
TOTAL RAINFALL (mm)= 55.200
RUNOFF COEFFICIENT = 0.236

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

CALIB	
NASHYD (0002)	Area (ha)= 23.01 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)= 0.87

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	6.333	0.99	12.583	23.63	18.83	1.05
0.167	0.00	6.417	0.99	12.667	23.63	18.92	1.05
0.250	0.00	6.500	0.99	12.750	23.63	19.00	1.05
0.333	0.00	6.583	0.99	12.833	23.63	19.08	0.88
0.417	0.00	6.667	0.99	12.917	23.63	19.17	0.88
0.500	0.00	6.750	0.99	13.000	23.63	19.25	0.88
0.583	0.00	6.833	0.99	13.083	6.02	19.33	0.88
0.667	0.00	6.917	0.99	13.167	6.02	19.42	0.88
0.750	0.00	7.000	0.99	13.250	6.02	19.50	0.88
0.833	0.00	7.083	1.05	13.333	6.02	19.58	0.88
0.917	0.00	7.167	1.05	13.417	6.02	19.67	0.88
1.000	0.00	7.250	1.05	13.500	6.02	19.75	0.88
1.083	0.55	7.333	1.05	13.583	6.02	19.83	0.88
1.167	0.55	7.417	1.05	13.667	6.02	19.92	0.88
1.250	0.55	7.500	1.05	13.750	6.02	20.00	0.88
1.333	0.55	7.583	1.05	13.833	6.02	20.08	0.77
1.417	0.55	7.667	1.05	13.917	6.02	20.17	0.77
1.500	0.55	7.750	1.05	14.000	6.02	20.25	0.77
1.583	0.55	7.833	1.05	14.083	2.65	20.33	0.77
1.667	0.55	7.917	1.05	14.167	2.65	20.42	0.77
1.750	0.55	8.000	1.05	14.250	2.65	20.50	0.77
1.833	0.55	8.083	1.16	14.333	2.65	20.58	0.77
1.917	0.55	8.167	1.16	14.417	2.65	20.67	0.77
2.000	0.55	8.250	1.16	14.500	2.65	20.75	0.77
2.083	0.66	8.333	1.16	14.583	2.65	20.83	0.77
2.167	0.66	8.417	1.16	14.667	2.65	20.92	0.77
2.250	0.66	8.500	1.16	14.750	2.65	21.00	0.77
2.333	0.66	8.583	1.16	14.833	2.65	21.08	0.72
2.417	0.66	8.667	1.16	14.917	2.65	21.17	0.72
2.500	0.66	8.750	1.16	15.000	2.65	21.25	0.72
2.583	0.66	8.833	1.16	15.083	1.93	21.33	0.72
2.667	0.66	8.917	1.16	15.167	1.93	21.42	0.72
2.750	0.66	9.000	1.16	15.250	1.93	21.50	0.72
2.833	0.66	9.083	1.49	15.333	1.93	21.58	0.72
2.917	0.66	9.167	1.49	15.417	1.93	21.67	0.72
3.000	0.66	9.250	1.49	15.500	1.93	21.75	0.72
3.083	0.72	9.333	1.49	15.583	1.93	21.83	0.72
3.167	0.72	9.417	1.49	15.667	1.93	21.92	0.72
3.250	0.72	9.500	1.49	15.750	1.93	22.00	0.72
3.333	0.72	9.583	1.49	15.833	1.93	22.08	0.66
3.417	0.72	9.667	1.49	15.917	1.93	22.17	0.66
3.500	0.72	9.750	1.49	16.000	1.93	22.25	0.66
3.583	0.72	9.833	1.49	16.083	1.38	22.33	0.66
3.667	0.72	9.917	1.49	16.167	1.38	22.42	0.66
3.750	0.72	10.000	1.49	16.250	1.38	22.50	0.66
3.833	0.72	10.083	1.88	16.333	1.38	22.58	0.66
3.917	0.72	10.167	1.88	16.417	1.38	22.67	0.66
4.000	0.72	10.250	1.88	16.500	1.38	22.75	0.66
4.083	0.72	10.333	1.88	16.583	1.38	22.83	0.66
4.167	0.72	10.417	1.88	16.667	1.38	22.92	0.66
4.250	0.72	10.500	1.88	16.750	1.38	23.00	0.66
4.333	0.72	10.583	1.88	16.833	1.38	23.08	0.66
4.417	0.72	10.667	1.88	16.917	1.38	23.17	0.66
4.500	0.72	10.750	1.88	17.000	1.38	23.25	0.66
4.583	0.72	10.833	1.88	17.083	1.27	23.33	0.66
4.667	0.72	10.917	1.88	17.167	1.27	23.42	0.66
4.750	0.72	11.000	1.88	17.250	1.27	23.50	0.66
4.833	0.72	11.083	2.98	17.333	1.27	23.58	0.66
4.917	0.72	11.167	2.98	17.417	1.27	23.67	0.66
5.000	0.72	11.250	2.98	17.500	1.27	23.75	0.66
5.083	0.77	11.333	2.98	17.583	1.27	23.83	0.66
5.167	0.77	11.417	2.98	17.667	1.27	23.92	0.66
5.250	0.77	11.500	2.98	17.750	1.27	24.00	0.66
5.333	0.77	11.583	2.98	17.833	1.27	24.08	0.61
5.417	0.77	11.667	2.98	17.917	1.27	24.17	0.61
5.500	0.77	11.750	2.98	18.000	1.27	24.25	0.61
5.583	0.77	11.833	2.98	18.083	1.05	24.33	0.61
5.667	0.77	11.917	2.98	18.167	1.05	24.42	0.61
5.750	0.77	12.000	2.98	18.250	1.05	24.50	0.61
5.833	0.77	12.083	23.62	18.333	1.05	24.58	0.61
5.917	0.77	12.167	23.63	18.417	1.05	24.67	0.61
6.000	0.77	12.250	23.63	18.500	1.05	24.75	0.61
6.083	0.99	12.333	23.63	18.583	1.05	24.83	0.61
6.167	0.99	12.417	23.63	18.667	1.05	24.92	0.61
6.250	0.99	12.500	23.63	18.750	1.05	25.00	0.61

Unit Hyd Qpeak (cms)= 1.010

PEAK FLOW (cms)= 0.281 (i)
TIME TO PEAK (hrs)= 13.667
RUNOFF VOLUME (mm)= 16.369
TOTAL RAINFALL (mm)= 55.200
RUNOFF COEFFICIENT = 0.297

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

CALIB	
NASHYD (0003)	Area (ha)= 5.93 Curve Number (CN)= 69.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.49

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	6.333	0.99	12.583	23.63	18.83	1.05
0.167	0.00	6.417	0.99	12.667	23.63	18.92	1.05
0.250	0.00	6.500	0.99	12.750	23.63	19.00	1.05
0.333	0.00	6.583	0.99	12.833	23.63	19.08	0.88

0.417	0.00 | 6.667	0.99 |12.917	23.63 | 19.17	0.88		
0.500	0.00 | 6.750	0.99 |13.000	23.63 | 19.25	0.88		
0.583	0.00 | 6.833	0.99 |13.083	6.02 | 19.33	0.88		
0.667	0.00 | 6.917	0.99 |13.167	6.02 | 19.42	0.88		
0.750	0.00 | 7.000	0.99 |13.250	6.02 | 19.50	0.88		
0.833	0.00 | 7.083	1.05 |13.333	6.02 | 19.58	0.88		
0.917	0.00 | 7.167	1.05 |13.417	6.02 | 19.67	0.88		
1.000	0.00 | 7.250	1.05 |13.500	6.02 | 19.75	0.88		
1.083	0.55 | 7.333	1.05 |13.583	6.02 | 19.83	0.88		
1.167	0.55 | 7.417	1.05 |13.667	6.02 | 19.92	0.88		
1.250	0.55 | 7.500	1.05 |13.750	6.02 | 20.00	0.88		
1.333	0.55 | 7.583	1.05 |13.833	6.02 | 20.08	0.77		
1.417	0.55 | 7.667	1.05 |13.917	6.02 | 20.17	0.77		
1.500	0.55 | 7.750	1.05 |14.000	6.02 | 20.25	0.77		
1.583	0.55 | 7.833	1.05 |14.083	2.65 | 20.33	0.77		
1.667	0.55 | 7.917	1.05 |14.167	2.65 | 20.42	0.77		
1.750	0.55 | 8.000	1.05 |14.250	2.65 | 20.50	0.77		
1.833	0.55 | 8.083	1.16 |14.333	2.65 | 20.58	0.77		
1.917	0.55 | 8.167	1.16 |14.417	2.65 | 20.67	0.77		
2.000	0.55 | 8.250	1.16 |14.500	2.65 | 20.75	0.77		
2.083	0.66 | 8.333	1.16 |14.583	2.65 | 20.83	0.77		
2.167	0.66 | 8.417	1.16 |14.667	2.65 | 20.92	0.77		
2.250	0.66 | 8.500	1.16 |14.750	2.65 | 21.00	0.77		
2.333	0.66 | 8.583	1.16 |14.833	2.65 | 21.08	0.72		
2.417	0.66 | 8.667	1.16 |14.917	2.65 | 21.17	0.72		
2.500	0.66 | 8.750	1.16 |15.000	2.65 | 21.25	0.72		
2.583	0.66 | 8.833	1.16 |15.083	1.93 | 21.33	0.72		
2.667	0.66 | 8.917	1.16 |15.167	1.93 | 21.42	0.72		
2.750	0.66 | 9.000	1.16 |15.250	1.93 | 21.50	0.72		
2.833	0.66 | 9.083	1.49 |15.333	1.93 | 21.58	0.72		
2.917	0.66 | 9.167	1.49 |15.417	1.93 | 21.67	0.72		
3.000	0.66 | 9.250	1.49 |15.500	1.93 | 21.75	0.72		
3.083	0.72 | 9.333	1.49 |15.583	1.93 | 21.83	0.72		
3.167	0.72 | 9.417	1.49 |15.667	1.93 | 21.92	0.72		
3.250	0.72 | 9.500	1.49 |15.750	1.93 | 22.00	0.72		
3.333	0.72 | 9.583	1.49 |15.833	1.93 | 22.08	0.66		
3.417	0.72 | 9.667	1.49 |15.917	1.93 | 22.17	0.66		
3.500	0.72 | 9.750	1.49 |16.000	1.93 | 22.25	0.66		
3.583	0.72 | 9.833	1.49 |16.083	1.38 | 22.33	0.66		
3.667	0.72 | 9.917	1.49 |16.167	1.38 | 22.42	0.66		
3.750	0.72 |10.000	1.49 |16.250	1.38 | 22.50	0.66		
3.833	0.72 |10.083	1.88 |16.333	1.38 | 22.58	0.66		
3.917	0.72 |10.167	1.88 |16.417	1.38 | 22.67	0.66		
4.000	0.72 |10.250	1.88 |16.500	1.38 | 22.75	0.66		
4.083	0.72 |10.333	1.88 |16.583	1.38 | 22.83	0.66		
4.167	0.72 |10.417	1.88 |16.667	1.38 | 22.92	0.66		
4.250	0.72 |10.500	1.88 |16.750	1.38 | 23.00	0.66		
4.333	0.72 |10.583	1.88 |16.833	1.38 | 23.08	0.66		
4.417	0.72 |10.667	1.88 |16.917	1.38 | 23.17	0.66		
4.500	0.72 |10.750	1.88 |17.000	1.38 | 23.25	0.66		
4.583	0.72 |10.833	1.88 |17.083	1.27 | 23.33	0.66		
4.667	0.72 |10.917	1.88 |17.167	1.27 | 23.42	0.66		
4.750	0.72 |11.000	1.88 |17.250	1.27 | 23.50	0.66		
4.833	0.72 |11.083	2.98 |17.333	1.27 | 23.58	0.66		
4.917	0.72 |11.167	2.98 |17.417	1.27 | 23.67	0.66		
5.000	0.72 |11.250	2.98 |17.500	1.27 | 23.75	0.66		
5.083	0.77 |11.333	2.98 |17.583	1.27 | 23.83	0.66		
5.167	0.77 |11.417	2.98 |17.667	1.27 | 23.92	0.66		
5.250	0.77 |11.500	2.98 |17.750	1.27 | 24.00	0.66		
5.333	0.77 |11.583	2.98 |17.833	1.27 | 24.08	0.61		
5.417	0.77 |11.667	2.98 |17.917	1.27 | 24.17	0.61		
5.500	0.77 |11.750	2.98 |18.000	1.27 | 24.25	0.61		
5.583	0.77 |11.833	2.98 |18.083	1.05 | 24.33	0.61		
5.667	0.77 |11.917	2.98 |18.167	1.05 | 24.42	0.61		
5.750	0.77 |12.000	2.98 |18.250	1.05 | 24.50	0.61		
5.833	0.77 |12.083	23.62 |18.333	1.05 | 24.58	0.61		
5.917	0.77 |12.167	23.63 |18.417	1.05 | 24.67	0.61		
6.000	0.77 |12.250	23.63 |18.500	1.05 | 24.75	0.61		
6.083	0.99 |12.333	23.63 |18.583	1.05 | 24.83	0.61		
6.167	0.99 |12.417	23.63 |18.667	1.05 | 24.92	0.61		
6.250	0.99 |12.500	23.63 |18.750	1.05 | 25.00	0.61		

Unit Hyd Qpeak (cms)= 0.462

PEAK FLOW (cms)= 0.094 (i)
TIME TO PEAK (hrs)= 13.250
RUNOFF VOLUME (mm)= 15.336
TOTAL RAINFALL (mm)= 55.200
RUNOFF COEFFICIENT = 0.278

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

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V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

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

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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\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\344a6c7e-7dde-4115-93c5-6fa696140ea2\scena
Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\344a6c7e-7dde-4115-93c5-6fa696140ea2\scena

DATE: 01/10/2025 TIME: 01:00:04

USER:

COMMENTS: _____

****
** SIMULATION : s02 - 5 yr SCS **
****

| READ STORM | Filename: C:\Users\RCHUNG\AppD
| | ata\Local\Temp\
| | 4e383750-81b4-4e63-ad58-811472f3200c\47251e3e
| Ptotal= 76.80 mm | Comments: 5-Year SCS: Pearson Intl Airport
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	7.00	1.46	14.00	3.69	21.00	1.00
1.00	0.77	8.00	1.61	15.00	2.69	22.00	0.92
2.00	0.92	9.00	2.07	16.00	1.92	23.00	0.92
3.00	1.00	10.00	2.61	17.00	1.77	24.00	0.84
4.00	1.00	11.00	4.15	18.00	1.46		
5.00	1.08	12.00	32.87	19.00	1.23		
6.00	1.38	13.00	8.37	20.00	1.08		

| CALIB |
| NASHYD (0001)| Area (ha)= 8.57 Curve Number (CN)= 64.0
|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
--- U.H. Tp(hrs)= 0.47

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	6.333	1.38	12.583	32.87	18.83	1.46
0.167	0.00	6.417	1.38	12.667	32.87	18.92	1.46
0.250	0.00	6.500	1.38	12.750	32.87	19.00	1.46
0.333	0.00	6.583	1.38	12.833	32.87	19.08	1.23
0.417	0.00	6.667	1.38	12.917	32.87	19.17	1.23
0.500	0.00	6.750	1.38	13.000	32.87	19.25	1.23
0.583	0.00	6.833	1.38	13.083	8.38	19.33	1.23
0.667	0.00	6.917	1.38	13.167	8.37	19.42	1.23
0.750	0.00	7.000	1.38	13.250	8.37	19.50	1.23
0.833	0.00	7.083	1.46	13.333	8.37	19.58	1.23
0.917	0.00	7.167	1.46	13.417	8.37	19.67	1.23
1.000	0.00	7.250	1.46	13.500	8.37	19.75	1.23
1.083	0.77	7.333	1.46	13.583	8.37	19.83	1.23
1.167	0.77	7.417	1.46	13.667	8.37	19.92	1.23
1.250	0.77	7.500	1.46	13.750	8.37	20.00	1.23
1.333	0.77	7.583	1.46	13.833	8.37	20.08	1.08
1.417	0.77	7.667	1.46	13.917	8.37	20.17	1.08
1.500	0.77	7.750	1.46	14.000	8.37	20.25	1.08
1.583	0.77	7.833	1.46	14.083	3.69	20.33	1.08
1.667	0.77	7.917	1.46	14.167	3.69	20.42	1.08
1.750	0.77	8.000	1.46	14.250	3.69	20.50	1.08
1.833	0.77	8.083	1.61	14.333	3.69	20.58	1.08
1.917	0.77	8.167	1.61	14.417	3.69	20.67	1.08
2.000	0.77	8.250	1.61	14.500	3.69	20.75	1.08
2.083	0.92	8.333	1.61	14.583	3.69	20.83	1.08
2.167	0.92	8.417	1.61	14.667	3.69	20.92	1.08
2.250	0.92	8.500	1.61	14.750	3.69	21.00	1.08
2.333	0.92	8.583	1.61	14.833	3.69	21.08	1.00
2.417	0.92	8.667	1.61	14.917	3.69	21.17	1.00
2.500	0.92	8.750	1.61	15.000	3.69	21.25	1.00
2.583	0.92	8.833	1.61	15.083	2.69	21.33	1.00
2.667	0.92	8.917	1.61	15.167	2.69	21.42	1.00
2.750	0.92	9.000	1.61	15.250	2.69	21.50	1.00
2.833	0.92	9.083	2.07	15.333	2.69	21.58	1.00
2.917	0.92	9.167	2.07	15.417	2.69	21.67	1.00
3.000	0.92	9.250	2.07	15.500	2.69	21.75	1.00
3.083	1.00	9.333	2.07	15.583	2.69	21.83	1.00
3.167	1.00	9.417	2.07	15.667	2.69	21.92	1.00
3.250	1.00	9.500	2.07	15.750	2.69	22.00	1.00
3.333	1.00	9.583	2.07	15.833	2.69	22.08	0.92
3.417	1.00	9.667	2.07	15.917	2.69	22.17	0.92
3.500	1.00	9.750	2.07	16.000	2.69	22.25	0.92
3.583	1.00	9.833	2.07	16.083	1.92	22.33	0.92
3.667	1.00	9.917	2.07	16.167	1.92	22.42	0.92
3.750	1.00	10.000	2.07	16.250	1.92	22.50	0.92
3.833	1.00	10.083	2.61	16.333	1.92	22.58	0.92
3.917	1.00	10.167	2.61	16.417	1.92	22.67	0.92
4.000	1.00	10.250	2.61	16.500	1.92	22.75	0.92
4.083	1.00	10.333	2.61	16.583	1.92	22.83	0.92
4.167	1.00	10.417	2.61	16.667	1.92	22.92	0.92
4.250	1.00	10.500	2.61	16.750	1.92	23.00	0.92
4.333	1.00	10.583	2.61	16.833	1.92	23.08	0.92
4.417	1.00	10.667	2.61	16.917	1.92	23.17	0.92
4.500	1.00	10.750	2.61	17.000	1.92	23.25	0.92
4.583	1.00	10.833	2.61	17.083	1.77	23.33	0.92
4.667	1.00	10.917	2.61	17.167	1.77	23.42	0.92
4.750	1.00	11.000	2.61	17.250	1.77	23.50	0.92
4.833	1.00	11.083	4.15	17.333	1.77	23.58	0.92
4.917	1.00	11.167	4.15	17.417	1.77	23.67	0.92
5.000	1.00	11.250	4.15	17.500	1.77	23.75	0.92
5.083	1.08	11.333	4.15	17.583	1.77	23.83	0.92
5.167	1.08	11.417	4.15	17.667	1.77	23.92	0.92
5.250	1.08	11.500	4.15	17.750	1.77	24.00	0.92
5.333	1.08	11.583	4.15	17.833	1.77	24.08	0.84

5.417	1.08	11.667	4.15	17.917	1.77	24.17	0.84
5.500	1.08	11.750	4.15	18.000	1.77	24.25	0.84
5.583	1.08	11.833	4.15	18.083	1.46	24.33	0.84
5.667	1.08	11.917	4.15	18.167	1.46	24.42	0.84
5.750	1.08	12.000	4.15	18.250	1.46	24.50	0.84
5.833	1.08	12.083	32.87	18.333	1.46	24.58	0.84
5.917	1.08	12.167	32.87	18.417	1.46	24.67	0.84
6.000	1.08	12.250	32.87	18.500	1.46	24.75	0.84
6.083	1.38	12.333	32.87	18.583	1.46	24.83	0.84
6.167	1.38	12.417	32.87	18.667	1.46	24.92	0.84
6.250	1.38	12.500	32.87	18.750	1.46	25.00	0.84

Unit Hyd Qpeak (cms)= 0.696

PEAK FLOW (cms)= 0.219 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 24.013
TOTAL RAINFALL (mm)= 76.800
RUNOFF COEFFICIENT = 0.313

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

CALIB	
NASHYD (0002)	Area (ha)= 23.01 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)= 0.87

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	6.333	1.38	12.583	32.87	18.83	1.46
0.167	0.00	6.417	1.38	12.667	32.87	18.92	1.46
0.250	0.00	6.500	1.38	12.750	32.87	19.00	1.46
0.333	0.00	6.583	1.38	12.833	32.87	19.08	1.23
0.417	0.00	6.667	1.38	12.917	32.87	19.17	1.23
0.500	0.00	6.750	1.38	13.000	32.87	19.25	1.23
0.583	0.00	6.833	1.38	13.083	8.38	19.33	1.23
0.667	0.00	6.917	1.38	13.167	8.37	19.42	1.23
0.750	0.00	7.000	1.38	13.250	8.37	19.50	1.23
0.833	0.00	7.083	1.46	13.333	8.37	19.58	1.23
0.917	0.00	7.167	1.46	13.417	8.37	19.67	1.23
1.000	0.00	7.250	1.46	13.500	8.37	19.75	1.23
1.083	0.77	7.333	1.46	13.583	8.37	19.83	1.23
1.167	0.77	7.417	1.46	13.667	8.37	19.92	1.23
1.250	0.77	7.500	1.46	13.750	8.37	20.00	1.23
1.333	0.77	7.583	1.46	13.833	8.37	20.08	1.08
1.417	0.77	7.667	1.46	13.917	8.37	20.17	1.08
1.500	0.77	7.750	1.46	14.000	8.37	20.25	1.08
1.583	0.77	7.833	1.46	14.083	3.69	20.33	1.08
1.667	0.77	7.917	1.46	14.167	3.69	20.42	1.08
1.750	0.77	8.000	1.46	14.250	3.69	20.50	1.08
1.833	0.77	8.083	1.61	14.333	3.69	20.58	1.08
1.917	0.77	8.167	1.61	14.417	3.69	20.67	1.08
2.000	0.77	8.250	1.61	14.500	3.69	20.75	1.08
2.083	0.92	8.333	1.61	14.583	3.69	20.83	1.08
2.167	0.92	8.417	1.61	14.667	3.69	20.92	1.08
2.250	0.92	8.500	1.61	14.750	3.69	21.00	1.08
2.333	0.92	8.583	1.61	14.833	3.69	21.08	1.00
2.417	0.92	8.667	1.61	14.917	3.69	21.17	1.00
2.500	0.92	8.750	1.61	15.000	3.69	21.25	1.00
2.583	0.92	8.833	1.61	15.083	2.69	21.33	1.00
2.667	0.92	8.917	1.61	15.167	2.69	21.42	1.00
2.750	0.92	9.000	1.61	15.250	2.69	21.50	1.00
2.833	0.92	9.083	2.07	15.333	2.69	21.58	1.00
2.917	0.92	9.167	2.07	15.417	2.69	21.67	1.00
3.000	0.92	9.250	2.07	15.500	2.69	21.75	1.00
3.083	1.00	9.333	2.07	15.583	2.69	21.83	1.00
3.167	1.00	9.417	2.07	15.667	2.69	21.92	1.00
3.250	1.00	9.500	2.07	15.750	2.69	22.00	1.00
3.333	1.00	9.583	2.07	15.833	2.69	22.08	0.92
3.417	1.00	9.667	2.07	15.917	2.69	22.17	0.92
3.500	1.00	9.750	2.07	16.000	2.69	22.25	0.92
3.583	1.00	9.833	2.07	16.083	1.92	22.33	0.92
3.667	1.00	9.917	2.07	16.167	1.92	22.42	0.92
3.750	1.00	10.000	2.07	16.250	1.92	22.50	0.92
3.833	1.00	10.083	2.61	16.333	1.92	22.58	0.92
3.917	1.00	10.167	2.61	16.417	1.92	22.67	0.92
4.000	1.00	10.250	2.61	16.500	1.92	22.75	0.92
4.083	1.00	10.333	2.61	16.583	1.92	22.83	0.92
4.167	1.00	10.417	2.61	16.667	1.92	22.92	0.92
4.250	1.00	10.500	2.61	16.750	1.92	23.00	0.92
4.333	1.00	10.583	2.61	16.833	1.92	23.08	0.92
4.417	1.00	10.667	2.61	16.917	1.92	23.17	0.92
4.500	1.00	10.750	2.61	17.000	1.92	23.25	0.92
4.583	1.00	10.833	2.61	17.083	1.77	23.33	0.92
4.667	1.00	10.917	2.61	17.167	1.77	23.42	0.92
4.750	1.00	11.000	2.61	17.250	1.77	23.50	0.92
4.833	1.00	11.083	4.15	17.333	1.77	23.58	0.92
4.917	1.00	11.167	4.15	17.417	1.77	23.67	0.92
5.000	1.00	11.250	4.15	17.500	1.77	23.75	0.92
5.083	1.08	11.333	4.15	17.583	1.77	23.83	0.92
5.167	1.08	11.417	4.15	17.667	1.77	23.92	0.92
5.250	1.08	11.500	4.15	17.750	1.77	24.00	0.92
5.333	1.08	11.583	4.15	17.833	1.77	24.08	0.84
5.417	1.08	11.667	4.15	17.917	1.77	24.17	0.84
5.500	1.08	11.750	4.15	18.000	1.77	24.25	0.84
5.583	1.08	11.833	4.15	18.083	1.46	24.33	0.84
5.667	1.08	11.917	4.15	18.167	1.46	24.42	0.84
5.750	1.08	12.000	4.15	18.250	1.46	24.50	0.84
5.833	1.08	12.083	32.87	18.333	1.46	24.58	0.84
5.917	1.08	12.167	32.87	18.417	1.46	24.67	0.84
6.000	1.08	12.250	32.87	18.500	1.46	24.75	0.84
6.083	1.38	12.333	32.87	18.583	1.46	24.83	0.84
6.167	1.38	12.417	32.87	18.667	1.46	24.92	0.84
6.250	1.38	12.500	32.87	18.750	1.46	25.00	0.84

Unit Hyd Qpeak (cms)= 1.010

PEAK FLOW (cms)= 0.516 (i)
TIME TO PEAK (hrs)= 13.667
RUNOFF VOLUME (mm)= 29.367
TOTAL RAINFALL (mm)= 76.800
RUNOFF COEFFICIENT = 0.382

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

| CALIB |
| NASHYD (0003)| Area (ha)= 5.93 Curve Number (CN)= 69.0
|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.49

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	6.333	1.38	12.583	32.87	18.83	1.46
0.167	0.00	6.417	1.38	12.667	32.87	18.92	1.46
0.250	0.00	6.500	1.38	12.750	32.87	19.00	1.46
0.333	0.00	6.583	1.38	12.833	32.87	19.08	1.23
0.417	0.00	6.667	1.38	12.917	32.87	19.17	1.23
0.500	0.00	6.750	1.38	13.000	32.87	19.25	1.23
0.583	0.00	6.833	1.38	13.083	8.38	19.33	1.23
0.667	0.00	6.917	1.38	13.167	8.37	19.42	1.23
0.750	0.00	7.000	1.38	13.250	8.37	19.50	1.23
0.833	0.00	7.083	1.46	13.333	8.37	19.58	1.23
0.917	0.00	7.167	1.46	13.417	8.37	19.67	1.23
1.000	0.00	7.250	1.46	13.500	8.37	19.75	1.23
1.083	0.77	7.333	1.46	13.583	8.37	19.83	1.23
1.167	0.77	7.417	1.46	13.667	8.37	19.92	1.23
1.250	0.77	7.500	1.46	13.750	8.37	20.00	1.23
1.333	0.77	7.583	1.46	13.833	8.37	20.08	1.08
1.417	0.77	7.667	1.46	13.917	8.37	20.17	1.08
1.500	0.77	7.750	1.46	14.000	8.37	20.25	1.08
1.583	0.77	7.833	1.46	14.083	3.69	20.33	1.08
1.667	0.77	7.917	1.46	14.167	3.69	20.42	1.08
1.750	0.77	8.000	1.46	14.250	3.69	20.50	1.08
1.833	0.77	8.083	1.61	14.333	3.69	20.58	1.08
1.917	0.77	8.167	1.61	14.417	3.69	20.67	1.08
2.000	0.77	8.250	1.61	14.500	3.69	20.75	1.08
2.083	0.92	8.333	1.61	14.583	3.69	20.83	1.08
2.167	0.92	8.417	1.61	14.667	3.69	20.92	1.08
2.250	0.92	8.500	1.61	14.750	3.69	21.00	1.08
2.333	0.92	8.583	1.61	14.833	3.69	21.08	1.00
2.417	0.92	8.667	1.61	14.917	3.69	21.17	1.00
2.500	0.92	8.750	1.61	15.000	3.69	21.25	1.00
2.583	0.92	8.833	1.61	15.083	2.69	21.33	1.00
2.667	0.92	8.917	1.61	15.167	2.69	21.42	1.00
2.750	0.92	9.000	1.61	15.250	2.69	21.50	1.00
2.833	0.92	9.083	2.07	15.333	2.69	21.58	1.00
2.917	0.92	9.167	2.07	15.417	2.69	21.67	1.00
3.000	0.92	9.250	2.07	15.500	2.69	21.75	1.00
3.083	1.00	9.333	2.07	15.583	2.69	21.83	1.00
3.167	1.00	9.417	2.07	15.667	2.69	21.92	1.00
3.250	1.00	9.500	2.07	15.750	2.69	22.00	1.00
3.333	1.00	9.583	2.07	15.833	2.69	22.08	0.92
3.417	1.00	9.667	2.07	15.917	2.69	22.17	0.92
3.500	1.00	9.750	2.07	16.000	2.69	22.25	0.92
3.583	1.00	9.833	2.07	16.083	1.92	22.33	0.92
3.667	1.00	9.917	2.07	16.167	1.92	22.42	0.92
3.750	1.00	10.000	2.07	16.250	1.92	22.50	0.92
3.833	1.00	10.083	2.61	16.333	1.92	22.58	0.92
3.917	1.00	10.167	2.61	16.417	1.92	22.67	0.92
4.000	1.00	10.250	2.61	16.500	1.92	22.75	0.92
4.083	1.00	10.333	2.61	16.583	1.92	22.83	0.92
4.167	1.00	10.417	2.61	16.667	1.92	22.92	0.92
4.250	1.00	10.500	2.61	16.750	1.92	23.00	0.92
4.333	1.00	10.583	2.61	16.833	1.92	23.08	0.92
4.417	1.00	10.667	2.61	16.917	1.92	23.17	0.92
4.500	1.00	10.750	2.61	17.000	1.92	23.25	0.92
4.583	1.00	10.833	2.61	17.083	1.77	23.33	0.92
4.667	1.00	10.917	2.61	17.167	1.77	23.42	0.92
4.750	1.00	11.000	2.61	17.250	1.77	23.50	0.92
4.833	1.00	11.083	4.15	17.333	1.77	23.58	0.92
4.917	1.00	11.167	4.15	17.417	1.77	23.67	0.92
5.000	1.00	11.250	4.15	17.500	1.77	23.75	0.92
5.083	1.08	11.333	4.15	17.583	1.77	23.83	0.92
5.167	1.08	11.417	4.15	17.667	1.77	23.92	0.92
5.250	1.08	11.500	4.15	17.750	1.77	24.00	0.92
5.333	1.08	11.583	4.15	17.833	1.77	24.08	0.84
5.417	1.08	11.667	4.15	17.917	1.77	24.17	0.84
5.500	1.08	11.750	4.15	18.000	1.77	24.25	0.84
5.583	1.08	11.833	4.15	18.083	1.46	24.33	0.84
5.667	1.08	11.917	4.15	18.167	1.46	24.42	0.84
5.750	1.08	12.000	4.15	18.250	1.46	24.50	0.84
5.833	1.08	12.083	32.87	18.333	1.46	24.58	0.84
5.917	1.08	12.167	32.87	18.417	1.46	24.67	0.84
6.000	1.08	12.250	32.87	18.500	1.46	24.75	0.84
6.083	1.38	12.333	32.87	18.583	1.46	24.83	0.84
6.167	1.38	12.417	32.87	18.667	1.46	24.92	0.84
6.250	1.38	12.500	32.87	18.750	1.46	25.00	0.84

Unit Hyd Qpeak (cms)= 0.462

PEAK FLOW (cms)= 0.173 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 27.727
TOTAL RAINFALL (mm)= 76.800
RUNOFF COEFFICIENT = 0.361

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

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     V   V  I   SSSSS  U   U   A    L           (v 6.2.2015)
     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   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\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-
ac7436a87d8a\675f37a6-24b6-41c1-8a14-f871f41f1e7e\scena
  Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-
ac7436a87d8a\675f37a6-24b6-41c1-8a14-f871f41f1e7e\scena


DATE: 01/10/2025                    TIME: 01:00:05

USER:



COMMENTS: _____


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  ************************************************
  ** SIMULATION : s03 - 10 yr SCS            **
  ************************************************



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|   READ STORM    |   Filename: C:\Users\RCHUNG\AppD
|                 |             ata\Local\Temp\
|                 |             4e383750-81b4-4e63-ad58-811472f3200c\e31fda4d
| Ptotal= 84.00 mm |   Comments: 10-Year SCS: Pearson Intl Airport
--------------------
            TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
             hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
            0.00    0.00 |  7.00    1.60 | 14.00    4.03 | 21.00    1.09
            1.00    0.84 |  8.00    1.76 | 15.00    2.94 | 22.00    1.01
            2.00    1.01 |  9.00    2.27 | 16.00    2.10 | 23.00    1.01
            3.00    1.09 | 10.00    2.86 | 17.00    1.93 | 24.00    0.92
            4.00    1.09 | 11.00    4.54 | 18.00    1.60 |
            5.00    1.18 | 12.00   35.95 | 19.00    1.34 |
            6.00    1.51 | 13.00    9.16 | 20.00    1.18 |

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| CALIB            |
| NASHYD  (  0001)|  Area    (ha)=   8.57  Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |  la      (mm)=   5.00  # of Linear Res.(N)= 3.00
--------------------  U.H. Tp(hrs)=   0.47

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


                  ---- 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 |  6.333   1.51 |12.583   35.95 | 18.83    1.60
            0.167   0.00 |  6.417   1.51 |12.667   35.95 | 18.92    1.60
            0.250   0.00 |  6.500   1.51 |12.750   35.95 | 19.00    1.60
            0.333   0.00 |  6.583   1.51 |12.833   35.95 | 19.08    1.34
            0.417   0.00 |  6.667   1.51 |12.917   35.95 | 19.17    1.34
            0.500   0.00 |  6.750   1.51 |13.000   35.95 | 19.25    1.34
            0.583   0.00 |  6.833   1.51 |13.083    9.16 | 19.33    1.34
            0.667   0.00 |  6.917   1.51 |13.167    9.16 | 19.42    1.34
            0.750   0.00 |  7.000   1.51 |13.250    9.16 | 19.50    1.34
            0.833   0.00 |  7.083   1.60 |13.333    9.16 | 19.58    1.34
            0.917   0.00 |  7.167   1.60 |13.417    9.16 | 19.67    1.34
            1.000   0.00 |  7.250   1.60 |13.500    9.16 | 19.75    1.34
            1.083   0.84 |  7.333   1.60 |13.583    9.16 | 19.83    1.34
            1.167   0.84 |  7.417   1.60 |13.667    9.16 | 19.92    1.34
            1.250   0.84 |  7.500   1.60 |13.750    9.16 | 20.00    1.34
            1.333   0.84 |  7.583   1.60 |13.833    9.16 | 20.08    1.18
            1.417   0.84 |  7.667   1.60 |13.917    9.16 | 20.17    1.18
            1.500   0.84 |  7.750   1.60 |14.000    9.16 | 20.25    1.18
            1.583   0.84 |  7.833   1.60 |14.083    4.03 | 20.33    1.18
            1.667   0.84 |  7.917   1.60 |14.167    4.03 | 20.42    1.18
            1.750   0.84 |  8.000   1.60 |14.250    4.03 | 20.50    1.18
            1.833   0.84 |  8.083   1.76 |14.333    4.03 | 20.58    1.18
            1.917   0.84 |  8.167   1.76 |14.417    4.03 | 20.67    1.18
            2.000   0.84 |  8.250   1.76 |14.500    4.03 | 20.75    1.18
            2.083   1.01 |  8.333   1.76 |14.583    4.03 | 20.83    1.18
            2.167   1.01 |  8.417   1.76 |14.667    4.03 | 20.92    1.18
            2.250   1.01 |  8.500   1.76 |14.750    4.03 | 21.00    1.18
            2.333   1.01 |  8.583   1.76 |14.833    4.03 | 21.08    1.09
            2.417   1.01 |  8.667   1.76 |14.917    4.03 | 21.17    1.09
            2.500   1.01 |  8.750   1.76 |15.000    4.03 | 21.25    1.09
            2.583   1.01 |  8.833   1.76 |15.083    2.94 | 21.33    1.09
            2.667   1.01 |  8.917   1.76 |15.167    2.94 | 21.42    1.09
            2.750   1.01 |  9.000   1.76 |15.250    2.94 | 21.50    1.09
            2.833   1.01 |  9.083   2.27 |15.333    2.94 | 21.58    1.09
            2.917   1.01 |  9.167   2.27 |15.417    2.94 | 21.67    1.09
            3.000   1.01 |  9.250   2.27 |15.500    2.94 | 21.75    1.09
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3.083	1.09	9.333	2.27	15.583	2.94	21.83	1.09
3.167	1.09	9.417	2.27	15.667	2.94	21.92	1.09
3.250	1.09	9.500	2.27	15.750	2.94	22.00	1.09
3.333	1.09	9.583	2.27	15.833	2.94	22.08	1.01
3.417	1.09	9.667	2.27	15.917	2.94	22.17	1.01
3.500	1.09	9.750	2.27	16.000	2.94	22.25	1.01
3.583	1.09	9.833	2.27	16.083	2.10	22.33	1.01
3.667	1.09	9.917	2.27	16.167	2.10	22.42	1.01
3.750	1.09	10.000	2.27	16.250	2.10	22.50	1.01
3.833	1.09	10.083	2.86	16.333	2.10	22.58	1.01
3.917	1.09	10.167	2.86	16.417	2.10	22.67	1.01
4.000	1.09	10.250	2.86	16.500	2.10	22.75	1.01
4.083	1.09	10.333	2.86	16.583	2.10	22.83	1.01
4.167	1.09	10.417	2.86	16.667	2.10	22.92	1.01
4.250	1.09	10.500	2.86	16.750	2.10	23.00	1.01
4.333	1.09	10.583	2.86	16.833	2.10	23.08	1.01
4.417	1.09	10.667	2.86	16.917	2.10	23.17	1.01
4.500	1.09	10.750	2.86	17.000	2.10	23.25	1.01
4.583	1.09	10.833	2.86	17.083	1.93	23.33	1.01
4.667	1.09	10.917	2.86	17.167	1.93	23.42	1.01
4.750	1.09	11.000	2.86	17.250	1.93	23.50	1.01
4.833	1.09	11.083	4.54	17.333	1.93	23.58	1.01
4.917	1.09	11.167	4.54	17.417	1.93	23.67	1.01
5.000	1.09	11.250	4.54	17.500	1.93	23.75	1.01
5.083	1.18	11.333	4.54	17.583	1.93	23.83	1.01
5.167	1.18	11.417	4.54	17.667	1.93	23.92	1.01
5.250	1.18	11.500	4.54	17.750	1.93	24.00	1.01
5.333	1.18	11.583	4.54	17.833	1.93	24.08	0.92
5.417	1.18	11.667	4.54	17.917	1.93	24.17	0.92
5.500	1.18	11.750	4.54	18.000	1.93	24.25	0.92
5.583	1.18	11.833	4.54	18.083	1.60	24.33	0.92
5.667	1.18	11.917	4.54	18.167	1.60	24.42	0.92
5.750	1.18	12.000	4.54	18.250	1.60	24.50	0.92
5.833	1.18	12.083	35.95	18.333	1.60	24.58	0.92
5.917	1.18	12.167	35.95	18.417	1.60	24.67	0.92
6.000	1.18	12.250	35.95	18.500	1.60	24.75	0.92
6.083	1.51	12.333	35.95	18.583	1.60	24.83	0.92
6.167	1.51	12.417	35.95	18.667	1.60	24.92	0.92
6.250	1.51	12.500	35.95	18.750	1.60	25.00	0.92

Unit Hyd Qpeak (cms)= 0.696

PEAK FLOW (cms)= 0.258 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 28.127
TOTAL RAINFALL (mm)= 84.000
RUNOFF COEFFICIENT = 0.335

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

CALIB	
NASHYD (0002)	Area (ha)= 23.01 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)= 0.87

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	6.333	1.51	12.583	35.95	18.83	1.60
0.167	0.00	6.417	1.51	12.667	35.95	18.92	1.60
0.250	0.00	6.500	1.51	12.750	35.95	19.00	1.60
0.333	0.00	6.583	1.51	12.833	35.95	19.08	1.34
0.417	0.00	6.667	1.51	12.917	35.95	19.17	1.34
0.500	0.00	6.750	1.51	13.000	35.95	19.25	1.34
0.583	0.00	6.833	1.51	13.083	9.16	19.33	1.34
0.667	0.00	6.917	1.51	13.167	9.16	19.42	1.34
0.750	0.00	7.000	1.51	13.250	9.16	19.50	1.34
0.833	0.00	7.083	1.60	13.333	9.16	19.58	1.34
0.917	0.00	7.167	1.60	13.417	9.16	19.67	1.34
1.000	0.00	7.250	1.60	13.500	9.16	19.75	1.34
1.083	0.84	7.333	1.60	13.583	9.16	19.83	1.34
1.167	0.84	7.417	1.60	13.667	9.16	19.92	1.34
1.250	0.84	7.500	1.60	13.750	9.16	20.00	1.34
1.333	0.84	7.583	1.60	13.833	9.16	20.08	1.18
1.417	0.84	7.667	1.60	13.917	9.16	20.17	1.18
1.500	0.84	7.750	1.60	14.000	9.16	20.25	1.18
1.583	0.84	7.833	1.60	14.083	4.03	20.33	1.18
1.667	0.84	7.917	1.60	14.167	4.03	20.42	1.18
1.750	0.84	8.000	1.60	14.250	4.03	20.50	1.18
1.833	0.84	8.083	1.76	14.333	4.03	20.58	1.18
1.917	0.84	8.167	1.76	14.417	4.03	20.67	1.18
2.000	0.84	8.250	1.76	14.500	4.03	20.75	1.18
2.083	1.01	8.333	1.76	14.583	4.03	20.83	1.18
2.167	1.01	8.417	1.76	14.667	4.03	20.92	1.18
2.250	1.01	8.500	1.76	14.750	4.03	21.00	1.18
2.333	1.01	8.583	1.76	14.833	4.03	21.08	1.09
2.417	1.01	8.667	1.76	14.917	4.03	21.17	1.09
2.500	1.01	8.750	1.76	15.000	4.03	21.25	1.09
2.583	1.01	8.833	1.76	15.083	2.94	21.33	1.09
2.667	1.01	8.917	1.76	15.167	2.94	21.42	1.09
2.750	1.01	9.000	1.76	15.250	2.94	21.50	1.09
2.833	1.01	9.083	2.27	15.333	2.94	21.58	1.09
2.917	1.01	9.167	2.27	15.417	2.94	21.67	1.09
3.000	1.01	9.250	2.27	15.500	2.94	21.75	1.09
3.083	1.09	9.333	2.27	15.583	2.94	21.83	1.09
3.167	1.09	9.417	2.27	15.667	2.94	21.92	1.09
3.250	1.09	9.500	2.27	15.750	2.94	22.00	1.09
3.333	1.09	9.583	2.27	15.833	2.94	22.08	1.01
3.417	1.09	9.667	2.27	15.917	2.94	22.17	1.01
3.500	1.09	9.750	2.27	16.000	2.94	22.25	1.01
3.583	1.09	9.833	2.27	16.083	2.10	22.33	1.01
3.667	1.09	9.917	2.27	16.167	2.10	22.42	1.01
3.750	1.09	10.000	2.27	16.250	2.10	22.50	1.01
3.833	1.09	10.083	2.86	16.333	2.10	22.58	1.01
3.917	1.09	10.167	2.86	16.417	2.10	22.67	1.01

4.000	1.09	10.250	2.86	16.500	2.10	22.75	1.01
4.083	1.09	10.333	2.86	16.583	2.10	22.83	1.01
4.167	1.09	10.417	2.86	16.667	2.10	22.92	1.01
4.250	1.09	10.500	2.86	16.750	2.10	23.00	1.01
4.333	1.09	10.583	2.86	16.833	2.10	23.08	1.01
4.417	1.09	10.667	2.86	16.917	2.10	23.17	1.01
4.500	1.09	10.750	2.86	17.000	2.10	23.25	1.01
4.583	1.09	10.833	2.86	17.083	1.93	23.33	1.01
4.667	1.09	10.917	2.86	17.167	1.93	23.42	1.01
4.750	1.09	11.000	2.86	17.250	1.93	23.50	1.01
4.833	1.09	11.083	4.54	17.333	1.93	23.58	1.01
4.917	1.09	11.167	4.54	17.417	1.93	23.67	1.01
5.000	1.09	11.250	4.54	17.500	1.93	23.75	1.01
5.083	1.18	11.333	4.54	17.583	1.93	23.83	1.01
5.167	1.18	11.417	4.54	17.667	1.93	23.92	1.01
5.250	1.18	11.500	4.54	17.750	1.93	24.00	1.01
5.333	1.18	11.583	4.54	17.833	1.93	24.08	0.92
5.417	1.18	11.667	4.54	17.917	1.93	24.17	0.92
5.500	1.18	11.750	4.54	18.000	1.93	24.25	0.92
5.583	1.18	11.833	4.54	18.083	1.60	24.33	0.92
5.667	1.18	11.917	4.54	18.167	1.60	24.42	0.92
5.750	1.18	12.000	4.54	18.250	1.60	24.50	0.92
5.833	1.18	12.083	35.95	18.333	1.60	24.58	0.92
5.917	1.18	12.167	35.95	18.417	1.60	24.67	0.92
6.000	1.18	12.250	35.95	18.500	1.60	24.75	0.92
6.083	1.51	12.333	35.95	18.583	1.60	24.83	0.92
6.167	1.51	12.417	35.95	18.667	1.60	24.92	0.92
6.250	1.51	12.500	35.95	18.750	1.60	25.00	0.92

