MassDEP Stormwater Handbook Updates

Scenario Analysis Project Report

BWR-DWM-2018-14-CW TECH SERVICES

Completed for

MassDEP Bureau of Water Resources

Divisions of Watershed Management and Wetlands & Waterways

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November 30, 2020

Table of Contents

1 Introduction 1
1.1 Background 1
1.2 Project Purpose 1
1.3 Potential Revisions 2
2 Scenario Development 3
2.1 Scenario 1 (New Development) 3
2.2 Scenario 2 (Roadway Redevelopment) 9
2.3 Scenario 3 (Lot Redevelopment) 14
3 Modeling and Calculation Methods 20
3.1 Model Runs and Evaluation Criteria 20
3.2 Evaluation Criteria Calculation Methods 22
3.3 Model Inputs 23
3.4 Cost Estimates 25
4 Results Evaluation 27
4.1 Site Runoff Comparison 27
4.2 Scenario 1 Results 29
4.3 Scenario 2 Results 30
4.4 Scenario 3 Results 31
5 Discussion 35

List of Tables

Table 2-1. Site Parameters and Assumptions for Scenario 1
Table 2-2. Site Parameters and Assumptions for Scenario 2
Table 2-3. Site Parameters and Assumptions for Scenario 3
Table 3-1. Summary of Model Simulations and Stormwater Management Sizing / Evaluation Criteria
Table 3-2. Design storm rainfall depth and distribution comparison
Table 4-1. Comparison of potential BMP sizing and costing (Scenario 1)
Table 4-2. Comparison of potential BMP sizing and costing (Scenario 2)
Table 4-3. Comparison of potential BMP sizing and costing (Scenario 3)

List of Figures

Figure 2-1. Site Maps for Scenario 1
Figure 2-2. Site Maps for Scenario 2
Figure 2-3. Site Maps for Scenario 3
Figure 4-1. Differences in peak site runoff under existing site conditions (Scenario 1)
Figure 4-2. Differences in peak site runoff under existing site conditions (Scenario 2)
Figure 4-3. Differences in peak site runoff under existing site conditions (Scenario 3)
Figure 4-4. Differences in estimates order-of-magnitude cost estimates for each scenario

List of Appendices

Appendix A. Site Plans for Three Development Scenarios
Appendix B. Supporting Stormwater Management System Sizing Calculations
Appendix C. SSA Model Inputs and Outputs
Appendix D. Stormwater Management System Cost Estimates
Appendix E. Site Runoff and Outflow Results

1 Introduction

1.1 Background

Total Maximum Daily Loads (TMDLs) are implemented in Massachusetts through a comprehensive watershed management approach that involves several Massachusetts Department of Environmental Protection (MassDEP) programs, including the National Pollutant Discharge Elimination System (NPDES) Permit Program, the Nonpoint Source Management Program, and the Wetlands Program. In recent years, TMDLs developed for urbanized areas have identified the need for significant pollutant load reductions in municipal separate storm sewer systems (MS4s), which are regulated through NPDES permits.

The Massachusetts Stormwater Management Handbook (SMH[1]) and Stormwater Management Standards referenced in the Massachusetts Separate Storm Sewer System (MS4) General Permit and the Stormwater Management Standards pursuant to the Wetlands Protection Act regulations (WPA) and the Water Quality Certification (WQC) regulations promote increased stormwater recharge, treatment of runoff from polluting land uses, low impact development (LID) techniques, pollution prevention, removal of illicit discharges to stormwater management systems, and improved operation and maintenance of stormwater best management practices (BMPs). These actions are key to meeting pollutant reduction goals set by TMDLs for areas that include MS4s. Further, areas for which a TMDL has been approved are required to reduce pollutant loads to their waterbodies based on requirements and standards outlined in the Massachusetts Stormwater Handbook.

The SMH was last updated in 2008. MassDEP is in the process of updating the SMH to improve pollutant removal actions and overall compliance with TMDLs. Updating the Massachusetts WPA regulations, WQC regulations, and the SMH allows the Commonwealth to further the eight interests protected by the WPA, restore and maintain the chemical, physical and biological integrity of water resources as required by the WQC regulations, improve climate resilience and protection of water quality that is afforded by wetland resource areas, and strengthen compliance with TMDLs

MassDEP has convened an Advisory Committee to provide input on the proposed updates to Massachusetts Stormwater Handbook and Stormwater Management Standards. An essential component of updating the Standards and Handbook is the analysis of potential development scenarios to assess and demonstrate the effect that the proposed changes in the Standards and Handbook will have on different types of development. The scenarios will inform discussions with the Advisory Committee and other stakeholders.

1.2 Project Purpose

The purpose of this project was to perform analysis on three potential development scenarios to demonstrate potential changes that may result from proposed SMH revisions. For example, what effects do increases in recharge and precipitation have on a stormwater management system that removes 90% of the average annual post-construction load of Total Suspended Solids and 60% of Total Phosphorus?

The following tasks were performed to accomplish this goal:

- Develop existing and proposed conditions site plans for three potential development scenarios.
- Include stormwater treatment options for each scenario that incorporate LID and Environmentally Sensitive Site Design (ESSD) practices

[1] MassDEP Stormwater Handbook: https://www.mass.gov/guides/massachusetts-stormwater-handbook-and-stormwater-standards.

- Perform modeling and analysis to evaluate the potential changes that may result from proposed SMH revisions.

1.3 Potential Revisions

The following potential revisions to the SMH were evaluated as part of this project:

- Revise design storm requirements to reflect the National Ocean and Atmospheric Administration Atlas 14 Vol. 10 (NOAA 14) precipitation frequency- duration estimates instead of the currently used U.S. Weather Bureau Technical Paper 40.
- Revise design storm requirements to represent extreme events under future conditions of climate change by adopting NOAA 14 at the 90% confidence interval multiplied by a factor of 0.9 – i.e., NOAA 14+
- Increase the Required Recharge Volume (Rv) to one inch for new development and to one inch for redevelopment to the Maximum Extent Practical (MEP).
- Increase the pollutant removal to 90% Total Suspended Solids (TSS) and 60% Total Phosphorus (TP) for new development.
- For redevelopment, eliminate the use MEP for pollution reduction requirements (Standard 4) for impervious surfaces and require treatment of the 0.8-inch Water Quality Volume (WQv) or 80% TSS and 50% TP removal. Maintain the existing definition of redevelopment that is in the Wetland Protection Act regulations.
- Maintain existing Standards 1-3 and 5-9 of the regulations.

2 Scenario Development

To support this modeling effort, three (3) development scenarios were developed to test potential revisions to the SMH. Three (3) site conditions were considered for each scenario, including: 1) existing conditions, 2) proposed conditions to meet existing stormwater standards, 3) proposed conditions to meet potential stormwater standard revisions. Proposed conditions incorporated LID and ESSD practices.

Refer to **Appendix A** for detailed conceptual site plans of the three (3) development scenarios.

2.1 Scenario 1 (New Development)

2.1.1 Existing Conditions

The site is situated on a 40.1 acre parcel primarily comprised of open space and forest. Freshwater wetlands, including two unnamed streams, are present on the eastern and western sides of the site (**Figure 2-1a**). The site is crisscrossed by old gravel cart paths. A summary of existing conditions scenario parameters and assumptions is provided by **Table 2-1**.

2.1.2 Proposed Conditions

The proposed condition is to subdivide the site into 26 half-acre single family lots. Proposed ESSD practices include: leave surrounding wetlands undisturbed, keep development out of 100-ft buffer as feasible, leave forested areas intact as feasible, and limit driveway sizing to 24-ft wide by 30-ft long (as feasible) (**Figure 2-1b**). Two potential proposed stormwater management configuration options were considered:

- Proposed Conditions to Meet Existing Stormwater Standards: Perform impervious area roof disconnection by directing roof runoff into dry wells at all houses. Install curb and gutter and drainage collection system on all streets. Direct runoff to three centralized surface infiltration basins with sediment forebay, riser style outlet control structure, and emergency spillway (**Figure 2-1c**).
- Proposed Conditions to Meet Potential Revisions to Stormwater Standards: Perform impervious area roof disconnection by directing roof runoff into dry wells at all houses. Use grassed “country drainage” along roadways versus curb and gutter where feasible. Include raingardens to treat runoff from each driveway. Direct remaining runoff to four centralized surface infiltration basins with sediment forebay, riser style outlet control structure, and emergency spillway (**Figure 2-1d**). Three of the infiltration basins would be interconnected – each successive upstream basin would discharge to the downstream basin via a low-level orifice in the outlet control structure. This configuration would allow each basin to provide recharge and pollutant treatment while directing peak discharge from large return events to successively larger downstream basins.

The stormwater management system would be provided to the municipality for ongoing maintenance as part of the subdivision approval. The site would include maintenance easements for proposed treatment features as needed. It should also be noted that additional ESSD measures may be cost effective at this site. Some potential alternatives may include, but aren’t limited to: shared driveways to limited impervious surface and smaller front yard setbacks to limit overall driveway length and resulting impervious surface. A summary of proposed conditions parameters and assumptions is provided by **Table 2-1**.

Table 2-1. Site Parameters and Assumptions for Scenario 1.

Scenario Parameters	Existing Conditions	Proposed Conditions
Parcel / Lot Size (ac)	40.1	40.1
Impervious Area (%)	1.3	8.6
Wetland Resource Area Type(s)	- BVW (100-ft Buffer) - RA (200-ft Buffer) - BLSF (within FEMA Floodplain)	- BVW (100-ft Buffer) - RA (200-ft Buffer) - BLSF (within FEMA Floodplain)
Wetland Disturbance?	N/A	None
Typical House Configuration	N/A	Attached two garage with bonus room on top
Typical Driveway Width (ft)	N/A	24
Typical Driveway Length (ft)	N/A	30
Design Saturated Hydraulic Cond. (in/hr)	0.27	0.27

Notes:

1. Design Saturated Hydraulic Conductivity based on SMH for Type C Soil "Silt Loam" based on 1982 Rawls Rates.
2. Driveway dimensions may vary depending on parcel constraints.

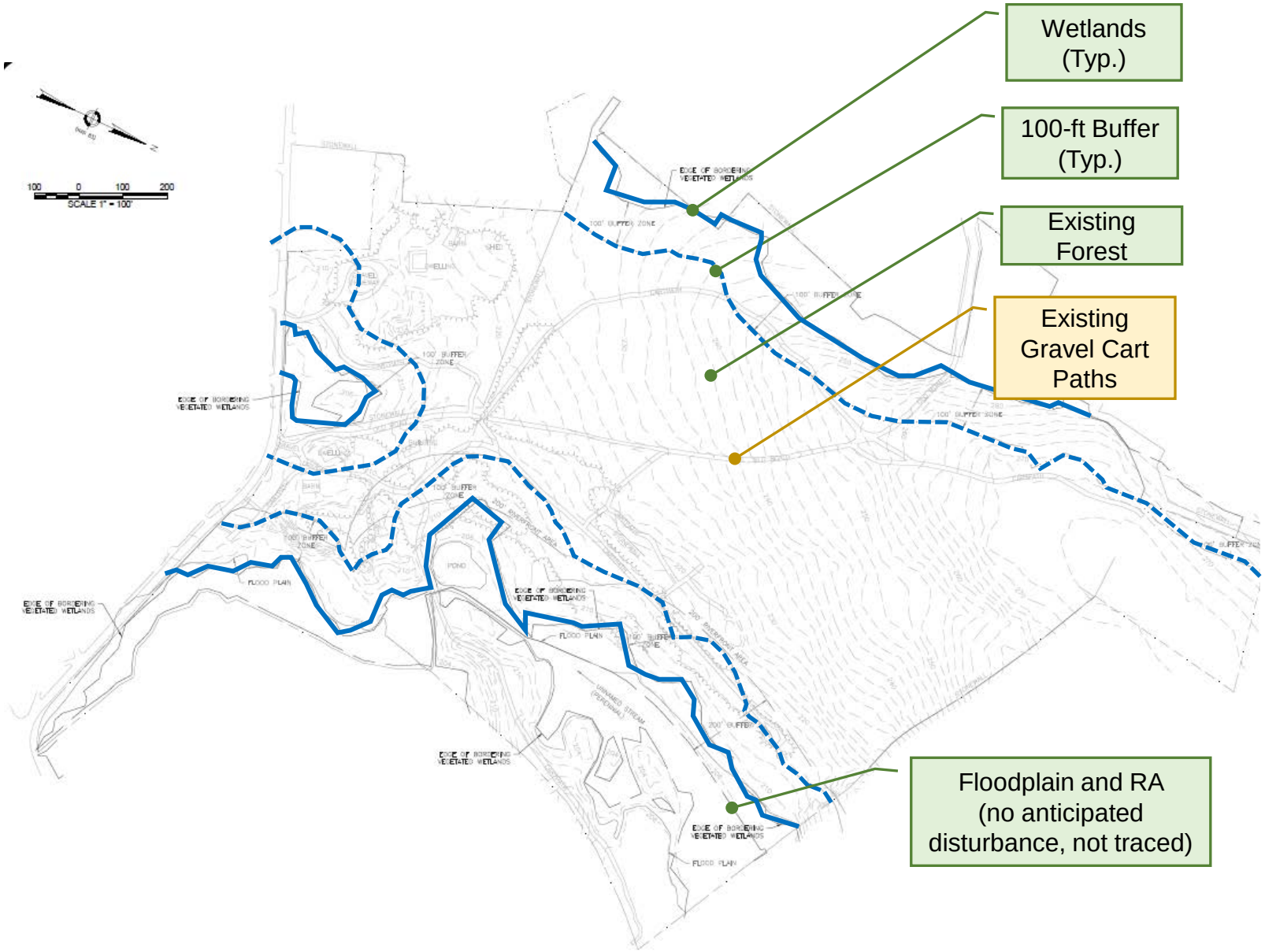


Figure 2-1a. Existing Site Conditions
*(See **Appendix A** for high resolution drawing)*

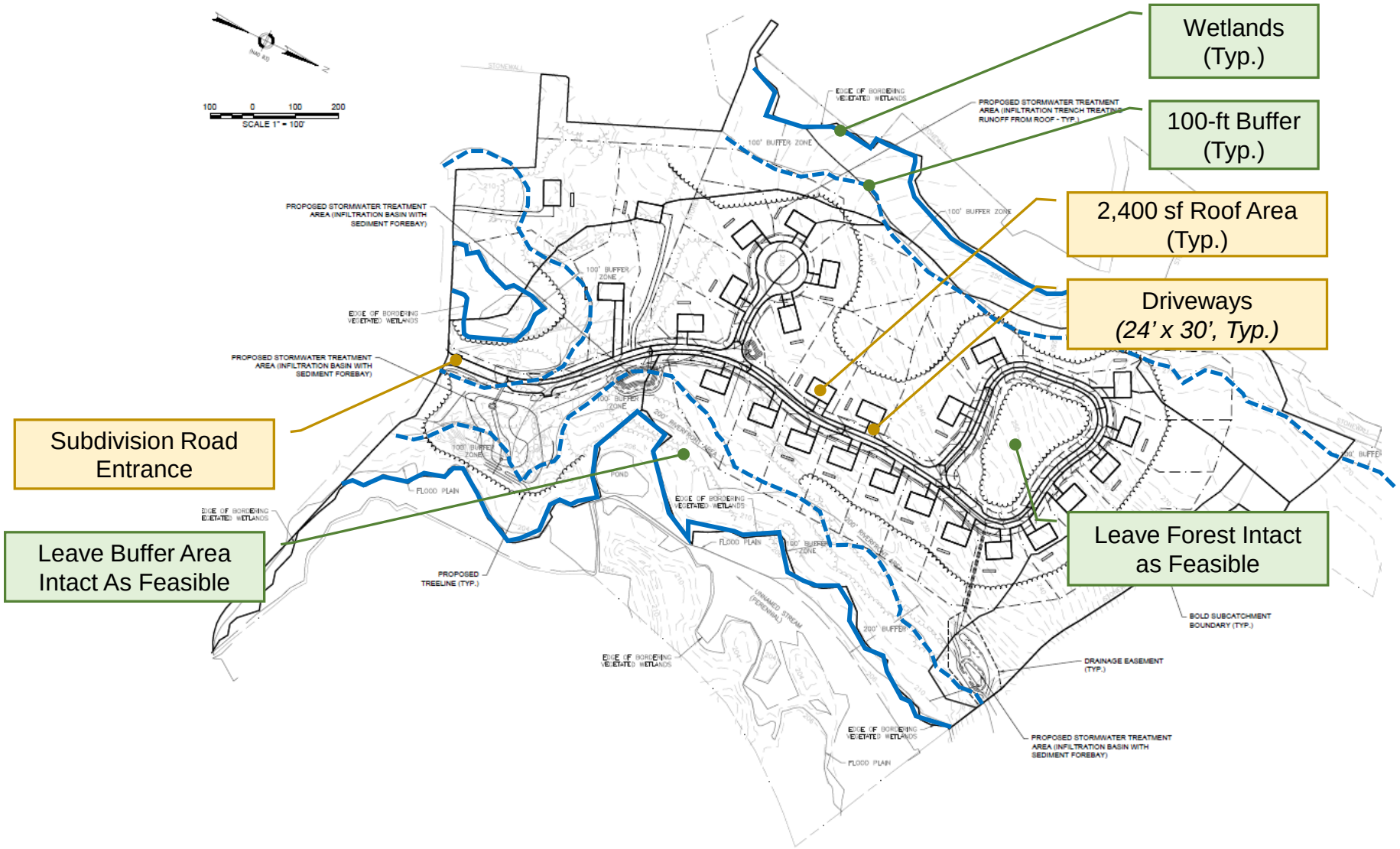


Figure 2-1b. Proposed Site Conditions to Meet Existing Stormwater Standards
*(See **Appendix A** for high resolution drawing)*



Figure 2-1c. Proposed Stormwater Management System to Meet Existing Stormwater Standards
*(See **Appendix A** for high resolution drawing)*

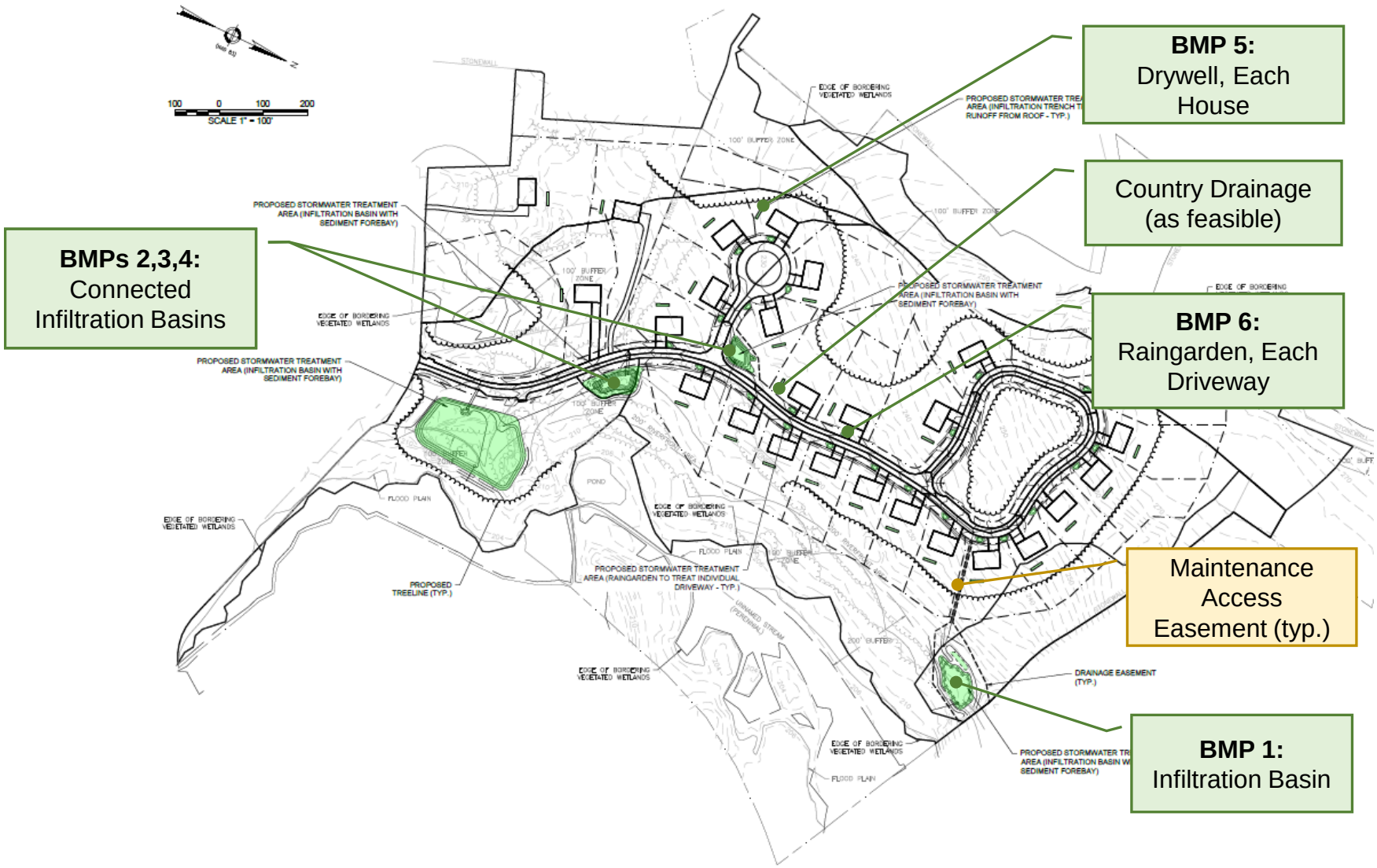


Figure 2-1d. Proposed Stormwater Management System to Meet Potential Revisions to Stormwater Standards
*(See **Appendix A** for high resolution drawing)*

2.2 Scenario 2 (Roadway Redevelopment)

2.2.1 Existing Conditions

The site is an existing two lane roadway with an approximate length of 1,500-ft and a total width of 23-ft with no demarcated fog lines or shoulders (center line markings only). The roadway was constructed on an earthen embankment and has an agricultural field to the north and a bordering vegetated wetland to the south. The roadway crosses a stream via a 16-ft span concrete box culvert. Curbing and a stormwater collection system conveys roadway runoff directly into the stream (**Figure 2-2a**). A summary of existing conditions parameters and assumptions is provided by **Table 2-2**.

2.2.2 Proposed Conditions

The proposed condition is to perform a roadway reconstruction project to improve pedestrian and bike access. Access will be improved by expanding the roadway to include a 5-ft wide bike lane on the northern side of the road and a 5-ft wide pedestrian sidewalk on the southern side of the road with a 1-ft wide shoulder. ESSD site practices will be deployed by reducing the width of each travel lane to 10-ft. The reconstructed road will not include shoulder parking – i.e., the shoulder will be shared with the bike lane to reduce width. Overall road width will be 26-ft (1-10-10-5) to account for 10-ft wide lanes and new bike lane (**Figure 2-2b**). Two potential proposed stormwater management configuration options were considered:

- Proposed Conditions to Meet Existing Stormwater Standards: Remove existing stormwater collection system where feasible. Along the south side of road, install porous pavement sidewalk with curbing and install three (3) tree box filters with deep sump catchbasin pre-treatment near the stream crossing. Tree box filters will have an underdrain that discharges to the stream (**Figure 2-2c**). Along the north side of road, include distributed roadside infiltration basins with stone check dams. Provide pre-treatment by installing regularly spaced curb cuts with sediment forebay. This configuration mimics the benefits of “country drainage” while providing pretreatment. A summary of proposed site condition parameters and assumptions is provided by **Table 2-2**.
- Proposed Conditions to Meet Potential Revisions to Stormwater Standards: The same treatment configuration will be deployed, but stormwater treatment features will have more capacity to meet potential revisions to the stormwater standards to the MEP (**Figure 2-2c**).

Refer to **Section 4.3** for a discussion of potential stormwater management alternatives that were considered for this Scenario.

Table 2-2. Site Parameters and Assumptions for Scenario 2.

Scenario Parameters	Existing Conditions	Proposed Conditions
Right of Way Size (ac)	2.23	2.23
Impervious Area (%)	34.1	35.4
Wetland Resource Area Type(s)	- BVW (100-ft Buffer) - RA (200-ft Buffer)	- BVW (100-ft Buffer) - RA (200-ft Buffer)
Number of Stream Crossings	1	1
Wetland Disturbance?	N/A	None
Single Travel Lane Width (ft)	12	10
Shared Bike Lane / Road Shoulder Width (ft)	N/A	5
Sidewalk Width (with 1-ft shoulder) (ft)	N/A	6
Design Saturated Hydraulic Cond. (in/hr)	0.27	0.27

Notes:

1. Design Saturated Hydraulic Conductivity based on SMH for Type C Soil "Silt Loam" based on 1982 Rawls Rates.

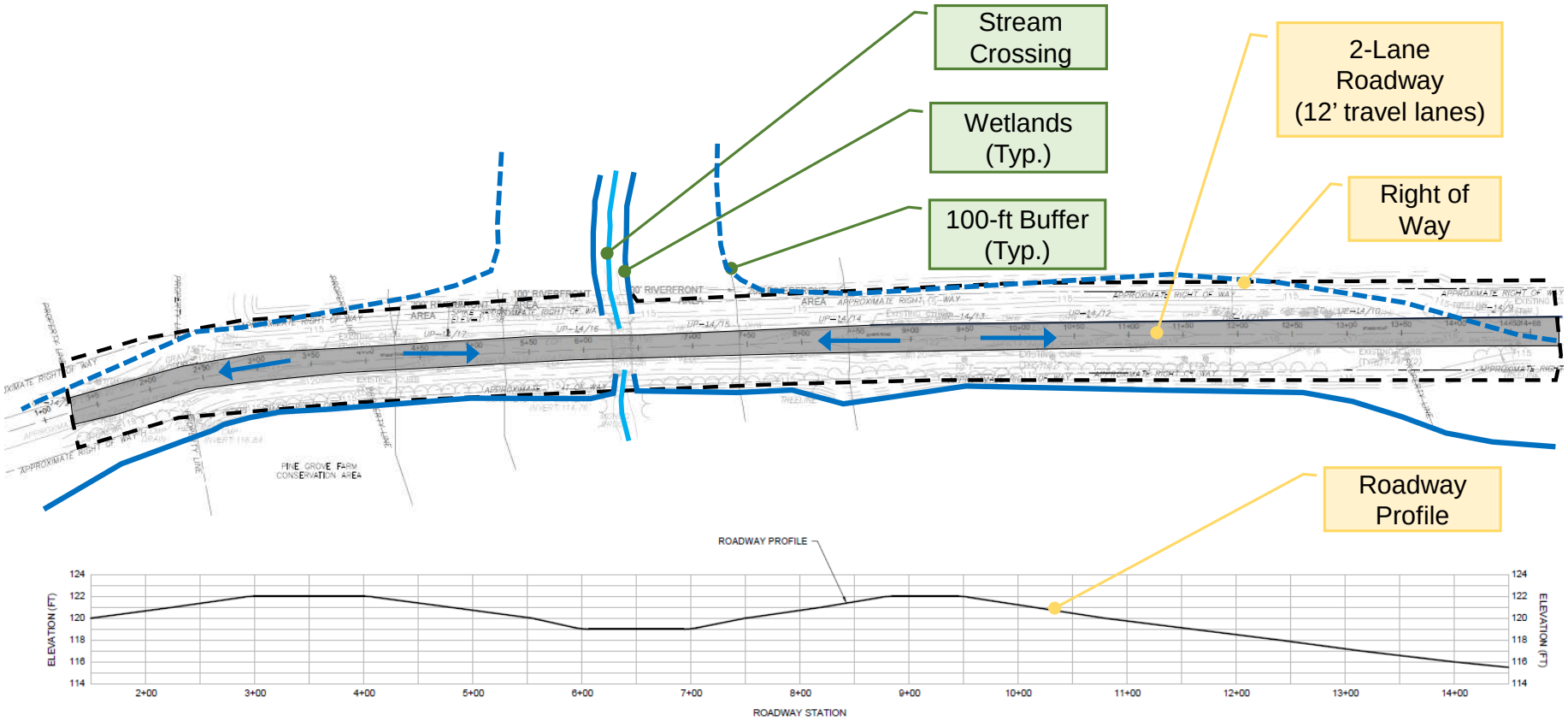


Figure 2-2a. Existing Site Conditions

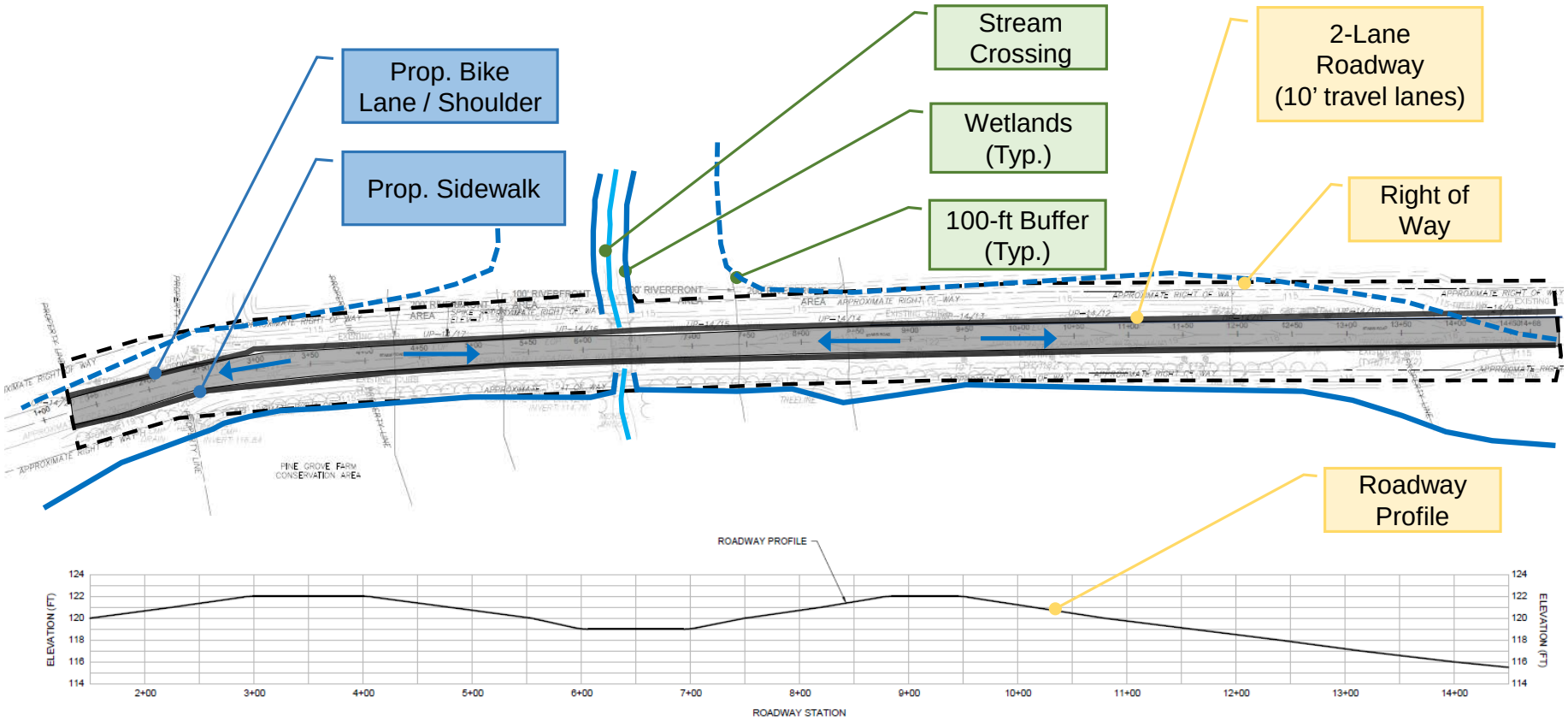


Figure 2-2b. Proposed Site Conditions to Meet Existing Stormwater Standards
*(See **Appendix A** for high resolution drawing)*

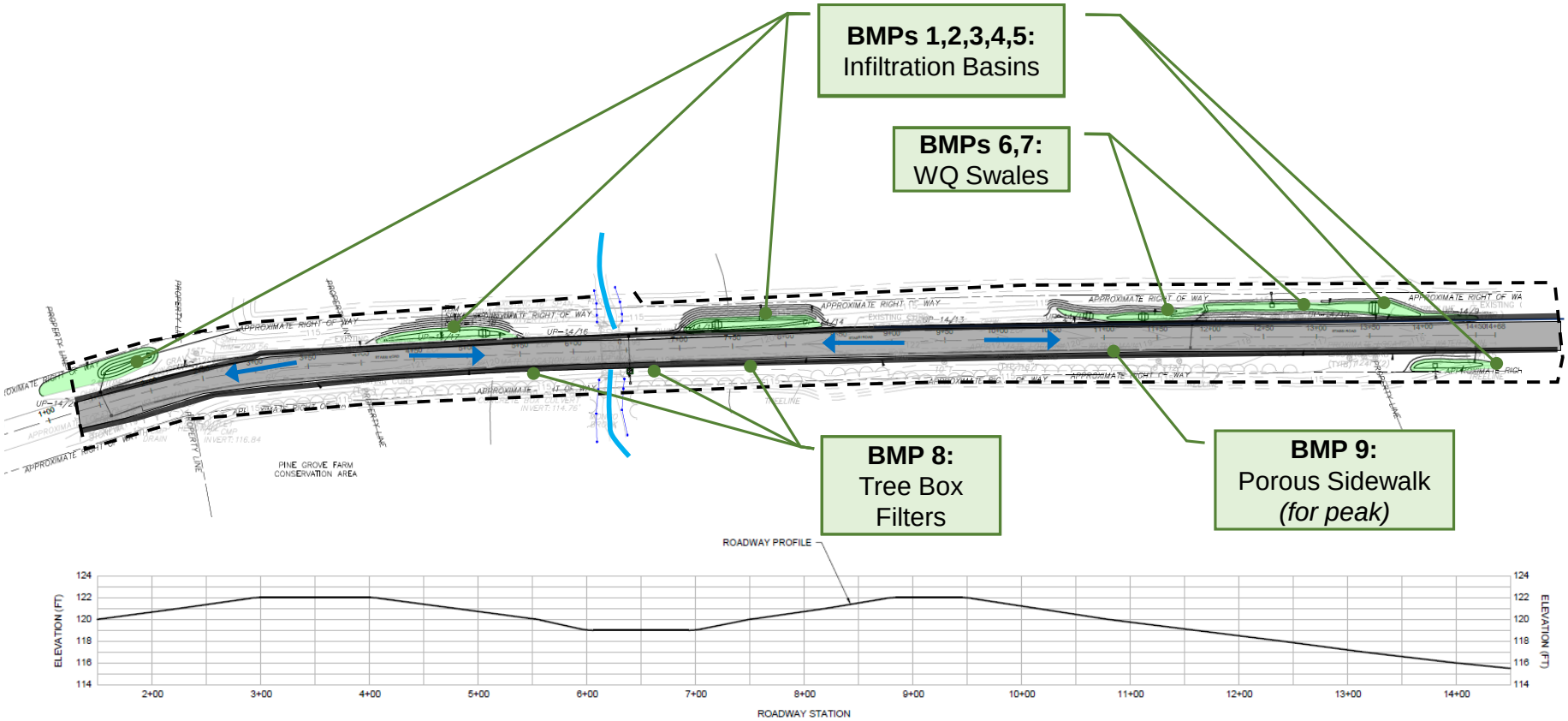


Figure 2-2c. Proposed Stormwater Management System to Meet Existing and Potential Revisions Stormwater Standards
*(See **Appendix A** for high resolution drawing)*

*Note: Proposed stormwater management features are the same for both existing and potential revisions to the stormwater standards. Stormwater management features are slightly larger for potential revisions as summarized by **Section 4.3**.*

2.3 Scenario 3 (Lot Redevelopment)

2.3.1 Existing Conditions

The 1.65 acre lot includes an existing warehouse and parking area. The existing building takes up most of the existing lot. The lot is in a highly urbanized area and is bordered to the northwest by a road, to the south by a road, to the northwest by a freshwater wetland, and to the west by an existing building and parking lot. Drainage from the building and parking lot discharges to the existing stormwater management system on John Doe Road and Smith Road (**Figure 2-3a**). A grassed area to the northwest discharges to the freshwater wetland. A summary of existing conditions parameters and assumptions is provided by **Table 2-3**.

