

STORMWATER MANAGEMENT REPORT

Legacy II Cul-de-sac

Project #: 23-0462

Prepared for: Eco Lake Home Inc.

Date: July 27, 2026

Report Version: 01



July 27, 2026

Eco Lake Home Inc.
57 Rosehill Drive
Stouffville, Ontario L4A 3X7

Attention: James Spratley

SUBJECT: STORMWATER MANAGEMENT REPORT, LEGACY II CUL-DE-SAC

EnVision Consultants Ltd. is pleased to present the enclosed Stormwater Management Report in support of the Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) for the above-noted property. This report provides the conceptual framework for stormwater management, including proposed quality and quantity controls on this Site.

We thank you for utilizing EnVision for this assignment. If there are any questions regarding the enclosed report, please do not hesitate to contact us.

Yours sincerely,

Alex Williams, P.Eng.
Director – Land Development
Awilliams@envisionconsultants.ca



QUALITY MANAGEMENT

ISSUE	FIRST ISSUE	REVISION 1	REVISION 2
PROJECT NUMBER	23-0462		
PROJECT REFERENCE	Stormwater Management Report, Legacy II Cul-de-sac		
VERSION NO.	01		
REMARKS			
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DATE	July 27, 2026		

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TABLE OF CONTENTS

1.	Executive Summary	1
2.	Introduction	2
2.1.	Site Description.....	2
2.2.	Stormwater Management Objectives.....	2
2.3.	Background Documentation	3
3.	Existing Conditions	5
3.1.	General	5
3.3.	Pre-Development Flow Rates	6
4.	Proposed Conditions	8
4.1.	Stormwater Management Criteria.....	9
4.2.	Water Quantity.....	11
4.3.	Water Quality.....	11
4.4.	Water Balance	12
5.	Erosion and Sedimentation Control During Construction	13
5.1.	Certifications and Signatures.....	14
5.2.	Qualifier	14



LIST OF TABLES

Table 3.1: Rainfall Parameters	5
Table 3.2: Pre-Development Catchment Parameters	6
Table 3.3: Existing Peak Flow Rates	6
Table 4.1: Proposed Area Breakdown – Catchment 201.....	8
Table 4.2: Proposed Peak Flow Rates	11

LIST OF FIGURES

Figure 1: Location Plan	4
Figure 2: Pre-Development Plan	7
Figure 3: Proposed Development Plan	10

LIST OF APPENDICES

Appendix A:	<i>Subdivision Site Plan</i>
Appendix B:	<i>Stormwater Management Calculations</i>
Appendix C:	<i>Hydrologic Model Output</i>



1. EXECUTIVE SUMMARY

EnVision Consultants Ltd. (EnVision) was retained by Eco Lake Homes Inc. the 'Client' to conduct a stormwater management assessment for the 18-lot Legacy II residential development within the Community of Musselman Lake, Town of Whitchurch-Stouffville (the 'Site') in support of an Official Plan Amendment and a Zoning By-law Amendment Application.

The proposed development is located west of the intersection of Wylie Lane and Windsor Drive and is bounded to the northwest by Stapleton Drive with a small frontage on Lakeshore Road near the south of Musselman Lake. The current use of the 2.5 ha land consists of agricultural land and various sub-structures. The proposed development includes 18 development blocks, a private access road, parking and landscape areas.

The scope of this review includes site water servicing, sanitary servicing, stormwater management and drainage, and site grading for the proposed development.

EnVision has reviewed the Legacy II Site Plan prepared by Eco Lake Homes dated July 2026, the Town of Whitchurch-Stouffville Design Guidelines and Standard Drawings, dated January 2023, and other publicly available materials.

Stormwater management flows will be controlled to the pre-development condition up to and including the 100-year storm. Flows will be outlet towards Lakeshore Road and ultimately drain to Musselman Lake. Quantity control will be achieved using underground storage and quality control will be provided by an OGS unit.



2. INTRODUCTION

EnVision Consultants Ltd. (EnVision) was retained by Eco Lake Home Inc. (the 'Client') to prepare a Stormwater Management Report for the Legacy II development (the 'Site') located at 2 Wylie Lane in the Community of Musselman's Lake. It is our understanding that this assessment has been requested in support of an Official Plan Amendment and a Zoning By-law Amendment application submission for the proposed cul-de-sac development. This report provides the conceptual framework for stormwater management controls, including quality and quantity controls for the Site.

2.1. SITE DESCRIPTION

The Legacy II development is located in a rural residential area in the Community of Musselman Lake, Town of Whitchurch-Stouffville (Town). The Site is situated within the East Holland River Subwatershed, which is under jurisdiction of the Lake Simcoe Region Conservation Authority (LSRCA).

The Site area is 2.5 ha and consists of vacant agricultural land and woodlot, two (2) sheds, an unused grain elevator, a small solar panel, and a single wind turbine. The proposed development is located west of the intersection of Wylie Lane and Windsor Drive and is bounded to the northwest by Stapleton Drive with a small frontage on Lakeshore Road near the south of Musselman Lake. Refer to **Figure 1** for the Site Location Plan.

2.2. STORMWATER MANAGEMENT OBJECTIVES

The objectives of the Stormwater Management Report are to:

- Determine the stormwater management needs specific to the Site to ensure compliance with the Town and LSRCA SWM guidelines.
- Assess different stormwater management methods that align with both the Town's regulations and the requirements of the conservation authority and propose a preferred approach.
- Create a stormwater management report outlining the selected strategy, including technical details for the justification and sizing of the proposed stormwater management facilities.



2.3. BACKGROUND DOCUMENTATION

This report was prepared in accordance with the requirements of the Town of Whitchurch-Stouffville, the Lake Simcoe Region Conservation Authority and the Ontario Ministry of the Environment, Conservation and Parks (MECP).

The following documents have been reviewed in the preparation of this report:

- Legacy II Site Plan prepared by Eco Lake Homes, dated July 10, 2026;
- Topographic Survey prepared by Mandarin Surveyors Limited, dated July 15, 2025;
- LSRCA Technical Guidelines for Stormwater Management Submissions, dated January 2026;
- MECP Stormwater Management Planning and Design Manual, dated 2024;
- Town of Whitchurch-Stouffville Design Guidelines and Standard Drawings, dated January 2023;
- LSRCA East Holland River Subwatershed Plan, dated 2010; and,
- MECP Lake Simcoe Protection Plan, dated July 2009.

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CLIENT

ECO LAKE HOMES

TITLE

2 WYLIE LANE
WHITCHURCH - STOUFFVILLE, ONTARIO

LOCATION PLAN

ENVISION

6415 Northwest Dr. Mississauga, ON Canada L4V 1X1
Office (905) 677-0202
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Date	JULY 2026	Proj. No.	23-0462
Scale	NTS	Figure No.	1

3. EXISTING CONDITIONS

3.1. GENERAL

Under existing conditions, the Site consists of agricultural lands with agricultural buildings and woodlot. The property is generally bounded by Windsor Drive and Stapleton Drive with a small frontage on Lakeshore Road near the south of Musselman Lake. A tributary of the East Holland River is located to the west of the Site, and two Provincially Significant Wetlands (PSWs) are present in the surrounding area; one situated west of the Site and another to the southeast.

Topographic mapping indicates that the Site occupies an elevated position within the local landscape, with ground elevations ranging from approximately 340 m ASL in the southern portion of the property to approximately 335 m ASL near Stapleton Drive. Majority of the Site drains north towards Musselman Lake, and the remainder of the Site drains westward and southward towards the wetland features.

High points within the Site establish four (4) distinct subcatchments (101, 102, 103 and 104), directing runoff from the Site toward various outlet locations. Existing drainage patterns and catchment delineations are illustrated in **Figure 2**.

The Site is located within the Oak Ridges Moraine Region. Available surficial geology mapping indicates that the Site is underlain predominantly by diamicton till deposits, which commonly consist of sandy silt and silty sand.

3.2. RAINFALL INFORMATION

Rainfall information for the Site was calculated using the following equation as outlined by the Town's SWM Guidelines:

$$I = \frac{A}{(t_c + B)^C}$$

Where, I = Rainfall intensity (mm/hr)

t_c = Time of concentration (minutes)

A, B, C = Parameters as defined in Town of Whitchurch-Stouffville SWM Guidelines (tabularized below)

Table 3.1: Rainfall Parameters

RETURN PERIOD	2-YEAR	5-YEAR	10-YEAR	25-YEAR	50-YEAR	100-YEAR
A	696.679	1015.963	1279.709	1546.810	1802.604	2051.707
B	4.957	5.255	5.715	5.746	6.029	6.230
C	0.811	0.826	0.841	0.845	0.853	0.860

3.3. PRE-DEVELOPMENT FLOW RATES

A HydroCAD model of the project was developed and utilized to determine the pre-development peak flow rates for the Site. The Modified Rational Method (a subroutine of the HydroCAD software) has been used for this modelling exercise. An adjustment factor of 1.25 was applied to runoff coefficients for the subcatchments for the 100-year storm event and the Airport Method was used to calculate the time of concentration for each subcatchment. A summary of the subcatchment parameters is presented in **Table 3.2**. Hydrology calculations are provided in **Appendix B**.

Table 3.2: Pre-Development Catchment Parameters

CATCHMENT	AREA (ha)	100-YR C	100-YR TC (MIN)
101	1.66	0.35	28
102	0.25	0.15	16
103	0.44	0.20	16
104	0.12	0.29	17

Modelling results of the pre-development condition for the 100-year storm event are summarized below, in **Tables 3.3**. HydroCAD model output is included in **Appendix C**.

Table 3.3: Existing Peak Flow Rates

CATCHMENT	100-YR FLOW RATE (m ³ /s)	OUTLET
101	0.16	Musselman Lake Total flow: 0.166 m ³ /s
102	0.01	
103	0.03	West to PSW
104	0.01	South to PSW

4. PROPOSED CONDITIONS

The proposed development includes 18 development blocks, a private access road, parking and landscape areas. The proposed development fronts onto the Stapleton Drive extension.

The proposed drainage conditions can be summarized as follows:

- Catchment 201 (Developable Area – 2.1 ha): Stormwater from the developable portion of the Site will be conveyed to a superpipe storage system located beneath the proposed road, which will discharge to an underground drain outleting to Musselman Lake.
- Catchment 202: This area will remain undeveloped and will continue to drain toward Musselman Lake following existing natural drainage patterns.
- Catchment 203: The woodlot area will remain undeveloped and will continue to drain westward according to existing natural drainage patterns toward the adjacent wetland.

The proposed catchment delineations are illustrated in [Figure 3](#).

Proposed land-use types within the developable area and associated runoff coefficients, are detailed in [Tables 4.1](#).

Table 4.1: Proposed Area Breakdown – Catchment 201

LAND-USE	AREA (ha)	RUNOFF	
		COEFFICIENT, C	% IMPERVIOUS
Impervious Area	0.76	0.90	100%
Softscape Area	1.34	0.25	0%
Total Area	2.10	0.61*	36%

*Note: * The weighted catchment runoff coefficient was adjusted using a 1.25 scaling factor.*



4.1. STORMWATER MANAGEMENT CRITERIA

A stormwater management strategy and accompanying recommendations for the Subject Development are included below.

4.1.1. *WATER QUANTITY CONTROL*

Town criteria require the control of the post-development peak flows to pre-development levels for all storms up to and including the 100-yr storm event.

4.1.2. *WATER QUALITY*

MECP guidelines require 80% total suspended solids (TSS) removal to provide enhanced (Level 1) protection for this Site.

LSRCA Guidelines require that Phosphorous loading in post-development conditions do not exceed pre-development phosphorous loadings. If this cannot be achieved in post-development conditions, cash compensation is required per the Phosphorous Offsetting Policy.

4.1.3. *EROSION CONTROL*

Capture and retain/treat on-site the post-construction direct runoff volume from 25 mm of rainfall from all impervious surfaces (LSRCA).

4.1.4. *WATER BALANCE*

Best efforts should be made to match post-development infiltration/recharge volumes to pre-development levels on an annual basis (LSRCA).



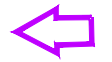
LEGEND



LIMIT OF PROPERTY



CATCHMENT BOUNDARY



OVERLAND FLOW ROUTE

C-201

CATCHMENT ID.

0.10

DRAINAGE AREA (ha)

36%

IMPERVIOUSNESS (%)

CLIENT

ECO LAKE HOMES

TITLE

2 WYLIE LANE
WHITCHURCH - STOUFFVILLE, ONTARIO
POST DEVELOPMENT PLAN

ENVISION

6415 Northwest Dr. Mississauga, ON Canada L4V 1X1
Office (905) 677-0202
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Checked

R.D.

Drawn

M.R.

Date

23-0462

Proj. No.

JULY 2026

Scale

1: 1000

Figure No.

3



4.2. WATER QUANTITY

A HydroCAD model of the project was developed and utilized to determine the required storage volume for the Site, and to calculate discharge rates achieved by the proposed flow controls. The Modified Rational Method (a subroutine of the HydroCAD software) has been used for this modelling exercise. An adjustment factor of 1.25 was applied to runoff coefficients of the subcatchments for the 100-year storm event and an initial time of concentration (t_c) of 10 minutes is recommended for urban catchments as per the Town's SWM Criteria. Hydrology calculations are provided in [Appendix B](#).

Runoff produced within the proposed development will be controlled by a superpipe storage system installed beneath the private road. The proposed superpipes consist of concrete box culverts with a 2400 mm span and 1200 mm rise, extending 156 m in total and providing an effective storage volume of 449 m³.

The proposed outlet structure is outfitted with a 250 mm orifice plate to ensure that the outflow does not exceed the Site's pre-development discharge rate. Discharged flows from the proposed development will be directed to Musselman Lake via an underground drainpipe through the undeveloped lands.

Modelling results for total site area shown in [Table 4.2](#). The HydroCAD hydrologic model output is provided in [Appendix C](#).

Table 4.2: Proposed Peak Flow Rates

CATCHMENT	100-YR FLOW RATE (m ³ /s)	100-YR ALLOWABLE FLOW RATE (M ³ /S)
201	0.14	0.16
202	0.01	0.01
TOTAL	0.15	0.17

4.3. WATER QUALITY

Oil/Grit Separator

An OGS Unit will be provided upstream of the superpipe system in order to treat flows to an 80% TSS removal level. Detailed sizing of the water treatment unit will be included in the DPA stage.

Phosphorus Removal

Stormwater runoff from at-grade vehicular and other impervious areas requires water quality treatment to achieve 100% Total Phosphorus (TP) removal, matching post-development phosphorus loads to pre-development levels on an annual loading basis, in accordance with the LSRCA guidelines and the Phosphorus Offsetting Policy (POP).



As the pre-development phosphorus loading target cannot be fully achieved through on-site stormwater management measures, a Phosphorus Offsetting Fee is required in accordance with LSRCA guidelines. Based on the LSRCA POP, the required offset is calculated using a 2.5:1 ratio and an offset rate of \$35,770 per kg/year. An additional 15% administration fee will also be applied to cover LSRCA program costs.

Low Impact Development (LID) measures will be explored at the next design stage to reduce phosphorus loading and potentially minimize the required Phosphorus Offsetting Fee in accordance with the LSRCA policy.

4.4. WATER BALANCE

LSRCA guidelines, which recommend on-site retention, infiltration, and/or reuse of the runoff volume from 25 mm of rainfall to maintain pre-development hydrologic conditions.

Hydrogeological investigations have not yet been completed; therefore, a detailed water balance analysis will be carried out at the next design stage. As part of that assessment, LID measures will be explored to support on-site infiltration and potential wetland recharge.



5. EROSION AND SEDIMENTATION CONTROL DURING CONSTRUCTION

The following erosion and sediment controls are proposed for implementation during construction to minimize erosion potential and soil migration from the Site to receiving waters:

1. Sediment and erosion control measures will be in place prior to the commencement of construction.
2. Construction will be scheduled to minimize the extent and period to which disturbed soils are exposed to weathering. As such, all disturbed areas will be stabilized within forty-five (45) days of commencing work at that location. Stabilization of disturbed areas may be accomplished by seeding, mulching, hydroseeding and planting. Temporary measures may employ the use of geotextile mats and nets.
3. Access to the site during construction will be limited to a maximum of two locations at any one time. The entrances of the access roads will be paved to promote the loosening and dislodging of soil attached to construction vehicles prior to them leaving the site.
4. Perimeter silt fencing will be placed and maintained around disturbed areas and around natural features which are to be preserved.
5. Silt traps or temporary sedimentation basins will be constructed for all overland flow routes. Basin sizing will be based on TRCA's Erosion and Sediment Control Guidelines for Urban Construction, with a total 250 m³/ha of contributing area, of which 125 m³/ha is permanent pool storage and 125 m³/ha is active storage. Perforated riser pipes will be used in the temporary sedimentation basins to detain the stormwater flows for 24-48 hours before being discharged to drainage ways. Temporary sedimentation basins shall be designed in the site plan application stage.
6. Rock flow check dams will be placed at all sedimentation basin and temporary swale outlets. These flow check dams are intended as fail-safe controls to trap any sediment which circumvents the other sediment control measures. Erosion protection measures will also be provided at all outfall locations.
7. Construction mitigation measures must be installed prior to construction, and then removed after construction is completed when runoff from the site has been stabilized.