Unit Hyd Qpeak (cms)= 1.010

PEAK FLOW (cms)= 0.603 (i)
TIME TO PEAK (hrs)= 13.667
RUNOFF VOLUME (mm)= 34.151
TOTAL RAINFALL (mm)= 84.000
RUNOFF COEFFICIENT = 0.407

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

CALIB
NASHYD (0003) | Area (ha)= 5.93 Curve Number (CN)= 69.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.49

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	6.333	1.51	12.583	35.95	18.83	1.60
0.167	0.00	6.417	1.51	12.667	35.95	18.92	1.60
0.250	0.00	6.500	1.51	12.750	35.95	19.00	1.60
0.333	0.00	6.583	1.51	12.833	35.95	19.08	1.34
0.417	0.00	6.667	1.51	12.917	35.95	19.17	1.34
0.500	0.00	6.750	1.51	13.000	35.95	19.25	1.34
0.583	0.00	6.833	1.51	13.083	9.16	19.33	1.34
0.667	0.00	6.917	1.51	13.167	9.16	19.42	1.34
0.750	0.00	7.000	1.51	13.250	9.16	19.50	1.34
0.833	0.00	7.083	1.60	13.333	9.16	19.58	1.34
0.917	0.00	7.167	1.60	13.417	9.16	19.67	1.34
1.000	0.00	7.250	1.60	13.500	9.16	19.75	1.34
1.083	0.84	7.333	1.60	13.583	9.16	19.83	1.34
1.167	0.84	7.417	1.60	13.667	9.16	19.92	1.34
1.250	0.84	7.500	1.60	13.750	9.16	20.00	1.34
1.333	0.84	7.583	1.60	13.833	9.16	20.08	1.18
1.417	0.84	7.667	1.60	13.917	9.16	20.17	1.18
1.500	0.84	7.750	1.60	14.000	9.16	20.25	1.18
1.583	0.84	7.833	1.60	14.083	4.03	20.33	1.18
1.667	0.84	7.917	1.60	14.167	4.03	20.42	1.18
1.750	0.84	8.000	1.60	14.250	4.03	20.50	1.18
1.833	0.84	8.083	1.76	14.333	4.03	20.58	1.18
1.917	0.84	8.167	1.76	14.417	4.03	20.67	1.18
2.000	0.84	8.250	1.76	14.500	4.03	20.75	1.18
2.083	1.01	8.333	1.76	14.583	4.03	20.83	1.18
2.167	1.01	8.417	1.76	14.667	4.03	20.92	1.18
2.250	1.01	8.500	1.76	14.750	4.03	21.00	1.18
2.333	1.01	8.583	1.76	14.833	4.03	21.08	1.09
2.417	1.01	8.667	1.76	14.917	4.03	21.17	1.09
2.500	1.01	8.750	1.76	15.000	4.03	21.25	1.09
2.583	1.01	8.833	1.76	15.083	2.94	21.33	1.09
2.667	1.01	8.917	1.76	15.167	2.94	21.42	1.09
2.750	1.01	9.000	1.76	15.250	2.94	21.50	1.09
2.833	1.01	9.083	2.27	15.333	2.94	21.58	1.09
2.917	1.01	9.167	2.27	15.417	2.94	21.67	1.09
3.000	1.01	9.250	2.27	15.500	2.94	21.75	1.09
3.083	1.09	9.333	2.27	15.583	2.94	21.83	1.09
3.167	1.09	9.417	2.27	15.667	2.94	21.92	1.09
3.250	1.09	9.500	2.27	15.750	2.94	22.00	1.09
3.333	1.09	9.583	2.27	15.833	2.94	22.08	1.01
3.417	1.09	9.667	2.27	15.917	2.94	22.17	1.01
3.500	1.09	9.750	2.27	16.000	2.94	22.25	1.01
3.583	1.09	9.833	2.27	16.083	2.10	22.33	1.01
3.667	1.09	9.917	2.27	16.167	2.10	22.42	1.01
3.750	1.09	10.000	2.27	16.250	2.10	22.50	1.01
3.833	1.09	10.083	2.86	16.333	2.10	22.58	1.01
3.917	1.09	10.167	2.86	16.417	2.10	22.67	1.01
4.000	1.09	10.250	2.86	16.500	2.10	22.75	1.01
4.083	1.09	10.333	2.86	16.583	2.10	22.83	1.01
4.167	1.09	10.417	2.86	16.667	2.10	22.92	1.01
4.250	1.09	10.500	2.86	16.750	2.10	23.00	1.01
4.333	1.09	10.583	2.86	16.833	2.10	23.08	1.01
4.417	1.09	10.667	2.86	16.917	2.10	23.17	1.01
4.500	1.09	10.750	2.86	17.000	2.10	23.25	1.01
4.583	1.09	10.833	2.86	17.083	1.93	23.33	1.01
4.667	1.09	10.917	2.86	17.167	1.93	23.42	1.01
4.750	1.09	11.000	2.86	17.250	1.93	23.50	1.01
4.833	1.09	11.083	4.54	17.333	1.93	23.58	1.01

4.917	1.09	11.167	4.54	17.417	1.93	23.67	1.01
5.000	1.09	11.250	4.54	17.500	1.93	23.75	1.01
5.083	1.18	11.333	4.54	17.583	1.93	23.83	1.01
5.167	1.18	11.417	4.54	17.667	1.93	23.92	1.01
5.250	1.18	11.500	4.54	17.750	1.93	24.00	1.01
5.333	1.18	11.583	4.54	17.833	1.93	24.08	0.92
5.417	1.18	11.667	4.54	17.917	1.93	24.17	0.92
5.500	1.18	11.750	4.54	18.000	1.93	24.25	0.92
5.583	1.18	11.833	4.54	18.083	1.60	24.33	0.92
5.667	1.18	11.917	4.54	18.167	1.60	24.42	0.92
5.750	1.18	12.000	4.54	18.250	1.60	24.50	0.92
5.833	1.18	12.083	35.95	18.333	1.60	24.58	0.92
5.917	1.18	12.167	35.95	18.417	1.60	24.67	0.92
6.000	1.18	12.250	35.95	18.500	1.60	24.75	0.92
6.083	1.51	12.333	35.95	18.583	1.60	24.83	0.92
6.167	1.51	12.417	35.95	18.667	1.60	24.92	0.92
6.250	1.51	12.500	35.95	18.750	1.60	25.00	0.92

Unit Hyd Qpeak (cms)= 0.462

PEAK FLOW (cms)= 0.203 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 32.316
TOTAL RAINFALL (mm)= 84.000
RUNOFF COEFFICIENT = 0.385

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

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V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\394dd8cf-0612-48fc-81bd-4a82731fe31f\scena
Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\394dd8cf-0612-48fc-81bd-4a82731fe31f\scena

DATE: 01/10/2025 TIME: 01:00:04

USER:

COMMENTS: _____

****
** SIMULATION : s04 - 25 yr SCS **
****

| READ STORM | Filename: C:\Users\RCHUNG\AppD
| | ata\Local\Temp\
| | 4e383750-81b4-4e63-ad58-811472f3200c\196ea763
| Ptotal=110.40 mm | Comments: 25-Year SCS: Pearson Intl Airport
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	7.00	2.10	14.00	5.30	21.00	1.44
1.00	1.10	8.00	2.32	15.00	3.86	22.00	1.32
2.00	1.32	9.00	2.98	16.00	2.76	23.00	1.32
3.00	1.44	10.00	3.75	17.00	2.54	24.00	1.21
4.00	1.44	11.00	5.96	18.00	2.10		
5.00	1.55	12.00	47.25	19.00	1.77		
6.00	1.99	13.00	12.03	20.00	1.55		

| CALIB |
| NASHYD (0001)| Area (ha)= 8.57 Curve Number (CN)= 64.0
|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
--- U.H. Tp(hrs)= 0.47

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	6.333	1.99	12.583	47.25	18.83	2.10
0.167	0.00	6.417	1.99	12.667	47.25	18.92	2.10
0.250	0.00	6.500	1.99	12.750	47.25	19.00	2.10
0.333	0.00	6.583	1.99	12.833	47.25	19.08	1.77
0.417	0.00	6.667	1.99	12.917	47.25	19.17	1.77
0.500	0.00	6.750	1.99	13.000	47.25	19.25	1.77
0.583	0.00	6.833	1.99	13.083	12.04	19.33	1.77
0.667	0.00	6.917	1.99	13.167	12.03	19.42	1.77

0.750	0.00 | 7.000	1.99 |13.250	12.03 | 19.50	1.77		
0.833	0.00 | 7.083	2.10 |13.333	12.03 | 19.58	1.77		
0.917	0.00 | 7.167	2.10 |13.417	12.03 | 19.67	1.77		
1.000	0.00 | 7.250	2.10 |13.500	12.03 | 19.75	1.77		
1.083	1.10 | 7.333	2.10 |13.583	12.03 | 19.83	1.77		
1.167	1.10 | 7.417	2.10 |13.667	12.03 | 19.92	1.77		
1.250	1.10 | 7.500	2.10 |13.750	12.03 | 20.00	1.77		
1.333	1.10 | 7.583	2.10 |13.833	12.03 | 20.08	1.55		
1.417	1.10 | 7.667	2.10 |13.917	12.03 | 20.17	1.55		
1.500	1.10 | 7.750	2.10 |14.000	12.03 | 20.25	1.55		
1.583	1.10 | 7.833	2.10 |14.083	5.30 | 20.33	1.55		
1.667	1.10 | 7.917	2.10 |14.167	5.30 | 20.42	1.55		
1.750	1.10 | 8.000	2.10 |14.250	5.30 | 20.50	1.55		
1.833	1.10 | 8.083	2.32 |14.333	5.30 | 20.58	1.55		
1.917	1.10 | 8.167	2.32 |14.417	5.30 | 20.67	1.55		
2.000	1.10 | 8.250	2.32 |14.500	5.30 | 20.75	1.55		
2.083	1.32 | 8.333	2.32 |14.583	5.30 | 20.83	1.55		
2.167	1.32 | 8.417	2.32 |14.667	5.30 | 20.92	1.55		
2.250	1.32 | 8.500	2.32 |14.750	5.30 | 21.00	1.55		
2.333	1.32 | 8.583	2.32 |14.833	5.30 | 21.08	1.44		
2.417	1.32 | 8.667	2.32 |14.917	5.30 | 21.17	1.44		
2.500	1.32 | 8.750	2.32 |15.000	5.30 | 21.25	1.44		
2.583	1.32 | 8.833	2.32 |15.083	3.86 | 21.33	1.44		
2.667	1.32 | 8.917	2.32 |15.167	3.86 | 21.42	1.44		
2.750	1.32 | 9.000	2.32 |15.250	3.86 | 21.50	1.44		
2.833	1.32 | 9.083	2.98 |15.333	3.86 | 21.58	1.44		
2.917	1.32 | 9.167	2.98 |15.417	3.86 | 21.67	1.44		
3.000	1.32 | 9.250	2.98 |15.500	3.86 | 21.75	1.44		
3.083	1.44 | 9.333	2.98 |15.583	3.86 | 21.83	1.44		
3.167	1.44 | 9.417	2.98 |15.667	3.86 | 21.92	1.44		
3.250	1.44 | 9.500	2.98 |15.750	3.86 | 22.00	1.44		
3.333	1.44 | 9.583	2.98 |15.833	3.86 | 22.08	1.32		
3.417	1.44 | 9.667	2.98 |15.917	3.86 | 22.17	1.32		
3.500	1.44 | 9.750	2.98 |16.000	3.86 | 22.25	1.32		
3.583	1.44 | 9.833	2.98 |16.083	2.76 | 22.33	1.32		
3.667	1.44 | 9.917	2.98 |16.167	2.76 | 22.42	1.32		
3.750	1.44 |10.000	2.98 |16.250	2.76 | 22.50	1.32		
3.833	1.44 |10.083	3.75 |16.333	2.76 | 22.58	1.32		
3.917	1.44 |10.167	3.75 |16.417	2.76 | 22.67	1.32		
4.000	1.44 |10.250	3.75 |16.500	2.76 | 22.75	1.32		
4.083	1.44 |10.333	3.75 |16.583	2.76 | 22.83	1.32		
4.167	1.44 |10.417	3.75 |16.667	2.76 | 22.92	1.32		
4.250	1.44 |10.500	3.75 |16.750	2.76 | 23.00	1.32		
4.333	1.44 |10.583	3.75 |16.833	2.76 | 23.08	1.32		
4.417	1.44 |10.667	3.75 |16.917	2.76 | 23.17	1.32		
4.500	1.44 |10.750	3.75 |17.000	2.76 | 23.25	1.32		
4.583	1.44 |10.833	3.75 |17.083	2.54 | 23.33	1.32		
4.667	1.44 |10.917	3.75 |17.167	2.54 | 23.42	1.32		
4.750	1.44 |11.000	3.75 |17.250	2.54 | 23.50	1.32		
4.833	1.44 |11.083	5.96 |17.333	2.54 | 23.58	1.32		
4.917	1.44 |11.167	5.96 |17.417	2.54 | 23.67	1.32		
5.000	1.44 |11.250	5.96 |17.500	2.54 | 23.75	1.32		
5.083	1.55 |11.333	5.96 |17.583	2.54 | 23.83	1.32		
5.167	1.55 |11.417	5.96 |17.667	2.54 | 23.92	1.32		
5.250	1.55 |11.500	5.96 |17.750	2.54 | 24.00	1.32		
5.333	1.55 |11.583	5.96 |17.833	2.54 | 24.08	1.21		
5.417	1.55 |11.667	5.96 |17.917	2.54 | 24.17	1.21		
5.500	1.55 |11.750	5.96 |18.000	2.54 | 24.25	1.21		
5.583	1.55 |11.833	5.96 |18.083	2.10 | 24.33	1.21		
5.667	1.55 |11.917	5.96 |18.167	2.10 | 24.42	1.21		
5.750	1.55 |12.000	5.96 |18.250	2.10 | 24.50	1.21		
5.833	1.55 |12.083	47.25 |18.333	2.10 | 24.58	1.21		
5.917	1.55 |12.167	47.25 |18.417	2.10 | 24.67	1.21		
6.000	1.55 |12.250	47.25 |18.500	2.10 | 24.75	1.21		
6.083	1.99 |12.333	47.25 |18.583	2.10 | 24.83	1.21		
6.167	1.99 |12.417	47.25 |18.667	2.10 | 24.92	1.21		
6.250	1.99 |12.500	47.25 |18.750	2.10 | 25.00	1.21		

Unit Hyd Qpeak (cms)= 0.696

PEAK FLOW (cms)= 0.416 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 44.742
TOTAL RAINFALL (mm)= 110.400
RUNOFF COEFFICIENT = 0.405

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

CALIB					
| NASHYD (0002)|	Area (ha)=	23.01	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)=	0.87			

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	6.333	1.99	12.583	47.25	18.83	2.10
0.167	0.00	6.417	1.99	12.667	47.25	18.92	2.10
0.250	0.00	6.500	1.99	12.750	47.25	19.00	2.10
0.333	0.00	6.583	1.99	12.833	47.25	19.08	1.77
0.417	0.00	6.667	1.99	12.917	47.25	19.17	1.77
0.500	0.00	6.750	1.99	13.000	47.25	19.25	1.77
0.583	0.00	6.833	1.99	13.083	12.04	19.33	1.77
0.667	0.00	6.917	1.99	13.167	12.03	19.42	1.77
0.750	0.00	7.000	1.99	13.250	12.03	19.50	1.77
0.833	0.00	7.083	2.10	13.333	12.03	19.58	1.77
0.917	0.00	7.167	2.10	13.417	12.03	19.67	1.77
1.000	0.00	7.250	2.10	13.500	12.03	19.75	1.77
1.083	1.10	7.333	2.10	13.583	12.03	19.83	1.77
1.167	1.10	7.417	2.10	13.667	12.03	19.92	1.77
1.250	1.10	7.500	2.10	13.750	12.03	20.00	1.77
1.333	1.10	7.583	2.10	13.833	12.03	20.08	1.55
1.417	1.10	7.667	2.10	13.917	12.03	20.17	1.55
1.500	1.10	7.750	2.10	14.000	12.03	20.25	1.55
1.583	1.10	7.833	2.10	14.083	5.30	20.33	1.55

1.667	1.10	7.917	2.10	14.167	5.30	20.42	1.55
1.750	1.10	8.000	2.10	14.250	5.30	20.50	1.55
1.833	1.10	8.083	2.32	14.333	5.30	20.58	1.55
1.917	1.10	8.167	2.32	14.417	5.30	20.67	1.55
2.000	1.10	8.250	2.32	14.500	5.30	20.75	1.55
2.083	1.32	8.333	2.32	14.583	5.30	20.83	1.55
2.167	1.32	8.417	2.32	14.667	5.30	20.92	1.55
2.250	1.32	8.500	2.32	14.750	5.30	21.00	1.55
2.333	1.32	8.583	2.32	14.833	5.30	21.08	1.44
2.417	1.32	8.667	2.32	14.917	5.30	21.17	1.44
2.500	1.32	8.750	2.32	15.000	5.30	21.25	1.44
2.583	1.32	8.833	2.32	15.083	3.86	21.33	1.44
2.667	1.32	8.917	2.32	15.167	3.86	21.42	1.44
2.750	1.32	9.000	2.32	15.250	3.86	21.50	1.44
2.833	1.32	9.083	2.98	15.333	3.86	21.58	1.44
2.917	1.32	9.167	2.98	15.417	3.86	21.67	1.44
3.000	1.32	9.250	2.98	15.500	3.86	21.75	1.44
3.083	1.44	9.333	2.98	15.583	3.86	21.83	1.44
3.167	1.44	9.417	2.98	15.667	3.86	21.92	1.44
3.250	1.44	9.500	2.98	15.750	3.86	22.00	1.44
3.333	1.44	9.583	2.98	15.833	3.86	22.08	1.32
3.417	1.44	9.667	2.98	15.917	3.86	22.17	1.32
3.500	1.44	9.750	2.98	16.000	3.86	22.25	1.32
3.583	1.44	9.833	2.98	16.083	2.76	22.33	1.32
3.667	1.44	9.917	2.98	16.167	2.76	22.42	1.32
3.750	1.44	10.000	2.98	16.250	2.76	22.50	1.32
3.833	1.44	10.083	3.75	16.333	2.76	22.58	1.32
3.917	1.44	10.167	3.75	16.417	2.76	22.67	1.32
4.000	1.44	10.250	3.75	16.500	2.76	22.75	1.32
4.083	1.44	10.333	3.75	16.583	2.76	22.83	1.32
4.167	1.44	10.417	3.75	16.667	2.76	22.92	1.32
4.250	1.44	10.500	3.75	16.750	2.76	23.00	1.32
4.333	1.44	10.583	3.75	16.833	2.76	23.08	1.32
4.417	1.44	10.667	3.75	16.917	2.76	23.17	1.32
4.500	1.44	10.750	3.75	17.000	2.76	23.25	1.32
4.583	1.44	10.833	3.75	17.083	2.54	23.33	1.32
4.667	1.44	10.917	3.75	17.167	2.54	23.42	1.32
4.750	1.44	11.000	3.75	17.250	2.54	23.50	1.32
4.833	1.44	11.083	5.96	17.333	2.54	23.58	1.32
4.917	1.44	11.167	5.96	17.417	2.54	23.67	1.32
5.000	1.44	11.250	5.96	17.500	2.54	23.75	1.32
5.083	1.55	11.333	5.96	17.583	2.54	23.83	1.32
5.167	1.55	11.417	5.96	17.667	2.54	23.92	1.32
5.250	1.55	11.500	5.96	17.750	2.54	24.00	1.32
5.333	1.55	11.583	5.96	17.833	2.54	24.08	1.21
5.417	1.55	11.667	5.96	17.917	2.54	24.17	1.21
5.500	1.55	11.750	5.96	18.000	2.54	24.25	1.21
5.583	1.55	11.833	5.96	18.083	2.10	24.33	1.21
5.667	1.55	11.917	5.96	18.167	2.10	24.42	1.21
5.750	1.55	12.000	5.96	18.250	2.10	24.50	1.21
5.833	1.55	12.083	47.25	18.333	2.10	24.58	1.21
5.917	1.55	12.167	47.25	18.417	2.10	24.67	1.21
6.000	1.55	12.250	47.25	18.500	2.10	24.75	1.21
6.083	1.99	12.333	47.25	18.583	2.10	24.83	1.21
6.167	1.99	12.417	47.25	18.667	2.10	24.92	1.21
6.250	1.99	12.500	47.25	18.750	2.10	25.00	1.21

Unit Hyd Qpeak (cms)= 1.010

PEAK FLOW (cms)= 0.953 (i)
TIME TO PEAK (hrs)= 13.583
RUNOFF VOLUME (mm)= 53.116
TOTAL RAINFALL (mm)= 110.400
RUNOFF COEFFICIENT = 0.481

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

CALIB	
NASHYD (0003)	Area (ha)= 5.93 Curve Number (CN)= 69.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.49

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	6.333	1.99	12.583	47.25	18.83	2.10
0.167	0.00	6.417	1.99	12.667	47.25	18.92	2.10
0.250	0.00	6.500	1.99	12.750	47.25	19.00	2.10
0.333	0.00	6.583	1.99	12.833	47.25	19.08	1.77
0.417	0.00	6.667	1.99	12.917	47.25	19.17	1.77
0.500	0.00	6.750	1.99	13.000	47.25	19.25	1.77
0.583	0.00	6.833	1.99	13.083	12.04	19.33	1.77
0.667	0.00	6.917	1.99	13.167	12.03	19.42	1.77
0.750	0.00	7.000	1.99	13.250	12.03	19.50	1.77
0.833	0.00	7.083	2.10	13.333	12.03	19.58	1.77
0.917	0.00	7.167	2.10	13.417	12.03	19.67	1.77
1.000	0.00	7.250	2.10	13.500	12.03	19.75	1.77
1.083	1.10	7.333	2.10	13.583	12.03	19.83	1.77
1.167	1.10	7.417	2.10	13.667	12.03	19.92	1.77
1.250	1.10	7.500	2.10	13.750	12.03	20.00	1.77
1.333	1.10	7.583	2.10	13.833	12.03	20.08	1.55
1.417	1.10	7.667	2.10	13.917	12.03	20.17	1.55
1.500	1.10	7.750	2.10	14.000	12.03	20.25	1.55
1.583	1.10	7.833	2.10	14.083	5.30	20.33	1.55
1.667	1.10	7.917	2.10	14.167	5.30	20.42	1.55
1.750	1.10	8.000	2.10	14.250	5.30	20.50	1.55
1.833	1.10	8.083	2.32	14.333	5.30	20.58	1.55
1.917	1.10	8.167	2.32	14.417	5.30	20.67	1.55
2.000	1.10	8.250	2.32	14.500	5.30	20.75	1.55
2.083	1.32	8.333	2.32	14.583	5.30	20.83	1.55
2.167	1.32	8.417	2.32	14.667	5.30	20.92	1.55
2.250	1.32	8.500	2.32	14.750	5.30	21.00	1.55
2.333	1.32	8.583	2.32	14.833	5.30	21.08	1.44
2.417	1.32	8.667	2.32	14.917	5.30	21.17	1.44
2.500	1.32	8.750	2.32	15.000	5.30	21.25	1.44

2.583	1.32 | 8.833	2.32 |15.083	3.86 | 21.33	1.44		
2.667	1.32 | 8.917	2.32 |15.167	3.86 | 21.42	1.44		
2.750	1.32 | 9.000	2.32 |15.250	3.86 | 21.50	1.44		
2.833	1.32 | 9.083	2.98 |15.333	3.86 | 21.58	1.44		
2.917	1.32 | 9.167	2.98 |15.417	3.86 | 21.67	1.44		
3.000	1.32 | 9.250	2.98 |15.500	3.86 | 21.75	1.44		
3.083	1.44 | 9.333	2.98 |15.583	3.86 | 21.83	1.44		
3.167	1.44 | 9.417	2.98 |15.667	3.86 | 21.92	1.44		
3.250	1.44 | 9.500	2.98 |15.750	3.86 | 22.00	1.44		
3.333	1.44 | 9.583	2.98 |15.833	3.86 | 22.08	1.32		
3.417	1.44 | 9.667	2.98 |15.917	3.86 | 22.17	1.32		
3.500	1.44 | 9.750	2.98 |16.000	3.86 | 22.25	1.32		
3.583	1.44 | 9.833	2.98 |16.083	2.76 | 22.33	1.32		
3.667	1.44 | 9.917	2.98 |16.167	2.76 | 22.42	1.32		
3.750	1.44 |10.000	2.98 |16.250	2.76 | 22.50	1.32		
3.833	1.44 |10.083	3.75 |16.333	2.76 | 22.58	1.32		
3.917	1.44 |10.167	3.75 |16.417	2.76 | 22.67	1.32		
4.000	1.44 |10.250	3.75 |16.500	2.76 | 22.75	1.32		
4.083	1.44 |10.333	3.75 |16.583	2.76 | 22.83	1.32		
4.167	1.44 |10.417	3.75 |16.667	2.76 | 22.92	1.32		
4.250	1.44 |10.500	3.75 |16.750	2.76 | 23.00	1.32		
4.333	1.44 |10.583	3.75 |16.833	2.76 | 23.08	1.32		
4.417	1.44 |10.667	3.75 |16.917	2.76 | 23.17	1.32		
4.500	1.44 |10.750	3.75 |17.000	2.76 | 23.25	1.32		
4.583	1.44 |10.833	3.75 |17.083	2.54 | 23.33	1.32		
4.667	1.44 |10.917	3.75 |17.167	2.54 | 23.42	1.32		
4.750	1.44 |11.000	3.75 |17.250	2.54 | 23.50	1.32		
4.833	1.44 |11.083	5.96 |17.333	2.54 | 23.58	1.32		
4.917	1.44 |11.167	5.96 |17.417	2.54 | 23.67	1.32		
5.000	1.44 |11.250	5.96 |17.500	2.54 | 23.75	1.32		
5.083	1.55 |11.333	5.96 |17.583	2.54 | 23.83	1.32		
5.167	1.55 |11.417	5.96 |17.667	2.54 | 23.92	1.32		
5.250	1.55 |11.500	5.96 |17.750	2.54 | 24.00	1.32		
5.333	1.55 |11.583	5.96 |17.833	2.54 | 24.08	1.21		
5.417	1.55 |11.667	5.96 |17.917	2.54 | 24.17	1.21		
5.500	1.55 |11.750	5.96 |18.000	2.54 | 24.25	1.21		
5.583	1.55 |11.833	5.96 |18.083	2.10 | 24.33	1.21		
5.667	1.55 |11.917	5.96 |18.167	2.10 | 24.42	1.21		
5.750	1.55 |12.000	5.96 |18.250	2.10 | 24.50	1.21		
5.833	1.55 |12.083	47.25 |18.333	2.10 | 24.58	1.21		
5.917	1.55 |12.167	47.25 |18.417	2.10 | 24.67	1.21		
6.000	1.55 |12.250	47.25 |18.500	2.10 | 24.75	1.21		
6.083	1.99 |12.333	47.25 |18.583	2.10 | 24.83	1.21		
6.167	1.99 |12.417	47.25 |18.667	2.10 | 24.92	1.21		
6.250	1.99 |12.500	47.25 |18.750	2.10 | 25.00	1.21		

Unit Hyd Qpeak (cms)= 0.462

PEAK FLOW (cms)= 0.323 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 50.605
TOTAL RAINFALL (mm)= 110.400
RUNOFF COEFFICIENT = 0.458

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

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V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

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

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

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
Output filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\905dc735-c6d1-45db-a7dd-033be9afe391\scena
Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\905dc735-c6d1-45db-a7dd-033be9afe391\scena

DATE: 01/10/2025 TIME: 01:00:05

USER:

COMMENTS: _____

****
** SIMULATION : s05 - 50 yr SCS **
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| READ STORM | Filename: C:\Users\RCHUNG\AppD
| | ata\Local\Temp\
| | 4e383750-81b4-4e63-ad58-811472f3200c\b0afa951
| Ptotal=124.80 mm | Comments: 50-Year SCS: Pearson Intl Airport
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	7.00	2.37	14.00	5.99	21.00	1.62
1.00	1.25	8.00	2.62	15.00	4.37	22.00	1.50

2.00	1.50	9.00	3.37	16.00	3.12	23.00	1.50
3.00	1.62	10.00	4.24	17.00	2.87	24.00	1.37
4.00	1.62	11.00	6.74	18.00	2.37		
5.00	1.75	12.00	53.41	19.00	2.00		
6.00	2.25	13.00	13.60	20.00	1.75		

CALIB
NASHYD (0001) | Area (ha)= 8.57 Curve Number (CN)= 64.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.47

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	6.333	2.25	12.583	53.41	18.83	2.37
0.167	0.00	6.417	2.25	12.667	53.41	18.92	2.37
0.250	0.00	6.500	2.25	12.750	53.41	19.00	2.37
0.333	0.00	6.583	2.25	12.833	53.41	19.08	2.00
0.417	0.00	6.667	2.25	12.917	53.41	19.17	2.00
0.500	0.00	6.750	2.25	13.000	53.41	19.25	2.00
0.583	0.00	6.833	2.25	13.083	13.61	19.33	2.00
0.667	0.00	6.917	2.25	13.167	13.60	19.42	2.00
0.750	0.00	7.000	2.25	13.250	13.60	19.50	2.00
0.833	0.00	7.083	2.37	13.333	13.60	19.58	2.00
0.917	0.00	7.167	2.37	13.417	13.60	19.67	2.00
1.000	0.00	7.250	2.37	13.500	13.60	19.75	2.00
1.083	1.25	7.333	2.37	13.583	13.60	19.83	2.00
1.167	1.25	7.417	2.37	13.667	13.60	19.92	2.00
1.250	1.25	7.500	2.37	13.750	13.60	20.00	2.00
1.333	1.25	7.583	2.37	13.833	13.60	20.08	1.75
1.417	1.25	7.667	2.37	13.917	13.60	20.17	1.75
1.500	1.25	7.750	2.37	14.000	13.60	20.25	1.75
1.583	1.25	7.833	2.37	14.083	5.99	20.33	1.75
1.667	1.25	7.917	2.37	14.167	5.99	20.42	1.75
1.750	1.25	8.000	2.37	14.250	5.99	20.50	1.75
1.833	1.25	8.083	2.62	14.333	5.99	20.58	1.75
1.917	1.25	8.167	2.62	14.417	5.99	20.67	1.75
2.000	1.25	8.250	2.62	14.500	5.99	20.75	1.75
2.083	1.50	8.333	2.62	14.583	5.99	20.83	1.75
2.167	1.50	8.417	2.62	14.667	5.99	20.92	1.75
2.250	1.50	8.500	2.62	14.750	5.99	21.00	1.75
2.333	1.50	8.583	2.62	14.833	5.99	21.08	1.62
2.417	1.50	8.667	2.62	14.917	5.99	21.17	1.62
2.500	1.50	8.750	2.62	15.000	5.99	21.25	1.62
2.583	1.50	8.833	2.62	15.083	4.37	21.33	1.62
2.667	1.50	8.917	2.62	15.167	4.37	21.42	1.62
2.750	1.50	9.000	2.62	15.250	4.37	21.50	1.62
2.833	1.50	9.083	3.37	15.333	4.37	21.58	1.62
2.917	1.50	9.167	3.37	15.417	4.37	21.67	1.62
3.000	1.50	9.250	3.37	15.500	4.37	21.75	1.62
3.083	1.62	9.333	3.37	15.583	4.37	21.83	1.62
3.167	1.62	9.417	3.37	15.667	4.37	21.92	1.62
3.250	1.62	9.500	3.37	15.750	4.37	22.00	1.62
3.333	1.62	9.583	3.37	15.833	4.37	22.08	1.50
3.417	1.62	9.667	3.37	15.917	4.37	22.17	1.50
3.500	1.62	9.750	3.37	16.000	4.37	22.25	1.50
3.583	1.62	9.833	3.37	16.083	3.12	22.33	1.50
3.667	1.62	9.917	3.37	16.167	3.12	22.42	1.50
3.750	1.62	10.000	3.37	16.250	3.12	22.50	1.50
3.833	1.62	10.083	4.24	16.333	3.12	22.58	1.50
3.917	1.62	10.167	4.24	16.417	3.12	22.67	1.50
4.000	1.62	10.250	4.24	16.500	3.12	22.75	1.50
4.083	1.62	10.333	4.24	16.583	3.12	22.83	1.50
4.167	1.62	10.417	4.24	16.667	3.12	22.92	1.50
4.250	1.62	10.500	4.24	16.750	3.12	23.00	1.50
4.333	1.62	10.583	4.24	16.833	3.12	23.08	1.50
4.417	1.62	10.667	4.24	16.917	3.12	23.17	1.50
4.500	1.62	10.750	4.24	17.000	3.12	23.25	1.50
4.583	1.62	10.833	4.24	17.083	2.87	23.33	1.50
4.667	1.62	10.917	4.24	17.167	2.87	23.42	1.50
4.750	1.62	11.000	4.24	17.250	2.87	23.50	1.50
4.833	1.62	11.083	6.74	17.333	2.87	23.58	1.50
4.917	1.62	11.167	6.74	17.417	2.87	23.67	1.50
5.000	1.62	11.250	6.74	17.500	2.87	23.75	1.50
5.083	1.75	11.333	6.74	17.583	2.87	23.83	1.50
5.167	1.75	11.417	6.74	17.667	2.87	23.92	1.50
5.250	1.75	11.500	6.74	17.750	2.87	24.00	1.50
5.333	1.75	11.583	6.74	17.833	2.87	24.08	1.37
5.417	1.75	11.667	6.74	17.917	2.87	24.17	1.37
5.500	1.75	11.750	6.74	18.000	2.87	24.25	1.37
5.583	1.75	11.833	6.74	18.083	2.37	24.33	1.37
5.667	1.75	11.917	6.74	18.167	2.37	24.42	1.37
5.750	1.75	12.000	6.74	18.250	2.37	24.50	1.37
5.833	1.75	12.083	53.41	18.333	2.37	24.58	1.37
5.917	1.75	12.167	53.41	18.417	2.37	24.67	1.37
6.000	1.75	12.250	53.41	18.500	2.37	24.75	1.37
6.083	2.25	12.333	53.41	18.583	2.37	24.83	1.37
6.167	2.25	12.417	53.41	18.667	2.37	24.92	1.37
6.250	2.25	12.500	53.41	18.750	2.37	25.00	1.37

Unit Hyd Qpeak (cms)= 0.696

PEAK FLOW (cms)= 0.511 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 54.634
TOTAL RAINFALL (mm)= 124.800
RUNOFF COEFFICIENT = 0.438

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

CALIB
NASHYD (0002) | Area (ha)= 23.01 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)= 0.87

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	6.333	2.25	12.583	53.41	18.83	2.37
0.167	0.00	6.417	2.25	12.667	53.41	18.92	2.37
0.250	0.00	6.500	2.25	12.750	53.41	19.00	2.37
0.333	0.00	6.583	2.25	12.833	53.41	19.08	2.00
0.417	0.00	6.667	2.25	12.917	53.41	19.17	2.00
0.500	0.00	6.750	2.25	13.000	53.41	19.25	2.00
0.583	0.00	6.833	2.25	13.083	13.61	19.33	2.00
0.667	0.00	6.917	2.25	13.167	13.60	19.42	2.00
0.750	0.00	7.000	2.25	13.250	13.60	19.50	2.00
0.833	0.00	7.083	2.37	13.333	13.60	19.58	2.00
0.917	0.00	7.167	2.37	13.417	13.60	19.67	2.00
1.000	0.00	7.250	2.37	13.500	13.60	19.75	2.00
1.083	1.25	7.333	2.37	13.583	13.60	19.83	2.00
1.167	1.25	7.417	2.37	13.667	13.60	19.92	2.00
1.250	1.25	7.500	2.37	13.750	13.60	20.00	2.00
1.333	1.25	7.583	2.37	13.833	13.60	20.08	1.75
1.417	1.25	7.667	2.37	13.917	13.60	20.17	1.75
1.500	1.25	7.750	2.37	14.000	13.60	20.25	1.75
1.583	1.25	7.833	2.37	14.083	5.99	20.33	1.75
1.667	1.25	7.917	2.37	14.167	5.99	20.42	1.75
1.750	1.25	8.000	2.37	14.250	5.99	20.50	1.75
1.833	1.25	8.083	2.62	14.333	5.99	20.58	1.75
1.917	1.25	8.167	2.62	14.417	5.99	20.67	1.75
2.000	1.25	8.250	2.62	14.500	5.99	20.75	1.75
2.083	1.50	8.333	2.62	14.583	5.99	20.83	1.75
2.167	1.50	8.417	2.62	14.667	5.99	20.92	1.75
2.250	1.50	8.500	2.62	14.750	5.99	21.00	1.75
2.333	1.50	8.583	2.62	14.833	5.99	21.08	1.62
2.417	1.50	8.667	2.62	14.917	5.99	21.17	1.62
2.500	1.50	8.750	2.62	15.000	5.99	21.25	1.62
2.583	1.50	8.833	2.62	15.083	4.37	21.33	1.62
2.667	1.50	8.917	2.62	15.167	4.37	21.42	1.62
2.750	1.50	9.000	2.62	15.250	4.37	21.50	1.62
2.833	1.50	9.083	3.37	15.333	4.37	21.58	1.62
2.917	1.50	9.167	3.37	15.417	4.37	21.67	1.62
3.000	1.50	9.250	3.37	15.500	4.37	21.75	1.62
3.083	1.62	9.333	3.37	15.583	4.37	21.83	1.62
3.167	1.62	9.417	3.37	15.667	4.37	21.92	1.62
3.250	1.62	9.500	3.37	15.750	4.37	22.00	1.62
3.333	1.62	9.583	3.37	15.833	4.37	22.08	1.50
3.417	1.62	9.667	3.37	15.917	4.37	22.17	1.50
3.500	1.62	9.750	3.37	16.000	4.37	22.25	1.50
3.583	1.62	9.833	3.37	16.083	3.12	22.33	1.50
3.667	1.62	9.917	3.37	16.167	3.12	22.42	1.50
3.750	1.62	10.000	3.37	16.250	3.12	22.50	1.50
3.833	1.62	10.083	4.24	16.333	3.12	22.58	1.50
3.917	1.62	10.167	4.24	16.417	3.12	22.67	1.50
4.000	1.62	10.250	4.24	16.500	3.12	22.75	1.50
4.083	1.62	10.333	4.24	16.583	3.12	22.83	1.50
4.167	1.62	10.417	4.24	16.667	3.12	22.92	1.50
4.250	1.62	10.500	4.24	16.750	3.12	23.00	1.50
4.333	1.62	10.583	4.24	16.833	3.12	23.08	1.50
4.417	1.62	10.667	4.24	16.917	3.12	23.17	1.50
4.500	1.62	10.750	4.24	17.000	3.12	23.25	1.50
4.583	1.62	10.833	4.24	17.083	2.87	23.33	1.50
4.667	1.62	10.917	4.24	17.167	2.87	23.42	1.50
4.750	1.62	11.000	4.24	17.250	2.87	23.50	1.50
4.833	1.62	11.083	6.74	17.333	2.87	23.58	1.50
4.917	1.62	11.167	6.74	17.417	2.87	23.67	1.50
5.000	1.62	11.250	6.74	17.500	2.87	23.75	1.50
5.083	1.75	11.333	6.74	17.583	2.87	23.83	1.50
5.167	1.75	11.417	6.74	17.667	2.87	23.92	1.50
5.250	1.75	11.500	6.74	17.750	2.87	24.00	1.50
5.333	1.75	11.583	6.74	17.833	2.87	24.08	1.37
5.417	1.75	11.667	6.74	17.917	2.87	24.17	1.37
5.500	1.75	11.750	6.74	18.000	2.87	24.25	1.37
5.583	1.75	11.833	6.74	18.083	2.37	24.33	1.37
5.667	1.75	11.917	6.74	18.167	2.37	24.42	1.37
5.750	1.75	12.000	6.74	18.250	2.37	24.50	1.37
5.833	1.75	12.083	53.41	18.333	2.37	24.58	1.37
5.917	1.75	12.167	53.41	18.417	2.37	24.67	1.37
6.000	1.75	12.250	53.41	18.500	2.37	24.75	1.37
6.083	2.25	12.333	53.41	18.583	2.37	24.83	1.37
6.167	2.25	12.417	53.41	18.667	2.37	24.92	1.37
6.250	2.25	12.500	53.41	18.750	2.37	25.00	1.37

Unit Hyd Qpeak (cms)= 1.010

PEAK FLOW (cms)= 1.160 (i)
TIME TO PEAK (hrs)= 13.583
RUNOFF VOLUME (mm)= 64.201
TOTAL RAINFALL (mm)= 124.800
RUNOFF COEFFICIENT = 0.514

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

| CALIB |
| NASHYD (0003)| Area (ha)= 5.93 Curve Number (CN)= 69.0
|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
---------- U.H. Tp(hrs)= 0.49

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	6.333	2.25	12.583	53.41	18.83	2.37
0.167	0.00	6.417	2.25	12.667	53.41	18.92	2.37

0.250	0.00 | 6.500	2.25 |12.750	53.41 | 19.00	2.37		
0.333	0.00 | 6.583	2.25 |12.833	53.41 | 19.08	2.00		
0.417	0.00 | 6.667	2.25 |12.917	53.41 | 19.17	2.00		
0.500	0.00 | 6.750	2.25 |13.000	53.41 | 19.25	2.00		
0.583	0.00 | 6.833	2.25 |13.083	13.61 | 19.33	2.00		
0.667	0.00 | 6.917	2.25 |13.167	13.60 | 19.42	2.00		
0.750	0.00 | 7.000	2.25 |13.250	13.60 | 19.50	2.00		
0.833	0.00 | 7.083	2.37 |13.333	13.60 | 19.58	2.00		
0.917	0.00 | 7.167	2.37 |13.417	13.60 | 19.67	2.00		
1.000	0.00 | 7.250	2.37 |13.500	13.60 | 19.75	2.00		
1.083	1.25 | 7.333	2.37 |13.583	13.60 | 19.83	2.00		
1.167	1.25 | 7.417	2.37 |13.667	13.60 | 19.92	2.00		
1.250	1.25 | 7.500	2.37 |13.750	13.60 | 20.00	2.00		
1.333	1.25 | 7.583	2.37 |13.833	13.60 | 20.08	1.75		
1.417	1.25 | 7.667	2.37 |13.917	13.60 | 20.17	1.75		
1.500	1.25 | 7.750	2.37 |14.000	13.60 | 20.25	1.75		
1.583	1.25 | 7.833	2.37 |14.083	5.99 | 20.33	1.75		
1.667	1.25 | 7.917	2.37 |14.167	5.99 | 20.42	1.75		
1.750	1.25 | 8.000	2.37 |14.250	5.99 | 20.50	1.75		
1.833	1.25 | 8.083	2.62 |14.333	5.99 | 20.58	1.75		
1.917	1.25 | 8.167	2.62 |14.417	5.99 | 20.67	1.75		
2.000	1.25 | 8.250	2.62 |14.500	5.99 | 20.75	1.75		
2.083	1.50 | 8.333	2.62 |14.583	5.99 | 20.83	1.75		
2.167	1.50 | 8.417	2.62 |14.667	5.99 | 20.92	1.75		
2.250	1.50 | 8.500	2.62 |14.750	5.99 | 21.00	1.75		
2.333	1.50 | 8.583	2.62 |14.833	5.99 | 21.08	1.62		
2.417	1.50 | 8.667	2.62 |14.917	5.99 | 21.17	1.62		
2.500	1.50 | 8.750	2.62 |15.000	5.99 | 21.25	1.62		
2.583	1.50 | 8.833	2.62 |15.083	4.37 | 21.33	1.62		
2.667	1.50 | 8.917	2.62 |15.167	4.37 | 21.42	1.62		
2.750	1.50 | 9.000	2.62 |15.250	4.37 | 21.50	1.62		
2.833	1.50 | 9.083	3.37 |15.333	4.37 | 21.58	1.62		
2.917	1.50 | 9.167	3.37 |15.417	4.37 | 21.67	1.62		
3.000	1.50 | 9.250	3.37 |15.500	4.37 | 21.75	1.62		
3.083	1.62 | 9.333	3.37 |15.583	4.37 | 21.83	1.62		
3.167	1.62 | 9.417	3.37 |15.667	4.37 | 21.92	1.62		
3.250	1.62 | 9.500	3.37 |15.750	4.37 | 22.00	1.62		
3.333	1.62 | 9.583	3.37 |15.833	4.37 | 22.08	1.50		
3.417	1.62 | 9.667	3.37 |15.917	4.37 | 22.17	1.50		
3.500	1.62 | 9.750	3.37 |16.000	4.37 | 22.25	1.50		
3.583	1.62 | 9.833	3.37 |16.083	3.12 | 22.33	1.50		
3.667	1.62 | 9.917	3.37 |16.167	3.12 | 22.42	1.50		
3.750	1.62 |10.000	3.37 |16.250	3.12 | 22.50	1.50		
3.833	1.62 |10.083	4.24 |16.333	3.12 | 22.58	1.50		
3.917	1.62 |10.167	4.24 |16.417	3.12 | 22.67	1.50		
4.000	1.62 |10.250	4.24 |16.500	3.12 | 22.75	1.50		
4.083	1.62 |10.333	4.24 |16.583	3.12 | 22.83	1.50		
4.167	1.62 |10.417	4.24 |16.667	3.12 | 22.92	1.50		
4.250	1.62 |10.500	4.24 |16.750	3.12 | 23.00	1.50		
4.333	1.62 |10.583	4.24 |16.833	3.12 | 23.08	1.50		
4.417	1.62 |10.667	4.24 |16.917	3.12 | 23.17	1.50		
4.500	1.62 |10.750	4.24 |17.000	3.12 | 23.25	1.50		
4.583	1.62 |10.833	4.24 |17.083	2.87 | 23.33	1.50		
4.667	1.62 |10.917	4.24 |17.167	2.87 | 23.42	1.50		
4.750	1.62 |11.000	4.24 |17.250	2.87 | 23.50	1.50		
4.833	1.62 |11.083	6.74 |17.333	2.87 | 23.58	1.50		
4.917	1.62 |11.167	6.74 |17.417	2.87 | 23.67	1.50		
5.000	1.62 |11.250	6.74 |17.500	2.87 | 23.75	1.50		
5.083	1.75 |11.333	6.74 |17.583	2.87 | 23.83	1.50		
5.167	1.75 |11.417	6.74 |17.667	2.87 | 23.92	1.50		
5.250	1.75 |11.500	6.74 |17.750	2.87 | 24.00	1.50		
5.333	1.75 |11.583	6.74 |17.833	2.87 | 24.08	1.37		
5.417	1.75 |11.667	6.74 |17.917	2.87 | 24.17	1.37		
5.500	1.75 |11.750	6.74 |18.000	2.87 | 24.25	1.37		
5.583	1.75 |11.833	6.74 |18.083	2.37 | 24.33	1.37		
5.667	1.75 |11.917	6.74 |18.167	2.37 | 24.42	1.37		
5.750	1.75 |12.000	6.74 |18.250	2.37 | 24.50	1.37		
5.833	1.75 |12.083	53.41 |18.333	2.37 | 24.58	1.37		
5.917	1.75 |12.167	53.41 |18.417	2.37 | 24.67	1.37		
6.000	1.75 |12.250	53.41 |18.500	2.37 | 24.75	1.37		
6.083	2.25 |12.333	53.41 |18.583	2.37 | 24.83	1.37		
6.167	2.25 |12.417	53.41 |18.667	2.37 | 24.92	1.37		
6.250	2.25 |12.500	53.41 |18.750	2.37 | 25.00	1.37		