2.3.2 Proposed Conditions

The proposed condition is to demolish the existing building and construct a 300 unit multi-family housing structure with a slightly larger footprint. ESSD site practices will include: 1) decrease the existing building and parking lot footprint and 2) convert the existing grassed area to brush (i.e., shrubs and wildflowers). To accommodate this configuration, the building will include approximately 43 units per floor and will include 7 floors (**Figure 2-3b**). The structure will include parking for approximately 720 vehicles (i.e., 2.4 vehicles per unit) via a multi-level underground parking garage. Temporary parking will be provided for 25 vehicles via a small parking area at grade. The first level of the underground parking area will have space for 85 vehicles. Each subsequent level will have space for 125 vehicles. Two potential proposed stormwater treatment management options were considered:

- Proposed Conditions to Meet Existing Stormwater Standards: Runoff from the building's roof and at-grade parking area will be treated by two bioretention areas with deep sump catchbasin inlets for pretreatment. The bioretention areas will discharge to an above-grade infiltration basin with a riser style outlet control structure. A tree box filter will treat a small area of impervious surface not captured by the infiltration basin. Overflow from the infiltration basin and tree box filter will be connected to the existing stormwater collection system (**Figure 2-3c**).
- Proposed Conditions to Meet Potential Revisions to Stormwater Standards: The same treatment configuration will be deployed with the following exceptions: 1) stormwater treatment features will have more capacity to meet potential revisions to the stormwater standards to the MEP; 2) a portion of the roof will be converted to green roof for peak control (**Figure 2-3d**).

A summary of proposed site condition parameters and assumptions is provided by **Table 2-3**.

2.3.3 Possible Alternative Site Configurations

There are many potential alternative configurations that could be deployed at this site to change the number of living floors and/or subsurface parking levels. For example, the following changes could be made to decrease the building to five (5) stories with four (4) subsurface parking levels.

- Reduce the number of housing units to from 300 to 250.
- Increase the number of units per floor from 43 to 50 by increasing the number of studio apartments within the building.
- Reduce the number of parking spaces from 2.4 per unit to 2 per unit; require off-site parking for additional vehicles per unit.

Refer to **Section 4.4** for a discussion of potential stormwater management alternatives that were considered for this scenario.

Table 2-3. Site Parameters and Assumptions for Scenario 3.

Scenario Parameters	Existing Conditions	Proposed Conditions
Parcel / Lot Size (ac)	1.65	1.65
Impervious Area (%)	76.3	78.2
Wetland Resource Area Type(s)	BVW (100-ft Buffer)	BVW (100-ft Buffer)
Wetland Disturbance?	N/A	None
Number of Units	N/A - Warehouse	300
Number of Stories	1	7
Number of Parking Levels	N/A - parking lot	6
Number of Parking Spaces:	25	720 (2.4 per unit)
Typ. Parking Lot Stall Size (ft)	10' wide by 20' long	Single (8.5' by 18') Double (8.5' by 41')
Design Saturated Hydraulic Cond. (in/hr)	0.27	0.27

Notes:

1. Design Saturated Hydraulic Conductivity based on SMH for Type C Soil "Silt Loam" based on 1982 Rawls Rates.

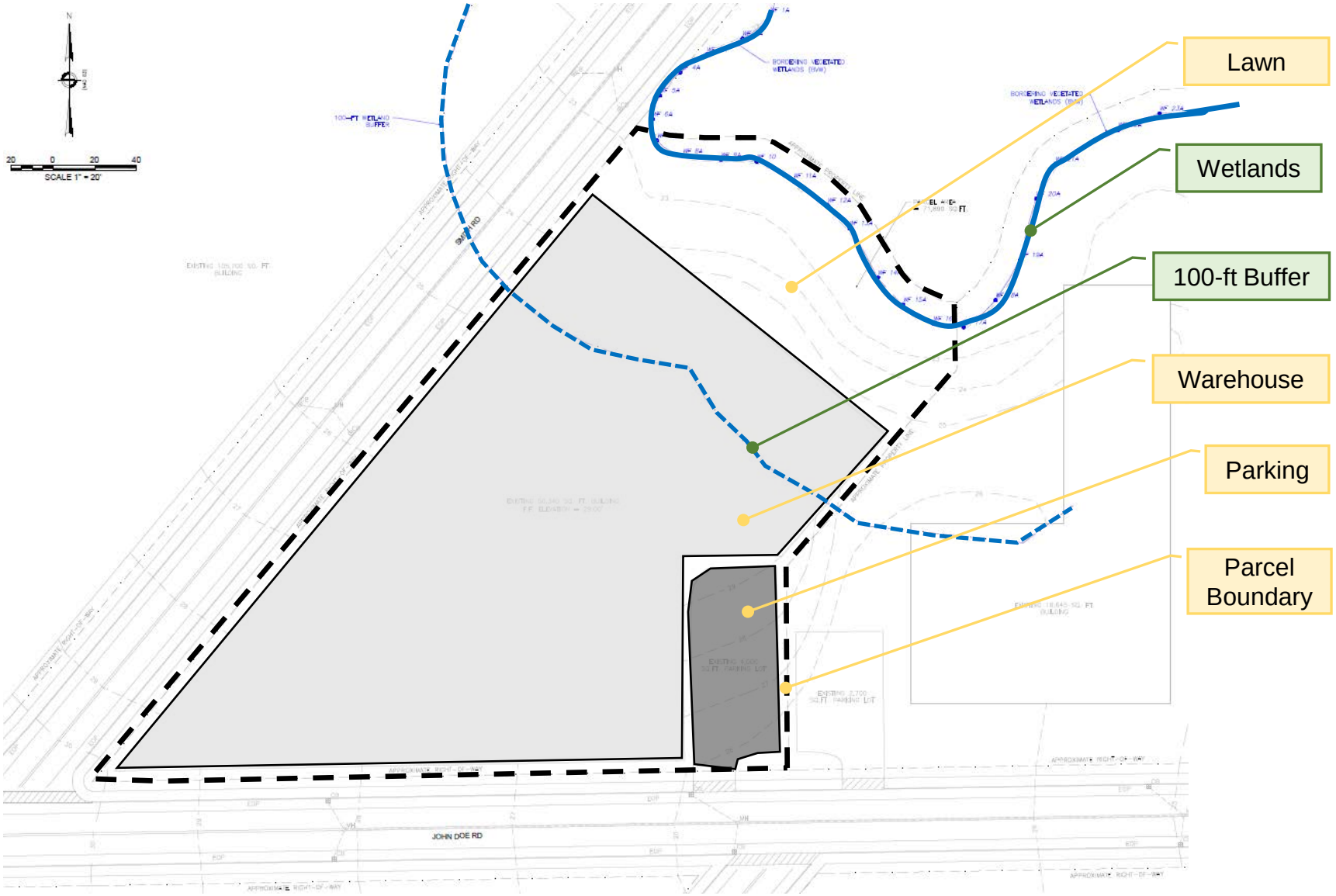


Figure 2-3a. Existing Site Conditions
*(See **Appendix A** for high resolution drawing)*

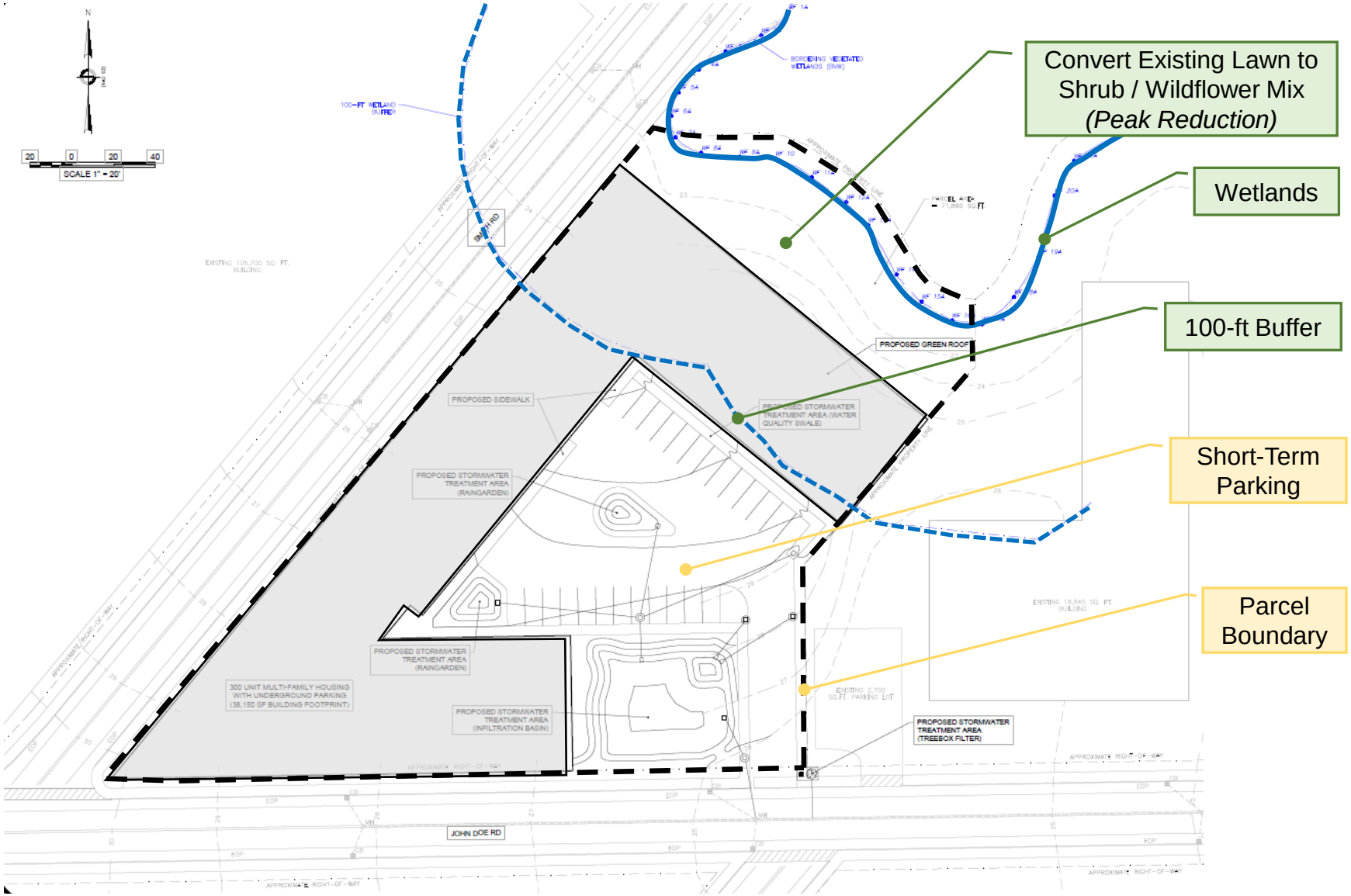


Figure 2-3b. Proposed Site Conditions to Meet Existing Stormwater Standards
*(See **Appendix A** for high resolution drawing)*

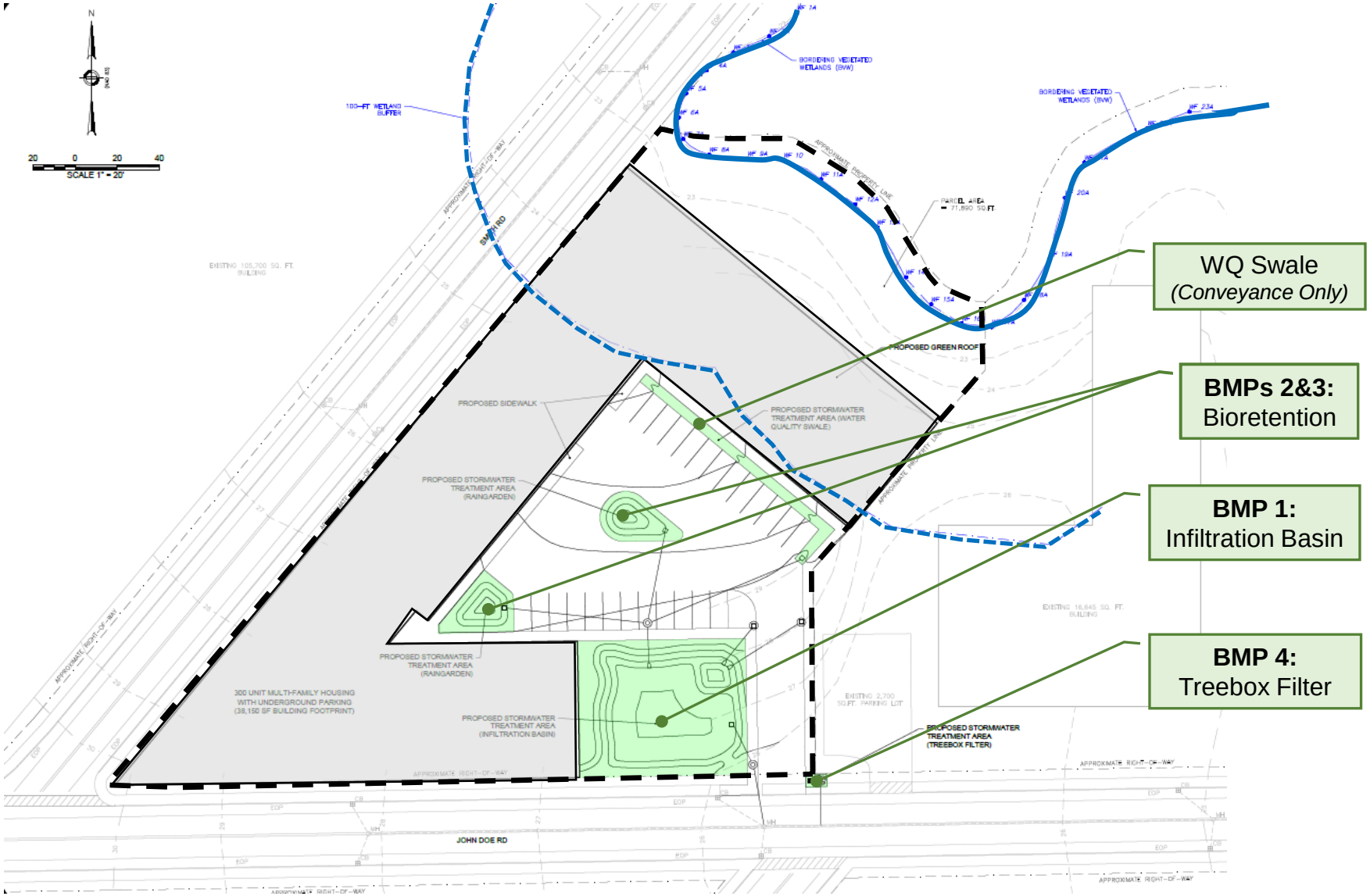


Figure 2-3c. Proposed Stormwater Management System to Meet Existing Stormwater Standards
*(See **Appendix A** for high resolution drawing)*

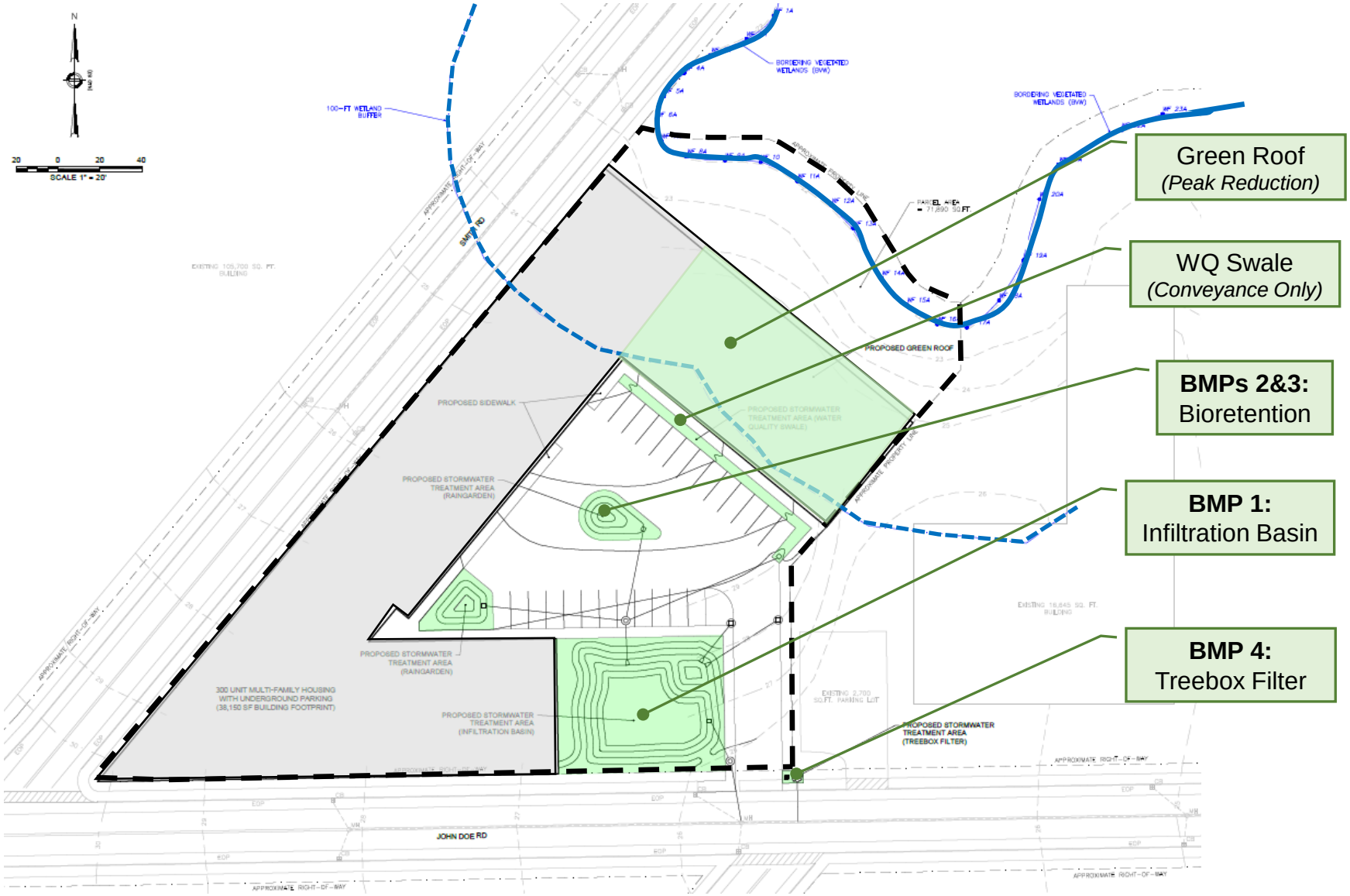


Figure 2-3d. Proposed Stormwater Management System to Meet Potential Revisions to Stormwater Standards
*(See **Appendix A** for high resolution drawing)*

3 Modeling and Calculation Methods

3.1 Model Runs and Evaluation Criteria

Model simulations were performed for each scenario to test potential revisions to the SMH. Three site conditions were considered for each scenario: 1) existing conditions, 2) proposed conditions to meet existing stormwater standards, and 3) proposed conditions to meet potential revisions to the stormwater standards. Proposed conditions ESSD practices and stormwater management features (a.k.a BMPs) were sized to meet the following criteria for the existing stormwater standards and potential revisions to the stormwater standards:

- **Standard 2**: Peak Site Discharge (Qp),
- **Standard 3**: Recharge Volume (Rv)
- **Standard 4**: Pollutant Removal / Water Quality Volume (WQv)

A total of 36 model simulations were run and evaluated across the three (3) scenarios. Refer to **Table 3-1** for summary of model simulations, including stormwater management sizing and evaluation criteria.

Table 3-1. Summary of Model Simulations and Stormwater Management Sizing / Evaluation Criteria

Scenario	Standard	Simulation Type	Design Storm Type	Return Interval	Stormwater Management Sizing Evaluation Items / Criteria
1 - New Dev. *(Subdivision)*	Existing Standards	• Ex. Conditions • Prop. Conditions	TP 40	• 2-year • 100-year	• **Qp**: Confirm Prop. Conditions < Ex. Conditions **(100-year, TP 40)** • **Pollutant Atten.**: Confirm **80%TSS Removal** for Prop. Cond. (*SMH*) • **WQv**: Confirm **0.5-in WQv** for Prop. Conditions • **Rv**: Confirm **0.25 Rv** for Prop. Conditions
	Potential Revisions to Standards	• Ex. Conditions • Prop. Conditions	• NOAA Atlas 14 • NOAA Atlas 14+	• 2-year • 100-year	• **Qp**: Confirm Prop. Conditions < Ex. Conditions (**100-year, NOAA Atlas+**) • **Pollutant Atten.**: Confirm **90%TSS / 60%TP Removal** for Prop. Cond. • **WQv**: N/A - Use EPA Curves to meet Pollutant Atten. • **Rv**: Confirm **1-in Rv** for Prop. Conditions
2 - Redev. *(Road)*	Existing Standards	• Ex. Conditions • Prop. Conditions	TP 40	• 2-year • 100-year	• **Qp**: Confirm Prop. Conditions ≤ Ex. Conditions, MEP (**100-year, TP 40**) • **Pollutant Atten.**: MEP TSS Removal for Prop. Conditions • **WQv**: **0.5-in to MEP** for Prop. Conditions • **Rv**: **0.25-in to MEP** MEP for Prop. Conditions
	Potential Revisions to Standards	• Ex. Conditions • Prop. Conditions	• NOAA Atlas 14 • NOAA Atlas 14+	• 2-year • 100-year	• **Qp**: Confirm Prop. Conditions ≤ Ex. Conditions, MEP (**100-year, NOAA Atlas+**) • **Pollutant Atten**: Confirm **80%TSS / 50%TP Removal** for Prop. Cond. (*EPA Curves*) • **WQv**: Confirm **0.8-in WQv** for Prop. Conditions **OR** EPA Curves to meet Pollutant Atten. • **Rv: 1-in to MEP** for Prop. Conditions
3 - Redev. *(Urban Lot)*	Existing Standards	• Ex. Conditions • Prop. Conditions	TP 40	• 2-year • 100-year	• **Qp**: Confirm Prop. Conditions ≤ Ex. Conditions, MEP (**100-year, TP 40**) • **Pollutant Atten.**: MEP TSS Removal for Prop. Conditions • **WQv**: **0.5-in to MEP** for Prop. Conditions • **Rv**: **0.25-in to MEP** for Prop. Conditions
	Potential Revisions to Standards	• Ex. Conditions • Prop. Conditions	• NOAA Atlas 14 • NOAA Atlas 14+	• 2-year • 100-year	• **Qp**: Confirm Prop. Conditions ≤ Ex. Conditions, MEP (**100-year, NOAA Atlas+**) • **Pollutant Atten.**: Confirm **80%TSS / 50%TP** Removal for Prop. Cond. (*EPA Curves*) • **WQv**: Confirm **0.8-in WQv** for Prop. Conditions **OR** EPA Curves to meet Pollutant Atten • **Rv**: **1-in** to MEP for Prop. Conditions

Notes:

1. NOAA Atlas 14+ represents the upper bound of the 90% confidence interval multiplied by 0.9 to account for potential future climate change.
2. All evaluations based on Hydrologic Soil Group C
3. Qp = Peak Site Discharge
5. Water Quality Volume (WQv) is the runoff volume requiring treatment, calculated as the desired captured runoff depth times total impervious area.
6. Required Recharge Volume (Rv) is the depth of runoff to be infiltrated, calculated using the "Simple Method" as the desired captured runoff depth times total imp. area.
7. All simulations assume at least four (4) feet of seperation between groundwater and botom of infiltraton features (including media)
8. All simulations were performed for a 26 hour period to ensure site runoff has time to complete once precipitation stops.
9. "EPA Curves" are TSS and TP performance curve calculated by EPA Region 1 for the 2016 MS4 Permit (*see footnote on subsequent pages for link*)

3.2 Evaluation Criteria Calculation Methods

The following calculation methods were used to evaluate required criteria from the stormwater standards. See **Appendix B** for detailed calculations.

3.2.1 Standard 2: Peak Site Discharge (Qp)

AutoDesk's Storm and Sanitary Analysis (SSA) was used to simulate Qp based on the TR55 method. SSA is a comprehensive hydrology and hydraulic modeling package for analyzing and designing urban drainage systems. SSA was developed using the Environmental Protection Agency's (EPA) Stormwater Management Model (SWMM) version 5.0 computational engine. SSA can perform dynamic rainfall-runoff simulations using a variety of methods, including TR-55. Refer to **Section 3.3** for an explanation of SSA model inputs.

3.2.2 Standard 3: Recharge Volume (Rv)

Recharge Volume (Rv) is the site's runoff volume that requires infiltration from the stormwater management system. Rv was calculated as the target runoff depth times contributing impervious site area.

Proposed infiltrating stormwater treatment measures were sized using MassDEP's "Static Method" which assumes that there is no exfiltration until the entire treatment measure is filled to the elevation associated with the Rv. All computations assume that a groundwater mounding analysis was not required – i.e., at least four (4) feet of separation between groundwater and the bottom of stormwater treatment features (including media).

A drawdown calculation was performed for all infiltrating stormwater treatment measures to verify that the bottom is capable of infiltrating the full Rv within 72 hours. This calculation was performed by dividing the Rv by the product of the bottom area of the treatment measure by an assumed vertical saturated hydraulic conductivity (Ksat) of 0.27 in/hr which corresponds to the 1982 Rawls Rate for Hydrologic Soil Group Type C "Silt Loam".

Refer to **Appendix B-1** for Rv calculations for each scenario and to **Appendix B-2** for accompanying drawdown calculations.

3.2.3 Standard 4: Pollutant Removal

Pollutant removals were calculated using three methods as summarized below.

- Water Quality Volume (WQv): WQv is the runoff volume requiring treatment. WQv for proposed stormwater treatment measures was calculated as the desired runoff depth times contributing impervious area. The site's overall treated WQv (as a depth) was calculated as an area weighted average of all proposed stormwater treatment measures and their upstream impervious drainage area as summarized by Equation 4 of the SMH (Volume 3, Page 36)
- Pollutant Removal Rates (Existing Standards): Pollutant removal rates for individual treatment measures under the existing stormwater standards were calculated using a treatment train approach (i.e., pre-treatment, conveyance, treatment, etc.) using MassDEP's TSS Removal Worksheet, last updated on March 4, 2008[2]. Overall site pollutant removal rates were calculated as an area weighted average of all proposed treatment measures.

[2] TSS Removal Worksheet: https://www.mass.gov/guides/massachusetts-stormwater-handbook-and-stormwater-standards#-stormwater-report-tools-.

- Pollutant Removal Rates (Potential Revisions to Standards): Pollutant removal rates for individual treatment measures under proposed revisions to the stormwater standards were calculated from TSS and TP performance curves developed by EPA Region 1 for the 2016 MS4 Permit[3]. Removal rates were obtained by selecting the infiltration rate of the surrounding soils (i.e., Type C = 0.27 in/hr), then identifying the estimated load reduction as a function of the treatment measure's physical storage capacity (i.e., the treated WQv depth). Overall site pollutant removal rates were calculated as an area weighted average of all proposed treatment measures.

Refer to **Appendix B-3** for supporting pollutant removal calculations for each scenario for individual treatment measures, including anticipated removals and treated depth. **Appendix B-1** provides a comparative summary of required Rv versus WQv for each scenario.

3.2.4 Stormwater Management Feature Sizing

Stormwater management features were sized with the goal of taking up the least amount of space while meeting all evaluated stormwater standards criteria, as feasible. For example, under the existing stormwater standards, an infiltration basin may be required to have the volume to accommodate 1 inch of upstream site runoff to meet Standard 2 (Qp) while only needing to capture and treat a 0.5 inch WQv. Stormwater management features were sized to meet Qp under the existing standards based on the 24-hour, 100-year TP 40 storm. Stormwater management features were sized to meet Qp for potential revisions to the standards based on the 24-hour, 100-year NOAA 14+ storm (**Table 3-1**).

3.3 Model Inputs

SSA was used to build a hydrologic and hydraulic model (H&H) for each site (aka Scenario) to enable computation of estimated site discharge and runoff for comparison and testing of potential revisions to the SMH. Primary inputs used to build the H&H models are described in the following sections. Refer to **Appendix C** for compiled model inputs.

3.3.1 Precipitation

Three different 24-hour duration design storm types were developed for the model simulations:

1. Traditional Design Storms: Traditional design storm depths were obtained from U.S Weather Bureau Technical Paper 40 (TP 40) for Middlesex County and applied to a dimensionless Soil and Conservation Service (SCS) Type III synthetic rainfall distribution generated within SSA.
2. Updated Design Storms: Updated design storm depths were obtained from NOAA Atlas 14 based on the centroid of Middlesex County (42.4919 degrees N, 71.3669 degrees W). Depths were applied to a dimensionless Type D distribution obtained from the Natural Resources Conservation Service (NRCS) National Engineering Field Handbook[4]. The Type D distribution corresponds to Middlesex County and has a greater peak intensity than the SCS Type III distribution.
3. Updated Design Storms, Possible Extreme Conditions: Potential extreme design storm depths under future conditions were obtained from NOAA Atlas 14 at the 90% confidence interval and multiplied by a factor of 0.9. Depths were applied to a dimensionless Type D distribution (i.e., NOAA Atlas+).

[3] EPA Region 1 Nomographs: https://www3.epa.gov/region1/npdes/stormwater/assets/pdfs/ms4-permit-nomographs.pdf.

[4] NRCS Massachusetts Engineering Field Handbook: https://www.nrcs.usda.gov/wps/PA_NRCSConsumption/download?cid=nrcseprd1289431&ext=pdf.

A summary of design storm depths and their corresponding dimensionless distribution is provided by **Table 3-2**. Total depth is significantly greater for the NOAA Atlas 14 storms, particularly for the 100-year events.

Table 3-2. Design storm rainfall depth and distribution comparison.

Method	Name	Distribution	Total Depth (in)	
			2-year	100-year
1	TP 40	SCS Type III	3.1	6.5
2	NOAA Atlas 14	NRCS Type D	3.2	7.9
3	NOAA Atlas 14+	NRCS Type D	3.5	9.7

3.3.2 Hydrology

Subcatchment drainage areas were delineated based on contour data, location of proposed stormwater treatment features, and best professional judgement. Once delineated, the SCS TR-55 method was used to simulate potential peak runoff and total runoff from each subcatchment by assigning a subcatchment area, area-weighted curve number, and time of concentration. Curve numbers were assigned under the assumption that all underlying soils are Hydrologic Soil Group (HSG) C. For example, one-half acre lots under Scenario 1 with 25% impervious area were assigned a CN of 80. A time of concentration (Tc) was computed for each subcatchment by summing potential sheet flow, shallow concentrated flow, and channelized flow travel times (as applicable). Travel times were calculated based on evaluation of manning's land surface roughness coefficient, typical flow length, and slope.

Site Specific Notes:

- A porous pavement sidewalk was included in the Scenario 2 model as its own subcatchment (i.e., does not receive runoff from any upstream area). Based on a literature review of comparable studies, porous pavement is typically assigned CNs ranging from 45 to 80. For conservatism, a CN of 80 was assigned to the porous pavement sidewalk.
- A green roof was included in the Scenario 3 model for a portion of the building's roof. Based on a literature review of comparable studies, green roofs are typically assigned CNs ranging from 61 to 85. For conservatism, a CN of 85 was assigned to the green roof.

3.3.3 Hydraulics

SSA uses EPA SWMM's computational engine to perform hydraulic computations. Hydraulic computations are used to translate calculated subcatchment runoff into flow for routing through a hydraulic network. For this project, the hydraulic network is comprised of junctions (i.e., manholes, outfalls), conduits (e.g., pipes, open channels, conveyance BMPs), storage units (i.e., storage and infiltration BMPs), and flow control devices (i.e., outlet control structures, overflow weirs, orifices).

Hydraulic inputs were calculated based on the site plans using the following general assumptions:

- Where applicable, BMPs with infiltration capabilities were assigned a constant exfiltration rate of 0.27 inches per hour based on the underlying Type C site soils (e.g., infiltration basins).
- Storage BMPs such as infiltration basins were modeled as "Storage Units" in SSA by assigning a depth vs. volume curve calculated based on grading contours from the site plans.
- Storage BMPs such as infiltration basins were typically configured with a riser style outlet structure with a grated overflow, emergency spillway, and low level orifices (if needed). Grated overflows and emergency spillways were represented as rectangular weirs (i.e., 1:1 side slope)

and a pre-defined rating curve (i.e., water height vs. discharge). Low level orifices were typically included to ensure that storage BMPs could infiltrate the required WQv and/or Rv within 72 hours – they were represented as circular side orifices with a pre-defined rating curve (i.e., water height vs. discharge).

- Treebox filters and bioretention areas were not included in the SSA model because they are not eligible for peak discharge reductions under the stormwater standards. Refer to **Appendix B-1**, **B-2**, and **B-3** for sizing, Rv credit, and WQv credit for these feature types.
- Dry wells for treatment of Scenario 1 rooftops were configured as storage units with exfiltration of 0.27 in/hr. Overflow from dry wells was routed to the nearest downstream node of the model to account for their contribution to peak discharge during larger storms.

3.3.4 Flow Routing and Model Timing

Flow routing within SSA is performed using EPA SWMM's computational engine which is governed by the conservation of mass and momentum equations for gradually varied, unsteady flow. The three routing options are: (i) Steady Flow Routing, (ii) Kinematic Wave Routing, and (iii) Dynamic Wave Routing. Dynamic Wave Routing was selected as the routing methodology for the model. Dynamic Wave Routing solves the complete one-dimensional Saint Venant flow equations and therefore produces the most theoretically accurate results. These equations consist of continuity and momentum in conduits and volume continuity at nodes. With this form of routing, it is also possible to represent pressurized flow (i.e., when a closed conduit becomes full) in which the actual flow in the conduit can exceed the full-flow Manning's equation value.

Model runs were configured to simulate the 24-hour design storms. Simulations were run for a period of 26 hours to ensure that the runoff hydrograph had sufficient time to complete.

3.4 Cost Estimates

Cost estimates were prepared for the proposed stormwater management system for all considered scenarios. The American Association of Cost Engineers has defined levels of accuracy that are commonly used by professional cost estimators. Three categories of accuracy include: (1) order-of-magnitude, (2) budget, and (3) definitive estimates. The cost estimates presented in this report are considered order-of-magnitude, and were developed with limited engineering detail for comparison purposes.

The order-of-magnitude cost estimates were prepared by determining quantities from the site plans and unit pricing from reputable sources. Unit pricing was obtained as follows:

- Drainage infrastructure (i.e., manholes, pipes, catch basins, outlet structures) were based on unit costing from Massachusetts Department of Transportation (DOT) Weighted Bid Price database[5].
- Treatment features (i.e., infiltration basins, bioretention, infiltration trenches, porous pavement, water quality swales, etc.) were obtained from EPA Region 1 BMP Fact Sheets for the 2016 MS4 Permit[6]. Each BMP's fact sheet includes estimated unit pricing for materials and installation cost based on anticipated land use (i.e., rural, mixed, urban). For example, an infiltration basin installed in an urban setting has an expected materials and installation cost of $12.29 per cubic foot versus $8.19 in a rural setting.

[5] MassDOT Weighted Bid Prices: https://hwy.massdot.state.ma.us/CPE/About_WeightedBids.aspx.

[6] EPA Region 1 BMP Fact Sheets: https://www3.epa.gov/region1/npdes/stormwater/assets/pdfs/ms4-permit-nomographs.pdf.

- Unit pricing for additional remaining items such as the Scenario 3 green roof and landscaping were estimated based on past project experience and best professional judgement.
- A 15% contingency was applied to all estimates.
- Engineering design and permitting costs were not estimated, but are expected to be similar across considered scenarios for existing and proposed standards.

Cost Comparison for NOAA 14 vs. NOAA 14+

Costs were originally calculated for potential revisions to the stormwater standards based on expected sizing of stormwater management measures to meet the 24-hour, 100-year NOAA 14+ storm. Costs were subsequently estimated for the 24-hour, 100-year NOAA 14 storm for each scenario as follows:

- Scenario 1: Based on evaluation of results, Qp drove BMP sizing for this scenario – peak site runoff for the 24-hour, 100-year NOAA 14 storm was approximately 25 percent less than the 24-hour, 100-year NOAA 14+ storm (**Section 4.1**, **Section 4.2.2**). Sizing of the proposed infiltration basins was therefore reduced by 25 percent under the assumption that Qp would still be met.
- Scenario 2: Based on evaluation of results, Rv drove BMP sizing for this scenario. Since Qp did not drive sizing, the overall capacity of proposed stormwater management features would remain unchanged. Cost estimates for the 24-hour, 100-year NOAA 14 and NOAA 14+ storms are therefore the same.
- Scenario 3: Based on evaluation of results, Qp drove BMP sizing for this scenario. A green roof was required to meet the Qp requirement for the NOAA 14+ storm. The SSA model was adjusted and run for the 24-hour, 100-year NOAA 14 storm without a green roof. Results indicate that the post-construction Qp was less than existing conditions without the green roof. A cost estimate for the NOAA 14 storm was therefore prepared without a green roof.

See **Appendix D** for completed order-of-magnitude cost estimates for each Scenario.