5.1. CERTIFICATIONS AND SIGNATURES

Prepared by

Reviewed by



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5.2. QUALIFIER

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The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment. The conclusions presented in this report are based on work performed by trained, professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The content and opinions contained in the report are based on the observations and/or information available to EnVision at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by EnVision and other engineering/scientific practitioners working under similar conditions, and subject to the same time, financial and physical constraints applicable to this project.

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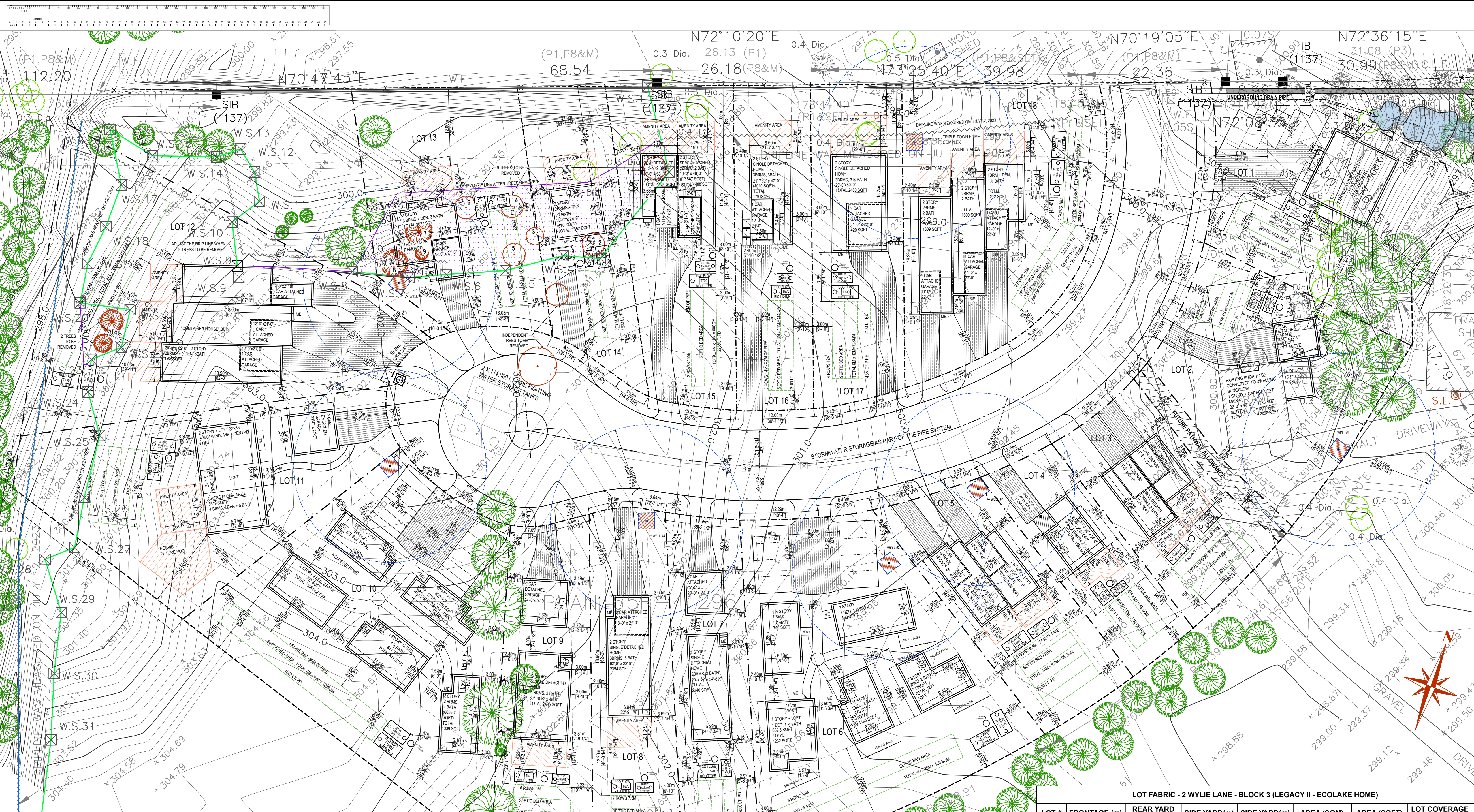
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This limitations statement is considered an integral part of this report.



APPENDIX A:

Subdivision Site Plan



LEGACY II RE-IMAGINED

MIXED SIZE HOME SUBDIVISION PLAN
AFFORDABLE HOMES TO MODEST ESTATES

4 WYLIE LANE,
WHITCHURCH-STOUFFVILLE, ON L4A 7X3

57 ROSEHILL DR., STOUFFVILLE, ON, L4A 2Y3
E: JAMESTOTHENET@GMAIL.COM
P: (647) 987-7871

eco lake homes

DATE: SCALE: 3:1 DRAWN BY:
FILE: REV: CHECKED BY:
DRAWING TITLE: LEGACY II - SITE PLAN SP-1
DRAWING #:

KEYS TO SUCCESSFUL 35-36 HOME PLAN

- 17 METER ROAD ALLOWANCE (NOT 20) TOWN STILL ADOPTS ROAD
JUSTIFICATION: NO TOWN WATER OR SEWERS REQUIRED, 20m NOT NEEDED
RESULT: ADDS 2 LOTS AND 3 HOMES
- FIRE FIGHTING TANKS UNDER TRAFFIC OVAL, AND STORM WATER INLINE WITH ROAD ALLOWANCE
JUSTIFICATION: IT IS COMMON PRACTICE AND IS USED BY MANY TOWNS
RESULT: SAVE 1 LARGE LOT (#1) 2 ADDITIONAL HOMES

- CLUSTER HOMES
2 ESTATE SIZE LOTS
5 SMALL CONDO CLUSTER
HOMES WITH COMMON PARKING

JUSTIFICATION: OPPORTUNITY TO SAVE ON INFRASTRUCTURE AND BUILDING COST
RESULTING IN 5-6 ADDITIONAL AFFORDABLE HOMES

* FINAL KEY, THIS PLAN ALLOWS LESS LOTS OF RECORD WHILE HELPING SEPTIC LOADING APPROVALS

- USE NEW O.P.A ALLOWANCE FOR SHARED WELLS UP TO 5 HOMES PER WELL. PRIVATE ROAD PORTAL CONDO WILL MAINTAIN WELLS.

LOT FABRIC - 2 WYLIE LANE - BLOCK 3 (LEGACY II - ECOLAKE HOME)

LOT #	FRONTAGE (m)	REAR YARD (m)	SIDE YARD(m)	SIDE YARD(m)	AREA (SQM)	AREA (SQFT)	LOT COVERAGE (%)
1	21.50	12	13.46	2.4	963.80	10374.19	13.24
2	20.84	12	2.73	2	948.42	10208.73	19.90
3	16.39	12	3	2.4	590.52	6356.26	20.47
4	12.29	12	3	2.4	451.27	4857.41	15.16
5	17.55	12	3	2.4	681.00	7330.17	20.77
6	20.77	12	3	2.4	1634.26	17591.01	21.84
7	11.65	12	3	2.4	658.17	7084.51	21.81
8	12.02	12	3	2.4	781.53	8412.26	16.27
9	12.53	12	3	2.4	825.66	8887.27	20.06
10	21.33	12	3	2.4	1703.79	18339.46	19.70
11	10.11	12	3	2.4	1214.52	13072.95	13.46
12	10.28	12	3	2.4	1727.04	18589.68	19.69
13	16.05	12	3	2.4	930.53	10016.10	11.64
14	17.79	11	3	2.4	598.36	6440.63	10.50
15	13.84	11	3	2.4	841.27	9055.37	17.10
16	12	11	3	2.4	613.00	6598.30	15.42
17	14.6	11	3	2.4	704.08	7578.69	19.13
18	62.92	11	3	2.4	1202.23	12940.63	22.10
TOTAL					17069.43	183733.62	



APPENDIX B:

Stormwater Management Calculations

Stormwater Management Calculations

Pre-development Catchment Area Characteristics

Catchment Summary						
Land Use	Runoff Coefficient	Catchment Area (ha)				
		101	102	103	104	Total
Impervious	0.95	0.16	-		-	0.16
Lawn	0.22		-		-	0
Cultivated	0.22	1.31	-	0.19	0.12	1.49
Meadow	0.30	-	-	-	-	0
Woodland	0.12	0.19	0.25	0.25	-	0.69
Wetland	0.05	-	-	-	-	0
Total Area		1.66	0.25	0.44	0.12	2.47
Weighted RC		0.28	0.12	0.16	0.22	0.23

Stormwater Management Calculations

Pre-dev - Adjusted Runoff Coefficients

Pre- development Adjusted Runoff Coefficients

Design Storm Return Period	Adjustment Value	Catchment Area Adjusted RCs			
		101	102	103	104
25mm	1.00	0.28	0.12	0.16	0.23
2 yr	1.00	0.28	0.12	0.16	0.23
5 yr	1.00	0.28	0.12	0.16	0.23
10 yr	1.00	0.28	0.12	0.16	0.23
25 yr	1.10	0.31	0.13	0.18	0.25
50 yr	1.20	0.33	0.14	0.19	0.27
100 yr	1.25	0.35	0.15	0.20	0.29

Time of Concentration Inputs

	101	102	103	104
Flow Path	Overland	Overland	Overland	Overland
Length (m)	171	118	60.87	88.5
Drop	3	10	1.75	2.62
Slope	1.46%	8.69%	2.87%	2.96%

Airport Method

Airport method is calculated as follows:

$$tc = \frac{3.26(1.1 - C)L^{0.5}}{Sw^{0.33}}$$

Where: tc = time of concentration (minutes)

C = Runoff coefficient (unitless)

L = length of flow path

Sw = slope of drainage path (%)

Time of Concentration (min)

	101	102	103	104
25mm	30.90	17.00	16.83	0.31
2 yr	30.90	17.00	16.83	0.31
5 yr	30.90	17.00	16.83	0.31
10 yr	30.90	17.00	16.83	0.31
25 yr	29.85	16.79	16.54	0.30
50 yr	28.80	16.58	16.25	0.30
100 yr	28.28	16.48	16.10	17.47

Airport method per LSRCA Technical Guidelines for Stormwater Management Submissions (April 2022)

Stormwater Management Calculations

Pre-development Catchment Area Characteristics

Catchment Summary

Land Use	Runoff Coefficient	Catchment Area (ha)			
		POST-1	POST-2	POST-3	Total
Impervious	0.95	0.76	-	-	0.76
Lawn	0.22	1.34	0.14	-	1.48
Cultivated	0.22	-	-	-	0
Meadow	0.30	-	-	-	0
Woodland	0.12	-	-	0.23	0.23
Wetland	0.05	-	-	-	0
Total Area		2.10	0.14	0.23	2.47
Weighted RC		0.48	0.22	0.12	0.44

Stormwater Management Calculations

Pre-dev - Adjusted Runoff Coefficients

Pre- development Adjusted Runoff Coefficients				
Design Storm Return Period	Adjustment Value	Catchment Area Adjusted RCs		
		201	202	203
25mm	1.00	0.48	0.22	0.12
2 yr	1.00	0.48	0.22	0.12
5 yr	1.00	0.48	0.22	0.12
10 yr	1.00	0.48	0.22	0.12
25 yr	1.10	0.53	0.24	0.13
50 yr	1.20	0.58	0.26	0.14
100 yr	1.25	0.61	0.28	0.15

Catchment 201

Tc = 10 min for Urban Catchments as recommended by LSRCA guidelines

Time of Concentration Inputs		
	202	203
Flow Path	Overland	Overland
Length (m)	118	60.87
Drop	10	1.75
Slope	8.69%	2.87%

Airport Method

Airport method is calculated as follows:

$$tc = \frac{3.26(1.1-C)L^{0.5}}{Sw^{0.33}}$$

Where: tc = time of concentration (minutes)

C = Runoff coefficient (unitless)

L = length of flow path

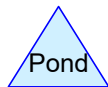
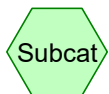
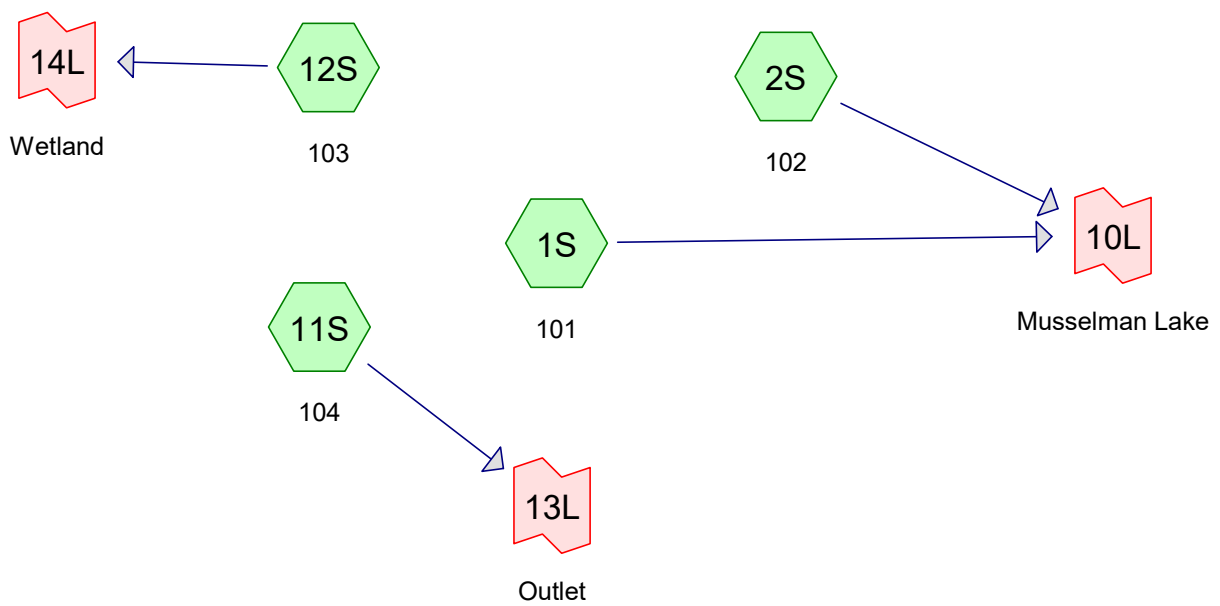
Sw = slope of drainage path (%)

Time of Concentration (min)		
	202	203
25mm	15.26	17.59
2 yr	15.26	17.59
5 yr	15.26	17.59
10 yr	15.26	17.59
25 yr	14.88	17.38
50 yr	14.50	17.16
100 yr	14.31	17.05

Airport method per LSRCA Technical Guidelines for Stormwater Management Submissions (April 2022)



APPENDIX C: *Hydrologic Model Output*



23-0462 2 Wylie Lane

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Page 2

Area Listing (all nodes)

Area (hectares)	C	Description (subcatchment-numbers)
1.6600	0.35	(1S)
0.2500	0.15	(2S)
0.1200	0.29	(11S)
0.4400	0.20	(12S)
2.4700	0.30	TOTAL AREA

23-0462 2 Wylie Lane

Canada-WS 100-Year Duration=16 min, Inten=142.5 mm/hr

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Page 3

Time span=0.00-4.00 hrs, dt=0.01 hrs, 401 points

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 101Runoff Area=1.6600 ha 0.00% Impervious Runoff Depth=8 mm
Tc=28.3 min C=0.35 Runoff=0.1286 m³/s 0.125 MI**Subcatchment 2S: 102**Runoff Area=0.2500 ha 0.00% Impervious Runoff Depth=6 mm
Tc=16.5 min C=0.15 Runoff=0.0142 m³/s 0.014 MI**Subcatchment 11S: 104**Runoff Area=0.1200 ha 0.00% Impervious Runoff Depth=10 mm
Tc=17.5 min C=0.29 Runoff=0.0125 m³/s 0.012 MI**Subcatchment 12S: 103**Runoff Area=0.4400 ha 0.00% Impervious Runoff Depth=8 mm
Tc=16.1 min C=0.20 Runoff=0.0342 m³/s 0.033 MI**Link 10L: Musselman Lake**Inflow=0.1428 m³/s 0.139 MI
Primary=0.1428 m³/s 0.139 MI**Link 13L: Outlet**Inflow=0.0125 m³/s 0.012 MI
Primary=0.0125 m³/s 0.012 MI**Link 14L: Wetland**Inflow=0.0342 m³/s 0.033 MI
Primary=0.0342 m³/s 0.033 MI**Total Runoff Area = 2.4700 ha Runoff Volume = 0.184 MI Average Runoff Depth = 7 mm**
100.00% Pervious = 2.4700 ha 0.00% Impervious = 0.0000 ha

Summary for Subcatchment 1S: 101

Runoff = 0.1286 m³/s @ 0.27 hrs, Volume= 0.125 MI, Depth= 8 mm
 Routed to Link 10L : Musselman Lake