Unit Hyd Qpeak (cms)= 0.462

PEAK FLOW (cms)= 0.394 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 61.352
TOTAL RAINFALL (mm)= 124.800
RUNOFF COEFFICIENT = 0.492

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

FINISH

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     V   V  I   SSSSS  U   U    A    L           (v 6.2.2015)
     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   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\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\084e07bd-3a9f-4f3a-aae2-19a7b5f2f9e9\scena
Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\084e07bd-3a9f-4f3a-aae2-19a7b5f2f9e9\scena

DATE: 01/10/2025 TIME: 01:00:05

USER:

COMMENTS: _____

****
** SIMULATION : s06 - 100 yr SCS **
****

| READ STORM | Filename: C:\Users\RCHUNG\AppD
| | ata\Local\Temp\
| | 4e383750-81b4-4e63-ad58-811472f3200c\19df5320
| Ptotal=139.20 mm | Comments: 100-Year SCS: Pearson Intl Airport
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	7.00	2.64	14.00	6.68	21.00	1.81
1.00	1.39	8.00	2.92	15.00	4.87	22.00	1.67
2.00	1.67	9.00	3.76	16.00	3.48	23.00	1.67
3.00	1.81	10.00	4.73	17.00	3.20	24.00	1.53
4.00	1.81	11.00	7.52	18.00	2.64		
5.00	1.95	12.00	59.58	19.00	2.23		
6.00	2.51	13.00	15.17	20.00	1.95		

| CALIB |
| NASHYD (0001)| Area (ha)= 8.57 Curve Number (CN)= 64.0
|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
--- U.H. Tp(hrs)= 0.47

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	6.333	2.51	12.583	59.58	18.83	2.64
0.167	0.00	6.417	2.51	12.667	59.58	18.92	2.64
0.250	0.00	6.500	2.51	12.750	59.58	19.00	2.64
0.333	0.00	6.583	2.51	12.833	59.58	19.08	2.23
0.417	0.00	6.667	2.51	12.917	59.58	19.17	2.23
0.500	0.00	6.750	2.51	13.000	59.58	19.25	2.23
0.583	0.00	6.833	2.51	13.083	15.18	19.33	2.23
0.667	0.00	6.917	2.51	13.167	15.17	19.42	2.23
0.750	0.00	7.000	2.51	13.250	15.17	19.50	2.23
0.833	0.00	7.083	2.64	13.333	15.17	19.58	2.23
0.917	0.00	7.167	2.64	13.417	15.17	19.67	2.23
1.000	0.00	7.250	2.64	13.500	15.17	19.75	2.23
1.083	1.39	7.333	2.64	13.583	15.17	19.83	2.23
1.167	1.39	7.417	2.64	13.667	15.17	19.92	2.23
1.250	1.39	7.500	2.64	13.750	15.17	20.00	2.23
1.333	1.39	7.583	2.64	13.833	15.17	20.08	1.95
1.417	1.39	7.667	2.64	13.917	15.17	20.17	1.95
1.500	1.39	7.750	2.64	14.000	15.17	20.25	1.95
1.583	1.39	7.833	2.64	14.083	6.68	20.33	1.95
1.667	1.39	7.917	2.64	14.167	6.68	20.42	1.95
1.750	1.39	8.000	2.64	14.250	6.68	20.50	1.95
1.833	1.39	8.083	2.92	14.333	6.68	20.58	1.95
1.917	1.39	8.167	2.92	14.417	6.68	20.67	1.95
2.000	1.39	8.250	2.92	14.500	6.68	20.75	1.95
2.083	1.67	8.333	2.92	14.583	6.68	20.83	1.95
2.167	1.67	8.417	2.92	14.667	6.68	20.92	1.95
2.250	1.67	8.500	2.92	14.750	6.68	21.00	1.95
2.333	1.67	8.583	2.92	14.833	6.68	21.08	1.81
2.417	1.67	8.667	2.92	14.917	6.68	21.17	1.81
2.500	1.67	8.750	2.92	15.000	6.68	21.25	1.81
2.583	1.67	8.833	2.92	15.083	4.87	21.33	1.81
2.667	1.67	8.917	2.92	15.167	4.87	21.42	1.81
2.750	1.67	9.000	2.92	15.250	4.87	21.50	1.81
2.833	1.67	9.083	3.76	15.333	4.87	21.58	1.81
2.917	1.67	9.167	3.76	15.417	4.87	21.67	1.81
3.000	1.67	9.250	3.76	15.500	4.87	21.75	1.81
3.083	1.81	9.333	3.76	15.583	4.87	21.83	1.81
3.167	1.81	9.417	3.76	15.667	4.87	21.92	1.81
3.250	1.81	9.500	3.76	15.750	4.87	22.00	1.81
3.333	1.81	9.583	3.76	15.833	4.87	22.08	1.67
3.417	1.81	9.667	3.76	15.917	4.87	22.17	1.67
3.500	1.81	9.750	3.76	16.000	4.87	22.25	1.67
3.583	1.81	9.833	3.76	16.083	3.48	22.33	1.67
3.667	1.81	9.917	3.76	16.167	3.48	22.42	1.67
3.750	1.81	10.000	3.76	16.250	3.48	22.50	1.67
3.833	1.81	10.083	4.73	16.333	3.48	22.58	1.67
3.917	1.81	10.167	4.73	16.417	3.48	22.67	1.67
4.000	1.81	10.250	4.73	16.500	3.48	22.75	1.67
4.083	1.81	10.333	4.73	16.583	3.48	22.83	1.67
4.167	1.81	10.417	4.73	16.667	3.48	22.92	1.67
4.250	1.81	10.500	4.73	16.750	3.48	23.00	1.67
4.333	1.81	10.583	4.73	16.833	3.48	23.08	1.67
4.417	1.81	10.667	4.73	16.917	3.48	23.17	1.67
4.500	1.81	10.750	4.73	17.000	3.48	23.25	1.67
4.583	1.81	10.833	4.73	17.083	3.20	23.33	1.67
4.667	1.81	10.917	4.73	17.167	3.20	23.42	1.67
4.750	1.81	11.000	4.73	17.250	3.20	23.50	1.67

4.833	1.81	11.083	7.52	17.333	3.20	23.58	1.67	1.167	1.39	7.417	2.64	13.667	15.17	19.92	2.23
4.917	1.81	11.167	7.52	17.417	3.20	23.67	1.67	1.250	1.39	7.500	2.64	13.750	15.17	20.00	2.23
5.000	1.81	11.250	7.52	17.500	3.20	23.75	1.67	1.333	1.39	7.583	2.64	13.833	15.17	20.08	1.95
5.083	1.95	11.333	7.52	17.583	3.20	23.83	1.67	1.417	1.39	7.667	2.64	13.917	15.17	20.17	1.95
5.167	1.95	11.417	7.52	17.667	3.20	23.92	1.67	1.500	1.39	7.750	2.64	14.000	15.17	20.25	1.95
5.250	1.95	11.500	7.52	17.750	3.20	24.00	1.67	1.583	1.39	7.833	2.64	14.083	6.68	20.33	1.95
5.333	1.95	11.583	7.52	17.833	3.20	24.08	1.53	1.667	1.39	7.917	2.64	14.167	6.68	20.42	1.95
5.417	1.95	11.667	7.52	17.917	3.20	24.17	1.53	1.750	1.39	8.000	2.64	14.250	6.68	20.50	1.95
5.500	1.95	11.750	7.52	18.000	3.20	24.25	1.53	1.833	1.39	8.083	2.92	14.333	6.68	20.58	1.95
5.583	1.95	11.833	7.52	18.083	2.64	24.33	1.53	1.917	1.39	8.167	2.92	14.417	6.68	20.67	1.95
5.667	1.95	11.917	7.52	18.167	2.64	24.42	1.53	2.000	1.39	8.250	2.92	14.500	6.68	20.75	1.95
5.750	1.95	12.000	7.52	18.250	2.64	24.50	1.53	2.083	1.67	8.333	2.92	14.583	6.68	20.83	1.95
5.833	1.95	12.083	59.57	18.333	2.64	24.58	1.53	2.167	1.67	8.417	2.92	14.667	6.68	20.92	1.95
5.917	1.95	12.167	59.58	18.417	2.64	24.67	1.53	2.250	1.67	8.500	2.92	14.750	6.68	21.00	1.95
6.000	1.95	12.250	59.58	18.500	2.64	24.75	1.53	2.333	1.67	8.583	2.92	14.833	6.68	21.08	1.81
6.083	2.51	12.333	59.58	18.583	2.64	24.83	1.53	2.417	1.67	8.667	2.92	14.917	6.68	21.17	1.81
6.167	2.51	12.417	59.58	18.667	2.64	24.92	1.53	2.500	1.67	8.750	2.92	15.000	6.68	21.25	1.81
6.250	2.51	12.500	59.58	18.750	2.64	25.00	1.53	2.583	1.67	8.833	2.92	15.083	4.87	21.33	1.81
								2.667	1.67	8.917	2.92	15.167	4.87	21.42	1.81
Unit Hyd Qpeak (cms)= 0.696								2.750	1.67	9.000	2.92	15.250	4.87	21.50	1.81
								2.833	1.67	9.083	3.76	15.333	4.87	21.58	1.81
PEAK FLOW (cms)= 0.612 (i)								2.917	1.67	9.167	3.76	15.417	4.87	21.67	1.81
TIME TO PEAK (hrs)= 13.167								3.000	1.67	9.250	3.76	15.500	4.87	21.75	1.81
RUNOFF VOLUME (mm)= 64.995								3.083	1.81	9.333	3.76	15.583	4.87	21.83	1.81
TOTAL RAINFALL (mm)= 139.200								3.167	1.81	9.417	3.76	15.667	4.87	21.92	1.81
RUNOFF COEFFICIENT = 0.467								3.250	1.81	9.500	3.76	15.750	4.87	22.00	1.81
								3.333	1.81	9.583	3.76	15.833	4.87	22.08	1.67
(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.								3.417	1.81	9.667	3.76	15.917	4.87	22.17	1.67
								3.500	1.81	9.750	3.76	16.000	4.87	22.25	1.67
----------								3.583	1.81	9.833	3.76	16.083	3.48	22.33	1.67
----------								3.667	1.81	9.917	3.76	16.167	3.48	22.42	1.67
| CALIB |								3.750	1.81	10.000	3.76	16.250	3.48	22.50	1.67
| NASHYD (0002)| Area (ha)= 23.01 Curve Number (CN)= 71.0								3.833	1.81	10.083	4.73	16.333	3.48	22.58	1.67
|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00								3.917	1.81	10.167	4.73	16.417	3.48	22.67	1.67
---------- U.H. Tp(hrs)= 0.87								4.000	1.81	10.250	4.73	16.500	3.48	22.75	1.67
								4.083	1.81	10.333	4.73	16.583	3.48	22.83	1.67
NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.								4.167	1.81	10.417	4.73	16.667	3.48	22.92	1.67
								4.250	1.81	10.500	4.73	16.750	3.48	23.00	1.67
								4.333	1.81	10.583	4.73	16.833	3.48	23.08	1.67
---- TRANSFORMED HYETOGRAPH ----								4.417	1.81	10.667	4.73	16.917	3.48	23.17	1.67
TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN	4.500	1.81	10.750	4.73	17.000	3.48	23.25	1.67
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	4.583	1.81	10.833	4.73	17.083	3.20	23.33	1.67
0.083	0.00	6.333	2.51	12.583	59.58	18.83	2.64	4.667	1.81	10.917	4.73	17.167	3.20	23.42	1.67
0.167	0.00	6.417	2.51	12.667	59.58	18.92	2.64	4.750	1.81	11.000	4.73	17.250	3.20	23.50	1.67
0.250	0.00	6.500	2.51	12.750	59.58	19.00	2.64	4.833	1.81	11.083	7.52	17.333	3.20	23.58	1.67
0.333	0.00	6.583	2.51	12.833	59.58	19.08	2.23	4.917	1.81	11.167	7.52	17.417	3.20	23.67	1.67
0.417	0.00	6.667	2.51	12.917	59.58	19.17	2.23	5.000	1.81	11.250	7.52	17.500	3.20	23.75	1.67
0.500	0.00	6.750	2.51	13.000	59.58	19.25	2.23	5.083	1.95	11.333	7.52	17.583	3.20	23.83	1.67
0.583	0.00	6.833	2.51	13.083	15.18	19.33	2.23	5.167	1.95	11.417	7.52	17.667	3.20	23.92	1.67
0.667	0.00	6.917	2.51	13.167	15.17	19.42	2.23	5.250	1.95	11.500	7.52	17.750	3.20	24.00	1.67
0.750	0.00	7.000	2.51	13.250	15.17	19.50	2.23	5.333	1.95	11.583	7.52	17.833	3.20	24.08	1.53
0.833	0.00	7.083	2.64	13.333	15.17	19.58	2.23	5.417	1.95	11.667	7.52	17.917	3.20	24.17	1.53
0.917	0.00	7.167	2.64	13.417	15.17	19.67	2.23	5.500	1.95	11.750	7.52	18.000	3.20	24.25	1.53
1.000	0.00	7.250	2.64	13.500	15.17	19.75	2.23	5.583	1.95	11.833	7.52	18.083	2.64	24.33	1.53
1.083	1.39	7.333	2.64	13.583	15.17	19.83	2.23	5.667	1.95	11.917	7.52	18.167	2.64	24.42	1.53

5.750	1.95	12.000	7.52	18.250	2.64	24.50	1.53
5.833	1.95	12.083	59.57	18.333	2.64	24.58	1.53
5.917	1.95	12.167	59.58	18.417	2.64	24.67	1.53
6.000	1.95	12.250	59.58	18.500	2.64	24.75	1.53
6.083	2.51	12.333	59.58	18.583	2.64	24.83	1.53
6.167	2.51	12.417	59.58	18.667	2.64	24.92	1.53
6.250	2.51	12.500	59.58	18.750	2.64	25.00	1.53

Unit Hyd Qpeak (cms)= 1.010

PEAK FLOW (cms)= 1.374 (i)
TIME TO PEAK (hrs)= 13.583
RUNOFF VOLUME (mm)= 75.687
TOTAL RAINFALL (mm)= 139.200
RUNOFF COEFFICIENT = 0.544

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

CALIB							
NASHYD (0003)	Area (ha)= 5.93	Curve Number (CN)= 69.0					
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00					
	U.H. Tp(hrs)= 0.49						

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

---- TRANSFORMED HYETOGRAPH ----

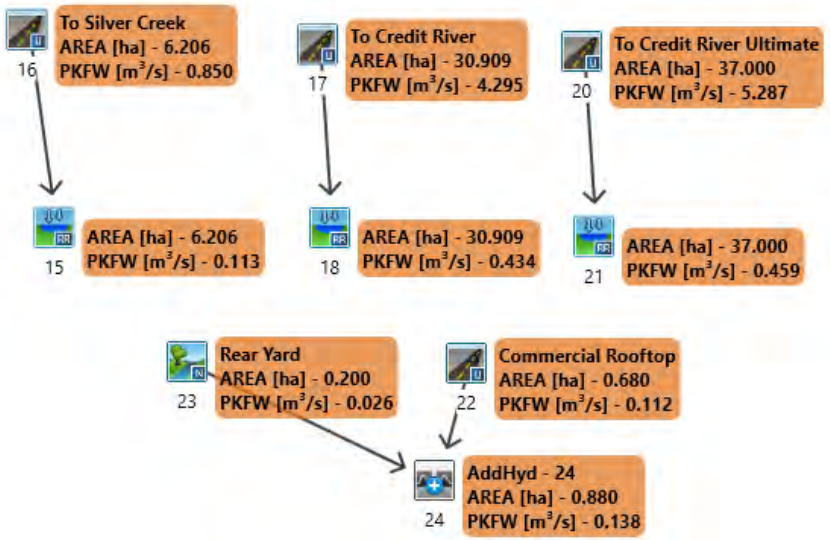
TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	2.51	12.583	59.58	18.83	2.64
0.167	0.00	6.417	2.51	12.667	59.58	18.92	2.64
0.250	0.00	6.500	2.51	12.750	59.58	19.00	2.64
0.333	0.00	6.583	2.51	12.833	59.58	19.08	2.23
0.417	0.00	6.667	2.51	12.917	59.58	19.17	2.23
0.500	0.00	6.750	2.51	13.000	59.58	19.25	2.23
0.583	0.00	6.833	2.51	13.083	15.18	19.33	2.23
0.667	0.00	6.917	2.51	13.167	15.17	19.42	2.23
0.750	0.00	7.000	2.51	13.250	15.17	19.50	2.23
0.833	0.00	7.083	2.64	13.333	15.17	19.58	2.23
0.917	0.00	7.167	2.64	13.417	15.17	19.67	2.23
1.000	0.00	7.250	2.64	13.500	15.17	19.75	2.23
1.083	1.39	7.333	2.64	13.583	15.17	19.83	2.23
1.167	1.39	7.417	2.64	13.667	15.17	19.92	2.23
1.250	1.39	7.500	2.64	13.750	15.17	20.00	2.23
1.333	1.39	7.583	2.64	13.833	15.17	20.08	1.95
1.417	1.39	7.667	2.64	13.917	15.17	20.17	1.95
1.500	1.39	7.750	2.64	14.000	15.17	20.25	1.95
1.583	1.39	7.833	2.64	14.083	6.68	20.33	1.95
1.667	1.39	7.917	2.64	14.167	6.68	20.42	1.95
1.750	1.39	8.000	2.64	14.250	6.68	20.50	1.95
1.833	1.39	8.083	2.92	14.333	6.68	20.58	1.95
1.917	1.39	8.167	2.92	14.417	6.68	20.67	1.95
2.000	1.39	8.250	2.92	14.500	6.68	20.75	1.95
2.083	1.67	8.333	2.92	14.583	6.68	20.83	1.95
2.167	1.67	8.417	2.92	14.667	6.68	20.92	1.95
2.250	1.67	8.500	2.92	14.750	6.68	21.00	1.95
2.333	1.67	8.583	2.92	14.833	6.68	21.08	1.81
2.417	1.67	8.667	2.92	14.917	6.68	21.17	1.81
2.500	1.67	8.750	2.92	15.000	6.68	21.25	1.81
2.583	1.67	8.833	2.92	15.083	4.87	21.33	1.81
2.667	1.67	8.917	2.92	15.167	4.87	21.42	1.81
2.750	1.67	9.000	2.92	15.250	4.87	21.50	1.81
2.833	1.67	9.083	3.76	15.333	4.87	21.58	1.81
2.917	1.67	9.167	3.76	15.417	4.87	21.67	1.81
3.000	1.67	9.250	3.76	15.500	4.87	21.75	1.81
3.083	1.81	9.333	3.76	15.583	4.87	21.83	1.81
3.167	1.81	9.417	3.76	15.667	4.87	21.92	1.81
3.250	1.81	9.500	3.76	15.750	4.87	22.00	1.81
3.333	1.81	9.583	3.76	15.833	4.87	22.08	1.67
3.417	1.81	9.667	3.76	15.917	4.87	22.17	1.67
3.500	1.81	9.750	3.76	16.000	4.87	22.25	1.67
3.583	1.81	9.833	3.76	16.083	3.48	22.33	1.67
3.667	1.81	9.917	3.76	16.167	3.48	22.42	1.67
3.750	1.81	10.000	3.76	16.250	3.48	22.50	1.67
3.833	1.81	10.083	4.73	16.333	3.48	22.58	1.67
3.917	1.81	10.167	4.73	16.417	3.48	22.67	1.67
4.000	1.81	10.250	4.73	16.500	3.48	22.75	1.67
4.083	1.81	10.333	4.73	16.583	3.48	22.83	1.67
4.167	1.81	10.417	4.73	16.667	3.48	22.92	1.67
4.250	1.81	10.500	4.73	16.750	3.48	23.00	1.67
4.333	1.81	10.583	4.73	16.833	3.48	23.08	1.67
4.417	1.81	10.667	4.73	16.917	3.48	23.17	1.67
4.500	1.81	10.750	4.73	17.000	3.48	23.25	1.67
4.583	1.81	10.833	4.73	17.083	3.20	23.33	1.67
4.667	1.81	10.917	4.73	17.167	3.20	23.42	1.67
4.750	1.81	11.000	4.73	17.250	3.20	23.50	1.67
4.833	1.81	11.083	7.52	17.333	3.20	23.58	1.67
4.917	1.81	11.167	7.52	17.417	3.20	23.67	1.67
5.000	1.81	11.250	7.52	17.500	3.20	23.75	1.67
5.083	1.95	11.333	7.52	17.583	3.20	23.83	1.67
5.167	1.95	11.417	7.52	17.667	3.20	23.92	1.67
5.250	1.95	11.500	7.52	17.750	3.20	24.00	1.67
5.333	1.95	11.583	7.52	17.833	3.20	24.08	1.53
5.417	1.95	11.667	7.52	17.917	3.20	24.17	1.53
5.500	1.95	11.750	7.52	18.000	3.20	24.25	1.53
5.583	1.95	11.833	7.52	18.083	2.64	24.33	1.53
5.667	1.95	11.917	7.52	18.167	2.64	24.42	1.53
5.750	1.95	12.000	7.52	18.250	2.64	24.50	1.53
5.833	1.95	12.083	59.57	18.333	2.64	24.58	1.53
5.917	1.95	12.167	59.58	18.417	2.64	24.67	1.53
6.000	1.95	12.250	59.58	18.500	2.64	24.75	1.53
6.083	2.51	12.333	59.58	18.583	2.64	24.83	1.53
6.167	2.51	12.417	59.58	18.667	2.64	24.92	1.53
6.250	2.51	12.500	59.58	18.750	2.64	25.00	1.53

Unit Hyd Qpeak (cms)= 0.462

PEAK FLOW (cms)= 0.468 (i)

TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 72.523
TOTAL RAINFALL (mm)= 139.200
RUNOFF COEFFICIENT = 0.521

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



Run	NHYD	FlowType	DT [hr]	AREA [ha]	PKFW [m³/s]	TP [hr]	RV [mm]	DWF [m³/s]	Max. Used Vol [ha.m]
01- 2 yr SCS	15	Outflow	0.083	6.206	0.038	14.750	37.615	0.000	0.139
02 - 5 yr SCS	15	Outflow	0.083	6.206	0.057	14.667	55.324	0.000	0.205
03 - 10 yr SCS	15	Outflow	0.083	6.206	0.063	14.667	61.419	0.000	0.227
04 - 25 yr SCS	15	Outflow	0.083	6.206	0.086	14.583	84.388	0.000	0.313
05 - 50 yr SCS	15	Outflow	0.083	6.206	0.100	14.500	97.241	0.000	0.361
06 - 100 yr SCS	15	Outflow	0.083	6.206	0.113	14.500	110.272	0.000	0.410
25MM4HR	15	Outflow	0.083	6.206	0.021	4.000	14.941	0.000	0.075

Run	NHYD	FlowType	DT [hr]	AREA [ha]	PKFW [m³/s]	TP [hr]	RV [mm]	DWF [m³/s]	Max. Used Vol [ha.m]
01- 2 yr SCS	18	Outflow	0.083	30.909	0.093	17.333	38.902	0.000	0.866
02 - 5 yr SCS	18	Outflow	0.083	30.909	0.169	16.250	57.205	0.000	1.238
03 - 10 yr SCS	18	Outflow	0.083	30.909	0.199	16.167	63.490	0.000	1.363
04 - 25 yr SCS	18	Outflow	0.083	30.909	0.318	15.417	87.107	0.000	1.821
05 - 50 yr SCS	18	Outflow	0.083	30.909	0.386	15.333	100.280	0.000	2.078
06 - 100 yr SCS	18	Outflow	0.083	30.909	0.434	15.333	113.607	0.000	2.347
25MM4HR	18	Outflow	0.083	30.909	0.046	4.333	15.390	0.000	0.433

Run	NHYD	FlowType	DT [hr]	AREA [ha]	PKFW [m³/s]	TP [hr]	RV [mm]	DWF [m³/s]	Max. Used Vol [ha.m]
01- 2 yr SCS	21	Outflow	0.083	37.000	0.089	19.083	41.265	0.000	1.188
02 - 5 yr SCS	21	Outflow	0.083	37.000	0.166	17.250	59.909	0.000	1.663
03 - 10 yr SCS	21	Outflow	0.083	37.000	0.192	17.083	66.283	0.000	1.824
04 - 25 yr SCS	21	Outflow	0.083	37.000	0.322	16.167	90.163	0.000	2.405
05 - 50 yr SCS	21	Outflow	0.083	37.000	0.382	16.083	103.440	0.000	2.733
06 - 100 yr SCS	21	Outflow	0.083	37.000	0.459	16.000	116.853	0.000	3.056
25MM4HR	21	Outflow	0.083	37.000	0.045	4.333	17.016	0.000	0.592

Run	NHYD	FlowType	DT [hr]	AREA [ha]	PKFW [m³/s]	TP [hr]	RV [mm]
01- 2 yr SCS	24	Outflow	0.083	0.880	0.051	13.000	46.713
02 - 5 yr SCS	24	Outflow	0.083	0.880	0.073	13.000	66.992
03 - 10 yr SCS	24	Outflow	0.083	0.880	0.080	13.000	73.840
04 - 25 yr SCS	24	Outflow	0.083	0.880	0.108	13.000	99.204
05 - 50 yr SCS	24	Outflow	0.083	0.880	0.123	13.000	113.164
06 - 100 yr SCS	24	Outflow	0.083	0.880	0.138	13.000	127.188
25MM4HR	24	Outflow	0.083	0.880	0.094	1.500	19.501

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V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

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

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

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DATE: 01/22/2025 TIME: 03:48:00

USER:

COMMENTS: _____

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 ************************************************
 ** SIMULATION : 01- 2 yr SCS                  **
 ************************************************



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|   READ STORM    |   Filename: C:\Users\RCHUNG\AppD
|                 |            ata\Local\Temp\
|                 |            992f7ae0-3dc4-457e-ab76-c8347a1da44d\6c18f480
| Ptotal= 55.20 mm |   Comments: 2-Year SCS: Pearson Intl Airport
---------------------
            TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
             hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
            0.00    0.00 |  7.00    1.05 | 14.00    2.65 | 21.00    0.72
            1.00    0.55 |  8.00    1.16 | 15.00    1.93 | 22.00    0.66
            2.00    0.66 |  9.00    1.49 | 16.00    1.38 | 23.00    0.66
            3.00    0.72 | 10.00    1.88 | 17.00    1.27 | 24.00    0.61
            4.00    0.72 | 11.00    2.98 | 18.00    1.05 |
            5.00    0.77 | 12.00   23.63 | 19.00    0.88 |
            6.00    0.99 | 13.00    6.02 | 20.00    0.77 |