4 Results Evaluation

Once the SSA model and all supporting calculations were completed, a comparative analysis was performed across the three potential development scenarios to demonstrate potential changes that may result from proposed SMH revisions. For reference, calculations and other information that support the below discussion are available as follows:

- Site Plans (**Appendix A**)
- Recharge Volume and Water Quality Volume (**Appendix B-1**)
- Drawdown Timing (**Appendix B-2**)
- Pollutant Removal (**Appendix B-3**)
- SSA Model Inputs and Outputs (**Appendix C**)
- Detailed Cost Estimates (**Appendix D**)
- Site Runoff and Discharge (**Appendix E**)

4.1 Site Runoff Comparison

A comparison of peak site runoff under existing conditions was performed across all considered precipitation events. This comparison was performed without any stormwater management measures to enable direct comparisons across all scenarios. Findings for each Scenario are presented below.

- Scenario 1: Changes in expected peak site runoff from TP40 to NOAA 14 are most significant for the 100-year storm simulations – the expected changes are 23.1% for the 100-year NOAA 14 storm and 65.4% percent for the 100-year NOAA 14+ storm (**Figure 4-1**).
- Scenario 2: Changes in expected peak site runoff from TP40 to NOAA 14 are significant for the 2-year and 100-year storm simulations – the expected range is 29.3% for the 2-year NOAA 14+ storm to 102.2% percent for the 100-year NOAA 14+ storm. These changes are likely so significant because of the low time of concentration associated with treated a paved roadway (**Figure 4-2**).
- Scenario 3: Changes in expected peak site runoff from TP40 and NOAA 14 are minor for the 2-year storm and significant for the 100-year storm. Peak runoff from the 100-year NOAA 14 and NOAA 14+ storms are expected to increase 13.7% and 41.8% from the TP40 storm, respectively (**Figure 4-3**).

Based on this evaluation, it is expected that stormwater management measures will generally need to be sized to have a larger capacity to handle increases in peak runoff from these larger and more intense storms, particularly for the NOAA 14+ storms.

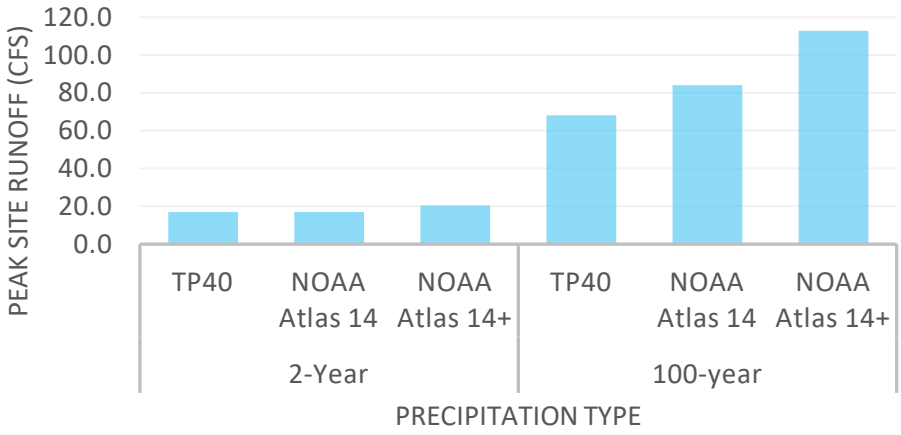


Figure 4-1. Differences in peak site runoff under existing site conditions (Scenario 1).

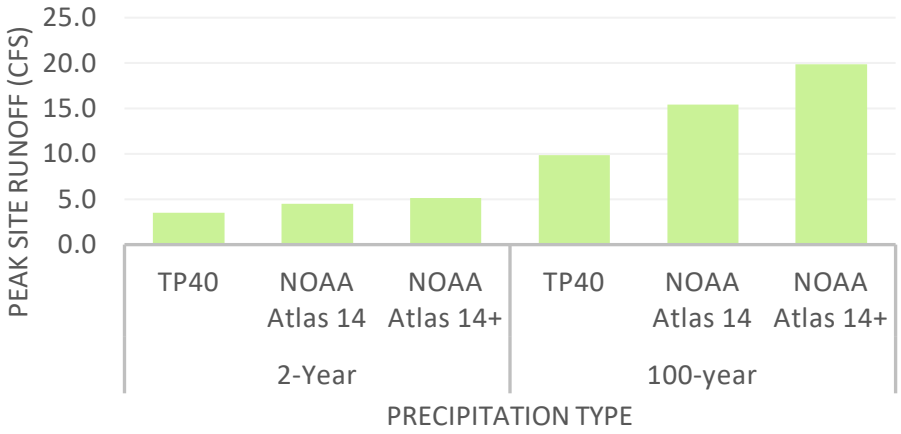


Figure 4-2. Differences in peak site runoff under existing site conditions (Scenario 2).

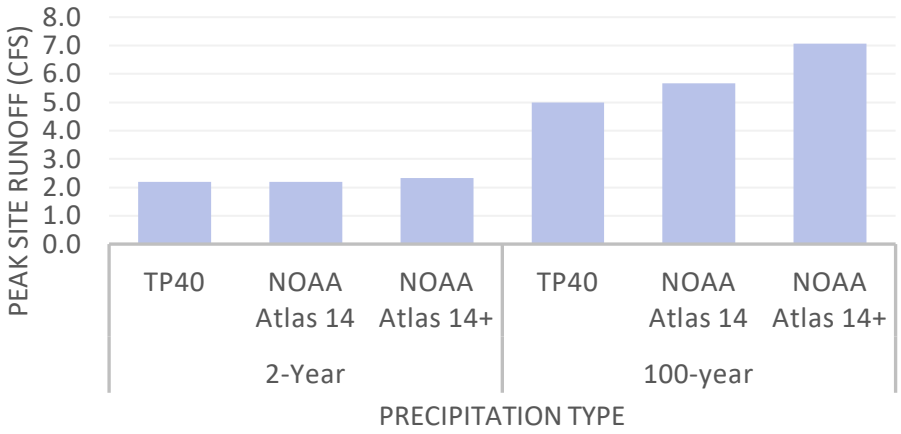


Figure 4-3. Differences in peak site runoff under existing site conditions (Scenario 3)

4.2 Scenario 1 Results

4.2.1 Existing Stormwater Standards

All evaluated existing stormwater standards were met or exceeded by the proposed stormwater management system with sizing being driven by the peak discharge standard for the 100 year TP40 storm (**Table 4-1**). The resulting proposed stormwater management measures would have an overall storage volume of 17,000-cf at a cost of approximately $1M.

4.2.2 Potential Revisions to Stormwater Standards

All evaluated proposed stormwater standards were met or exceeded by the proposed stormwater management system with sizing being driven by the 100 year NOAA 14+ storm (**Table 4-1**).

- Standard 2: Peak Discharge: The peak discharge standard was met by the proposed stormwater management system during all simulated events, including the 100 year NOAA 14+ storm. To meet the peak standard, the proposed infiltration basins were required to have an overall capacity of 66,400-cf – almost four times larger than under the existing standards.
- Standard 3: Recharge Volume: The proposed stormwater management system has a Rv of 2.13-in (26,900-cf) which exceeds the 1-in Rv standard. The overall capacity of the infiltration basins is significantly greater to account for peak rate control. A low level orifice is required at each outlet control structure to ensure that each basin can draw down within the required 72 hours. The expected drawdown times for the basins range from 48 to 61 hours. The orifices of each basin's outlet control structure could theoretically be moved to a higher elevation to add an additional 8,000-cf of capacity while still providing drawdown within 72 hours – this configuration would increase the Rv from 2.13-in to 2.76-in.
- Standard 4: Water Quality Volume / Pollutant Removal: All proposed stormwater management features are configured to infiltrate; therefore, the WQv of the proposed stormwater management system is equal to the Rv of 2.13-in. The minimum required WQv to meet the 90% TSS / 60% TP standard would be approximately 0.58-in, slightly greater than the required 0.5-in under the existing regulations.

The resulting proposed stormwater management measures would have an overall storage volume of 66,400-cf at a cost of approximately $1.5M. Note that this scenario included raingardens at the bottom of each driveway for treatment. Under the existing stormwater standards, raingardens cannot take credit for peak discharge reduction. They were therefore not simulated in the SSA model's peak discharge simulations. Because peak discharge drives sizing for this scenario, the required WQv of the infiltration basins far exceeds the minimum requirements to meet 90% TSS and 60% TP removal. The raingardens thus don't count towards meeting any of the standards. By eliminating the proposed raingardens, the cost of the proposed stormwater management system would decrease by $48,000.

Table 4-1. Comparison of potential BMP sizing and costing (Scenario 1)

Proposed Treatment Goal:	Meet Existing Handbook Criteria	Meet Potential Handbook Update Criteria
Rainfall Type	TP40	NOAA Atlas 14+
BMP Design Volumes	- Total: 17,000 cf - Rv: 17,000 cf - WQv: 17,000 cf	- Total: 66,400 cf - Rv: 26,900 cf - WQv: 26,900 cf
Standard 2: Peak Discharge (2-yr)	**- Criteria:** Post < Pre **- Result:** 20% Reduction	**- Criteria:** Post < Pre **- Result**: 43.8% Reduction
Standard 2: Peak Discharge (100-yr)	**- Criteria:** Post < Pre **- Result:** 7.4% Reduction **(Criteria Drives Sizing)**	**- Criteria:** Post < Pre **- Result:** 2.3% Reduction **(Criteria Drives Sizing)**
Standard 3: Recharge Volume	**- Criteria:** 0.25" (Type C Soil) **- Result:** 1.35"	**-Criteria:** 1" (Type C Soil) **-Result:** 2.13"
Standard 4: Pollutant Removal	**- Criteria:** 0.5" WQv, 80% TSS **-Result:** 1.35" WQv, 81% TSS	**- Criteria:** EPA Curves, 90% TSS / 60% TP *(Appx. Min. WQv Depth = 0.58")* - **Result:** 2.13" WQv, 94% TSS / 79% TP
Cost Estimate for Stormwater System	Total: $1,004,000 (*Per Unit: $38,615.38*)	Total: $1,485,000 *(Per Unit: $57,115.38)*

Note:

1. See **Appendix B-3** for calculation of approximate minimum required WQv depth to meet EPA curves.

4.3 Scenario 2 Results

4.3.1 Existing Stormwater Standards

All evaluated existing stormwater standards were met or exceeded by the proposed stormwater management system with sizing being driven by the 0.5-in WQv (**Table 4-2**). To meet the peak standard, a porous sidewalk was included along the southern side of the roadway. The resulting proposed stormwater management measures would have an overall storage volume of 1,810-cf at a cost of approximately $291,935.

4.3.2 Potential Revisions to Stormwater Standards

All evaluated proposed stormwater standards were met or exceeded by the proposed stormwater management system except for the 1 inch Rv (**Table 4-2**). Sizing of the stormwater management system was therefore driven by the required Rv.

- Standard 2: Peak Discharge: The peak discharge standard was met by the proposed stormwater management system during all simulated events, including the 100 year NOAA 14+ storm. To meet the peak standard, a porous sidewalk was included along the southern side of the roadway.
- Standard 3: Recharge Volume: The proposed stormwater management system has a Rv of 0.65-in (2,211-cf) – a Rv of 3,500-cf would be required to meet the 1-in standard (to MEP). To accommodate this, the entire side of the road would need to be treated with infiltration features.
- Standard 4: Water Quality Volume / Pollutant Removal: The required Rv drives sizing for this Scenario. The minimum required WQv to meet the 80% TSS / 50% TP standard would be

approximately 0.40-in, less than the requirement under the existing regulations. It is less because the proposed design includes five distributed infiltration basins that are efficient (per the EPA Nomographs) at removing TSS and TP. For example, an infiltration basin would have to treat just 0.25-in of runoff from upstream impervious area for removal of 85% TSS and 60% TP, assuming a 0.27 inch/ hour infiltration rate.

The resulting proposed stormwater management measures would have a total storage volume of 2,411 cf at a cost of approximately $298,153.

Potential Alternative Treatment

Since the 1-in Rv was not met for this site, an evaluation of potential alternatives was performed. Stormwater treatment options for this site are limited given the small available right of way. Alternative stormwater treatment measures include: more tree box filters, distributed roadside bioretention areas, or subsurface detention. These alternative measures were not selected as they would not meet criteria from the stormwater standards.

- The tree box filters and bioretention areas cannot be used for peak reduction under the stormwater standards.
- Given their small footprint, tree box filters are also not effective at meeting Rv requirements.
- Subsurface detention does not infiltrate and would therefore not contribute to the Rv requirement. Subsurface detention would also not meet required TP removal. According to the EPA Nomographs, the maximum potential TP removal from surface detention (assumed as a "Dry Pond") would be 36% as compared to the 50% requirement.

Table 4-2. Comparison of potential BMP sizing and costing (Scenario 2)

Proposed Treatment Goal:	Meet Existing Handbook Criteria	Meet Potential Handbook Update Criteria
Rainfall Type	TP40	NOAA Atlas 14+
BMP Design Volumes	- Total: 1,810 cf - Rv: 1,690 cf - WQv: 1,810 cf	- Total: 2,411 cf - Rv: 2,211 cf - WQv: 2,411 cf
Standard 2: Peak Discharge (2-yr)	**- Criteria:** Post < Pre (MEP) **- Result:** 4.6% Reduction	**- Criteria:** Post < Pre (MEP) **- Result**: 10.1% Reduction
Standard 2: Peak Discharge (100-yr)	**- Criteria:** Post < Pre (MEP) **- Result:** 0.2% Reduction	**- Criteria:** Post < Pre (MEP) **- Result:** 4.8% Reduction
Standard 3: Recharge Volume	**- Criteria:** 0.25" (MEP) **- Result:** 0.49"	**-Criteria:** 1" (MEP) **-Result:** 0.65" **(Criteria Drives Sizing)**
Standard 4: Pollutant Removal	**- Criteria:** 0.5" WQv, 80% TSS (MEP) **-Result:** 0.53" WQv, 82% TSS **(Criteria Drives Sizing)**	**- Criteria:** EPA Curves, 80% TSS / 50% TP *(Appx. Min. WQv Depth = 0.40")* - **Result:** 0.70" WQv, 89% TSS / 66% TP
Cost Estimate for Stormwater System	Total: $302,000 *(Per Linear Foot: $201.33)*	Total: $308,000 *(Per Linear Foot: $205.33)*

Note:

1. See **Appendix B-3** for calculation of approximate minimum required WQv depth to meet EPA curves.

4.4 Scenario 3 Results

4.4.1 Existing Stormwater Standards

All evaluated existing stormwater standards were met or exceeded by the proposed stormwater management system with sizing being driven by the 0.5-in WQv (**Table 4-3**). The resulting proposed stormwater management measures would have an overall storage volume of 2,620-cf at a cost of approximately $281,000.

4.4.2 Potential Revisions to Stormwater Standards

Sizing of proposed stormwater management measures to meet the proposed stormwater standards was driven by a combination of the 1-in Rv (MEP) and peak discharge during the 100-year NOAA 14+ storm (**Table 4-3**).

- Standard 2: Peak Discharge: Peak discharge criteria was just met during the 100-year, NOAA 14+ storm – simulated proposed conditions peak site discharge equals simulated existing conditions peak site discharge. The overall capacity of the infiltration basin was limited by two factors: 1) maintaining at least four feet of separation between the basin's bottom and the groundwater table and 2) maintaining a reasonable depth such that the infiltration basin is not too deep to become a safety concern given its close proximity to the sidewalk and adjacent road.

  Given these sizing limitations, a 10,000 sq-ft green roof would be required to meet the peak discharge criteria for the 100 year NOAA 14+ storm. Note that the peak discharge requirement is met for the 100 year NOAA 14 storm without a green roof.

- Standard 3: Recharge Volume: All evaluated proposed stormwater standards were met or exceeded by the proposed stormwater management system except for the 1-in Rv – the proposed infiltration basin's bottom area was not large enough to infiltrate the full Rv within 72 hours given the low infiltration rates of the surrounding Type C Soils. The infiltration basin's outlet control structure was therefore configured with a side orifice set at the highest possible elevation to allow for full infiltration within 72 hours.

- Standard 4: Water Quality Volume / Pollutant Removal: The Rv and Peak Discharge standards drive sizing for this Scenario. The minimum required WQv to meet the 80% TSS / 50% TP standard would be approximately 0.45-in, almost identical to the requirement under the existing regulations.

The resulting proposed stormwater management measures would have an overall storage volume of 5,320 cf at a cost of approximately $494,000.

Potential Alternative Treatment

Since the 1-in Rv was not met for this site and because the proposed stormwater measures were costly, an evaluation of potential alternatives was performed.

Infiltration opportunities for this site are limited given the small lot size and proximity to the wetland. An infiltration facility adjacent to the wetland would not be feasible given set back requirements outlined in the SMH. To help meet peak discharge requirements at a lower cost than the green roof, an aboveground detention facility could potentially be constructed behind the building. The facility would be subject to meeting pollutant removal requirements for the site on an area weighted basis. Also, as discussed in **Section 4.2.2**, bioretention features cannot take credit for peak discharge reduction under the existing stormwater management standards and were therefore not included in the SSA model's peak discharge simulations. Allowing the bioretention features to take credit for peak discharge reduction may reduce peak site discharge such that a green roof may not be required. Finally, for constrained sites such as this one, off-site mitigation may be allowable to increase Rv.

Table 4-3. Comparison of potential BMP sizing and costing (Scenario 3)

Proposed Treatment Goal:	Meet Existing Handbook Criteria	Meet Potential Handbook Update Criteria
Rainfall Type	TP40	NOAA Atlas 14+
BMP Design Volumes	- Total: 2,620 cf - Rv: 1,345 cf - WQv: 2,620 cf	- Total: 5,320 cf - Rv: 2,045 cf - WQv: 3,320 cf
Standard 2: Peak Discharge (2-yr)	**- Criteria:** Post < Pre (MEP) **- Result:** 10.6% Reduction	**- Criteria:** Post < Pre (MEP) **- Result**: 23.2% Reduction
Standard 2: Peak Discharge (100-yr)	**- Criteria:** Post < Pre (MEP) **- Result:** 8.0% Reduction	**- Criteria:** Post < Pre (MEP) **- Result:** No Change **(Criteria Drives Sizing)**
Standard 3: Recharge Volume	**- Criteria:** 0.25" (MEP) **- Result:** 0.29"	**-Criteria:** 1" (MEP) **-Result:** 0.44" **(Criteria Drives Sizing)**
Standard 4: Pollutant Removal	**- Criteria:** 0.5" WQv, 80% TSS (MEP) **-Result:** 0.56" WQv, 89% TSS **(Criteria Drives Sizing)**	**- Criteria:** EPA Curves, 80% TSS / 50% TP *(Appx. Min. WQv Depth = 0.45")* - **Result:** 0.71" WQv, 94% TSS / 63% TP
Cost Estimate for Stormwater System	Total: $281,000 *(Per Unit: $936.67)*	Total: $494,000 *(Per Unit: $1,646.67)*

Note:

1. See **Appendix B-3** for calculation of approximate minimum required WQv depth to meet EPA curves.

4.5 Cost Comparison

Order-of-magnitude cost estimate differences between the existing standards and potential standards ranged from 2% to 76% (**Figure 4-4**). The largest cost differences resulted from the requirement to meet Qp from the 100-year NOAA 14+ storm. Scenario specific discussion is provided below.

- Scenario 1: Estimated cost increases for existing versus potential standards were mostly driven by grading costs associated with larger infiltration basins to meet Qp. The cost increase for the potential standards to meet Qp for the 100-year NOAA 14 storm was 32% versus 48% for 100-year NOAA 14+ storm.
- Scenario 2: Estimated cost increases for existing versus potential standards were just 2% for Scenario 2. Although peak runoff increased substantially from TP 40 to NOAA 14 and NOAA 14+, the distributed stormwater treatment infiltration basins throughout the road right of way were able to reduce overall Qp without requiring significant increases in sizing.
- Scenario 3: Cost increases for existing vs. potential standards were mostly driven by stormwater treatment features to meet Qp. A larger infiltration basin was required to meet Qp for the 100-year NOAA 14 storm which resulted in 15% higher costs. A larger infiltration basin and a green roof was required to meet Qp for the NOAA 14+ storm which resulted in 76% higher costs.

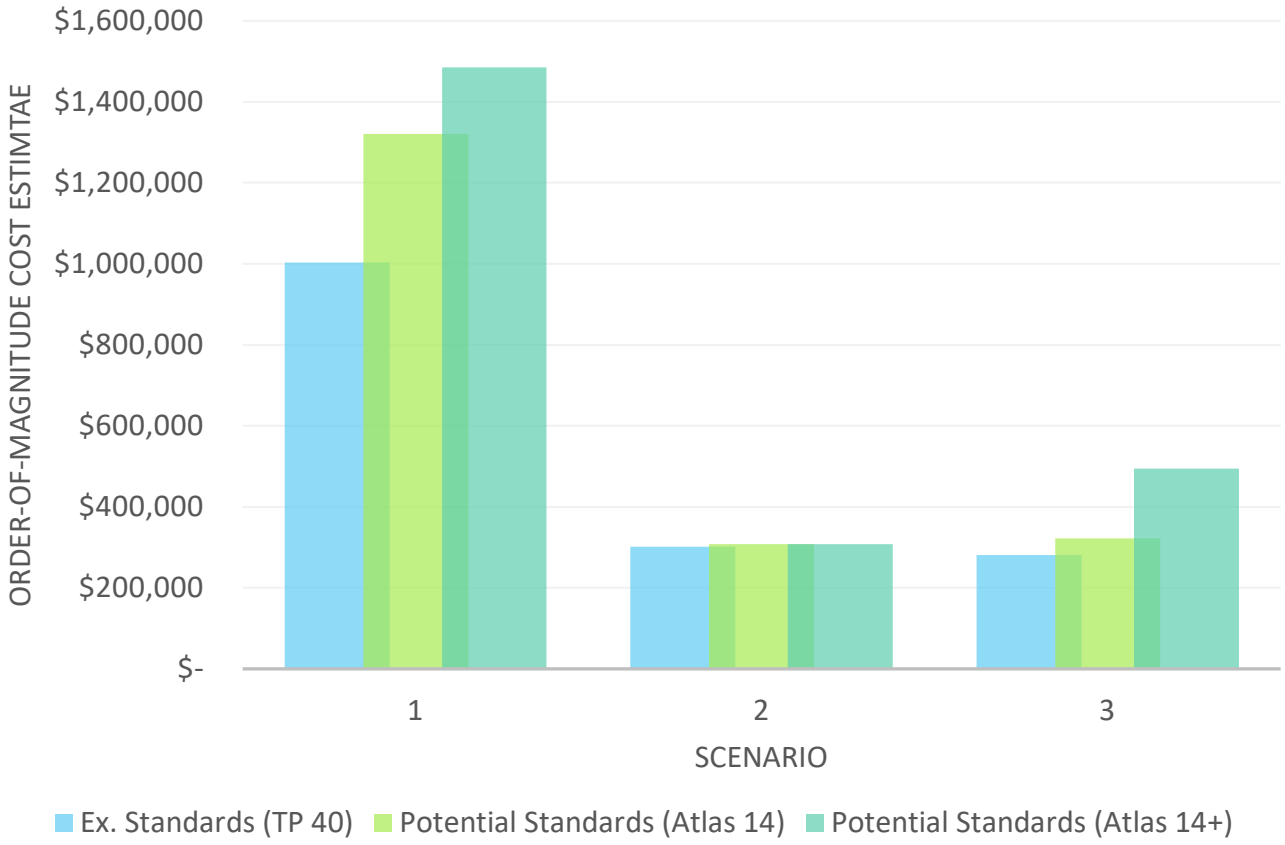


Figure 4-4. Differences in estimates order-of-magnitude cost estimates for each scenario.

5 Discussion

This section includes discussion of findings and recommendations relative to the potential revisions to the stormwater standards.

- Peak Runoff: Changes in expected peak site runoff from TP40 to NOAA 14 are most significant for the 100-year storm simulations. Expected increases for the 100-year NOAA 14 storm range from 13.7% to 56%. Expected increases for the 100-year NOAA 14+ storm range from 41.8% to 102.2%.
- Standard 2: Peak Discharge: The peak discharge standard drives BMP sizing for two of the three evaluated scenarios because of the large increase in peak site runoff from the NOAA 14 storms. To meet peak discharge requirements, Scenario 1 BMPs for the 100-year NOAA 14+ storms were sized four times larger than Scenario 1 BMPs for the 100-year TP 40 storm. Likewise, Scenario 3 BMPs for the NOAA 14+ storm were sized twice as large as Scenario 3 BMPs for the 100-year TP 40 storm. For sites with minimal space for treatment, additional measures such as a green roof were required to meet the peak discharge standards for the 100-year NOAA 14+ storm.

  One recommendation to more easily meet the peak standard is to allow peak reduction credit for properly designed bioretention features. It is likely that the bioretention features deployed for both Scenario 1 and Scenario 3 would have contributed to peak reduction, thereby reducing overall required site treatment capacity. Bioretention features can be simulated in SSA (and other models such as EPA SWMM) as a storage feature with exfiltration and an overflow to the downstream drainage or conveyance network. Any revisions to the proposed standards to allow for peak reduction credit for bioretention features would require guidelines to avoid the possibility of large storms washing away the treatment media and scouring the vegetation that is integral to the treatment.
- Standard 3: Recharge Volume: The 1-in recharge volume standard drove sizing for both of the redevelopment scenarios – both scenarios were able to meet the proposed standard to MEP, but were unable to achieve a Rv of 1-in. Scenario 3 did not have enough space to allow infiltration within 72 hours and Scenario 2 had limited space along the road shoulder to construct BMPs. Scenario 2 would require a continuous BMP along the entire side of road to meet the 1 inch Rv. Space constrained sites such as Scenario 2 and Scenario 3 may require off-site mitigation to meet the 1-in Rv to MEP.
- Standard 4: Water Quality Volume / Pollutant Removal: The required 0.5 inch WQv drove sizing in two out of three Scenarios to meet the existing stormwater standards, but did not drive sizing in any of the Scenarios to meet proposed revisions to the standards. The WQv (as a depth) to meet required TSS / TP removals ranged from 0.40-in to 0.58-in to meet potential revisions to the standards, which is generally in line with the current 0.5-in WQv.

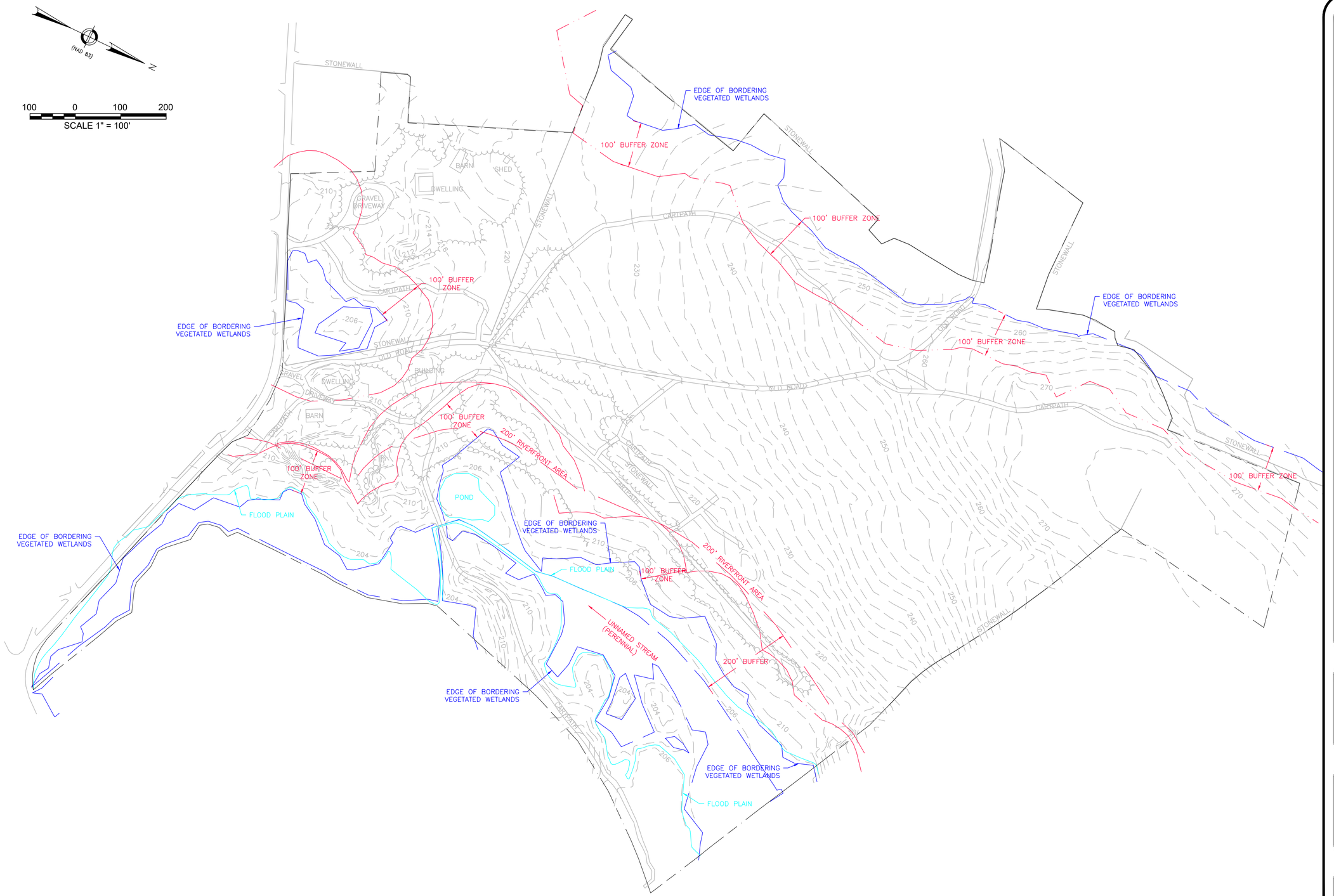
  One recommendation to make documentation of pollutant removals easier and more accurate is to develop an automated pollutant reduction tool based on the 2016 EPA Region 1 nomographs. The nomographs can currently be used to interpolate potential pollutant load reductions based on depth of treatment runoff; however, these interpolations are coarse and may lead to errors. A simple tool could be created to output anticipated pollutant removals based on infiltration depth and depth of treated runoff.
- Cost: Order-of-magnitude cost estimate differences between existing standards and proposed revisions to the standards ranged widely for each scenario. The largest differences for each Scenario were as follows: Scenario 1 (48%), Scenario 2 (2%), Scenario 3 (75%). Primary cost differences for Scenario 1 were grading costs associated with much larger infiltration basins. Primary cost differences for Scenario 3 was the green roof and more grading associated with

infiltration basin to control peak discharge. Note that cost estimates prepared for this report are for the stormwater management system and would represent a fraction of overall project costs.

Based on evaluation of these factors, the proposed revisions generally appear to be feasible; however, creative ESSD and LID implementation or off-site mitigation may be required at space-constrained locations. Costs will also likely be higher to meet the proposed revisions given more widespread implementation of LID features and increases in required BMP capacities to minimize peak discharge from larger and more intense NOAA 14 storms.

Appendix A-1

Scenario 1 Site Plans



GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

EXISTING CONDITIONS

Town of Townington, MA

Project No.: 263-3
Date: AUGUST 2020
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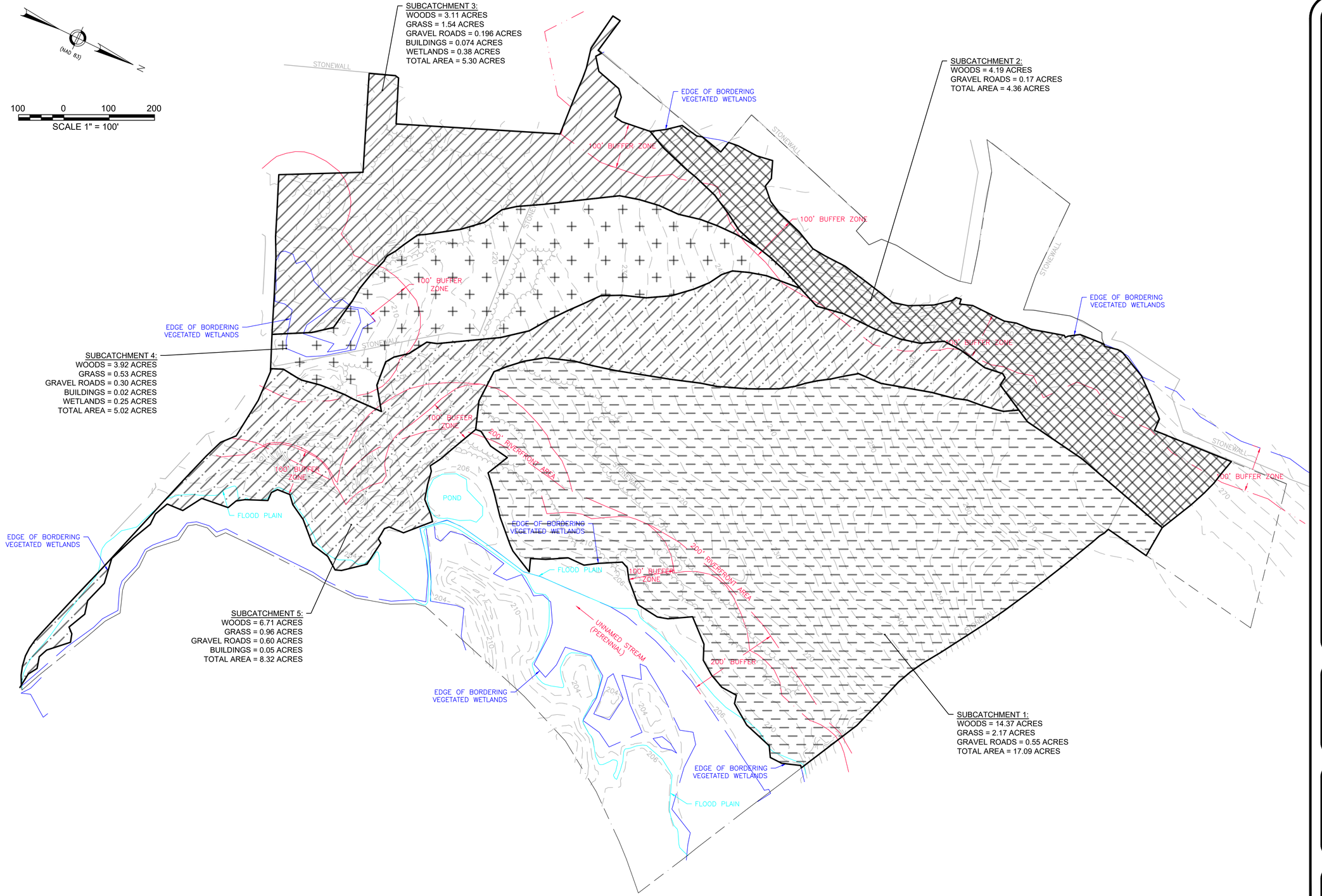
Sheet

C-1



GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED
21 DEPOT ST.
MERRIMACK, NH 03054