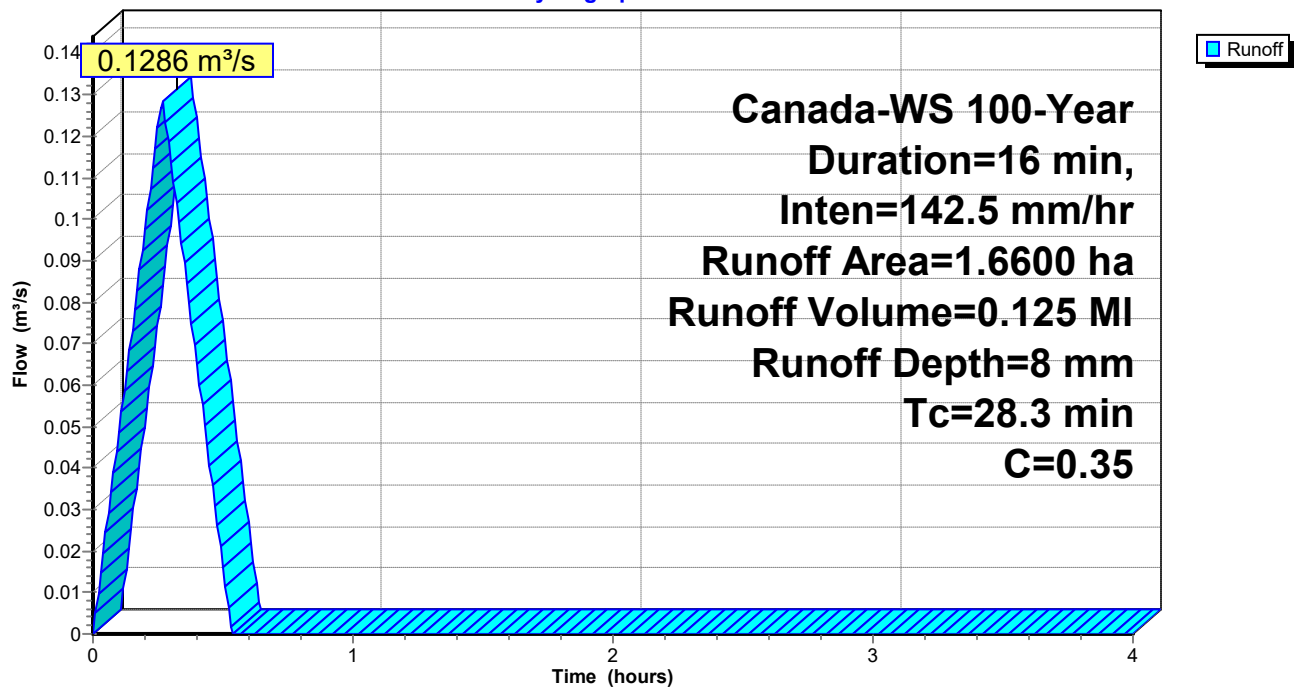
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
 Canada-WS 100-Year Duration=16 min, Inten=142.5 mm/hr

Area (ha)	C	Description
1.6600	0.35	
1.6600	0.35	100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
28.3					Direct Entry, Airport method

Subcatchment 1S: 101

Hydrograph



Hydrograph for Subcatchment 1S: 101

Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)
0.00	0.0000	1.04	0.0000	2.08	0.0000	3.12	0.0000
0.02	0.0098	1.06	0.0000	2.10	0.0000	3.14	0.0000
0.04	0.0195	1.08	0.0000	2.12	0.0000	3.16	0.0000
0.06	0.0293	1.10	0.0000	2.14	0.0000	3.18	0.0000
0.08	0.0390	1.12	0.0000	2.16	0.0000	3.20	0.0000
0.10	0.0488	1.14	0.0000	2.18	0.0000	3.22	0.0000
0.12	0.0585	1.16	0.0000	2.20	0.0000	3.24	0.0000
0.14	0.0683	1.18	0.0000	2.22	0.0000	3.26	0.0000
0.16	0.0780	1.20	0.0000	2.24	0.0000	3.28	0.0000
0.18	0.0878	1.22	0.0000	2.26	0.0000	3.30	0.0000
0.20	0.0975	1.24	0.0000	2.28	0.0000	3.32	0.0000
0.22	0.1073	1.26	0.0000	2.30	0.0000	3.34	0.0000
0.24	0.1170	1.28	0.0000	2.32	0.0000	3.36	0.0000
0.26	0.1268	1.30	0.0000	2.34	0.0000	3.38	0.0000
0.28	0.1235	1.32	0.0000	2.36	0.0000	3.40	0.0000
0.30	0.1138	1.34	0.0000	2.38	0.0000	3.42	0.0000
0.32	0.1040	1.36	0.0000	2.40	0.0000	3.44	0.0000
0.34	0.0943	1.38	0.0000	2.42	0.0000	3.46	0.0000
0.36	0.0845	1.40	0.0000	2.44	0.0000	3.48	0.0000
0.38	0.0748	1.42	0.0000	2.46	0.0000	3.50	0.0000
0.40	0.0650	1.44	0.0000	2.48	0.0000	3.52	0.0000
0.42	0.0553	1.46	0.0000	2.50	0.0000	3.54	0.0000
0.44	0.0455	1.48	0.0000	2.52	0.0000	3.56	0.0000
0.46	0.0358	1.50	0.0000	2.54	0.0000	3.58	0.0000
0.48	0.0260	1.52	0.0000	2.56	0.0000	3.60	0.0000
0.50	0.0163	1.54	0.0000	2.58	0.0000	3.62	0.0000
0.52	0.0065	1.56	0.0000	2.60	0.0000	3.64	0.0000
0.54	0.0000	1.58	0.0000	2.62	0.0000	3.66	0.0000
0.56	0.0000	1.60	0.0000	2.64	0.0000	3.68	0.0000
0.58	0.0000	1.62	0.0000	2.66	0.0000	3.70	0.0000
0.60	0.0000	1.64	0.0000	2.68	0.0000	3.72	0.0000
0.62	0.0000	1.66	0.0000	2.70	0.0000	3.74	0.0000
0.64	0.0000	1.68	0.0000	2.72	0.0000	3.76	0.0000
0.66	0.0000	1.70	0.0000	2.74	0.0000	3.78	0.0000
0.68	0.0000	1.72	0.0000	2.76	0.0000	3.80	0.0000
0.70	0.0000	1.74	0.0000	2.78	0.0000	3.82	0.0000
0.72	0.0000	1.76	0.0000	2.80	0.0000	3.84	0.0000
0.74	0.0000	1.78	0.0000	2.82	0.0000	3.86	0.0000
0.76	0.0000	1.80	0.0000	2.84	0.0000	3.88	0.0000
0.78	0.0000	1.82	0.0000	2.86	0.0000	3.90	0.0000
0.80	0.0000	1.84	0.0000	2.88	0.0000	3.92	0.0000
0.82	0.0000	1.86	0.0000	2.90	0.0000	3.94	0.0000
0.84	0.0000	1.88	0.0000	2.92	0.0000	3.96	0.0000
0.86	0.0000	1.90	0.0000	2.94	0.0000	3.98	0.0000
0.88	0.0000	1.92	0.0000	2.96	0.0000	4.00	0.0000
0.90	0.0000	1.94	0.0000	2.98	0.0000		
0.92	0.0000	1.96	0.0000	3.00	0.0000		
0.94	0.0000	1.98	0.0000	3.02	0.0000		
0.96	0.0000	2.00	0.0000	3.04	0.0000		
0.98	0.0000	2.02	0.0000	3.06	0.0000		
1.00	0.0000	2.04	0.0000	3.08	0.0000		
1.02	0.0000	2.06	0.0000	3.10	0.0000		

Summary for Subcatchment 2S: 102

Runoff = 0.0142 m³/s @ 0.27 hrs, Volume= 0.014 MI, Depth= 6 mm
 Routed to Link 10L : Musselman Lake

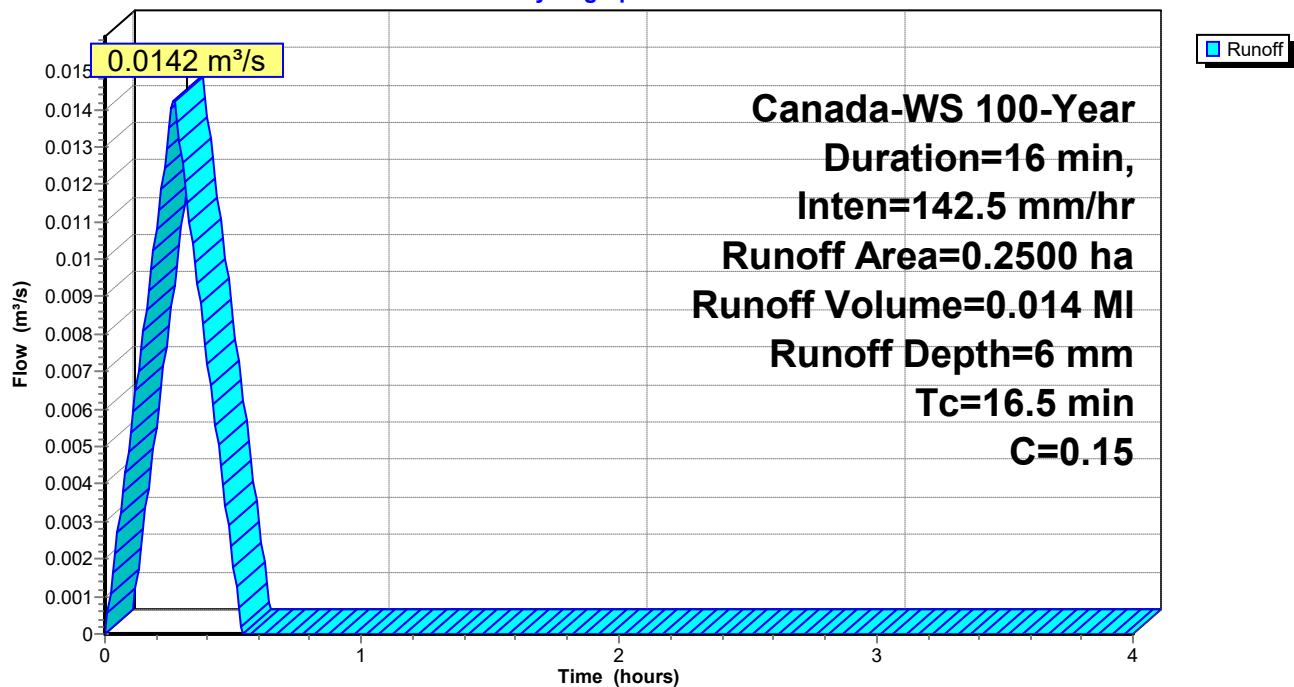
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
 Canada-WS 100-Year Duration=16 min, Inten=142.5 mm/hr

Area (ha)	C	Description
0.2500	0.15	
0.2500	0.15	100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
16.5					Direct Entry, Airport method

Subcatchment 2S: 102

Hydrograph



Hydrograph for Subcatchment 2S: 102

Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)
0.00	0.0000	1.04	0.0000	2.08	0.0000	3.12	0.0000
0.02	0.0011	1.06	0.0000	2.10	0.0000	3.14	0.0000
0.04	0.0022	1.08	0.0000	2.12	0.0000	3.16	0.0000
0.06	0.0032	1.10	0.0000	2.14	0.0000	3.18	0.0000
0.08	0.0043	1.12	0.0000	2.16	0.0000	3.20	0.0000
0.10	0.0054	1.14	0.0000	2.18	0.0000	3.22	0.0000
0.12	0.0065	1.16	0.0000	2.20	0.0000	3.24	0.0000
0.14	0.0076	1.18	0.0000	2.22	0.0000	3.26	0.0000
0.16	0.0086	1.20	0.0000	2.24	0.0000	3.28	0.0000
0.18	0.0097	1.22	0.0000	2.26	0.0000	3.30	0.0000
0.20	0.0108	1.24	0.0000	2.28	0.0000	3.32	0.0000
0.22	0.0119	1.26	0.0000	2.30	0.0000	3.34	0.0000
0.24	0.0130	1.28	0.0000	2.32	0.0000	3.36	0.0000
0.26	0.0140	1.30	0.0000	2.34	0.0000	3.38	0.0000
0.28	0.0137	1.32	0.0000	2.36	0.0000	3.40	0.0000
0.30	0.0126	1.34	0.0000	2.38	0.0000	3.42	0.0000
0.32	0.0115	1.36	0.0000	2.40	0.0000	3.44	0.0000
0.34	0.0104	1.38	0.0000	2.42	0.0000	3.46	0.0000
0.36	0.0094	1.40	0.0000	2.44	0.0000	3.48	0.0000
0.38	0.0083	1.42	0.0000	2.46	0.0000	3.50	0.0000
0.40	0.0072	1.44	0.0000	2.48	0.0000	3.52	0.0000
0.42	0.0061	1.46	0.0000	2.50	0.0000	3.54	0.0000
0.44	0.0050	1.48	0.0000	2.52	0.0000	3.56	0.0000
0.46	0.0040	1.50	0.0000	2.54	0.0000	3.58	0.0000
0.48	0.0029	1.52	0.0000	2.56	0.0000	3.60	0.0000
0.50	0.0018	1.54	0.0000	2.58	0.0000	3.62	0.0000
0.52	0.0007	1.56	0.0000	2.60	0.0000	3.64	0.0000
0.54	0.0000	1.58	0.0000	2.62	0.0000	3.66	0.0000
0.56	0.0000	1.60	0.0000	2.64	0.0000	3.68	0.0000
0.58	0.0000	1.62	0.0000	2.66	0.0000	3.70	0.0000
0.60	0.0000	1.64	0.0000	2.68	0.0000	3.72	0.0000
0.62	0.0000	1.66	0.0000	2.70	0.0000	3.74	0.0000
0.64	0.0000	1.68	0.0000	2.72	0.0000	3.76	0.0000
0.66	0.0000	1.70	0.0000	2.74	0.0000	3.78	0.0000
0.68	0.0000	1.72	0.0000	2.76	0.0000	3.80	0.0000
0.70	0.0000	1.74	0.0000	2.78	0.0000	3.82	0.0000
0.72	0.0000	1.76	0.0000	2.80	0.0000	3.84	0.0000
0.74	0.0000	1.78	0.0000	2.82	0.0000	3.86	0.0000
0.76	0.0000	1.80	0.0000	2.84	0.0000	3.88	0.0000
0.78	0.0000	1.82	0.0000	2.86	0.0000	3.90	0.0000
0.80	0.0000	1.84	0.0000	2.88	0.0000	3.92	0.0000
0.82	0.0000	1.86	0.0000	2.90	0.0000	3.94	0.0000
0.84	0.0000	1.88	0.0000	2.92	0.0000	3.96	0.0000
0.86	0.0000	1.90	0.0000	2.94	0.0000	3.98	0.0000
0.88	0.0000	1.92	0.0000	2.96	0.0000	4.00	0.0000
0.90	0.0000	1.94	0.0000	2.98	0.0000		
0.92	0.0000	1.96	0.0000	3.00	0.0000		
0.94	0.0000	1.98	0.0000	3.02	0.0000		
0.96	0.0000	2.00	0.0000	3.04	0.0000		
0.98	0.0000	2.02	0.0000	3.06	0.0000		
1.00	0.0000	2.04	0.0000	3.08	0.0000		
1.02	0.0000	2.06	0.0000	3.10	0.0000		

Summary for Subcatchment 11S: 104

Runoff = 0.0125 m³/s @ 0.27 hrs, Volume= 0.012 MI, Depth= 10 mm
 Routed to Link 13L : Outlet

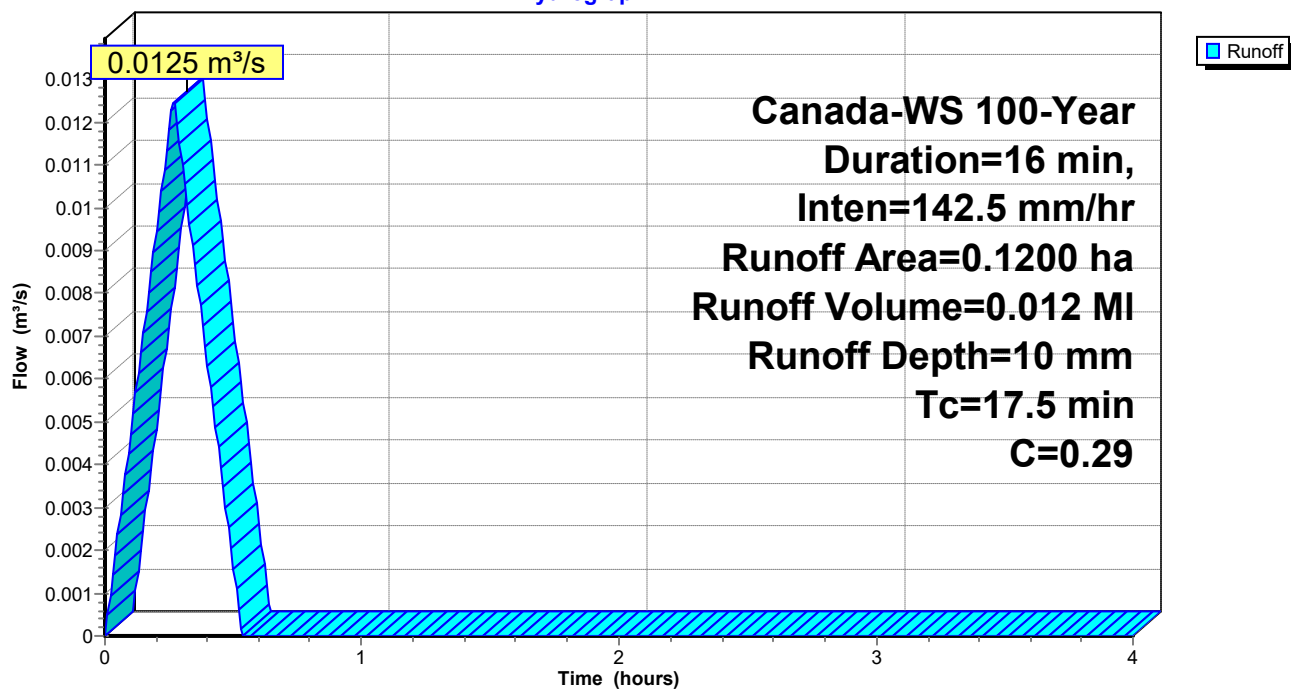
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
 Canada-WS 100-Year Duration=16 min, Inten=142.5 mm/hr