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| CALIB           |
| STANDHYD (  0016)|  Area    (ha)=   6.21
|ID= 1 DT= 5.0 min |  Total Imp(%)=  65.00   Dir. Conn.(%)=  55.00
---------------------
                       IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      4.03         2.17
    Dep. Storage     (mm)=      1.00         1.50
    Average Slope    (%)=       1.00         2.00
    Length           (m)=     203.41        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 | 6.333    0.99 |12.583   23.63 | 18.83    1.05
           0.167    0.00 | 6.417    0.99 |12.667   23.63 | 18.92    1.05
           0.250    0.00 | 6.500    0.99 |12.750   23.63 | 19.00    1.05
           0.333    0.00 | 6.583    0.99 |12.833   23.63 | 19.08    0.88
           0.417    0.00 | 6.667    0.99 |12.917   23.63 | 19.17    0.88
           0.500    0.00 | 6.750    0.99 |13.000   23.63 | 19.25    0.88
           0.583    0.00 | 6.833    0.99 |13.083    6.02 | 19.33    0.88
           0.667    0.00 | 6.917    0.99 |13.167    6.02 | 19.42    0.88
           0.750    0.00 | 7.000    0.99 |13.250    6.02 | 19.50    0.88
           0.833    0.00 | 7.083    1.05 |13.333    6.02 | 19.58    0.88
           0.917    0.00 | 7.167    1.05 |13.417    6.02 | 19.67    0.88
           1.000    0.00 | 7.250    1.05 |13.500    6.02 | 19.75    0.88
           1.083    0.55 | 7.333    1.05 |13.583    6.02 | 19.83    0.88
           1.167    0.55 | 7.417    1.05 |13.667    6.02 | 19.92    0.88
           1.250    0.55 | 7.500    1.05 |13.750    6.02 | 20.00    0.88
           1.333    0.55 | 7.583    1.05 |13.833    6.02 | 20.08    0.77
           1.417    0.55 | 7.667    1.05 |13.917    6.02 | 20.17    0.77
           1.500    0.55 | 7.750    1.05 |14.000    6.02 | 20.25    0.77
           1.583    0.55 | 7.833    1.05 |14.083    2.65 | 20.33    0.77
           1.667    0.55 | 7.917    1.05 |14.167    2.65 | 20.42    0.77
           1.750    0.55 | 8.000    1.05 |14.250    2.65 | 20.50    0.77
           1.833    0.55 | 8.083    1.16 |14.333    2.65 | 20.58    0.77
           1.917    0.55 | 8.167    1.16 |14.417    2.65 | 20.67    0.77
           2.000    0.55 | 8.250    1.16 |14.500    2.65 | 20.75    0.77
           2.083    0.66 | 8.333    1.16 |14.583    2.65 | 20.83    0.77
           2.167    0.66 | 8.417    1.16 |14.667    2.65 | 20.92    0.77
           2.250    0.66 | 8.500    1.16 |14.750    2.65 | 21.00    0.77
           2.333    0.66 | 8.583    1.16 |14.833    2.65 | 21.08    0.72
           2.417    0.66 | 8.667    1.16 |14.917    2.65 | 21.17    0.72
           2.500    0.66 | 8.750    1.16 |15.000    2.65 | 21.25    0.72
           2.583    0.66 | 8.833    1.16 |15.083    1.93 | 21.33    0.72
           2.667    0.66 | 8.917    1.16 |15.167    1.93 | 21.42    0.72
           2.750    0.66 | 9.000    1.16 |15.250    1.93 | 21.50    0.72
           2.833    0.66 | 9.083    1.49 |15.333    1.93 | 21.58    0.72
           2.917    0.66 | 9.167    1.49 |15.417    1.93 | 21.67    0.72
           3.000    0.66 | 9.250    1.49 |15.500    1.93 | 21.75    0.72
           3.083    0.72 | 9.333    1.49 |15.583    1.93 | 21.83    0.72
           3.167    0.72 | 9.417    1.49 |15.667    1.93 | 21.92    0.72
           3.250    0.72 | 9.500    1.49 |15.750    1.93 | 22.00    0.72
           3.333    0.72 | 9.583    1.49 |15.833    1.93 | 22.08    0.66
           3.417    0.72 | 9.667    1.49 |15.917    1.93 | 22.17    0.66
           3.500    0.72 | 9.750    1.49 |16.000    1.93 | 22.25    0.66
           3.583    0.72 | 9.833    1.49 |16.083    1.38 | 22.33    0.66
           3.667    0.72 | 9.917    1.49 |16.167    1.38 | 22.42    0.66
           3.750    0.72 |10.000    1.49 |16.250    1.38 | 22.50    0.66
           3.833    0.72 |10.083    1.88 |16.333    1.38 | 22.58    0.66
           3.917    0.72 |10.167    1.88 |16.417    1.38 | 22.67    0.66
           4.000    0.72 |10.250    1.88 |16.500    1.38 | 22.75    0.66
           4.083    0.72 |10.333    1.88 |16.583    1.38 | 22.83    0.66
           4.167    0.72 |10.417    1.88 |16.667    1.38 | 22.92    0.66
           4.250    0.72 |10.500    1.88 |16.750    1.38 | 23.00    0.66
           4.333    0.72 |10.583    1.88 |16.833    1.38 | 23.08    0.66
           4.417    0.72 |10.667    1.88 |16.917    1.38 | 23.17    0.66
           4.500    0.72 |10.750    1.88 |17.000    1.38 | 23.25    0.66
           4.583    0.72 |10.833    1.88 |17.083    1.27 | 23.33    0.66
           4.667    0.72 |10.917    1.88 |17.167    1.27 | 23.42    0.66
           4.750    0.72 |11.000    1.88 |17.250    1.27 | 23.50    0.66
           4.833    0.72 |11.083    2.98 |17.333    1.27 | 23.58    0.66
           4.917    0.72 |11.167    2.98 |17.417    1.27 | 23.67    0.66
           5.000    0.72 |11.250    2.98 |17.500    1.27 | 23.75    0.66
           5.083    0.77 |11.333    2.98 |17.583    1.27 | 23.83    0.66
           5.167    0.77 |11.417    2.98 |17.667    1.27 | 23.92    0.66
           5.250    0.77 |11.500    2.98 |17.750    1.27 | 24.00    0.66
           5.333    0.77 |11.583    2.98 |17.833    1.27 | 24.08    0.61
           5.417    0.77 |11.667    2.98 |17.917    1.27 | 24.17    0.61
           5.500    0.77 |11.750    2.98 |18.000    1.27 | 24.25    0.61
           5.583    0.77 |11.833    2.98 |18.083    1.05 | 24.33    0.61
           5.667    0.77 |11.917    2.98 |18.167    1.05 | 24.42    0.61
           5.750    0.77 |12.000    2.98 |18.250    1.05 | 24.50    0.61
```

5.833	0.77	12.083	23.62	18.333	1.05	24.58	0.61
5.917	0.77	12.167	23.63	18.417	1.05	24.67	0.61
6.000	0.77	12.250	23.63	18.500	1.05	24.75	0.61
6.083	0.99	12.333	23.63	18.583	1.05	24.83	0.61
6.167	0.99	12.417	23.63	18.667	1.05	24.92	0.61
6.250	0.99	12.500	23.63	18.750	1.05	25.00	0.61

Max.Eff.Inten.(mm/hr)=	23.63	11.92	
over (min)	5.00	25.00	
Storage Coeff. (min)=	6.97 (ii)	23.49 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.17	0.05	
		TOTALS	
PEAK FLOW (cms)=	0.22	0.05	0.276 (iii)
TIME TO PEAK (hrs)=	13.00	13.17	13.00
RUNOFF VOLUME (mm)=	54.20	17.68	37.76
TOTAL RAINFALL (mm)=	55.20	55.20	55.20
RUNOFF COEFFICIENT =	0.98	0.32	0.68

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(0015)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.1160	0.4200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0016)	6.206	0.276	13.00	37.76
OUTFLOW: ID= 1 (0015)	6.206	0.038	14.75	37.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.92
TIME SHIFT OF PEAK FLOW (min)=105.00
MAXIMUM STORAGE USED (ha.m.)= 0.1393

CALIB
STANDHYD (0017)| Area (ha)= 30.91
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 55.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.09	10.82
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	453.94	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	6.333	0.99	12.583	23.63	18.83	1.05
0.167	0.00	6.417	0.99	12.667	23.63	18.92	1.05
0.250	0.00	6.500	0.99	12.750	23.63	19.00	1.05
0.333	0.00	6.583	0.99	12.833	23.63	19.08	0.88
0.417	0.00	6.667	0.99	12.917	23.63	19.17	0.88
0.500	0.00	6.750	0.99	13.000	23.63	19.25	0.88
0.583	0.00	6.833	0.99	13.083	6.02	19.33	0.88
0.667	0.00	6.917	0.99	13.167	6.02	19.42	0.88
0.750	0.00	7.000	0.99	13.250	6.02	19.50	0.88
0.833	0.00	7.083	1.05	13.333	6.02	19.58	0.88
0.917	0.00	7.167	1.05	13.417	6.02	19.67	0.88
1.000	0.00	7.250	1.05	13.500	6.02	19.75	0.88
1.083	0.55	7.333	1.05	13.583	6.02	19.83	0.88
1.167	0.55	7.417	1.05	13.667	6.02	19.92	0.88
1.250	0.55	7.500	1.05	13.750	6.02	20.00	0.88
1.333	0.55	7.583	1.05	13.833	6.02	20.08	0.77
1.417	0.55	7.667	1.05	13.917	6.02	20.17	0.77
1.500	0.55	7.750	1.05	14.000	6.02	20.25	0.77
1.583	0.55	7.833	1.05	14.083	2.65	20.33	0.77
1.667	0.55	7.917	1.05	14.167	2.65	20.42	0.77
1.750	0.55	8.000	1.05	14.250	2.65	20.50	0.77
1.833	0.55	8.083	1.16	14.333	2.65	20.58	0.77
1.917	0.55	8.167	1.16	14.417	2.65	20.67	0.77
2.000	0.55	8.250	1.16	14.500	2.65	20.75	0.77
2.083	0.66	8.333	1.16	14.583	2.65	20.83	0.77
2.167	0.66	8.417	1.16	14.667	2.65	20.92	0.77
2.250	0.66	8.500	1.16	14.750	2.65	21.00	0.77
2.333	0.66	8.583	1.16	14.833	2.65	21.08	0.72
2.417	0.66	8.667	1.16	14.917	2.65	21.17	0.72
2.500	0.66	8.750	1.16	15.000	2.65	21.25	0.72
2.583	0.66	8.833	1.16	15.083	1.93	21.33	0.72
2.667	0.66	8.917	1.16	15.167	1.93	21.42	0.72
2.750	0.66	9.000	1.16	15.250	1.93	21.50	0.72
2.833	0.66	9.083	1.49	15.333	1.93	21.58	0.72
2.917	0.66	9.167	1.49	15.417	1.93	21.67	0.72
3.000	0.66	9.250	1.49	15.500	1.93	21.75	0.72
3.083	0.72	9.333	1.49	15.583	1.93	21.83	0.72
3.167	0.72	9.417	1.49	15.667	1.93	21.92	0.72
3.250	0.72	9.500	1.49	15.750	1.93	22.00	0.72
3.333	0.72	9.583	1.49	15.833	1.93	22.08	0.66
3.417	0.72	9.667	1.49	15.917	1.93	22.17	0.66
3.500	0.72	9.750	1.49	16.000	1.93	22.25	0.66
3.583	0.72	9.833	1.49	16.083	1.38	22.33	0.66
3.667	0.72	9.917	1.49	16.167	1.38	22.42	0.66
3.750	0.72	10.000	1.49	16.250	1.38	22.50	0.66
3.833	0.72	10.083	1.88	16.333	1.38	22.58	0.66
3.917	0.72	10.167	1.88	16.417	1.38	22.67	0.66
4.000	0.72	10.250	1.88	16.500	1.38	22.75	0.66

4.083	0.72	10.333	1.88	16.583	1.38	22.83	0.66
4.167	0.72	10.417	1.88	16.667	1.38	22.92	0.66
4.250	0.72	10.500	1.88	16.750	1.38	23.00	0.66
4.333	0.72	10.583	1.88	16.833	1.38	23.08	0.66
4.417	0.72	10.667	1.88	16.917	1.38	23.17	0.66
4.500	0.72	10.750	1.88	17.000	1.38	23.25	0.66
4.583	0.72	10.833	1.88	17.083	1.27	23.33	0.66
4.667	0.72	10.917	1.88	17.167	1.27	23.42	0.66
4.750	0.72	11.000	1.88	17.250	1.27	23.50	0.66
4.833	0.72	11.083	2.98	17.333	1.27	23.58	0.66
4.917	0.72	11.167	2.98	17.417	1.27	23.67	0.66
5.000	0.72	11.250	2.98	17.500	1.27	23.75	0.66
5.083	0.77	11.333	2.98	17.583	1.27	23.83	0.66
5.167	0.77	11.417	2.98	17.667	1.27	23.92	0.66
5.250	0.77	11.500	2.98	17.750	1.27	24.00	0.66
5.333	0.77	11.583	2.98	17.833	1.27	24.08	0.61
5.417	0.77	11.667	2.98	17.917	1.27	24.17	0.61
5.500	0.77	11.750	2.98	18.000	1.27	24.25	0.61
5.583	0.77	11.833	2.98	18.083	1.05	24.33	0.61
5.667	0.77	11.917	2.98	18.167	1.05	24.42	0.61
5.750	0.77	12.000	2.98	18.250	1.05	24.50	0.61
5.833	0.77	12.083	23.62	18.333	1.05	24.58	0.61
5.917	0.77	12.167	23.63	18.417	1.05	24.67	0.61
6.000	0.77	12.250	23.63	18.500	1.05	24.75	0.61
6.083	0.99	12.333	23.63	18.583	1.05	24.83	0.61
6.167	0.99	12.417	23.63	18.667	1.05	24.92	0.61
6.250	0.99	12.500	23.63	18.750	1.05	25.00	0.61

Max.Eff.Inten.(mm/hr)=	23.63	13.81	
over (min)	10.00	30.00	
Storage Coeff. (min)=	11.28 (ii)	26.86 (ii)	
Unit Hyd. Tpeak (min)=	10.00	30.00	
Unit Hyd. peak (cms)=	0.10	0.04	
	TOTALS		
PEAK FLOW (cms)=	1.11	0.30	1.387 (iii)
TIME TO PEAK (hrs)=	13.00	13.17	13.00
RUNOFF VOLUME (mm)=	54.20	20.45	39.01
TOTAL RAINFALL (mm)=	55.20	55.20	55.20
RUNOFF COEFFICIENT =	0.98	0.37	0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0018)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	1.8400
	0.0940	0.8780	0.3940	2.1080
	0.1730	1.2560	0.4680	2.5540
	0.2030	1.3800	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0017)	30.909	1.387	13.00	39.01
OUTFLOW: ID= 1 (0018)	30.909	0.093	17.33	38.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.68
TIME SHIFT OF PEAK FLOW (min)=260.00
MAXIMUM STORAGE USED (ha.m.)= 0.8658

CALIB	
STANDHYD (0020)	Area (ha)= 37.00
ID= 1 DT= 5.0 min	Total Imp(%)= 70.00 Dir. Conn.(%)= 65.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.90	11.10
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	496.66	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	0.99	12.583	23.63	18.83	1.05
0.167	0.00	6.417	0.99	12.667	23.63	18.92	1.05
0.250	0.00	6.500	0.99	12.750	23.63	19.00	1.05
0.333	0.00	6.583	0.99	12.833	23.63	19.08	0.88
0.417	0.00	6.667	0.99	12.917	23.63	19.17	0.88
0.500	0.00	6.750	0.99	13.000	23.63	19.25	0.88
0.583	0.00	6.833	0.99	13.083	6.02	19.33	0.88
0.667	0.00	6.917	0.99	13.167	6.02	19.42	0.88
0.750	0.00	7.000	0.99	13.250	6.02	19.50	0.88
0.833	0.00	7.083	1.05	13.333	6.02	19.58	0.88
0.917	0.00	7.167	1.05	13.417	6.02	19.67	0.88
1.000	0.00	7.250	1.05	13.500	6.02	19.75	0.88
1.083	0.55	7.333	1.05	13.583	6.02	19.83	0.88
1.167	0.55	7.417	1.05	13.667	6.02	19.92	0.88
1.250	0.55	7.500	1.05	13.750	6.02	20.00	0.88
1.333	0.55	7.583	1.05	13.833	6.02	20.08	0.77
1.417	0.55	7.667	1.05	13.917	6.02	20.17	0.77
1.500	0.55	7.750	1.05	14.000	6.02	20.25	0.77
1.583	0.55	7.833	1.05	14.083	2.65	20.33	0.77
1.667	0.55	7.917	1.05	14.167	2.65	20.42	0.77
1.750	0.55	8.000	1.05	14.250	2.65	20.50	0.77
1.833	0.55	8.083	1.16	14.333	2.65	20.58	0.77
1.917	0.55	8.167	1.16	14.417	2.65	20.67	0.77
2.000	0.55	8.250	1.16	14.500	2.65	20.75	0.77

2.083	0.66	8.333	1.16	14.583	2.65	20.83	0.77
2.167	0.66	8.417	1.16	14.667	2.65	20.92	0.77
2.250	0.66	8.500	1.16	14.750	2.65	21.00	0.77
2.333	0.66	8.583	1.16	14.833	2.65	21.08	0.72
2.417	0.66	8.667	1.16	14.917	2.65	21.17	0.72
2.500	0.66	8.750	1.16	15.000	2.65	21.25	0.72
2.583	0.66	8.833	1.16	15.083	1.93	21.33	0.72
2.667	0.66	8.917	1.16	15.167	1.93	21.42	0.72
2.750	0.66	9.000	1.16	15.250	1.93	21.50	0.72
2.833	0.66	9.083	1.49	15.333	1.93	21.58	0.72
2.917	0.66	9.167	1.49	15.417	1.93	21.67	0.72
3.000	0.66	9.250	1.49	15.500	1.93	21.75	0.72
3.083	0.72	9.333	1.49	15.583	1.93	21.83	0.72
3.167	0.72	9.417	1.49	15.667	1.93	21.92	0.72
3.250	0.72	9.500	1.49	15.750	1.93	22.00	0.72
3.333	0.72	9.583	1.49	15.833	1.93	22.08	0.66
3.417	0.72	9.667	1.49	15.917	1.93	22.17	0.66
3.500	0.72	9.750	1.49	16.000	1.93	22.25	0.66
3.583	0.72	9.833	1.49	16.083	1.38	22.33	0.66
3.667	0.72	9.917	1.49	16.167	1.38	22.42	0.66
3.750	0.72	10.000	1.49	16.250	1.38	22.50	0.66
3.833	0.72	10.083	1.88	16.333	1.38	22.58	0.66
3.917	0.72	10.167	1.88	16.417	1.38	22.67	0.66
4.000	0.72	10.250	1.88	16.500	1.38	22.75	0.66
4.083	0.72	10.333	1.88	16.583	1.38	22.83	0.66
4.167	0.72	10.417	1.88	16.667	1.38	22.92	0.66
4.250	0.72	10.500	1.88	16.750	1.38	23.00	0.66
4.333	0.72	10.583	1.88	16.833	1.38	23.08	0.66
4.417	0.72	10.667	1.88	16.917	1.38	23.17	0.66
4.500	0.72	10.750	1.88	17.000	1.38	23.25	0.66
4.583	0.72	10.833	1.88	17.083	1.27	23.33	0.66
4.667	0.72	10.917	1.88	17.167	1.27	23.42	0.66
4.750	0.72	11.000	1.88	17.250	1.27	23.50	0.66
4.833	0.72	11.083	2.98	17.333	1.27	23.58	0.66
4.917	0.72	11.167	2.98	17.417	1.27	23.67	0.66
5.000	0.72	11.250	2.98	17.500	1.27	23.75	0.66
5.083	0.77	11.333	2.98	17.583	1.27	23.83	0.66
5.167	0.77	11.417	2.98	17.667	1.27	23.92	0.66
5.250	0.77	11.500	2.98	17.750	1.27	24.00	0.66
5.333	0.77	11.583	2.98	17.833	1.27	24.08	0.61
5.417	0.77	11.667	2.98	17.917	1.27	24.17	0.61
5.500	0.77	11.750	2.98	18.000	1.27	24.25	0.61
5.583	0.77	11.833	2.98	18.083	1.05	24.33	0.61
5.667	0.77	11.917	2.98	18.167	1.05	24.42	0.61
5.750	0.77	12.000	2.98	18.250	1.05	24.50	0.61
5.833	0.77	12.083	23.62	18.333	1.05	24.58	0.61
5.917	0.77	12.167	23.63	18.417	1.05	24.67	0.61
6.000	0.77	12.250	23.63	18.500	1.05	24.75	0.61
6.083	0.99	12.333	23.63	18.583	1.05	24.83	0.61
6.167	0.99	12.417	23.63	18.667	1.05	24.92	0.61
6.250	0.99	12.500	23.63	18.750	1.05	25.00	0.61

Max.Eff.Inten.(mm/hr)= 23.63 11.75
over (min) 10.00 30.00
Storage Coeff. (min)= 11.90 (ii) 28.52 (ii)

Unit Hyd. Tpeak (min)= 10.00 30.00
Unit Hyd. peak (cms)= 0.10 0.04

TOTALS

PEAK FLOW (cms)= 1.57 0.26 1.801 (iii)
TIME TO PEAK (hrs)= 13.00 13.25 13.00
RUNOFF VOLUME (mm)= 54.20 19.16 41.93
TOTAL RAINFALL (mm)= 55.20 55.20 55.20
RUNOFF COEFFICIENT = 0.98 0.35 0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(0021)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.3230	2.4100
	0.0940	1.2500	0.3940	2.8000
	0.1730	1.7000	0.4680	3.0936
	0.2030	1.9000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	37.000	1.801	13.00	41.93
OUTFLOW: ID= 1 (0021)	37.000	0.089	19.08	41.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.96
TIME SHIFT OF PEAK FLOW (min)=365.00
MAXIMUM STORAGE USED (ha.m.)= 1.1879

CALIB
NASHYD (0023)| Area (ha)= 0.20 Curve Number (CN)= 80.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.20	

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	6.333	0.99	12.583	23.63	18.83	1.05
0.167	0.00	6.417	0.99	12.667	23.63	18.92	1.05
0.250	0.00	6.500	0.99	12.750	23.63	19.00	1.05
0.333	0.00	6.583	0.99	12.833	23.63	19.08	0.88
0.417	0.00	6.667	0.99	12.917	23.63	19.17	0.88
0.500	0.00	6.750	0.99	13.000	23.63	19.25	0.88

0.583	0.00 | 6.833	0.99 |13.083	6.02 | 19.33	0.88	
0.667	0.00 | 6.917	0.99 |13.167	6.02 | 19.42	0.88	
0.750	0.00 | 7.000	0.99 |13.250	6.02 | 19.50	0.88	
0.833	0.00 | 7.083	1.05 |13.333	6.02 | 19.58	0.88	
0.917	0.00 | 7.167	1.05 |13.417	6.02 | 19.67	0.88	
1.000	0.00 | 7.250	1.05 |13.500	6.02 | 19.75	0.88	
1.083	0.55 | 7.333	1.05 |13.583	6.02 | 19.83	0.88	
1.167	0.55 | 7.417	1.05 |13.667	6.02 | 19.92	0.88	
1.250	0.55 | 7.500	1.05 |13.750	6.02 | 20.00	0.88	
1.333	0.55 | 7.583	1.05 |13.833	6.02 | 20.08	0.77	
1.417	0.55 | 7.667	1.05 |13.917	6.02 | 20.17	0.77	
1.500	0.55 | 7.750	1.05 |14.000	6.02 | 20.25	0.77	
1.583	0.55 | 7.833	1.05 |14.083	2.65 | 20.33	0.77	
1.667	0.55 | 7.917	1.05 |14.167	2.65 | 20.42	0.77	
1.750	0.55 | 8.000	1.05 |14.250	2.65 | 20.50	0.77	
1.833	0.55 | 8.083	1.16 |14.333	2.65 | 20.58	0.77	
1.917	0.55 | 8.167	1.16 |14.417	2.65 | 20.67	0.77	
2.000	0.55 | 8.250	1.16 |14.500	2.65 | 20.75	0.77	
2.083	0.66 | 8.333	1.16 |14.583	2.65 | 20.83	0.77	
2.167	0.66 | 8.417	1.16 |14.667	2.65 | 20.92	0.77	
2.250	0.66 | 8.500	1.16 |14.750	2.65 | 21.00	0.77	
2.333	0.66 | 8.583	1.16 |14.833	2.65 | 21.08	0.72	
2.417	0.66 | 8.667	1.16 |14.917	2.65 | 21.17	0.72	
2.500	0.66 | 8.750	1.16 |15.000	2.65 | 21.25	0.72	
2.583	0.66 | 8.833	1.16 |15.083	1.93 | 21.33	0.72	
2.667	0.66 | 8.917	1.16 |15.167	1.93 | 21.42	0.72	
2.750	0.66 | 9.000	1.16 |15.250	1.93 | 21.50	0.72	
2.833	0.66 | 9.083	1.49 |15.333	1.93 | 21.58	0.72	
2.917	0.66 | 9.167	1.49 |15.417	1.93 | 21.67	0.72	
3.000	0.66 | 9.250	1.49 |15.500	1.93 | 21.75	0.72	
3.083	0.72 | 9.333	1.49 |15.583	1.93 | 21.83	0.72	
3.167	0.72 | 9.417	1.49 |15.667	1.93 | 21.92	0.72	
3.250	0.72 | 9.500	1.49 |15.750	1.93 | 22.00	0.72	
3.333	0.72 | 9.583	1.49 |15.833	1.93 | 22.08	0.66	
3.417	0.72 | 9.667	1.49 |15.917	1.93 | 22.17	0.66	
3.500	0.72 | 9.750	1.49 |16.000	1.93 | 22.25	0.66	
3.583	0.72 | 9.833	1.49 |16.083	1.38 | 22.33	0.66	
3.667	0.72 | 9.917	1.49 |16.167	1.38 | 22.42	0.66	
3.750	0.72 |10.000	1.49 |16.250	1.38 | 22.50	0.66	
3.833	0.72 |10.083	1.88 |16.333	1.38 | 22.58	0.66	
3.917	0.72 |10.167	1.88 |16.417	1.38 | 22.67	0.66	
4.000	0.72 |10.250	1.88 |16.500	1.38 | 22.75	0.66	
4.083	0.72 |10.333	1.88 |16.583	1.38 | 22.83	0.66	
4.167	0.72 |10.417	1.88 |16.667	1.38 | 22.92	0.66	
4.250	0.72 |10.500	1.88 |16.750	1.38 | 23.00	0.66	
4.333	0.72 |10.583	1.88 |16.833	1.38 | 23.08	0.66	
4.417	0.72 |10.667	1.88 |16.917	1.38 | 23.17	0.66	
4.500	0.72 |10.750	1.88 |17.000	1.38 | 23.25	0.66	
4.583	0.72 |10.833	1.88 |17.083	1.27 | 23.33	0.66	
4.667	0.72 |10.917	1.88 |17.167	1.27 | 23.42	0.66	
4.750	0.72 |11.000	1.88 |17.250	1.27 | 23.50	0.66	
4.833	0.72 |11.083	2.98 |17.333	1.27 | 23.58	0.66	
4.917	0.72 |11.167	2.98 |17.417	1.27 | 23.67	0.66	
5.000	0.72 |11.250	2.98 |17.500	1.27 | 23.75	0.66	
5.083	0.77 |11.333	2.98 |17.583	1.27 | 23.83	0.66	
5.167	0.77 |11.417	2.98 |17.667	1.27 | 23.92	0.66	
5.250	0.77 |11.500	2.98 |17.750	1.27 | 24.00	0.66	
5.333	0.77 |11.583	2.98 |17.833	1.27 | 24.08	0.61	
5.417	0.77 |11.667	2.98 |17.917	1.27 | 24.17	0.61	
5.500	0.77 |11.750	2.98 |18.000	1.27 | 24.25	0.61	
5.583	0.77 |11.833	2.98 |18.083	1.05 | 24.33	0.61	
5.667	0.77 |11.917	2.98 |18.167	1.05 | 24.42	0.61	
5.750	0.77 |12.000	2.98 |18.250	1.05 | 24.50	0.61	
5.833	0.77 |12.083	23.62 |18.333	1.05 | 24.58	0.61	
5.917	0.77 |12.167	23.63 |18.417	1.05 | 24.67	0.61	
6.000	0.77 |12.250	23.63 |18.500	1.05 | 24.75	0.61	
6.083	0.99 |12.333	23.63 |18.583	1.05 | 24.83	0.61	
6.167	0.99 |12.417	23.63 |18.667	1.05 | 24.92	0.61	
6.250	0.99 |12.500	23.63 |18.750	1.05 | 25.00	0.61	

Unit Hyd Qpeak (cms)= 0.038

PEAK FLOW (cms)= 0.006 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 22.120
TOTAL RAINFALL (mm)= 55.200
RUNOFF COEFFICIENT = 0.401

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

CALIB	
STANDHYD (0022)	Area (ha)= 0.68
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.67	0.01
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	67.33	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	0.99	12.583	23.63	18.83	1.05
0.167	0.00	6.417	0.99	12.667	23.63	18.92	1.05
0.250	0.00	6.500	0.99	12.750	23.63	19.00	1.05
0.333	0.00	6.583	0.99	12.833	23.63	19.08	0.88
0.417	0.00	6.667	0.99	12.917	23.63	19.17	0.88
0.500	0.00	6.750	0.99	13.000	23.63	19.25	0.88
0.583	0.00	6.833	0.99	13.083	6.02	19.33	0.88
0.667	0.00	6.917	0.99	13.167	6.02	19.42	0.88
0.750	0.00	7.000	0.99	13.250	6.02	19.50	0.88
0.833	0.00	7.083	1.05	13.333	6.02	19.58	0.88
0.917	0.00	7.167	1.05	13.417	6.02	19.67	0.88

1.000	0.00 | 7.250	1.05 |13.500	6.02 | 19.75	0.88		
1.083	0.55 | 7.333	1.05 |13.583	6.02 | 19.83	0.88		
1.167	0.55 | 7.417	1.05 |13.667	6.02 | 19.92	0.88		
1.250	0.55 | 7.500	1.05 |13.750	6.02 | 20.00	0.88		
1.333	0.55 | 7.583	1.05 |13.833	6.02 | 20.08	0.77		
1.417	0.55 | 7.667	1.05 |13.917	6.02 | 20.17	0.77		
1.500	0.55 | 7.750	1.05 |14.000	6.02 | 20.25	0.77		
1.583	0.55 | 7.833	1.05 |14.083	2.65 | 20.33	0.77		
1.667	0.55 | 7.917	1.05 |14.167	2.65 | 20.42	0.77		
1.750	0.55 | 8.000	1.05 |14.250	2.65 | 20.50	0.77		
1.833	0.55 | 8.083	1.16 |14.333	2.65 | 20.58	0.77		
1.917	0.55 | 8.167	1.16 |14.417	2.65 | 20.67	0.77		
2.000	0.55 | 8.250	1.16 |14.500	2.65 | 20.75	0.77		
2.083	0.66 | 8.333	1.16 |14.583	2.65 | 20.83	0.77		
2.167	0.66 | 8.417	1.16 |14.667	2.65 | 20.92	0.77		
2.250	0.66 | 8.500	1.16 |14.750	2.65 | 21.00	0.77		
2.333	0.66 | 8.583	1.16 |14.833	2.65 | 21.08	0.72		
2.417	0.66 | 8.667	1.16 |14.917	2.65 | 21.17	0.72		
2.500	0.66 | 8.750	1.16 |15.000	2.65 | 21.25	0.72		
2.583	0.66 | 8.833	1.16 |15.083	1.93 | 21.33	0.72		
2.667	0.66 | 8.917	1.16 |15.167	1.93 | 21.42	0.72		
2.750	0.66 | 9.000	1.16 |15.250	1.93 | 21.50	0.72		
2.833	0.66 | 9.083	1.49 |15.333	1.93 | 21.58	0.72		
2.917	0.66 | 9.167	1.49 |15.417	1.93 | 21.67	0.72		
3.000	0.66 | 9.250	1.49 |15.500	1.93 | 21.75	0.72		
3.083	0.72 | 9.333	1.49 |15.583	1.93 | 21.83	0.72		
3.167	0.72 | 9.417	1.49 |15.667	1.93 | 21.92	0.72		
3.250	0.72 | 9.500	1.49 |15.750	1.93 | 22.00	0.72		
3.333	0.72 | 9.583	1.49 |15.833	1.93 | 22.08	0.66		
3.417	0.72 | 9.667	1.49 |15.917	1.93 | 22.17	0.66		
3.500	0.72 | 9.750	1.49 |16.000	1.93 | 22.25	0.66		
3.583	0.72 | 9.833	1.49 |16.083	1.38 | 22.33	0.66		
3.667	0.72 | 9.917	1.49 |16.167	1.38 | 22.42	0.66		
3.750	0.72 |10.000	1.49 |16.250	1.38 | 22.50	0.66		
3.833	0.72 |10.083	1.88 |16.333	1.38 | 22.58	0.66		
3.917	0.72 |10.167	1.88 |16.417	1.38 | 22.67	0.66		
4.000	0.72 |10.250	1.88 |16.500	1.38 | 22.75	0.66		
4.083	0.72 |10.333	1.88 |16.583	1.38 | 22.83	0.66		
4.167	0.72 |10.417	1.88 |16.667	1.38 | 22.92	0.66		
4.250	0.72 |10.500	1.88 |16.750	1.38 | 23.00	0.66		
4.333	0.72 |10.583	1.88 |16.833	1.38 | 23.08	0.66		
4.417	0.72 |10.667	1.88 |16.917	1.38 | 23.17	0.66		
4.500	0.72 |10.750	1.88 |17.000	1.38 | 23.25	0.66		
4.583	0.72 |10.833	1.88 |17.083	1.27 | 23.33	0.66		
4.667	0.72 |10.917	1.88 |17.167	1.27 | 23.42	0.66		
4.750	0.72 |11.000	1.88 |17.250	1.27 | 23.50	0.66		
4.833	0.72 |11.083	2.98 |17.333	1.27 | 23.58	0.66		
4.917	0.72 |11.167	2.98 |17.417	1.27 | 23.67	0.66		
5.000	0.72 |11.250	2.98 |17.500	1.27 | 23.75	0.66		
5.083	0.77 |11.333	2.98 |17.583	1.27 | 23.83	0.66		
5.167	0.77 |11.417	2.98 |17.667	1.27 | 23.92	0.66		
5.250	0.77 |11.500	2.98 |17.750	1.27 | 24.00	0.66		
5.333	0.77 |11.583	2.98 |17.833	1.27 | 24.08	0.61		
5.417	0.77 |11.667	2.98 |17.917	1.27 | 24.17	0.61		
5.500	0.77 |11.750	2.98 |18.000	1.27 | 24.25	0.61		
5.583	0.77 |11.833	2.98 |18.083	1.05 | 24.33	0.61		
5.667	0.77 |11.917	2.98 |18.167	1.05 | 24.42	0.61		
5.750	0.77 |12.000	2.98 |18.250	1.05 | 24.50	0.61		
5.833	0.77 |12.083	23.62 |18.333	1.05 | 24.58	0.61		
5.917	0.77 |12.167	23.63 |18.417	1.05 | 24.67	0.61		
6.000	0.77 |12.250	23.63 |18.500	1.05 | 24.75	0.61		
6.083	0.99 |12.333	23.63 |18.583	1.05 | 24.83	0.61		
6.167	0.99 |12.417	23.63 |18.667	1.05 | 24.92	0.61		
6.250	0.99 |12.500	23.63 |18.750	1.05 | 25.00	0.61		

```
   Max.Eff.Inten.(mm/hr)=      23.63       15.81
            over (min)        5.00       10.00
   Storage Coeff.  (min)=      3.59 (ii)   5.59 (ii)
   Unit Hyd. Tpeak (min)=      5.00       10.00
   Unit Hyd. peak  (cms)=      0.26       0.16
                                *TOTALS*
   PEAK FLOW      (cms)=       0.04       0.00        0.044 (iii)
   TIME TO PEAK   (hrs)=      12.83      13.00       13.00
   RUNOFF VOLUME  (mm)=      54.20      29.27       53.95
   TOTAL RAINFALL (mm)=      55.20      55.20       55.20
   RUNOFF COEFFICIENT  =      0.98       0.53        0.98

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

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

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

--------------------
| ADD HYD  (  0024)|
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0022):    0.68   0.044    13.00    53.95
    + ID2= 2 (  0023):    0.20   0.006    13.00    22.12
      ==================================================
      ID = 3 (  0024):    0.88   0.051    13.00    46.71

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

     V   V  I   SSSSS  U   U    A    L           (v 6.2.2015)
     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 OOO
Developed and Distributed by Smart City Water Inc

***** 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\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\02e94800-4e91-4fea-82d9-2d1f5e18f48d\scena
Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\02e94800-4e91-4fea-82d9-2d1f5e18f48d\scena

DATE: 01/22/2025 TIME: 03:48:00

USER:

COMMENTS: _____

****
** SIMULATION : 02 - 5 yr SCS **
****

| READ STORM | Filename: C:\Users\RCHUNG\AppD
| | ata\Local\Temp\
| | 992f7ae0-3dc4-457e-ab76-c8347a1da44d\47251e3e
| Ptotal= 76.80 mm | Comments: 5-Year SCS: Pearson Intl Airport
---

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	7.00	1.46	14.00	3.69	21.00	1.00
1.00	0.77	8.00	1.61	15.00	2.69	22.00	0.92
2.00	0.92	9.00	2.07	16.00	1.92	23.00	0.92
3.00	1.00	10.00	2.61	17.00	1.77	24.00	0.84
4.00	1.00	11.00	4.15	18.00	1.46		
5.00	1.08	12.00	32.87	19.00	1.23		
6.00	1.38	13.00	8.37	20.00	1.08		

| CALIB |
| STANDHYD (0016)| Area (ha)= 6.21
|ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 55.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.03	2.17
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	203.41	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	6.333	1.38	12.583	32.87	18.83	1.46
0.167	0.00	6.417	1.38	12.667	32.87	18.92	1.46
0.250	0.00	6.500	1.38	12.750	32.87	19.00	1.46
0.333	0.00	6.583	1.38	12.833	32.87	19.08	1.23
0.417	0.00	6.667	1.38	12.917	32.87	19.17	1.23
0.500	0.00	6.750	1.38	13.000	32.87	19.25	1.23
0.583	0.00	6.833	1.38	13.083	8.38	19.33	1.23
0.667	0.00	6.917	1.38	13.167	8.37	19.42	1.23
0.750	0.00	7.000	1.38	13.250	8.37	19.50	1.23
0.833	0.00	7.083	1.46	13.333	8.37	19.58	1.23
0.917	0.00	7.167	1.46	13.417	8.37	19.67	1.23
1.000	0.00	7.250	1.46	13.500	8.37	19.75	1.23
1.083	0.77	7.333	1.46	13.583	8.37	19.83	1.23
1.167	0.77	7.417	1.46	13.667	8.37	19.92	1.23
1.250	0.77	7.500	1.46	13.750	8.37	20.00	1.23
1.333	0.77	7.583	1.46	13.833	8.37	20.08	1.08
1.417	0.77	7.667	1.46	13.917	8.37	20.17	1.08
1.500	0.77	7.750	1.46	14.000	8.37	20.25	1.08
1.583	0.77	7.833	1.46	14.083	3.69	20.33	1.08
1.667	0.77	7.917	1.46	14.167	3.69	20.42	1.08
1.750	0.77	8.000	1.46	14.250	3.69	20.50	1.08
1.833	0.77	8.083	1.61	14.333	3.69	20.58	1.08
1.917	0.77	8.167	1.61	14.417	3.69	20.67	1.08
2.000	0.77	8.250	1.61	14.500	3.69	20.75	1.08
2.083	0.92	8.333	1.61	14.583	3.69	20.83	1.08
2.167	0.92	8.417	1.61	14.667	3.69	20.92	1.08
2.250	0.92	8.500	1.61	14.750	3.69	21.00	1.08
2.333	0.92	8.583	1.61	14.833	3.69	21.08	1.00
2.417	0.92	8.667	1.61	14.917	3.69	21.17	1.00
2.500	0.92	8.750	1.61	15.000	3.69	21.25	1.00
2.583	0.92	8.833	1.61	15.083	2.69	21.33	1.00
2.667	0.92	8.917	1.61	15.167	2.69	21.42	1.00
2.750	0.92	9.000	1.61	15.250	2.69	21.50	1.00
2.833	0.92	9.083	2.07	15.333	2.69	21.58	1.00
2.917	0.92	9.167	2.07	15.417	2.69	21.67	1.00
3.000	0.92	9.250	2.07	15.500	2.69	21.75	1.00
3.083	1.00	9.333	2.07	15.583	2.69	21.83	1.00
3.167	1.00	9.417	2.07	15.667	2.69	21.92	1.00
3.250	1.00	9.500	2.07	15.750	2.69	22.00	1.00
3.333	1.00	9.583	2.07	15.833	2.69	22.08	0.92
3.417	1.00	9.667	2.07	15.917	2.69	22.17	0.92
3.500	1.00	9.750	2.07	16.000	2.69	22.25	0.92
3.583	1.00	9.833	2.07	16.083	1.92	22.33	0.92

3.667	1.00	9.917	2.07	16.167	1.92	22.42	0.92
3.750	1.00	10.000	2.07	16.250	1.92	22.50	0.92
3.833	1.00	10.083	2.61	16.333	1.92	22.58	0.92
3.917	1.00	10.167	2.61	16.417	1.92	22.67	0.92
4.000	1.00	10.250	2.61	16.500	1.92	22.75	0.92
4.083	1.00	10.333	2.61	16.583	1.92	22.83	0.92
4.167	1.00	10.417	2.61	16.667	1.92	22.92	0.92
4.250	1.00	10.500	2.61	16.750	1.92	23.00	0.92
4.333	1.00	10.583	2.61	16.833	1.92	23.08	0.92
4.417	1.00	10.667	2.61	16.917	1.92	23.17	0.92
4.500	1.00	10.750	2.61	17.000	1.92	23.25	0.92
4.583	1.00	10.833	2.61	17.083	1.77	23.33	0.92
4.667	1.00	10.917	2.61	17.167	1.77	23.42	0.92
4.750	1.00	11.000	2.61	17.250	1.77	23.50	0.92
4.833	1.00	11.083	4.15	17.333	1.77	23.58	0.92
4.917	1.00	11.167	4.15	17.417	1.77	23.67	0.92
5.000	1.00	11.250	4.15	17.500	1.77	23.75	0.92
5.083	1.08	11.333	4.15	17.583	1.77	23.83	0.92
5.167	1.08	11.417	4.15	17.667	1.77	23.92	0.92
5.250	1.08	11.500	4.15	17.750	1.77	24.00	0.92
5.333	1.08	11.583	4.15	17.833	1.77	24.08	0.84
5.417	1.08	11.667	4.15	17.917	1.77	24.17	0.84
5.500	1.08	11.750	4.15	18.000	1.77	24.25	0.84
5.583	1.08	11.833	4.15	18.083	1.46	24.33	0.84
5.667	1.08	11.917	4.15	18.167	1.46	24.42	0.84
5.750	1.08	12.000	4.15	18.250	1.46	24.50	0.84
5.833	1.08	12.083	32.87	18.333	1.46	24.58	0.84
5.917	1.08	12.167	32.87	18.417	1.46	24.67	0.84
6.000	1.08	12.250	32.87	18.500	1.46	24.75	0.84
6.083	1.38	12.333	32.87	18.583	1.46	24.83	0.84
6.167	1.38	12.417	32.87	18.667	1.46	24.92	0.84
6.250	1.38	12.500	32.87	18.750	1.46	25.00	0.84

Max.Eff.Inten.(mm/hr)=	32.87	21.01	
over (min)	5.00	20.00	
Storage Coeff. (min)=	6.10 (ii)	19.28 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.19	0.06	
	TOTALS		
PEAK FLOW (cms)=	0.31	0.10	0.414 (iii)
TIME TO PEAK (hrs)=	13.00	13.08	13.00
RUNOFF VOLUME (mm)=	75.80	30.63	55.47
TOTAL RAINFALL (mm)=	76.80	76.80	76.80
RUNOFF COEFFICIENT =	0.99	0.40	0.72

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(0015)| OVERFLOW IS OFF

| IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1160	0.4200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0016)	6.206	0.414	13.00	55.47
OUTFLOW: ID= 1 (0015)	6.206	0.057	14.67	55.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.67
TIME SHIFT OF PEAK FLOW (min)=100.00
MAXIMUM STORAGE USED (ha.m.)= 0.2048

CALIB
STANDHYD (0017)| Area (ha)= 30.91
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 55.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.09	10.82
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	453.94	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	6.333	1.38	12.583	32.87	18.83	1.46
0.167	0.00	6.417	1.38	12.667	32.87	18.92	1.46
0.250	0.00	6.500	1.38	12.750	32.87	19.00	1.46
0.333	0.00	6.583	1.38	12.833	32.87	19.08	1.23
0.417	0.00	6.667	1.38	12.917	32.87	19.17	1.23
0.500	0.00	6.750	1.38	13.000	32.87	19.25	1.23
0.583	0.00	6.833	1.38	13.083	8.38	19.33	1.23
0.667	0.00	6.917	1.38	13.167	8.37	19.42	1.23
0.750	0.00	7.000	1.38	13.250	8.37	19.50	1.23
0.833	0.00	7.083	1.46	13.333	8.37	19.58	1.23
0.917	0.00	7.167	1.46	13.417	8.37	19.67	1.23
1.000	0.00	7.250	1.46	13.500	8.37	19.75	1.23
1.083	0.77	7.333	1.46	13.583	8.37	19.83	1.23
1.167	0.77	7.417	1.46	13.667	8.37	19.92	1.23
1.250	0.77	7.500	1.46	13.750	8.37	20.00	1.23
1.333	0.77	7.583	1.46	13.833	8.37	20.08	1.08
1.417	0.77	7.667	1.46	13.917	8.37	20.17	1.08
1.500	0.77	7.750	1.46	14.000	8.37	20.25	1.08
1.583	0.77	7.833	1.46	14.083	3.69	20.33	1.08
1.667	0.77	7.917	1.46	14.167	3.69	20.42	1.08
1.750	0.77	8.000	1.46	14.250	3.69	20.50	1.08
1.833	0.77	8.083	1.61	14.333	3.69	20.58	1.08

1.917	0.77 | 8.167	1.61 |14.417	3.69 | 20.67	1.08
2.000	0.77 | 8.250	1.61 |14.500	3.69 | 20.75	1.08
2.083	0.92 | 8.333	1.61 |14.583	3.69 | 20.83	1.08
2.167	0.92 | 8.417	1.61 |14.667	3.69 | 20.92	1.08
2.250	0.92 | 8.500	1.61 |14.750	3.69 | 21.00	1.08
2.333	0.92 | 8.583	1.61 |14.833	3.69 | 21.08	1.00
2.417	0.92 | 8.667	1.61 |14.917	3.69 | 21.17	1.00
2.500	0.92 | 8.750	1.61 |15.000	3.69 | 21.25	1.00
2.583	0.92 | 8.833	1.61 |15.083	2.69 | 21.33	1.00
2.667	0.92 | 8.917	1.61 |15.167	2.69 | 21.42	1.00
2.750	0.92 | 9.000	1.61 |15.250	2.69 | 21.50	1.00
2.833	0.92 | 9.083	2.07 |15.333	2.69 | 21.58	1.00
2.917	0.92 | 9.167	2.07 |15.417	2.69 | 21.67	1.00
3.000	0.92 | 9.250	2.07 |15.500	2.69 | 21.75	1.00
3.083	1.00 | 9.333	2.07 |15.583	2.69 | 21.83	1.00
3.167	1.00 | 9.417	2.07 |15.667	2.69 | 21.92	1.00
3.250	1.00 | 9.500	2.07 |15.750	2.69 | 22.00	1.00
3.333	1.00 | 9.583	2.07 |15.833	2.69 | 22.08	0.92
3.417	1.00 | 9.667	2.07 |15.917	2.69 | 22.17	0.92
3.500	1.00 | 9.750	2.07 |16.000	2.69 | 22.25	0.92
3.583	1.00 | 9.833	2.07 |16.083	1.92 | 22.33	0.92
3.667	1.00 | 9.917	2.07 |16.167	1.92 | 22.42	0.92
3.750	1.00 |10.000	2.07 |16.250	1.92 | 22.50	0.92
3.833	1.00 |10.083	2.61 |16.333	1.92 | 22.58	0.92
3.917	1.00 |10.167	2.61 |16.417	1.92 | 22.67	0.92
4.000	1.00 |10.250	2.61 |16.500	1.92 | 22.75	0.92
4.083	1.00 |10.333	2.61 |16.583	1.92 | 22.83	0.92
4.167	1.00 |10.417	2.61 |16.667	1.92 | 22.92	0.92
4.250	1.00 |10.500	2.61 |16.750	1.92 | 23.00	0.92
4.333	1.00 |10.583	2.61 |16.833	1.92 | 23.08	0.92
4.417	1.00 |10.667	2.61 |16.917	1.92 | 23.17	0.92
4.500	1.00 |10.750	2.61 |17.000	1.92 | 23.25	0.92
4.583	1.00 |10.833	2.61 |17.083	1.77 | 23.33	0.92
4.667	1.00 |10.917	2.61 |17.167	1.77 | 23.42	0.92
4.750	1.00 |11.000	2.61 |17.250	1.77 | 23.50	0.92
4.833	1.00 |11.083	4.15 |17.333	1.77 | 23.58	0.92
4.917	1.00 |11.167	4.15 |17.417	1.77 | 23.67	0.92
5.000	1.00 |11.250	4.15 |17.500	1.77 | 23.75	0.92
5.083	1.08 |11.333	4.15 |17.583	1.77 | 23.83	0.92
5.167	1.08 |11.417	4.15 |17.667	1.77 | 23.92	0.92
5.250	1.08 |11.500	4.15 |17.750	1.77 | 24.00	0.92
5.333	1.08 |11.583	4.15 |17.833	1.77 | 24.08	0.84
5.417	1.08 |11.667	4.15 |17.917	1.77 | 24.17	0.84
5.500	1.08 |11.750	4.15 |18.000	1.77 | 24.25	0.84
5.583	1.08 |11.833	4.15 |18.083	1.46 | 24.33	0.84
5.667	1.08 |11.917	4.15 |18.167	1.46 | 24.42	0.84
5.750	1.08 |12.000	4.15 |18.250	1.46 | 24.50	0.84
5.833	1.08 |12.083	32.87 |18.333	1.46 | 24.58	0.84
5.917	1.08 |12.167	32.87 |18.417	1.46 | 24.67	0.84
6.000	1.08 |12.250	32.87 |18.500	1.46 | 24.75	0.84
6.083	1.38 |12.333	32.87 |18.583	1.46 | 24.83	0.84
6.167	1.38 |12.417	32.87 |18.667	1.46 | 24.92	0.84
6.250	1.38 |12.500	32.87 |18.750	1.46 | 25.00	0.84

Max.Eff.Inten.(mm/hr)= 32.87 23.81

over (min) 10.00 25.00
Storage Coeff. (min)= 9.88 (ii) 22.41 (ii)
Unit Hyd. Tpeak (min)= 10.00 25.00
Unit Hyd. peak (cms)= 0.11 0.05

TOTALS

PEAK FLOW (cms)=	1.55	0.56	2.087 (iii)
TIME TO PEAK (hrs)=	13.00	13.08	13.00
RUNOFF VOLUME (mm)=	75.80	34.80	57.35
TOTAL RAINFALL (mm)=	76.80	76.80	76.80
RUNOFF COEFFICIENT =	0.99	0.45	0.75

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0018)| OVERFLOW IS OFF				
IN= 2---> OUT= 1 |				
DT= 5.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	| OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	| 0.3230	1.8400
	0.0940	0.8780	| 0.3940	2.1080
	0.1730	1.2560	| 0.4680	2.5540
	0.2030	1.3800	| 0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0017)	30.909	2.087	13.00	57.35
OUTFLOW: ID= 1 (0018)	30.909	0.169	16.25	57.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.11
TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 1.2383

CALIB |		
STANDHYD (0020)| Area (ha)= 37.00		
ID= 1 DT= 5.0 min | Total Imp(%)= 70.00 Dir. Conn.(%)= 65.00		
	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.90	11.10
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	496.66	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	1.38	12.583	32.87	18.83	1.46
0.167	0.00	6.417	1.38	12.667	32.87	18.92	1.46
0.250	0.00	6.500	1.38	12.750	32.87	19.00	1.46
0.333	0.00	6.583	1.38	12.833	32.87	19.08	1.23
0.417	0.00	6.667	1.38	12.917	32.87	19.17	1.23
0.500	0.00	6.750	1.38	13.000	32.87	19.25	1.23
0.583	0.00	6.833	1.38	13.083	8.38	19.33	1.23
0.667	0.00	6.917	1.38	13.167	8.37	19.42	1.23
0.750	0.00	7.000	1.38	13.250	8.37	19.50	1.23
0.833	0.00	7.083	1.46	13.333	8.37	19.58	1.23
0.917	0.00	7.167	1.46	13.417	8.37	19.67	1.23
1.000	0.00	7.250	1.46	13.500	8.37	19.75	1.23
1.083	0.77	7.333	1.46	13.583	8.37	19.83	1.23
1.167	0.77	7.417	1.46	13.667	8.37	19.92	1.23
1.250	0.77	7.500	1.46	13.750	8.37	20.00	1.23
1.333	0.77	7.583	1.46	13.833	8.37	20.08	1.08
1.417	0.77	7.667	1.46	13.917	8.37	20.17	1.08
1.500	0.77	7.750	1.46	14.000	8.37	20.25	1.08
1.583	0.77	7.833	1.46	14.083	3.69	20.33	1.08
1.667	0.77	7.917	1.46	14.167	3.69	20.42	1.08
1.750	0.77	8.000	1.46	14.250	3.69	20.50	1.08
1.833	0.77	8.083	1.61	14.333	3.69	20.58	1.08
1.917	0.77	8.167	1.61	14.417	3.69	20.67	1.08
2.000	0.77	8.250	1.61	14.500	3.69	20.75	1.08
2.083	0.92	8.333	1.61	14.583	3.69	20.83	1.08
2.167	0.92	8.417	1.61	14.667	3.69	20.92	1.08
2.250	0.92	8.500	1.61	14.750	3.69	21.00	1.08
2.333	0.92	8.583	1.61	14.833	3.69	21.08	1.00
2.417	0.92	8.667	1.61	14.917	3.69	21.17	1.00
2.500	0.92	8.750	1.61	15.000	3.69	21.25	1.00
2.583	0.92	8.833	1.61	15.083	2.69	21.33	1.00
2.667	0.92	8.917	1.61	15.167	2.69	21.42	1.00
2.750	0.92	9.000	1.61	15.250	2.69	21.50	1.00
2.833	0.92	9.083	2.07	15.333	2.69	21.58	1.00
2.917	0.92	9.167	2.07	15.417	2.69	21.67	1.00
3.000	0.92	9.250	2.07	15.500	2.69	21.75	1.00
3.083	1.00	9.333	2.07	15.583	2.69	21.83	1.00
3.167	1.00	9.417	2.07	15.667	2.69	21.92	1.00
3.250	1.00	9.500	2.07	15.750	2.69	22.00	1.00
3.333	1.00	9.583	2.07	15.833	2.69	22.08	0.92
3.417	1.00	9.667	2.07	15.917	2.69	22.17	0.92
3.500	1.00	9.750	2.07	16.000	2.69	22.25	0.92
3.583	1.00	9.833	2.07	16.083	1.92	22.33	0.92
3.667	1.00	9.917	2.07	16.167	1.92	22.42	0.92
3.750	1.00	10.000	2.07	16.250	1.92	22.50	0.92
3.833	1.00	10.083	2.61	16.333	1.92	22.58	0.92
3.917	1.00	10.167	2.61	16.417	1.92	22.67	0.92
4.000	1.00	10.250	2.61	16.500	1.92	22.75	0.92
4.083	1.00	10.333	2.61	16.583	1.92	22.83	0.92
4.167	1.00	10.417	2.61	16.667	1.92	22.92	0.92
4.250	1.00	10.500	2.61	16.750	1.92	23.00	0.92
4.333	1.00	10.583	2.61	16.833	1.92	23.08	0.92
4.417	1.00	10.667	2.61	16.917	1.92	23.17	0.92
4.500	1.00	10.750	2.61	17.000	1.92	23.25	0.92
4.583	1.00	10.833	2.61	17.083	1.77	23.33	0.92
4.667	1.00	10.917	2.61	17.167	1.77	23.42	0.92
4.750	1.00	11.000	2.61	17.250	1.77	23.50	0.92
4.833	1.00	11.083	4.15	17.333	1.77	23.58	0.92
4.917	1.00	11.167	4.15	17.417	1.77	23.67	0.92
5.000	1.00	11.250	4.15	17.500	1.77	23.75	0.92
5.083	1.08	11.333	4.15	17.583	1.77	23.83	0.92
5.167	1.08	11.417	4.15	17.667	1.77	23.92	0.92
5.250	1.08	11.500	4.15	17.750	1.77	24.00	0.92
5.333	1.08	11.583	4.15	17.833	1.77	24.08	0.84
5.417	1.08	11.667	4.15	17.917	1.77	24.17	0.84
5.500	1.08	11.750	4.15	18.000	1.77	24.25	0.84
5.583	1.08	11.833	4.15	18.083	1.46	24.33	0.84
5.667	1.08	11.917	4.15	18.167	1.46	24.42	0.84
5.750	1.08	12.000	4.15	18.250	1.46	24.50	0.84
5.833	1.08	12.083	32.87	18.333	1.46	24.58	0.84
5.917	1.08	12.167	32.87	18.417	1.46	24.67	0.84
6.000	1.08	12.250	32.87	18.500	1.46	24.75	0.84
6.083	1.38	12.333	32.87	18.583	1.46	24.83	0.84
6.167	1.38	12.417	32.87	18.667	1.46	24.92	0.84
6.250	1.38	12.500	32.87	18.750	1.46	25.00	0.84

Max.Eff.Inten.(mm/hr)=	32.87	20.48	
over (min)	10.00	25.00	
Storage Coeff. (min)=	10.43 (ii)	23.74 (ii)	
Unit Hyd. Tpeak (min)=	10.00	25.00	
Unit Hyd. peak (cms)=	0.11	0.05	
		TOTALS	
PEAK FLOW (cms)=	2.19	0.48	2.651 (iii)
TIME TO PEAK (hrs)=	13.00	13.17	13.00
RUNOFF VOLUME (mm)=	75.80	32.90	60.78
TOTAL RAINFALL (mm)=	76.80	76.80	76.80
RUNOFF COEFFICIENT =	0.99	0.43	0.79

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0021)| OVERFLOW IS OFF			
IN= 2---> OUT= 1			
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	2.4100
	0.0940	1.2500	0.3940	2.8000
	0.1730	1.7000	0.4680	3.0936
	0.2030	1.9000	0.0000	0.0000

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

INFLOW : ID= 2 (0020) 37.000 2.651 13.00 60.78
OUTFLOW: ID= 1 (0021) 37.000 0.166 17.25 59.91

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.28
TIME SHIFT OF PEAK FLOW (min)=255.00
MAXIMUM STORAGE USED (ha.m.)= 1.6629

CALIB
NASHYD (0023) | Area (ha)= 0.20 Curve Number (CN)= 80.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.20

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	6.333	1.38	12.583	32.87	18.83	1.46
0.167	0.00	6.417	1.38	12.667	32.87	18.92	1.46
0.250	0.00	6.500	1.38	12.750	32.87	19.00	1.46
0.333	0.00	6.583	1.38	12.833	32.87	19.08	1.23
0.417	0.00	6.667	1.38	12.917	32.87	19.17	1.23
0.500	0.00	6.750	1.38	13.000	32.87	19.25	1.23
0.583	0.00	6.833	1.38	13.083	8.38	19.33	1.23
0.667	0.00	6.917	1.38	13.167	8.37	19.42	1.23
0.750	0.00	7.000	1.38	13.250	8.37	19.50	1.23
0.833	0.00	7.083	1.46	13.333	8.37	19.58	1.23
0.917	0.00	7.167	1.46	13.417	8.37	19.67	1.23
1.000	0.00	7.250	1.46	13.500	8.37	19.75	1.23
1.083	0.77	7.333	1.46	13.583	8.37	19.83	1.23
1.167	0.77	7.417	1.46	13.667	8.37	19.92	1.23
1.250	0.77	7.500	1.46	13.750	8.37	20.00	1.23
1.333	0.77	7.583	1.46	13.833	8.37	20.08	1.08
1.417	0.77	7.667	1.46	13.917	8.37	20.17	1.08
1.500	0.77	7.750	1.46	14.000	8.37	20.25	1.08
1.583	0.77	7.833	1.46	14.083	3.69	20.33	1.08
1.667	0.77	7.917	1.46	14.167	3.69	20.42	1.08
1.750	0.77	8.000	1.46	14.250	3.69	20.50	1.08
1.833	0.77	8.083	1.61	14.333	3.69	20.58	1.08
1.917	0.77	8.167	1.61	14.417	3.69	20.67	1.08
2.000	0.77	8.250	1.61	14.500	3.69	20.75	1.08
2.083	0.92	8.333	1.61	14.583	3.69	20.83	1.08
2.167	0.92	8.417	1.61	14.667	3.69	20.92	1.08
2.250	0.92	8.500	1.61	14.750	3.69	21.00	1.08
2.333	0.92	8.583	1.61	14.833	3.69	21.08	1.00
2.417	0.92	8.667	1.61	14.917	3.69	21.17	1.00
2.500	0.92	8.750	1.61	15.000	3.69	21.25	1.00
2.583	0.92	8.833	1.61	15.083	2.69	21.33	1.00
2.667	0.92	8.917	1.61	15.167	2.69	21.42	1.00
2.750	0.92	9.000	1.61	15.250	2.69	21.50	1.00
2.833	0.92	9.083	2.07	15.333	2.69	21.58	1.00
2.917	0.92	9.167	2.07	15.417	2.69	21.67	1.00
3.000	0.92	9.250	2.07	15.500	2.69	21.75	1.00
3.083	1.00	9.333	2.07	15.583	2.69	21.83	1.00
3.167	1.00	9.417	2.07	15.667	2.69	21.92	1.00
3.250	1.00	9.500	2.07	15.750	2.69	22.00	1.00
3.333	1.00	9.583	2.07	15.833	2.69	22.08	0.92
3.417	1.00	9.667	2.07	15.917	2.69	22.17	0.92
3.500	1.00	9.750	2.07	16.000	2.69	22.25	0.92
3.583	1.00	9.833	2.07	16.083	1.92	22.33	0.92
3.667	1.00	9.917	2.07	16.167	1.92	22.42	0.92
3.750	1.00	10.000	2.07	16.250	1.92	22.50	0.92
3.833	1.00	10.083	2.61	16.333	1.92	22.58	0.92
3.917	1.00	10.167	2.61	16.417	1.92	22.67	0.92
4.000	1.00	10.250	2.61	16.500	1.92	22.75	0.92
4.083	1.00	10.333	2.61	16.583	1.92	22.83	0.92
4.167	1.00	10.417	2.61	16.667	1.92	22.92	0.92
4.250	1.00	10.500	2.61	16.750	1.92	23.00	0.92
4.333	1.00	10.583	2.61	16.833	1.92	23.08	0.92
4.417	1.00	10.667	2.61	16.917	1.92	23.17	0.92
4.500	1.00	10.750	2.61	17.000	1.92	23.25	0.92
4.583	1.00	10.833	2.61	17.083	1.77	23.33	0.92
4.667	1.00	10.917	2.61	17.167	1.77	23.42	0.92
4.750	1.00	11.000	2.61	17.250	1.77	23.50	0.92
4.833	1.00	11.083	4.15	17.333	1.77	23.58	0.92
4.917	1.00	11.167	4.15	17.417	1.77	23.67	0.92
5.000	1.00	11.250	4.15	17.500	1.77	23.75	0.92
5.083	1.08	11.333	4.15	17.583	1.77	23.83	0.92
5.167	1.08	11.417	4.15	17.667	1.77	23.92	0.92
5.250	1.08	11.500	4.15	17.750	1.77	24.00	0.92
5.333	1.08	11.583	4.15	17.833	1.77	24.08	0.84
5.417	1.08	11.667	4.15	17.917	1.77	24.17	0.84
5.500	1.08	11.750	4.15	18.000	1.77	24.25	0.84
5.583	1.08	11.833	4.15	18.083	1.46	24.33	0.84
5.667	1.08	11.917	4.15	18.167	1.46	24.42	0.84
5.750	1.08	12.000	4.15	18.250	1.46	24.50	0.84
5.833	1.08	12.083	32.87	18.333	1.46	24.58	0.84
5.917	1.08	12.167	32.87	18.417	1.46	24.67	0.84
6.000	1.08	12.250	32.87	18.500	1.46	24.75	0.84
6.083	1.38	12.333	32.87	18.583	1.46	24.83	0.84
6.167	1.38	12.417	32.87	18.667	1.46	24.92	0.84
6.250	1.38	12.500	32.87	18.750	1.46	25.00	0.84