EXISTING CONDITIONS WITH SUBCATCHMENTS

Town of Townington, MA

Project No.: 263-3
Date: AUGUST 2020
Drawn By: JJK
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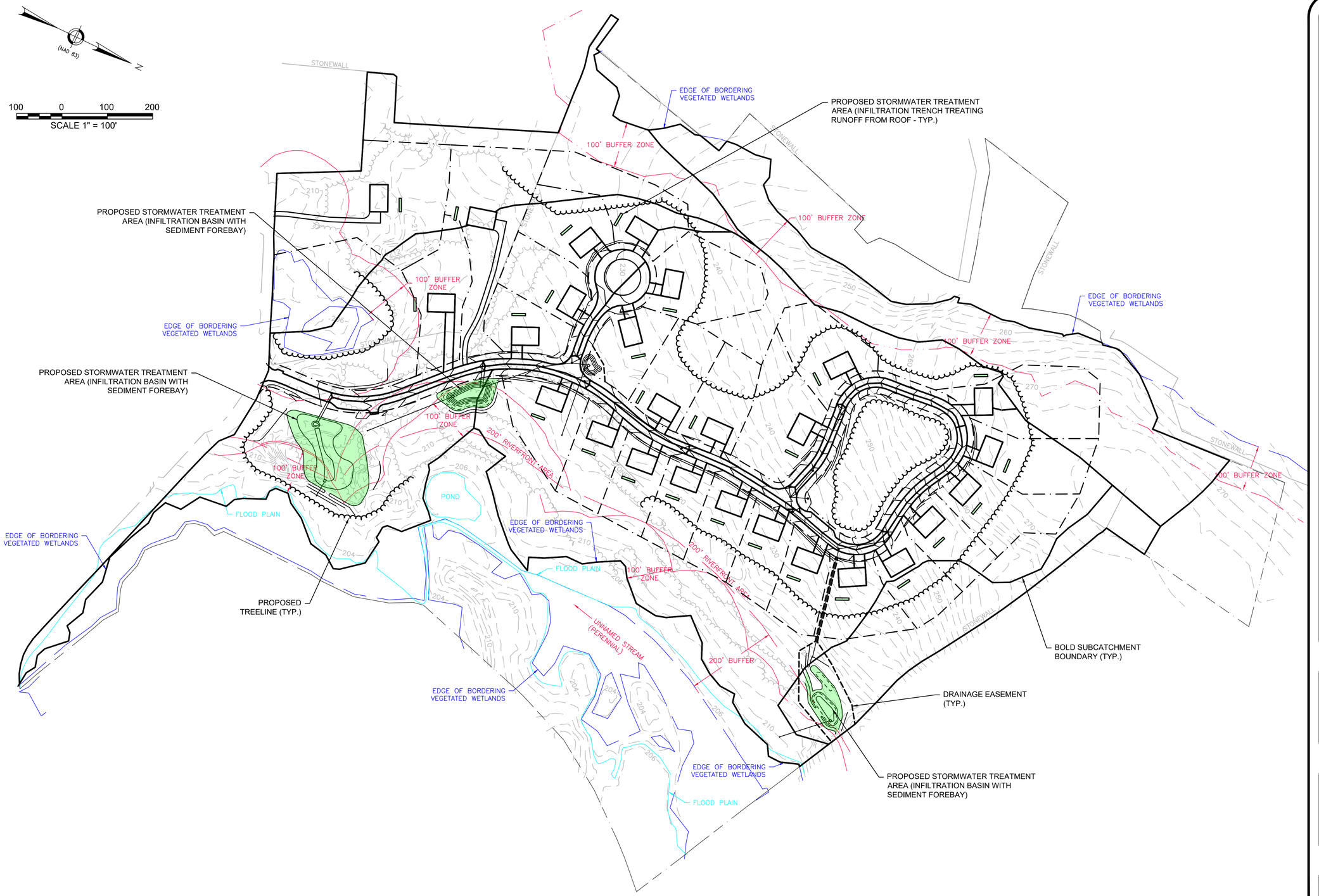
Scale: AS SHOWN

Sheet
C-2



GENERAL NOTES

No.	Revision/Issue	Date

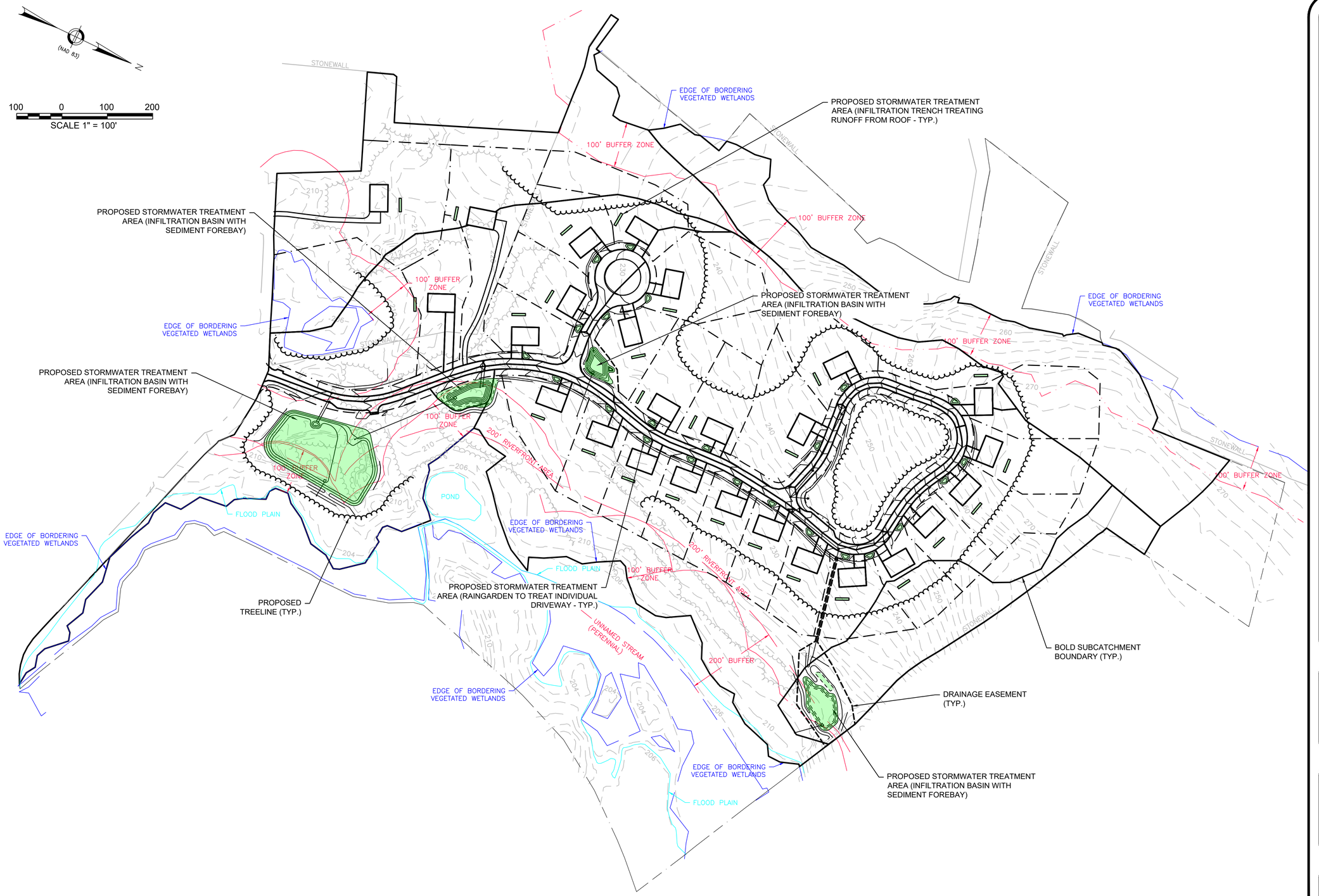
COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

PROPOSED CONDITIONS UNDER EXISTING REGULATIONS

Town of Townington, MA

Project No.: 263-3 Date: AUGUST 2020	Sheet
Drawn By: JJK Checked By: ML	C-3
Scale: AS SHOWN	



GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

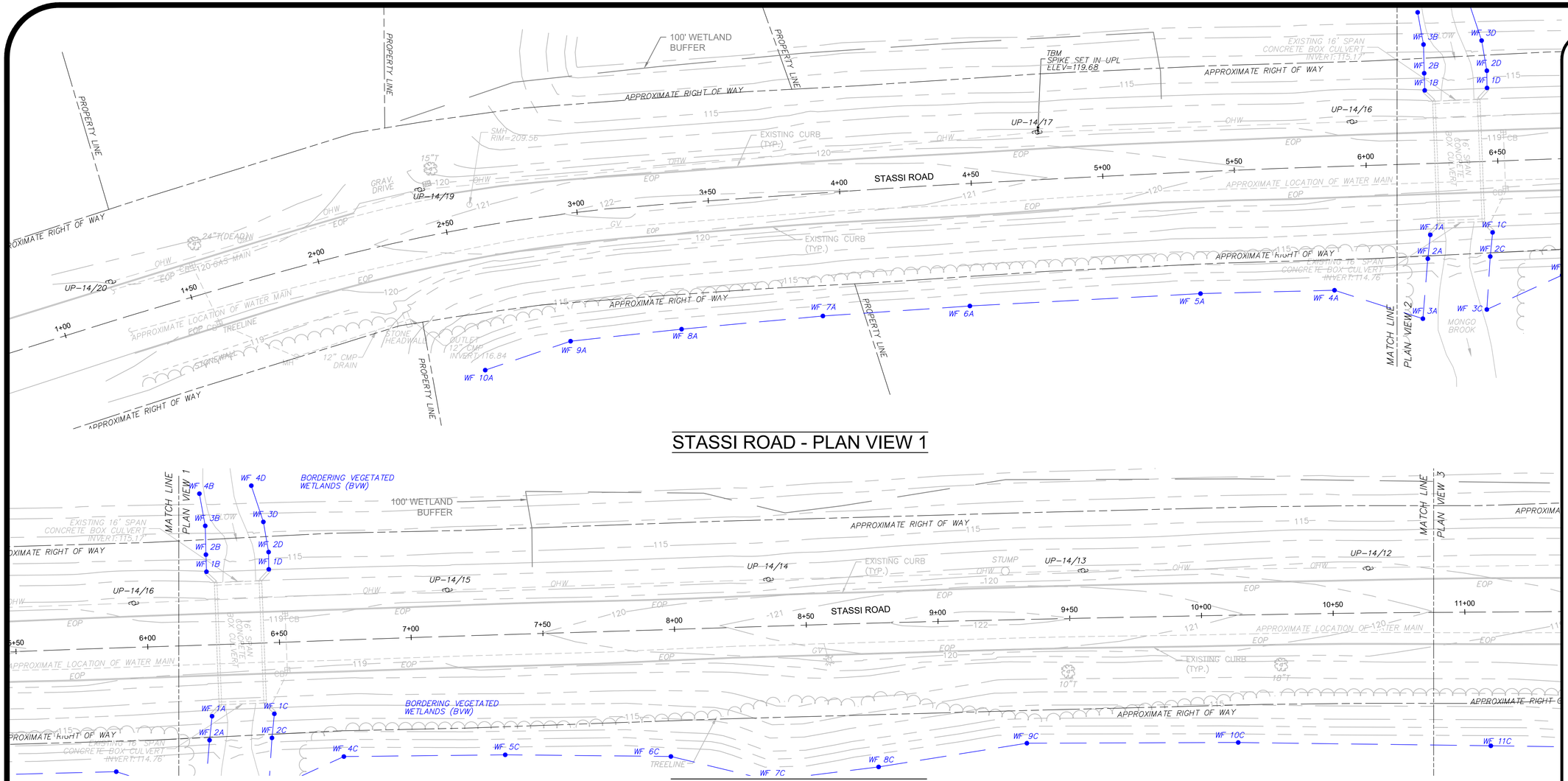
PROPOSED CONDITIONS UNDER PROPOSED REGULATIONS

Town of Townington, MA

Project No.: 263-3 Date: AUGUST 2020	Sheet
Drawn By: JJK Checked By ML	C-4
Scale: AS SHOWN	

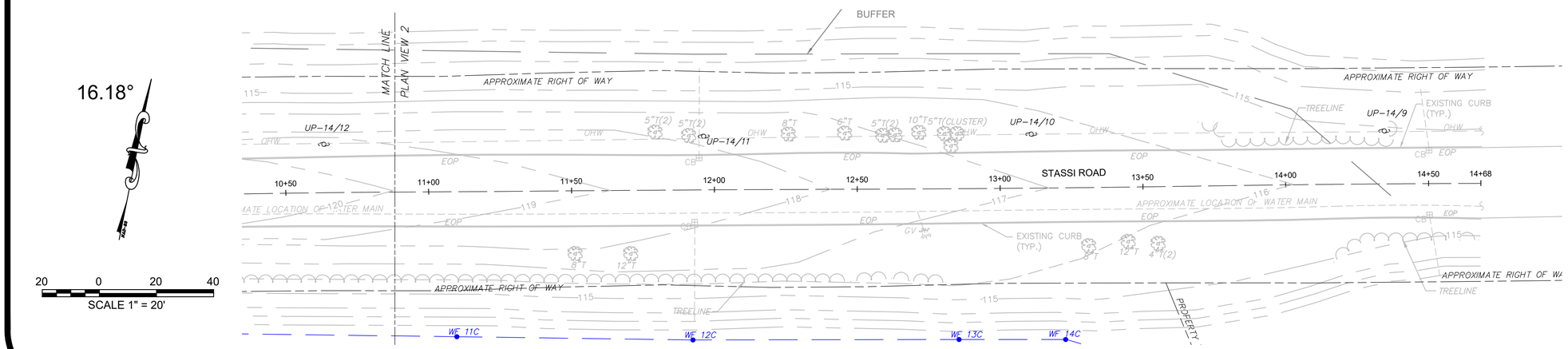
Appendix A-2

Scenario 2 Site Plans



STASSI ROAD - PLAN VIEW 1

STASSI ROAD - PLAN VIEW 2



STASSI ROAD - PLAN VIEW 3

GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED
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MERRIMACK, NH 03054

EXISTING CONDITIONS

Town of Townington, MA

Project No.: 263-3	Sheet
AUGUST 2020	C-1
Drawn By: JJK	
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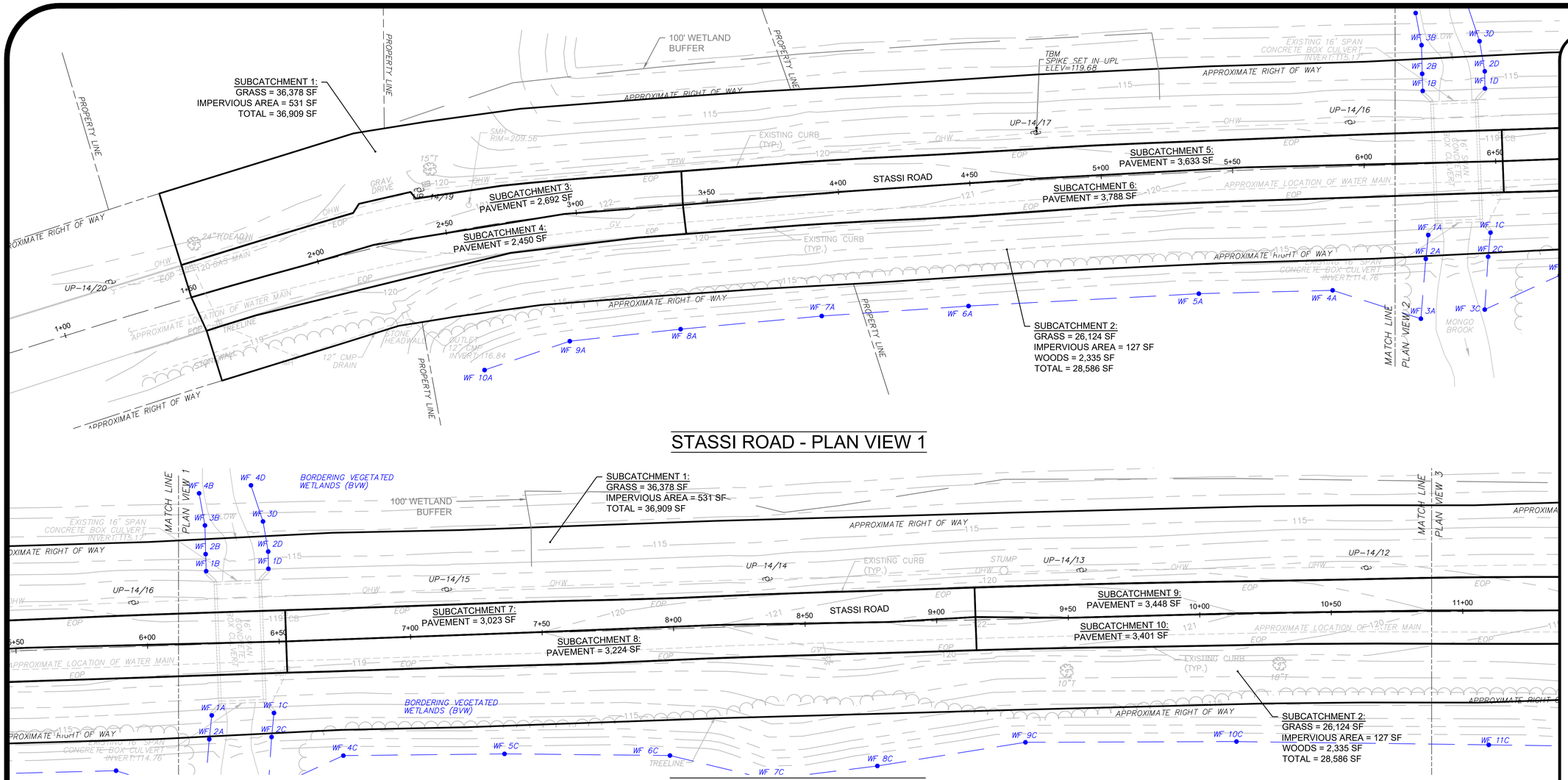

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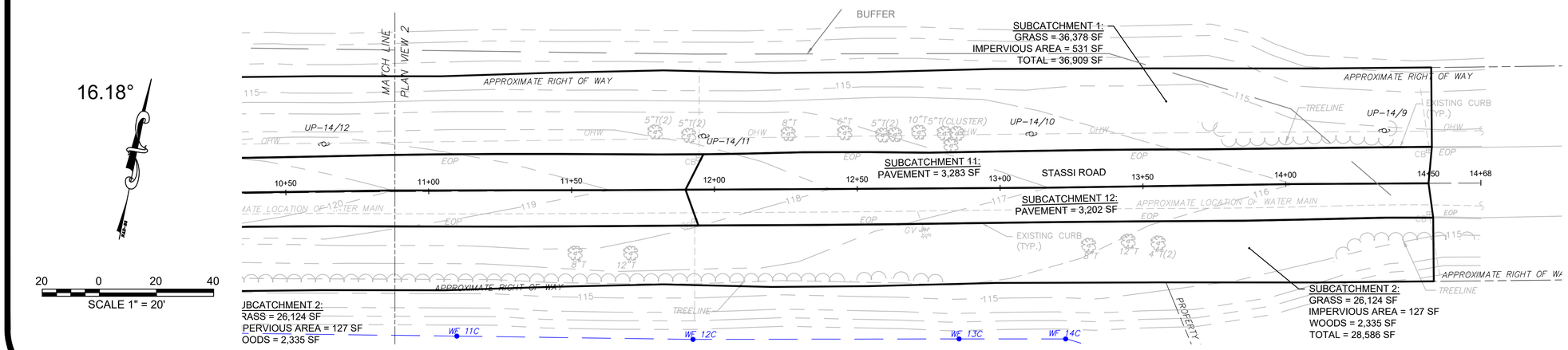
STASSI ROAD - PLAN VIEW 2



STASSI ROAD - PLAN VIEW 3

GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

EXISTING SUBCATCHMENTS

Town of Townington, MA

Project No.: 263-3 AUGUST 2020	Sheet
Drawn By: JJK Checked By: ML	C-2
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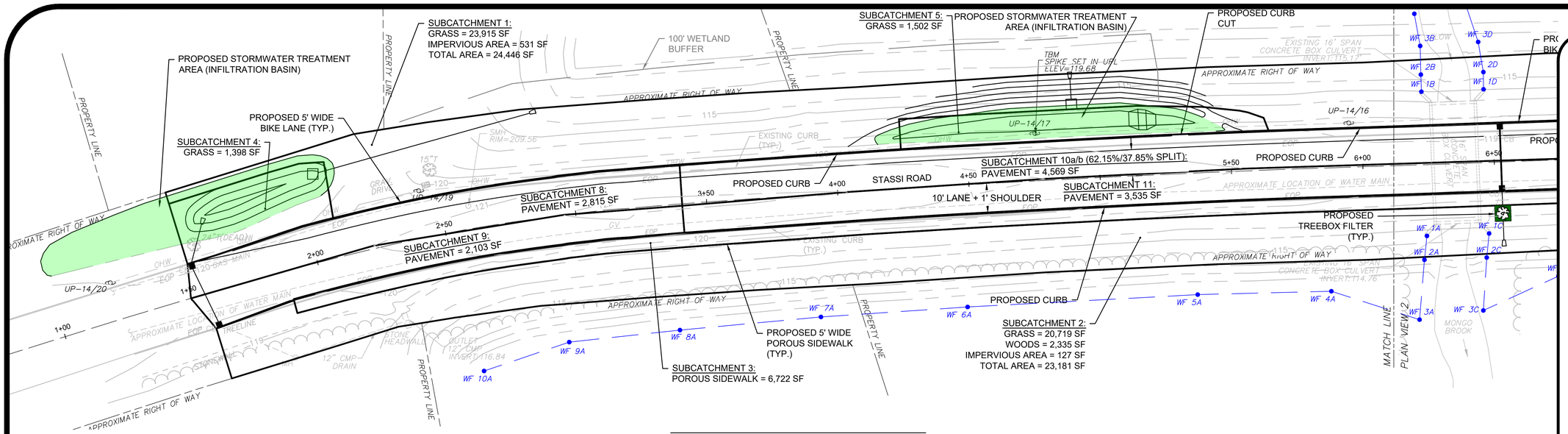

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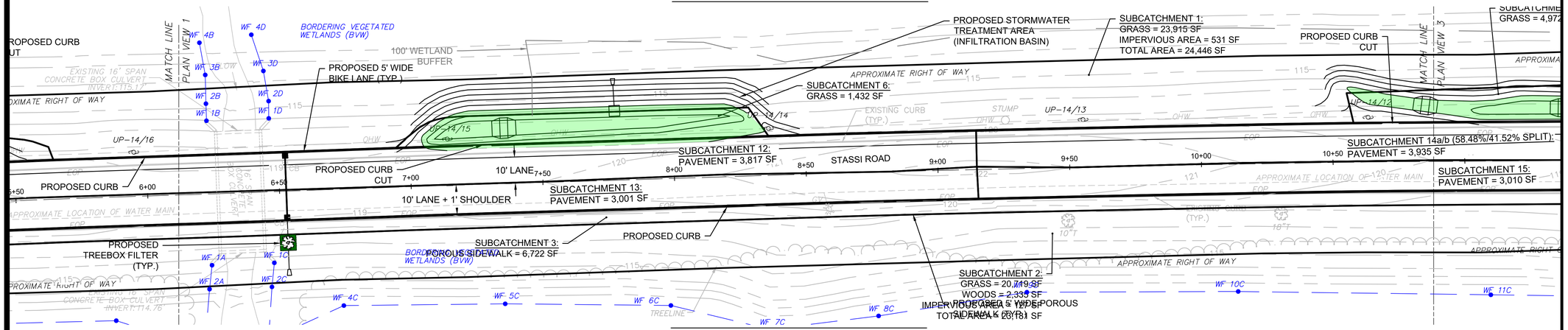

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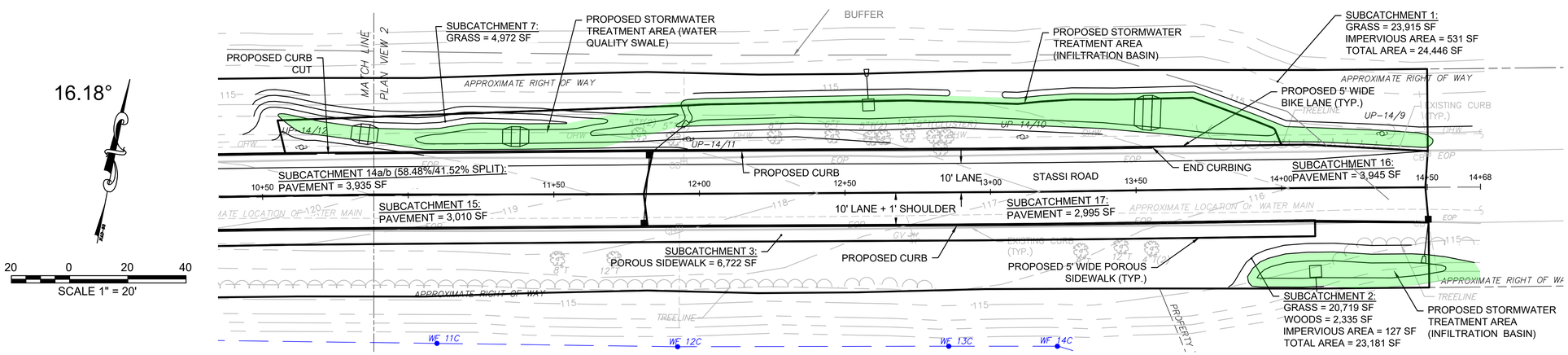

STASSI ROAD - PLAN VIEW 3

GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

PROPOSED SUBCATCHMENTS

Town of Townington, MA

Project No.: 263-3 AUGUST 2020	Sheet C-3
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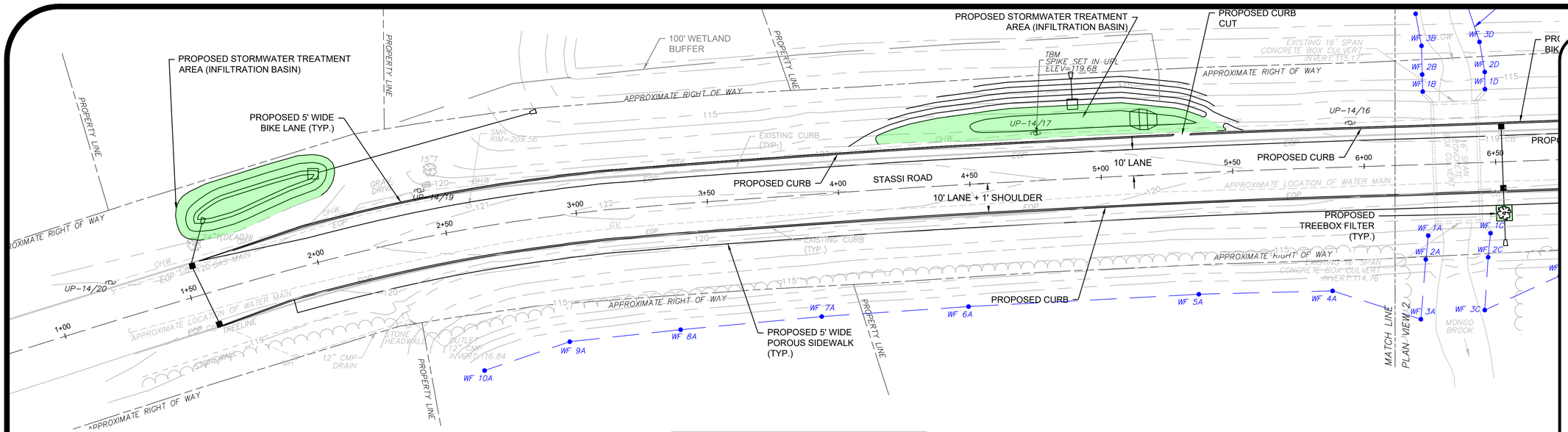

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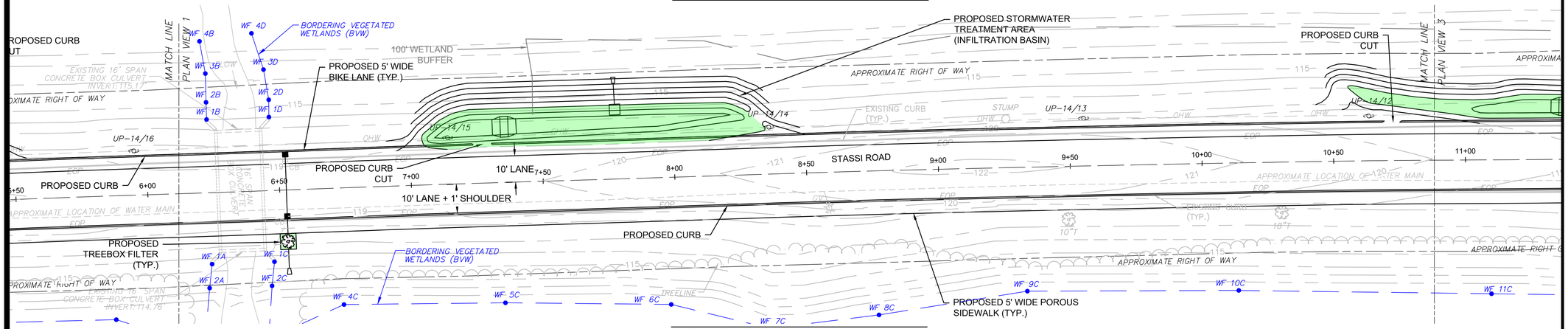

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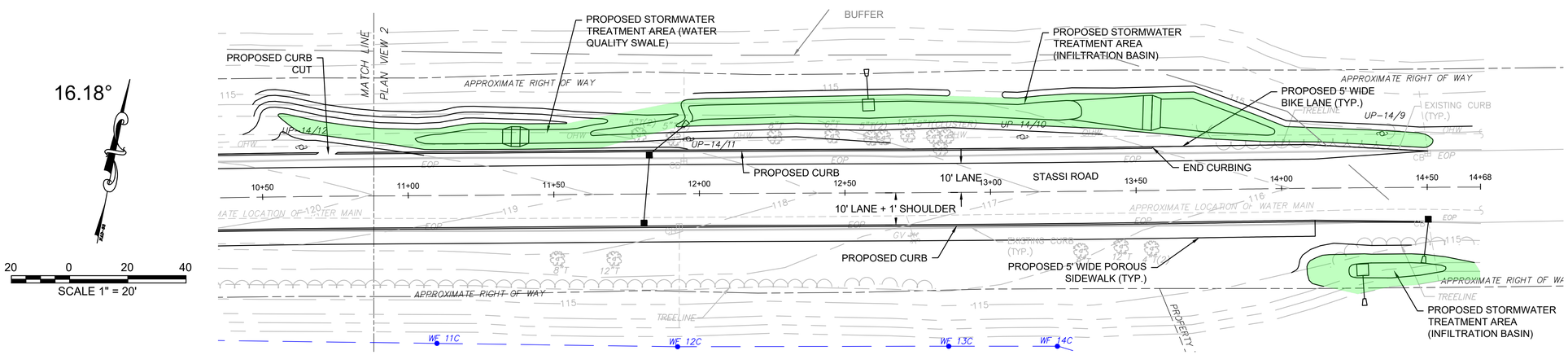

STASSI ROAD - PLAN VIEW 3

GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

PROPOSED CONDITIONS UNDER EXISTING REGULATIONS

Town of Townington, MA

Project No.: 263-3 AUGUST 2020	Sheet
Drawn By: JJK Checked By ML	C-4
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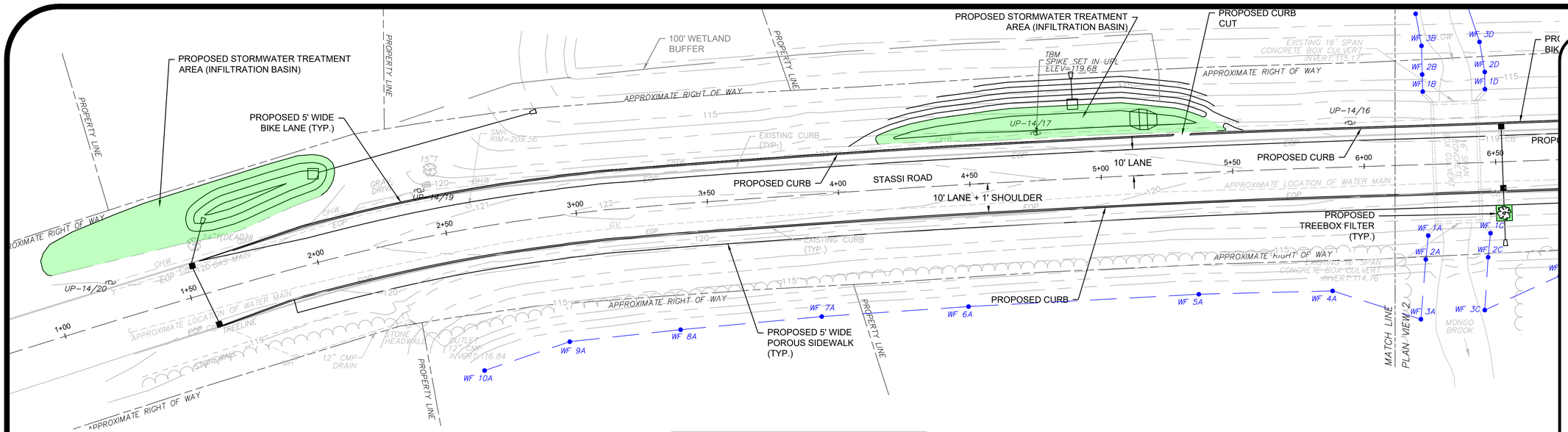

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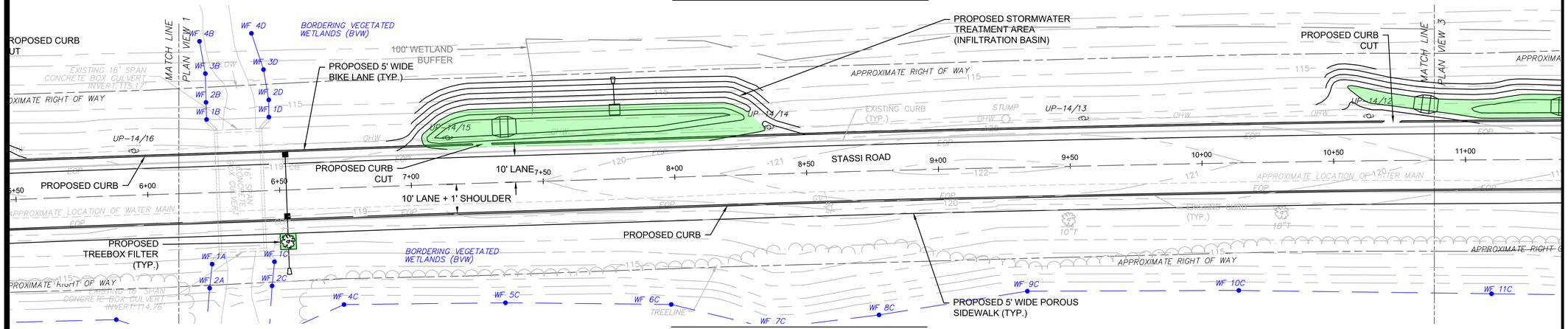

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16.18°

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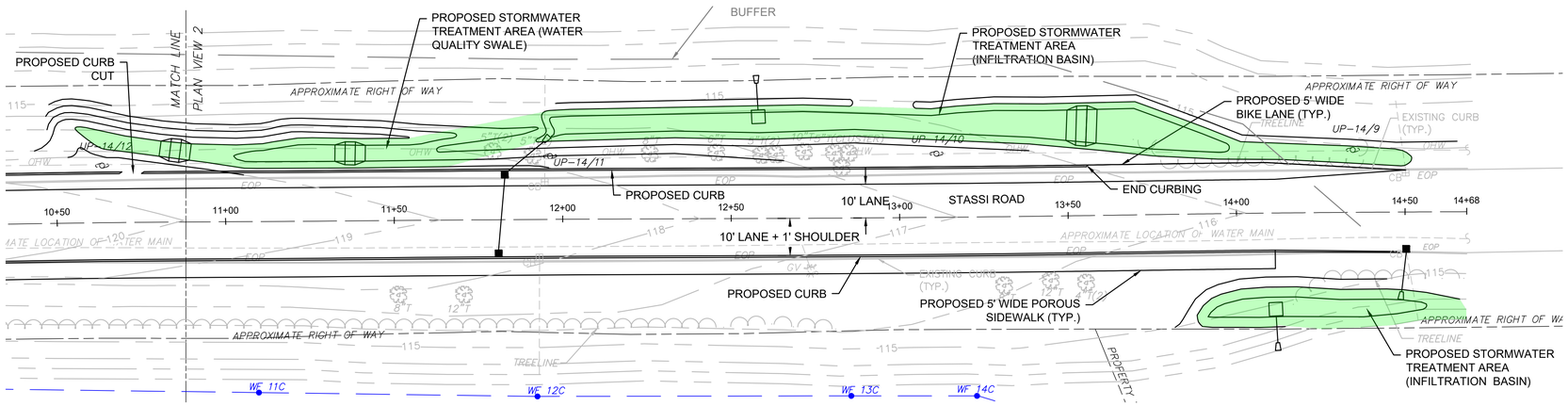