Area (ha)	C	Description
0.1200	0.29	
0.1200	0.29	100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
17.5					Direct Entry,

Subcatchment 11S: 104

Hydrograph



Hydrograph for Subcatchment 11S: 104

Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)
0.00	0.0000	1.04	0.0000	2.08	0.0000	3.12	0.0000
0.02	0.0009	1.06	0.0000	2.10	0.0000	3.14	0.0000
0.04	0.0019	1.08	0.0000	2.12	0.0000	3.16	0.0000
0.06	0.0028	1.10	0.0000	2.14	0.0000	3.18	0.0000
0.08	0.0038	1.12	0.0000	2.16	0.0000	3.20	0.0000
0.10	0.0047	1.14	0.0000	2.18	0.0000	3.22	0.0000
0.12	0.0057	1.16	0.0000	2.20	0.0000	3.24	0.0000
0.14	0.0066	1.18	0.0000	2.22	0.0000	3.26	0.0000
0.16	0.0076	1.20	0.0000	2.24	0.0000	3.28	0.0000
0.18	0.0085	1.22	0.0000	2.26	0.0000	3.30	0.0000
0.20	0.0094	1.24	0.0000	2.28	0.0000	3.32	0.0000
0.22	0.0104	1.26	0.0000	2.30	0.0000	3.34	0.0000
0.24	0.0113	1.28	0.0000	2.32	0.0000	3.36	0.0000
0.26	0.0123	1.30	0.0000	2.34	0.0000	3.38	0.0000
0.28	0.0120	1.32	0.0000	2.36	0.0000	3.40	0.0000
0.30	0.0110	1.34	0.0000	2.38	0.0000	3.42	0.0000
0.32	0.0101	1.36	0.0000	2.40	0.0000	3.44	0.0000
0.34	0.0091	1.38	0.0000	2.42	0.0000	3.46	0.0000
0.36	0.0082	1.40	0.0000	2.44	0.0000	3.48	0.0000
0.38	0.0072	1.42	0.0000	2.46	0.0000	3.50	0.0000
0.40	0.0063	1.44	0.0000	2.48	0.0000	3.52	0.0000
0.42	0.0054	1.46	0.0000	2.50	0.0000	3.54	0.0000
0.44	0.0044	1.48	0.0000	2.52	0.0000	3.56	0.0000
0.46	0.0035	1.50	0.0000	2.54	0.0000	3.58	0.0000
0.48	0.0025	1.52	0.0000	2.56	0.0000	3.60	0.0000
0.50	0.0016	1.54	0.0000	2.58	0.0000	3.62	0.0000
0.52	0.0006	1.56	0.0000	2.60	0.0000	3.64	0.0000
0.54	0.0000	1.58	0.0000	2.62	0.0000	3.66	0.0000
0.56	0.0000	1.60	0.0000	2.64	0.0000	3.68	0.0000
0.58	0.0000	1.62	0.0000	2.66	0.0000	3.70	0.0000
0.60	0.0000	1.64	0.0000	2.68	0.0000	3.72	0.0000
0.62	0.0000	1.66	0.0000	2.70	0.0000	3.74	0.0000
0.64	0.0000	1.68	0.0000	2.72	0.0000	3.76	0.0000
0.66	0.0000	1.70	0.0000	2.74	0.0000	3.78	0.0000
0.68	0.0000	1.72	0.0000	2.76	0.0000	3.80	0.0000
0.70	0.0000	1.74	0.0000	2.78	0.0000	3.82	0.0000
0.72	0.0000	1.76	0.0000	2.80	0.0000	3.84	0.0000
0.74	0.0000	1.78	0.0000	2.82	0.0000	3.86	0.0000
0.76	0.0000	1.80	0.0000	2.84	0.0000	3.88	0.0000
0.78	0.0000	1.82	0.0000	2.86	0.0000	3.90	0.0000
0.80	0.0000	1.84	0.0000	2.88	0.0000	3.92	0.0000
0.82	0.0000	1.86	0.0000	2.90	0.0000	3.94	0.0000
0.84	0.0000	1.88	0.0000	2.92	0.0000	3.96	0.0000
0.86	0.0000	1.90	0.0000	2.94	0.0000	3.98	0.0000
0.88	0.0000	1.92	0.0000	2.96	0.0000	4.00	0.0000
0.90	0.0000	1.94	0.0000	2.98	0.0000		
0.92	0.0000	1.96	0.0000	3.00	0.0000		
0.94	0.0000	1.98	0.0000	3.02	0.0000		
0.96	0.0000	2.00	0.0000	3.04	0.0000		
0.98	0.0000	2.02	0.0000	3.06	0.0000		
1.00	0.0000	2.04	0.0000	3.08	0.0000		
1.02	0.0000	2.06	0.0000	3.10	0.0000		

Summary for Subcatchment 12S: 103

Runoff = 0.0342 m³/s @ 0.27 hrs, Volume= 0.033 MI, Depth= 8 mm
 Routed to Link 14L : Wetland

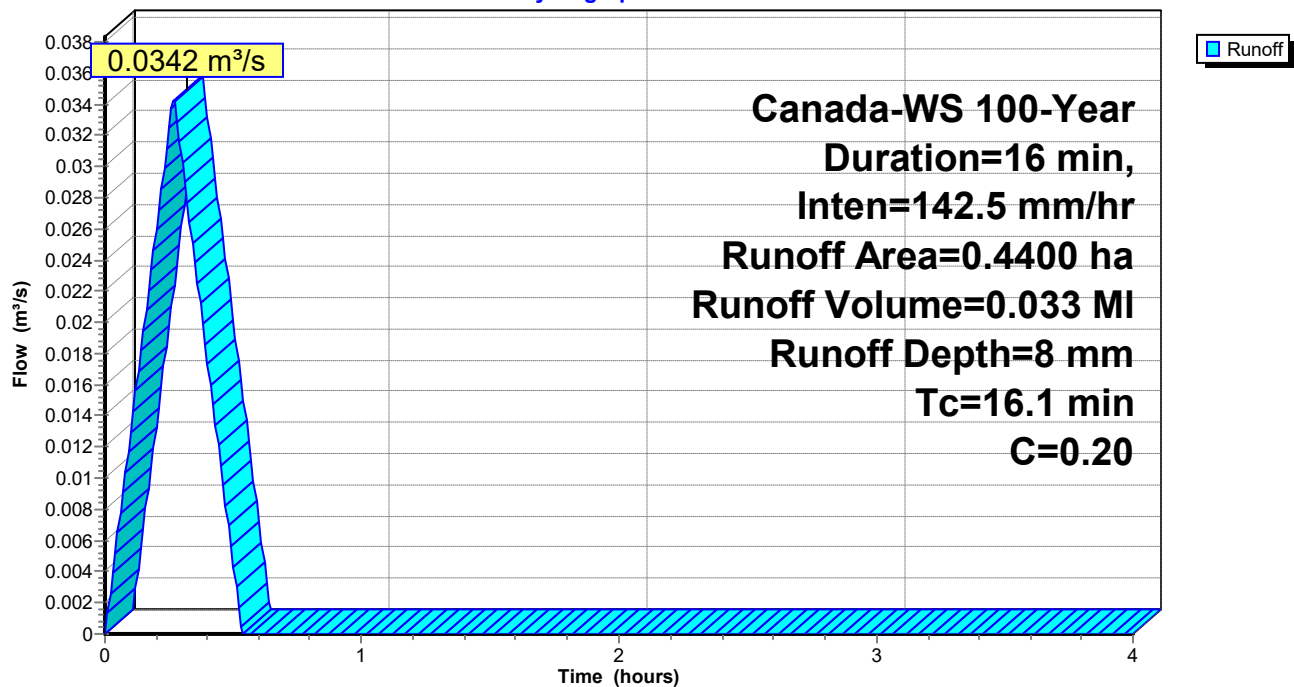
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
 Canada-WS 100-Year Duration=16 min, Inten=142.5 mm/hr

Area (ha)	C	Description
0.4400	0.20	
0.4400	0.20	100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
16.1					Direct Entry,

Subcatchment 12S: 103

Hydrograph



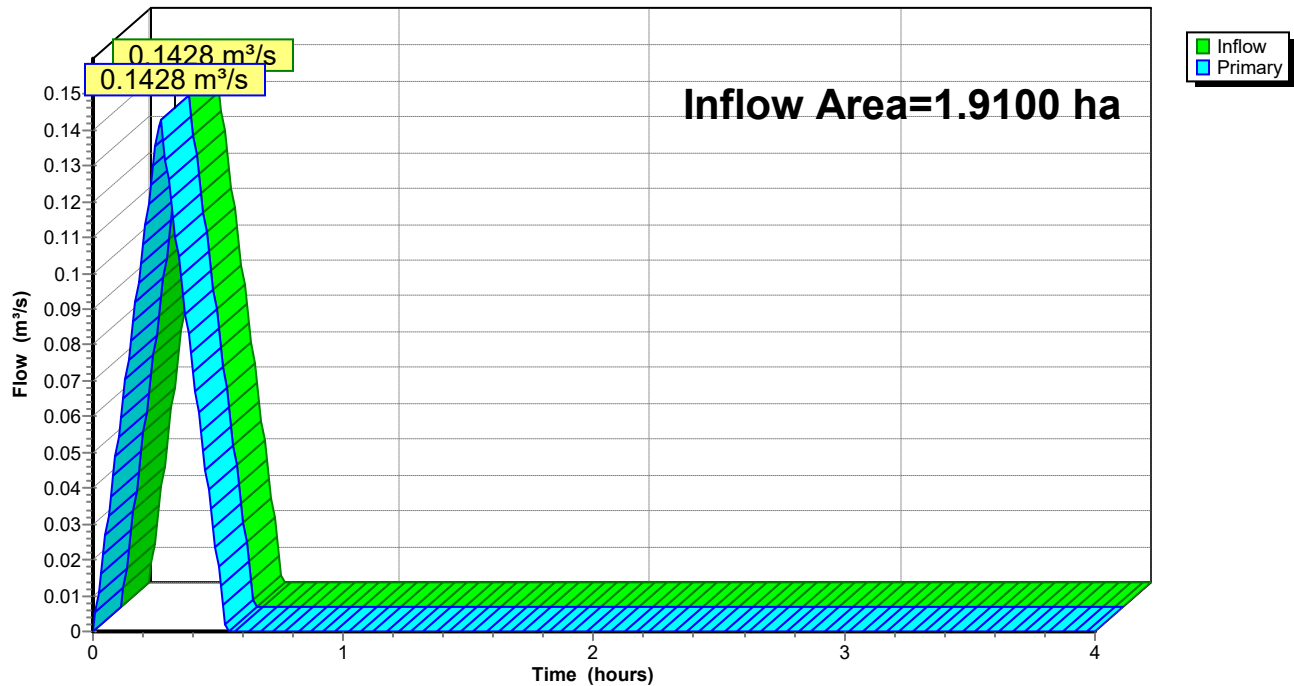
Hydrograph for Subcatchment 12S: 103

Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)
0.00	0.0000	1.04	0.0000	2.08	0.0000	3.12	0.0000
0.02	0.0026	1.06	0.0000	2.10	0.0000	3.14	0.0000
0.04	0.0052	1.08	0.0000	2.12	0.0000	3.16	0.0000
0.06	0.0078	1.10	0.0000	2.14	0.0000	3.18	0.0000
0.08	0.0104	1.12	0.0000	2.16	0.0000	3.20	0.0000
0.10	0.0130	1.14	0.0000	2.18	0.0000	3.22	0.0000
0.12	0.0156	1.16	0.0000	2.20	0.0000	3.24	0.0000
0.14	0.0182	1.18	0.0000	2.22	0.0000	3.26	0.0000
0.16	0.0208	1.20	0.0000	2.24	0.0000	3.28	0.0000
0.18	0.0234	1.22	0.0000	2.26	0.0000	3.30	0.0000
0.20	0.0260	1.24	0.0000	2.28	0.0000	3.32	0.0000
0.22	0.0286	1.26	0.0000	2.30	0.0000	3.34	0.0000
0.24	0.0312	1.28	0.0000	2.32	0.0000	3.36	0.0000
0.26	0.0337	1.30	0.0000	2.34	0.0000	3.38	0.0000
0.28	0.0329	1.32	0.0000	2.36	0.0000	3.40	0.0000
0.30	0.0303	1.34	0.0000	2.38	0.0000	3.42	0.0000
0.32	0.0277	1.36	0.0000	2.40	0.0000	3.44	0.0000
0.34	0.0251	1.38	0.0000	2.42	0.0000	3.46	0.0000
0.36	0.0225	1.40	0.0000	2.44	0.0000	3.48	0.0000
0.38	0.0199	1.42	0.0000	2.46	0.0000	3.50	0.0000
0.40	0.0173	1.44	0.0000	2.48	0.0000	3.52	0.0000
0.42	0.0147	1.46	0.0000	2.50	0.0000	3.54	0.0000
0.44	0.0121	1.48	0.0000	2.52	0.0000	3.56	0.0000
0.46	0.0095	1.50	0.0000	2.54	0.0000	3.58	0.0000
0.48	0.0069	1.52	0.0000	2.56	0.0000	3.60	0.0000
0.50	0.0043	1.54	0.0000	2.58	0.0000	3.62	0.0000
0.52	0.0017	1.56	0.0000	2.60	0.0000	3.64	0.0000
0.54	0.0000	1.58	0.0000	2.62	0.0000	3.66	0.0000
0.56	0.0000	1.60	0.0000	2.64	0.0000	3.68	0.0000
0.58	0.0000	1.62	0.0000	2.66	0.0000	3.70	0.0000
0.60	0.0000	1.64	0.0000	2.68	0.0000	3.72	0.0000
0.62	0.0000	1.66	0.0000	2.70	0.0000	3.74	0.0000
0.64	0.0000	1.68	0.0000	2.72	0.0000	3.76	0.0000
0.66	0.0000	1.70	0.0000	2.74	0.0000	3.78	0.0000
0.68	0.0000	1.72	0.0000	2.76	0.0000	3.80	0.0000
0.70	0.0000	1.74	0.0000	2.78	0.0000	3.82	0.0000
0.72	0.0000	1.76	0.0000	2.80	0.0000	3.84	0.0000
0.74	0.0000	1.78	0.0000	2.82	0.0000	3.86	0.0000
0.76	0.0000	1.80	0.0000	2.84	0.0000	3.88	0.0000
0.78	0.0000	1.82	0.0000	2.86	0.0000	3.90	0.0000
0.80	0.0000	1.84	0.0000	2.88	0.0000	3.92	0.0000
0.82	0.0000	1.86	0.0000	2.90	0.0000	3.94	0.0000
0.84	0.0000	1.88	0.0000	2.92	0.0000	3.96	0.0000
0.86	0.0000	1.90	0.0000	2.94	0.0000	3.98	0.0000
0.88	0.0000	1.92	0.0000	2.96	0.0000	4.00	0.0000
0.90	0.0000	1.94	0.0000	2.98	0.0000		
0.92	0.0000	1.96	0.0000	3.00	0.0000		
0.94	0.0000	1.98	0.0000	3.02	0.0000		
0.96	0.0000	2.00	0.0000	3.04	0.0000		
0.98	0.0000	2.02	0.0000	3.06	0.0000		
1.00	0.0000	2.04	0.0000	3.08	0.0000		
1.02	0.0000	2.06	0.0000	3.10	0.0000		

Summary for Link 10L: Musselman Lake

Inflow Area = 1.9100 ha, 0.00% Impervious, Inflow Depth = 7 mm for 100-Year event
Inflow = 0.1428 m³/s @ 0.27 hrs, Volume= 0.139 MI
Primary = 0.1428 m³/s @ 0.27 hrs, Volume= 0.139 MI, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs

Link 10L: Musselman Lake**Hydrograph**

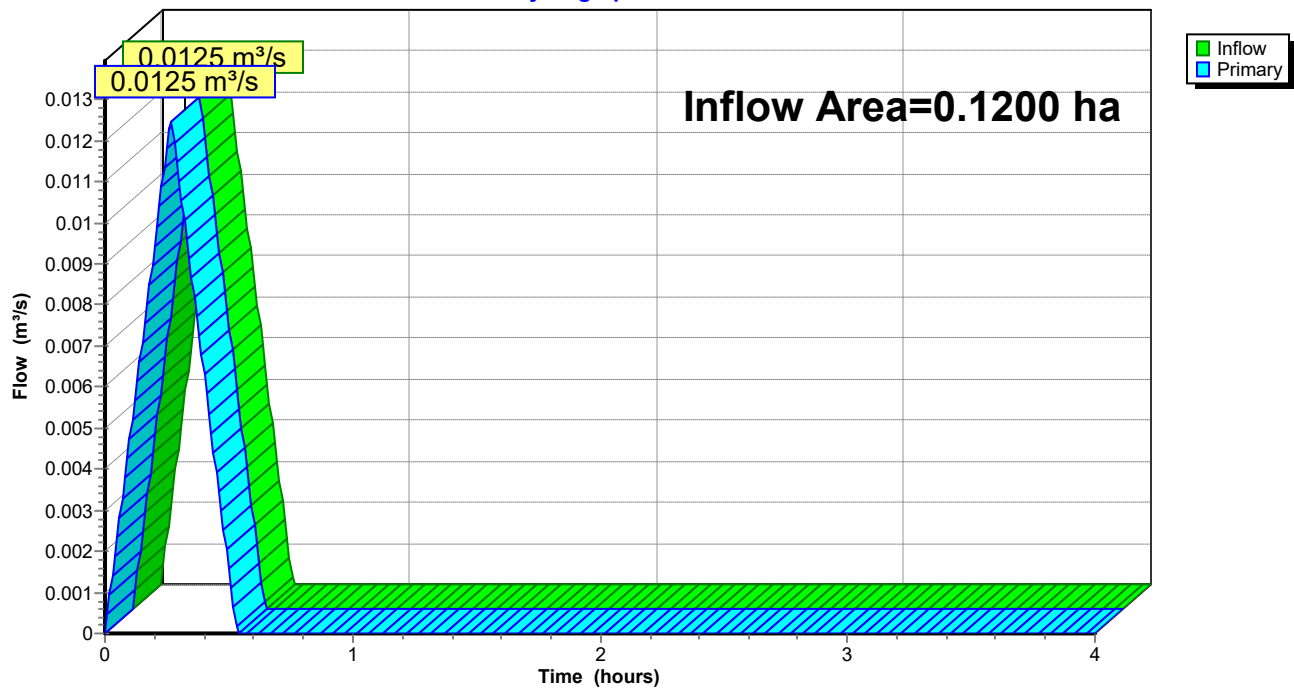
Hydrograph for Link 10L: Musselman Lake

Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)	Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)
0.00	0.0000	0.000	0.0000	2.60	0.0000	0.000	0.0000
0.05	0.0271	0.000	0.0271	2.65	0.0000	0.000	0.0000
0.10	0.0541	0.000	0.0541	2.70	0.0000	0.000	0.0000
0.15	0.0812	0.000	0.0812	2.75	0.0000	0.000	0.0000
0.20	0.1083	0.000	0.1083	2.80	0.0000	0.000	0.0000
0.25	0.1354	0.000	0.1354	2.85	0.0000	0.000	0.0000
0.30	0.1263	0.000	0.1263	2.90	0.0000	0.000	0.0000
0.35	0.0993	0.000	0.0993	2.95	0.0000	0.000	0.0000
0.40	0.0722	0.000	0.0722	3.00	0.0000	0.000	0.0000
0.45	0.0451	0.000	0.0451	3.05	0.0000	0.000	0.0000
0.50	0.0180	0.000	0.0180	3.10	0.0000	0.000	0.0000
0.55	0.0000	0.000	0.0000	3.15	0.0000	0.000	0.0000
0.60	0.0000	0.000	0.0000	3.20	0.0000	0.000	0.0000
0.65	0.0000	0.000	0.0000	3.25	0.0000	0.000	0.0000
0.70	0.0000	0.000	0.0000	3.30	0.0000	0.000	0.0000
0.75	0.0000	0.000	0.0000	3.35	0.0000	0.000	0.0000
0.80	0.0000	0.000	0.0000	3.40	0.0000	0.000	0.0000
0.85	0.0000	0.000	0.0000	3.45	0.0000	0.000	0.0000
0.90	0.0000	0.000	0.0000	3.50	0.0000	0.000	0.0000
0.95	0.0000	0.000	0.0000	3.55	0.0000	0.000	0.0000
1.00	0.0000	0.000	0.0000	3.60	0.0000	0.000	0.0000
1.05	0.0000	0.000	0.0000	3.65	0.0000	0.000	0.0000
1.10	0.0000	0.000	0.0000	3.70	0.0000	0.000	0.0000
1.15	0.0000	0.000	0.0000	3.75	0.0000	0.000	0.0000
1.20	0.0000	0.000	0.0000	3.80	0.0000	0.000	0.0000
1.25	0.0000	0.000	0.0000	3.85	0.0000	0.000	0.0000
1.30	0.0000	0.000	0.0000	3.90	0.0000	0.000	0.0000
1.35	0.0000	0.000	0.0000	3.95	0.0000	0.000	0.0000
1.40	0.0000	0.000	0.0000	4.00	0.0000	0.000	0.0000
1.45	0.0000	0.000	0.0000				
1.50	0.0000	0.000	0.0000				
1.55	0.0000	0.000	0.0000				
1.60	0.0000	0.000	0.0000				
1.65	0.0000	0.000	0.0000				
1.70	0.0000	0.000	0.0000				
1.75	0.0000	0.000	0.0000				
1.80	0.0000	0.000	0.0000				
1.85	0.0000	0.000	0.0000				
1.90	0.0000	0.000	0.0000				
1.95	0.0000	0.000	0.0000				
2.00	0.0000	0.000	0.0000				
2.05	0.0000	0.000	0.0000				
2.10	0.0000	0.000	0.0000				
2.15	0.0000	0.000	0.0000				
2.20	0.0000	0.000	0.0000				
2.25	0.0000	0.000	0.0000				
2.30	0.0000	0.000	0.0000				
2.35	0.0000	0.000	0.0000				
2.40	0.0000	0.000	0.0000				
2.45	0.0000	0.000	0.0000				
2.50	0.0000	0.000	0.0000				
2.55	0.0000	0.000	0.0000				

Summary for Link 13L: Outlet

Inflow Area = 0.1200 ha, 0.00% Impervious, Inflow Depth = 10 mm for 100-Year event
Inflow = 0.0125 m³/s @ 0.27 hrs, Volume= 0.012 MI
Primary = 0.0125 m³/s @ 0.27 hrs, Volume= 0.012 MI, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs

Link 13L: Outlet**Hydrograph**

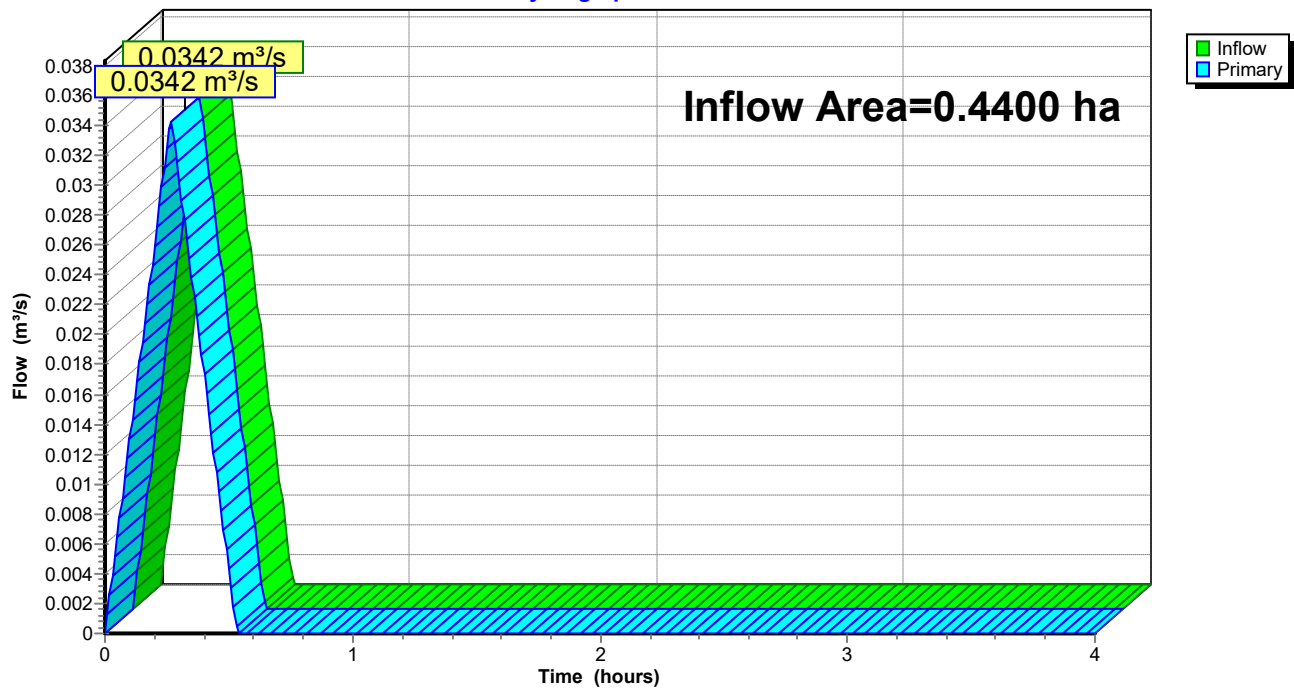
Hydrograph for Link 13L: Outlet

Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)	Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)
0.00	0.0000	0.000	0.0000	2.60	0.0000	0.000	0.0000
0.05	0.0024	0.000	0.0024	2.65	0.0000	0.000	0.0000
0.10	0.0047	0.000	0.0047	2.70	0.0000	0.000	0.0000
0.15	0.0071	0.000	0.0071	2.75	0.0000	0.000	0.0000
0.20	0.0094	0.000	0.0094	2.80	0.0000	0.000	0.0000
0.25	0.0118	0.000	0.0118	2.85	0.0000	0.000	0.0000
0.30	0.0110	0.000	0.0110	2.90	0.0000	0.000	0.0000
0.35	0.0087	0.000	0.0087	2.95	0.0000	0.000	0.0000
0.40	0.0063	0.000	0.0063	3.00	0.0000	0.000	0.0000
0.45	0.0039	0.000	0.0039	3.05	0.0000	0.000	0.0000
0.50	0.0016	0.000	0.0016	3.10	0.0000	0.000	0.0000
0.55	0.0000	0.000	0.0000	3.15	0.0000	0.000	0.0000
0.60	0.0000	0.000	0.0000	3.20	0.0000	0.000	0.0000
0.65	0.0000	0.000	0.0000	3.25	0.0000	0.000	0.0000
0.70	0.0000	0.000	0.0000	3.30	0.0000	0.000	0.0000
0.75	0.0000	0.000	0.0000	3.35	0.0000	0.000	0.0000
0.80	0.0000	0.000	0.0000	3.40	0.0000	0.000	0.0000
0.85	0.0000	0.000	0.0000	3.45	0.0000	0.000	0.0000
0.90	0.0000	0.000	0.0000	3.50	0.0000	0.000	0.0000
0.95	0.0000	0.000	0.0000	3.55	0.0000	0.000	0.0000
1.00	0.0000	0.000	0.0000	3.60	0.0000	0.000	0.0000
1.05	0.0000	0.000	0.0000	3.65	0.0000	0.000	0.0000
1.10	0.0000	0.000	0.0000	3.70	0.0000	0.000	0.0000
1.15	0.0000	0.000	0.0000	3.75	0.0000	0.000	0.0000
1.20	0.0000	0.000	0.0000	3.80	0.0000	0.000	0.0000
1.25	0.0000	0.000	0.0000	3.85	0.0000	0.000	0.0000
1.30	0.0000	0.000	0.0000	3.90	0.0000	0.000	0.0000
1.35	0.0000	0.000	0.0000	3.95	0.0000	0.000	0.0000
1.40	0.0000	0.000	0.0000	4.00	0.0000	0.000	0.0000
1.45	0.0000	0.000	0.0000				
1.50	0.0000	0.000	0.0000				
1.55	0.0000	0.000	0.0000				
1.60	0.0000	0.000	0.0000				
1.65	0.0000	0.000	0.0000				
1.70	0.0000	0.000	0.0000				
1.75	0.0000	0.000	0.0000				
1.80	0.0000	0.000	0.0000				
1.85	0.0000	0.000	0.0000				
1.90	0.0000	0.000	0.0000				
1.95	0.0000	0.000	0.0000				
2.00	0.0000	0.000	0.0000				
2.05	0.0000	0.000	0.0000				
2.10	0.0000	0.000	0.0000				
2.15	0.0000	0.000	0.0000				
2.20	0.0000	0.000	0.0000				
2.25	0.0000	0.000	0.0000				
2.30	0.0000	0.000	0.0000				
2.35	0.0000	0.000	0.0000				
2.40	0.0000	0.000	0.0000				
2.45	0.0000	0.000	0.0000				
2.50	0.0000	0.000	0.0000				
2.55	0.0000	0.000	0.0000				

Summary for Link 14L: Wetland

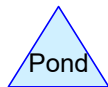
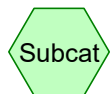
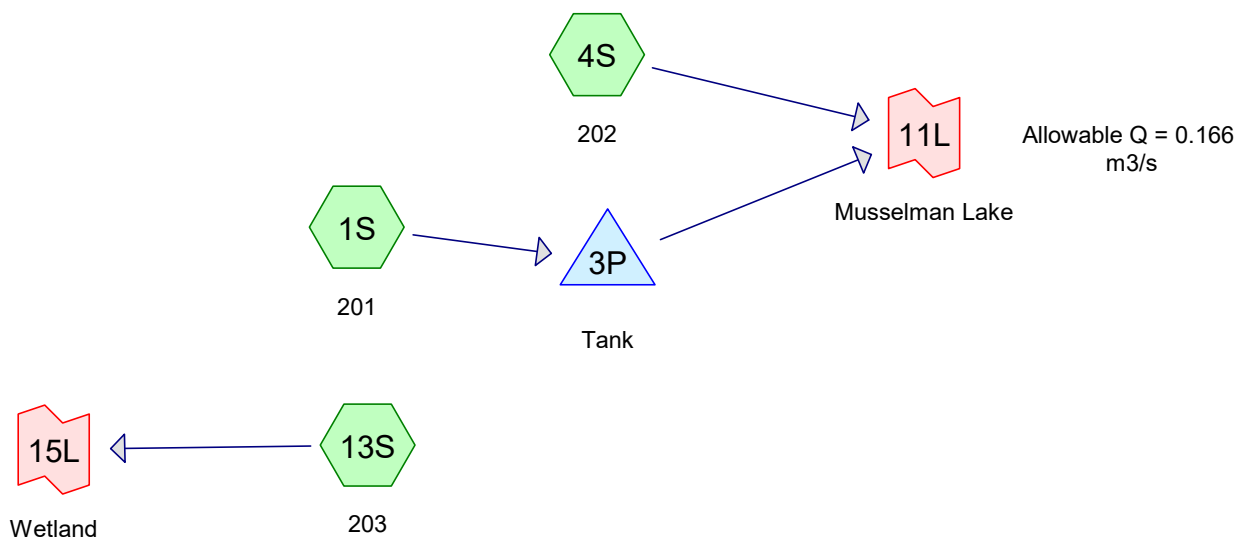
Inflow Area = 0.4400 ha, 0.00% Impervious, Inflow Depth = 8 mm for 100-Year event
Inflow = 0.0342 m³/s @ 0.27 hrs, Volume= 0.033 MI
Primary = 0.0342 m³/s @ 0.27 hrs, Volume= 0.033 MI, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs

Link 14L: Wetland**Hydrograph**

Hydrograph for Link 14L: Wetland

Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)	Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)
0.00	0.0000	0.000	0.0000	2.60	0.0000	0.000	0.0000
0.05	0.0065	0.000	0.0065	2.65	0.0000	0.000	0.0000
0.10	0.0130	0.000	0.0130	2.70	0.0000	0.000	0.0000
0.15	0.0195	0.000	0.0195	2.75	0.0000	0.000	0.0000
0.20	0.0260	0.000	0.0260	2.80	0.0000	0.000	0.0000
0.25	0.0324	0.000	0.0324	2.85	0.0000	0.000	0.0000
0.30	0.0303	0.000	0.0303	2.90	0.0000	0.000	0.0000
0.35	0.0238	0.000	0.0238	2.95	0.0000	0.000	0.0000
0.40	0.0173	0.000	0.0173	3.00	0.0000	0.000	0.0000
0.45	0.0108	0.000	0.0108	3.05	0.0000	0.000	0.0000
0.50	0.0043	0.000	0.0043	3.10	0.0000	0.000	0.0000
0.55	0.0000	0.000	0.0000	3.15	0.0000	0.000	0.0000
0.60	0.0000	0.000	0.0000	3.20	0.0000	0.000	0.0000
0.65	0.0000	0.000	0.0000	3.25	0.0000	0.000	0.0000
0.70	0.0000	0.000	0.0000	3.30	0.0000	0.000	0.0000
0.75	0.0000	0.000	0.0000	3.35	0.0000	0.000	0.0000
0.80	0.0000	0.000	0.0000	3.40	0.0000	0.000	0.0000
0.85	0.0000	0.000	0.0000	3.45	0.0000	0.000	0.0000
0.90	0.0000	0.000	0.0000	3.50	0.0000	0.000	0.0000
0.95	0.0000	0.000	0.0000	3.55	0.0000	0.000	0.0000
1.00	0.0000	0.000	0.0000	3.60	0.0000	0.000	0.0000
1.05	0.0000	0.000	0.0000	3.65	0.0000	0.000	0.0000
1.10	0.0000	0.000	0.0000	3.70	0.0000	0.000	0.0000
1.15	0.0000	0.000	0.0000	3.75	0.0000	0.000	0.0000
1.20	0.0000	0.000	0.0000	3.80	0.0000	0.000	0.0000
1.25	0.0000	0.000	0.0000	3.85	0.0000	0.000	0.0000
1.30	0.0000	0.000	0.0000	3.90	0.0000	0.000	0.0000
1.35	0.0000	0.000	0.0000	3.95	0.0000	0.000	0.0000
1.40	0.0000	0.000	0.0000	4.00	0.0000	0.000	0.0000
1.45	0.0000	0.000	0.0000				
1.50	0.0000	0.000	0.0000				
1.55	0.0000	0.000	0.0000				
1.60	0.0000	0.000	0.0000				
1.65	0.0000	0.000	0.0000				
1.70	0.0000	0.000	0.0000				
1.75	0.0000	0.000	0.0000				
1.80	0.0000	0.000	0.0000				
1.85	0.0000	0.000	0.0000				
1.90	0.0000	0.000	0.0000				
1.95	0.0000	0.000	0.0000				
2.00	0.0000	0.000	0.0000				
2.05	0.0000	0.000	0.0000				
2.10	0.0000	0.000	0.0000				
2.15	0.0000	0.000	0.0000				
2.20	0.0000	0.000	0.0000				
2.25	0.0000	0.000	0.0000				
2.30	0.0000	0.000	0.0000				
2.35	0.0000	0.000	0.0000				
2.40	0.0000	0.000	0.0000				
2.45	0.0000	0.000	0.0000				
2.50	0.0000	0.000	0.0000				
2.55	0.0000	0.000	0.0000				