Unit Hyd Qpeak (cms)= 0.038

PEAK FLOW (cms)= 0.011 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 38.028
TOTAL RAINFALL (mm)= 76.800
RUNOFF COEFFICIENT = 0.495

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

CALIB
STANDHYD (0022) | Area (ha)= 0.68

|ID= 1 DT= 5.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.67	0.01
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	67.33	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	1.38	12.583	32.87	18.83	1.46
0.167	0.00	6.417	1.38	12.667	32.87	18.92	1.46
0.250	0.00	6.500	1.38	12.750	32.87	19.00	1.46
0.333	0.00	6.583	1.38	12.833	32.87	19.08	1.23
0.417	0.00	6.667	1.38	12.917	32.87	19.17	1.23
0.500	0.00	6.750	1.38	13.000	32.87	19.25	1.23
0.583	0.00	6.833	1.38	13.083	8.38	19.33	1.23
0.667	0.00	6.917	1.38	13.167	8.37	19.42	1.23
0.750	0.00	7.000	1.38	13.250	8.37	19.50	1.23
0.833	0.00	7.083	1.46	13.333	8.37	19.58	1.23
0.917	0.00	7.167	1.46	13.417	8.37	19.67	1.23
1.000	0.00	7.250	1.46	13.500	8.37	19.75	1.23
1.083	0.77	7.333	1.46	13.583	8.37	19.83	1.23
1.167	0.77	7.417	1.46	13.667	8.37	19.92	1.23
1.250	0.77	7.500	1.46	13.750	8.37	20.00	1.23
1.333	0.77	7.583	1.46	13.833	8.37	20.08	1.08
1.417	0.77	7.667	1.46	13.917	8.37	20.17	1.08
1.500	0.77	7.750	1.46	14.000	8.37	20.25	1.08
1.583	0.77	7.833	1.46	14.083	3.69	20.33	1.08
1.667	0.77	7.917	1.46	14.167	3.69	20.42	1.08
1.750	0.77	8.000	1.46	14.250	3.69	20.50	1.08
1.833	0.77	8.083	1.61	14.333	3.69	20.58	1.08
1.917	0.77	8.167	1.61	14.417	3.69	20.67	1.08
2.000	0.77	8.250	1.61	14.500	3.69	20.75	1.08
2.083	0.92	8.333	1.61	14.583	3.69	20.83	1.08
2.167	0.92	8.417	1.61	14.667	3.69	20.92	1.08
2.250	0.92	8.500	1.61	14.750	3.69	21.00	1.08
2.333	0.92	8.583	1.61	14.833	3.69	21.08	1.00
2.417	0.92	8.667	1.61	14.917	3.69	21.17	1.00
2.500	0.92	8.750	1.61	15.000	3.69	21.25	1.00
2.583	0.92	8.833	1.61	15.083	2.69	21.33	1.00
2.667	0.92	8.917	1.61	15.167	2.69	21.42	1.00
2.750	0.92	9.000	1.61	15.250	2.69	21.50	1.00
2.833	0.92	9.083	2.07	15.333	2.69	21.58	1.00
2.917	0.92	9.167	2.07	15.417	2.69	21.67	1.00
3.000	0.92	9.250	2.07	15.500	2.69	21.75	1.00
3.083	1.00	9.333	2.07	15.583	2.69	21.83	1.00
3.167	1.00	9.417	2.07	15.667	2.69	21.92	1.00
3.250	1.00	9.500	2.07	15.750	2.69	22.00	1.00
3.333	1.00	9.583	2.07	15.833	2.69	22.08	0.92
3.417	1.00	9.667	2.07	15.917	2.69	22.17	0.92
3.500	1.00	9.750	2.07	16.000	2.69	22.25	0.92
3.583	1.00	9.833	2.07	16.083	1.92	22.33	0.92
3.667	1.00	9.917	2.07	16.167	1.92	22.42	0.92
3.750	1.00	10.000	2.07	16.250	1.92	22.50	0.92
3.833	1.00	10.083	2.61	16.333	1.92	22.58	0.92
3.917	1.00	10.167	2.61	16.417	1.92	22.67	0.92
4.000	1.00	10.250	2.61	16.500	1.92	22.75	0.92
4.083	1.00	10.333	2.61	16.583	1.92	22.83	0.92
4.167	1.00	10.417	2.61	16.667	1.92	22.92	0.92
4.250	1.00	10.500	2.61	16.750	1.92	23.00	0.92
4.333	1.00	10.583	2.61	16.833	1.92	23.08	0.92
4.417	1.00	10.667	2.61	16.917	1.92	23.17	0.92
4.500	1.00	10.750	2.61	17.000	1.92	23.25	0.92
4.583	1.00	10.833	2.61	17.083	1.77	23.33	0.92
4.667	1.00	10.917	2.61	17.167	1.77	23.42	0.92
4.750	1.00	11.000	2.61	17.250	1.77	23.50	0.92
4.833	1.00	11.083	4.15	17.333	1.77	23.58	0.92
4.917	1.00	11.167	4.15	17.417	1.77	23.67	0.92
5.000	1.00	11.250	4.15	17.500	1.77	23.75	0.92
5.083	1.08	11.333	4.15	17.583	1.77	23.83	0.92
5.167	1.08	11.417	4.15	17.667	1.77	23.92	0.92
5.250	1.08	11.500	4.15	17.750	1.77	24.00	0.92
5.333	1.08	11.583	4.15	17.833	1.77	24.08	0.84
5.417	1.08	11.667	4.15	17.917	1.77	24.17	0.84
5.500	1.08	11.750	4.15	18.000	1.77	24.25	0.84
5.583	1.08	11.833	4.15	18.083	1.46	24.33	0.84
5.667	1.08	11.917	4.15	18.167	1.46	24.42	0.84
5.750	1.08	12.000	4.15	18.250	1.46	24.50	0.84
5.833	1.08	12.083	32.87	18.333	1.46	24.58	0.84
5.917	1.08	12.167	32.87	18.417	1.46	24.67	0.84
6.000	1.08	12.250	32.87	18.500	1.46	24.75	0.84
6.083	1.38	12.333	32.87	18.583	1.46	24.83	0.84
6.167	1.38	12.417	32.87	18.667	1.46	24.92	0.84
6.250	1.38	12.500	32.87	18.750	1.46	25.00	0.84

Max.Eff.Inten.(mm/hr)=	32.87	24.98	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.14 (ii)	4.90 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.27	0.22	
		TOTALS	
PEAK FLOW (cms)=	0.06	0.00	0.062 (iii)
TIME TO PEAK (hrs)=	12.75	13.00	13.00
RUNOFF VOLUME (mm)=	75.80	47.20	75.51
TOTAL RAINFALL (mm)=	76.80	76.80	76.80
RUNOFF COEFFICIENT =	0.99	0.61	0.98

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

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

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--------------------
| ADD HYD  (  0024)|
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0022):     0.68   0.062    13.00    75.51
     + ID2= 2 (  0023):    0.20   0.011    13.00    38.03
      ====================================================
      ID = 3 (  0024):     0.88   0.073    13.00    66.99

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

     V   V  I   SSSSS  U   U    A    L           (v 6.2.2015)
     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   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\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-
ac7436a87d8a\eb3ab3f4-4478-4d31-aace-575fa1ade424\scena
  Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-
ac7436a87d8a\eb3ab3f4-4478-4d31-aace-575fa1ade424\scena


DATE: 01/22/2025                    TIME: 03:48:01

USER:



COMMENTS: _____

--------------------------------------------------------------------------------------------------------------------
  ************************************************
  ** SIMULATION : 03 - 10 yr SCS             **
  ************************************************

--------------------
|    READ STORM    |   Filename: C:\Users\RCHUNG\AppD
|                  |             ata\Local\Temp\
|                  |             992f7ae0-3dc4-457e-ab76-c8347a1da44d\e31fda4d
| Ptotal= 84.00 mm |   Comments: 10-Year SCS: Pearson Intl Airport
--------------------
            TIME   RAIN |  TIME   RAIN |'  TIME   RAIN |  TIME   RAIN
             hrs  mm/hr |   hrs  mm/hr |'   hrs  mm/hr |   hrs  mm/hr
            0.00   0.00 |  7.00   1.60 | 14.00   4.03 | 21.00   1.09
            1.00   0.84 |  8.00   1.76 | 15.00   2.94 | 22.00   1.01
            2.00   1.01 |  9.00   2.27 | 16.00   2.10 | 23.00   1.01
            3.00   1.09 | 10.00   2.86 | 17.00   1.93 | 24.00   0.92
            4.00   1.09 | 11.00   4.54 | 18.00   1.60 |
            5.00   1.18 | 12.00  35.95 | 19.00   1.34 |
            6.00   1.51 | 13.00   9.16 | 20.00   1.18 |

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| CALIB            |
| STANDHYD (  0016)|   Area    (ha)=   6.21
|ID= 1 DT= 5.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  55.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      4.03         2.17
    Dep. Storage     (mm)=      1.00         1.50
    Average Slope    (%)=      1.00         2.00
    Length           (m)=    203.41        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 | 6.333   1.51 |12.583  35.95 | 18.83   1.60
           0.167   0.00 | 6.417   1.51 |12.667  35.95 | 18.92   1.60
           0.250   0.00 | 6.500   1.51 |12.750  35.95 | 19.00   1.60
           0.333   0.00 | 6.583   1.51 |12.833  35.95 | 19.08   1.34
           0.417   0.00 | 6.667   1.51 |12.917  35.95 | 19.17   1.34
           0.500   0.00 | 6.750   1.51 |13.000  35.95 | 19.25   1.34
           0.583   0.00 | 6.833   1.51 |13.083   9.16 | 19.33   1.34
           0.667   0.00 | 6.917   1.51 |13.167   9.16 | 19.42   1.34
           0.750   0.00 | 7.000   1.51 |13.250   9.16 | 19.50   1.34
           0.833   0.00 | 7.083   1.60 |13.333   9.16 | 19.58   1.34
           0.917   0.00 | 7.167   1.60 |13.417   9.16 | 19.67   1.34
           1.000   0.00 | 7.250   1.60 |13.500   9.16 | 19.75   1.34
           1.083   0.84 | 7.333   1.60 |13.583   9.16 | 19.83   1.34
           1.167   0.84 | 7.417   1.60 |13.667   9.16 | 19.92   1.34
           1.250   0.84 | 7.500   1.60 |13.750   9.16 | 20.00   1.34
           1.333   0.84 | 7.583   1.60 |13.833   9.16 | 20.08   1.18
           1.417   0.84 | 7.667   1.60 |13.917   9.16 | 20.17   1.18
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1.500	0.84	7.750	1.60	14.000	9.16	20.25	1.18
1.583	0.84	7.833	1.60	14.083	4.03	20.33	1.18
1.667	0.84	7.917	1.60	14.167	4.03	20.42	1.18
1.750	0.84	8.000	1.60	14.250	4.03	20.50	1.18
1.833	0.84	8.083	1.76	14.333	4.03	20.58	1.18
1.917	0.84	8.167	1.76	14.417	4.03	20.67	1.18
2.000	0.84	8.250	1.76	14.500	4.03	20.75	1.18
2.083	1.01	8.333	1.76	14.583	4.03	20.83	1.18
2.167	1.01	8.417	1.76	14.667	4.03	20.92	1.18
2.250	1.01	8.500	1.76	14.750	4.03	21.00	1.18
2.333	1.01	8.583	1.76	14.833	4.03	21.08	1.09
2.417	1.01	8.667	1.76	14.917	4.03	21.17	1.09
2.500	1.01	8.750	1.76	15.000	4.03	21.25	1.09
2.583	1.01	8.833	1.76	15.083	2.94	21.33	1.09
2.667	1.01	8.917	1.76	15.167	2.94	21.42	1.09
2.750	1.01	9.000	1.76	15.250	2.94	21.50	1.09
2.833	1.01	9.083	2.27	15.333	2.94	21.58	1.09
2.917	1.01	9.167	2.27	15.417	2.94	21.67	1.09
3.000	1.01	9.250	2.27	15.500	2.94	21.75	1.09
3.083	1.09	9.333	2.27	15.583	2.94	21.83	1.09
3.167	1.09	9.417	2.27	15.667	2.94	21.92	1.09
3.250	1.09	9.500	2.27	15.750	2.94	22.00	1.09
3.333	1.09	9.583	2.27	15.833	2.94	22.08	1.01
3.417	1.09	9.667	2.27	15.917	2.94	22.17	1.01
3.500	1.09	9.750	2.27	16.000	2.94	22.25	1.01
3.583	1.09	9.833	2.27	16.083	2.10	22.33	1.01
3.667	1.09	9.917	2.27	16.167	2.10	22.42	1.01
3.750	1.09	10.000	2.27	16.250	2.10	22.50	1.01
3.833	1.09	10.083	2.86	16.333	2.10	22.58	1.01
3.917	1.09	10.167	2.86	16.417	2.10	22.67	1.01
4.000	1.09	10.250	2.86	16.500	2.10	22.75	1.01
4.083	1.09	10.333	2.86	16.583	2.10	22.83	1.01
4.167	1.09	10.417	2.86	16.667	2.10	22.92	1.01
4.250	1.09	10.500	2.86	16.750	2.10	23.00	1.01
4.333	1.09	10.583	2.86	16.833	2.10	23.08	1.01
4.417	1.09	10.667	2.86	16.917	2.10	23.17	1.01
4.500	1.09	10.750	2.86	17.000	2.10	23.25	1.01
4.583	1.09	10.833	2.86	17.083	1.93	23.33	1.01
4.667	1.09	10.917	2.86	17.167	1.93	23.42	1.01
4.750	1.09	11.000	2.86	17.250	1.93	23.50	1.01
4.833	1.09	11.083	4.54	17.333	1.93	23.58	1.01
4.917	1.09	11.167	4.54	17.417	1.93	23.67	1.01
5.000	1.09	11.250	4.54	17.500	1.93	23.75	1.01
5.083	1.18	11.333	4.54	17.583	1.93	23.83	1.01
5.167	1.18	11.417	4.54	17.667	1.93	23.92	1.01
5.250	1.18	11.500	4.54	17.750	1.93	24.00	1.01
5.333	1.18	11.583	4.54	17.833	1.93	24.08	0.92
5.417	1.18	11.667	4.54	17.917	1.93	24.17	0.92
5.500	1.18	11.750	4.54	18.000	1.93	24.25	0.92
5.583	1.18	11.833	4.54	18.083	1.60	24.33	0.92
5.667	1.18	11.917	4.54	18.167	1.60	24.42	0.92
5.750	1.18	12.000	4.54	18.250	1.60	24.50	0.92
5.833	1.18	12.083	35.95	18.333	1.60	24.58	0.92
5.917	1.18	12.167	35.95	18.417	1.60	24.67	0.92
6.000	1.18	12.250	35.95	18.500	1.60	24.75	0.92
6.083	1.51	12.333	35.95	18.583	1.60	24.83	0.92
6.167	1.51	12.417	35.95	18.667	1.60	24.92	0.92
6.250	1.51	12.500	35.95	18.750	1.60	25.00	0.92

Max.Eff.Inten.(mm/hr)= 35.95 24.23
over (min) 5.00 20.00
Storage Coeff. (min)= 5.89 (ii) 18.33 (ii)
Unit Hyd. Tpeak (min)= 5.00 20.00
Unit Hyd. peak (cms)= 0.19 0.06

TOTALS

PEAK FLOW (cms)= 0.34 0.12 0.461 (iii)
TIME TO PEAK (hrs)= 13.00 13.08 13.00
RUNOFF VOLUME (mm)= 83.00 35.38 61.57
TOTAL RAINFALL (mm)= 84.00 84.00 84.00
RUNOFF COEFFICIENT = 0.99 0.42 0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(0015)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW STORAGE	OUTFLOW STORAGE
	(cms) (ha.m.)	(cms) (ha.m.)
	0.0000 0.0000	0.1160 0.4200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0016)	6.206	0.461	13.00	61.57
OUTFLOW: ID= 1 (0015)	6.206	0.063	14.67	61.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.63
TIME SHIFT OF PEAK FLOW (min)=100.00
MAXIMUM STORAGE USED (ha.m.)= 0.2274

CALIB
STANDHYD (0017)| Area (ha)= 30.91
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 55.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.09	10.82
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	453.94	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	6.333	1.51	12.583	35.95	18.83	1.60
0.167	0.00	6.417	1.51	12.667	35.95	18.92	1.60
0.250	0.00	6.500	1.51	12.750	35.95	19.00	1.60
0.333	0.00	6.583	1.51	12.833	35.95	19.08	1.34
0.417	0.00	6.667	1.51	12.917	35.95	19.17	1.34
0.500	0.00	6.750	1.51	13.000	35.95	19.25	1.34
0.583	0.00	6.833	1.51	13.083	9.16	19.33	1.34
0.667	0.00	6.917	1.51	13.167	9.16	19.42	1.34
0.750	0.00	7.000	1.51	13.250	9.16	19.50	1.34
0.833	0.00	7.083	1.60	13.333	9.16	19.58	1.34
0.917	0.00	7.167	1.60	13.417	9.16	19.67	1.34
1.000	0.00	7.250	1.60	13.500	9.16	19.75	1.34
1.083	0.84	7.333	1.60	13.583	9.16	19.83	1.34
1.167	0.84	7.417	1.60	13.667	9.16	19.92	1.34
1.250	0.84	7.500	1.60	13.750	9.16	20.00	1.34
1.333	0.84	7.583	1.60	13.833	9.16	20.08	1.18
1.417	0.84	7.667	1.60	13.917	9.16	20.17	1.18
1.500	0.84	7.750	1.60	14.000	9.16	20.25	1.18
1.583	0.84	7.833	1.60	14.083	4.03	20.33	1.18
1.667	0.84	7.917	1.60	14.167	4.03	20.42	1.18
1.750	0.84	8.000	1.60	14.250	4.03	20.50	1.18
1.833	0.84	8.083	1.76	14.333	4.03	20.58	1.18
1.917	0.84	8.167	1.76	14.417	4.03	20.67	1.18
2.000	0.84	8.250	1.76	14.500	4.03	20.75	1.18
2.083	1.01	8.333	1.76	14.583	4.03	20.83	1.18
2.167	1.01	8.417	1.76	14.667	4.03	20.92	1.18
2.250	1.01	8.500	1.76	14.750	4.03	21.00	1.18
2.333	1.01	8.583	1.76	14.833	4.03	21.08	1.09
2.417	1.01	8.667	1.76	14.917	4.03	21.17	1.09
2.500	1.01	8.750	1.76	15.000	4.03	21.25	1.09
2.583	1.01	8.833	1.76	15.083	2.94	21.33	1.09
2.667	1.01	8.917	1.76	15.167	2.94	21.42	1.09
2.750	1.01	9.000	1.76	15.250	2.94	21.50	1.09
2.833	1.01	9.083	2.27	15.333	2.94	21.58	1.09
2.917	1.01	9.167	2.27	15.417	2.94	21.67	1.09
3.000	1.01	9.250	2.27	15.500	2.94	21.75	1.09
3.083	1.09	9.333	2.27	15.583	2.94	21.83	1.09
3.167	1.09	9.417	2.27	15.667	2.94	21.92	1.09
3.250	1.09	9.500	2.27	15.750	2.94	22.00	1.09
3.333	1.09	9.583	2.27	15.833	2.94	22.08	1.01
3.417	1.09	9.667	2.27	15.917	2.94	22.17	1.01
3.500	1.09	9.750	2.27	16.000	2.94	22.25	1.01
3.583	1.09	9.833	2.27	16.083	2.10	22.33	1.01
3.667	1.09	9.917	2.27	16.167	2.10	22.42	1.01
3.750	1.09	10.000	2.27	16.250	2.10	22.50	1.01
3.833	1.09	10.083	2.86	16.333	2.10	22.58	1.01
3.917	1.09	10.167	2.86	16.417	2.10	22.67	1.01
4.000	1.09	10.250	2.86	16.500	2.10	22.75	1.01
4.083	1.09	10.333	2.86	16.583	2.10	22.83	1.01
4.167	1.09	10.417	2.86	16.667	2.10	22.92	1.01
4.250	1.09	10.500	2.86	16.750	2.10	23.00	1.01
4.333	1.09	10.583	2.86	16.833	2.10	23.08	1.01
4.417	1.09	10.667	2.86	16.917	2.10	23.17	1.01
4.500	1.09	10.750	2.86	17.000	2.10	23.25	1.01
4.583	1.09	10.833	2.86	17.083	1.93	23.33	1.01
4.667	1.09	10.917	2.86	17.167	1.93	23.42	1.01
4.750	1.09	11.000	2.86	17.250	1.93	23.50	1.01
4.833	1.09	11.083	4.54	17.333	1.93	23.58	1.01
4.917	1.09	11.167	4.54	17.417	1.93	23.67	1.01
5.000	1.09	11.250	4.54	17.500	1.93	23.75	1.01
5.083	1.18	11.333	4.54	17.583	1.93	23.83	1.01
5.167	1.18	11.417	4.54	17.667	1.93	23.92	1.01
5.250	1.18	11.500	4.54	17.750	1.93	24.00	1.01
5.333	1.18	11.583	4.54	17.833	1.93	24.08	0.92
5.417	1.18	11.667	4.54	17.917	1.93	24.17	0.92
5.500	1.18	11.750	4.54	18.000	1.93	24.25	0.92
5.583	1.18	11.833	4.54	18.083	1.60	24.33	0.92
5.667	1.18	11.917	4.54	18.167	1.60	24.42	0.92
5.750	1.18	12.000	4.54	18.250	1.60	24.50	0.92
5.833	1.18	12.083	35.95	18.333	1.60	24.58	0.92
5.917	1.18	12.167	35.95	18.417	1.60	24.67	0.92
6.000	1.18	12.250	35.95	18.500	1.60	24.75	0.92
6.083	1.51	12.333	35.95	18.583	1.60	24.83	0.92
6.167	1.51	12.417	35.95	18.667	1.60	24.92	0.92
6.250	1.51	12.500	35.95	18.750	1.60	25.00	0.92

Max.Eff.Inten.(mm/hr)=	35.95	27.30	
over (min)	10.00	25.00	
Storage Coeff. (min)=	9.53 (ii)	21.40 (ii)	
Unit Hyd. Tpeak (min)=	10.00	25.00	
Unit Hyd. peak (cms)=	0.12	0.05	
		TOTALS	
PEAK FLOW (cms)=	1.69	0.65	2.326 (iii)
TIME TO PEAK (hrs)=	13.00	13.08	13.00
RUNOFF VOLUME (mm)=	83.00	39.99	63.64
TOTAL RAINFALL (mm)=	84.00	84.00	84.00
RUNOFF COEFFICIENT =	0.99	0.48	0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0018)| OVERFLOW IS OFF				
IN= 2---> OUT= 1 |				
DT= 5.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	1.8400
	0.0940	0.8780	0.3940	2.1080
	0.1730	1.2560	0.4680	2.5540
	0.2030	1.3800	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0017)	30.909	2.326	13.00	63.64
OUTFLOW: ID= 1 (0018)	30.909	0.199	16.17	63.49

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.55
TIME SHIFT OF PEAK FLOW (min)=190.00
MAXIMUM STORAGE USED (ha.m.)= 1.3628

CALIB
STANDHYD (0020) | Area (ha)= 37.00
ID= 1 DT= 5.0 min | Total Imp(%)= 70.00 Dir. Conn.(%)= 65.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.90	11.10
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	496.66	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	1.51	12.583	35.95	18.83	1.60
0.167	0.00	6.417	1.51	12.667	35.95	18.92	1.60
0.250	0.00	6.500	1.51	12.750	35.95	19.00	1.60
0.333	0.00	6.583	1.51	12.833	35.95	19.08	1.34
0.417	0.00	6.667	1.51	12.917	35.95	19.17	1.34
0.500	0.00	6.750	1.51	13.000	35.95	19.25	1.34
0.583	0.00	6.833	1.51	13.083	9.16	19.33	1.34
0.667	0.00	6.917	1.51	13.167	9.16	19.42	1.34
0.750	0.00	7.000	1.51	13.250	9.16	19.50	1.34
0.833	0.00	7.083	1.60	13.333	9.16	19.58	1.34
0.917	0.00	7.167	1.60	13.417	9.16	19.67	1.34
1.000	0.00	7.250	1.60	13.500	9.16	19.75	1.34
1.083	0.84	7.333	1.60	13.583	9.16	19.83	1.34
1.167	0.84	7.417	1.60	13.667	9.16	19.92	1.34
1.250	0.84	7.500	1.60	13.750	9.16	20.00	1.34
1.333	0.84	7.583	1.60	13.833	9.16	20.08	1.18
1.417	0.84	7.667	1.60	13.917	9.16	20.17	1.18
1.500	0.84	7.750	1.60	14.000	9.16	20.25	1.18
1.583	0.84	7.833	1.60	14.083	4.03	20.33	1.18
1.667	0.84	7.917	1.60	14.167	4.03	20.42	1.18
1.750	0.84	8.000	1.60	14.250	4.03	20.50	1.18
1.833	0.84	8.083	1.76	14.333	4.03	20.58	1.18
1.917	0.84	8.167	1.76	14.417	4.03	20.67	1.18
2.000	0.84	8.250	1.76	14.500	4.03	20.75	1.18
2.083	1.01	8.333	1.76	14.583	4.03	20.83	1.18
2.167	1.01	8.417	1.76	14.667	4.03	20.92	1.18
2.250	1.01	8.500	1.76	14.750	4.03	21.00	1.18
2.333	1.01	8.583	1.76	14.833	4.03	21.08	1.09
2.417	1.01	8.667	1.76	14.917	4.03	21.17	1.09
2.500	1.01	8.750	1.76	15.000	4.03	21.25	1.09
2.583	1.01	8.833	1.76	15.083	2.94	21.33	1.09
2.667	1.01	8.917	1.76	15.167	2.94	21.42	1.09
2.750	1.01	9.000	1.76	15.250	2.94	21.50	1.09
2.833	1.01	9.083	2.27	15.333	2.94	21.58	1.09
2.917	1.01	9.167	2.27	15.417	2.94	21.67	1.09
3.000	1.01	9.250	2.27	15.500	2.94	21.75	1.09
3.083	1.09	9.333	2.27	15.583	2.94	21.83	1.09
3.167	1.09	9.417	2.27	15.667	2.94	21.92	1.09
3.250	1.09	9.500	2.27	15.750	2.94	22.00	1.09
3.333	1.09	9.583	2.27	15.833	2.94	22.08	1.01
3.417	1.09	9.667	2.27	15.917	2.94	22.17	1.01
3.500	1.09	9.750	2.27	16.000	2.94	22.25	1.01
3.583	1.09	9.833	2.27	16.083	2.10	22.33	1.01
3.667	1.09	9.917	2.27	16.167	2.10	22.42	1.01
3.750	1.09	10.000	2.27	16.250	2.10	22.50	1.01
3.833	1.09	10.083	2.86	16.333	2.10	22.58	1.01
3.917	1.09	10.167	2.86	16.417	2.10	22.67	1.01
4.000	1.09	10.250	2.86	16.500	2.10	22.75	1.01
4.083	1.09	10.333	2.86	16.583	2.10	22.83	1.01
4.167	1.09	10.417	2.86	16.667	2.10	22.92	1.01
4.250	1.09	10.500	2.86	16.750	2.10	23.00	1.01
4.333	1.09	10.583	2.86	16.833	2.10	23.08	1.01
4.417	1.09	10.667	2.86	16.917	2.10	23.17	1.01
4.500	1.09	10.750	2.86	17.000	2.10	23.25	1.01
4.583	1.09	10.833	2.86	17.083	1.93	23.33	1.01
4.667	1.09	10.917	2.86	17.167	1.93	23.42	1.01
4.750	1.09	11.000	2.86	17.250	1.93	23.50	1.01
4.833	1.09	11.083	4.54	17.333	1.93	23.58	1.01
4.917	1.09	11.167	4.54	17.417	1.93	23.67	1.01
5.000	1.09	11.250	4.54	17.500	1.93	23.75	1.01
5.083	1.18	11.333	4.54	17.583	1.93	23.83	1.01
5.167	1.18	11.417	4.54	17.667	1.93	23.92	1.01
5.250	1.18	11.500	4.54	17.750	1.93	24.00	1.01
5.333	1.18	11.583	4.54	17.833	1.93	24.08	0.92
5.417	1.18	11.667	4.54	17.917	1.93	24.17	0.92
5.500	1.18	11.750	4.54	18.000	1.93	24.25	0.92
5.583	1.18	11.833	4.54	18.083	1.60	24.33	0.92
5.667	1.18	11.917	4.54	18.167	1.60	24.42	0.92
5.750	1.18	12.000	4.54	18.250	1.60	24.50	0.92
5.833	1.18	12.083	35.95	18.333	1.60	24.58	0.92
5.917	1.18	12.167	35.95	18.417	1.60	24.67	0.92
6.000	1.18	12.250	35.95	18.500	1.60	24.75	0.92
6.083	1.51	12.333	35.95	18.583	1.60	24.83	0.92
6.167	1.51	12.417	35.95	18.667	1.60	24.92	0.92
6.250	1.51	12.500	35.95	18.750	1.60	25.00	0.92

Max.Eff.Inten.(mm/hr)=	35.95	23.54
over (min)	10.00	25.00
Storage Coeff. (min)=	10.06 (ii)	22.65 (ii)
Unit Hyd. Tpeak (min)=	10.00	25.00
Unit Hyd. peak (cms)=	0.11	0.05
		TOTALS

```
    PEAK FLOW      (cms)=      2.39         0.56         2.939 (iii)
    TIME TO PEAK   (hrs)=     13.00        13.08          13.00
    RUNOFF VOLUME  (mm)=     83.00        37.90          67.21
    TOTAL RAINFALL (mm)=     84.00        84.00          84.00
    RUNOFF COEFFICIENT =      0.99         0.45          0.80


     (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
         CN*  =  69.0    Ia = Dep. Storage  (Above)
    (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
         THAN THE STORAGE COEFFICIENT.
   (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0021)|    OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |    OUTFLOW    STORAGE   | OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)  |  (cms)     (ha.m.)
                      0.0000     0.0000   |   0.3230      2.4100
                      0.0940     1.2500   |   0.3940      2.8000
                      0.1730     1.7000   |   0.4680      3.0936
                      0.2030     1.9000   |   0.0000      0.0000

                          AREA      QPEAK     TPEAK       R.V.
                          (ha)      (cms)     (hrs)       (mm)
  INFLOW : ID= 2 (  0020)     37.000      2.939     13.00      67.21
  OUTFLOW: ID= 1 (  0021)     37.000      0.192     17.08      66.28

              PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.52
              TIME SHIFT OF PEAK FLOW         (min)=245.00
              MAXIMUM  STORAGE  USED       (ha.m.)=  1.8243

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0023)|  Area    (ha)=   0.20   Curve Number   (CN)= 80.0
|ID= 1 DT= 5.0 min |  Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------  U.H. Tp(hrs)=   0.20

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


                    ---- 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 | 6.333    1.51 |12.583   35.95 | 18.83    1.60
           0.167    0.00 | 6.417    1.51 |12.667   35.95 | 18.92    1.60
           0.250    0.00 | 6.500    1.51 |12.750   35.95 | 19.00    1.60
           0.333    0.00 | 6.583    1.51 |12.833   35.95 | 19.08    1.34
           0.417    0.00 | 6.667    1.51 |12.917   35.95 | 19.17    1.34
           0.500    0.00 | 6.750    1.51 |13.000   35.95 | 19.25    1.34
           0.583    0.00 | 6.833    1.51 |13.083    9.16 | 19.33    1.34
           0.667    0.00 | 6.917    1.51 |13.167    9.16 | 19.42    1.34
           0.750    0.00 | 7.000    1.51 |13.250    9.16 | 19.50    1.34
           0.833    0.00 | 7.083    1.60 |13.333    9.16 | 19.58    1.34
           0.917    0.00 | 7.167    1.60 |13.417    9.16 | 19.67    1.34
           1.000    0.00 | 7.250    1.60 |13.500    9.16 | 19.75    1.34
           1.083    0.84 | 7.333    1.60 |13.583    9.16 | 19.83    1.34
           1.167    0.84 | 7.417    1.60 |13.667    9.16 | 19.92    1.34
           1.250    0.84 | 7.500    1.60 |13.750    9.16 | 20.00    1.34
           1.333    0.84 | 7.583    1.60 |13.833    9.16 | 20.08    1.18
           1.417    0.84 | 7.667    1.60 |13.917    9.16 | 20.17    1.18
           1.500    0.84 | 7.750    1.60 |14.000    9.16 | 20.25    1.18
           1.583    0.84 | 7.833    1.60 |14.083    4.03 | 20.33    1.18
           1.667    0.84 | 7.917    1.60 |14.167    4.03 | 20.42    1.18
           1.750    0.84 | 8.000    1.60 |14.250    4.03 | 20.50    1.18
           1.833    0.84 | 8.083    1.76 |14.333    4.03 | 20.58    1.18
           1.917    0.84 | 8.167    1.76 |14.417    4.03 | 20.67    1.18
           2.000    0.84 | 8.250    1.76 |14.500    4.03 | 20.75    1.18
           2.083    1.01 | 8.333    1.76 |14.583    4.03 | 20.83    1.18
           2.167    1.01 | 8.417    1.76 |14.667    4.03 | 20.92    1.18
           2.250    1.01 | 8.500    1.76 |14.750    4.03 | 21.00    1.18
           2.333    1.01 | 8.583    1.76 |14.833    4.03 | 21.08    1.09
           2.417    1.01 | 8.667    1.76 |14.917    4.03 | 21.17    1.09
           2.500    1.01 | 8.750    1.76 |15.000    4.03 | 21.25    1.09
           2.583    1.01 | 8.833    1.76 |15.083    2.94 | 21.33    1.09
           2.667    1.01 | 8.917    1.76 |15.167    2.94 | 21.42    1.09
           2.750    1.01 | 9.000    1.76 |15.250    2.94 | 21.50    1.09
           2.833    1.01 | 9.083    2.27 |15.333    2.94 | 21.58    1.09
           2.917    1.01 | 9.167    2.27 |15.417    2.94 | 21.67    1.09
           3.000    1.01 | 9.250    2.27 |15.500    2.94 | 21.75    1.09
           3.083    1.09 | 9.333    2.27 |15.583    2.94 | 21.83    1.09
           3.167    1.09 | 9.417    2.27 |15.667    2.94 | 21.92    1.09
           3.250    1.09 | 9.500    2.27 |15.750    2.94 | 22.00    1.09
           3.333    1.09 | 9.583    2.27 |15.833    2.94 | 22.08    1.01
           3.417    1.09 | 9.667    2.27 |15.917    2.94 | 22.17    1.01
           3.500    1.09 | 9.750    2.27 |16.000    2.94 | 22.25    1.01
           3.583    1.09 | 9.833    2.27 |16.083    2.10 | 22.33    1.01
           3.667    1.09 | 9.917    2.27 |16.167    2.10 | 22.42    1.01
           3.750    1.09 |10.000    2.27 |16.250    2.10 | 22.50    1.01
           3.833    1.09 |10.083    2.86 |16.333    2.10 | 22.58    1.01
           3.917    1.09 |10.167    2.86 |16.417    2.10 | 22.67    1.01
           4.000    1.09 |10.250    2.86 |16.500    2.10 | 22.75    1.01
           4.083    1.09 |10.333    2.86 |16.583    2.10 | 22.83    1.01
           4.167    1.09 |10.417    2.86 |16.667    2.10 | 22.92    1.01
           4.250    1.09 |10.500    2.86 |16.750    2.10 | 23.00    1.01
           4.333    1.09 |10.583    2.86 |16.833    2.10 | 23.08    1.01
           4.417    1.09 |10.667    2.86 |16.917    2.10 | 23.17    1.01
           4.500    1.09 |10.750    2.86 |17.000    2.10 | 23.25    1.01
           4.583    1.09 |10.833    2.86 |17.083    1.93 | 23.33    1.01
           4.667    1.09 |10.917    2.86 |17.167    1.93 | 23.42    1.01
           4.750    1.09 |11.000    2.86 |17.250    1.93 | 23.50    1.01
           4.833    1.09 |11.083    4.54 |17.333    1.93 | 23.58    1.01
           4.917    1.09 |11.167    4.54 |17.417    1.93 | 23.67    1.01
           5.000    1.09 |11.250    4.54 |17.500    1.93 | 23.75    1.01
           5.083    1.18 |11.333    4.54 |17.583    1.93 | 23.83    1.01
           5.167    1.18 |11.417    4.54 |17.667    1.93 | 23.92    1.01
           5.250    1.18 |11.500    4.54 |17.750    1.93 | 24.00    1.01
           5.333    1.18 |11.583    4.54 |17.833    1.93 | 24.08    0.92
```

5.417	1.18	11.667	4.54	17.917	1.93	24.17	0.92
5.500	1.18	11.750	4.54	18.000	1.93	24.25	0.92
5.583	1.18	11.833	4.54	18.083	1.60	24.33	0.92
5.667	1.18	11.917	4.54	18.167	1.60	24.42	0.92
5.750	1.18	12.000	4.54	18.250	1.60	24.50	0.92
5.833	1.18	12.083	35.95	18.333	1.60	24.58	0.92
5.917	1.18	12.167	35.95	18.417	1.60	24.67	0.92
6.000	1.18	12.250	35.95	18.500	1.60	24.75	0.92
6.083	1.51	12.333	35.95	18.583	1.60	24.83	0.92
6.167	1.51	12.417	35.95	18.667	1.60	24.92	0.92
6.250	1.51	12.500	35.95	18.750	1.60	25.00	0.92

Unit Hyd Qpeak (cms)= 0.038

PEAK FLOW (cms)= 0.013 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 43.711
TOTAL RAINFALL (mm)= 84.000
RUNOFF COEFFICIENT = 0.520

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

CALIB
STANDHYD (0022) | Area (ha)= 0.68
ID= 1 DT= 5.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.67	0.01
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	67.33	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	1.51	12.583	35.95	18.83	1.60
0.167	0.00	6.417	1.51	12.667	35.95	18.92	1.60
0.250	0.00	6.500	1.51	12.750	35.95	19.00	1.60
0.333	0.00	6.583	1.51	12.833	35.95	19.08	1.34
0.417	0.00	6.667	1.51	12.917	35.95	19.17	1.34
0.500	0.00	6.750	1.51	13.000	35.95	19.25	1.34
0.583	0.00	6.833	1.51	13.083	9.16	19.33	1.34
0.667	0.00	6.917	1.51	13.167	9.16	19.42	1.34
0.750	0.00	7.000	1.51	13.250	9.16	19.50	1.34
0.833	0.00	7.083	1.60	13.333	9.16	19.58	1.34
0.917	0.00	7.167	1.60	13.417	9.16	19.67	1.34
1.000	0.00	7.250	1.60	13.500	9.16	19.75	1.34
1.083	0.84	7.333	1.60	13.583	9.16	19.83	1.34
1.167	0.84	7.417	1.60	13.667	9.16	19.92	1.34
1.250	0.84	7.500	1.60	13.750	9.16	20.00	1.34
1.333	0.84	7.583	1.60	13.833	9.16	20.08	1.18
1.417	0.84	7.667	1.60	13.917	9.16	20.17	1.18
1.500	0.84	7.750	1.60	14.000	9.16	20.25	1.18
1.583	0.84	7.833	1.60	14.083	4.03	20.33	1.18
1.667	0.84	7.917	1.60	14.167	4.03	20.42	1.18
1.750	0.84	8.000	1.60	14.250	4.03	20.50	1.18
1.833	0.84	8.083	1.76	14.333	4.03	20.58	1.18
1.917	0.84	8.167	1.76	14.417	4.03	20.67	1.18
2.000	0.84	8.250	1.76	14.500	4.03	20.75	1.18
2.083	1.01	8.333	1.76	14.583	4.03	20.83	1.18
2.167	1.01	8.417	1.76	14.667	4.03	20.92	1.18
2.250	1.01	8.500	1.76	14.750	4.03	21.00	1.18
2.333	1.01	8.583	1.76	14.833	4.03	21.08	1.09
2.417	1.01	8.667	1.76	14.917	4.03	21.17	1.09
2.500	1.01	8.750	1.76	15.000	4.03	21.25	1.09
2.583	1.01	8.833	1.76	15.083	2.94	21.33	1.09
2.667	1.01	8.917	1.76	15.167	2.94	21.42	1.09
2.750	1.01	9.000	1.76	15.250	2.94	21.50	1.09
2.833	1.01	9.083	2.27	15.333	2.94	21.58	1.09
2.917	1.01	9.167	2.27	15.417	2.94	21.67	1.09
3.000	1.01	9.250	2.27	15.500	2.94	21.75	1.09
3.083	1.09	9.333	2.27	15.583	2.94	21.83	1.09
3.167	1.09	9.417	2.27	15.667	2.94	21.92	1.09
3.250	1.09	9.500	2.27	15.750	2.94	22.00	1.09
3.333	1.09	9.583	2.27	15.833	2.94	22.08	1.01
3.417	1.09	9.667	2.27	15.917	2.94	22.17	1.01
3.500	1.09	9.750	2.27	16.000	2.94	22.25	1.01
3.583	1.09	9.833	2.27	16.083	2.10	22.33	1.01
3.667	1.09	9.917	2.27	16.167	2.10	22.42	1.01
3.750	1.09	10.000	2.27	16.250	2.10	22.50	1.01
3.833	1.09	10.083	2.86	16.333	2.10	22.58	1.01
3.917	1.09	10.167	2.86	16.417	2.10	22.67	1.01
4.000	1.09	10.250	2.86	16.500	2.10	22.75	1.01
4.083	1.09	10.333	2.86	16.583	2.10	22.83	1.01
4.167	1.09	10.417	2.86	16.667	2.10	22.92	1.01
4.250	1.09	10.500	2.86	16.750	2.10	23.00	1.01
4.333	1.09	10.583	2.86	16.833	2.10	23.08	1.01
4.417	1.09	10.667	2.86	16.917	2.10	23.17	1.01
4.500	1.09	10.750	2.86	17.000	2.10	23.25	1.01
4.583	1.09	10.833	2.86	17.083	1.93	23.33	1.01
4.667	1.09	10.917	2.86	17.167	1.93	23.42	1.01
4.750	1.09	11.000	2.86	17.250	1.93	23.50	1.01
4.833	1.09	11.083	4.54	17.333	1.93	23.58	1.01
4.917	1.09	11.167	4.54	17.417	1.93	23.67	1.01
5.000	1.09	11.250	4.54	17.500	1.93	23.75	1.01
5.083	1.18	11.333	4.54	17.583	1.93	23.83	1.01
5.167	1.18	11.417	4.54	17.667	1.93	23.92	1.01
5.250	1.18	11.500	4.54	17.750	1.93	24.00	1.01
5.333	1.18	11.583	4.54	17.833	1.93	24.08	0.92
5.417	1.18	11.667	4.54	17.917	1.93	24.17	0.92
5.500	1.18	11.750	4.54	18.000	1.93	24.25	0.92
5.583	1.18	11.833	4.54	18.083	1.60	24.33	0.92
5.667	1.18	11.917	4.54	18.167	1.60	24.42	0.92
5.750	1.18	12.000	4.54	18.250	1.60	24.50	0.92

```
          5.833   1.18 |12.083   35.95 |18.333   1.60 | 24.58   0.92
          5.917   1.18 |12.167   35.95 |18.417   1.60 | 24.67   0.92
          6.000   1.18 |12.250   35.95 |18.500   1.60 | 24.75   0.92
          6.083   1.51 |12.333   35.95 |18.583   1.60 | 24.83   0.92
          6.167   1.51 |12.417   35.95 |18.667   1.60 | 24.92   0.92
          6.250   1.51 |12.500   35.95 |18.750   1.60 | 25.00   0.92

   Max.Eff.Inten.(mm/hr)=      35.95       28.11
         over (min)        5.00        5.00
   Storage Coeff.  (min)=      3.03 (ii)   4.72 (ii)
   Unit Hyd. Tpeak (min)=      5.00        5.00
   Unit Hyd. peak  (cms)=      0.27        0.22
                                *TOTALS*
   PEAK FLOW      (cms)=       0.07        0.00         0.068 (iii)
   TIME TO PEAK   (hrs)=      12.75       13.00         13.00
   RUNOFF VOLUME  (mm)=       83.00       53.46         82.70
   TOTAL RAINFALL (mm)=       84.00       84.00         84.00
   RUNOFF COEFFICIENT  =       0.99        0.64          0.98

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

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

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

--------------------
| ADD HYD  (  0024)|
|  1 +  2 =  3   |       AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)   (cms)   (hrs)    (mm)
      ID1= 1 (  0022):    0.68   0.068   13.00   82.70
    + ID2= 2 (  0023):    0.20   0.013   13.00   43.71
     ==========================================================
      ID = 3 (  0024):    0.88   0.080   13.00   73.84

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

     V   V  I   SSSSS  U   U   A    L           (v 6.2.2015)
     V   V  I   SS     U   U  A A   L
      V V   I    SS    U   U  AAAAA  L
      V V   I     SS   U   U  A   A  L
       VV   I   SSSSS   UUUUU  A   A  LLLLL

      OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
     O   O    T      T    H   H   Y Y   MM MM  O   O
     O   O    T      T    H   H    Y    M   M  O   O
      OOO     T      T    H   H    Y    M   M   OOO
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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\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-
ac7436a87d8a\0604b68c-c4c4-415e-953f-b1b86754ac6b\scena
  Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-
ac7436a87d8a\0604b68c-c4c4-415e-953f-b1b86754ac6b\scena

DATE: 01/22/2025                    TIME: 03:48:00

USER:

COMMENTS: _____

--------------------------------------------------------------------------------------------------------
 ************************************************
 ** SIMULATION : 04 - 25 yr SCS              **
 ************************************************

--------------------
|   READ STORM    |   Filename: C:\Users\RCHUNG\AppD
|                 |             ata\Local\Temp\
|                 |             992f7ae0-3dc4-457e-ab76-c8347a1da44d\196ea763
| Ptotal=110.40 mm |   Comments: 25-Year SCS: Pearson Intl Airport
--------------------
            TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
             hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
            0.00    0.00 |  7.00    2.10 | 14.00    5.30 | 21.00    1.44
            1.00    1.10 |  8.00    2.32 | 15.00    3.86 | 22.00    1.32
            2.00    1.32 |  9.00    2.98 | 16.00    2.76 | 23.00    1.32
            3.00    1.44 | 10.00    3.75 | 17.00    2.54 | 24.00    1.21
            4.00    1.44 | 11.00    5.96 | 18.00    2.10 |
            5.00    1.55 | 12.00   47.25 | 19.00    1.77 |
            6.00    1.99 | 13.00   12.03 | 20.00    1.55 |

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--------------------
| CALIB            |
| STANDHYD (  0016)|   Area    (ha)=   6.21
|ID= 1 DT= 5.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  55.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area    (ha)=       4.03        2.17
     Dep. Storage    (mm)=       1.00        1.50
     Average Slope   (%)=        1.00        2.00
```