STASSI ROAD - PLAN VIEW 3

GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

PROPOSED CONDITIONS UNDER PROPOSED REGULATIONS

Town of Townington, MA

Project No.: 263-3 AUGUST 2020	Sheet
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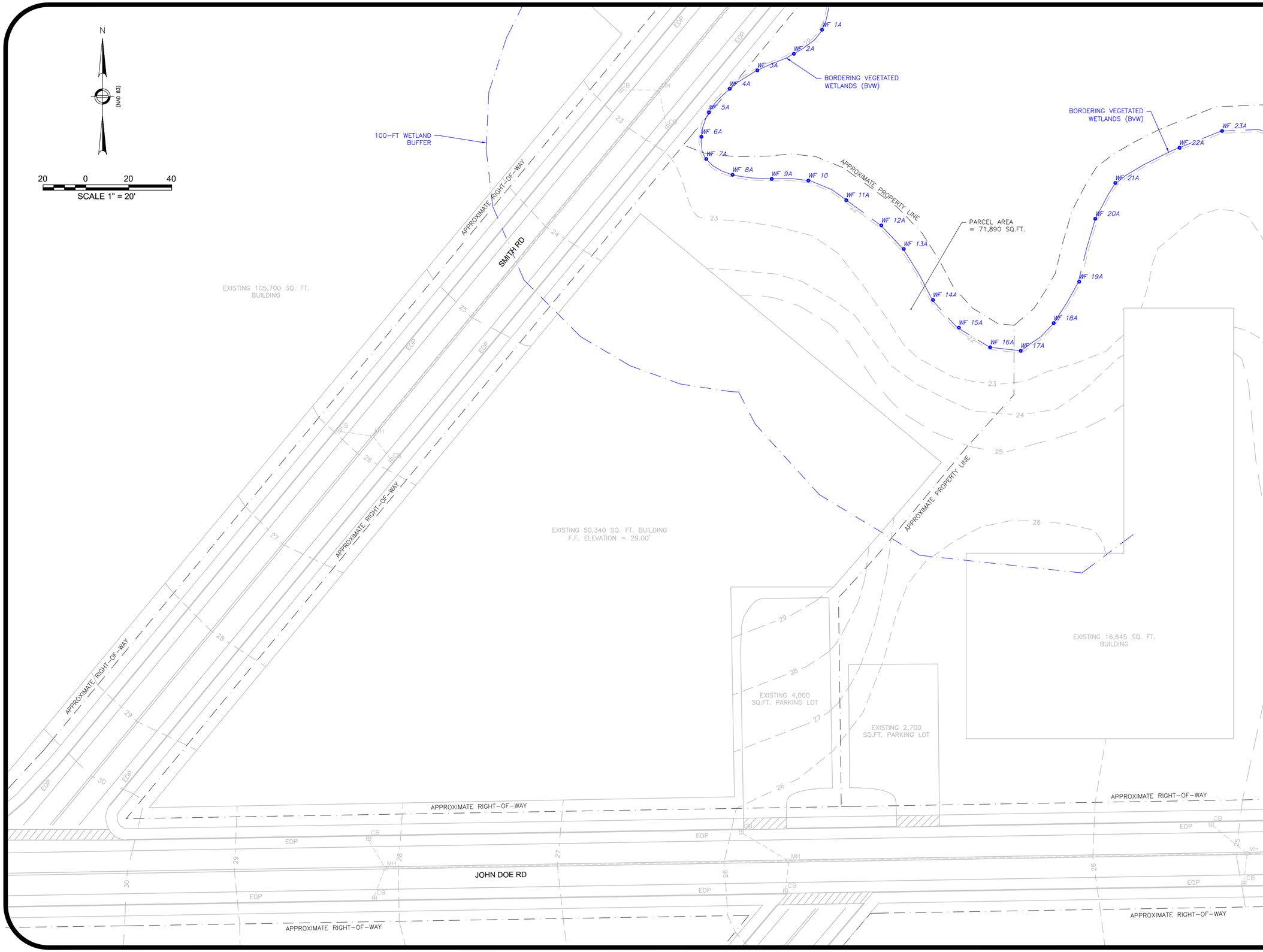
Appendix A-3

Scenario 3 Site Plans



GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

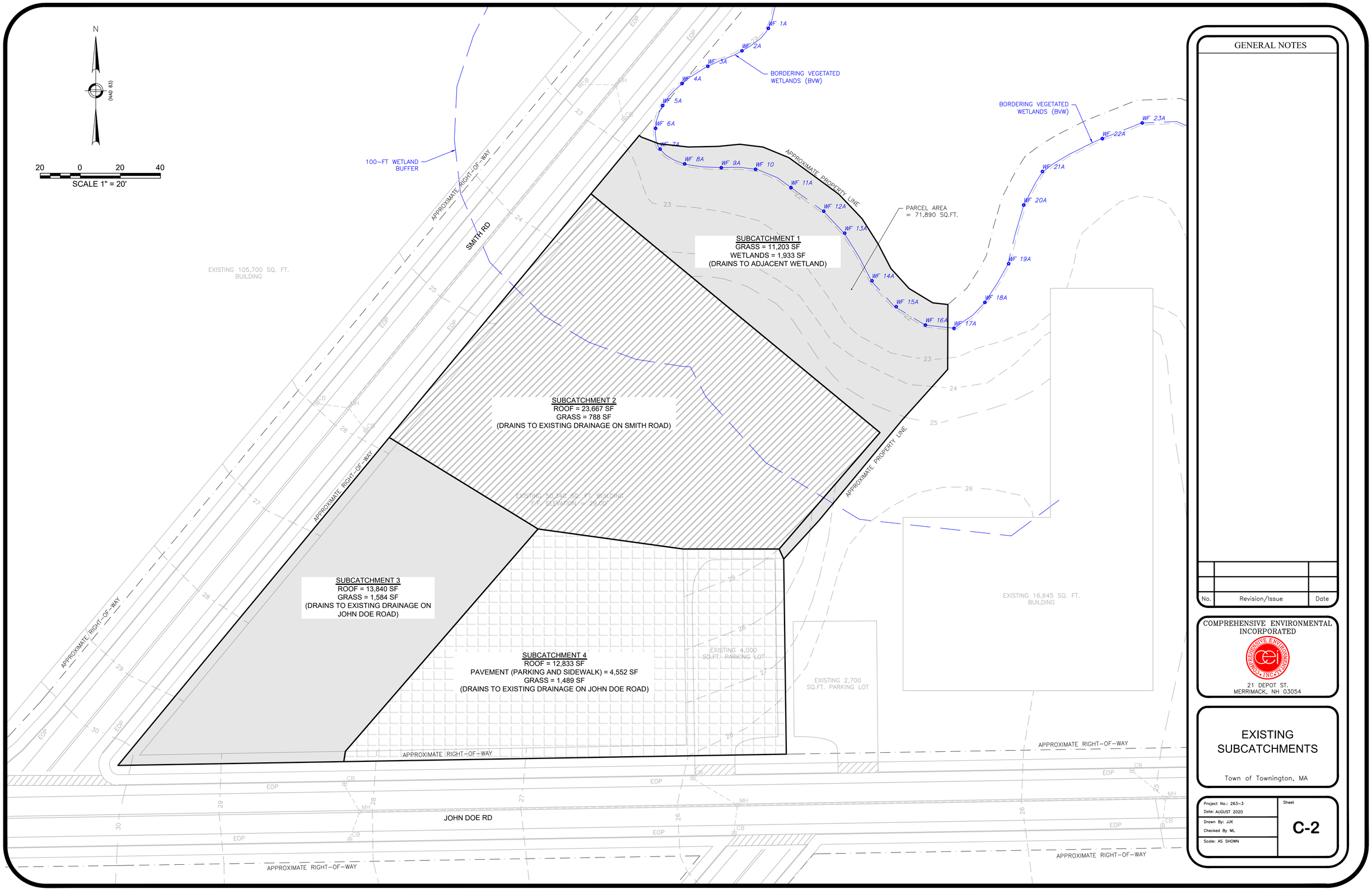
21 DEPOT ST.
MERRIMACK, NH 03054

EXISTING CONDITIONS

Town of Townington, MA

Project No.: 263-3
Date: AUGUST 2020
Drawn By: JJK
Checked By ML
Scale: AS SHOWN

Sheet
C-1



GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

EXISTING SUBCATCHMENTS

Town of Townington, MA

Project No.: 263-3	Sheet
Date: AUGUST 2020	C-2
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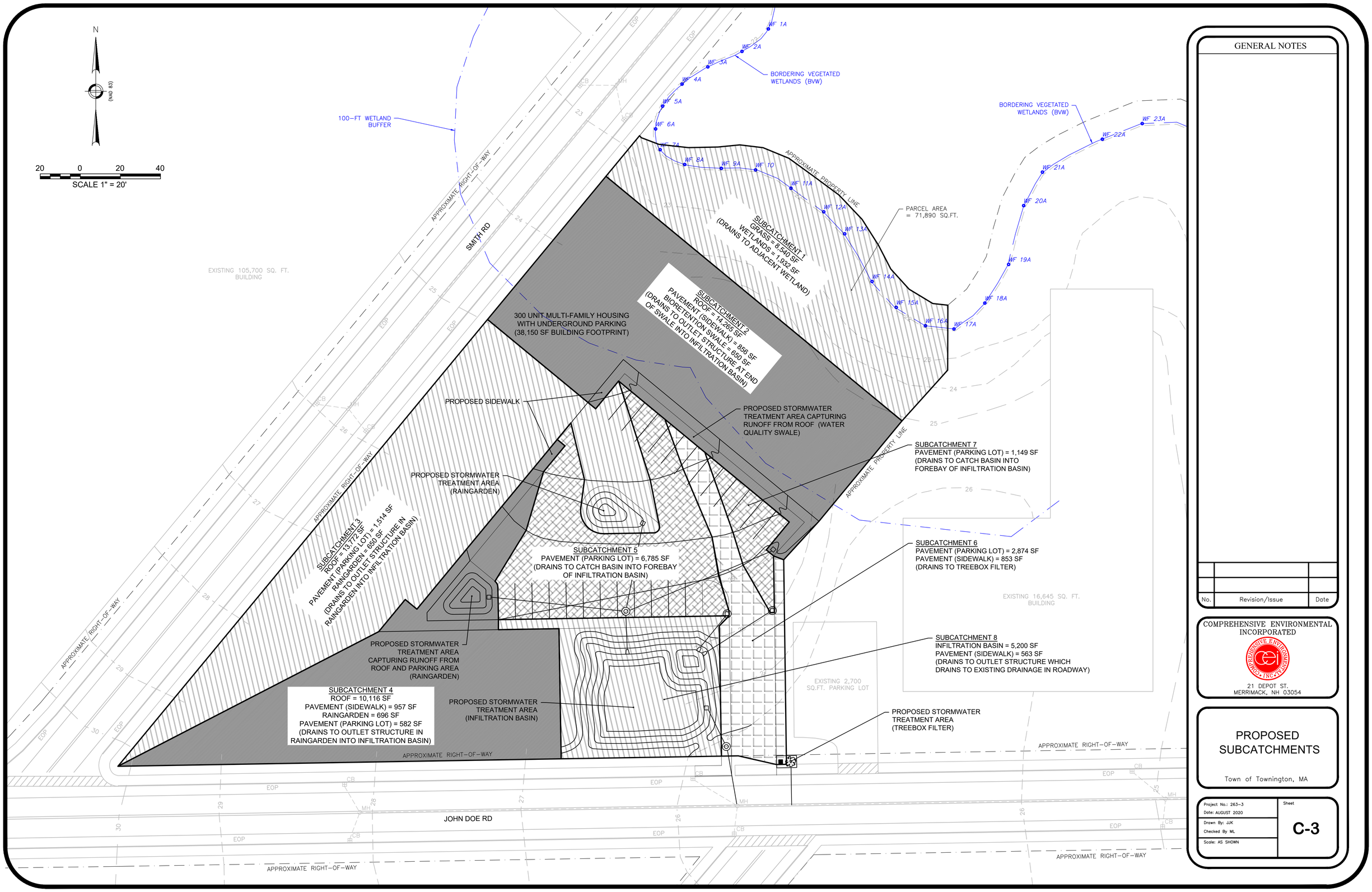

GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

PROPOSED SUBCATCHMENTS

Town of Townington, MA

Project No.: 263-3	Sheet
Date: AUGUST 2020	C-3
Drawn By: JJK	
Checked By ML	
Scale: AS SHOWN	

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(NAD 83)

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SCALE 1" = 20'

100-FT WETLAND BUFFER

APPROXIMATE RIGHT-OF-WAY

SMITH RD

EXISTING 105,700 SQ. FT. BUILDING

WF 1A
WF 2A
WF 3A
WF 4A
WF 5A
WF 6A
WF 7A
WF 8A
WF 9A
WF 10
WF 11A
WF 12A
WF 13A
WF 14A
WF 15A
WF 16A
WF 17A
WF 18A
WF 19A
WF 20A
WF 21A
WF 22A
WF 23A

BORDERING VEGETATED WETLANDS (BVW)

BORDERING VEGETATED WETLANDS (BVW)

APPROXIMATE PROPERTY LINE

PARCEL AREA
= 71,890 SQ.FT.

ROOF DRAIN

PROPOSED SIDEWALK

PROPOSED STORMWATER TREATMENT AREA (WATER QUALITY SWALE)

PROPOSED STORMWATER TREATMENT AREA (RAINGARDEN)

PROPOSED STORMWATER TREATMENT AREA (RAINGARDEN)

ROOF DRAIN

PROPOSED STORMWATER TREATMENT AREA (INFILTRATION BASIN)

300 UNIT MULTI-FAMILY HOUSING
WITH UNDERGROUND PARKING
(38,150 SF BUILDING FOOTPRINT)

PROPOSED STORMWATER TREATMENT AREA (TREEBOX FILTER)

EXISTING 2,700 SQ.FT. PARKING LOT

EXISTING 16,645 SQ. FT. BUILDING

JOHN DOE RD

APPROXIMATE RIGHT-OF-WAY

EOP

CB

MH

GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

PROPOSED CONDITIONS UNDER EXISTING REGULATIONS

Town of Townington, MA

Project No.: 263-3	Sheet
Date: AUGUST 2020	C-4
Drawn By: JJK	
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20 0 20 40

SCALE 1" = 20'

100-FT WETLAND BUFFER

APPROXIMATE RIGHT-OF-WAY

SMITH RD

EXISTING 105,700 SQ. FT. BUILDING

WF 1A
WF 2A
WF 3A
WF 4A
WF 5A
WF 6A
WF 7A
WF 8A
WF 9A
WF 10
WF 11A
WF 12A
WF 13A
WF 14A
WF 15A
WF 16A
WF 17A
WF 18A
WF 19A
WF 20A
WF 21A
WF 22A
WF 23A

BORDERING VEGETATED WETLANDS (BVW)

BORDERING VEGETATED WETLANDS (BVW)

APPROXIMATE PROPERTY LINE

PARCEL AREA
= 71,890 SQ.FT.

ROOF DRAIN

PROPOSED SIDEWALK

PROPOSED STORMWATER TREATMENT AREA (WATER QUALITY SWALE)

PROPOSED STORMWATER TREATMENT AREA (RAINGARDEN)

300 UNIT MULTI-FAMILY HOUSING
WITH UNDERGROUND PARKING
(38,150 SF BUILDING FOOTPRINT)

PROPOSED GREEN ROOF

PROPOSED STORMWATER TREATMENT AREA (RAINGARDEN)

ROOF DRAIN

PROPOSED STORMWATER TREATMENT AREA (INFILTRATION BASIN)

PROPOSED STORMWATER TREATMENT AREA (TREEBOX FILTER)

APPROXIMATE PROPERTY LINE

EXISTING 2,700 SQ.FT. PARKING LOT

EXISTING 16,645 SQ. FT. BUILDING

JOHN DOE RD

EOP
CB
MH
APPROXIMATE RIGHT-OF-WAY

GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

PROPOSED CONDITIONS UNDER PROPOSED REGULATIONS

Town of Townington, MA

Project No.: 263-3	Sheet
Date: AUGUST 2020	C-5
Drawn By: JJK	
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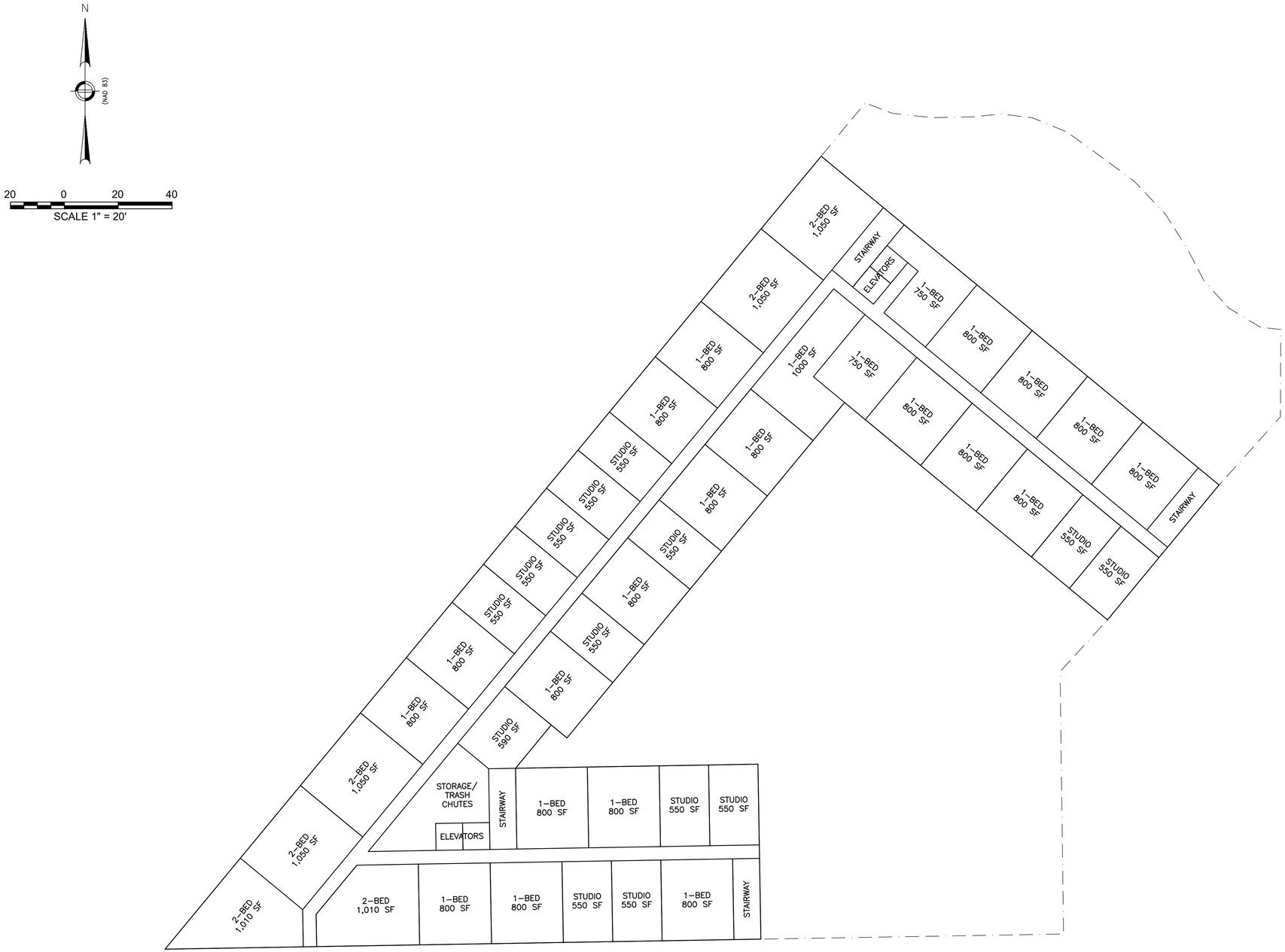

GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

TYPICAL FLOORPLAN LAYOUT

Town of Townington, MA

Project No.: 263-3 Date: AUGUST 2020	Sheet
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Scale: AS SHOWN	

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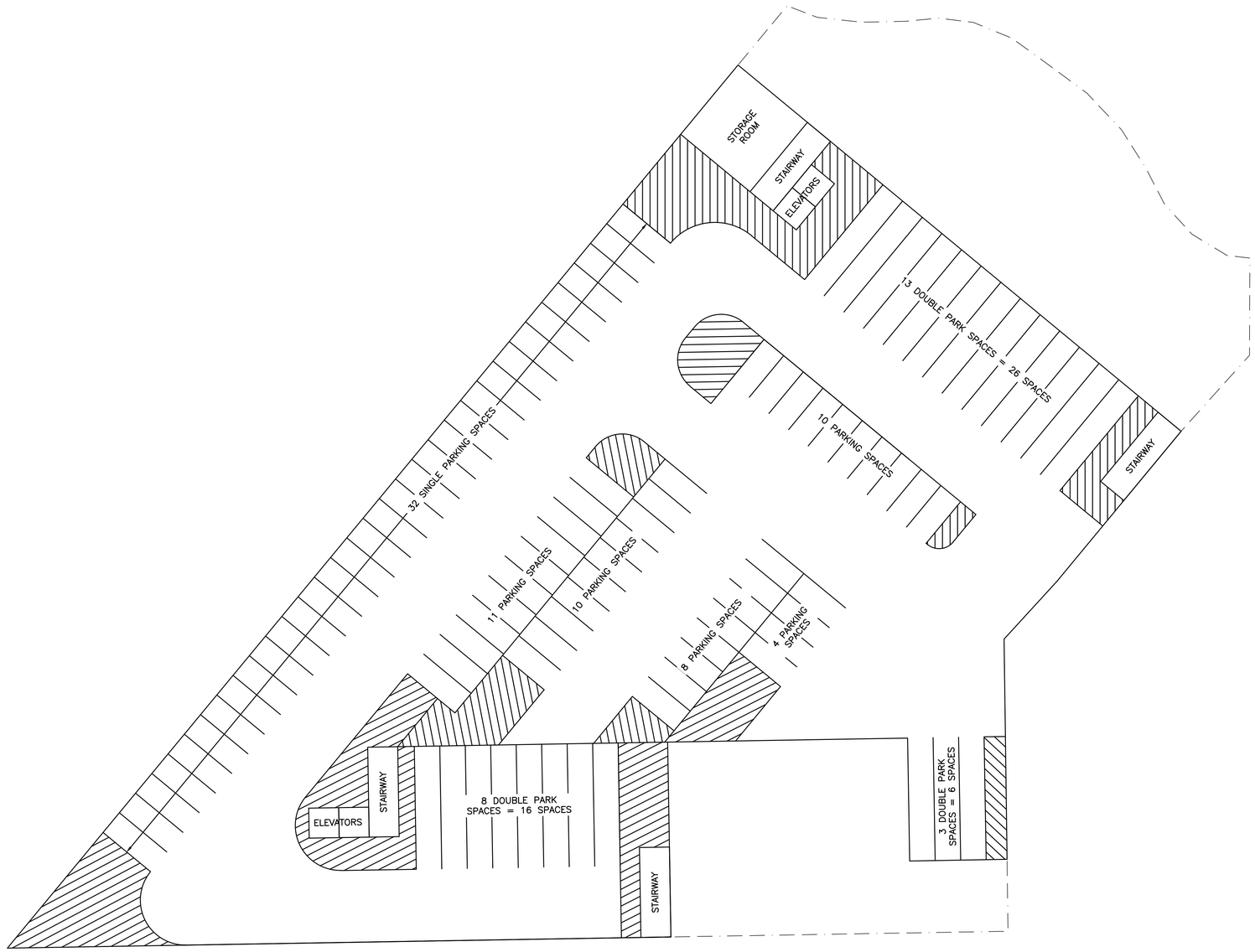


GENERAL NOTES

No.	Revision/Issue	Date

COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT ST.
MERRIMACK, NH 03054

UNDERGROUND PARKING LAYOUT

Town of Townington, MA

Project No.: 263-3 Date: AUGUST 2020	Sheet
Drawn By: JJK Checked By ML	--
Scale: AS SHOWN	

Appendix B
Supporting Calculations

Appendix B-1. Supporting Recharge and Water Quality Volume Calculations

Scenario 1										
Subcatchment	**Total Area (sf)**	**Imp. Area (sf)**	**Existing Standards**				**Potential Revisions to Standards**			
			WQv (in)	Rv (in)	WQv (cf)	Rv (cf)	WQv (in)	Rv (in)	Rv-1 (cf)	
Pavement-01	5,793	5,793			241	121			483	
Pavement-02	2,831	2,831			118	59			236	
Pavement-03	5,358	5,358			223	112			446	
Pavement-04	3,485	3,485			145	73			290	
Pavement-05	6,229	6,229			260	130			519	
Pavement-06	2,788	2,788			116	58			232	
Pavement-07	3,180	3,180			132	66			265	
Pavement-08	2,309	2,309			96	48			192	
Pavement-09	4,661	4,661			194	97			388	
Pavement-10	4,574	4,574			191	95			381	
Pavement-11	3,354	3,354			140	70			280	
Pavement-12	4,879	4,879			203	102			407	
Pavement-13	4,792	4,792			200	100	N/A - Use EPA Curves		399	
Pavement-14	3,311	3,311	0.5	0.25	138	69		1	276	
Pavement-15	7,579	5,959			248	124			497	
Pavement-16	11,413	8,006			334	167			667	
Pavement-17	6,578	6,578			274	137			548	
Pavement-18	4,879	4,879			203	102			407	
Pavement-19	3,528	3,528			147	74			294	
Roof 1 to 26	62,291	62,291			2,595	1,298			5,191	
Sub-01	71,569	0			0	0			0	
Sub-02	108,072	0			0	0			0	
Sub-03	400,883	0			0	0			0	
Sub-04	190,009	0			0	0			0	
Sub-05	226,948	2,744			114	57			229	
Sub-06	195,105	0			0	0			0	
Sub-07	236,879	0			0	0			0	
Sub-08	163,045	0			0	0			0	
Totals:	**1,746,320**	**151,528**			**6,314**	**3,157**			**12,627**	

Summary: Existing Standards

Required Volume (cf):	**6,314**
BMP Sizing Based on:	**Peak**
Total BMP Vol. (cf)	**17,000**
Treated BMP WQv (cf):	**17,000**
Treated WQv Depth (in):	*1.35*
TSS / TP Removal (%):	*81 / NA*
Treated BMP Rv (cf):	**17,000**
Treated BMP Rv (cf):	*1.35*
BMP Vol. > Req. WQv and Rv Volume?	**YES**

Summary: Potential Revisions to Standards

Required Volume (cf):	**12,627**
BMP Sizing Based on:	**Peak**
Total BMP Vol. (cf)	**66,400**
Treated BMP WQv (cf):	**26,900**
Treated WQv Depth (in):	*2.13*
TSS / TP Removal (%):	*94 / 79*
Treated BMP Rv (cf):	**26,900**
Treated BMP Rv (cf):	*2.13*
BMP Vol. > Req. WQv and Rv Volu	**YES**

***See Appendix B-2 for Drawdown Checks**
***See Appendix B-3 for Pollutant Removal Calculations**
***See Appendix E for peak discharge evaluations**

Notes:

1. Water Quality Volume (WQv) and Recharge Volume (Rv) calculated as impervious area times corresponding required depth.

2a. WQv for Standard Revisions includes required WQv depth for selected BMPs to meet 90% TSS, 60% TP removal (if > 0.8", use 0.8)

3a. BMP Treatment Volumes indicate subcatchment that BMP is located in, effective treatment volume (i.e., if an orifice is required), and total volume (if applicable)

3b. BMP Treatment Volumes - Existing Regulations *[Treatment Vol = Total Vol]*

- BMP-01: Infiltration Basin (Subcatchment 2): 1,400 cf - Infiltration
- BMP-02: Infiltration Basin (Pavement 14): 4,000 cf - Infiltration
- BMP-03: Infiltration Basin (Subcatchment 8): 9,000 cf - Infiltration
- BMP-04: Roof Infiltration via Dry Well (Roof 1 - 26): 2,600 cf - Infiltration

3c. BMP Treatment Volumes - Proposed Regulations *[Treatment Vol < Total Volume to enable 72 hour drawdown]*

- BMP-01: Infiltration Basin (Subcatchment 2): 4,500 cf (treatment vol); 9,500 cf (total volume) - Infiltration
- BMP-02: Infiltration Basin (Pavement 14): 1,500 cf (treatment volume); 8,000 (total volume) - Infiltration
- BMP-03: Infiltration Basin (Subcatchment 8): 15,000 cf (treatment vol); 40,000 (total volume) - Infiltration
- BMP-04: Infiltration Basin (Subcatchment 6): 1,000 cf (treatment vol); 4,000 cf (total volume) - Infiltration
- BMP-05: Roof Infiltration via Dry Well (Roof 1 - 26): 2,600 cf - Infiltration (treatment vol = total vol)
- BMP-06: Driveway Raingardens: 2,300 cf - Infiltration (treatment vol = total vol)

Scenario 2										
Subcatchment	**Total Area (sf)**	**Imp. Area (sf)**	**Existing Standards**				**Potential Revisions to Standards**			
			WQv (in)	Rv (in)	WQv (cf)	Rv (cf)	WQv (in)	Rv (in)	WQv (cf)	Rv (cf)
1	24,446	531	.5 to MEP	0.25 to MEP	22	11	.49 (EPA curves) OR 0.8 (Note 2)	1 to MEP	22	44
2	23,181	127			5	3			5	11
3	6,722	6,722			280	140			280	560
4	1,398	0			0	0			0	0
5	1,502	0			0	0			0	0
6	1,432	0			0	0			0	0
7	4,972	0			0	0			0	0
8	2,815	2,815			117	59			117	235
9	2,103	2,103			88	44			88	175
10a	2,840	2,840			118	59			118	237
10b	1,729	1,729			72	36			72	144
11	3,535	3,535			147	74			147	295
12	3,817	3,817			159	80			159	318
13	3,001	3,001			125	63			125	250
14a	2,301	2,301			96	48			96	192
14b	1,634	1,634			68	34			68	136
15	3,010	3,010			125	63			125	251
16	3,945	3,945			164	82			164	329
17	2,995	2,995			125	62			125	250
Totals:	**97,378**	**41,105**			**1,713**	**856**			**1,713**	**3,425**

Summary: Existing Standards		**Summary**: Potential Revisions to Standards	
Required Volume (cf):	**1,713**	*Required Volume (cf):*	**3,425**
BMP Sizing Based on:	**WQv**	*BMP Sizing Based on:*	**Rv**
Total BMP Vol. (cf)	**1,810**	*Total BMP Vol. (cf)*	**2,411**
Treated BMP WQv (cf):	**1,810**	*Treated BMP WQv (cf):*	**2,411**
Treated WQv Depth (in):	*0.53*	*Treated WQv Depth (in):*	*0.70*
TSS / TP Removal (%):	*82 / NA*	*TSS / TP Removal (%):*	*84 / 62*
Treated BMP Rv (cf):	**1,690**	*Treated BMP Rv (cf):*	**2,211**
Treated BMP Rv (cf):	*0.49*	*Treated BMP Rv (cf):*	*0.65*
BMP Vol. > Req. WQv and Rv Volume?	**YES**	*BMP Vol. > Req. WQv and Rv Volu*	**NO**

***See Appendix B-2 for Drawdown Checks**
***See Appendix B-3 for Pollutant Removal Calculations**
***See Appendix E for peak discharge evaluations**

Notes:

1. Water Quality Volume (WQv) and Recharge Volume (Rv) calculated as impervious area times corresponding required depth.
2a. WQv for Potential Standards Revisions includes required WQv depth for selected BMPs to meet 80% TSS, 50% TP removal (if > 0.8", use 0.8)
2b. Required depth to meet 80% TSS / 50% TP calculated from EPA nomographs for selected BMPs as a weighted average.
3a. BMP Treatment Volumes indicate subcatchment that BMP is located in, effective treatment volume (i.e., if an orifice is required), and total volume (if applicable)

3b. BMP Treatment Volumes (Existing Handbook) [Treatment Vol = Total Vol]

- BMP-01: Infiltration Basin (Subcatchment 4): 100 cf - Infiltration
- BMP-02: Infiltration Basin (Subcatchment 5): 250 cf - Infiltration
- BMP-03: Infiltration Basin (Subcatchment 6): 215 cf - Infiltration
- BMP-04: Infiltration Basin (Subcatchment 7): 550 cf - Infiltration
- BMP-05: Infiltration Basin (Subcatchment 2): 160 cf - Infiltration
- BMP-06/07: WQ Swales (Subcatchment 14a): 120 cf - No Infiltration Credit
- BMP-08: Three (3) Treebox Filters (Subcatchment 10b): 135 cf - Infiltration
- BMP-09: Porous Asphalt Sidewalk (Subcatchment 4): 280 cf - Infiltration

3c. BMP Treatment Volumes (Proposed Handbook Updates) [Treatment Vol = Total Vol]

- BMP-01: Infiltration Basin (Subcatchment 4): 200 cf - Infiltration
- BMP-02: Infiltration Basin (Subcatchment 5): 275 cf - Infiltration
- BMP-03: Infiltration Basin (Subcatchment 6): 215 cf - Infiltration
- BMP-04: Infiltration Basin (Subcatchment 7): 600 cf - Infiltration
- BMP-05: Infiltration Basin (Subcatchment 2): 225 cf - Infiltration
- BMP-06/07: WQ Swales (Subcatchment 14a): 200 cf - No Infiltration
- BMP-08: Three (3) Treebox Filters (Subcatchment 10b): 135 cf - Infiltration
- BMP-09: Porous Asphalt Sidewalk (Subcatchment 4): 561 cf - Infiltration

Scenario 3										
Subcatchment	**Total Area (sf)**	**Imp. Area (sf)**	**Existing Standards**				**Potential Revisions to Standards**			
			WQv (in)	Rv (in)	WQv (cf)	Rv (cf)	WQv (in)	Rv (in)	WQv (cf)	Rv (cf)
1	10,472	0	.5 to MEP	0.25 to MEP	0	0	.3 (EPA curves) OR 0.8 (*Note 2*)	1 to MEP	0	0
2	15,771	15,771			657	329			394	1,314
3	15,936	15,936			664	332			398	1,328
4	12,351	12,351			515	257			309	1,029
5	6,785	6,785			283	141			170	565
6	3,727	3,727			155	78			93	311
7	1,149	1,149			48	24			29	96
8	5,763	563			23	12			14	47
Totals:	**71,954**	**56,282**			**2,345**	**1,173**			**1,407**	**4,690**

Summary: Existing Standards		**Summary: Potential Revisions to Standards**	
Required Volume (cf):	**2,345**	*Required Volume (cf):*	**4,690**
BMP Sizing Based on:	**WQv**	*BMP Sizing Based on:*	**Rv / Peak**
Total BMP Vol. (cf)	**2,620**	*Total BMP Vol. (cf)*	**5,320**
Treated BMP WQv (cf):	**2,620**	*Treated BMP WQv (cf):*	**3,320**
Treated WQv Depth (in):	*0.56*	*Treated WQv Depth (in):*	*0.71*
TSS / TP Removal (%):	*89 / NA*	*TSS / TP Removal (%):*	*94 / 63*
Treated BMP Rv (cf):	**1,345**	*Treated BMP Rv (cf):*	**2,045**
Treated BMP Rv (cf):	*0.29*	*Treated BMP Rv (cf):*	*0.44*
BMP Vol. > Req. WQv and Rv Volume?	**YES**	*BMP Vol. > Req. WQv and Rv Volu*	**NO**

***See Appendix B-2 for Drawdown Checks**
***See Appendix B-3 for Pollutant Removal Calculations**
***See Appendix E for peak discharge evaluations**

Notes:

1. Water Quality Volume (WQv) and Recharge Volume (Rv) calculated as impervious area times corresponding required depth.
2a. WQv for Potential Handbook Update includes required WQv depth for selected BMPs to meet 80% TSS, 50% TP removal (if > 0.8", use 0.8)
2b. Required depth to meet 80% TSS / 50% TP calculated from EPA nomographs for selected BMPs as a weighted average.
2. BMPs in courtyard (above parking garage) were treated as impervious area as they do not drain to surrounding native soils.
3a. BMP Treatment Volumes indicate subcatchment that BMP is located in, effective treatment volume (i.e., if an orifice is required), and total volume (if applicable)

3b. Calculated BMP Treatment Volumes (Existing Handbook) [*Treatment Vol = Total Vol*]

- Raingarden 1 (Subcatchment 3): 625 cf - No infiltration
- Raingarden 2 (Subcatchment 4): 650 cf - No infiltration
- Infiltration Basin 1 (Subcatchment 8): 1,300 cf - Infiltration
- Treebox Filter (Subcatchment 6): 45 cf - Infiltration

3c. Calculated BMP Treatment Volumes (Proposed Updates) [Treatment Vol < Total Volume to enable 72 hour drawdown]:

- Raingarden 1 (Subcatchment 3): 625 cf - No infiltration (treatment vol = total vol)
- Raingarden 2 (Subcatchment 4): 650 cf - No infiltration (treatment vol = total vol)
- Infiltration Basin 1 (Subcatchment 8): 2,000 cf - Infiltration (total vol = 4,000 cf)
- Treebox Filter (Subcatchment 6): 45 cf - Infiltration (treatment vol = total vol)

Appendix B-2. Supporting Drawdown Calculations for Infiltrating BMPs

Scenario	Scenario	Infiltration Features	Treated Storage Volume (cf)	Bottom Area (sf)	Ksat (in/hr)	Drawdown Time (hours)	Drawdown < 72 hrs?
1	Existing Standards	BMP-01: Infiltration Basin	1,400	935	0.27	**66.5**	**YES**
		BMP-02/03: Infiltration Basins	13,000	12,283	0.27	**47.0**	**YES**
		BMP-04: Drywells	2,600	1,924	0.27	**60.1**	**YES**
	Potential Revisions to Standards	BMP-01: Infiltration Basin	4,500	3,100	0.27	**64.5**	**YES**
		BMP-02/03/04: Infiltration Basins	17,500	15,736	0.27	**49.4**	**YES**
		BMP-04: Drywells	2,600	1,924	0.27	**60.1**	**YES**
		BMP-05: Raingardens	2,300	4,600	0.27	**22.2**	**YES**
2	Existing Standards	BMP-01: Infiltration Basin	100	185	0.27	**24.0**	**YES**
		BMP-02: Infiltration Basin	250	343	0.27	**32.4**	**YES**
		BMP-03: Infiltration Basin	215	327	0.27	**29.2**	**YES**
		BMP-04: Infiltration Basin	550	892	0.27	**27.4**	**YES**
		BMP-05: Infiltration Basin	160	160	0.27	**44.4**	**YES**
		BMP-09: Porous Asphalt	894	6,722	0.27	**14.8**	**YES**
	Potential Revisions to Standards	BMP-01: Infiltration Basin	200	185	0.27	**48.0**	**YES**
		BMP-02: Infiltration Basin	275	343	0.27	**35.6**	**YES**
		BMP-03: Infiltration Basin	215	327	0.27	**29.2**	**YES**
		BMP-04: Infiltration Basin	600	892	0.27	**29.9**	**YES**
		BMP-05: Infiltration Basin	225	160	0.27	**62.5**	**YES**
		BMP-09: Porous Asphalt	894	6,722	0.27	**14.8**	**YES**
3	Existing Standards	BMP-01: Infiltration Basin	1,300	1,251	0.27	**46.2**	**YES**
	Potential Revisions to Standards	BMP-01: Infiltration Basin	2,000	1,251	0.27	**71.1**	**YES**

Notes:

1. Drawown calculated for BMPs receiving Recharge Volume credit for infiltration.
2. Drawdown time calculated as: Volume / (Area*Ksat)
3. Scenario 2 Porous Aspahlt assumes 4" Reservoir Coarse for Storage with n = 0.4.
4. Scenario 1 Proposed Regulations BMPs 2, 3, 4 are configured in series. Calculation combines all three together.