Routing Diagram for 23-0462 2 Wylie Lane- Post
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23-0462 2 Wylie Lane- Post

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Page 2

Area Listing (all nodes)

Area (hectares)	C	Description (subcatchment-numbers)
2.1000	0.61	(1S)
0.1400	0.28	(4S)
2.2400	0.59	TOTAL AREA

23-0462 2 Wylie Lane- Post

Canada-WS 100-Year Duration=30 min, Inten=93.6 mm/hr

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Page 3

Time span=0.00-6.00 hrs, dt=0.01 hrs, 601 points

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 201Runoff Area=2.1000 ha 0.00% Impervious Runoff Depth=29 mm
Tc=10.0 min C=0.61 Runoff=0.3331 m³/s 0.600 MI**Subcatchment 4S: 202**Runoff Area=0.1400 ha 0.00% Impervious Runoff Depth=13 mm
Tc=14.3 min C=0.28 Runoff=0.0102 m³/s 0.018 MI**Subcatchment 13S: 203**

Runoff=0.0000 m³/s 0.000 MI

Pond 3P: TankPeak Elev=1.208 m Storage=0.394 MI Inflow=0.3331 m³/s 0.600 MI
Outflow=0.1358 m³/s 0.600 MI**Link 11L: Musselman Lake**Inflow=0.1425 m³/s 0.618 MI
Primary=0.1425 m³/s 0.618 MI**Link 15L: Wetland**Inflow=0.0000 m³/s 0.000 MI
Primary=0.0000 m³/s 0.000 MI**Total Runoff Area = 2.2400 ha Runoff Volume = 0.618 MI Average Runoff Depth = 28 mm**
100.00% Pervious = 2.2400 ha 0.00% Impervious = 0.0000 ha

Summary for Subcatchment 1S: 201

Runoff = 0.3331 m³/s @ 0.17 hrs, Volume= 0.600 MI, Depth= 29 mm
 Routed to Pond 3P : Tank

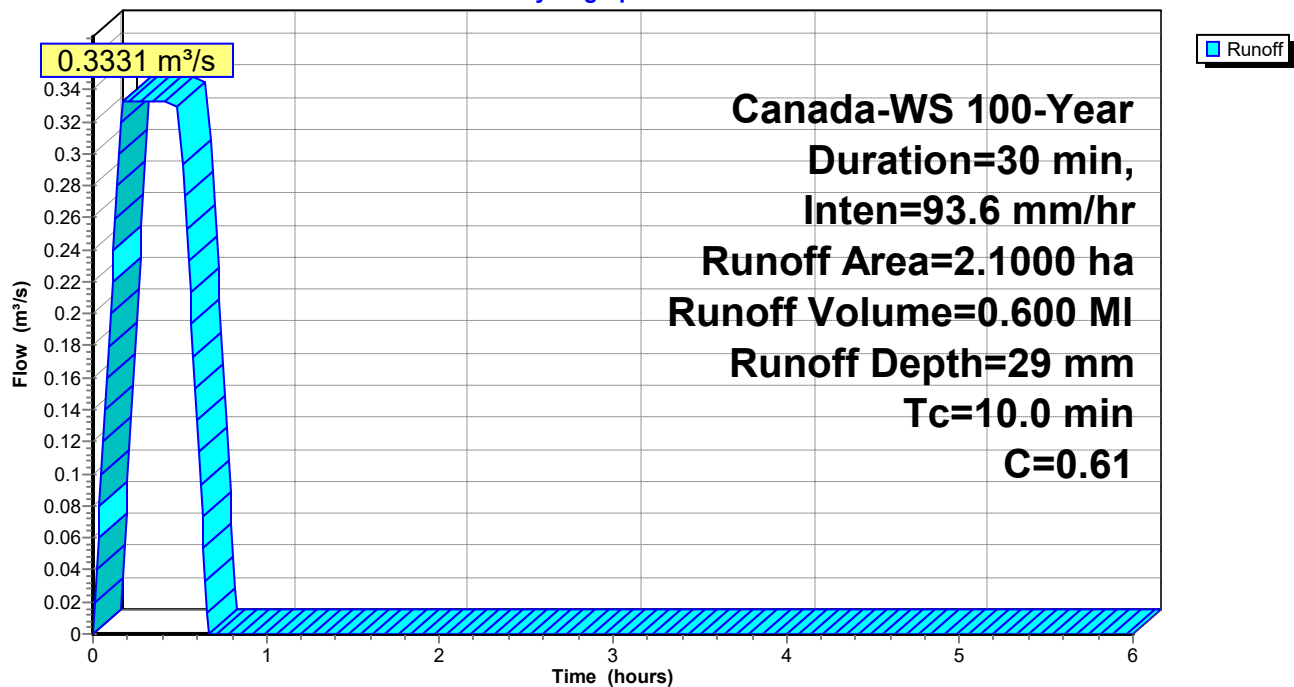
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
 Canada-WS 100-Year Duration=30 min, Inten=93.6 mm/hr

Area (ha)	C	Description
2.1000	0.61	
2.1000		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
10.0					Direct Entry, Bransby williams

Subcatchment 1S: 201

Hydrograph



Hydrograph for Subcatchment 1S: 201

Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)
0.00	0.0000	2.60	0.0000	5.20	0.0000
0.05	0.0999	2.65	0.0000	5.25	0.0000
0.10	0.1999	2.70	0.0000	5.30	0.0000
0.15	0.2998	2.75	0.0000	5.35	0.0000
0.20	0.3331	2.80	0.0000	5.40	0.0000
0.25	0.3331	2.85	0.0000	5.45	0.0000
0.30	0.3331	2.90	0.0000	5.50	0.0000
0.35	0.3331	2.95	0.0000	5.55	0.0000
0.40	0.3331	3.00	0.0000	5.60	0.0000
0.45	0.3331	3.05	0.0000	5.65	0.0000
0.50	0.3331	3.10	0.0000	5.70	0.0000
0.55	0.2332	3.15	0.0000	5.75	0.0000
0.60	0.1332	3.20	0.0000	5.80	0.0000
0.65	0.0333	3.25	0.0000	5.85	0.0000
0.70	0.0000	3.30	0.0000	5.90	0.0000
0.75	0.0000	3.35	0.0000	5.95	0.0000
0.80	0.0000	3.40	0.0000	6.00	0.0000
0.85	0.0000	3.45	0.0000		
0.90	0.0000	3.50	0.0000		
0.95	0.0000	3.55	0.0000		
1.00	0.0000	3.60	0.0000		
1.05	0.0000	3.65	0.0000		
1.10	0.0000	3.70	0.0000		
1.15	0.0000	3.75	0.0000		
1.20	0.0000	3.80	0.0000		
1.25	0.0000	3.85	0.0000		
1.30	0.0000	3.90	0.0000		
1.35	0.0000	3.95	0.0000		
1.40	0.0000	4.00	0.0000		
1.45	0.0000	4.05	0.0000		
1.50	0.0000	4.10	0.0000		
1.55	0.0000	4.15	0.0000		
1.60	0.0000	4.20	0.0000		
1.65	0.0000	4.25	0.0000		
1.70	0.0000	4.30	0.0000		
1.75	0.0000	4.35	0.0000		
1.80	0.0000	4.40	0.0000		
1.85	0.0000	4.45	0.0000		
1.90	0.0000	4.50	0.0000		
1.95	0.0000	4.55	0.0000		
2.00	0.0000	4.60	0.0000		
2.05	0.0000	4.65	0.0000		
2.10	0.0000	4.70	0.0000		
2.15	0.0000	4.75	0.0000		
2.20	0.0000	4.80	0.0000		
2.25	0.0000	4.85	0.0000		
2.30	0.0000	4.90	0.0000		
2.35	0.0000	4.95	0.0000		
2.40	0.0000	5.00	0.0000		
2.45	0.0000	5.05	0.0000		
2.50	0.0000	5.10	0.0000		
2.55	0.0000	5.15	0.0000		

Summary for Subcatchment 4S: 202

Runoff = 0.0102 m³/s @ 0.24 hrs, Volume= 0.018 MI, Depth= 13 mm
Routed to Link 11L : Musselman Lake

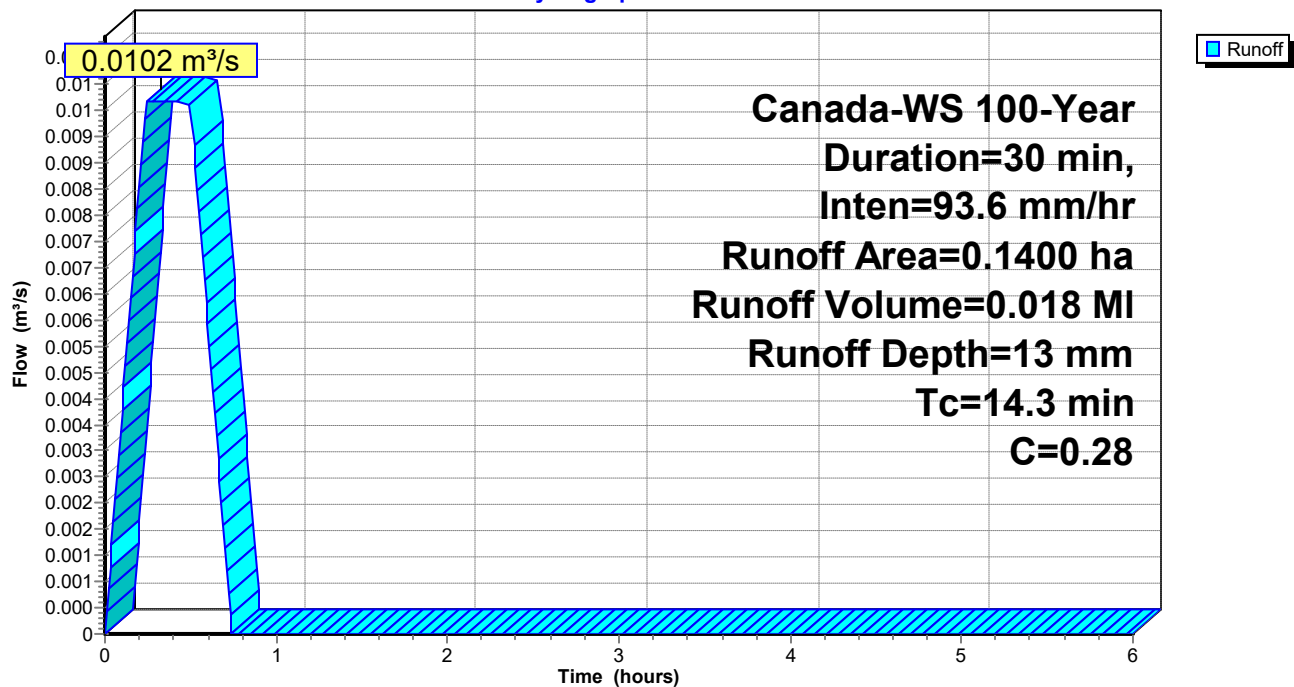
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
Canada-WS 100-Year Duration=30 min, Inten=93.6 mm/hr

Area (ha)	C	Description
0.1400	0.28	
0.1400		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
14.3					Direct Entry, Airport method

Subcatchment 4S: 202

Hydrograph



Hydrograph for Subcatchment 4S: 202

Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)
0.00	0.0000	2.60	0.0000	5.20	0.0000
0.05	0.0021	2.65	0.0000	5.25	0.0000
0.10	0.0043	2.70	0.0000	5.30	0.0000
0.15	0.0064	2.75	0.0000	5.35	0.0000
0.20	0.0086	2.80	0.0000	5.40	0.0000
0.25	0.0102	2.85	0.0000	5.45	0.0000
0.30	0.0102	2.90	0.0000	5.50	0.0000
0.35	0.0102	2.95	0.0000	5.55	0.0000
0.40	0.0102	3.00	0.0000	5.60	0.0000
0.45	0.0102	3.05	0.0000	5.65	0.0000
0.50	0.0102	3.10	0.0000	5.70	0.0000
0.55	0.0081	3.15	0.0000	5.75	0.0000
0.60	0.0059	3.20	0.0000	5.80	0.0000
0.65	0.0038	3.25	0.0000	5.85	0.0000
0.70	0.0016	3.30	0.0000	5.90	0.0000
0.75	0.0000	3.35	0.0000	5.95	0.0000
0.80	0.0000	3.40	0.0000	6.00	0.0000
0.85	0.0000	3.45	0.0000		
0.90	0.0000	3.50	0.0000		
0.95	0.0000	3.55	0.0000		
1.00	0.0000	3.60	0.0000		
1.05	0.0000	3.65	0.0000		
1.10	0.0000	3.70	0.0000		
1.15	0.0000	3.75	0.0000		
1.20	0.0000	3.80	0.0000		
1.25	0.0000	3.85	0.0000		
1.30	0.0000	3.90	0.0000		
1.35	0.0000	3.95	0.0000		
1.40	0.0000	4.00	0.0000		
1.45	0.0000	4.05	0.0000		
1.50	0.0000	4.10	0.0000		
1.55	0.0000	4.15	0.0000		
1.60	0.0000	4.20	0.0000		
1.65	0.0000	4.25	0.0000		
1.70	0.0000	4.30	0.0000		
1.75	0.0000	4.35	0.0000		
1.80	0.0000	4.40	0.0000		
1.85	0.0000	4.45	0.0000		
1.90	0.0000	4.50	0.0000		
1.95	0.0000	4.55	0.0000		
2.00	0.0000	4.60	0.0000		
2.05	0.0000	4.65	0.0000		
2.10	0.0000	4.70	0.0000		
2.15	0.0000	4.75	0.0000		
2.20	0.0000	4.80	0.0000		
2.25	0.0000	4.85	0.0000		
2.30	0.0000	4.90	0.0000		
2.35	0.0000	4.95	0.0000		
2.40	0.0000	5.00	0.0000		
2.45	0.0000	5.05	0.0000		
2.50	0.0000	5.10	0.0000		
2.55	0.0000	5.15	0.0000		

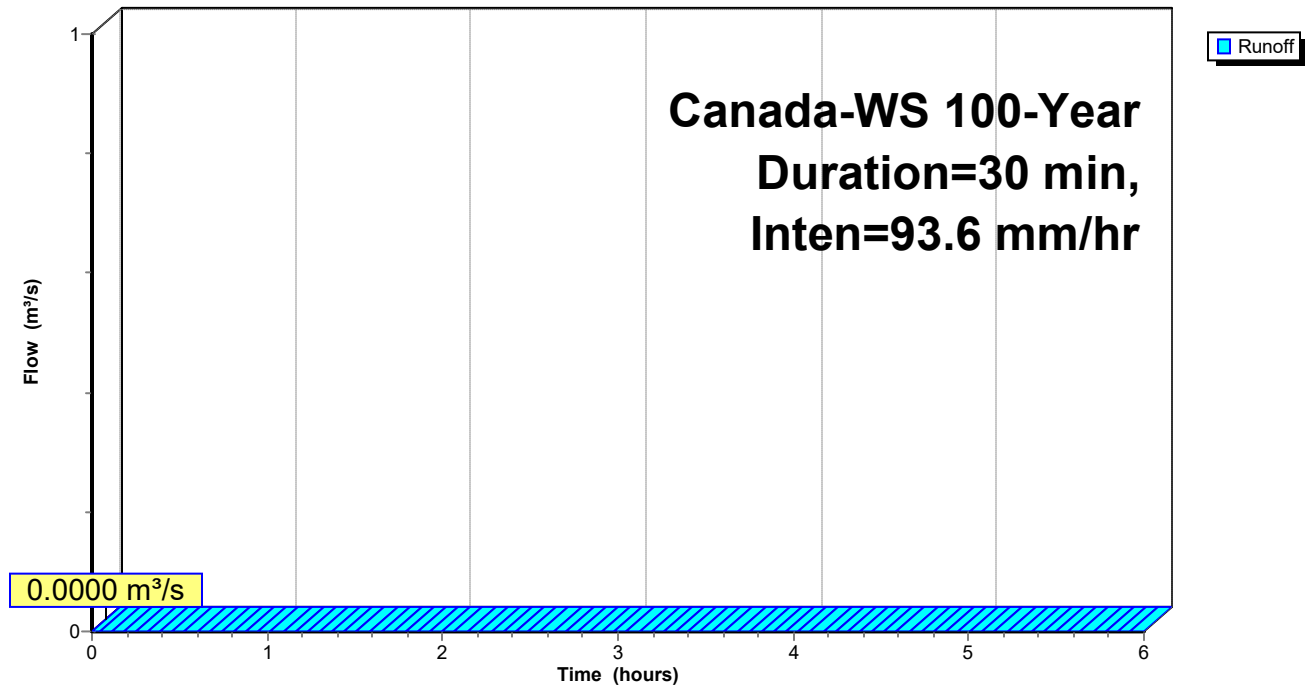
Summary for Subcatchment 13S: 203

Runoff = 0.0000 m³/s @ 0.00 hrs, Volume= 0.000 MI, Depth= 0 mm
Routed to Link 15L : Wetland