Length	(m)=	203.41	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	6.333	1.99	12.583	47.25	18.83	2.10
0.167	0.00	6.417	1.99	12.667	47.25	18.92	2.10
0.250	0.00	6.500	1.99	12.750	47.25	19.00	2.10
0.333	0.00	6.583	1.99	12.833	47.25	19.08	1.77
0.417	0.00	6.667	1.99	12.917	47.25	19.17	1.77
0.500	0.00	6.750	1.99	13.000	47.25	19.25	1.77
0.583	0.00	6.833	1.99	13.083	12.04	19.33	1.77
0.667	0.00	6.917	1.99	13.167	12.03	19.42	1.77
0.750	0.00	7.000	1.99	13.250	12.03	19.50	1.77
0.833	0.00	7.083	2.10	13.333	12.03	19.58	1.77
0.917	0.00	7.167	2.10	13.417	12.03	19.67	1.77
1.000	0.00	7.250	2.10	13.500	12.03	19.75	1.77
1.083	1.10	7.333	2.10	13.583	12.03	19.83	1.77
1.167	1.10	7.417	2.10	13.667	12.03	19.92	1.77
1.250	1.10	7.500	2.10	13.750	12.03	20.00	1.77
1.333	1.10	7.583	2.10	13.833	12.03	20.08	1.55
1.417	1.10	7.667	2.10	13.917	12.03	20.17	1.55
1.500	1.10	7.750	2.10	14.000	12.03	20.25	1.55
1.583	1.10	7.833	2.10	14.083	5.30	20.33	1.55
1.667	1.10	7.917	2.10	14.167	5.30	20.42	1.55
1.750	1.10	8.000	2.10	14.250	5.30	20.50	1.55
1.833	1.10	8.083	2.32	14.333	5.30	20.58	1.55
1.917	1.10	8.167	2.32	14.417	5.30	20.67	1.55
2.000	1.10	8.250	2.32	14.500	5.30	20.75	1.55
2.083	1.32	8.333	2.32	14.583	5.30	20.83	1.55
2.167	1.32	8.417	2.32	14.667	5.30	20.92	1.55
2.250	1.32	8.500	2.32	14.750	5.30	21.00	1.55
2.333	1.32	8.583	2.32	14.833	5.30	21.08	1.44
2.417	1.32	8.667	2.32	14.917	5.30	21.17	1.44
2.500	1.32	8.750	2.32	15.000	5.30	21.25	1.44
2.583	1.32	8.833	2.32	15.083	3.86	21.33	1.44
2.667	1.32	8.917	2.32	15.167	3.86	21.42	1.44
2.750	1.32	9.000	2.32	15.250	3.86	21.50	1.44
2.833	1.32	9.083	2.98	15.333	3.86	21.58	1.44
2.917	1.32	9.167	2.98	15.417	3.86	21.67	1.44
3.000	1.32	9.250	2.98	15.500	3.86	21.75	1.44
3.083	1.44	9.333	2.98	15.583	3.86	21.83	1.44
3.167	1.44	9.417	2.98	15.667	3.86	21.92	1.44
3.250	1.44	9.500	2.98	15.750	3.86	22.00	1.44
3.333	1.44	9.583	2.98	15.833	3.86	22.08	1.32
3.417	1.44	9.667	2.98	15.917	3.86	22.17	1.32
3.500	1.44	9.750	2.98	16.000	3.86	22.25	1.32
3.583	1.44	9.833	2.98	16.083	2.76	22.33	1.32
3.667	1.44	9.917	2.98	16.167	2.76	22.42	1.32
3.750	1.44	10.000	2.98	16.250	2.76	22.50	1.32
3.833	1.44	10.083	3.75	16.333	2.76	22.58	1.32
3.917	1.44	10.167	3.75	16.417	2.76	22.67	1.32
4.000	1.44	10.250	3.75	16.500	2.76	22.75	1.32
4.083	1.44	10.333	3.75	16.583	2.76	22.83	1.32
4.167	1.44	10.417	3.75	16.667	2.76	22.92	1.32
4.250	1.44	10.500	3.75	16.750	2.76	23.00	1.32
4.333	1.44	10.583	3.75	16.833	2.76	23.08	1.32
4.417	1.44	10.667	3.75	16.917	2.76	23.17	1.32
4.500	1.44	10.750	3.75	17.000	2.76	23.25	1.32
4.583	1.44	10.833	3.75	17.083	2.54	23.33	1.32
4.667	1.44	10.917	3.75	17.167	2.54	23.42	1.32
4.750	1.44	11.000	3.75	17.250	2.54	23.50	1.32
4.833	1.44	11.083	5.96	17.333	2.54	23.58	1.32
4.917	1.44	11.167	5.96	17.417	2.54	23.67	1.32
5.000	1.44	11.250	5.96	17.500	2.54	23.75	1.32
5.083	1.55	11.333	5.96	17.583	2.54	23.83	1.32
5.167	1.55	11.417	5.96	17.667	2.54	23.92	1.32
5.250	1.55	11.500	5.96	17.750	2.54	24.00	1.32
5.333	1.55	11.583	5.96	17.833	2.54	24.08	1.21
5.417	1.55	11.667	5.96	17.917	2.54	24.17	1.21
5.500	1.55	11.750	5.96	18.000	2.54	24.25	1.21
5.583	1.55	11.833	5.96	18.083	2.10	24.33	1.21
5.667	1.55	11.917	5.96	18.167	2.10	24.42	1.21
5.750	1.55	12.000	5.96	18.250	2.10	24.50	1.21
5.833	1.55	12.083	47.25	18.333	2.10	24.58	1.21
5.917	1.55	12.167	47.25	18.417	2.10	24.67	1.21
6.000	1.55	12.250	47.25	18.500	2.10	24.75	1.21
6.083	1.99	12.333	47.25	18.583	2.10	24.83	1.21
6.167	1.99	12.417	47.25	18.667	2.10	24.92	1.21
6.250	1.99	12.500	47.25	18.750	2.10	25.00	1.21

Max.Eff.Inten.(mm/hr)=		47.25	36.85
over (min)		5.00	20.00
Storage Coeff. (min)=		5.28 (ii)	15.80 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.21	0.07
		TOTALS	
PEAK FLOW	(cms)=	0.45	0.19 0.640 (iii)
TIME TO PEAK	(hrs)=	13.00	13.08 13.00
RUNOFF VOLUME	(mm)=	109.40	54.15 84.54
TOTAL RAINFALL	(mm)=	110.40	110.40 110.40
RUNOFF COEFFICIENT	=	0.99	0.49 0.77

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0015)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

0.0000 0.0000 | 0.1160 0.4200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0016)	6.206	0.640	13.00	84.54
OUTFLOW: ID= 1 (0015)	6.206	0.086	14.58	84.39

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.51
TIME SHIFT OF PEAK FLOW (min)= 95.00
MAXIMUM STORAGE USED (ha.m.)= 0.3129

CALIB
STANDHYD (0017) | Area (ha)= 30.91
ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 55.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.09	10.82
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	453.94	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	6.333	1.99	12.583	47.25	18.83	2.10
0.167	0.00	6.417	1.99	12.667	47.25	18.92	2.10
0.250	0.00	6.500	1.99	12.750	47.25	19.00	2.10
0.333	0.00	6.583	1.99	12.833	47.25	19.08	1.77
0.417	0.00	6.667	1.99	12.917	47.25	19.17	1.77
0.500	0.00	6.750	1.99	13.000	47.25	19.25	1.77
0.583	0.00	6.833	1.99	13.083	12.04	19.33	1.77
0.667	0.00	6.917	1.99	13.167	12.03	19.42	1.77
0.750	0.00	7.000	1.99	13.250	12.03	19.50	1.77
0.833	0.00	7.083	2.10	13.333	12.03	19.58	1.77
0.917	0.00	7.167	2.10	13.417	12.03	19.67	1.77
1.000	0.00	7.250	2.10	13.500	12.03	19.75	1.77
1.083	1.10	7.333	2.10	13.583	12.03	19.83	1.77
1.167	1.10	7.417	2.10	13.667	12.03	19.92	1.77
1.250	1.10	7.500	2.10	13.750	12.03	20.00	1.77
1.333	1.10	7.583	2.10	13.833	12.03	20.08	1.55
1.417	1.10	7.667	2.10	13.917	12.03	20.17	1.55
1.500	1.10	7.750	2.10	14.000	12.03	20.25	1.55
1.583	1.10	7.833	2.10	14.083	5.30	20.33	1.55
1.667	1.10	7.917	2.10	14.167	5.30	20.42	1.55
1.750	1.10	8.000	2.10	14.250	5.30	20.50	1.55
1.833	1.10	8.083	2.32	14.333	5.30	20.58	1.55
1.917	1.10	8.167	2.32	14.417	5.30	20.67	1.55
2.000	1.10	8.250	2.32	14.500	5.30	20.75	1.55
2.083	1.32	8.333	2.32	14.583	5.30	20.83	1.55
2.167	1.32	8.417	2.32	14.667	5.30	20.92	1.55
2.250	1.32	8.500	2.32	14.750	5.30	21.00	1.55
2.333	1.32	8.583	2.32	14.833	5.30	21.08	1.44
2.417	1.32	8.667	2.32	14.917	5.30	21.17	1.44
2.500	1.32	8.750	2.32	15.000	5.30	21.25	1.44
2.583	1.32	8.833	2.32	15.083	3.86	21.33	1.44
2.667	1.32	8.917	2.32	15.167	3.86	21.42	1.44
2.750	1.32	9.000	2.32	15.250	3.86	21.50	1.44
2.833	1.32	9.083	2.98	15.333	3.86	21.58	1.44
2.917	1.32	9.167	2.98	15.417	3.86	21.67	1.44
3.000	1.32	9.250	2.98	15.500	3.86	21.75	1.44
3.083	1.44	9.333	2.98	15.583	3.86	21.83	1.44
3.167	1.44	9.417	2.98	15.667	3.86	21.92	1.44
3.250	1.44	9.500	2.98	15.750	3.86	22.00	1.44
3.333	1.44	9.583	2.98	15.833	3.86	22.08	1.32
3.417	1.44	9.667	2.98	15.917	3.86	22.17	1.32
3.500	1.44	9.750	2.98	16.000	3.86	22.25	1.32
3.583	1.44	9.833	2.98	16.083	2.76	22.33	1.32
3.667	1.44	9.917	2.98	16.167	2.76	22.42	1.32
3.750	1.44	10.000	2.98	16.250	2.76	22.50	1.32
3.833	1.44	10.083	3.75	16.333	2.76	22.58	1.32
3.917	1.44	10.167	3.75	16.417	2.76	22.67	1.32
4.000	1.44	10.250	3.75	16.500	2.76	22.75	1.32
4.083	1.44	10.333	3.75	16.583	2.76	22.83	1.32
4.167	1.44	10.417	3.75	16.667	2.76	22.92	1.32
4.250	1.44	10.500	3.75	16.750	2.76	23.00	1.32
4.333	1.44	10.583	3.75	16.833	2.76	23.08	1.32
4.417	1.44	10.667	3.75	16.917	2.76	23.17	1.32
4.500	1.44	10.750	3.75	17.000	2.76	23.25	1.32
4.583	1.44	10.833	3.75	17.083	2.54	23.33	1.32
4.667	1.44	10.917	3.75	17.167	2.54	23.42	1.32
4.750	1.44	11.000	3.75	17.250	2.54	23.50	1.32
4.833	1.44	11.083	5.96	17.333	2.54	23.58	1.32
4.917	1.44	11.167	5.96	17.417	2.54	23.67	1.32
5.000	1.44	11.250	5.96	17.500	2.54	23.75	1.32
5.083	1.55	11.333	5.96	17.583	2.54	23.83	1.32
5.167	1.55	11.417	5.96	17.667	2.54	23.92	1.32
5.250	1.55	11.500	5.96	17.750	2.54	24.00	1.32
5.333	1.55	11.583	5.96	17.833	2.54	24.08	1.21
5.417	1.55	11.667	5.96	17.917	2.54	24.17	1.21
5.500	1.55	11.750	5.96	18.000	2.54	24.25	1.21
5.583	1.55	11.833	5.96	18.083	2.10	24.33	1.21
5.667	1.55	11.917	5.96	18.167	2.10	24.42	1.21
5.750	1.55	12.000	5.96	18.250	2.10	24.50	1.21
5.833	1.55	12.083	47.25	18.333	2.10	24.58	1.21
5.917	1.55	12.167	47.25	18.417	2.10	24.67	1.21
6.000	1.55	12.250	47.25	18.500	2.10	24.75	1.21
6.083	1.99	12.333	47.25	18.583	2.10	24.83	1.21
6.167	1.99	12.417	47.25	18.667	2.10	24.92	1.21
6.250	1.99	12.500	47.25	18.750	2.10	25.00	1.21

Max.Eff.Inten.(mm/hr)=	47.25	40.77
over (min)	10.00	20.00
Storage Coeff. (min)=	8.55 (ii)	18.65 (ii)
Unit Hyd. Tpeak (min)=	10.00	20.00

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    Unit Hyd. peak  (cms)=       0.12         0.06
                                  *TOTALS*
    PEAK FLOW       (cms)=       2.23         1.04         3.262 (iii)
    TIME TO PEAK    (hrs)=      13.00        13.08         13.00
    RUNOFF VOLUME   (mm)=      109.40        60.26         87.29
    TOTAL RAINFALL  (mm)=      110.40       110.40        110.40
    RUNOFF COEFFICIENT  =        0.99         0.55          0.79


     (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
         CN*  =  69.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
         THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0018)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   | OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)  |  (cms)     (ha.m.)
                     0.0000     0.0000   |   0.3230      1.8400
                     0.0940     0.8780   |   0.3940      2.1080
                     0.1730     1.2560   |   0.4680      2.5540
                     0.2030     1.3800   |   0.0000      0.0000

                          AREA     QPEAK     TPEAK       R.V.
                          (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0017)     30.909      3.262     13.00      87.29
   OUTFLOW: ID= 1 (  0018)     30.909      0.318     15.42      87.11

               PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.75
               TIME SHIFT OF PEAK FLOW         (min)=145.00
               MAXIMUM  STORAGE  USED       (ha.m.)=  1.8207

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| CALIB            |
| STANDHYD (  0020)|   Area    (ha)=  37.00
|ID= 1 DT= 5.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  65.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.90        11.10
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope    (%)=        1.00         2.00
     Length           (m)=      496.66        40.00
     Mannings n           =       0.013        0.250

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


                    ---- TRANSFORMED HYETOGRAPH ----
            TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
             hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
           0.083    0.00 | 6.333    1.99 |12.583   47.25 | 18.83    2.10
           0.167    0.00 | 6.417    1.99 |12.667   47.25 | 18.92    2.10
           0.250    0.00 | 6.500    1.99 |12.750   47.25 | 19.00    2.10
           0.333    0.00 | 6.583    1.99 |12.833   47.25 | 19.08    1.77
           0.417    0.00 | 6.667    1.99 |12.917   47.25 | 19.17    1.77
           0.500    0.00 | 6.750    1.99 |13.000   47.25 | 19.25    1.77
           0.583    0.00 | 6.833    1.99 |13.083   12.04 | 19.33    1.77
           0.667    0.00 | 6.917    1.99 |13.167   12.03 | 19.42    1.77
           0.750    0.00 | 7.000    1.99 |13.250   12.03 | 19.50    1.77
           0.833    0.00 | 7.083    2.10 |13.333   12.03 | 19.58    1.77
           0.917    0.00 | 7.167    2.10 |13.417   12.03 | 19.67    1.77
           1.000    0.00 | 7.250    2.10 |13.500   12.03 | 19.75    1.77
           1.083    1.10 | 7.333    2.10 |13.583   12.03 | 19.83    1.77
           1.167    1.10 | 7.417    2.10 |13.667   12.03 | 19.92    1.77
           1.250    1.10 | 7.500    2.10 |13.750   12.03 | 20.00    1.77
           1.333    1.10 | 7.583    2.10 |13.833   12.03 | 20.08    1.55
           1.417    1.10 | 7.667    2.10 |13.917   12.03 | 20.17    1.55
           1.500    1.10 | 7.750    2.10 |14.000   12.03 | 20.25    1.55
           1.583    1.10 | 7.833    2.10 |14.083    5.30 | 20.33    1.55
           1.667    1.10 | 7.917    2.10 |14.167    5.30 | 20.42    1.55
           1.750    1.10 | 8.000    2.10 |14.250    5.30 | 20.50    1.55
           1.833    1.10 | 8.083    2.32 |14.333    5.30 | 20.58    1.55
           1.917    1.10 | 8.167    2.32 |14.417    5.30 | 20.67    1.55
           2.000    1.10 | 8.250    2.32 |14.500    5.30 | 20.75    1.55
           2.083    1.32 | 8.333    2.32 |14.583    5.30 | 20.83    1.55
           2.167    1.32 | 8.417    2.32 |14.667    5.30 | 20.92    1.55
           2.250    1.32 | 8.500    2.32 |14.750    5.30 | 21.00    1.55
           2.333    1.32 | 8.583    2.32 |14.833    5.30 | 21.08    1.44
           2.417    1.32 | 8.667    2.32 |14.917    5.30 | 21.17    1.44
           2.500    1.32 | 8.750    2.32 |15.000    5.30 | 21.25    1.44
           2.583    1.32 | 8.833    2.32 |15.083    3.86 | 21.33    1.44
           2.667    1.32 | 8.917    2.32 |15.167    3.86 | 21.42    1.44
           2.750    1.32 | 9.000    2.32 |15.250    3.86 | 21.50    1.44
           2.833    1.32 | 9.083    2.98 |15.333    3.86 | 21.58    1.44
           2.917    1.32 | 9.167    2.98 |15.417    3.86 | 21.67    1.44
           3.000    1.32 | 9.250    2.98 |15.500    3.86 | 21.75    1.44
           3.083    1.44 | 9.333    2.98 |15.583    3.86 | 21.83    1.44
           3.167    1.44 | 9.417    2.98 |15.667    3.86 | 21.92    1.44
           3.250    1.44 | 9.500    2.98 |15.750    3.86 | 22.00    1.44
           3.333    1.44 | 9.583    2.98 |15.833    3.86 | 22.08    1.32
           3.417    1.44 | 9.667    2.98 |15.917    3.86 | 22.17    1.32
           3.500    1.44 | 9.750    2.98 |16.000    3.86 | 22.25    1.32
           3.583    1.44 | 9.833    2.98 |16.083    2.76 | 22.33    1.32
           3.667    1.44 | 9.917    2.98 |16.167    2.76 | 22.42    1.32
           3.750    1.44 |10.000    2.98 |16.250    2.76 | 22.50    1.32
           3.833    1.44 |10.083    3.75 |16.333    2.76 | 22.58    1.32
           3.917    1.44 |10.167    3.75 |16.417    2.76 | 22.67    1.32
           4.000    1.44 |10.250    3.75 |16.500    2.76 | 22.75    1.32
           4.083    1.44 |10.333    3.75 |16.583    2.76 | 22.83    1.32
           4.167    1.44 |10.417    3.75 |16.667    2.76 | 22.92    1.32
           4.250    1.44 |10.500    3.75 |16.750    2.76 | 23.00    1.32
           4.333    1.44 |10.583    3.75 |16.833    2.76 | 23.08    1.32
           4.417    1.44 |10.667    3.75 |16.917    2.76 | 23.17    1.32
           4.500    1.44 |10.750    3.75 |17.000    2.76 | 23.25    1.32
           4.583    1.44 |10.833    3.75 |17.083    2.54 | 23.33    1.32
           4.667    1.44 |10.917    3.75 |17.167    2.54 | 23.42    1.32
```

4.750	1.44	11.000	3.75	17.250	2.54	23.50	1.32
4.833	1.44	11.083	5.96	17.333	2.54	23.58	1.32
4.917	1.44	11.167	5.96	17.417	2.54	23.67	1.32
5.000	1.44	11.250	5.96	17.500	2.54	23.75	1.32
5.083	1.55	11.333	5.96	17.583	2.54	23.83	1.32
5.167	1.55	11.417	5.96	17.667	2.54	23.92	1.32
5.250	1.55	11.500	5.96	17.750	2.54	24.00	1.32
5.333	1.55	11.583	5.96	17.833	2.54	24.08	1.21
5.417	1.55	11.667	5.96	17.917	2.54	24.17	1.21
5.500	1.55	11.750	5.96	18.000	2.54	24.25	1.21
5.583	1.55	11.833	5.96	18.083	2.10	24.33	1.21
5.667	1.55	11.917	5.96	18.167	2.10	24.42	1.21
5.750	1.55	12.000	5.96	18.250	2.10	24.50	1.21
5.833	1.55	12.083	47.25	18.333	2.10	24.58	1.21
5.917	1.55	12.167	47.25	18.417	2.10	24.67	1.21
6.000	1.55	12.250	47.25	18.500	2.10	24.75	1.21
6.083	1.99	12.333	47.25	18.583	2.10	24.83	1.21
6.167	1.99	12.417	47.25	18.667	2.10	24.92	1.21
6.250	1.99	12.500	47.25	18.750	2.10	25.00	1.21

Max.Eff.Inten.(mm/hr)=	47.25	35.45	
over (min)	10.00	20.00	
Storage Coeff. (min)=	9.02 (ii)	19.71 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.12	0.06	
		TOTALS	
PEAK FLOW (cms)=	3.15	0.91	4.055 (iii)
TIME TO PEAK (hrs)=	13.00	13.08	13.00
RUNOFF VOLUME (mm)=	109.40	57.54	91.25
TOTAL RAINFALL (mm)=	110.40	110.40	110.40
RUNOFF COEFFICIENT =	0.99	0.52	0.83

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0021)| OVERFLOW IS OFF				
IN= 2---> OUT= 1 |				
DT= 5.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	2.4100
	0.0940	1.2500	0.3940	2.8000
	0.1730	1.7000	0.4680	3.0936
	0.2030	1.9000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	37.000	4.055	13.00	91.25
OUTFLOW: ID= 1 (0021)	37.000	0.322	16.17	90.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.94
TIME SHIFT OF PEAK FLOW (min)=190.00
MAXIMUM STORAGE USED (ha.m.)= 2.4055

CALIB |					
NASHYD (0023)|	Area (ha)=	0.20	Curve Number (CN)=	80.0	
ID= 1 DT= 5.0 min |	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
U.H. Tp(hrs)=	0.20				

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	6.333	1.99	12.583	47.25	18.83	2.10
0.167	0.00	6.417	1.99	12.667	47.25	18.92	2.10
0.250	0.00	6.500	1.99	12.750	47.25	19.00	2.10
0.333	0.00	6.583	1.99	12.833	47.25	19.08	1.77
0.417	0.00	6.667	1.99	12.917	47.25	19.17	1.77
0.500	0.00	6.750	1.99	13.000	47.25	19.25	1.77
0.583	0.00	6.833	1.99	13.083	12.04	19.33	1.77
0.667	0.00	6.917	1.99	13.167	12.03	19.42	1.77
0.750	0.00	7.000	1.99	13.250	12.03	19.50	1.77
0.833	0.00	7.083	2.10	13.333	12.03	19.58	1.77
0.917	0.00	7.167	2.10	13.417	12.03	19.67	1.77
1.000	0.00	7.250	2.10	13.500	12.03	19.75	1.77
1.083	1.10	7.333	2.10	13.583	12.03	19.83	1.77
1.167	1.10	7.417	2.10	13.667	12.03	19.92	1.77
1.250	1.10	7.500	2.10	13.750	12.03	20.00	1.77
1.333	1.10	7.583	2.10	13.833	12.03	20.08	1.55
1.417	1.10	7.667	2.10	13.917	12.03	20.17	1.55
1.500	1.10	7.750	2.10	14.000	12.03	20.25	1.55
1.583	1.10	7.833	2.10	14.083	5.30	20.33	1.55
1.667	1.10	7.917	2.10	14.167	5.30	20.42	1.55
1.750	1.10	8.000	2.10	14.250	5.30	20.50	1.55
1.833	1.10	8.083	2.32	14.333	5.30	20.58	1.55
1.917	1.10	8.167	2.32	14.417	5.30	20.67	1.55
2.000	1.10	8.250	2.32	14.500	5.30	20.75	1.55
2.083	1.32	8.333	2.32	14.583	5.30	20.83	1.55
2.167	1.32	8.417	2.32	14.667	5.30	20.92	1.55
2.250	1.32	8.500	2.32	14.750	5.30	21.00	1.55
2.333	1.32	8.583	2.32	14.833	5.30	21.08	1.44
2.417	1.32	8.667	2.32	14.917	5.30	21.17	1.44
2.500	1.32	8.750	2.32	15.000	5.30	21.25	1.44
2.583	1.32	8.833	2.32	15.083	3.86	21.33	1.44
2.667	1.32	8.917	2.32	15.167	3.86	21.42	1.44
2.750	1.32	9.000	2.32	15.250	3.86	21.50	1.44
2.833	1.32	9.083	2.98	15.333	3.86	21.58	1.44
2.917	1.32	9.167	2.98	15.417	3.86	21.67	1.44
3.000	1.32	9.250	2.98	15.500	3.86	21.75	1.44
3.083	1.44	9.333	2.98	15.583	3.86	21.83	1.44
3.167	1.44	9.417	2.98	15.667	3.86	21.92	1.44

3.250	1.44	9.500	2.98	15.750	3.86	22.00	1.44
3.333	1.44	9.583	2.98	15.833	3.86	22.08	1.32
3.417	1.44	9.667	2.98	15.917	3.86	22.17	1.32
3.500	1.44	9.750	2.98	16.000	3.86	22.25	1.32
3.583	1.44	9.833	2.98	16.083	2.76	22.33	1.32
3.667	1.44	9.917	2.98	16.167	2.76	22.42	1.32
3.750	1.44	10.000	2.98	16.250	2.76	22.50	1.32
3.833	1.44	10.083	3.75	16.333	2.76	22.58	1.32
3.917	1.44	10.167	3.75	16.417	2.76	22.67	1.32
4.000	1.44	10.250	3.75	16.500	2.76	22.75	1.32
4.083	1.44	10.333	3.75	16.583	2.76	22.83	1.32
4.167	1.44	10.417	3.75	16.667	2.76	22.92	1.32
4.250	1.44	10.500	3.75	16.750	2.76	23.00	1.32
4.333	1.44	10.583	3.75	16.833	2.76	23.08	1.32
4.417	1.44	10.667	3.75	16.917	2.76	23.17	1.32
4.500	1.44	10.750	3.75	17.000	2.76	23.25	1.32
4.583	1.44	10.833	3.75	17.083	2.54	23.33	1.32
4.667	1.44	10.917	3.75	17.167	2.54	23.42	1.32
4.750	1.44	11.000	3.75	17.250	2.54	23.50	1.32
4.833	1.44	11.083	5.96	17.333	2.54	23.58	1.32
4.917	1.44	11.167	5.96	17.417	2.54	23.67	1.32
5.000	1.44	11.250	5.96	17.500	2.54	23.75	1.32
5.083	1.55	11.333	5.96	17.583	2.54	23.83	1.32
5.167	1.55	11.417	5.96	17.667	2.54	23.92	1.32
5.250	1.55	11.500	5.96	17.750	2.54	24.00	1.32
5.333	1.55	11.583	5.96	17.833	2.54	24.08	1.21
5.417	1.55	11.667	5.96	17.917	2.54	24.17	1.21
5.500	1.55	11.750	5.96	18.000	2.54	24.25	1.21
5.583	1.55	11.833	5.96	18.083	2.10	24.33	1.21
5.667	1.55	11.917	5.96	18.167	2.10	24.42	1.21
5.750	1.55	12.000	5.96	18.250	2.10	24.50	1.21
5.833	1.55	12.083	47.25	18.333	2.10	24.58	1.21
5.917	1.55	12.167	47.25	18.417	2.10	24.67	1.21
6.000	1.55	12.250	47.25	18.500	2.10	24.75	1.21
6.083	1.99	12.333	47.25	18.583	2.10	24.83	1.21
6.167	1.99	12.417	47.25	18.667	2.10	24.92	1.21
6.250	1.99	12.500	47.25	18.750	2.10	25.00	1.21

Unit Hyd Qpeak (cms)= 0.038

PEAK FLOW (cms)= 0.019 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 65.646
TOTAL RAINFALL (mm)= 110.400
RUNOFF COEFFICIENT = 0.595

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

CALIB
STANDHYD (0022) | Area (ha)= 0.68
ID= 1 DT= 5.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.67	0.01
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	67.33	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	1.99	12.583	47.25	18.83	2.10
0.167	0.00	6.417	1.99	12.667	47.25	18.92	2.10
0.250	0.00	6.500	1.99	12.750	47.25	19.00	2.10
0.333	0.00	6.583	1.99	12.833	47.25	19.08	1.77
0.417	0.00	6.667	1.99	12.917	47.25	19.17	1.77
0.500	0.00	6.750	1.99	13.000	47.25	19.25	1.77
0.583	0.00	6.833	1.99	13.083	12.04	19.33	1.77
0.667	0.00	6.917	1.99	13.167	12.03	19.42	1.77
0.750	0.00	7.000	1.99	13.250	12.03	19.50	1.77
0.833	0.00	7.083	2.10	13.333	12.03	19.58	1.77
0.917	0.00	7.167	2.10	13.417	12.03	19.67	1.77
1.000	0.00	7.250	2.10	13.500	12.03	19.75	1.77
1.083	1.10	7.333	2.10	13.583	12.03	19.83	1.77
1.167	1.10	7.417	2.10	13.667	12.03	19.92	1.77
1.250	1.10	7.500	2.10	13.750	12.03	20.00	1.77
1.333	1.10	7.583	2.10	13.833	12.03	20.08	1.55
1.417	1.10	7.667	2.10	13.917	12.03	20.17	1.55
1.500	1.10	7.750	2.10	14.000	12.03	20.25	1.55
1.583	1.10	7.833	2.10	14.083	5.30	20.33	1.55
1.667	1.10	7.917	2.10	14.167	5.30	20.42	1.55
1.750	1.10	8.000	2.10	14.250	5.30	20.50	1.55
1.833	1.10	8.083	2.32	14.333	5.30	20.58	1.55
1.917	1.10	8.167	2.32	14.417	5.30	20.67	1.55
2.000	1.10	8.250	2.32	14.500	5.30	20.75	1.55
2.083	1.32	8.333	2.32	14.583	5.30	20.83	1.55
2.167	1.32	8.417	2.32	14.667	5.30	20.92	1.55
2.250	1.32	8.500	2.32	14.750	5.30	21.00	1.55
2.333	1.32	8.583	2.32	14.833	5.30	21.08	1.44
2.417	1.32	8.667	2.32	14.917	5.30	21.17	1.44
2.500	1.32	8.750	2.32	15.000	5.30	21.25	1.44
2.583	1.32	8.833	2.32	15.083	3.86	21.33	1.44
2.667	1.32	8.917	2.32	15.167	3.86	21.42	1.44
2.750	1.32	9.000	2.32	15.250	3.86	21.50	1.44
2.833	1.32	9.083	2.98	15.333	3.86	21.58	1.44
2.917	1.32	9.167	2.98	15.417	3.86	21.67	1.44
3.000	1.32	9.250	2.98	15.500	3.86	21.75	1.44
3.083	1.44	9.333	2.98	15.583	3.86	21.83	1.44
3.167	1.44	9.417	2.98	15.667	3.86	21.92	1.44
3.250	1.44	9.500	2.98	15.750	3.86	22.00	1.44
3.333	1.44	9.583	2.98	15.833	3.86	22.08	1.32
3.417	1.44	9.667	2.98	15.917	3.86	22.17	1.32
3.500	1.44	9.750	2.98	16.000	3.86	22.25	1.32
3.583	1.44	9.833	2.98	16.083	2.76	22.33	1.32

3.667	1.44	9.917	2.98	16.167	2.76	22.42	1.32
3.750	1.44	10.000	2.98	16.250	2.76	22.50	1.32
3.833	1.44	10.083	3.75	16.333	2.76	22.58	1.32
3.917	1.44	10.167	3.75	16.417	2.76	22.67	1.32
4.000	1.44	10.250	3.75	16.500	2.76	22.75	1.32
4.083	1.44	10.333	3.75	16.583	2.76	22.83	1.32
4.167	1.44	10.417	3.75	16.667	2.76	22.92	1.32
4.250	1.44	10.500	3.75	16.750	2.76	23.00	1.32
4.333	1.44	10.583	3.75	16.833	2.76	23.08	1.32
4.417	1.44	10.667	3.75	16.917	2.76	23.17	1.32
4.500	1.44	10.750	3.75	17.000	2.76	23.25	1.32
4.583	1.44	10.833	3.75	17.083	2.54	23.33	1.32
4.667	1.44	10.917	3.75	17.167	2.54	23.42	1.32
4.750	1.44	11.000	3.75	17.250	2.54	23.50	1.32
4.833	1.44	11.083	5.96	17.333	2.54	23.58	1.32
4.917	1.44	11.167	5.96	17.417	2.54	23.67	1.32
5.000	1.44	11.250	5.96	17.500	2.54	23.75	1.32
5.083	1.55	11.333	5.96	17.583	2.54	23.83	1.32
5.167	1.55	11.417	5.96	17.667	2.54	23.92	1.32
5.250	1.55	11.500	5.96	17.750	2.54	24.00	1.32
5.333	1.55	11.583	5.96	17.833	2.54	24.08	1.21
5.417	1.55	11.667	5.96	17.917	2.54	24.17	1.21
5.500	1.55	11.750	5.96	18.000	2.54	24.25	1.21
5.583	1.55	11.833	5.96	18.083	2.10	24.33	1.21
5.667	1.55	11.917	5.96	18.167	2.10	24.42	1.21
5.750	1.55	12.000	5.96	18.250	2.10	24.50	1.21
5.833	1.55	12.083	47.25	18.333	2.10	24.58	1.21
5.917	1.55	12.167	47.25	18.417	2.10	24.67	1.21
6.000	1.55	12.250	47.25	18.500	2.10	24.75	1.21
6.083	1.99	12.333	47.25	18.583	2.10	24.83	1.21
6.167	1.99	12.417	47.25	18.667	2.10	24.92	1.21
6.250	1.99	12.500	47.25	18.750	2.10	25.00	1.21

Max.Eff.Inten.(mm/hr)= 47.25 39.75
over (min) 5.00 5.00
Storage Coeff. (min)= 2.72 (ii) 4.24 (ii)
Unit Hyd. Tpeak (min)= 5.00 5.00
Unit Hyd. peak (cms)= 0.29 0.24
TOTALS
PEAK FLOW (cms)= 0.09 0.00 0.089 (iii)
TIME TO PEAK (hrs)= 12.67 13.00 13.00
RUNOFF VOLUME (mm)= 109.40 77.15 109.07
TOTAL RAINFALL (mm)= 110.40 110.40 110.40
RUNOFF COEFFICIENT = 0.99 0.70 0.99

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

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

| ADD HYD (0024)|
| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
--- (ha) (cms) (hrs) (mm)
ID1= 1 (0022): 0.68 0.089 13.00 109.07
+ ID2= 2 (0023): 0.20 0.019 13.00 65.65
==========
ID = 3 (0024): 0.88 0.108 13.00 99.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

==========
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V V I SSSSS U U A L (v 6.2.2015)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

OOO TTTTT TTTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO
Developed and Distributed by Smart City Water Inc

***** 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\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\c24ee573-eb73-4ca2-a192-6b2ca7e5899a\scena
Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\c24ee573-eb73-4ca2-a192-6b2ca7e5899a\scena

DATE: 01/22/2025 TIME: 03:48:01

USER:

COMMENTS: _____

****
** SIMULATION : 05 - 50 yr SCS **
****

| READ STORM | Filename: C:\Users\RCHUNG\AppD
| | ata\Local\Temp\
| | 992f7ae0-3dc4-457e-ab76-c8347a1da44d\b0afa951
| Ptotal=124.80 mm | Comments: 50-Year SCS: Pearson Intl Airport

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	7.00	2.37	14.00	5.99	21.00	1.62
1.00	1.25	8.00	2.62	15.00	4.37	22.00	1.50
2.00	1.50	9.00	3.37	16.00	3.12	23.00	1.50
3.00	1.62	10.00	4.24	17.00	2.87	24.00	1.37
4.00	1.62	11.00	6.74	18.00	2.37		
5.00	1.75	12.00	53.41	19.00	2.00		
6.00	2.25	13.00	13.60	20.00	1.75		

CALIB
STANDHYD (0016)	Area (ha)= 6.21
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 55.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.03	2.17
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	203.41	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	6.333	2.25	12.583	53.41	18.83	2.37
0.167	0.00	6.417	2.25	12.667	53.41	18.92	2.37
0.250	0.00	6.500	2.25	12.750	53.41	19.00	2.37
0.333	0.00	6.583	2.25	12.833	53.41	19.08	2.00
0.417	0.00	6.667	2.25	12.917	53.41	19.17	2.00
0.500	0.00	6.750	2.25	13.000	53.41	19.25	2.00
0.583	0.00	6.833	2.25	13.083	13.61	19.33	2.00
0.667	0.00	6.917	2.25	13.167	13.60	19.42	2.00
0.750	0.00	7.000	2.25	13.250	13.60	19.50	2.00
0.833	0.00	7.083	2.37	13.333	13.60	19.58	2.00
0.917	0.00	7.167	2.37	13.417	13.60	19.67	2.00
1.000	0.00	7.250	2.37	13.500	13.60	19.75	2.00
1.083	1.25	7.333	2.37	13.583	13.60	19.83	2.00
1.167	1.25	7.417	2.37	13.667	13.60	19.92	2.00
1.250	1.25	7.500	2.37	13.750	13.60	20.00	2.00
1.333	1.25	7.583	2.37	13.833	13.60	20.08	1.75
1.417	1.25	7.667	2.37	13.917	13.60	20.17	1.75
1.500	1.25	7.750	2.37	14.000	13.60	20.25	1.75
1.583	1.25	7.833	2.37	14.083	5.99	20.33	1.75
1.667	1.25	7.917	2.37	14.167	5.99	20.42	1.75
1.750	1.25	8.000	2.37	14.250	5.99	20.50	1.75
1.833	1.25	8.083	2.62	14.333	5.99	20.58	1.75
1.917	1.25	8.167	2.62	14.417	5.99	20.67	1.75
2.000	1.25	8.250	2.62	14.500	5.99	20.75	1.75
2.083	1.50	8.333	2.62	14.583	5.99	20.83	1.75
2.167	1.50	8.417	2.62	14.667	5.99	20.92	1.75
2.250	1.50	8.500	2.62	14.750	5.99	21.00	1.75
2.333	1.50	8.583	2.62	14.833	5.99	21.08	1.62
2.417	1.50	8.667	2.62	14.917	5.99	21.17	1.62
2.500	1.50	8.750	2.62	15.000	5.99	21.25	1.62
2.583	1.50	8.833	2.62	15.083	4.37	21.33	1.62
2.667	1.50	8.917	2.62	15.167	4.37	21.42	1.62
2.750	1.50	9.000	2.62	15.250	4.37	21.50	1.62
2.833	1.50	9.083	3.37	15.333	4.37	21.58	1.62
2.917	1.50	9.167	3.37	15.417	4.37	21.67	1.62
3.000	1.50	9.250	3.37	15.500	4.37	21.75	1.62
3.083	1.62	9.333	3.37	15.583	4.37	21.83	1.62
3.167	1.62	9.417	3.37	15.667	4.37	21.92	1.62
3.250	1.62	9.500	3.37	15.750	4.37	22.00	1.62
3.333	1.62	9.583	3.37	15.833	4.37	22.08	1.50
3.417	1.62	9.667	3.37	15.917	4.37	22.17	1.50
3.500	1.62	9.750	3.37	16.000	4.37	22.25	1.50
3.583	1.62	9.833	3.37	16.083	3.12	22.33	1.50
3.667	1.62	9.917	3.37	16.167	3.12	22.42	1.50
3.750	1.62	10.000	3.37	16.250	3.12	22.50	1.50
3.833	1.62	10.083	4.24	16.333	3.12	22.58	1.50
3.917	1.62	10.167	4.24	16.417	3.12	22.67	1.50
4.000	1.62	10.250	4.24	16.500	3.12	22.75	1.50
4.083	1.62	10.333	4.24	16.583	3.12	22.83	1.50
4.167	1.62	10.417	4.24	16.667	3.12	22.92	1.50
4.250	1.62	10.500	4.24	16.750	3.12	23.00	1.50
4.333	1.62	10.583	4.24	16.833	3.12	23.08	1.50
4.417	1.62	10.667	4.24	16.917	3.12	23.17	1.50
4.500	1.62	10.750	4.24	17.000	3.12	23.25	1.50
4.583	1.62	10.833	4.24	17.083	2.87	23.33	1.50
4.667	1.62	10.917	4.24	17.167	2.87	23.42	1.50
4.750	1.62	11.000	4.24	17.250	2.87	23.50	1.50
4.833	1.62	11.083	6.74	17.333	2.87	23.58	1.50
4.917	1.62	11.167	6.74	17.417	2.87	23.67	1.50
5.000	1.62	11.250	6.74	17.500	2.87	23.75	1.50
5.083	1.75	11.333	6.74	17.583	2.87	23.83	1.50
5.167	1.75	11.417	6.74	17.667	2.87	23.92	1.50
5.250	1.75	11.500	6.74	17.750	2.87	24.00	1.50
5.333	1.75	11.583	6.74	17.833	2.87	24.08	1.37
5.417	1.75	11.667	6.74	17.917	2.87	24.17	1.37
5.500	1.75	11.750	6.74	18.000	2.87	24.25	1.37
5.583	1.75	11.833	6.74	18.083	2.37	24.33	1.37
5.667	1.75	11.917	6.74	18.167	2.37	24.42	1.37
5.750	1.75	12.000	6.74	18.250	2.37	24.50	1.37
5.833	1.75	12.083	53.41	18.333	2.37	24.58	1.37
5.917	1.75	12.167	53.41	18.417	2.37	24.67	1.37
6.000	1.75	12.250	53.41	18.500	2.37	24.75	1.37
6.083	2.25	12.333	53.41	18.583	2.37	24.83	1.37
6.167	2.25	12.417	53.41	18.667	2.37	24.92	1.37
6.250	2.25	12.500	53.41	18.750	2.37	25.00	1.37

```
    Max.Eff.Inten.(mm/hr)=      53.41       44.73
              over (min)        5.00       15.00
    Storage Coeff.  (min)=      5.03 (ii)  14.76 (ii)
    Unit Hyd. Tpeak (min)=      5.00       15.00
    Unit Hyd. peak  (cms)=      0.21        0.08
                                *TOTALS*
    PEAK FLOW      (cms)=       0.51        0.24        0.747 (iii)
    TIME TO PEAK   (hrs)=      13.00       13.00       13.00
    RUNOFF VOLUME  (mm)=      123.80       65.11       97.39
    TOTAL RAINFALL (mm)=      124.80      124.80      124.80
    RUNOFF COEFFICIENT  =       0.99        0.52        0.78


     (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
         CN*  =  64.0    Ia = Dep. Storage  (Above)
    (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
         THAN THE STORAGE COEFFICIENT.
   (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0015)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   | OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |  (cms)     (ha.m.)
                      0.0000     0.0000    |   0.1160      0.4200

                          AREA      QPEAK     TPEAK       R.V.
                          (ha)      (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0016)      6.206      0.747     13.00      97.39
   OUTFLOW: ID= 1 (  0015)      6.206      0.100     14.50      97.24

              PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.36
              TIME SHIFT OF PEAK FLOW         (min)= 90.00
              MAXIMUM  STORAGE   USED       (ha.m.)=  0.3612