Appendix B-3. Supporting Pollutant Removal Calculations

Scenario 1a - Existing Standards

Outlet ID	BMP ID(s)	Upstream Subcatchment(s)	Proposed BMP Treatment Train	Impervious Drainage Area (sf)	Treated Storage Volume (ft^3)	Treated Depth (in)	Pollutant Removals (%)	
							TSS	TP
1	1	Pvmt-1 to 8	Forebay to Inf. Basin	31,973	1,400	0.53	85%	N/A
2	2, 3	Pvmt-9 to 19	Forebay to Inf. Basins	54,520	13,000	2.86	85%	N/A
3	4	Roof 1 to 26	Roof to Subsurface Infiltration (i.e., Drywell)	62,291	2,600	0.50	80%	N/A
N/A	N/A	N/A	Untreated	2,744	0	0.00	0%	N/A
					Area Weighted Averages	**1.35**	**81%**	**-**
					Required Removal (%):	-	*80%*	-
					Required Removal Met?	-	*YES*	-

Notes:
1. Baseline TSS Removals from MassDEP TSS Removal Worksheet (March 4, 2008).
2a. Drywells sized for 0.5" WQv for 2,395 rooftop area (100 cf per house).
2b. Assume two dry wells per roof, each with 50 cf capacity (appx. 5' diameter by 3' deep)

Scenario 1b - Potential Revisions to Existing Standards

Outlet ID	BMP ID(s)	Upstream Subcatchment(s)	Proposed BMP Treatment Train	Impervious Drainage Area (sf)	Treated Storage Volume (ft^3)	Treated Depth (in)	Pollutant Removals (%)	
							TSS	TP
1	1	Pvmt-1 to 8	Forebay to Inf. Basin	25,493	4,500	2.12	99%	99%
2	2, 3, 4	Pvmt-9 to 19	Forebay to Inf. Basins	44,439	17,500	4.73	99%	99%
4	5	Roof 1 to 26	Roof to Subsurface Infiltration (i.e., Drywell)	62,291	2,600	0.50	90%	65%
5	6	23 of 26 Driveways	Forebay to Raingarden	16,560	2,300	1.67	99%	60%
N/A	N/A	N/A	Untreated	2,744	0	0.00	0%	0%
					Area Weighted Averages	**2.17**	**94%**	**79%**
					Required Removal (%):	-	*90%*	*60%*
					Required Removal Met?	-	*YES*	*YES*

Notes:
1. TP & TSS Removals obtained from EPA MS4 Permit Nomographs
   - Infiltration Basin assumes Infiltration Basin Curve (0.27 in/hr)
   - Raingardens assume Biofiltration Curve (0.27 in/hr)
   - Dry Wells assumes Infiltration Trench Curve (0.27 in/hr)
2. Drywells
   - Sized for 90% TSS / 60% TP for 2,395 rooftop area (100 cf per house).
   - Assume two dry wells per roof, each with 50 cf capacity (appx. 5' diameter by 3' deep)
3. Raingardens sized for 90% TSS / 60% TP for 720 sq driveway size (100 cf each, .5' Ponding depth by 14' by 14').

Scenario 1 - Potential Minimum Sizing to Meet 90% TSS / 60% TP Removal

Outlet ID	BMP ID(s)	Upstream Subcatchment(s)	Proposed BMP Treatment Train	Impervious Drainage Area (sf)	Treated Storage Volume (ft^3)	Treated Depth (in)	Pollutant Removals	
							TSS	TP
1	1	Pvmt-1 to 8	Forebay to Inf. Basin	25,493	850	0.40	95%	73%
2	2, 3, 4	Pvmt-9 to 19	Forebay to Inf. Basin	44,439	1,500	0.41	95%	73%
4	5	Roof 1 to 26	Roof to Subsurface Infiltration (i.e., Drywell)	62,291	2,600	0.50	90%	65%
5	6	23 of 26 Driveways	Forebay to Raingarden	16,560	2,300	1.67	99%	60%
N/A	N/A	N/A	Untreated	2,744	0	0.00	0%	0%
					Area Weighted Averages	**0.58**	**92%**	**67%**
					Required Removal (%):	-	*90%*	*60%*
					Required Removal Met?	-	*YES*	*YES*

Notes:
1. TP & TSS Removals obtained from EPA MS4 Permit Nomographs.
2. Treated depth was adjusted such that BMPs on a weighted average just meet TSS / TP Requirements.
3. Reduced BMP treatment depths are highlighted.

Scenario 2a - Existing Standards

Outlet ID	BMP ID(s)	Upstream Subcatchment(s)	Proposed BMP Treatment Train	Impervious Drainage Area (sf)	Treated Storage Volume (ft^3)	Treated Depth (in)	Pollutant Removals (%)	
							TSS	TP
1	1	4,8,9	Deep Sump CB to Inf. Basin	4,918	100	0.24	85%	N/A
2	2	5,10a	Forebay to Inf. Basin	2,840	250	1.06	85%	N/A
3	3	6,12	Forebay to Inf. Basin	3,817	215	0.68	85%	N/A
4	4	15,14b,16	Deep Sump CB to Inf. Basin	8,589	550	0.77	85%	N/A
5	5	17	Deep Sump CB to Inf. Basin	2,995	160	0.64	85%	N/A
6	6,7	14a	Forebay to WQ Swales	2,301	120	0.63	78%	N/A
7	8	10b,11,13	Deep Sump CB to Treebox Filters	8,265	135	0.20	85%	N/A
8	9	3	Porous Pavement Sidewalk	6,722	280	0.50	80%	N/A
N/A	N/A	N/A	Untreated *(Existing Stone Wall and Gravel Area)*	658	0	0.00	0%	N/A
					Area Weighted Averages	**0.53**	**82%**	**-**
					Required Removal (%):	-	*80%*	-
					Required Removal Met?	-	*YES*	-

Notes:
1. Baseline TSS Removals from MassDEP TSS Removal Worksheet (March 4, 2008).
2. Porous Pavement Sidewalk
   - Assume Porous pavement sidewalk with 12" filter coarse.
   - Assume 4" Reservoir Coarse for Storage at n = 0.4, effective treated depth of 1.6".
   - Credit taken for required 0.5" WQv since nothing else runs onto porous sidewalk.
3. Treebox Filters: Assume media dimensions of 4'W by 8'L by 3.5' D (n= 0.4). Treatment volume = appx. 45 cf/ea

Scenario 2b - Potential Revisions to Existing Standards

Outlet ID	BMP ID(s)	Upstream Subcatchment(s)	Proposed BMP Treatment Train	Impervious Drainage Area (sf)	Treated Storage Volume (ft^3)	Treated Depth (in)	Pollutant Removals (%)	
							TSS	TP
1	1	4,8,9	Deep Sump CB to Inf. Basin	4,918	200	0.49	95%	80%
2	2	5,10a	Forebay to Inf. Basin	2,840	275	1.16	99%	95%
3	3	6,12	Forebay to Inf. Basin	3,817	215	0.68	99%	87%
4	4	15,14b,16	Deep Sump CB to Inf. Basin	8,589	600	0.84	99%	90%
5	5	17	Deep Sump CB to Inf. Basin	2,995	225	0.90	99%	93%
6	6,7	14a	Forebay to WQ Swales	2,301	200	1.04	80%	20%
7	8	10b,11,13	Deep Sump CB to Treebox Filters	8,265	135	0.20	69%	25%
8	9	3	Porous Pavement Sidewalk	6,722	561	1.00	92%	62%
N/A	N/A	N/A	Untreated *(Existing Stone Wall and Gravel Area)*	658	0	0.00	0%	0%
					Area Weighted Averages	**0.70**	**89%**	**66%**
					Required Removal (%):	-	*80%*	*50%*
					Required Removal Met?	-	*YES*	*YES*

Notes:
1. TP & TSS Removals obtained from EPA MS4 Permit Nomographs
   - Infiltration Basin assumes Infiltration Basin Curve (0.27 in/hr)
   - Porous Pavement assumes Porous Pavement Curve (12" Filter Coarse)
   - Treebox Filters assume Biofiltration Curve (0.27 in/hr)
2. Porous Pavement Sidewalk
   - Assume Porous pavement sidewalk with 12" filter coarse.
   - Assume 4" Reservoir Coarse for Storage at n = 0.4, effective treated depth of 1.6".
   - Credit taken for required 1" Rv since nothing else runs onto porous sidewalk.
3. Treebox Filters: Assume media dimensions of 4'W by 8'L by 3.5' D (n= 0.4). Treatment volume = appx. 45 cf/ea

Scenario 2 - Potential Minimum Sizing to Meet 80% TSS / 50% TP Removal

Outlet ID	BMP ID(s)	Upstream Subcatchment(s)	Proposed BMP Treatment Train	Impervious Drainage Area (sf)	Treated Storage Volume (ft^3)	Treated Depth (in)	Potential Update Removals (%)	
							TSS	TP
1	1	4,8,9	Deep Sump CB to Inf. Basin	4,918	105	0.26	85%	60%
2	2	5,10a	Forebay to Inf. Basin	2,840	60	0.25	85%	60%
3	3	6,12	Forebay to Inf. Basin	3,817	80	0.25	85%	60%
4	4	15,14b,16	Deep Sump CB to Inf. Basin	8,589	180	0.25	85%	60%
5	5	17	Deep Sump CB to Inf. Basin	2,995	65	0.26	85%	60%
6	6,7	14a	Forebay to WQ Swales	2,301	200	1.04	80%	20%
7	8	10b,11,13	Deep Sump CB to Treebox Filters	8,265	135	0.20	69%	25%
8	9	3	Porous Pavement Sidewalk	6,722	561	1.00	92%	62%
N/A	N/A	N/A	Untreated *(Existing Stone Wall and Gravel Area)*	658	0	0.00	0%	0%
					Area Weighted Averages	**0.40**	**81%**	**50%**
					Required Removal (%):	-	*80%*	*50%*
					Required Removal Met?	-	*YES*	*YES*

Notes:
1. TP & TSS Removals obtained from EPA MS4 Permit Nomographs
2. Treated depth was adjusted such that BMPs on a weighted average just meet TSS / TP Requirements.
3. Reduced BMP treatment depths are highlighted.

Scenario 3a - Existing Standards

Outlet ID	BMP ID	Upstream Subcatchments	Proposed BMP Treatment Train	Impervious Drainage Area (sf)	Treated Storage Volume (ft^3)	Treated Depth (in)	Pollutant Removals (%)	
							TSS	TP
1	1	2, 5, 7, 8	Deep Sump Catch Basin to Bioretention Cell to Infiltration Basin	24,268.00	1,300.00	0.64	85%	N/A
1	2	3	Deep Sump Catch Basin to Bioretention Cell	15,936.00	625.00	0.47	93%	N/A
1	3	4	Deep Sump Catch Basin to Bioretention Cell	12,351.00	650.00	0.63	93%	N/A
2	4	6	Deep Sump Catch Basin to Treebox Filter	3,727.00	45.00	0.14	85%	N/A
					Area Weighted Averages	**0.56**	**89%**	**-**
					Required Removal (%):	-	*80%*	-
					Required Removal Met?	-	*YES*	-

Notes:
1. Baseline TSS Removals from MassDEP TSS Removal Worksheet (March 4, 2008).
2. Raingardens (BMP ID's 2 and 3) drain into BMP ID 1 (Infiltration Basin).

Scenario 3b - Potential Revisions to Existing Standards

Outlet ID	BMP ID	Upstream Subcatchments	Proposed BMP Treatment Train	Impervious Drainage Area (sf)	Treated Storage Volume (ft^3)	Treated Depth (in)	Pollutant Removals (%)	
							TSS	TP
1	1	2, 5, 7, 8	Deep Sump Catch Basin to Bioretention Cell to Infiltration Basin	24,268.00	2,000.00	0.99	99%	93%
1	2	3	Deep Sump Catch Basin to Bioretention Cell	15,936.00	625.00	0.47	95%	41%
1	3	4	Deep Sump Catch Basin to Bioretention Cell	12,351.00	650.00	0.63	98%	45%
2	4	6	Deep Sump Catch Basin to Treebox Filter	3,727.00	45.00	0.14	50%	20%
					Area Weighted Averages	**0.71**	**94%**	**63%**
					Required Removal (%):	-	*80%*	*50%*
					Required Removal Met?	-	*YES*	*YES*

Notes:
1. Raingardens (BMP ID's 2 and 3) drain into BMP ID 1 (Infiltration Basin).
2. TP & TSS Removals obtained from EPA MS4 Permit Nomographs
   - Infiltration Basin assumes Infiltration Basin Curve (0.27 in/hr)
   - Treebox Filter and Bioretention Cells assume Biofiltration Curve (0.27 in/hr)

Scenario 3 - Potential Minimum Sizing to Meet 80% TSS / 50% TP Removal

Outlet ID	BMP ID	Upstream Subcatchments	Proposed BMP Treatment Train	Impervious Drainage Area (sf)	Treated Storage Volume (ft^3)	Treated Depth (in)	Pollutant Removals (%)	
							TSS	TP
1	1	2, 5, 7, 8	Deep Sump Catch Basin to Bioretention Cell to Infiltration Basin	24,268.00	800.00	0.40	93%	71%
1	2	3	Deep Sump Catch Basin to Bioretention Cell	15,936.00	625.00	0.47	95%	41%
1	3	4	Deep Sump Catch Basin to Bioretention Cell	12,351.00	650.00	0.63	98%	45%
2	4	6	Deep Sump Catch Basin to Treebox Filter	3,727.00	45.00	0.14	50%	20%
					Area Weighted Averages	**0.45**	**92%**	**53%**
					Required Removal (%):	-	*80%*	*50%*
					Required Removal Met?	-	*YES*	*YES*

Notes:
1. TP & TSS Removals obtained from EPA MS4 Permit Nomographs
2. Treated depth was adjusted such that BMPs on a weighted average just meet TSS / TP Requirements.
3. Reduced BMP treatment depths are highlighted.

Appendix C
SSA Model Inputs and Outputs

The following simulations were performed for each Scenario. Results are presented sequentially based on scenario based on the below key.

Existing Conditions	• Model Schematic with Labels • 2-year SCS Type III • 2-year NOAA Atlas 14 • 2-year NOAA Atlas 14+ • 100-year SCS Type III • 100-year NOAA Atlas 14 • 100-year NOAA Atlas 14+
Proposed Conditions Under Existing Regulations	• Model Schematic with Labels • 2-year SCS Type III • 100-year SCS Type III
Proposed Conditions Under Potential Regulations	• Model Schematic with Labels • 2-year NOAA Atlas 14 • 2-year NOAA Atlas 14+ • 100-year NOAA Atlas 14 • 100-year NOAA Atlas 14+

Appendix C
SSA Model Inputs and Outputs

The following simulations were performed for each Scenario. Results are presented sequentially based on scenario based on the below key.

Existing Conditions	• Model Schematic with Labels • 2-year SCS Type III • 2-year NOAA Atlas 14 • 2-year NOAA Atlas 14+ • 100-year SCS Type III • 100-year NOAA Atlas 14 • 100-year NOAA Atlas 14+
Proposed Conditions Under Existing Regulations	• Model Schematic with Labels • 2-year SCS Type III • 100-year SCS Type III
Proposed Conditions Under Potential Regulations	• Model Schematic with Labels • 2-year NOAA Atlas 14 • 2-year NOAA Atlas 14+ • 100-year NOAA Atlas 14 • 100-year NOAA Atlas 14+

SSA Model Inputs and Outputs

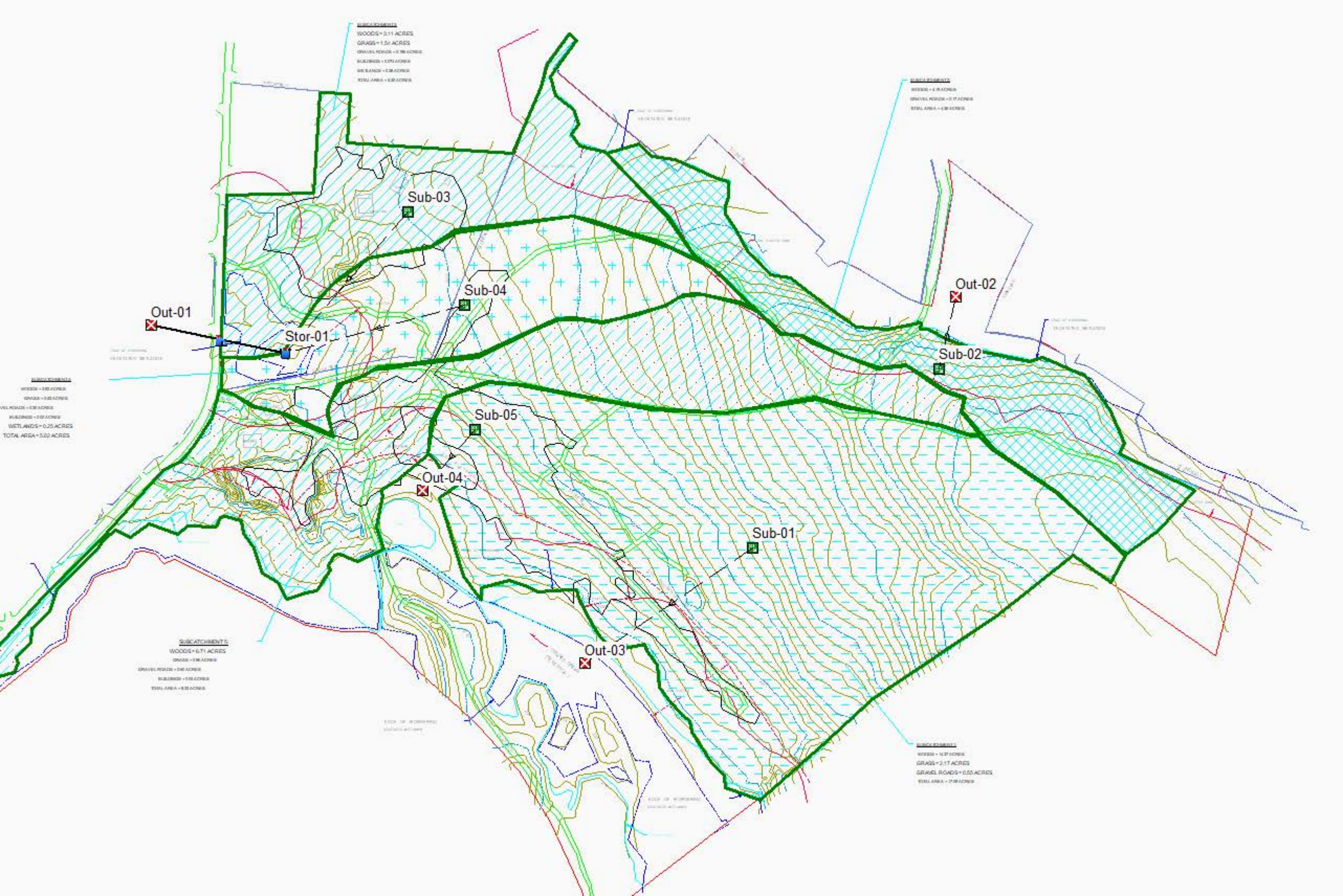
for

Scenario 1

Existing Conditions

Output List

- Model Schematic with Labels
- 2-year SCS Type III
- 2-year NOAA Atlas 14
- 2-year NOAA Atlas 14+
- 100-year SCS Type III
- 100-year NOAA Atlas 14
- 100-year NOAA Atlas 14+


Sub-03
Sub-04
Out-01
Stor-01
Out-02
Sub-02
Sub-05
Out-04
Sub-01
Out-03

Project Description

File Name ..... Scenario 1 - Existing Conditions (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	5
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	1
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	1
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	17.09	484.00	73.64	3.10	0.95	16.29	7.19	0 01:00:18
2	Sub-02	4.36	484.00	73.62	3.10	0.95	4.15	1.90	0 00:56:46
3	Sub-03	5.30	484.00	73.66	3.10	0.95	5.06	2.30	0 00:57:25
4	Sub-04	5.02	484.00	73.76	3.10	0.96	4.81	2.18	0 00:58:04
5	Sub-05	8.32	484.00	74.42	3.10	1.00	8.28	3.56	0 01:03:47

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	206.00					0.00	206.00					
2	Out-02	Outfall	232.00					1.88	232.00					
3	Out-03	Outfall	204.00					7.18	204.00					
4	Out-04	Outfall	204.00					3.55	204.00					
5	Stor-01	Storage Node	206.00	208.00	0.00		0.00	4.45	207.61				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Weir-01	Weir	Stor-01	Out-01		206.00	206.00				0.00							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 17.09
Peak Rate Factor 484.00
Weighted Curve Number 73.64
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	14.37	C	73.00
> 75% grass cover, Good	2.17	C	74.00
Gravel roads	0.55	C	89.00
Composite Area & Weighted CN	17.09		73.64

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	40.37	0.00	0.00

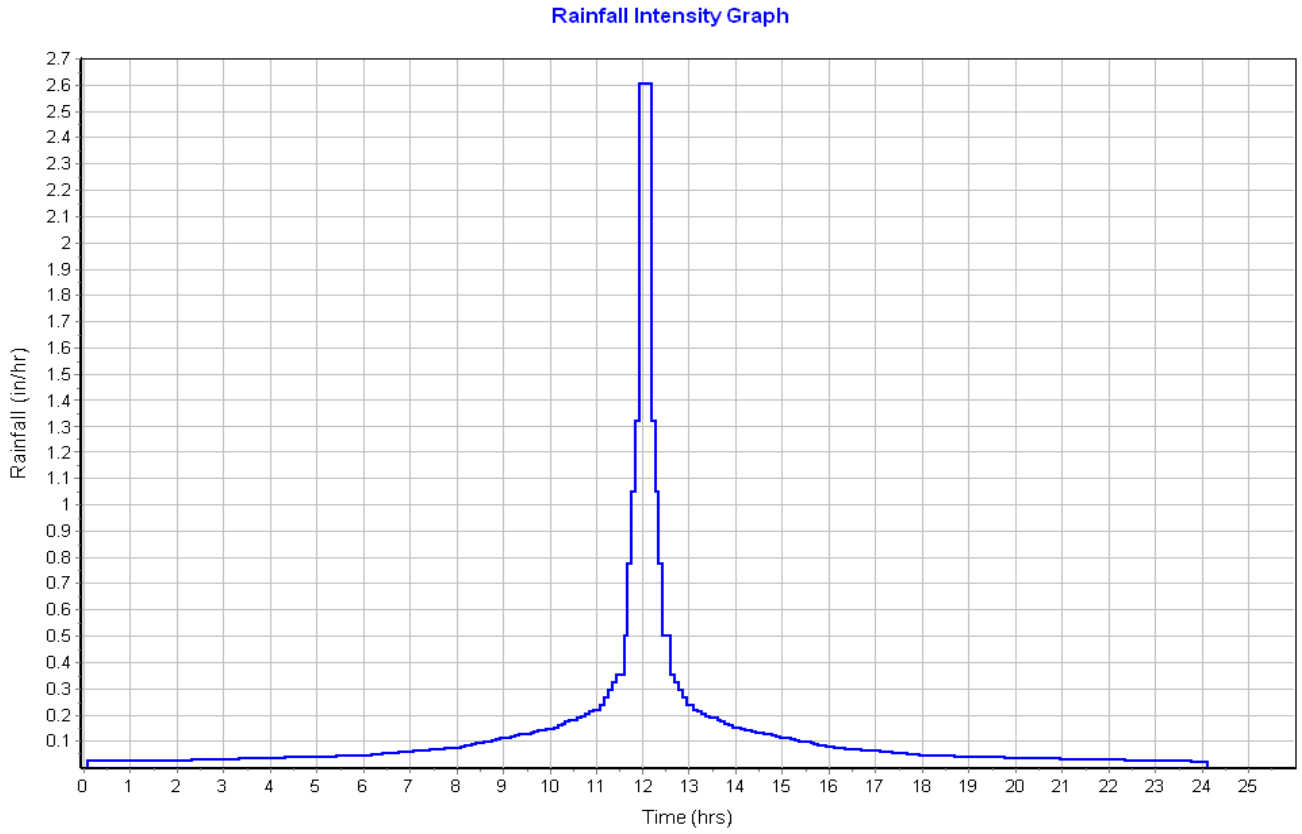
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1304.14	0.00	0.00
Slope (%) :	4.75	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.09	0.00	0.00
Computed Flow Time (min) :	19.94	0.00	0.00

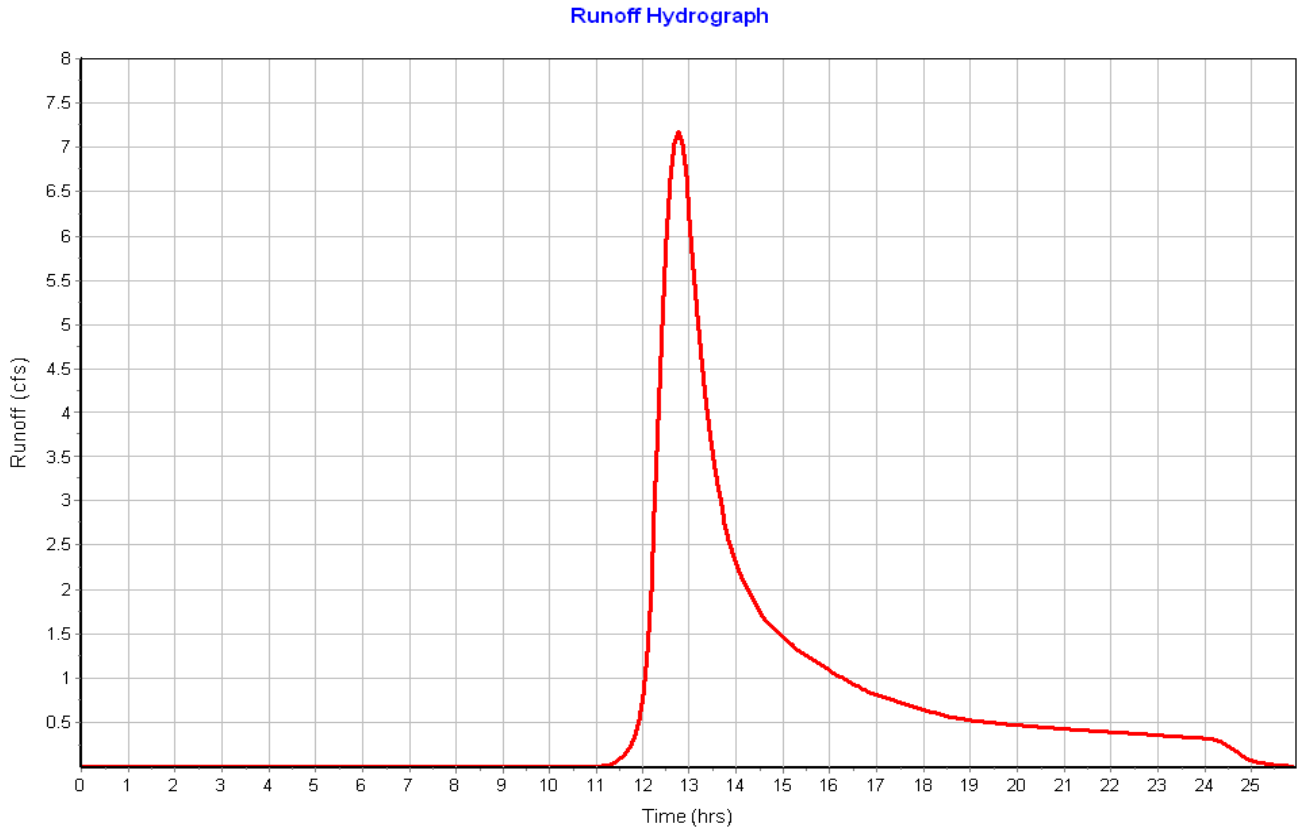
Total TOC (min) 60.31

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	0.95
Peak Runoff (cfs)	7.19
Weighted Curve Number	73.64
Time of Concentration (days hh:mm:ss)	0 01:00:19

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 4.36
Peak Rate Factor 484.00
Weighted Curve Number 73.62
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.19	C	73.00
Gravel roads	0.17	C	89.00
Composite Area & Weighted CN	4.36		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

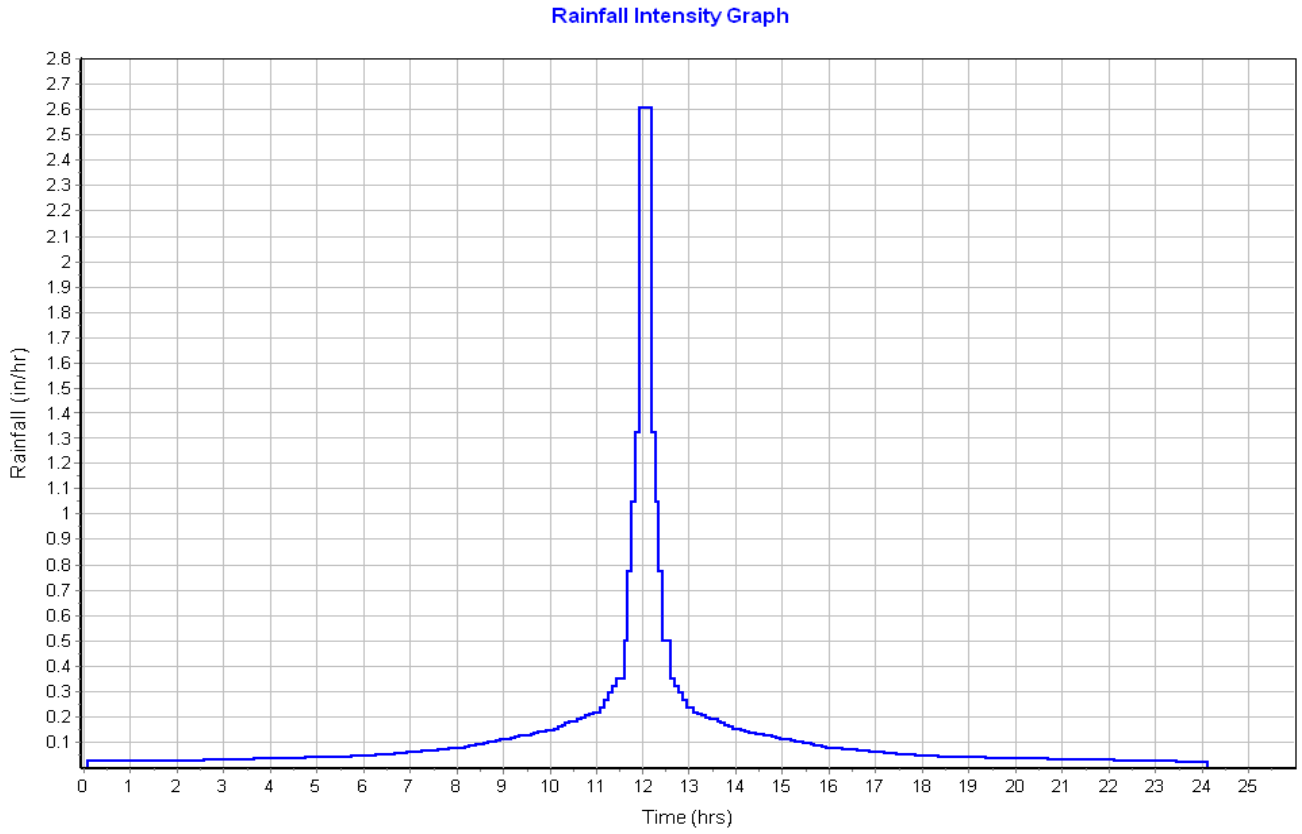
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

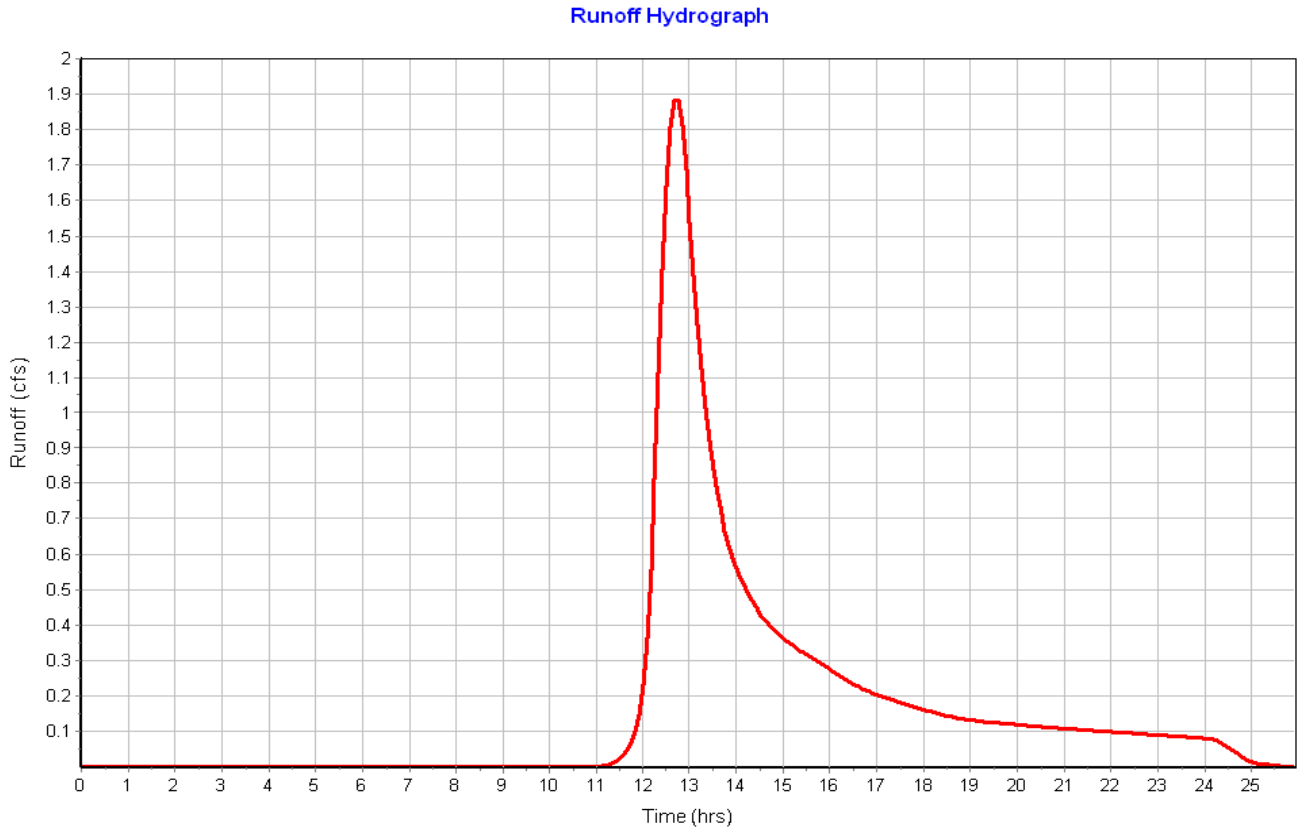
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.95
Peak Runoff (cfs) 1.90
Weighted Curve Number 73.62
Time of Concentration (days hh:mm:ss) 0 00:56:46