Runoff by Rational method, Rise/Fall=1.0/1.0 xT_c, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
Canada-WS 100-Year Duration=30 min, Inten=93.6 mm/hr

Subcatchment 13S: 203

Hydrograph



Hydrograph for Subcatchment 13S: 203

Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)	Time (hours)	Runoff (m³/s)
0.00	0.0000	2.60	0.0000	5.20	0.0000
0.05	0.0000	2.65	0.0000	5.25	0.0000
0.10	0.0000	2.70	0.0000	5.30	0.0000
0.15	0.0000	2.75	0.0000	5.35	0.0000
0.20	0.0000	2.80	0.0000	5.40	0.0000
0.25	0.0000	2.85	0.0000	5.45	0.0000
0.30	0.0000	2.90	0.0000	5.50	0.0000
0.35	0.0000	2.95	0.0000	5.55	0.0000
0.40	0.0000	3.00	0.0000	5.60	0.0000
0.45	0.0000	3.05	0.0000	5.65	0.0000
0.50	0.0000	3.10	0.0000	5.70	0.0000
0.55	0.0000	3.15	0.0000	5.75	0.0000
0.60	0.0000	3.20	0.0000	5.80	0.0000
0.65	0.0000	3.25	0.0000	5.85	0.0000
0.70	0.0000	3.30	0.0000	5.90	0.0000
0.75	0.0000	3.35	0.0000	5.95	0.0000
0.80	0.0000	3.40	0.0000	6.00	0.0000
0.85	0.0000	3.45	0.0000		
0.90	0.0000	3.50	0.0000		
0.95	0.0000	3.55	0.0000		
1.00	0.0000	3.60	0.0000		
1.05	0.0000	3.65	0.0000		
1.10	0.0000	3.70	0.0000		
1.15	0.0000	3.75	0.0000		
1.20	0.0000	3.80	0.0000		
1.25	0.0000	3.85	0.0000		
1.30	0.0000	3.90	0.0000		
1.35	0.0000	3.95	0.0000		
1.40	0.0000	4.00	0.0000		
1.45	0.0000	4.05	0.0000		
1.50	0.0000	4.10	0.0000		
1.55	0.0000	4.15	0.0000		
1.60	0.0000	4.20	0.0000		
1.65	0.0000	4.25	0.0000		
1.70	0.0000	4.30	0.0000		
1.75	0.0000	4.35	0.0000		
1.80	0.0000	4.40	0.0000		
1.85	0.0000	4.45	0.0000		
1.90	0.0000	4.50	0.0000		
1.95	0.0000	4.55	0.0000		
2.00	0.0000	4.60	0.0000		
2.05	0.0000	4.65	0.0000		
2.10	0.0000	4.70	0.0000		
2.15	0.0000	4.75	0.0000		
2.20	0.0000	4.80	0.0000		
2.25	0.0000	4.85	0.0000		
2.30	0.0000	4.90	0.0000		
2.35	0.0000	4.95	0.0000		
2.40	0.0000	5.00	0.0000		
2.45	0.0000	5.05	0.0000		
2.50	0.0000	5.10	0.0000		
2.55	0.0000	5.15	0.0000		

Summary for Pond 3P: Tank

Inflow Area = 2.1000 ha, 0.00% Impervious, Inflow Depth = 29 mm for 100-Year event
 Inflow = 0.3331 m³/s @ 0.17 hrs, Volume= 0.600 MI
 Outflow = 0.1358 m³/s @ 0.60 hrs, Volume= 0.600 MI, Atten= 59%, Lag= 25.7 min
 Primary = 0.1358 m³/s @ 0.60 hrs, Volume= 0.600 MI
 Routed to Link 11L : Musselman Lake

Routing by Stor-Ind method, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
 Peak Elev= 1.208 m @ 0.60 hrs Surf.Area= 0.0374 ha Storage= 0.394 MI

Plug-Flow detention time= 33.9 min calculated for 0.599 MI (100% of inflow)
 Center-of-Mass det. time= 34.0 min (54.0 - 20.0)

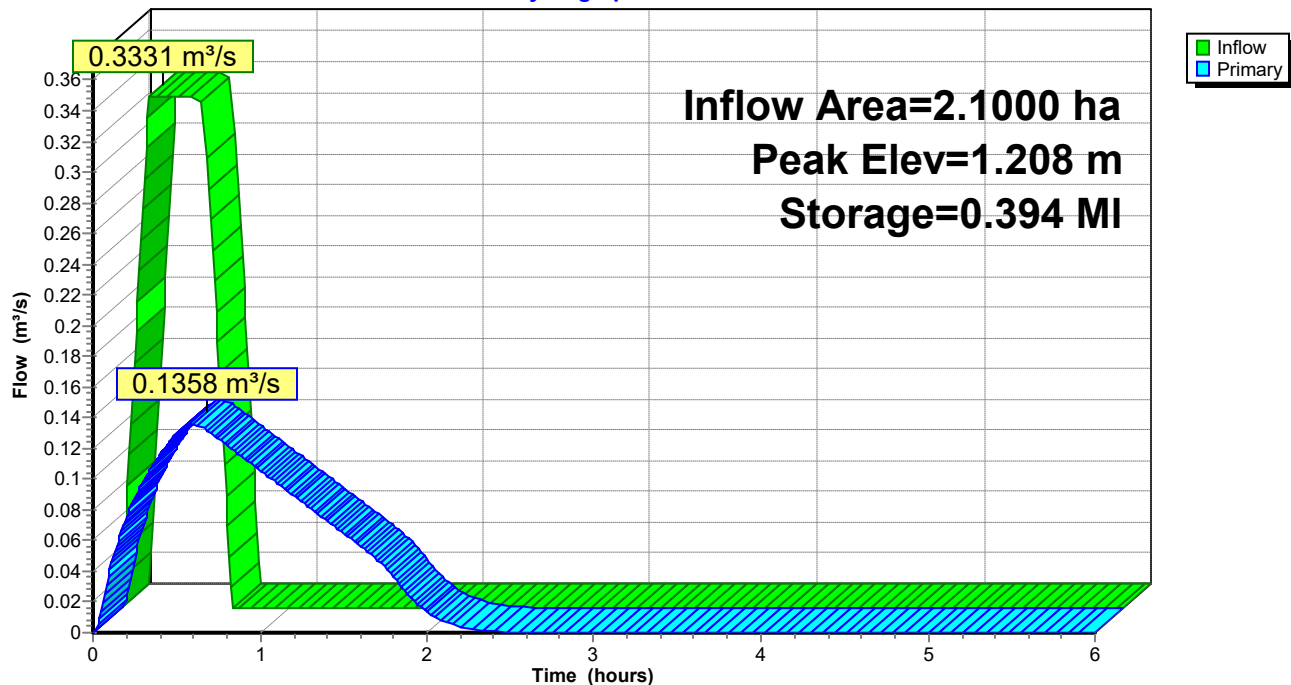
Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	0.449 MI	2,400 mm W x 1,200 mm H Box Pipe Storage L= 156.00 m S= 0.0020 m/m

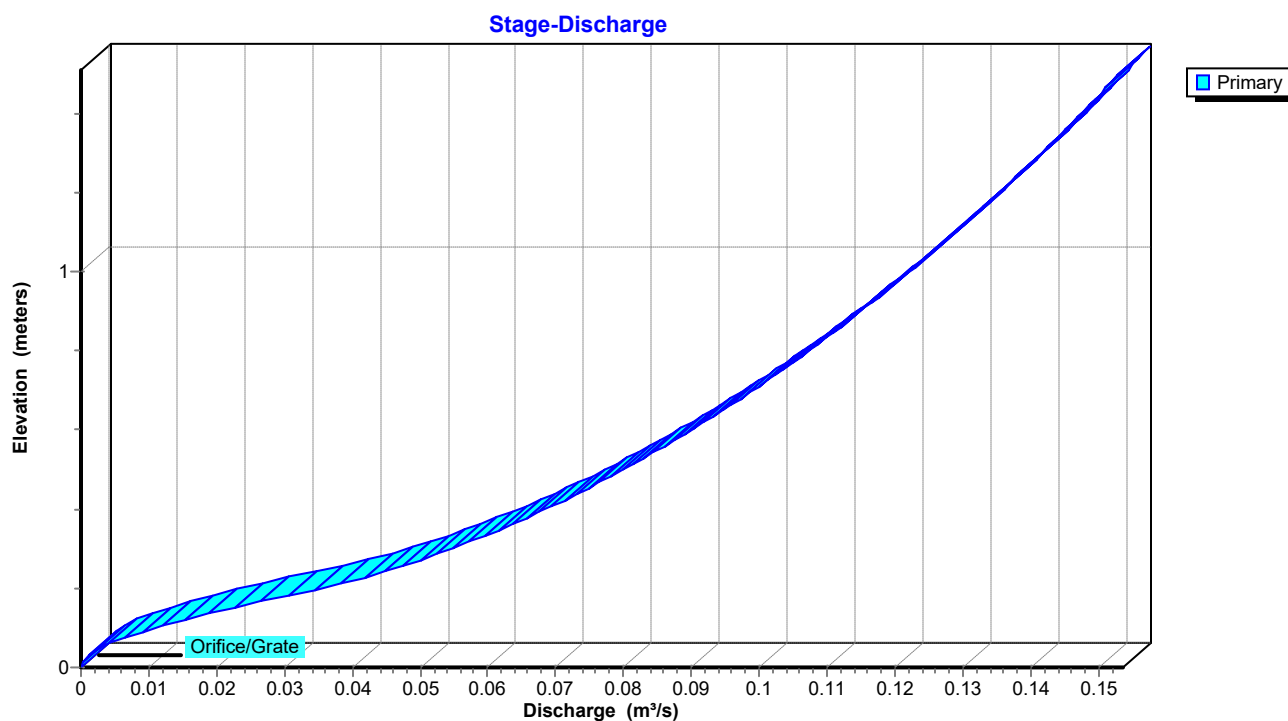
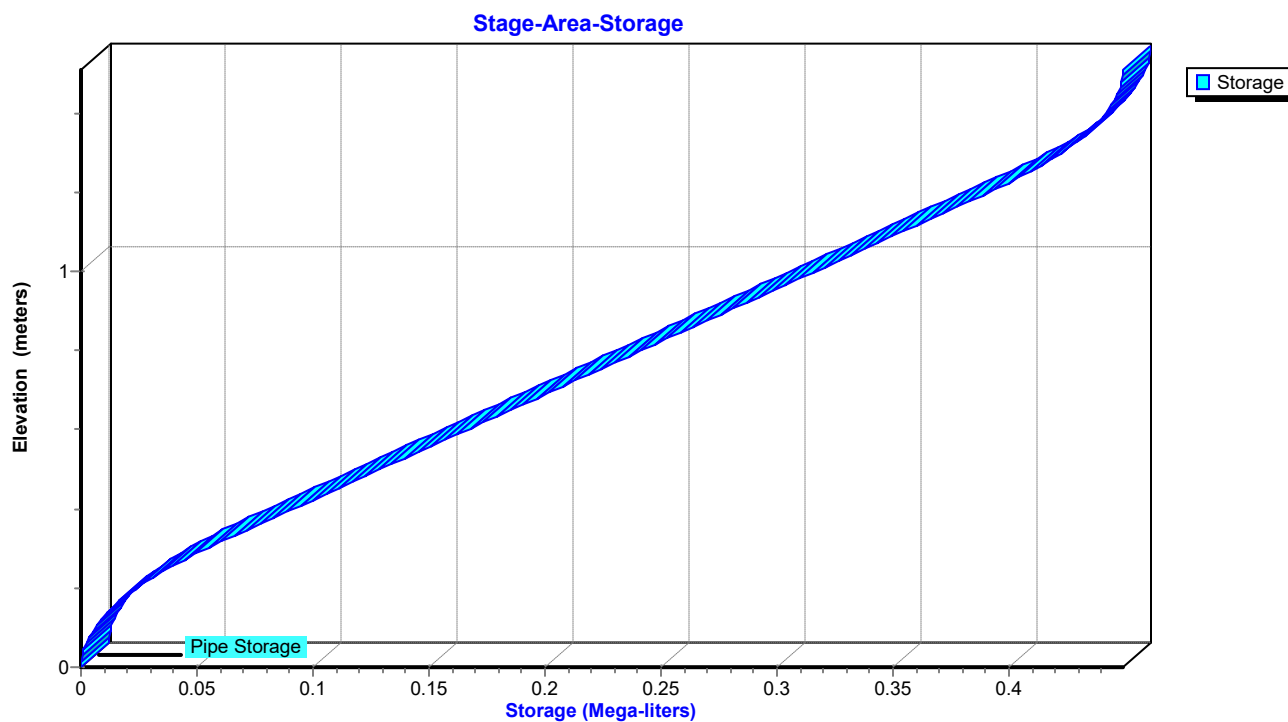
Device	Routing	Invert	Outlet Devices
#1	Primary	0.000 m	250 mm Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.1358 m³/s @ 0.60 hrs HW=1.208 m (Free Discharge)
 ←1=Orifice/Grate (Orifice Controls 0.1358 m³/s @ 2.77 m/s)

Pond 3P: Tank

Hydrograph



Pond 3P: Tank**Pond 3P: Tank**

Hydrograph for Pond 3P: Tank

Time (hours)	Inflow (m ³ /s)	Storage (Mega-liters)	Elevation (meters)	Primary (m ³ /s)
0.00	0.0000	0.000	0.000	0.0000
0.20	0.3331	0.113	0.457	0.0751
0.40	0.3331	0.282	0.910	0.1156
0.60	0.1332	0.394	1.208	0.1358
0.80	0.0000	0.316	1.001	0.1221
1.00	0.0000	0.234	0.782	0.1057
1.20	0.0000	0.164	0.594	0.0894
1.40	0.0000	0.106	0.438	0.0730
1.60	0.0000	0.059	0.313	0.0566
1.80	0.0000	0.025	0.203	0.0362
2.00	0.0000	0.008	0.113	0.0136
2.20	0.0000	0.002	0.057	0.0039
2.40	0.0000	0.000	0.028	0.0010
2.60	0.0000	0.000	0.012	0.0002
2.80	0.0000	0.000	0.003	0.0001
3.00	0.0000	0.000	0.001	0.0000
3.20	0.0000	0.000	0.000	0.0000
3.40	0.0000	0.000	0.000	0.0000
3.60	0.0000	0.000	0.000	0.0000
3.80	0.0000	0.000	0.000	0.0000
4.00	0.0000	0.000	0.000	0.0000
4.20	0.0000	0.000	0.000	0.0000
4.40	0.0000	0.000	0.000	0.0000
4.60	0.0000	0.000	0.000	0.0000
4.80	0.0000	0.000	0.000	0.0000
5.00	0.0000	0.000	0.000	0.0000
5.20	0.0000	0.000	0.000	0.0000
5.40	0.0000	0.000	0.000	0.0000
5.60	0.0000	0.000	0.000	0.0000
5.80	0.0000	0.000	0.000	0.0000
6.00	0.0000	0.000	0.000	0.0000