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--------------------
| CALIB            |
| STANDHYD (  0017)|   Area    (ha)=  30.91
|ID= 1 DT= 5.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  55.00
--------------------
                          IMPERVIOUS     PERVIOUS (i)
     Surface Area     (ha)=      20.09        10.82
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length           (m)=     453.94        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 | 6.333   2.25 |12.583  53.41 | 18.83   2.37
  0.167   0.00 | 6.417   2.25 |12.667  53.41 | 18.92   2.37
  0.250   0.00 | 6.500   2.25 |12.750  53.41 | 19.00   2.37
  0.333   0.00 | 6.583   2.25 |12.833  53.41 | 19.08   2.00
  0.417   0.00 | 6.667   2.25 |12.917  53.41 | 19.17   2.00
  0.500   0.00 | 6.750   2.25 |13.000  53.41 | 19.25   2.00
  0.583   0.00 | 6.833   2.25 |13.083  13.61 | 19.33   2.00
  0.667   0.00 | 6.917   2.25 |13.167  13.60 | 19.42   2.00
  0.750   0.00 | 7.000   2.25 |13.250  13.60 | 19.50   2.00
  0.833   0.00 | 7.083   2.37 |13.333  13.60 | 19.58   2.00
  0.917   0.00 | 7.167   2.37 |13.417  13.60 | 19.67   2.00
  1.000   0.00 | 7.250   2.37 |13.500  13.60 | 19.75   2.00
  1.083   1.25 | 7.333   2.37 |13.583  13.60 | 19.83   2.00
  1.167   1.25 | 7.417   2.37 |13.667  13.60 | 19.92   2.00
  1.250   1.25 | 7.500   2.37 |13.750  13.60 | 20.00   2.00
  1.333   1.25 | 7.583   2.37 |13.833  13.60 | 20.08   1.75
  1.417   1.25 | 7.667   2.37 |13.917  13.60 | 20.17   1.75
  1.500   1.25 | 7.750   2.37 |14.000  13.60 | 20.25   1.75
  1.583   1.25 | 7.833   2.37 |14.083   5.99 | 20.33   1.75
  1.667   1.25 | 7.917   2.37 |14.167   5.99 | 20.42   1.75
  1.750   1.25 | 8.000   2.37 |14.250   5.99 | 20.50   1.75
  1.833   1.25 | 8.083   2.62 |14.333   5.99 | 20.58   1.75
  1.917   1.25 | 8.167   2.62 |14.417   5.99 | 20.67   1.75
  2.000   1.25 | 8.250   2.62 |14.500   5.99 | 20.75   1.75
  2.083   1.50 | 8.333   2.62 |14.583   5.99 | 20.83   1.75
  2.167   1.50 | 8.417   2.62 |14.667   5.99 | 20.92   1.75
  2.250   1.50 | 8.500   2.62 |14.750   5.99 | 21.00   1.75
  2.333   1.50 | 8.583   2.62 |14.833   5.99 | 21.08   1.62
  2.417   1.50 | 8.667   2.62 |14.917   5.99 | 21.17   1.62
  2.500   1.50 | 8.750   2.62 |15.000   5.99 | 21.25   1.62
  2.583   1.50 | 8.833   2.62 |15.083   4.37 | 21.33   1.62
  2.667   1.50 | 8.917   2.62 |15.167   4.37 | 21.42   1.62
  2.750   1.50 | 9.000   2.62 |15.250   4.37 | 21.50   1.62
  2.833   1.50 | 9.083   3.37 |15.333   4.37 | 21.58   1.62
  2.917   1.50 | 9.167   3.37 |15.417   4.37 | 21.67   1.62
  3.000   1.50 | 9.250   3.37 |15.500   4.37 | 21.75   1.62
  3.083   1.62 | 9.333   3.37 |15.583   4.37 | 21.83   1.62
  3.167   1.62 | 9.417   3.37 |15.667   4.37 | 21.92   1.62
  3.250   1.62 | 9.500   3.37 |15.750   4.37 | 22.00   1.62
  3.333   1.62 | 9.583   3.37 |15.833   4.37 | 22.08   1.50
  3.417   1.62 | 9.667   3.37 |15.917   4.37 | 22.17   1.50
  3.500   1.62 | 9.750   3.37 |16.000   4.37 | 22.25   1.50
  3.583   1.62 | 9.833   3.37 |16.083   3.12 | 22.33   1.50
  3.667   1.62 | 9.917   3.37 |16.167   3.12 | 22.42   1.50
  3.750   1.62 |10.000   3.37 |16.250   3.12 | 22.50   1.50
  3.833   1.62 |10.083   4.24 |16.333   3.12 | 22.58   1.50
  3.917   1.62 |10.167   4.24 |16.417   3.12 | 22.67   1.50
  4.000   1.62 |10.250   4.24 |16.500   3.12 | 22.75   1.50
  4.083   1.62 |10.333   4.24 |16.583   3.12 | 22.83   1.50
  4.167   1.62 |10.417   4.24 |16.667   3.12 | 22.92   1.50
  4.250   1.62 |10.500   4.24 |16.750   3.12 | 23.00   1.50
  4.333   1.62 |10.583   4.24 |16.833   3.12 | 23.08   1.50
  4.417   1.62 |10.667   4.24 |16.917   3.12 | 23.17   1.50
  4.500   1.62 |10.750   4.24 |17.000   3.12 | 23.25   1.50
```

4.583	1.62	10.833	4.24	17.083	2.87	23.33	1.50
4.667	1.62	10.917	4.24	17.167	2.87	23.42	1.50
4.750	1.62	11.000	4.24	17.250	2.87	23.50	1.50
4.833	1.62	11.083	6.74	17.333	2.87	23.58	1.50
4.917	1.62	11.167	6.74	17.417	2.87	23.67	1.50
5.000	1.62	11.250	6.74	17.500	2.87	23.75	1.50
5.083	1.75	11.333	6.74	17.583	2.87	23.83	1.50
5.167	1.75	11.417	6.74	17.667	2.87	23.92	1.50
5.250	1.75	11.500	6.74	17.750	2.87	24.00	1.50
5.333	1.75	11.583	6.74	17.833	2.87	24.08	1.37
5.417	1.75	11.667	6.74	17.917	2.87	24.17	1.37
5.500	1.75	11.750	6.74	18.000	2.87	24.25	1.37
5.583	1.75	11.833	6.74	18.083	2.37	24.33	1.37
5.667	1.75	11.917	6.74	18.167	2.37	24.42	1.37
5.750	1.75	12.000	6.74	18.250	2.37	24.50	1.37
5.833	1.75	12.083	53.41	18.333	2.37	24.58	1.37
5.917	1.75	12.167	53.41	18.417	2.37	24.67	1.37
6.000	1.75	12.250	53.41	18.500	2.37	24.75	1.37
6.083	2.25	12.333	53.41	18.583	2.37	24.83	1.37
6.167	2.25	12.417	53.41	18.667	2.37	24.92	1.37
6.250	2.25	12.500	53.41	18.750	2.37	25.00	1.37

Max.Eff.Inten.(mm/hr)=	53.41	49.00	
over (min)	10.00	20.00	
Storage Coeff. (min)=	8.14 (ii)	17.53 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
		TOTALS	
PEAK FLOW (cms)=	2.52	1.26	3.775 (iii)
TIME TO PEAK (hrs)=	13.00	13.08	13.00
RUNOFF VOLUME (mm)=	123.80	71.97	100.48
TOTAL RAINFALL (mm)=	124.80	124.80	124.80
RUNOFF COEFFICIENT =	0.99	0.58	0.81

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0018)| OVERFLOW IS OFF				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	1.8400
	0.0940	0.8780	0.3940	2.1080
	0.1730	1.2560	0.4680	2.5540
	0.2030	1.3800	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0017)	30.909	3.775	13.00	100.48
OUTFLOW: ID= 1 (0018)	30.909	0.386	15.33	100.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.22
TIME SHIFT OF PEAK FLOW (min)=140.00
MAXIMUM STORAGE USED (ha.m.)= 2.0775

CALIB | STANDHYD (0020)| ID= 1 DT= 5.0 min |	Area (ha)= 37.00	Total Imp(%)= 70.00	Dir. Conn.(%)= 65.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.90	11.10
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	496.66	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	2.25	12.583	53.41	18.83	2.37
0.167	0.00	6.417	2.25	12.667	53.41	18.92	2.37
0.250	0.00	6.500	2.25	12.750	53.41	19.00	2.37
0.333	0.00	6.583	2.25	12.833	53.41	19.08	2.00
0.417	0.00	6.667	2.25	12.917	53.41	19.17	2.00
0.500	0.00	6.750	2.25	13.000	53.41	19.25	2.00
0.583	0.00	6.833	2.25	13.083	13.61	19.33	2.00
0.667	0.00	6.917	2.25	13.167	13.60	19.42	2.00
0.750	0.00	7.000	2.25	13.250	13.60	19.50	2.00
0.833	0.00	7.083	2.37	13.333	13.60	19.58	2.00
0.917	0.00	7.167	2.37	13.417	13.60	19.67	2.00
1.000	0.00	7.250	2.37	13.500	13.60	19.75	2.00
1.083	1.25	7.333	2.37	13.583	13.60	19.83	2.00
1.167	1.25	7.417	2.37	13.667	13.60	19.92	2.00
1.250	1.25	7.500	2.37	13.750	13.60	20.00	2.00
1.333	1.25	7.583	2.37	13.833	13.60	20.08	1.75
1.417	1.25	7.667	2.37	13.917	13.60	20.17	1.75
1.500	1.25	7.750	2.37	14.000	13.60	20.25	1.75
1.583	1.25	7.833	2.37	14.083	5.99	20.33	1.75
1.667	1.25	7.917	2.37	14.167	5.99	20.42	1.75
1.750	1.25	8.000	2.37	14.250	5.99	20.50	1.75
1.833	1.25	8.083	2.62	14.333	5.99	20.58	1.75
1.917	1.25	8.167	2.62	14.417	5.99	20.67	1.75
2.000	1.25	8.250	2.62	14.500	5.99	20.75	1.75
2.083	1.50	8.333	2.62	14.583	5.99	20.83	1.75
2.167	1.50	8.417	2.62	14.667	5.99	20.92	1.75
2.250	1.50	8.500	2.62	14.750	5.99	21.00	1.75
2.333	1.50	8.583	2.62	14.833	5.99	21.08	1.62
2.417	1.50	8.667	2.62	14.917	5.99	21.17	1.62
2.500	1.50	8.750	2.62	15.000	5.99	21.25	1.62

2.583	1.50	8.833	2.62	15.083	4.37	21.33	1.62
2.667	1.50	8.917	2.62	15.167	4.37	21.42	1.62
2.750	1.50	9.000	2.62	15.250	4.37	21.50	1.62
2.833	1.50	9.083	3.37	15.333	4.37	21.58	1.62
2.917	1.50	9.167	3.37	15.417	4.37	21.67	1.62
3.000	1.50	9.250	3.37	15.500	4.37	21.75	1.62
3.083	1.62	9.333	3.37	15.583	4.37	21.83	1.62
3.167	1.62	9.417	3.37	15.667	4.37	21.92	1.62
3.250	1.62	9.500	3.37	15.750	4.37	22.00	1.62
3.333	1.62	9.583	3.37	15.833	4.37	22.08	1.50
3.417	1.62	9.667	3.37	15.917	4.37	22.17	1.50
3.500	1.62	9.750	3.37	16.000	4.37	22.25	1.50
3.583	1.62	9.833	3.37	16.083	3.12	22.33	1.50
3.667	1.62	9.917	3.37	16.167	3.12	22.42	1.50
3.750	1.62	10.000	3.37	16.250	3.12	22.50	1.50
3.833	1.62	10.083	4.24	16.333	3.12	22.58	1.50
3.917	1.62	10.167	4.24	16.417	3.12	22.67	1.50
4.000	1.62	10.250	4.24	16.500	3.12	22.75	1.50
4.083	1.62	10.333	4.24	16.583	3.12	22.83	1.50
4.167	1.62	10.417	4.24	16.667	3.12	22.92	1.50
4.250	1.62	10.500	4.24	16.750	3.12	23.00	1.50
4.333	1.62	10.583	4.24	16.833	3.12	23.08	1.50
4.417	1.62	10.667	4.24	16.917	3.12	23.17	1.50
4.500	1.62	10.750	4.24	17.000	3.12	23.25	1.50
4.583	1.62	10.833	4.24	17.083	2.87	23.33	1.50
4.667	1.62	10.917	4.24	17.167	2.87	23.42	1.50
4.750	1.62	11.000	4.24	17.250	2.87	23.50	1.50
4.833	1.62	11.083	6.74	17.333	2.87	23.58	1.50
4.917	1.62	11.167	6.74	17.417	2.87	23.67	1.50
5.000	1.62	11.250	6.74	17.500	2.87	23.75	1.50
5.083	1.75	11.333	6.74	17.583	2.87	23.83	1.50
5.167	1.75	11.417	6.74	17.667	2.87	23.92	1.50
5.250	1.75	11.500	6.74	17.750	2.87	24.00	1.50
5.333	1.75	11.583	6.74	17.833	2.87	24.08	1.37
5.417	1.75	11.667	6.74	17.917	2.87	24.17	1.37
5.500	1.75	11.750	6.74	18.000	2.87	24.25	1.37
5.583	1.75	11.833	6.74	18.083	2.37	24.33	1.37
5.667	1.75	11.917	6.74	18.167	2.37	24.42	1.37
5.750	1.75	12.000	6.74	18.250	2.37	24.50	1.37
5.833	1.75	12.083	53.41	18.333	2.37	24.58	1.37
5.917	1.75	12.167	53.41	18.417	2.37	24.67	1.37
6.000	1.75	12.250	53.41	18.500	2.37	24.75	1.37
6.083	2.25	12.333	53.41	18.583	2.37	24.83	1.37
6.167	2.25	12.417	53.41	18.667	2.37	24.92	1.37
6.250	2.25	12.500	53.41	18.750	2.37	25.00	1.37

Max.Eff.Inten.(mm/hr)=	53.41	42.80	
over (min)	10.00	20.00	
Storage Coeff. (min)=	8.59 (ii)	18.50 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.12	0.06	
		TOTALS	
PEAK FLOW (cms)=	3.56	1.11	4.667 (iii)
TIME TO PEAK (hrs)=	13.00	13.08	13.00
RUNOFF VOLUME (mm)=	123.80	68.93	104.59
TOTAL RAINFALL (mm)=	124.80	124.80	124.80
RUNOFF COEFFICIENT =	0.99	0.55	0.84

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0021)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	2.4100
	0.0940	1.2500	0.3940	2.8000
	0.1730	1.7000	0.4680	3.0936
	0.2030	1.9000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	37.000	4.667	13.00	104.59
OUTFLOW: ID= 1 (0021)	37.000	0.382	16.08	103.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.18
TIME SHIFT OF PEAK FLOW (min)=185.00
MAXIMUM STORAGE USED (ha.m.)= 2.7332

CALIB			
NASHYD (0023)|	Area (ha)=	0.20	Curve Number (CN)= 80.0
ID= 1 DT= 5.0 min |	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.20	

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	6.333	2.25	12.583	53.41	18.83	2.37
0.167	0.00	6.417	2.25	12.667	53.41	18.92	2.37
0.250	0.00	6.500	2.25	12.750	53.41	19.00	2.37
0.333	0.00	6.583	2.25	12.833	53.41	19.08	2.00
0.417	0.00	6.667	2.25	12.917	53.41	19.17	2.00
0.500	0.00	6.750	2.25	13.000	53.41	19.25	2.00
0.583	0.00	6.833	2.25	13.083	13.61	19.33	2.00
0.667	0.00	6.917	2.25	13.167	13.60	19.42	2.00
0.750	0.00	7.000	2.25	13.250	13.60	19.50	2.00
0.833	0.00	7.083	2.37	13.333	13.60	19.58	2.00
0.917	0.00	7.167	2.37	13.417	13.60	19.67	2.00
1.000	0.00	7.250	2.37	13.500	13.60	19.75	2.00

1.083	1.25 | 7.333	2.37 |13.583	13.60 | 19.83	2.00		
1.167	1.25 | 7.417	2.37 |13.667	13.60 | 19.92	2.00		
1.250	1.25 | 7.500	2.37 |13.750	13.60 | 20.00	2.00		
1.333	1.25 | 7.583	2.37 |13.833	13.60 | 20.08	1.75		
1.417	1.25 | 7.667	2.37 |13.917	13.60 | 20.17	1.75		
1.500	1.25 | 7.750	2.37 |14.000	13.60 | 20.25	1.75		
1.583	1.25 | 7.833	2.37 |14.083	5.99 | 20.33	1.75		
1.667	1.25 | 7.917	2.37 |14.167	5.99 | 20.42	1.75		
1.750	1.25 | 8.000	2.37 |14.250	5.99 | 20.50	1.75		
1.833	1.25 | 8.083	2.62 |14.333	5.99 | 20.58	1.75		
1.917	1.25 | 8.167	2.62 |14.417	5.99 | 20.67	1.75		
2.000	1.25 | 8.250	2.62 |14.500	5.99 | 20.75	1.75		
2.083	1.50 | 8.333	2.62 |14.583	5.99 | 20.83	1.75		
2.167	1.50 | 8.417	2.62 |14.667	5.99 | 20.92	1.75		
2.250	1.50 | 8.500	2.62 |14.750	5.99 | 21.00	1.75		
2.333	1.50 | 8.583	2.62 |14.833	5.99 | 21.08	1.62		
2.417	1.50 | 8.667	2.62 |14.917	5.99 | 21.17	1.62		
2.500	1.50 | 8.750	2.62 |15.000	5.99 | 21.25	1.62		
2.583	1.50 | 8.833	2.62 |15.083	4.37 | 21.33	1.62		
2.667	1.50 | 8.917	2.62 |15.167	4.37 | 21.42	1.62		
2.750	1.50 | 9.000	2.62 |15.250	4.37 | 21.50	1.62		
2.833	1.50 | 9.083	3.37 |15.333	4.37 | 21.58	1.62		
2.917	1.50 | 9.167	3.37 |15.417	4.37 | 21.67	1.62		
3.000	1.50 | 9.250	3.37 |15.500	4.37 | 21.75	1.62		
3.083	1.62 | 9.333	3.37 |15.583	4.37 | 21.83	1.62		
3.167	1.62 | 9.417	3.37 |15.667	4.37 | 21.92	1.62		
3.250	1.62 | 9.500	3.37 |15.750	4.37 | 22.00	1.62		
3.333	1.62 | 9.583	3.37 |15.833	4.37 | 22.08	1.50		
3.417	1.62 | 9.667	3.37 |15.917	4.37 | 22.17	1.50		
3.500	1.62 | 9.750	3.37 |16.000	4.37 | 22.25	1.50		
3.583	1.62 | 9.833	3.37 |16.083	3.12 | 22.33	1.50		
3.667	1.62 | 9.917	3.37 |16.167	3.12 | 22.42	1.50		
3.750	1.62 |10.000	3.37 |16.250	3.12 | 22.50	1.50		
3.833	1.62 |10.083	4.24 |16.333	3.12 | 22.58	1.50		
3.917	1.62 |10.167	4.24 |16.417	3.12 | 22.67	1.50		
4.000	1.62 |10.250	4.24 |16.500	3.12 | 22.75	1.50		
4.083	1.62 |10.333	4.24 |16.583	3.12 | 22.83	1.50		
4.167	1.62 |10.417	4.24 |16.667	3.12 | 22.92	1.50		
4.250	1.62 |10.500	4.24 |16.750	3.12 | 23.00	1.50		
4.333	1.62 |10.583	4.24 |16.833	3.12 | 23.08	1.50		
4.417	1.62 |10.667	4.24 |16.917	3.12 | 23.17	1.50		
4.500	1.62 |10.750	4.24 |17.000	3.12 | 23.25	1.50		
4.583	1.62 |10.833	4.24 |17.083	2.87 | 23.33	1.50		
4.667	1.62 |10.917	4.24 |17.167	2.87 | 23.42	1.50		
4.750	1.62 |11.000	4.24 |17.250	2.87 | 23.50	1.50		
4.833	1.62 |11.083	6.74 |17.333	2.87 | 23.58	1.50		
4.917	1.62 |11.167	6.74 |17.417	2.87 | 23.67	1.50		
5.000	1.62 |11.250	6.74 |17.500	2.87 | 23.75	1.50		
5.083	1.75 |11.333	6.74 |17.583	2.87 | 23.83	1.50		
5.167	1.75 |11.417	6.74 |17.667	2.87 | 23.92	1.50		
5.250	1.75 |11.500	6.74 |17.750	2.87 | 24.00	1.50		
5.333	1.75 |11.583	6.74 |17.833	2.87 | 24.08	1.37		
5.417	1.75 |11.667	6.74 |17.917	2.87 | 24.17	1.37		
5.500	1.75 |11.750	6.74 |18.000	2.87 | 24.25	1.37		
5.583	1.75 |11.833	6.74 |18.083	2.37 | 24.33	1.37		
5.667	1.75 |11.917	6.74 |18.167	2.37 | 24.42	1.37		
5.750	1.75 |12.000	6.74 |18.250	2.37 | 24.50	1.37		
5.833	1.75 |12.083	53.41 |18.333	2.37 | 24.58	1.37		
5.917	1.75 |12.167	53.41 |18.417	2.37 | 24.67	1.37		
6.000	1.75 |12.250	53.41 |18.500	2.37 | 24.75	1.37		
6.083	2.25 |12.333	53.41 |18.583	2.37 | 24.83	1.37		
6.167	2.25 |12.417	53.41 |18.667	2.37 | 24.92	1.37		
6.250	2.25 |12.500	53.41 |18.750	2.37 | 25.00	1.37		

Unit Hyd Qpeak (cms)= 0.038

PEAK FLOW (cms)= 0.022 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 78.146
TOTAL RAINFALL (mm)= 124.800
RUNOFF COEFFICIENT = 0.626

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

CALIB	
STANDHYD (0022)	Area (ha)= 0.68
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.67	0.01
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	67.33	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	2.25	12.583	53.41	18.83	2.37
0.167	0.00	6.417	2.25	12.667	53.41	18.92	2.37
0.250	0.00	6.500	2.25	12.750	53.41	19.00	2.37
0.333	0.00	6.583	2.25	12.833	53.41	19.08	2.00
0.417	0.00	6.667	2.25	12.917	53.41	19.17	2.00
0.500	0.00	6.750	2.25	13.000	53.41	19.25	2.00
0.583	0.00	6.833	2.25	13.083	13.61	19.33	2.00
0.667	0.00	6.917	2.25	13.167	13.60	19.42	2.00
0.750	0.00	7.000	2.25	13.250	13.60	19.50	2.00
0.833	0.00	7.083	2.37	13.333	13.60	19.58	2.00
0.917	0.00	7.167	2.37	13.417	13.60	19.67	2.00
1.000	0.00	7.250	2.37	13.500	13.60	19.75	2.00
1.083	1.25	7.333	2.37	13.583	13.60	19.83	2.00
1.167	1.25	7.417	2.37	13.667	13.60	19.92	2.00
1.250	1.25	7.500	2.37	13.750	13.60	20.00	2.00
1.333	1.25	7.583	2.37	13.833	13.60	20.08	1.75
1.417	1.25	7.667	2.37	13.917	13.60	20.17	1.75

1.500	1.25 | 7.750	2.37 |14.000	13.60 | 20.25	1.75		
1.583	1.25 | 7.833	2.37 |14.083	5.99 | 20.33	1.75		
1.667	1.25 | 7.917	2.37 |14.167	5.99 | 20.42	1.75		
1.750	1.25 | 8.000	2.37 |14.250	5.99 | 20.50	1.75		
1.833	1.25 | 8.083	2.62 |14.333	5.99 | 20.58	1.75		
1.917	1.25 | 8.167	2.62 |14.417	5.99 | 20.67	1.75		
2.000	1.25 | 8.250	2.62 |14.500	5.99 | 20.75	1.75		
2.083	1.50 | 8.333	2.62 |14.583	5.99 | 20.83	1.75		
2.167	1.50 | 8.417	2.62 |14.667	5.99 | 20.92	1.75		
2.250	1.50 | 8.500	2.62 |14.750	5.99 | 21.00	1.75		
2.333	1.50 | 8.583	2.62 |14.833	5.99 | 21.08	1.62		
2.417	1.50 | 8.667	2.62 |14.917	5.99 | 21.17	1.62		
2.500	1.50 | 8.750	2.62 |15.000	5.99 | 21.25	1.62		
2.583	1.50 | 8.833	2.62 |15.083	4.37 | 21.33	1.62		
2.667	1.50 | 8.917	2.62 |15.167	4.37 | 21.42	1.62		
2.750	1.50 | 9.000	2.62 |15.250	4.37 | 21.50	1.62		
2.833	1.50 | 9.083	3.37 |15.333	4.37 | 21.58	1.62		
2.917	1.50 | 9.167	3.37 |15.417	4.37 | 21.67	1.62		
3.000	1.50 | 9.250	3.37 |15.500	4.37 | 21.75	1.62		
3.083	1.62 | 9.333	3.37 |15.583	4.37 | 21.83	1.62		
3.167	1.62 | 9.417	3.37 |15.667	4.37 | 21.92	1.62		
3.250	1.62 | 9.500	3.37 |15.750	4.37 | 22.00	1.62		
3.333	1.62 | 9.583	3.37 |15.833	4.37 | 22.08	1.50		
3.417	1.62 | 9.667	3.37 |15.917	4.37 | 22.17	1.50		
3.500	1.62 | 9.750	3.37 |16.000	4.37 | 22.25	1.50		
3.583	1.62 | 9.833	3.37 |16.083	3.12 | 22.33	1.50		
3.667	1.62 | 9.917	3.37 |16.167	3.12 | 22.42	1.50		
3.750	1.62 |10.000	3.37 |16.250	3.12 | 22.50	1.50		
3.833	1.62 |10.083	4.24 |16.333	3.12 | 22.58	1.50		
3.917	1.62 |10.167	4.24 |16.417	3.12 | 22.67	1.50		
4.000	1.62 |10.250	4.24 |16.500	3.12 | 22.75	1.50		
4.083	1.62 |10.333	4.24 |16.583	3.12 | 22.83	1.50		
4.167	1.62 |10.417	4.24 |16.667	3.12 | 22.92	1.50		
4.250	1.62 |10.500	4.24 |16.750	3.12 | 23.00	1.50		
4.333	1.62 |10.583	4.24 |16.833	3.12 | 23.08	1.50		
4.417	1.62 |10.667	4.24 |16.917	3.12 | 23.17	1.50		
4.500	1.62 |10.750	4.24 |17.000	3.12 | 23.25	1.50		
4.583	1.62 |10.833	4.24 |17.083	2.87 | 23.33	1.50		
4.667	1.62 |10.917	4.24 |17.167	2.87 | 23.42	1.50		
4.750	1.62 |11.000	4.24 |17.250	2.87 | 23.50	1.50		
4.833	1.62 |11.083	6.74 |17.333	2.87 | 23.58	1.50		
4.917	1.62 |11.167	6.74 |17.417	2.87 | 23.67	1.50		
5.000	1.62 |11.250	6.74 |17.500	2.87 | 23.75	1.50		
5.083	1.75 |11.333	6.74 |17.583	2.87 | 23.83	1.50		
5.167	1.75 |11.417	6.74 |17.667	2.87 | 23.92	1.50		
5.250	1.75 |11.500	6.74 |17.750	2.87 | 24.00	1.50		
5.333	1.75 |11.583	6.74 |17.833	2.87 | 24.08	1.37		
5.417	1.75 |11.667	6.74 |17.917	2.87 | 24.17	1.37		
5.500	1.75 |11.750	6.74 |18.000	2.87 | 24.25	1.37		
5.583	1.75 |11.833	6.74 |18.083	2.37 | 24.33	1.37		
5.667	1.75 |11.917	6.74 |18.167	2.37 | 24.42	1.37		
5.750	1.75 |12.000	6.74 |18.250	2.37 | 24.50	1.37		
5.833	1.75 |12.083	53.41 |18.333	2.37 | 24.58	1.37		
5.917	1.75 |12.167	53.41 |18.417	2.37 | 24.67	1.37		
6.000	1.75 |12.250	53.41 |18.500	2.37 | 24.75	1.37		
6.083	2.25 |12.333	53.41 |18.583	2.37 | 24.83	1.37		
6.167	2.25 |12.417	53.41 |18.667	2.37 | 24.92	1.37		
6.250	2.25 |12.500	53.41 |18.750	2.37 | 25.00	1.37		

```
    Max.Eff.Inten.(mm/hr)=      53.41       46.15
            over (min)        5.00        5.00
    Storage Coeff.  (min)=      2.59 (ii)   4.03 (ii)
    Unit Hyd. Tpeak (min)=      5.00        5.00
    Unit Hyd. peak  (cms)=      0.29        0.24
                                          *TOTALS*
    PEAK FLOW      (cms)=       0.10        0.00        0.101 (iii)
    TIME TO PEAK   (hrs)=      12.67       13.00       13.00
    RUNOFF VOLUME  (mm)=      123.80       90.43      123.46
    TOTAL RAINFALL (mm)=      124.80      124.80      124.80
    RUNOFF COEFFICIENT  =       0.99        0.72        0.99

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

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

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

--------------------
| ADD HYD  (  0024)|
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------       (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0022):     0.68   0.101    13.00   123.46
    + ID2= 2 (  0023):     0.20   0.022    13.00    78.15
      ==================================================
      ID = 3 (  0024):     0.88   0.123    13.00   113.16

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

      V   V  I   SSSSS  U   U    A    L           (v 6.2.2015)
      V   V  I   SS     U   U   A A   L
       V V   I    SS    U   U  AAAAA  L
       V V   I     SS   U   U  A   A  L
        VV   I   SSSSS  UUUUU  A   A  LLLLL

      OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
     O   O    T      T    H   H   Y Y   MM MM  O   O
     O   O    T      T    H   H    Y    M   M  O   O
      OOO     T      T    H   H    Y    M   M   OOO
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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\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\8d82e9bb-79be-48c2-bb4f-1c9518633b2f\scena
Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-ac7436a87d8a\8d82e9bb-79be-48c2-bb4f-1c9518633b2f\scena

DATE: 01/22/2025 TIME: 03:48:01

USER:

COMMENTS: _____

****
** SIMULATION : 06 - 100 yr SCS **
****

| READ STORM | Filename: C:\Users\RCHUNG\AppD
| | ata\Local\Temp\
| | 992f7ae0-3dc4-457e-ab76-c8347a1da44d\19df5320
| Ptotal=139.20 mm | Comments: 100-Year SCS: Pearson Intl Airport

---

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	7.00	2.64	14.00	6.68	21.00	1.81
1.00	1.39	8.00	2.92	15.00	4.87	22.00	1.67
2.00	1.67	9.00	3.76	16.00	3.48	23.00	1.67
3.00	1.81	10.00	4.73	17.00	3.20	24.00	1.53
4.00	1.81	11.00	7.52	18.00	2.64		
5.00	1.95	12.00	59.58	19.00	2.23		
6.00	2.51	13.00	15.17	20.00	1.95		

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

| CALIB |
| STANDHYD (0016)| Area (ha)= 6.21
|ID= 1 DT= 5.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 55.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.03	2.17
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	203.41	40.00
Mannings n =	0.013	0.250

---- 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	6.333	2.51	12.583	59.58	18.83	2.64
0.167	0.00	6.417	2.51	12.667	59.58	18.92	2.64
0.250	0.00	6.500	2.51	12.750	59.58	19.00	2.64
0.333	0.00	6.583	2.51	12.833	59.58	19.08	2.23
0.417	0.00	6.667	2.51	12.917	59.58	19.17	2.23
0.500	0.00	6.750	2.51	13.000	59.58	19.25	2.23
0.583	0.00	6.833	2.51	13.083	15.18	19.33	2.23
0.667	0.00	6.917	2.51	13.167	15.17	19.42	2.23
0.750	0.00	7.000	2.51	13.250	15.17	19.50	2.23
0.833	0.00	7.083	2.64	13.333	15.17	19.58	2.23
0.917	0.00	7.167	2.64	13.417	15.17	19.67	2.23
1.000	0.00	7.250	2.64	13.500	15.17	19.75	2.23
1.083	1.39	7.333	2.64	13.583	15.17	19.83	2.23
1.167	1.39	7.417	2.64	13.667	15.17	19.92	2.23
1.250	1.39	7.500	2.64	13.750	15.17	20.00	2.23
1.333	1.39	7.583	2.64	13.833	15.17	20.08	1.95
1.417	1.39	7.667	2.64	13.917	15.17	20.17	1.95
1.500	1.39	7.750	2.64	14.000	15.17	20.25	1.95
1.583	1.39	7.833	2.64	14.083	6.68	20.33	1.95
1.667	1.39	7.917	2.64	14.167	6.68	20.42	1.95
1.750	1.39	8.000	2.64	14.250	6.68	20.50	1.95
1.833	1.39	8.083	2.92	14.333	6.68	20.58	1.95
1.917	1.39	8.167	2.92	14.417	6.68	20.67	1.95
2.000	1.39	8.250	2.92	14.500	6.68	20.75	1.95
2.083	1.67	8.333	2.92	14.583	6.68	20.83	1.95
2.167	1.67	8.417	2.92	14.667	6.68	20.92	1.95
2.250	1.67	8.500	2.92	14.750	6.68	21.00	1.95
2.333	1.67	8.583	2.92	14.833	6.68	21.08	1.81
2.417	1.67	8.667	2.92	14.917	6.68	21.17	1.81
2.500	1.67	8.750	2.92	15.000	6.68	21.25	1.81
2.583	1.67	8.833	2.92	15.083	4.87	21.33	1.81
2.667	1.67	8.917	2.92	15.167	4.87	21.42	1.81
2.750	1.67	9.000	2.92	15.250	4.87	21.50	1.81
2.833	1.67	9.083	3.76	15.333	4.87	21.58	1.81
2.917	1.67	9.167	3.76	15.417	4.87	21.67	1.81
3.000	1.67	9.250	3.76	15.500	4.87	21.75	1.81
3.083	1.81	9.333	3.76	15.583	4.87	21.83	1.81
3.167	1.81	9.417	3.76	15.667	4.87	21.92	1.81
3.250	1.81	9.500	3.76	15.750	4.87	22.00	1.81
3.333	1.81	9.583	3.76	15.833	4.87	22.08	1.67
3.417	1.81	9.667	3.76	15.917	4.87	22.17	1.67
3.500	1.81	9.750	3.76	16.000	4.87	22.25	1.67
3.583	1.81	9.833	3.76	16.083	3.48	22.33	1.67
3.667	1.81	9.917	3.76	16.167	3.48	22.42	1.67
3.750	1.81	10.000	3.76	16.250	3.48	22.50	1.67
3.833	1.81	10.083	4.73	16.333	3.48	22.58	1.67
3.917	1.81	10.167	4.73	16.417	3.48	22.67	1.67
4.000	1.81	10.250	4.73	16.500	3.48	22.75	1.67
4.083	1.81	10.333	4.73	16.583	3.48	22.83	1.67

4.167	1.81	10.417	4.73	16.667	3.48	22.92	1.67
4.250	1.81	10.500	4.73	16.750	3.48	23.00	1.67
4.333	1.81	10.583	4.73	16.833	3.48	23.08	1.67
4.417	1.81	10.667	4.73	16.917	3.48	23.17	1.67
4.500	1.81	10.750	4.73	17.000	3.48	23.25	1.67
4.583	1.81	10.833	4.73	17.083	3.20	23.33	1.67
4.667	1.81	10.917	4.73	17.167	3.20	23.42	1.67
4.750	1.81	11.000	4.73	17.250	3.20	23.50	1.67
4.833	1.81	11.083	7.52	17.333	3.20	23.58	1.67
4.917	1.81	11.167	7.52	17.417	3.20	23.67	1.67
5.000	1.81	11.250	7.52	17.500	3.20	23.75	1.67
5.083	1.95	11.333	7.52	17.583	3.20	23.83	1.67
5.167	1.95	11.417	7.52	17.667	3.20	23.92	1.67
5.250	1.95	11.500	7.52	17.750	3.20	24.00	1.67
5.333	1.95	11.583	7.52	17.833	3.20	24.08	1.53
5.417	1.95	11.667	7.52	17.917	3.20	24.17	1.53
5.500	1.95	11.750	7.52	18.000	3.20	24.25	1.53
5.583	1.95	11.833	7.52	18.083	2.64	24.33	1.53
5.667	1.95	11.917	7.52	18.167	2.64	24.42	1.53
5.750	1.95	12.000	7.52	18.250	2.64	24.50	1.53
5.833	1.95	12.083	59.57	18.333	2.64	24.58	1.53
5.917	1.95	12.167	59.58	18.417	2.64	24.67	1.53
6.000	1.95	12.250	59.58	18.500	2.64	24.75	1.53
6.083	2.51	12.333	59.58	18.583	2.64	24.83	1.53
6.167	2.51	12.417	59.58	18.667	2.64	24.92	1.53
6.250	2.51	12.500	59.58	18.750	2.64	25.00	1.53

Max.Eff.Inten.(mm/hr)=	59.58	52.28	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.81 (ii)	13.96 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.22	0.08	
		TOTALS	
PEAK FLOW (cms)=	0.56	0.28	0.850 (iii)
TIME TO PEAK (hrs)=	13.00	13.00	13.00
RUNOFF VOLUME (mm)=	138.20	76.47	110.42
TOTAL RAINFALL (mm)=	139.20	139.20	139.20
RUNOFF COEFFICIENT =	0.99	0.55	0.79

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

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0015)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.1160	0.4200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0016)	6.206	0.850	13.00	110.42
OUTFLOW: ID= 1 (0015)	6.206	0.113	14.50	110.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.32
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.4100

CALIB	
STANDHYD (0017)|	Area (ha)= 30.91
ID= 1 DT= 5.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 55.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.09	10.82
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	453.94	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	6.333	2.51	12.583	59.58	18.83	2.64
0.167	0.00	6.417	2.51	12.667	59.58	18.92	2.64
0.250	0.00	6.500	2.51	12.750	59.58	19.00	2.64
0.333	0.00	6.583	2.51	12.833	59.58	19.08	2.23
0.417	0.00	6.667	2.51	12.917	59.58	19.17	2.23
0.500	0.00	6.750	2.51	13.000	59.58	19.25	2.23
0.583	0.00	6.833	2.51	13.083	15.18	19.33	2.23
0.667	0.00	6.917	2.51	13.167	15.17	19.42	2.23
0.750	0.00	7.000	2.51	13.250	15.17	19.50	2.23
0.833	0.00	7.083	2.64	13.333	15.17	19.58	2.23
0.917	0.00	7.167	2.64	13.417	15.17	19.67	2.23
1.000	0.00	7.250	2.64	13.500	15.17	19.75	2.23
1.083	1.39	7.333	2.64	13.583	15.17	19.83	2.23
1.167	1.39	7.417	2.64	13.667	15.17	19.92	2.23
1.250	1.39	7.500	2.64	13.750	15.17	20.00	2.23
1.333	1.39	7.583	2.64	13.833	15.17	20.08	1.95
1.417	1.39	7.667	2.64	13.917	15.17	20.17	1.95
1.500	1.39	7.750	2.64	14.000	15.17	20.25	1.95
1.583	1.39	7.833	2.64	14.083	6.68	20.33	1.95
1.667	1.39	7.917	2.64	14.167	6.68	20.42	1.95
1.750	1.39	8.000	2.64	14.250	6.68	20.50	1.95
1.833	1.39	8.083	2.92	14.333	6.68	20.58	1.95
1.917	1.39	8.167	2.92	14.417	6.68	20.67	1.95
2.000	1.39	8.250	2.92	14.500	6.68	20.75	1.95
2.083	1.67	8.333	2.92	14.583	6.68	20.83	1.95
2.167	1.67	8.417	2.92	14.667	6.68	20.92	1.95
2.250	1.67	8.500	2.92	14.750	6.68	21.00	1.95

2.333	1.67	8.583	2.92	14.833	6.68	21.08	1.81
2.417	1.67	8.667	2.92	14.917	6.68	21.17	1.81
2.500	1.67	8.750	2.92	15.000	6.68	21.25	1.81
2.583	1.67	8.833	2.92	15.083	4.87	21.33	1.81
2.667	1.67	8.917	2.92	15.167	4.87	21.42	1.81
2.750	1.67	9.000	2.92	15.250	4.87	21.50	1.81
2.833	1.67	9.083	3.76	15.333	4.87	21.58	1.81
2.917	1.67	9.167	3.76	15.417	4.87	21.67	1.81
3.000	1.67	9.250	3.76	15.500	4.87	21.75	1.81
3.083	1.81	9.333	3.76	15.583	4.87	21.83	1.81
3.167	1.81	9.417	3.76	15.667	4.87	21.92	1.81
3.250	1.81	9.500	3.76	15.750	4.87	22.00	1.81
3.333	1.81	9.583	3.76	15.833	4.87	22.08	1.67
3.417	1.81	9.667	3.76	15.917	4.87	22.17	1.67
3.500	1.81	9.750	3.76	16.000	4.87	22.25	1.67
3.583	1.81	9.833	3.76	16.083	3.48	22.33	1.67
3.667	1.81	9.917	3.76	16.167	3.48	22.42	1.67
3.750	1.81	10.000	3.76	16.250	3.48	22.50	1.67
3.833	1.81	10.083	4.73	16.333	3.48	22.58	1.67
3.917	1.81	10.167	4.73	16.417	3.48	22.67	1.67
4.000	1.81	10.250	4.73	16.500	3.48	22.75	1.67
4.083	1.81	10.333	4.73	16.583	3.48	22.83	1.67
4.167	1.81	10.417	4.73	16.667	3.48	22.92	1.67
4.250	1.81	10.500	4.73	16.750	3.48	23.00	1.67
4.333	1.81	10.583	4.73	16.833	3.48	23.08	1.67
4.417	1.81	10.667	4.73	16.917	3.48	23.17	1.67
4.500	1.81	10.750	4.73	17.000	3.48	23.25	1.67
4.583	1.81	10.833	4.73	17.083	3.20	23.33	1.67
4.667	1.81	10.917	4.73	17.167	3.20	23.42	1.67
4.750	1.81	11.000	4.73	17.250	3.20	23.50	1.67
4.833	1.81	11.083	7.52	17.333	3.20	23.58	1.67
4.917	1.81	11.167	7.52	17.417	3.20	23.67	1.67
5.000	1.81	11.250	7.52	17.500	3.20	23.75	1.67
5.083	1.95	11.333	7.52	17.583	3.20	23.83	1.67
5.167	1.95	11.417	7.52	17.667	3.20	23.92	1.67
5.250	1.95	11.500	7.52	17.750	3.20	24.00	1.67
5.333	1.95	11.583	7.52	17.833	3.20	24.08	1.53
5.417	1.95	11.667	7.52	17.917	3.20	24.17	1.53
5.500	1.95	11.750	7.52	18.000	3.20	24.25	1.53
5.583	1.95	11.833	7.52	18.083	2.64	24.33	1.53
5.667	1.95	11.917	7.52	18.167	2.64	24.42	1.53
5.750	1.95	12.000	7.52	18.250	2.64	24.50	1.53
5.833	1.95	12.083	59.57	18.333	2.64	24.58	1.53
5.917	1.95	12.167	59.58	18.417	2.64	24.67	1.53
6.000	1.95	12.250	59.58	18.500	2.64	24.75	1.53
6.083	2.51	12.333	59.58	18.583	2.64	24.83	1.53
6.167	2.51	12.417	59.58	18.667	2.64	24.92	1.53
6.250	2.51	12.500	59.58	18.750	2.64	25.00	1.53

Max.Eff.Inten.(mm/hr)=	59.58	56.86	
over (min)	10.00	20.00	
Storage Coeff. (min)=	7.79 (ii)	16.64 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
		TOTALS	
PEAK FLOW (cms)=	2.81	1.48	4.295 (iii)
TIME TO PEAK (hrs)=	13.00	13.00	13.00
RUNOFF VOLUME (mm)=	138.20	84.01	113.82
TOTAL RAINFALL (mm)=	139.20	139.20	139.20
RUNOFF COEFFICIENT =	0.99	0.60	0.82

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0018)		OVERFLOW IS OFF		
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	1.8400
	0.0940	0.8780	0.3940	2.1080
	0.1730	1.2560	0.4680	2.5540
	0.2030	1.3800	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0017)	30.909	4.295	13.00	113.82
OUTFLOW: ID= 1 (0018)	30.909	0.434	15.33	113.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.10
TIME SHIFT OF PEAK FLOW (min)=140.00
MAXIMUM STORAGE USED (ha.m.)= 2.3473

CALIB		
STANDHYD (0020)|	Area (ha)= 37.00	
ID= 1 DT= 5.0 min	Total Imp(%)= 70.00	Dir. Conn.(%)= 65.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.90	11.10
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	496.66	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	2.51	12.583	59.58	18.83	2.64
0.167	0.00	6.417	2.51	12.667	59.58	18.92	2.64
0.250	0.00	6.500	2.51	12.750	59.58	19.00	2.64