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 5.30
Peak Rate Factor 484.00
Weighted Curve Number 73.66
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.11	C	73.00
> 75% grass cover, Good	1.54	C	74.00
Gravel roads	0.20	C	89.00
Paved parking & roofs	0.07	C	98.00
Brush, Good	0.38	C	65.00
Composite Area & Weighted CN	5.30		73.66

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

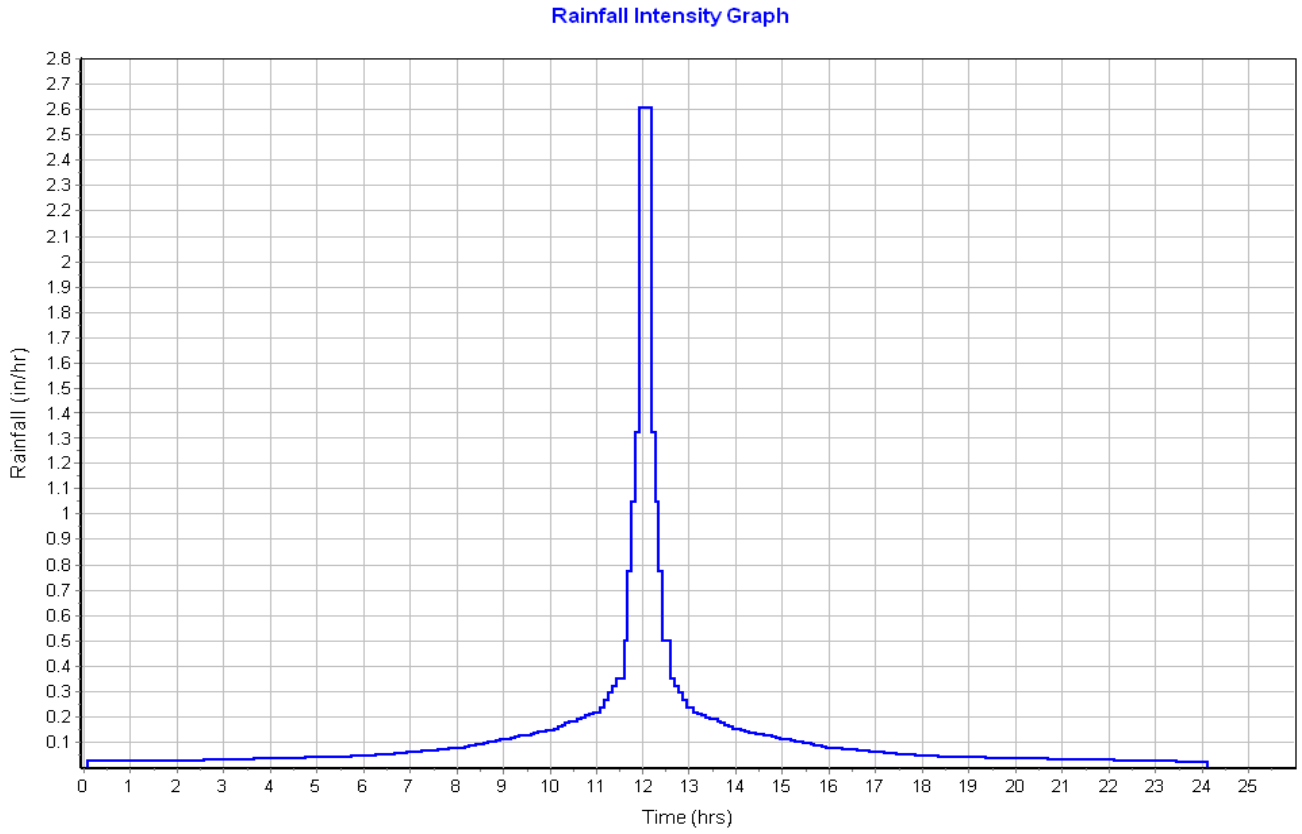
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

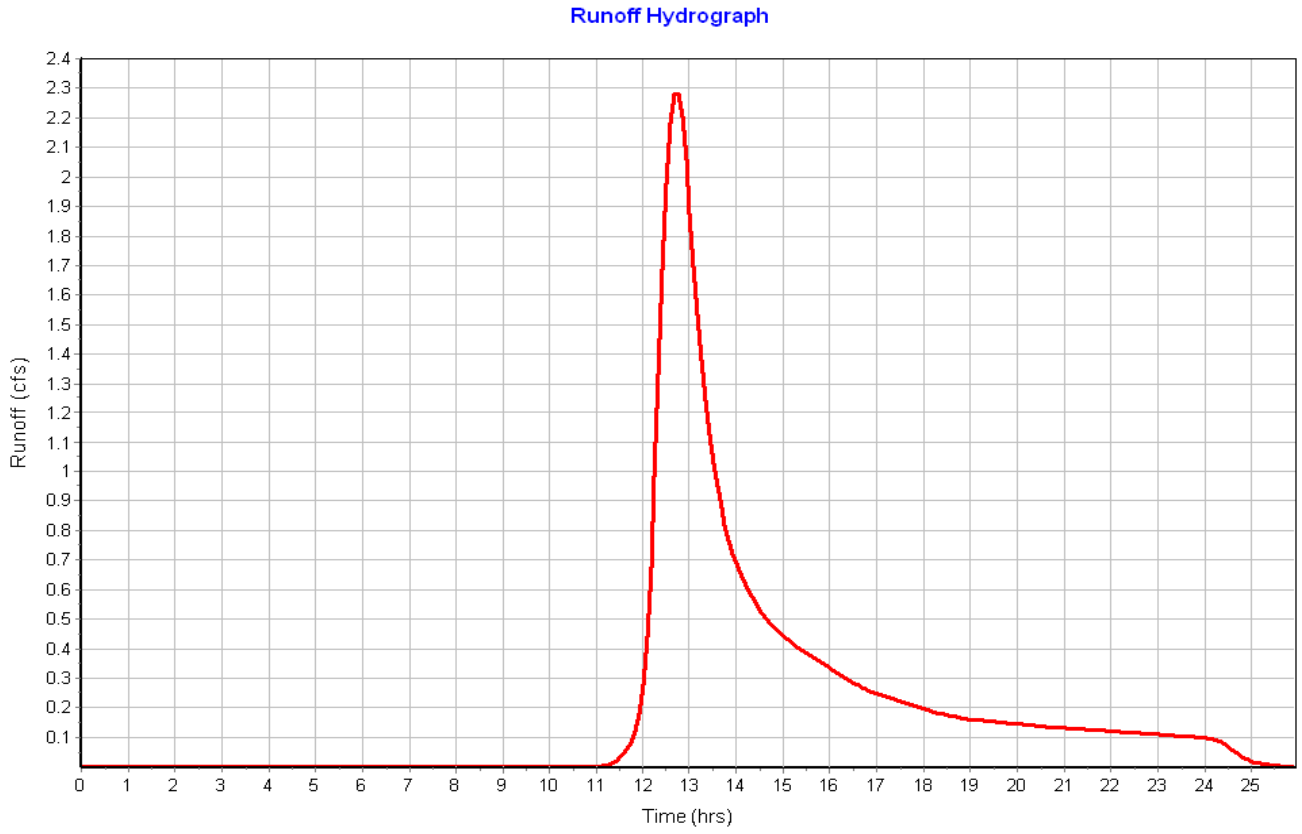
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.95
Peak Runoff (cfs) 2.30
Weighted Curve Number 73.66
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 5.02
Peak Rate Factor 484.00
Weighted Curve Number 73.76
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.92	C	73.00
> 75% grass cover, Good	0.53	C	74.00
Gravel roads	0.30	C	89.00
Paved parking & roofs	0.02	C	98.00
Brush, Good	0.25	C	65.00
Composite Area & Weighted CN	5.02		73.76

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

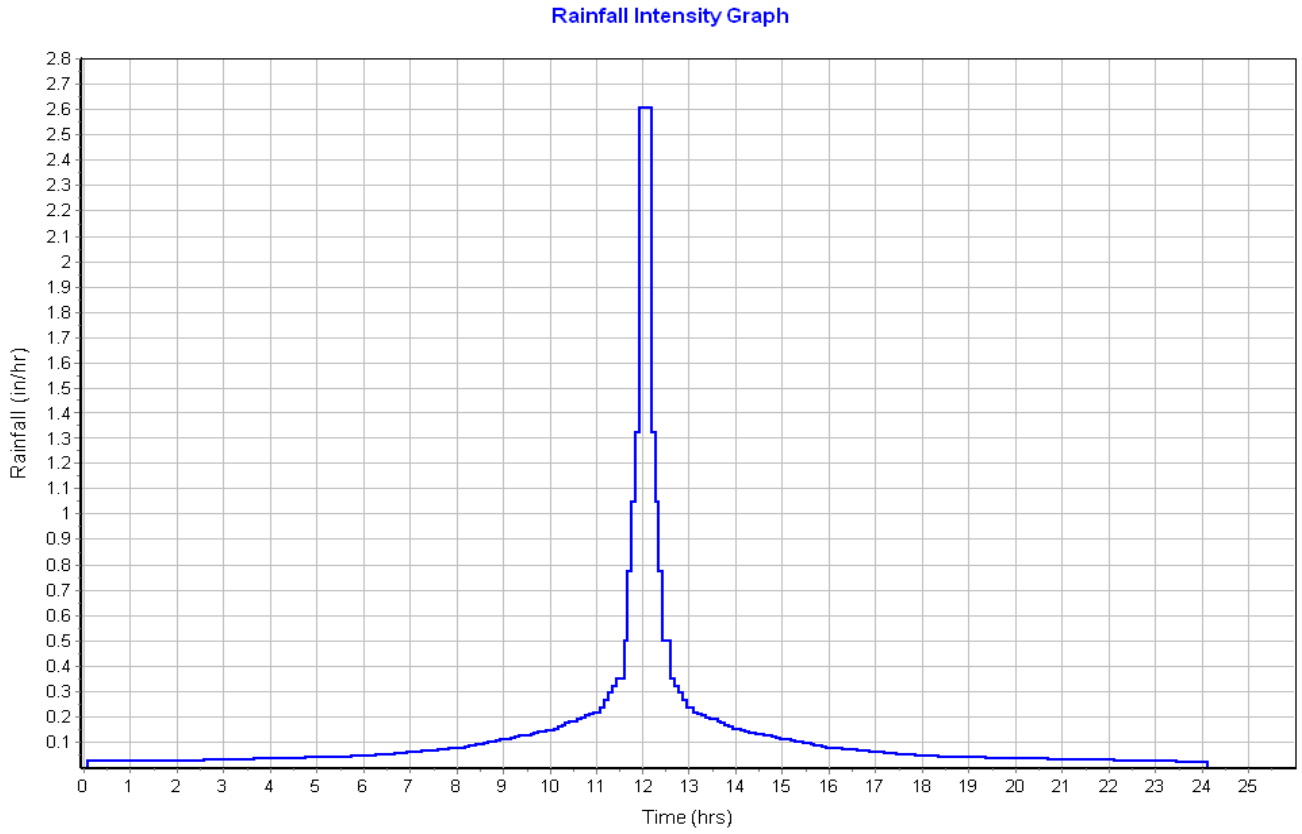
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

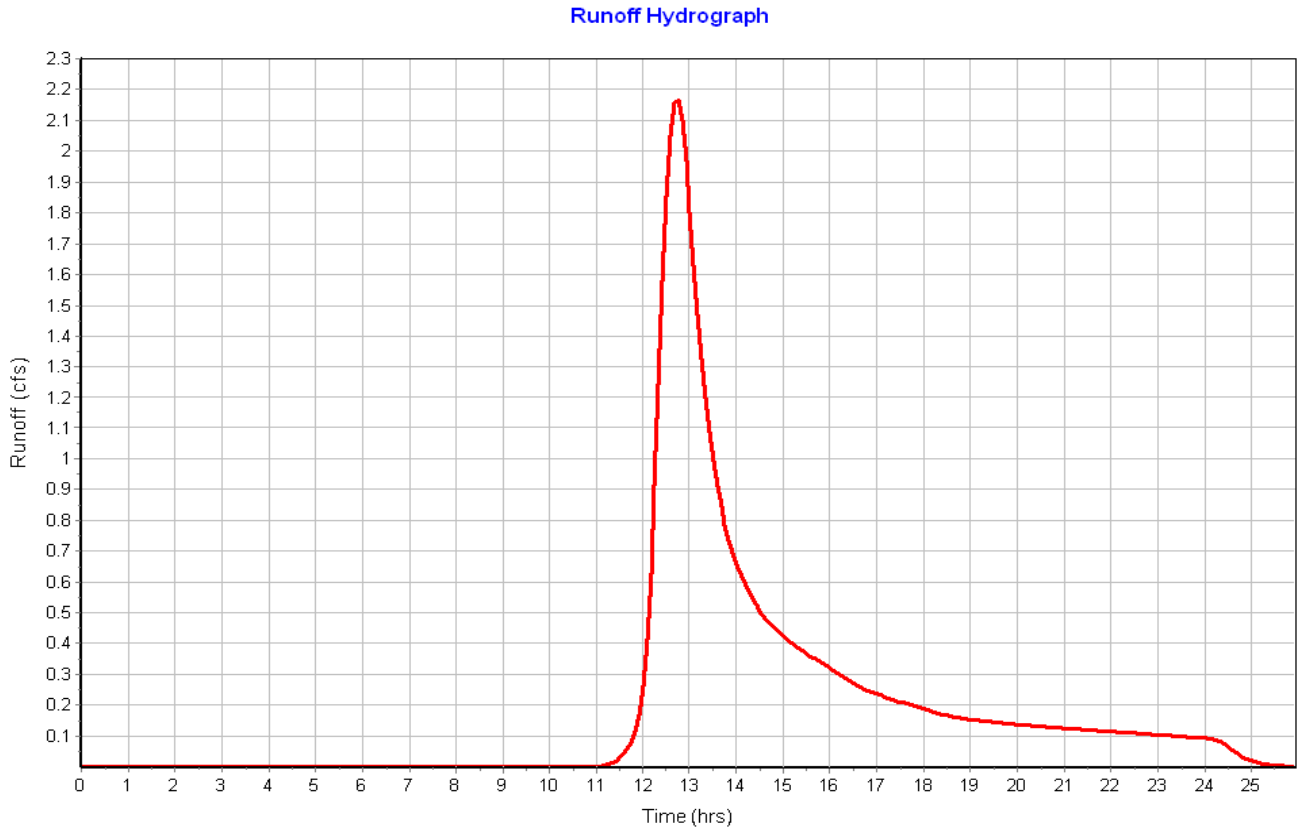
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.96
Peak Runoff (cfs) 2.18
Weighted Curve Number 73.76
Time of Concentration (days hh:mm:ss) 0 00:58:05

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 8.32
Peak Rate Factor 484.00
Weighted Curve Number 74.42
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	6.71	C	73.00
> 75% grass cover, Good	0.96	C	74.00
Gravel roads	0.60	C	89.00
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	8.32		74.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.11	0.00	0.00

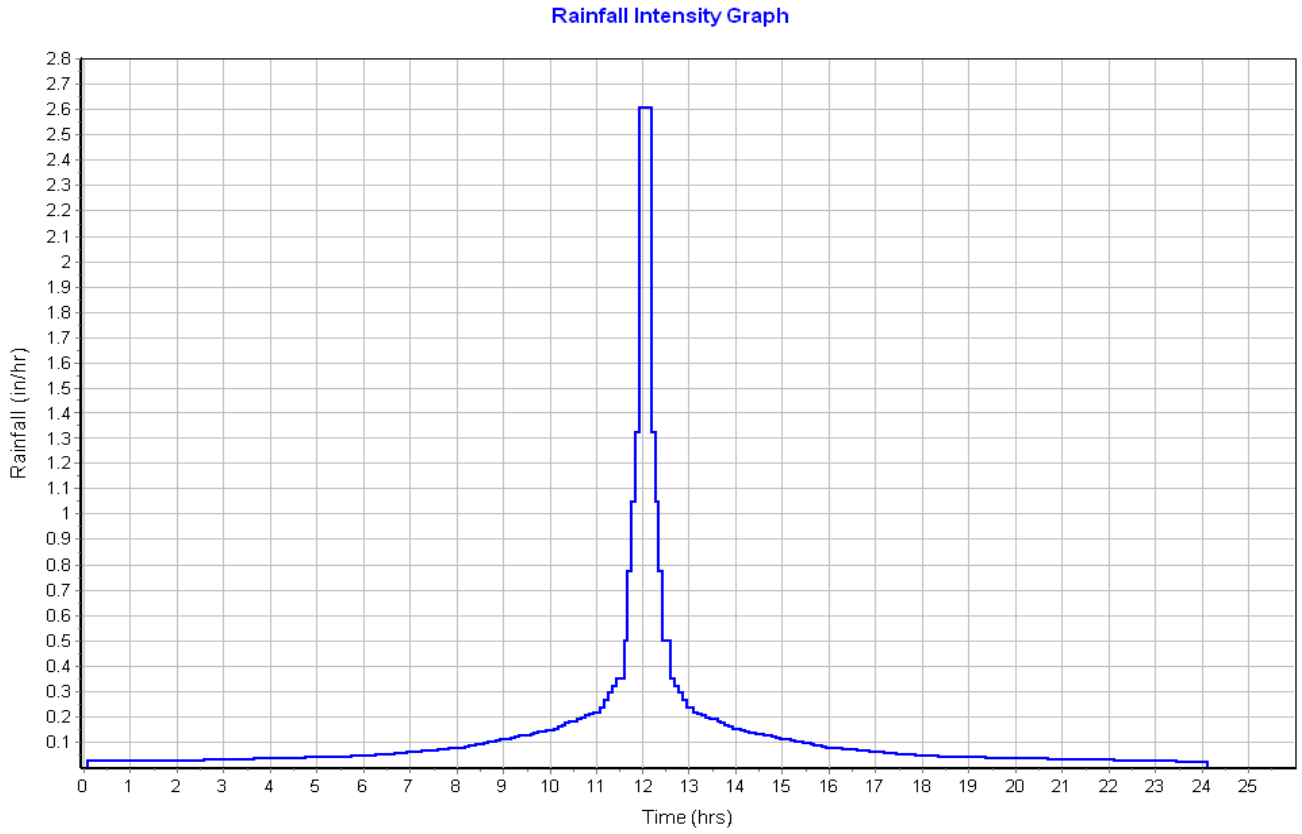
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1196.70	0.00	0.00
Slope (%) :	3.4	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.92	0.00	0.00
Computed Flow Time (min) :	21.68	0.00	0.00

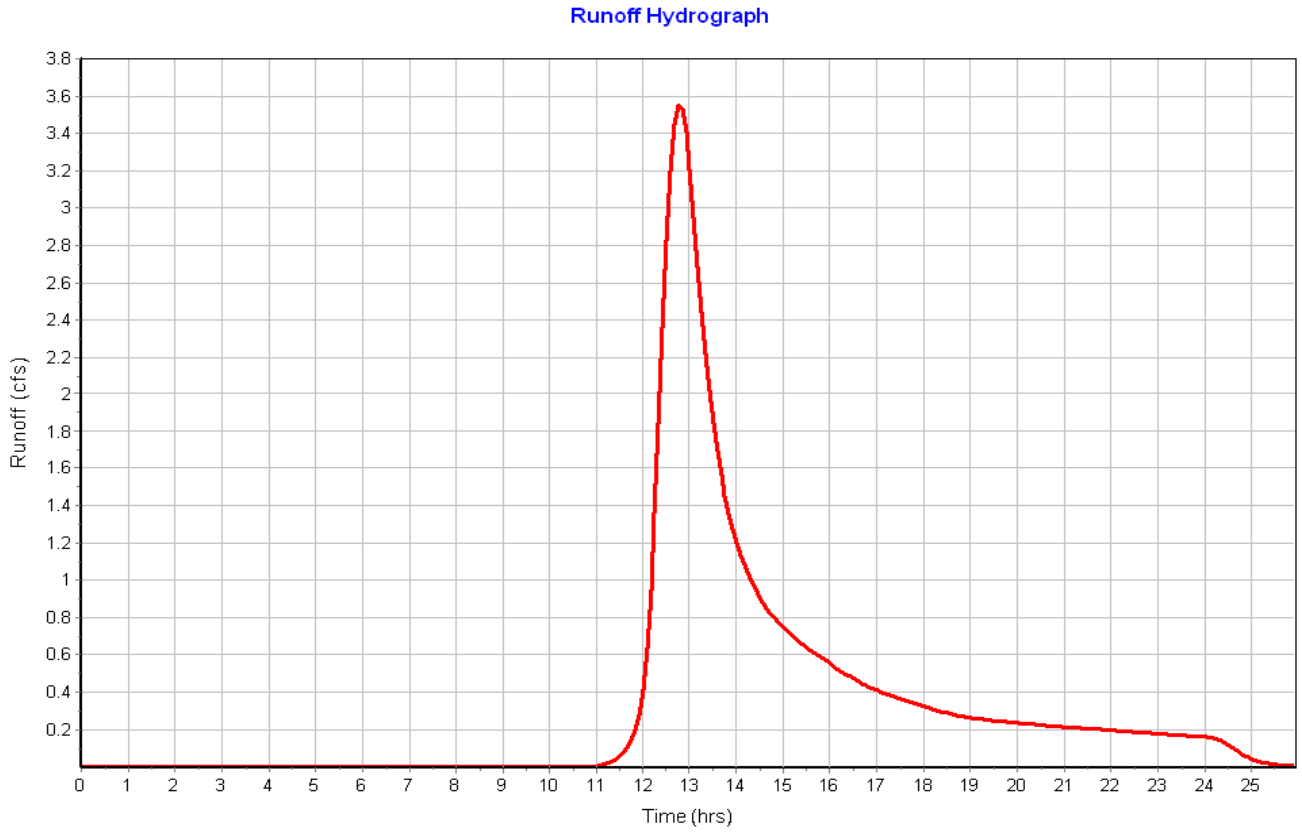
Total TOC (min) 63.79

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 1.00
Peak Runoff (cfs) 3.56
Weighted Curve Number 74.42
Time of Concentration (days hh:mm:ss) 0 01:03:47

Subbasin : Sub-05





Storage Nodes

Storage Node : Stor-01

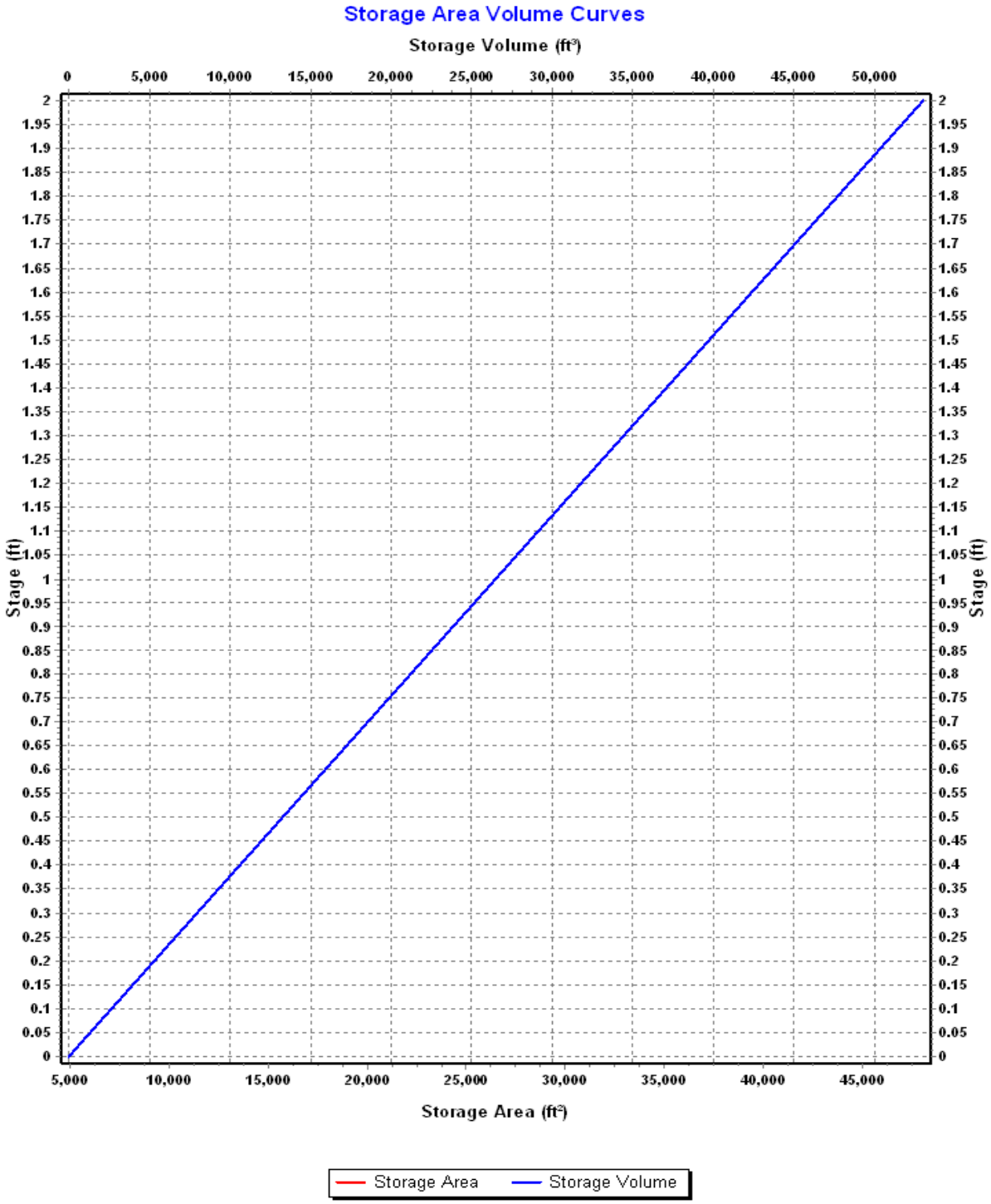
Input Data

Invert Elevation (ft) 206.00
Max (Rim) Elevation (ft) 208.00
Max (Rim) Offset (ft) 2.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -206.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	4.45
Peak Lateral Inflow (cfs)	4.45
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.61
Max HGL Depth Attained (ft)	1.61
Average HGL Elevation Attained (ft)	206.73
Average HGL Depth Attained (ft)	0.73
Time of Max HGL Occurrence (days hh:mm)	1 02:00
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 1 - Existing Conditions (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	5
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	1
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	1
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	17.09	484.00	73.64	3.21	1.02	17.50	7.17	0 01:00:18
2	Sub-02	4.36	484.00	73.62	3.21	1.02	4.46	1.89	0 00:56:46
3	Sub-03	5.30	484.00	73.66	3.21	1.03	5.43	2.29	0 00:57:25
4	Sub-04	5.02	484.00	73.76	3.21	1.03	5.18	2.17	0 00:58:04
5	Sub-05	8.32	484.00	74.42	3.21	1.07	8.89	3.55	0 01:03:47

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	206.00					0.00	206.00					
2	Out-02	Outfall	232.00					1.88	232.00					
3	Out-03	Outfall	204.00					7.16	204.00					
4	Out-04	Outfall	204.00					3.54	204.00					
5	Stor-01	Storage Node	206.00	208.00	0.00		0.00	4.43	207.67				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Weir-01	Weir	Stor-01	Out-01		206.00	206.00				0.00							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 17.09
Peak Rate Factor 484.00
Weighted Curve Number 73.64
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	14.37	C	73.00
> 75% grass cover, Good	2.17	C	74.00
Gravel roads	0.55	C	89.00
Composite Area & Weighted CN	17.09		73.64

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	40.37	0.00	0.00

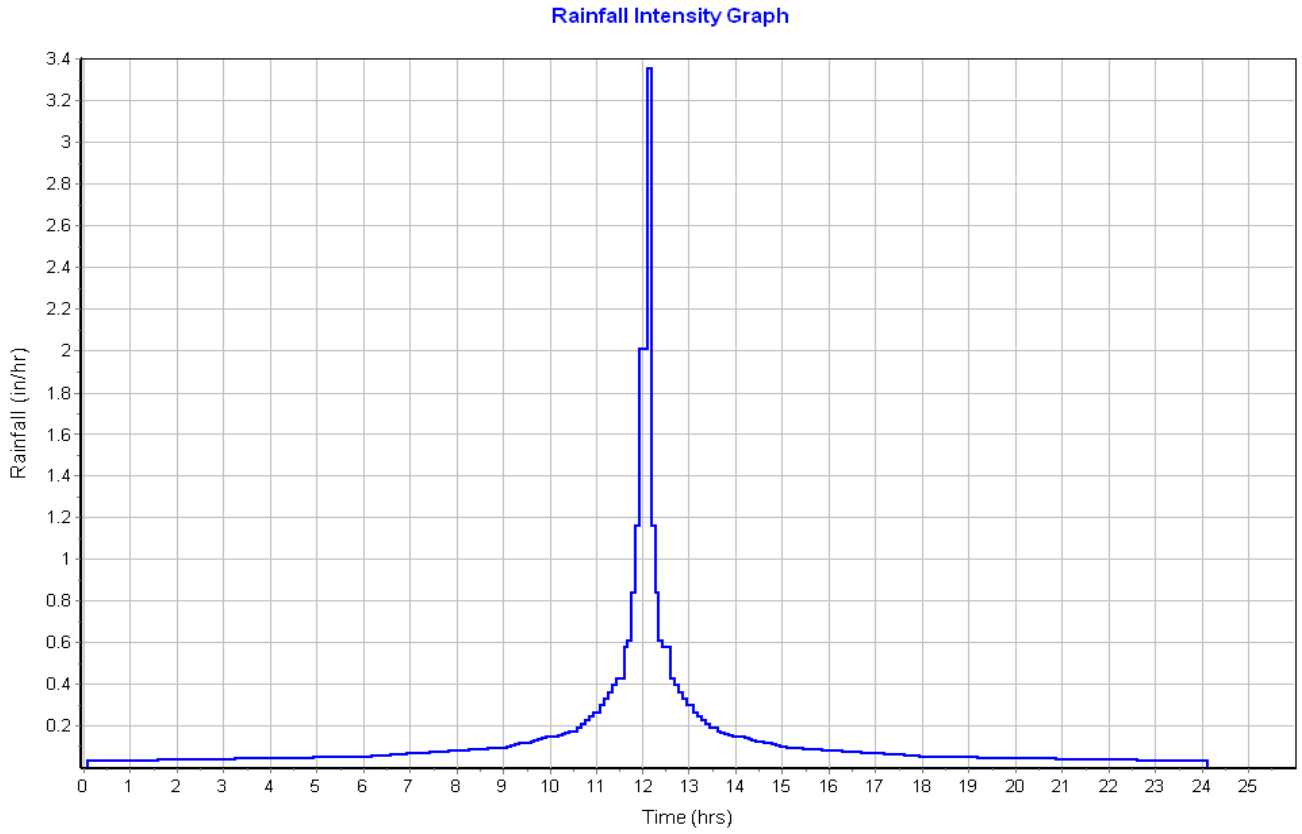
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1304.14	0.00	0.00
Slope (%) :	4.75	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.09	0.00	0.00
Computed Flow Time (min) :	19.94	0.00	0.00

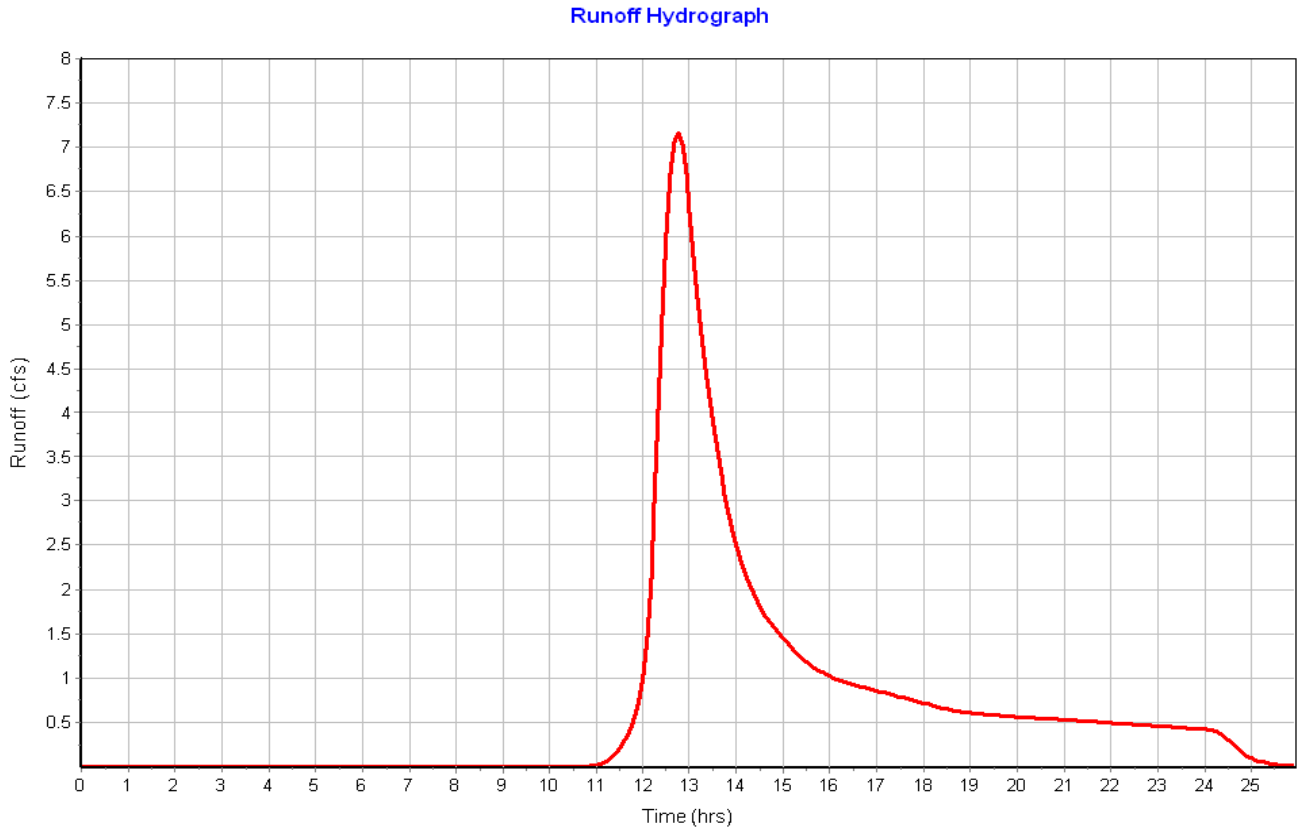
Total TOC (min) 60.31

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.02
Peak Runoff (cfs)	7.17
Weighted Curve Number	73.64
Time of Concentration (days hh:mm:ss)	0 01:00:19

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	4.36
Peak Rate Factor	484.00
Weighted Curve Number	73.62
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.19	C	73.00
Gravel roads	0.17	C	89.00
Composite Area & Weighted CN	4.36		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