Stage-Discharge for Pond 3P: Tank

Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)	Elevation (meters)	Primary (m³/s)
0.000	0.0000	0.520	0.0820	1.040	0.1248
0.010	0.0001	0.530	0.0830	1.050	0.1255
0.020	0.0005	0.540	0.0840	1.060	0.1261
0.030	0.0011	0.550	0.0850	1.070	0.1268
0.040	0.0019	0.560	0.0860	1.080	0.1275
0.050	0.0029	0.570	0.0870	1.090	0.1282
0.060	0.0042	0.580	0.0880	1.100	0.1288
0.070	0.0056	0.590	0.0890	1.110	0.1295
0.080	0.0072	0.600	0.0899	1.120	0.1301
0.090	0.0090	0.610	0.0909	1.130	0.1308
0.100	0.0109	0.620	0.0918	1.140	0.1314
0.110	0.0130	0.630	0.0927	1.150	0.1321
0.120	0.0152	0.640	0.0936	1.160	0.1327
0.130	0.0175	0.650	0.0945	1.170	0.1334
0.140	0.0199	0.660	0.0954	1.180	0.1340
0.150	0.0224	0.670	0.0963	1.190	0.1346
0.160	0.0249	0.680	0.0972	1.200	0.1353
0.170	0.0275	0.690	0.0981	1.210	0.1359
0.180	0.0302	0.700	0.0989	1.220	0.1365
0.190	0.0328	0.710	0.0998	1.230	0.1371
0.200	0.0354	0.720	0.1006	1.240	0.1378
0.210	0.0379	0.730	0.1015	1.250	0.1384
0.220	0.0403	0.740	0.1023	1.260	0.1390
0.230	0.0426	0.750	0.1031	1.270	0.1396
0.240	0.0446	0.760	0.1040	1.280	0.1402
0.250	0.0461	0.770	0.1048	1.290	0.1408
0.260	0.0479	0.780	0.1056	1.300	0.1414
0.270	0.0497	0.790	0.1064	1.310	0.1420
0.280	0.0514	0.800	0.1072	1.320	0.1426
0.290	0.0530	0.810	0.1080	1.330	0.1432
0.300	0.0546	0.820	0.1088	1.340	0.1438
0.310	0.0561	0.830	0.1095	1.350	0.1444
0.320	0.0576	0.840	0.1103	1.360	0.1450
0.330	0.0591	0.850	0.1111	1.370	0.1456
0.340	0.0605	0.860	0.1118	1.380	0.1461
0.350	0.0619	0.870	0.1126	1.390	0.1467
0.360	0.0632	0.880	0.1134	1.400	0.1473
0.370	0.0646	0.890	0.1141	1.410	0.1479
0.380	0.0659	0.900	0.1148	1.420	0.1485
0.390	0.0672	0.910	0.1156	1.430	0.1490
0.400	0.0684	0.920	0.1163	1.440	0.1496
0.410	0.0696	0.930	0.1170	1.450	0.1502
0.420	0.0709	0.940	0.1178	1.460	0.1507
0.430	0.0720	0.950	0.1185	1.470	0.1513
0.440	0.0732	0.960	0.1192	1.480	0.1519
0.450	0.0744	0.970	0.1199	1.490	0.1524
0.460	0.0755	0.980	0.1206	1.500	0.1530
0.470	0.0766	0.990	0.1213	1.510	0.1535
0.480	0.0777	1.000	0.1220		
0.490	0.0788	1.010	0.1227		
0.500	0.0799	1.020	0.1234		
0.510	0.0809	1.030	0.1241		

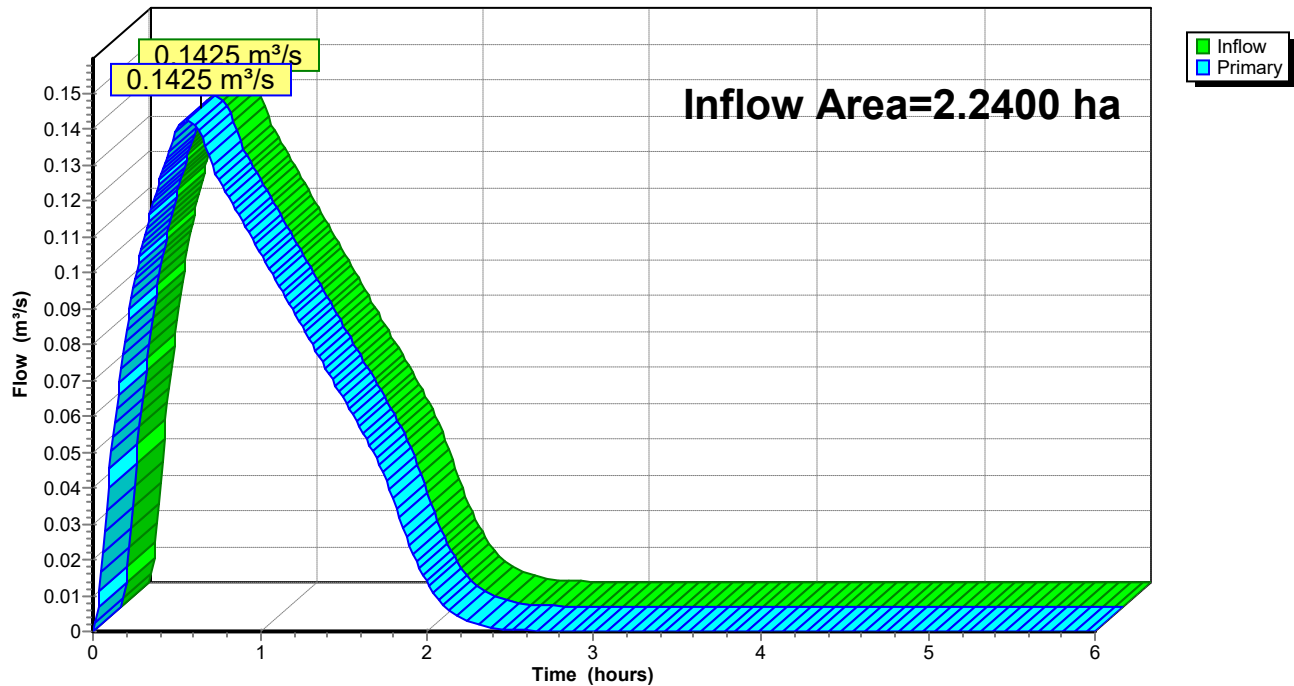
Stage-Area-Storage for Pond 3P: Tank

Elevation (meters)	Storage (Mega-liters)	Elevation (meters)	Storage (Mega-liters)	Elevation (meters)	Storage (Mega-liters)
0.000	0.000	0.520	0.136	1.040	0.331
0.010	0.000	0.530	0.140	1.050	0.335
0.020	0.000	0.540	0.144	1.060	0.338
0.030	0.001	0.550	0.148	1.070	0.342
0.040	0.001	0.560	0.151	1.080	0.346
0.050	0.002	0.570	0.155	1.090	0.350
0.060	0.002	0.580	0.159	1.100	0.353
0.070	0.003	0.590	0.162	1.110	0.357
0.080	0.004	0.600	0.166	1.120	0.361
0.090	0.005	0.610	0.170	1.130	0.365
0.100	0.006	0.620	0.174	1.140	0.368
0.110	0.007	0.630	0.177	1.150	0.372
0.120	0.009	0.640	0.181	1.160	0.376
0.130	0.010	0.650	0.185	1.170	0.380
0.140	0.012	0.660	0.189	1.180	0.383
0.150	0.013	0.670	0.192	1.190	0.387
0.160	0.015	0.680	0.196	1.200	0.391
0.170	0.017	0.690	0.200	1.210	0.395
0.180	0.019	0.700	0.204	1.220	0.398
0.190	0.022	0.710	0.207	1.230	0.402
0.200	0.024	0.720	0.211	1.240	0.405
0.210	0.026	0.730	0.215	1.250	0.408
0.220	0.029	0.740	0.219	1.260	0.411
0.230	0.032	0.750	0.222	1.270	0.414
0.240	0.035	0.760	0.226	1.280	0.417
0.250	0.038	0.770	0.230	1.290	0.420
0.260	0.041	0.780	0.234	1.300	0.422
0.270	0.044	0.790	0.237	1.310	0.425
0.280	0.047	0.800	0.241	1.320	0.427
0.290	0.050	0.810	0.245	1.330	0.429
0.300	0.054	0.820	0.249	1.340	0.432
0.310	0.058	0.830	0.252	1.350	0.434
0.320	0.061	0.840	0.256	1.360	0.435
0.330	0.065	0.850	0.260	1.370	0.437
0.340	0.069	0.860	0.264	1.380	0.439
0.350	0.073	0.870	0.267	1.390	0.440
0.360	0.076	0.880	0.271	1.400	0.442
0.370	0.080	0.890	0.275	1.410	0.443
0.380	0.084	0.900	0.279	1.420	0.444
0.390	0.088	0.910	0.282	1.430	0.445
0.400	0.091	0.920	0.286	1.440	0.446
0.410	0.095	0.930	0.290	1.450	0.447
0.420	0.099	0.940	0.294	1.460	0.448
0.430	0.103	0.950	0.297	1.470	0.448
0.440	0.106	0.960	0.301	1.480	0.449
0.450	0.110	0.970	0.305	1.490	0.449
0.460	0.114	0.980	0.309	1.500	0.449
0.470	0.118	0.990	0.312	1.510	0.449
0.480	0.121	1.000	0.316		
0.490	0.125	1.010	0.320		
0.500	0.129	1.020	0.323		
0.510	0.133	1.030	0.327		

Summary for Link 11L: Musselman Lake

Inflow Area = 2.2400 ha, 0.00% Impervious, Inflow Depth = 28 mm for 100-Year event
Inflow = 0.1425 m³/s @ 0.56 hrs, Volume= 0.618 MI
Primary = 0.1425 m³/s @ 0.56 hrs, Volume= 0.618 MI, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs

Link 11L: Musselman Lake**Hydrograph**

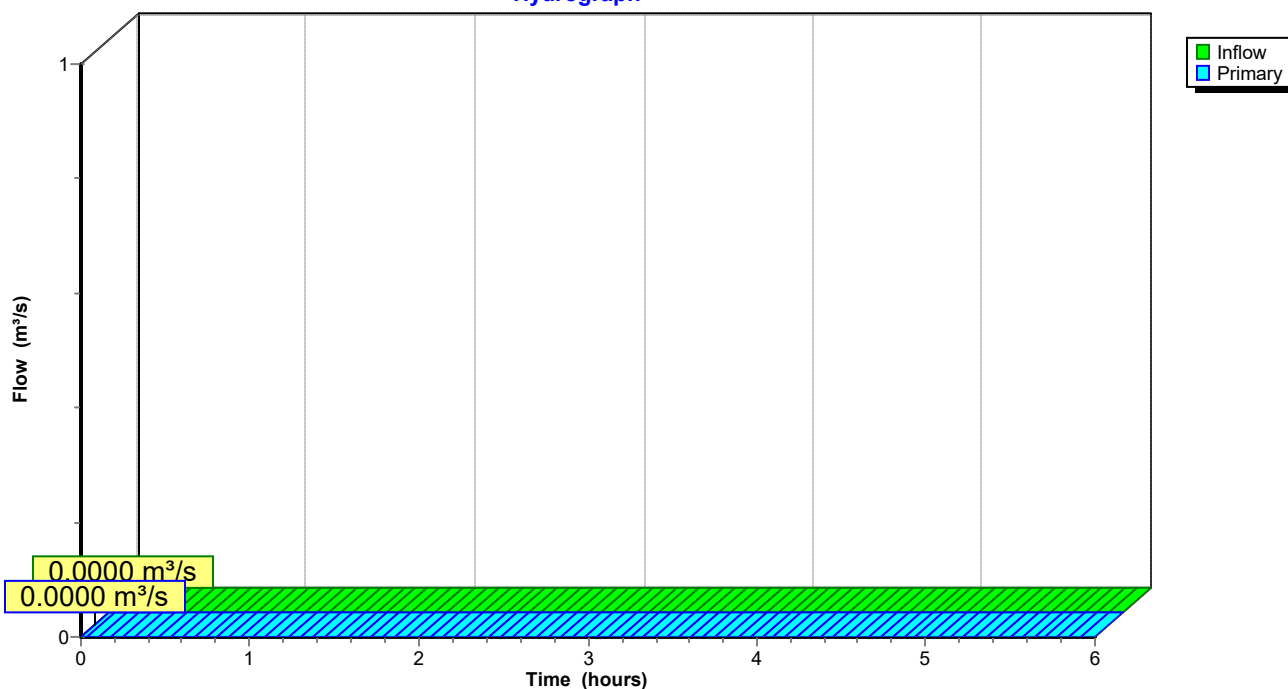
Hydrograph for Link 11L: Musselman Lake

Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)	Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)
0.00	0.0000	0.000	0.0000	5.20	0.0000	0.000	0.0000
0.10	0.0454	0.000	0.0454	5.30	0.0000	0.000	0.0000
0.20	0.0837	0.000	0.0837	5.40	0.0000	0.000	0.0000
0.30	0.1085	0.000	0.1085	5.50	0.0000	0.000	0.0000
0.40	0.1258	0.000	0.1258	5.60	0.0000	0.000	0.0000
0.50	0.1398	0.000	0.1398	5.70	0.0000	0.000	0.0000
0.60	0.1417	0.000	0.1417	5.80	0.0000	0.000	0.0000
0.70	0.1319	0.000	0.1319	5.90	0.0000	0.000	0.0000
0.80	0.1221	0.000	0.1221	6.00	0.0000	0.000	0.0000
0.90	0.1139	0.000	0.1139				
1.00	0.1057	0.000	0.1057				
1.10	0.0975	0.000	0.0975				
1.20	0.0894	0.000	0.0894				
1.30	0.0812	0.000	0.0812				
1.40	0.0730	0.000	0.0730				
1.50	0.0648	0.000	0.0648				
1.60	0.0566	0.000	0.0566				
1.70	0.0477	0.000	0.0477				
1.80	0.0362	0.000	0.0362				
1.90	0.0233	0.000	0.0233				
2.00	0.0136	0.000	0.0136				
2.10	0.0074	0.000	0.0074				
2.20	0.0039	0.000	0.0039				
2.30	0.0020	0.000	0.0020				
2.40	0.0010	0.000	0.0010				
2.50	0.0005	0.000	0.0005				
2.60	0.0002	0.000	0.0002				
2.70	0.0001	0.000	0.0001				
2.80	0.0001	0.000	0.0001				
2.90	0.0000	0.000	0.0000				
3.00	0.0000	0.000	0.0000				
3.10	0.0000	0.000	0.0000				
3.20	0.0000	0.000	0.0000				
3.30	0.0000	0.000	0.0000				
3.40	0.0000	0.000	0.0000				
3.50	0.0000	0.000	0.0000				
3.60	0.0000	0.000	0.0000				
3.70	0.0000	0.000	0.0000				
3.80	0.0000	0.000	0.0000				
3.90	0.0000	0.000	0.0000				
4.00	0.0000	0.000	0.0000				
4.10	0.0000	0.000	0.0000				
4.20	0.0000	0.000	0.0000				
4.30	0.0000	0.000	0.0000				
4.40	0.0000	0.000	0.0000				
4.50	0.0000	0.000	0.0000				
4.60	0.0000	0.000	0.0000				
4.70	0.0000	0.000	0.0000				
4.80	0.0000	0.000	0.0000				
4.90	0.0000	0.000	0.0000				
5.00	0.0000	0.000	0.0000				
5.10	0.0000	0.000	0.0000				

Summary for Link 15L: Wetland

Inflow = 0.0000 m³/s @ 0.00 hrs, Volume= 0.000 MI
Primary = 0.0000 m³/s @ 0.00 hrs, Volume= 0.000 MI, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs

Link 15L: Wetland**Hydrograph**

Hydrograph for Link 15L: Wetland

Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)	Time (hours)	Inflow (m³/s)	Elevation (meters)	Primary (m³/s)
0.00	0.0000	0.000	0.0000	5.20	0.0000	0.000	0.0000
0.10	0.0000	0.000	0.0000	5.30	0.0000	0.000	0.0000
0.20	0.0000	0.000	0.0000	5.40	0.0000	0.000	0.0000
0.30	0.0000	0.000	0.0000	5.50	0.0000	0.000	0.0000
0.40	0.0000	0.000	0.0000	5.60	0.0000	0.000	0.0000
0.50	0.0000	0.000	0.0000	5.70	0.0000	0.000	0.0000
0.60	0.0000	0.000	0.0000	5.80	0.0000	0.000	0.0000
0.70	0.0000	0.000	0.0000	5.90	0.0000	0.000	0.0000
0.80	0.0000	0.000	0.0000	6.00	0.0000	0.000	0.0000
0.90	0.0000	0.000	0.0000				
1.00	0.0000	0.000	0.0000				
1.10	0.0000	0.000	0.0000				
1.20	0.0000	0.000	0.0000				
1.30	0.0000	0.000	0.0000				
1.40	0.0000	0.000	0.0000				
1.50	0.0000	0.000	0.0000				
1.60	0.0000	0.000	0.0000				
1.70	0.0000	0.000	0.0000				
1.80	0.0000	0.000	0.0000				
1.90	0.0000	0.000	0.0000				
2.00	0.0000	0.000	0.0000				
2.10	0.0000	0.000	0.0000				
2.20	0.0000	0.000	0.0000				
2.30	0.0000	0.000	0.0000				
2.40	0.0000	0.000	0.0000				
2.50	0.0000	0.000	0.0000				
2.60	0.0000	0.000	0.0000				
2.70	0.0000	0.000	0.0000				
2.80	0.0000	0.000	0.0000				
2.90	0.0000	0.000	0.0000				
3.00	0.0000	0.000	0.0000				
3.10	0.0000	0.000	0.0000				
3.20	0.0000	0.000	0.0000				
3.30	0.0000	0.000	0.0000				
3.40	0.0000	0.000	0.0000				
3.50	0.0000	0.000	0.0000				
3.60	0.0000	0.000	0.0000				
3.70	0.0000	0.000	0.0000				
3.80	0.0000	0.000	0.0000				
3.90	0.0000	0.000	0.0000				
4.00	0.0000	0.000	0.0000				
4.10	0.0000	0.000	0.0000				
4.20	0.0000	0.000	0.0000				
4.30	0.0000	0.000	0.0000				
4.40	0.0000	0.000	0.0000				
4.50	0.0000	0.000	0.0000				
4.60	0.0000	0.000	0.0000				
4.70	0.0000	0.000	0.0000				
4.80	0.0000	0.000	0.0000				
4.90	0.0000	0.000	0.0000				
5.00	0.0000	0.000	0.0000				
5.10	0.0000	0.000	0.0000				