0.333	0.00 | 6.583	2.51 |12.833	59.58 | 19.08	2.23		
0.417	0.00 | 6.667	2.51 |12.917	59.58 | 19.17	2.23		
0.500	0.00 | 6.750	2.51 |13.000	59.58 | 19.25	2.23		
0.583	0.00 | 6.833	2.51 |13.083	15.18 | 19.33	2.23		
0.667	0.00 | 6.917	2.51 |13.167	15.17 | 19.42	2.23		
0.750	0.00 | 7.000	2.51 |13.250	15.17 | 19.50	2.23		
0.833	0.00 | 7.083	2.64 |13.333	15.17 | 19.58	2.23		
0.917	0.00 | 7.167	2.64 |13.417	15.17 | 19.67	2.23		
1.000	0.00 | 7.250	2.64 |13.500	15.17 | 19.75	2.23		
1.083	1.39 | 7.333	2.64 |13.583	15.17 | 19.83	2.23		
1.167	1.39 | 7.417	2.64 |13.667	15.17 | 19.92	2.23		
1.250	1.39 | 7.500	2.64 |13.750	15.17 | 20.00	2.23		
1.333	1.39 | 7.583	2.64 |13.833	15.17 | 20.08	1.95		
1.417	1.39 | 7.667	2.64 |13.917	15.17 | 20.17	1.95		
1.500	1.39 | 7.750	2.64 |14.000	15.17 | 20.25	1.95		
1.583	1.39 | 7.833	2.64 |14.083	6.68 | 20.33	1.95		
1.667	1.39 | 7.917	2.64 |14.167	6.68 | 20.42	1.95		
1.750	1.39 | 8.000	2.64 |14.250	6.68 | 20.50	1.95		
1.833	1.39 | 8.083	2.92 |14.333	6.68 | 20.58	1.95		
1.917	1.39 | 8.167	2.92 |14.417	6.68 | 20.67	1.95		
2.000	1.39 | 8.250	2.92 |14.500	6.68 | 20.75	1.95		
2.083	1.67 | 8.333	2.92 |14.583	6.68 | 20.83	1.95		
2.167	1.67 | 8.417	2.92 |14.667	6.68 | 20.92	1.95		
2.250	1.67 | 8.500	2.92 |14.750	6.68 | 21.00	1.95		
2.333	1.67 | 8.583	2.92 |14.833	6.68 | 21.08	1.81		
2.417	1.67 | 8.667	2.92 |14.917	6.68 | 21.17	1.81		
2.500	1.67 | 8.750	2.92 |15.000	6.68 | 21.25	1.81		
2.583	1.67 | 8.833	2.92 |15.083	4.87 | 21.33	1.81		
2.667	1.67 | 8.917	2.92 |15.167	4.87 | 21.42	1.81		
2.750	1.67 | 9.000	2.92 |15.250	4.87 | 21.50	1.81		
2.833	1.67 | 9.083	3.76 |15.333	4.87 | 21.58	1.81		
2.917	1.67 | 9.167	3.76 |15.417	4.87 | 21.67	1.81		
3.000	1.67 | 9.250	3.76 |15.500	4.87 | 21.75	1.81		
3.083	1.81 | 9.333	3.76 |15.583	4.87 | 21.83	1.81		
3.167	1.81 | 9.417	3.76 |15.667	4.87 | 21.92	1.81		
3.250	1.81 | 9.500	3.76 |15.750	4.87 | 22.00	1.81		
3.333	1.81 | 9.583	3.76 |15.833	4.87 | 22.08	1.67		
3.417	1.81 | 9.667	3.76 |15.917	4.87 | 22.17	1.67		
3.500	1.81 | 9.750	3.76 |16.000	4.87 | 22.25	1.67		
3.583	1.81 | 9.833	3.76 |16.083	3.48 | 22.33	1.67		
3.667	1.81 | 9.917	3.76 |16.167	3.48 | 22.42	1.67		
3.750	1.81 |10.000	3.76 |16.250	3.48 | 22.50	1.67		
3.833	1.81 |10.083	4.73 |16.333	3.48 | 22.58	1.67		
3.917	1.81 |10.167	4.73 |16.417	3.48 | 22.67	1.67		
4.000	1.81 |10.250	4.73 |16.500	3.48 | 22.75	1.67		
4.083	1.81 |10.333	4.73 |16.583	3.48 | 22.83	1.67		
4.167	1.81 |10.417	4.73 |16.667	3.48 | 22.92	1.67		
4.250	1.81 |10.500	4.73 |16.750	3.48 | 23.00	1.67		
4.333	1.81 |10.583	4.73 |16.833	3.48 | 23.08	1.67		
4.417	1.81 |10.667	4.73 |16.917	3.48 | 23.17	1.67		
4.500	1.81 |10.750	4.73 |17.000	3.48 | 23.25	1.67		
4.583	1.81 |10.833	4.73 |17.083	3.20 | 23.33	1.67		
4.667	1.81 |10.917	4.73 |17.167	3.20 | 23.42	1.67		
4.750	1.81 |11.000	4.73 |17.250	3.20 | 23.50	1.67		
4.833	1.81 |11.083	7.52 |17.333	3.20 | 23.58	1.67		
4.917	1.81 |11.167	7.52 |17.417	3.20 | 23.67	1.67		
5.000	1.81 |11.250	7.52 |17.500	3.20 | 23.75	1.67		
5.083	1.95 |11.333	7.52 |17.583	3.20 | 23.83	1.67		
5.167	1.95 |11.417	7.52 |17.667	3.20 | 23.92	1.67		
5.250	1.95 |11.500	7.52 |17.750	3.20 | 24.00	1.67		
5.333	1.95 |11.583	7.52 |17.833	3.20 | 24.08	1.53		
5.417	1.95 |11.667	7.52 |17.917	3.20 | 24.17	1.53		
5.500	1.95 |11.750	7.52 |18.000	3.20 | 24.25	1.53		
5.583	1.95 |11.833	7.52 |18.083	2.64 | 24.33	1.53		
5.667	1.95 |11.917	7.52 |18.167	2.64 | 24.42	1.53		
5.750	1.95 |12.000	7.52 |18.250	2.64 | 24.50	1.53		
5.833	1.95 |12.083	59.57 |18.333	2.64 | 24.58	1.53		
5.917	1.95 |12.167	59.58 |18.417	2.64 | 24.67	1.53		
6.000	1.95 |12.250	59.58 |18.500	2.64 | 24.75	1.53		
6.083	2.51 |12.333	59.58 |18.583	2.64 | 24.83	1.53		
6.167	2.51 |12.417	59.58 |18.667	2.64 | 24.92	1.53		
6.250	2.51 |12.500	59.58 |18.750	2.64 | 25.00	1.53		

Max.Eff.Inten.(mm/hr)=	59.58	49.82	
over (min)	10.00	20.00	
Storage Coeff. (min)=	8.22 (ii)	17.55 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
		TOTALS	
PEAK FLOW (cms)=	3.98	1.31	5.287 (iii)
TIME TO PEAK (hrs)=	13.00	13.08	13.00
RUNOFF VOLUME (mm)=	138.20	80.69	118.07
TOTAL RAINFALL (mm)=	139.20	139.20	139.20
RUNOFF COEFFICIENT =	0.99	0.58	0.85

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0021)| OVERFLOW IS OFF			
| IN= 2---> OUT= 1 |			
| DT= 5.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	| OUTFLOW (cms) STORAGE (ha.m.)
	0.0000	0.0000	| 0.3230 2.4100
	0.0940	1.2500	| 0.3940 2.8000
	0.1730	1.7000	| 0.4680 3.0936
	0.2030	1.9000	| 0.0000 0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	37.000	5.287	13.00	118.07
OUTFLOW: ID= 1 (0021)	37.000	0.459	16.00	116.85

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.68
TIME SHIFT OF PEAK FLOW (min)=180.00

MAXIMUM STORAGE USED (ha.m.)= 3.0565

CALIB	
NASHYD (0023)	Area (ha)= 0.20 Curve Number (CN)= 80.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.20

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	6.333	2.51	12.583	59.58	18.83	2.64
0.167	0.00	6.417	2.51	12.667	59.58	18.92	2.64
0.250	0.00	6.500	2.51	12.750	59.58	19.00	2.64
0.333	0.00	6.583	2.51	12.833	59.58	19.08	2.23
0.417	0.00	6.667	2.51	12.917	59.58	19.17	2.23
0.500	0.00	6.750	2.51	13.000	59.58	19.25	2.23
0.583	0.00	6.833	2.51	13.083	15.18	19.33	2.23
0.667	0.00	6.917	2.51	13.167	15.17	19.42	2.23
0.750	0.00	7.000	2.51	13.250	15.17	19.50	2.23
0.833	0.00	7.083	2.64	13.333	15.17	19.58	2.23
0.917	0.00	7.167	2.64	13.417	15.17	19.67	2.23
1.000	0.00	7.250	2.64	13.500	15.17	19.75	2.23
1.083	1.39	7.333	2.64	13.583	15.17	19.83	2.23
1.167	1.39	7.417	2.64	13.667	15.17	19.92	2.23
1.250	1.39	7.500	2.64	13.750	15.17	20.00	2.23
1.333	1.39	7.583	2.64	13.833	15.17	20.08	1.95
1.417	1.39	7.667	2.64	13.917	15.17	20.17	1.95
1.500	1.39	7.750	2.64	14.000	15.17	20.25	1.95
1.583	1.39	7.833	2.64	14.083	6.68	20.33	1.95
1.667	1.39	7.917	2.64	14.167	6.68	20.42	1.95
1.750	1.39	8.000	2.64	14.250	6.68	20.50	1.95
1.833	1.39	8.083	2.92	14.333	6.68	20.58	1.95
1.917	1.39	8.167	2.92	14.417	6.68	20.67	1.95
2.000	1.39	8.250	2.92	14.500	6.68	20.75	1.95
2.083	1.67	8.333	2.92	14.583	6.68	20.83	1.95
2.167	1.67	8.417	2.92	14.667	6.68	20.92	1.95
2.250	1.67	8.500	2.92	14.750	6.68	21.00	1.95
2.333	1.67	8.583	2.92	14.833	6.68	21.08	1.81
2.417	1.67	8.667	2.92	14.917	6.68	21.17	1.81
2.500	1.67	8.750	2.92	15.000	6.68	21.25	1.81
2.583	1.67	8.833	2.92	15.083	4.87	21.33	1.81
2.667	1.67	8.917	2.92	15.167	4.87	21.42	1.81
2.750	1.67	9.000	2.92	15.250	4.87	21.50	1.81
2.833	1.67	9.083	3.76	15.333	4.87	21.58	1.81
2.917	1.67	9.167	3.76	15.417	4.87	21.67	1.81
3.000	1.67	9.250	3.76	15.500	4.87	21.75	1.81
3.083	1.81	9.333	3.76	15.583	4.87	21.83	1.81
3.167	1.81	9.417	3.76	15.667	4.87	21.92	1.81
3.250	1.81	9.500	3.76	15.750	4.87	22.00	1.81
3.333	1.81	9.583	3.76	15.833	4.87	22.08	1.67
3.417	1.81	9.667	3.76	15.917	4.87	22.17	1.67
3.500	1.81	9.750	3.76	16.000	4.87	22.25	1.67
3.583	1.81	9.833	3.76	16.083	3.48	22.33	1.67
3.667	1.81	9.917	3.76	16.167	3.48	22.42	1.67
3.750	1.81	10.000	3.76	16.250	3.48	22.50	1.67
3.833	1.81	10.083	4.73	16.333	3.48	22.58	1.67
3.917	1.81	10.167	4.73	16.417	3.48	22.67	1.67
4.000	1.81	10.250	4.73	16.500	3.48	22.75	1.67
4.083	1.81	10.333	4.73	16.583	3.48	22.83	1.67
4.167	1.81	10.417	4.73	16.667	3.48	22.92	1.67
4.250	1.81	10.500	4.73	16.750	3.48	23.00	1.67
4.333	1.81	10.583	4.73	16.833	3.48	23.08	1.67
4.417	1.81	10.667	4.73	16.917	3.48	23.17	1.67
4.500	1.81	10.750	4.73	17.000	3.48	23.25	1.67
4.583	1.81	10.833	4.73	17.083	3.20	23.33	1.67
4.667	1.81	10.917	4.73	17.167	3.20	23.42	1.67
4.750	1.81	11.000	4.73	17.250	3.20	23.50	1.67
4.833	1.81	11.083	7.52	17.333	3.20	23.58	1.67
4.917	1.81	11.167	7.52	17.417	3.20	23.67	1.67
5.000	1.81	11.250	7.52	17.500	3.20	23.75	1.67
5.083	1.95	11.333	7.52	17.583	3.20	23.83	1.67
5.167	1.95	11.417	7.52	17.667	3.20	23.92	1.67
5.250	1.95	11.500	7.52	17.750	3.20	24.00	1.67
5.333	1.95	11.583	7.52	17.833	3.20	24.08	1.53
5.417	1.95	11.667	7.52	17.917	3.20	24.17	1.53
5.500	1.95	11.750	7.52	18.000	3.20	24.25	1.53
5.583	1.95	11.833	7.52	18.083	2.64	24.33	1.53
5.667	1.95	11.917	7.52	18.167	2.64	24.42	1.53
5.750	1.95	12.000	7.52	18.250	2.64	24.50	1.53
5.833	1.95	12.083	59.57	18.333	2.64	24.58	1.53
5.917	1.95	12.167	59.58	18.417	2.64	24.67	1.53
6.000	1.95	12.250	59.58	18.500	2.64	24.75	1.53
6.083	2.51	12.333	59.58	18.583	2.64	24.83	1.53
6.167	2.51	12.417	59.58	18.667	2.64	24.92	1.53
6.250	2.51	12.500	59.58	18.750	2.64	25.00	1.53

Unit Hyd Qpeak (cms)= 0.038

PEAK FLOW (cms)= 0.026 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 90.921
TOTAL RAINFALL (mm)= 139.200
RUNOFF COEFFICIENT = 0.653

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

CALIB	
STANDHYD (0022)	Area (ha)= 0.68
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.67	0.01
Dep. Storage (mm)=	1.00	1.50

Average Slope (%)= 1.00 2.00
Length (m)= 67.33 40.00
Mannings n = 0.013 0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.333	2.51	12.583	59.58	18.83	2.64
0.167	0.00	6.417	2.51	12.667	59.58	18.92	2.64
0.250	0.00	6.500	2.51	12.750	59.58	19.00	2.64
0.333	0.00	6.583	2.51	12.833	59.58	19.08	2.23
0.417	0.00	6.667	2.51	12.917	59.58	19.17	2.23
0.500	0.00	6.750	2.51	13.000	59.58	19.25	2.23
0.583	0.00	6.833	2.51	13.083	15.18	19.33	2.23
0.667	0.00	6.917	2.51	13.167	15.17	19.42	2.23
0.750	0.00	7.000	2.51	13.250	15.17	19.50	2.23
0.833	0.00	7.083	2.64	13.333	15.17	19.58	2.23
0.917	0.00	7.167	2.64	13.417	15.17	19.67	2.23
1.000	0.00	7.250	2.64	13.500	15.17	19.75	2.23
1.083	1.39	7.333	2.64	13.583	15.17	19.83	2.23
1.167	1.39	7.417	2.64	13.667	15.17	19.92	2.23
1.250	1.39	7.500	2.64	13.750	15.17	20.00	2.23
1.333	1.39	7.583	2.64	13.833	15.17	20.08	1.95
1.417	1.39	7.667	2.64	13.917	15.17	20.17	1.95
1.500	1.39	7.750	2.64	14.000	15.17	20.25	1.95
1.583	1.39	7.833	2.64	14.083	6.68	20.33	1.95
1.667	1.39	7.917	2.64	14.167	6.68	20.42	1.95
1.750	1.39	8.000	2.64	14.250	6.68	20.50	1.95
1.833	1.39	8.083	2.92	14.333	6.68	20.58	1.95
1.917	1.39	8.167	2.92	14.417	6.68	20.67	1.95
2.000	1.39	8.250	2.92	14.500	6.68	20.75	1.95
2.083	1.67	8.333	2.92	14.583	6.68	20.83	1.95
2.167	1.67	8.417	2.92	14.667	6.68	20.92	1.95
2.250	1.67	8.500	2.92	14.750	6.68	21.00	1.95
2.333	1.67	8.583	2.92	14.833	6.68	21.08	1.81
2.417	1.67	8.667	2.92	14.917	6.68	21.17	1.81
2.500	1.67	8.750	2.92	15.000	6.68	21.25	1.81
2.583	1.67	8.833	2.92	15.083	4.87	21.33	1.81
2.667	1.67	8.917	2.92	15.167	4.87	21.42	1.81
2.750	1.67	9.000	2.92	15.250	4.87	21.50	1.81
2.833	1.67	9.083	3.76	15.333	4.87	21.58	1.81
2.917	1.67	9.167	3.76	15.417	4.87	21.67	1.81
3.000	1.67	9.250	3.76	15.500	4.87	21.75	1.81
3.083	1.81	9.333	3.76	15.583	4.87	21.83	1.81
3.167	1.81	9.417	3.76	15.667	4.87	21.92	1.81
3.250	1.81	9.500	3.76	15.750	4.87	22.00	1.81
3.333	1.81	9.583	3.76	15.833	4.87	22.08	1.67
3.417	1.81	9.667	3.76	15.917	4.87	22.17	1.67
3.500	1.81	9.750	3.76	16.000	4.87	22.25	1.67
3.583	1.81	9.833	3.76	16.083	3.48	22.33	1.67
3.667	1.81	9.917	3.76	16.167	3.48	22.42	1.67
3.750	1.81	10.000	3.76	16.250	3.48	22.50	1.67
3.833	1.81	10.083	4.73	16.333	3.48	22.58	1.67
3.917	1.81	10.167	4.73	16.417	3.48	22.67	1.67
4.000	1.81	10.250	4.73	16.500	3.48	22.75	1.67
4.083	1.81	10.333	4.73	16.583	3.48	22.83	1.67
4.167	1.81	10.417	4.73	16.667	3.48	22.92	1.67
4.250	1.81	10.500	4.73	16.750	3.48	23.00	1.67
4.333	1.81	10.583	4.73	16.833	3.48	23.08	1.67
4.417	1.81	10.667	4.73	16.917	3.48	23.17	1.67
4.500	1.81	10.750	4.73	17.000	3.48	23.25	1.67
4.583	1.81	10.833	4.73	17.083	3.20	23.33	1.67
4.667	1.81	10.917	4.73	17.167	3.20	23.42	1.67
4.750	1.81	11.000	4.73	17.250	3.20	23.50	1.67
4.833	1.81	11.083	7.52	17.333	3.20	23.58	1.67
4.917	1.81	11.167	7.52	17.417	3.20	23.67	1.67
5.000	1.81	11.250	7.52	17.500	3.20	23.75	1.67
5.083	1.95	11.333	7.52	17.583	3.20	23.83	1.67
5.167	1.95	11.417	7.52	17.667	3.20	23.92	1.67
5.250	1.95	11.500	7.52	17.750	3.20	24.00	1.67
5.333	1.95	11.583	7.52	17.833	3.20	24.08	1.53
5.417	1.95	11.667	7.52	17.917	3.20	24.17	1.53
5.500	1.95	11.750	7.52	18.000	3.20	24.25	1.53
5.583	1.95	11.833	7.52	18.083	2.64	24.33	1.53
5.667	1.95	11.917	7.52	18.167	2.64	24.42	1.53
5.750	1.95	12.000	7.52	18.250	2.64	24.50	1.53
5.833	1.95	12.083	59.57	18.333	2.64	24.58	1.53
5.917	1.95	12.167	59.58	18.417	2.64	24.67	1.53
6.000	1.95	12.250	59.58	18.500	2.64	24.75	1.53
6.083	2.51	12.333	59.58	18.583	2.64	24.83	1.53
6.167	2.51	12.417	59.58	18.667	2.64	24.92	1.53
6.250	2.51	12.500	59.58	18.750	2.64	25.00	1.53

Max.Eff.Inten.(mm/hr)= 59.58 52.55
over (min) 5.00 5.00
Storage Coeff. (min)= 2.48 (ii) 3.86 (ii)
Unit Hyd. Tpeak (min)= 5.00 5.00
Unit Hyd. peak (cms)= 0.29 0.25

TOTALS

PEAK FLOW (cms)= 0.11 0.00 0.112 (iii)
TIME TO PEAK (hrs)= 12.67 13.00 13.00
RUNOFF VOLUME (mm)= 138.20 103.88 137.85
TOTAL RAINFALL (mm)= 139.20 139.20 139.20
RUNOFF COEFFICIENT = 0.99 0.75 0.99

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

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

| ADD HYD (0024)|

```
|  1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
----------------------      (ha)    (cms)    (hrs)     (mm)
      ID1= 1 (  0022):     0.68   0.112    13.00   137.85
     + ID2= 2 (  0023):    0.20   0.026    13.00    90.92
      ================================================
      ID = 3 (  0024):     0.88   0.138    13.00   127.19

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

     V   V  I   SSSSS  U   U    A    L            (v 6.2.2015)
     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   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\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-
ac7436a87d8a\33f7e841-7c35-4abc-ada7-5289ef375700\scena
  Summary filename: C:\Users\RCHUNG\AppData\Local\Civica\VH5\ff279a7a-62d6-4812-bf4f-
ac7436a87d8a\33f7e841-7c35-4abc-ada7-5289ef375700\scena


DATE: 01/22/2025                      TIME: 03:48:01

USER:



COMMENTS: _____

-------------------------------------------------------------------------------------------------------------
  ************************************************
  ** SIMULATION : 25MM4HR                      **
  ************************************************


--------------------
|   READ STORM    |   Filename: C:\Users\RCHUNG\AppD
|                 |             ata\Local\Temp\
|                 |             992f7ae0-3dc4-457e-ab76-c8347a1da44d\0f7935dc
| Ptotal= 25.00 mm |   Comments: 25MM4HR
--------------------
            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 (  0016)|   Area    (ha)=   6.21
|ID= 1 DT= 5.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  55.00
--------------------
                        IMPERVIOUS    PERVIOUS (i)
   Surface Area     (ha)=      4.03         2.17
   Dep. Storage     (mm)=      1.00         1.50
   Average Slope    (%)=       1.00         2.00
   Length           (m)=     203.41        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    2.07 | 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    4.17 | 1.917    6.30 | 2.917    3.01 |  3.92    2.14
           1.000    4.18 | 2.000    6.29 | 3.000    3.01 |  4.00    2.14

   Max.Eff.Inten.(mm/hr)=      50.21         5.50
           over (min)          5.00        30.00
   Storage Coeff.  (min)=      5.15 (ii)   27.67 (ii)
   Unit Hyd. Tpeak (min)=      5.00        30.00
   Unit Hyd. peak  (cms)=      0.21         0.04
                                *TOTALS*
   PEAK FLOW       (cms)=      0.42         0.02          0.426 (iii)
   TIME TO PEAK    (hrs)=      1.50         1.92          1.50
   RUNOFF VOLUME   (mm)=      24.00         4.21         15.09
   TOTAL RAINFALL  (mm)=      25.00        25.00         25.00
```

```
   RUNOFF COEFFICIENT  =      0.96        0.17        0.60


     (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
         CN*  =  64.0    Ia = Dep. Storage  (Above)
    (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
         THAN THE STORAGE COEFFICIENT.
   (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0015)|    OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |    OUTFLOW    STORAGE  | OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)  |  (cms)     (ha.m.)
                      0.0000     0.0000   |  0.1160      0.4200

                          AREA     QPEAK     TPEAK       R.V.
                          (ha)     (cms)     (hrs)       (mm)
  INFLOW : ID= 2 (  0016)      6.206      0.426      1.50      15.09
  OUTFLOW: ID= 1 (  0015)      6.206      0.021      4.00      14.94

             PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.84
             TIME SHIFT OF PEAK FLOW         (min)=150.00
             MAXIMUM  STORAGE   USED       (ha.m.)=  0.0747

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0017)|   Area    (ha)=  30.91
|ID= 1 DT= 5.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  55.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      20.09        10.82
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope    (%)=        1.00         2.00
    Length           (m)=     453.94        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    2.07 | 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    4.17 | 1.917    6.30 | 2.917    3.01 |  3.92    2.14
           1.000    4.18 | 2.000    6.29 | 3.000    3.01 |  4.00    2.14

  Max.Eff.Inten.(mm/hr)=      50.21         7.60
            over (min)        10.00        30.00
  Storage Coeff.  (min)=       8.34 (ii)   28.12 (ii)
  Unit Hyd. Tpeak (min)=      10.00        30.00
  Unit Hyd. peak  (cms)=       0.13         0.04
                                      *TOTALS*
  PEAK FLOW      (cms)=        1.57         0.11          1.614 (iii)
  TIME TO PEAK   (hrs)=        1.58         1.92          1.58
  RUNOFF VOLUME  (mm)=        24.00         5.04         15.47
  TOTAL RAINFALL (mm)=        25.00        25.00         25.00
  RUNOFF COEFFICIENT  =        0.96         0.20          0.62


     (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
         CN*  =  69.0    Ia = Dep. Storage  (Above)
    (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
         THAN THE STORAGE COEFFICIENT.
   (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0018)|    OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |    OUTFLOW    STORAGE  | OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)  |  (cms)     (ha.m.)
                      0.0000     0.0000   |  0.3230      1.8400
                      0.0940     0.8780   |  0.3940      2.1080
                      0.1730     1.2560   |  0.4680      2.5540
                      0.2030     1.3800   |  0.0000      0.0000

                          AREA     QPEAK     TPEAK       R.V.
                          (ha)     (cms)     (hrs)       (mm)
  INFLOW : ID= 2 (  0017)     30.909      1.614      1.58      15.47
  OUTFLOW: ID= 1 (  0018)     30.909      0.046      4.33      15.39

             PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.87
             TIME SHIFT OF PEAK FLOW         (min)=165.00
             MAXIMUM  STORAGE   USED       (ha.m.)=  0.4329

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0020)|   Area    (ha)=  37.00
|ID= 1 DT= 5.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  65.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      25.90        11.10
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope    (%)=        1.00         2.00
    Length           (m)=     496.66        40.00
    Mannings n           =       0.013        0.250
```

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	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	4.17	1.917	6.30	2.917	3.01	3.92	2.14
1.000	4.18	2.000	6.29	3.000	3.01	4.00	2.14

Max.Eff.Inten.(mm/hr)=	50.21	5.51	
over (min)	10.00	35.00	
Storage Coeff. (min)=	8.80 (ii)	31.30 (ii)	
Unit Hyd. Tpeak (min)=	10.00	35.00	
Unit Hyd. peak (cms)=	0.12	0.03	
		TOTALS	
PEAK FLOW (cms)=	2.19	0.09	2.215 (iii)
TIME TO PEAK (hrs)=	1.58	2.00	1.58
RUNOFF VOLUME (mm)=	24.00	4.63	17.22
TOTAL RAINFALL (mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT =	0.96	0.19	0.69

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0021)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	2.4100
	0.0940	1.2500	0.3940	2.8000
	0.1730	1.7000	0.4680	3.0936
	0.2030	1.9000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	37.000	2.215	1.58	17.22
OUTFLOW: ID= 1 (0021)	37.000	0.045	4.33	17.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.01
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.5924

CALIB	
NASHYD (0023)	Area (ha)= 0.20 Curve Number (CN)= 80.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.20

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	2.07	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	4.17	1.917	6.30	2.917	3.01	3.92	2.14
1.000	4.18	2.000	6.29	3.000	3.01	4.00	2.14

Unit Hyd Qpeak (cms)= 0.038

PEAK FLOW (cms)= 0.002 (i)
TIME TO PEAK (hrs)= 1.667
RUNOFF VOLUME (mm)= 4.777
TOTAL RAINFALL (mm)= 24.996
RUNOFF COEFFICIENT = 0.191

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

CALIB	
STANDHYD (0022)	Area (ha)= 0.68
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.67	0.01
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	2.00
Length (m)=	67.33	40.00
Mannings n =	0.013	0.250

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.07	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	4.17	1.917	6.30	2.917	3.01	3.92	2.14
1.000	4.18	2.000	6.29	3.000	3.01	4.00	2.14

Max.Eff.Inten.(mm/hr)=	50.21	14.26	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.65 (ii)	4.13 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.29	0.24	
		TOTALS	
PEAK FLOW (cms)=	0.09	0.00	0.092 (iii)
TIME TO PEAK (hrs)=	1.50	1.50	1.50
RUNOFF VOLUME (mm)=	24.00	8.08	23.83
TOTAL RAINFALL (mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT =	0.96	0.32	0.95

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

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

ADD HYD (0024)|	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0022):	0.68	0.092	1.50	23.83
+ ID2= 2 (0023):	0.20	0.002	1.67	4.78
ID = 3 (0024):	0.88	0.094	1.50	19.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

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Appendix B Storm Sewer Design Sheet

Town of Halton Hills
STORM DESIGN SHEET

Project No. 100160
Location Georgetown

Date February 2025
Designed By U.A
Checked By D.M

Street	From	To	Area ha	Runoff 'C'	Section Area ha	Accum Section Area ha	Rainfall Intensity 'I' 5-yr mm/hr	Flow 2.778 x (7) x (8) 'Q' L/s	Length m	Slope %	Dia. mm	Material	Full Flow Capacity L/s	Full Flow Velocity m/s	Flow Time in Pipe min	Time of Conc. min	Time of Conc. Down-stream m	Q/Qf %
SWM POND																		
	MH11	**MH10**	0.72	0.70	0.50	0.50	105.25	**147.4**	95.3	0.55%	450	CONC	211.4	1.33	1.20	10.00	11.20	69.7
	MH40	MH10	1.28	0.70	0.90	0.90	105.25	**262.0**	205.5	1.60%	450	CONC	360.6	2.27	1.51	10.00	11.51	72.6
	MH10	**MH8**	0.74	0.70	0.52	1.92	97.77	**520.9**	93.1	0.70%	750	CONC	931.4	2.11	0.74	11.51	12.25	55.9
	MH103	MH8	0.57	0.70	0.40	0.40	105.25	**116.7**	76.6	0.30%	525	CONC	235.6	1.09	1.17	10.00	11.17	49.5
STREET F	MH49	MH40	0.38	0.70	0.27	0.27	105.25	**77.8**	80.0	1.50%	300	PVC	118.4	1.68	0.80	10.00	10.80	65.7
	MH40	MH38	0.40	0.70	0.28	0.55	101.16	**153.4**	80.0	1.50%	375	PVC	214.7	1.94	0.69	10.80	11.48	71.4
	MH38	MH37	0.41	0.70	0.29	0.83	97.90	**226.5**	69.0	1.65%	450	CONC	366.2	2.30	0.50	11.48	11.98	61.9
	MH37	MH35	1.27	0.70	0.89	1.72	95.68	**457.7**	152.5	0.55%	675	CONC	623.4	1.74	1.46	11.98	13.44	73.4
	MH35	MH33	0.55	0.70	0.39	2.11	89.78	**525.5**	83.2	0.35%	750	CONC	658.6	1.49	0.93	13.44	14.37	79.8
	MH38	MH33	1.15	0.70	0.81	0.81	105.25	**235.4**	157.0	1.55%	450	CONC	355.0	2.23	1.17	10.00	11.17	66.3
	MH33	MH8	0.11	0.95	0.10	3.02	86.43	**724.2**	53.0	0.70%	750	CONC	931.4	2.11	0.42	14.37	14.79	77.8
	MH8	**MH7**	0.19	0.95	0.18	5.51	85.01	**1302.0**	80.0	0.80%	900	CONC	1619.2	2.55	0.52	14.79	15.31	80.4
	MH104	MH7	0.99	0.70	0.69	0.69	105.25	**202.6**	101.4	0.35%	525	CONC	254.4	1.18	1.44	10.00	11.44	79.6
	MH7	**MH6**	0.12	0.95	0.11	6.32	83.30	**1462.6**	51.5	0.55%	1800x900	CONC	4141.6	2.56	0.34	15.31	15.65	35.3
	MH13	MH6	0.60	0.95	0.57	0.57	105.25	**166.6**	223.0	1.25%	450	CONC	318.8	2.00	1.85	10.00	11.85	52.3
	MH6	**MH5**	0.30	0.95	0.29	7.18	82.25	**1639.5**	114.0	0.70%	1800x900	CONC	4672.3	2.88	0.66	15.65	16.31	35.1
	MH106	MH5	0.19	0.95	0.18	0.18	105.25	**52.8**	57.7	0.30%	450	CONC	156.2	0.98	0.98	10.00	10.98	33.8
	MH5	**MH4**	0.62	0.75	0.47	7.82	80.27	**1743.9**	137.5	0.30%	1800x900	PVC	3058.8	1.89	1.21	16.31	17.52	57.0

Appendix C Design Drawings

LEGEND:

- LIMIT OF SUBDIVISION
- PROP. LOCAL STORM SEWER
- STORM DRAINAGE AREA
- STORM DRAINAGE AREA
- 1.26ha / 0.83 — PROP. STORM DRAINAGE AREA / RUN-OFF COEFFICIENT
- PROP. STORM MANHOLE
- STORM FLOW DIRECTION
- EX. STORM SEWER

GREENBELT LIMIT

NATURAL FEATURES LIMIT (TO BE RECONFIRMED WITH CONSERVATION HALTON) GEI, 2023

BLOCK 362 GREENBELT LANDS (TABLE LANDS)

BLOCK 406 GREENBELT LANDS (NATURAL AREA)

GREENBELT NHS LIMIT

ARGYLL ROAD

EX 300mm STM PIPE

EROSION PROTECTION TO BE PROVIDED AT OUTLET

4,200m³ STORAGE REQUIRED UNDERGROUND STORAGE USING GREEN BLUE ROOTSPACE AIRFORM DEPTH 1.275m 97% VOID SPACE

GREENBELT PARK LIMIT (TOWN OF HALTON HILLS MAPPING)

BLOCK 348

OGS

10th LINE

BLOCK 365 APPROXIMATE GRADING AREA (TO BE CONFIRMED)

BLOCK 366 APPROXIMATE GRADING AREA (TO BE CONFIRMED)

EXISTING FARMHOUSE

BLOCK 360 GREENBELT LANDS (NATURAL AREA)

GUELPH STREET

GREENBELT NHS LIMIT OTHER LANDS OWNED BY THE APPLICANT (NOT PART OF THE SUBDIVISION)

CREDIT RIVER

NATURAL FEATURES LIMIT (TO BE RECONFIRMED WITH CONSERVATION HALTON) GEI, 2023

BLOCK 363 GREENBELT LANDS (TABLE LANDS)

BLOCK 347 PARK

PROPOSED NORVAL WEST BYPASS

GREENBELT LIMIT

DANBY ROAD

EX 450mm STM PIPE

EX 525mm STM PIPE

EX 675mm STM PIPE

EX 750mm STM PIPE

EX 825mm STM PIPE

BLOCK 346 PARK

STORM SEWER TO BE CONSTRUCTED THROUGH PARK BLOCK

PIPES FROM THIS POINT WILL CAPTURE AND CONVEY FLOWS FROM A 100-YR STORM EVENT

PIPES FROM THIS POINT WILL CAPTURE AND CONVEY FLOWS FROM A 100-YR STORM EVENT

DESIGN OF STORM SEWER TO BE COORDINATED WITH THE DESIGN ON NORVAL BYPASS

GREENBELT PARK LIMIT (TOWN OF HALTON HILLS MAPPING)

ADAMSON ST. S.

SWM POND

BLOCK 411 ROAD WIDENING (APPROXIMATE)

BLOCK 345 COMMERCIAL / MIXED USE

THE COMMERCIAL BLOCK WILL DISCHARGE TO LEVI CREEK FOR WATER BALANCE PURPOSES. REFER TO SWM REPORT.

EXISTING PUMP STATION

10 SIDE ROAD

EXISTING AGRICULTURAL

EXISTING 450mm CSP CULVERT N INV. 224.52 S INV.-224.26

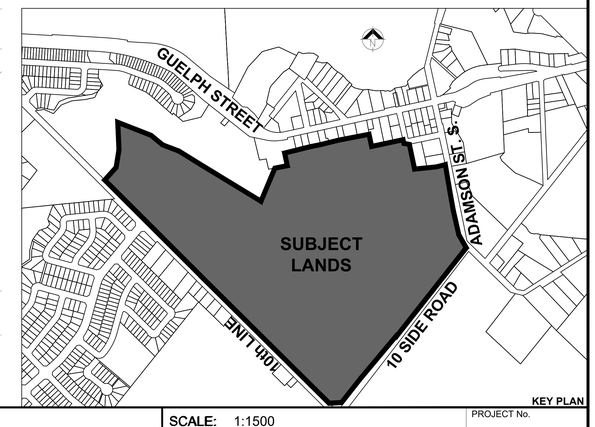
COMMERICAL / MIXED USE

SWM POND

PROPOSED REALIGNED 10 SIDE ROAD

PROPOSED ROUNDABOUT

PROPOSED REALIGNED ADAMSON STREET SOUTH



TYLin
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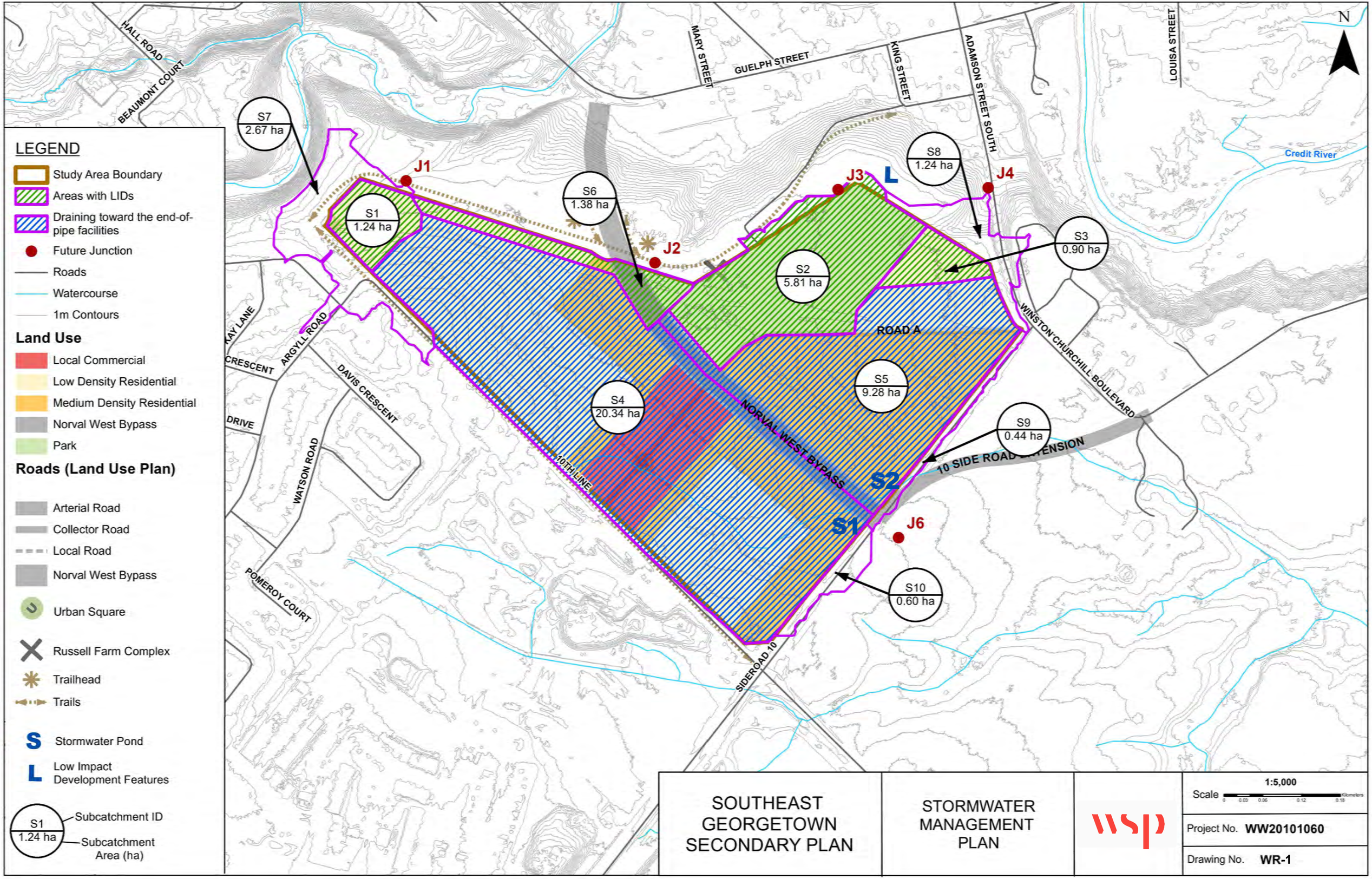
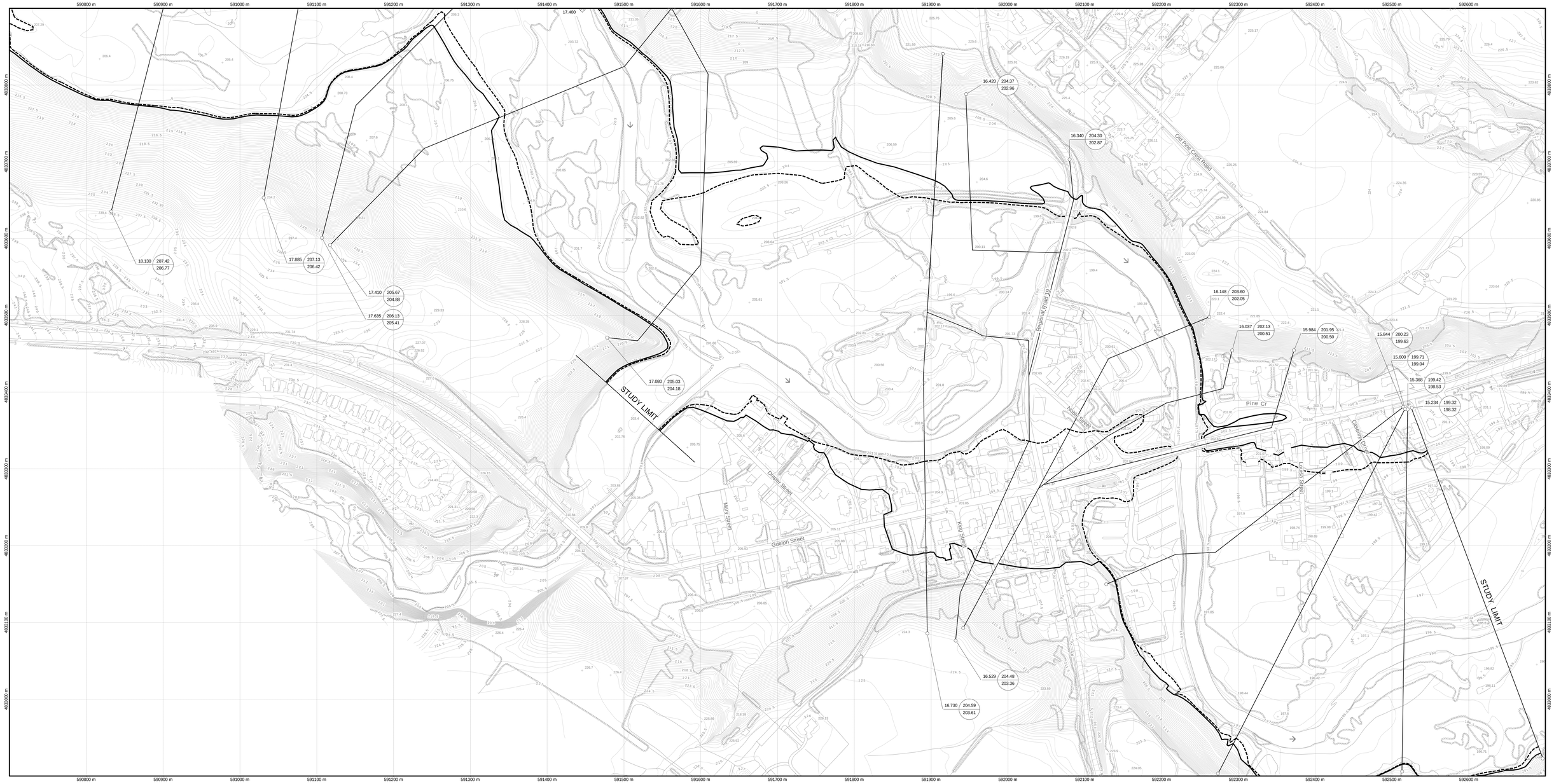
FIELDGATE DEVELOPMENTS

FUNCTIONAL SERVICE REPORT
RUSSELL PINES PROPERTY CORP.
STORM SERVICING AND DRAINGE PLAN

SCALE: 1:1500		PROJECT No.	100160
DATE: FEBRUARY 2025			
DESIGNED BY: U.A	DRAWN BY: CAD	FIGURE No.	4
CHECKED BY: A.A	CHECKED BY: A.A.		

Appendix D Background


LEGEND
Study Area Boundary
Areas with LIDs
Draining toward the end-of-pipe facilities
Future Junction
Roads
Watercourse
1m Contours
Land Use
Local Commercial
Low Density Residential
Medium Density Residential
Norval West Bypass
Park
Roads (Land Use Plan)
Arterial Road
Collector Road
Local Road
Norval West Bypass
Urban Square
Russell Farm Complex
Trailhead
Trails
S Stormwater Pond
L Low Impact Development Features
S1 1.24 ha Subcatchment ID Subcatchment Area (ha)
N
HALL ROAD
BEAUMONT COURT
MARY STREET
GUELPH STREET
KING STREET
ADAMSON STREET SOUTH
LOUISA STREET
Credit River
S7 2.67 ha
S1 1.24 ha
S6 1.38 ha
S8 1.24 ha
S3 0.90 ha
S2 5.81 ha
S4 20.34 ha
S5 9.28 ha
S9 0.44 ha
S10 0.60 ha
J1
J2
J3
J4
J6
L
S2
S1
ROAD A
NORVAL WEST BYPASS
10TH LINE
10 SIDE ROAD EXTENSION
WINSTON CHURCHILL BOULEVARD
SIDEROAD 10
ARGYLL ROAD
DAVIS CRESCENT
WATSON ROAD
POMEROY COURT
SOUTHEAST GEORGETOWN SECONDARY PLAN
STORMWATER MANAGEMENT PLAN
wsp
Scale 1:5,000
Project No. WW20101060
Drawing No. WR-1



Environmental Water Resources Group Ltd.

REGISTERED PROFESSIONAL ENGINEER — C. B. DOHERTY — PROVINCE OF ONTARIO

LEGEND

STUDY LIMIT

Regulatory Floodline

100 year Floodline

SPILL

Flow Arrow

Cross Section

Regulatory Flood Elevation 16.752 205.13

100 year Flood Elevation 204.98

N W E S

The topographic mapping was supplied by the Credit Valley Conservation.

North American Datum 1983

Universal Transverse Mercator Projection, Zone 17

SCALE: 1:2000

0 200 m

CONTOUR INTERVAL 1.0 METRE WITH 0.5 METRE AUXILLARY

CVC CREDIT VALLEY CONSERVATION

ONTARIO REGULATION No. ___

SCHEDULE No. ___

FLOOD RISK MAPPING

CREDIT RIVER

NORVAL TO ORANGEVILLE

SHEET No. 1 of 28

River Sta	Profile	Q Total (m3/s)	W.S. Elev (m)	Crit W.S. (m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Vol Chan (1000 m3)
15844	Regional	675.60	200.23	200.04	4.42	311.01	196.37	5717.22
15844	100 year	373.70	199.63		3.76	200.18	167.19	4676.66
15844	50 year	311.10	199.49		3.52	176.86	156.21	4236.37
15844	25 year	254.10	199.34		3.25	154.83	145.08	3856.08
15844	10 year	188.60	199.15		2.89	127.78	130.11	3323.26
15844	5 year	144.10	198.99		2.55	109.06	118.96	2909.11
15844	2 year	60.00	198.66		1.62	69.92	112.14	1991.17
15600	Regional	675.60	199.71		2.85	490.09	312.85	5706.92
15600	100 year	373.70	199.04		2.72	298.16	255.58	4668.44
15600	50 year	311.10	198.91		2.57	266.75	249.49	4228.59
15600	25 year	254.10	198.81		2.36	241.24	246.05	3848.72
15600	10 year	188.60	198.61		2.25	193.63	239.50	3316.55
15600	5 year	144.10	198.45		2.21	155.23	234.08	2902.91
15600	2 year	60.00	198.04		2.29	62.50	220.46	1986.20

Appendix D Background