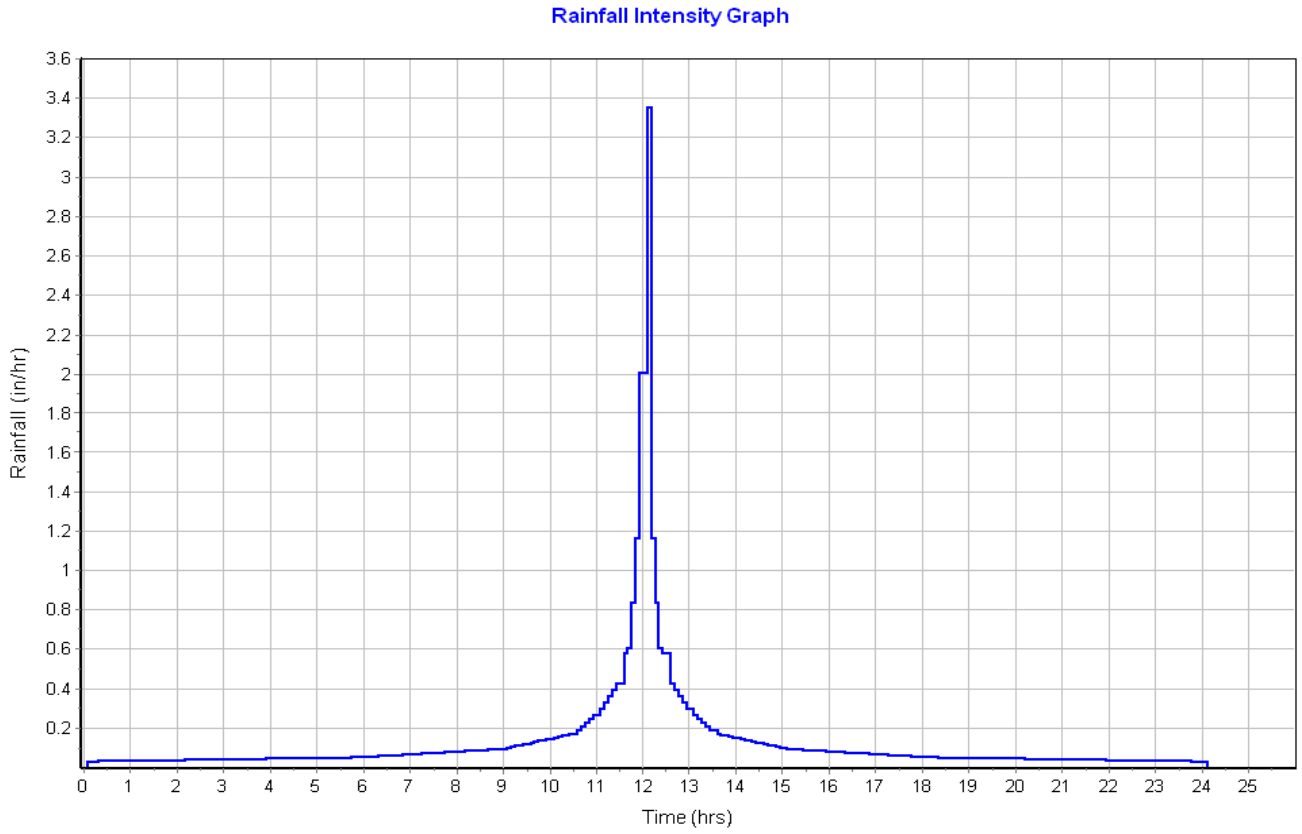
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

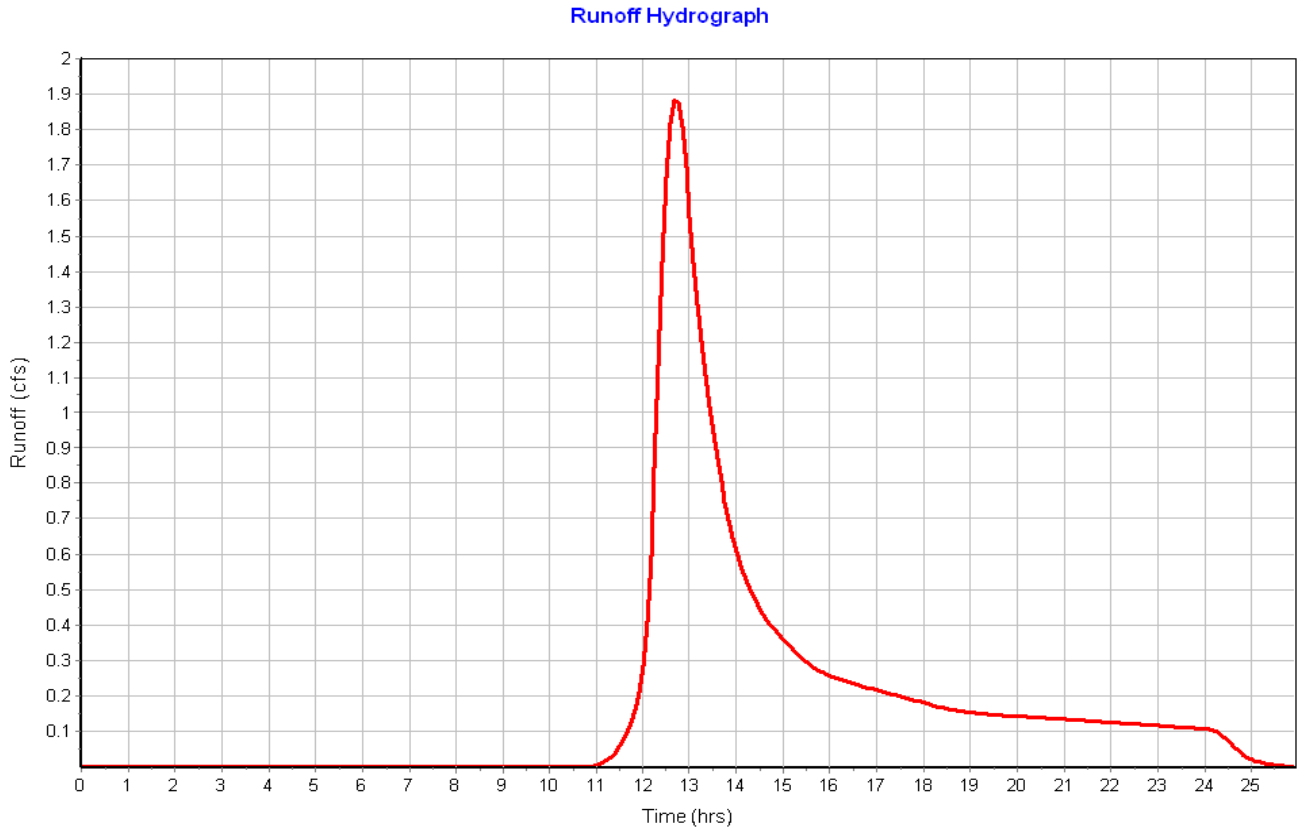
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.02
Peak Runoff (cfs)	1.89
Weighted Curve Number	73.62
Time of Concentration (days hh:mm:ss)	0 00:56:46

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 5.30
Peak Rate Factor 484.00
Weighted Curve Number 73.66
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.11	C	73.00
> 75% grass cover, Good	1.54	C	74.00
Gravel roads	0.20	C	89.00
Paved parking & roofs	0.07	C	98.00
Brush, Good	0.38	C	65.00
Composite Area & Weighted CN	5.30		73.66

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

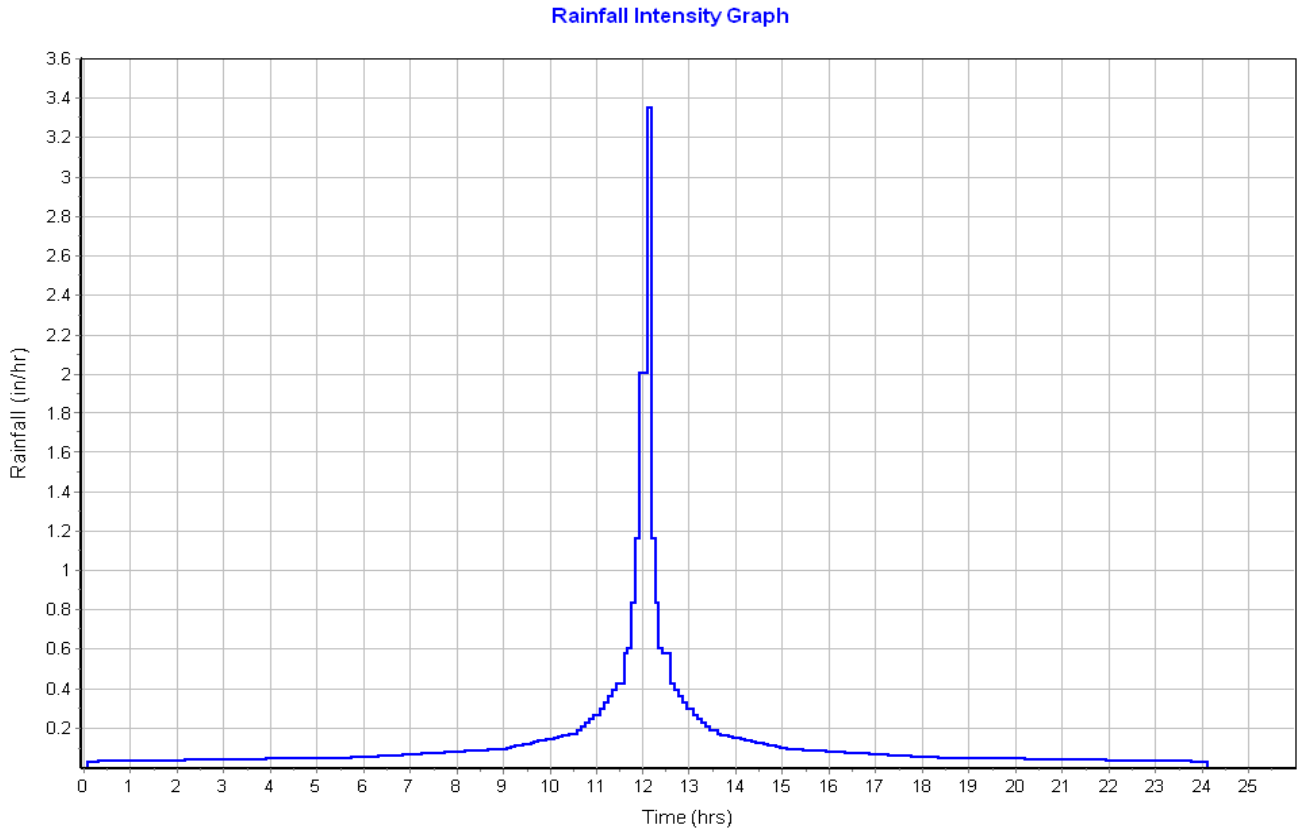
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

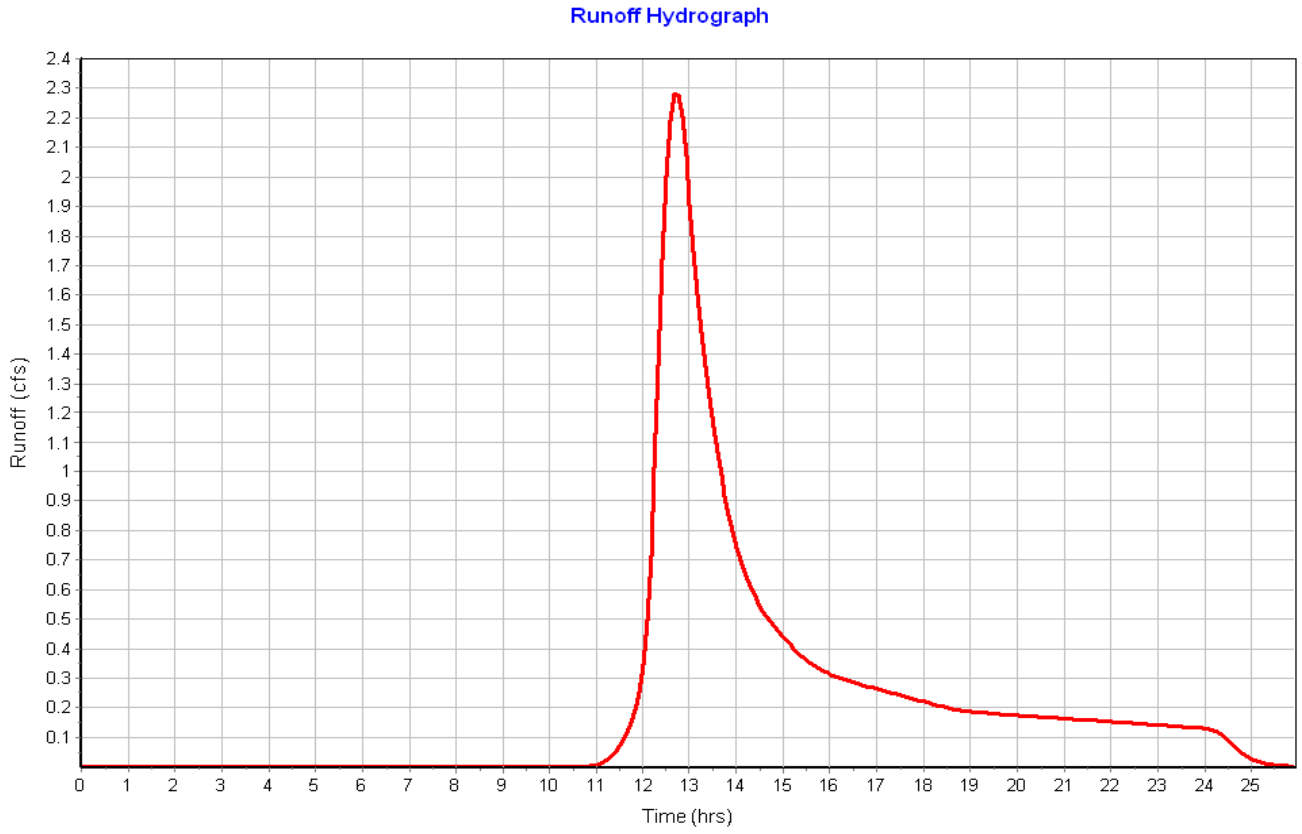
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 1.03
Peak Runoff (cfs) 2.29
Weighted Curve Number 73.66
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	5.02
Peak Rate Factor	484.00
Weighted Curve Number	73.76
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.92	C	73.00
> 75% grass cover, Good	0.53	C	74.00
Gravel roads	0.30	C	89.00
Paved parking & roofs	0.02	C	98.00
Brush, Good	0.25	C	65.00
Composite Area & Weighted CN	5.02		73.76

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

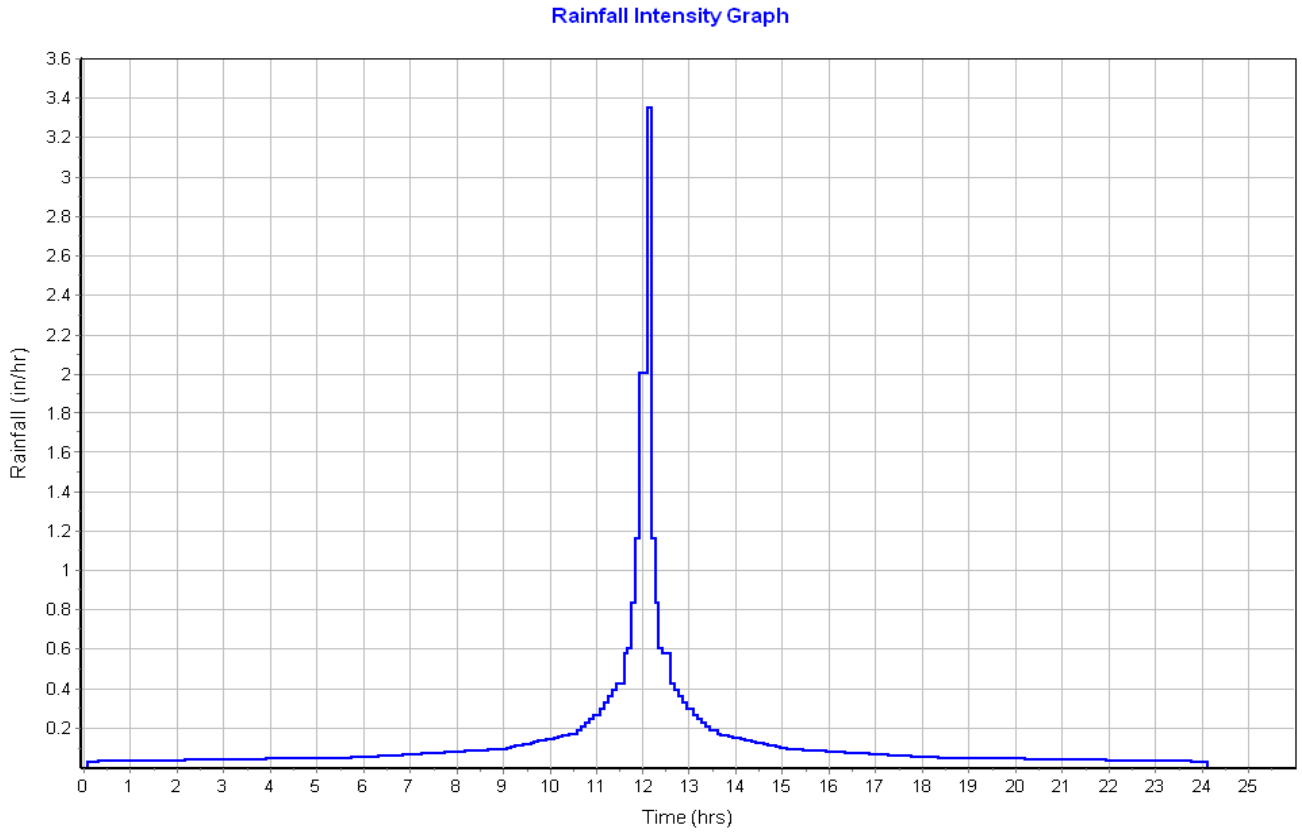
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

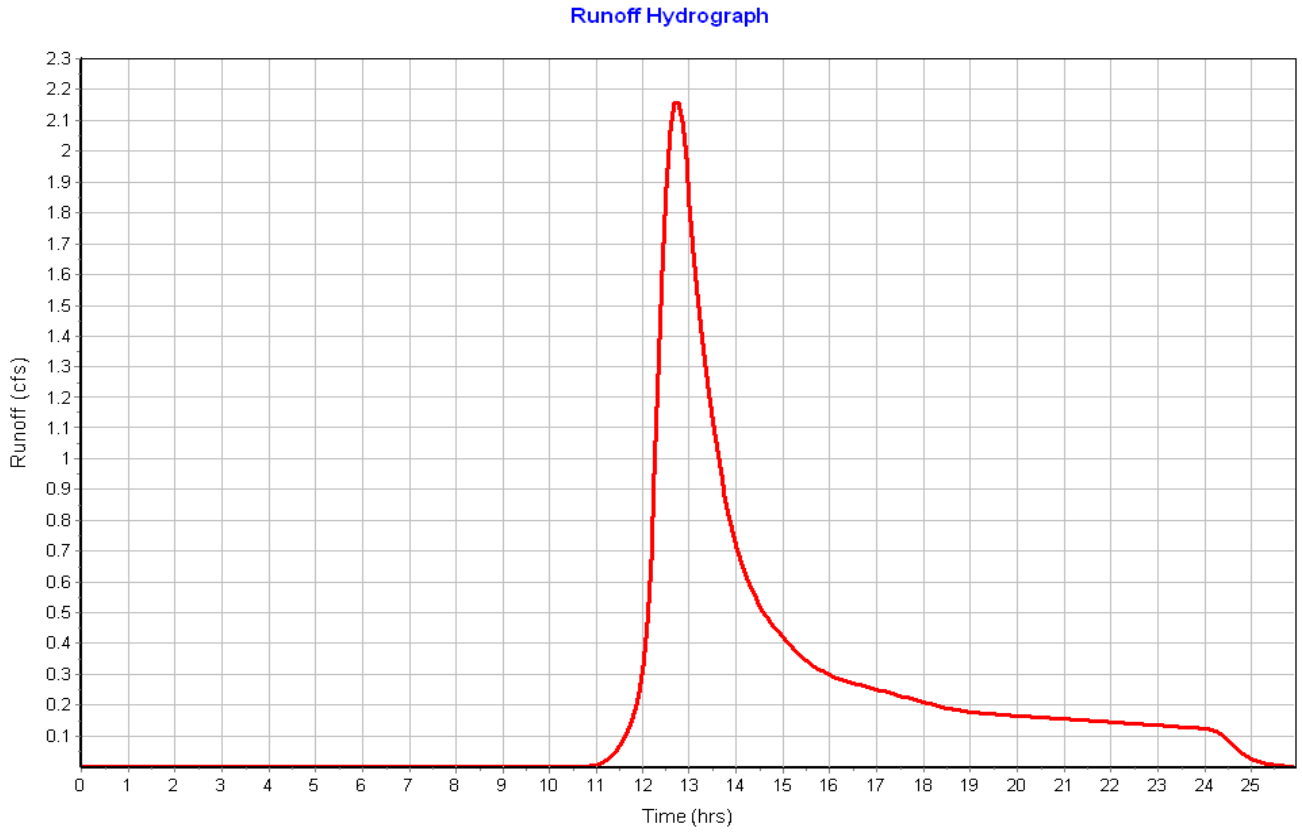
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.03
Peak Runoff (cfs)	2.17
Weighted Curve Number	73.76
Time of Concentration (days hh:mm:ss)	0 00:58:05

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 8.32
Peak Rate Factor 484.00
Weighted Curve Number 74.42
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	6.71	C	73.00
> 75% grass cover, Good	0.96	C	74.00
Gravel roads	0.60	C	89.00
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	8.32		74.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.11	0.00	0.00

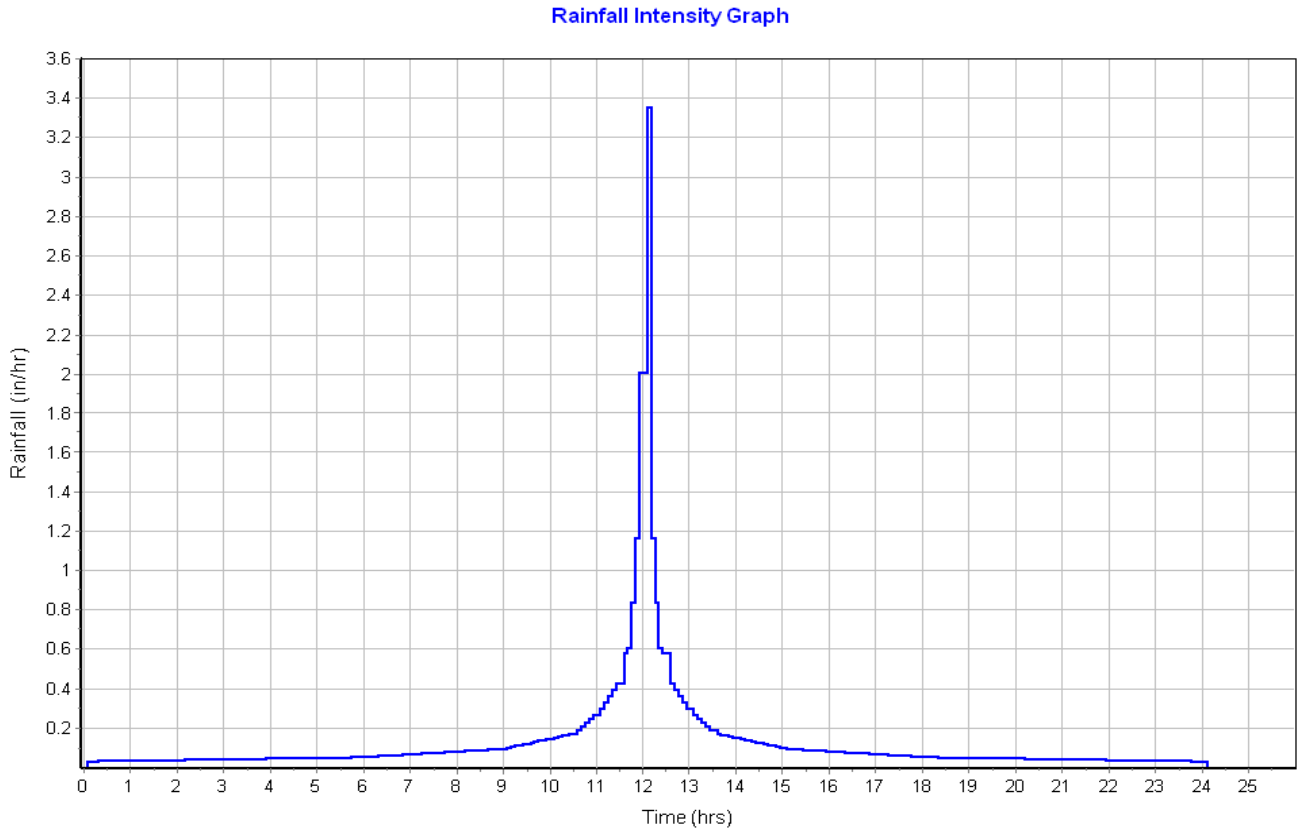
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1196.70	0.00	0.00
Slope (%) :	3.4	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.92	0.00	0.00
Computed Flow Time (min) :	21.68	0.00	0.00

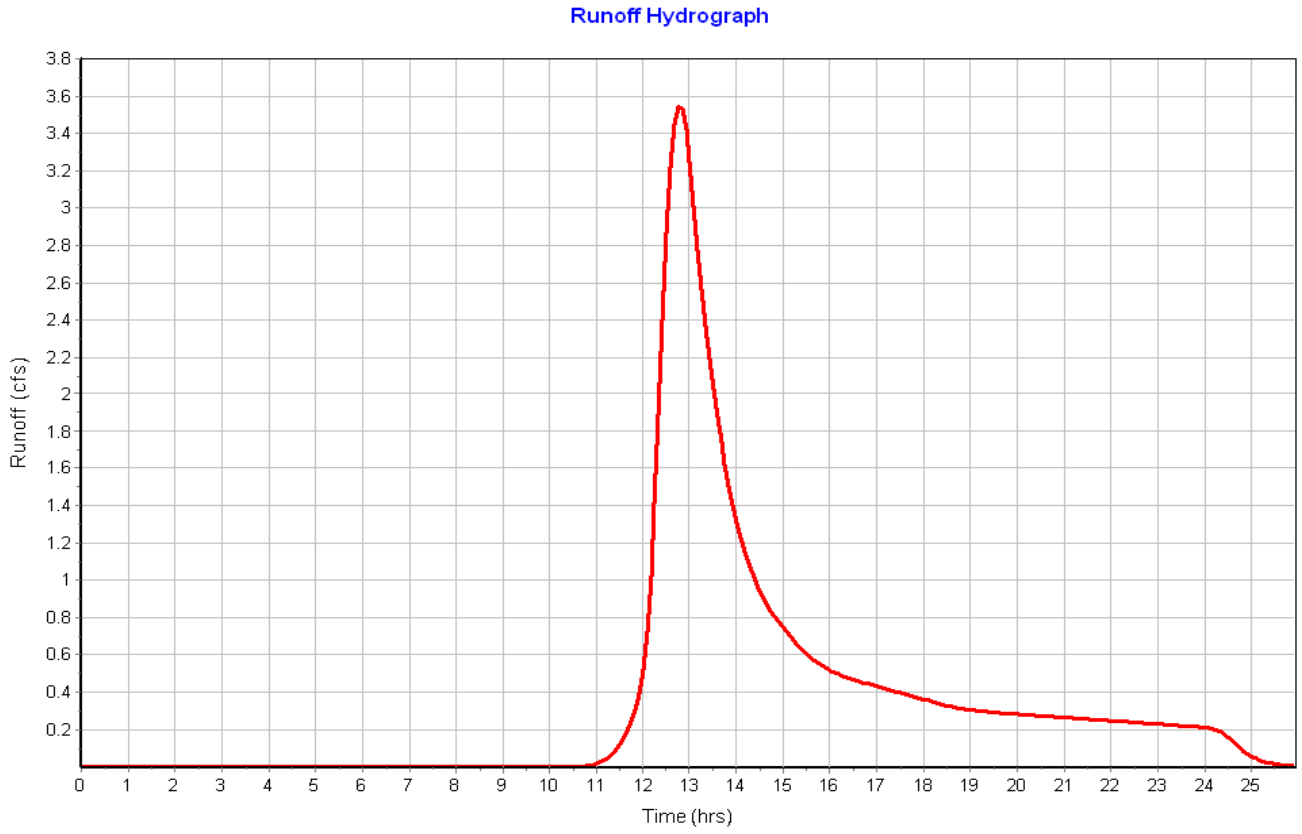
Total TOC (min) 63.79

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 1.07
Peak Runoff (cfs) 3.55
Weighted Curve Number 74.42
Time of Concentration (days hh:mm:ss) 0 01:03:47

Subbasin : Sub-05





Storage Nodes

Storage Node : Stor-01

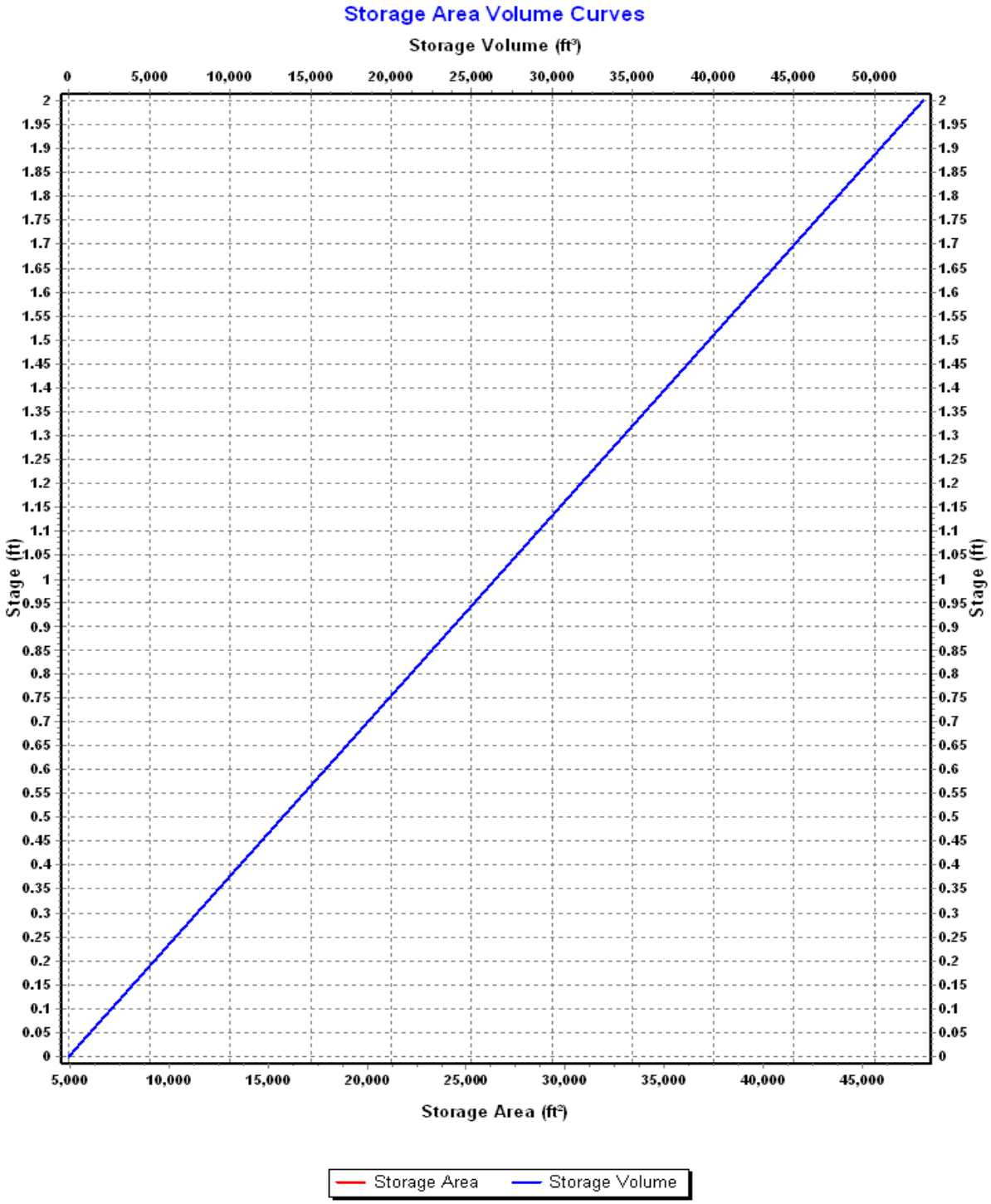
Input Data

Invert Elevation (ft) 206.00
Max (Rim) Elevation (ft) 208.00
Max (Rim) Offset (ft) 2.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -206.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	4.43
Peak Lateral Inflow (cfs)	4.43
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.67
Max HGL Depth Attained (ft)	1.67
Average HGL Elevation Attained (ft)	206.76
Average HGL Depth Attained (ft)	0.76
Time of Max HGL Occurrence (days hh:mm)	1 02:00
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 1 - Existing Conditions (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	5
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	1
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	1
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	17.09	484.00	73.64	3.50	1.22	20.82	8.69	0 01:00:18
2	Sub-02	4.36	484.00	73.62	3.50	1.22	5.31	2.29	0 00:56:46
3	Sub-03	5.30	484.00	73.66	3.50	1.22	6.46	2.77	0 00:57:25
4	Sub-04	5.02	484.00	73.76	3.50	1.23	6.15	2.62	0 00:58:04
5	Sub-05	8.32	484.00	74.42	3.50	1.27	10.53	4.28	0 01:03:47

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	206.00					0.35	206.00					
2	Out-02	Outfall	232.00					2.28	232.00					
3	Out-03	Outfall	204.00					8.66	204.00					
4	Out-04	Outfall	204.00					4.27	204.00					
5	Stor-01	Storage Node	206.00	208.00	0.00		0.00	5.38	207.76				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	Weir-01	Weir	Stor-01	Out-01		206.00	206.00				0.35							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 17.09
Peak Rate Factor 484.00
Weighted Curve Number 73.64
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	14.37	C	73.00
> 75% grass cover, Good	2.17	C	74.00
Gravel roads	0.55	C	89.00
Composite Area & Weighted CN	17.09		73.64

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	40.37	0.00	0.00

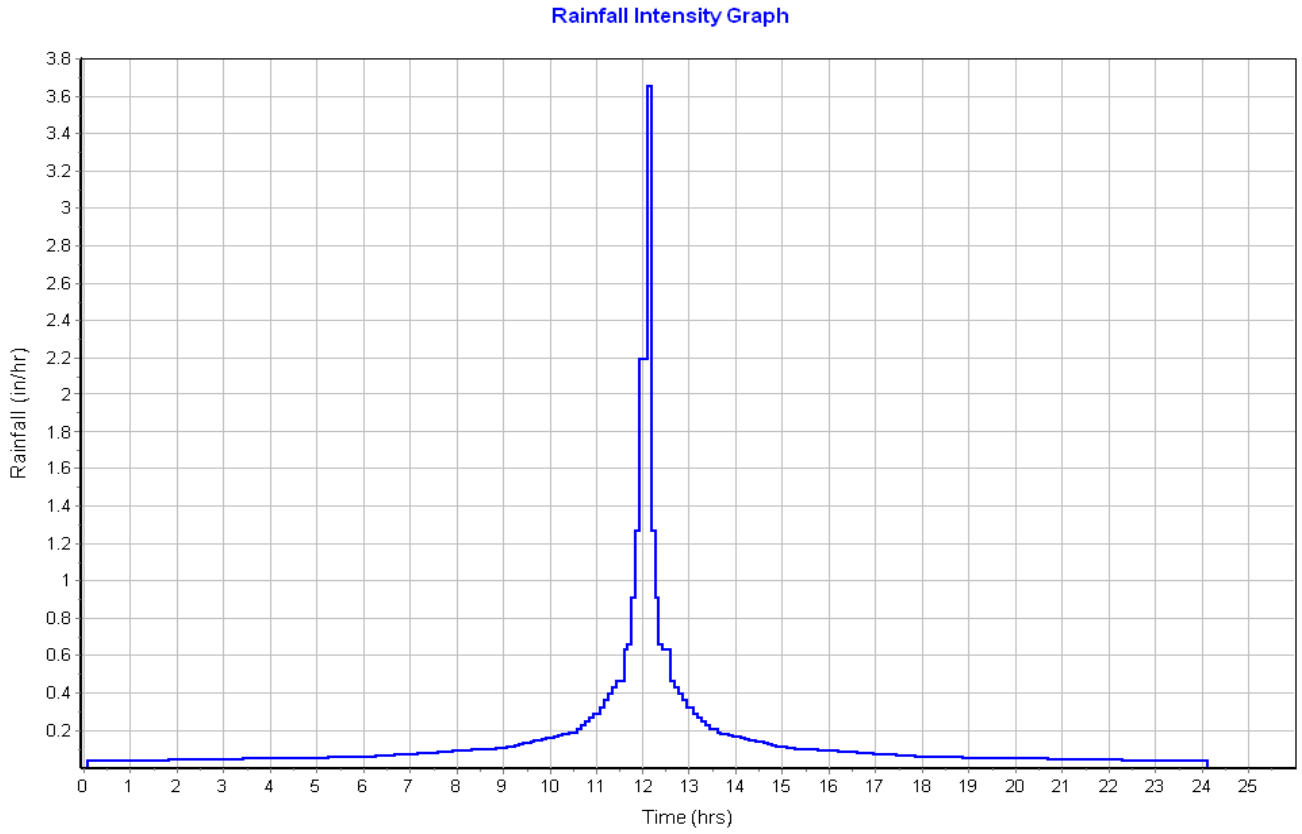
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1304.14	0.00	0.00
Slope (%) :	4.75	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.09	0.00	0.00
Computed Flow Time (min) :	19.94	0.00	0.00

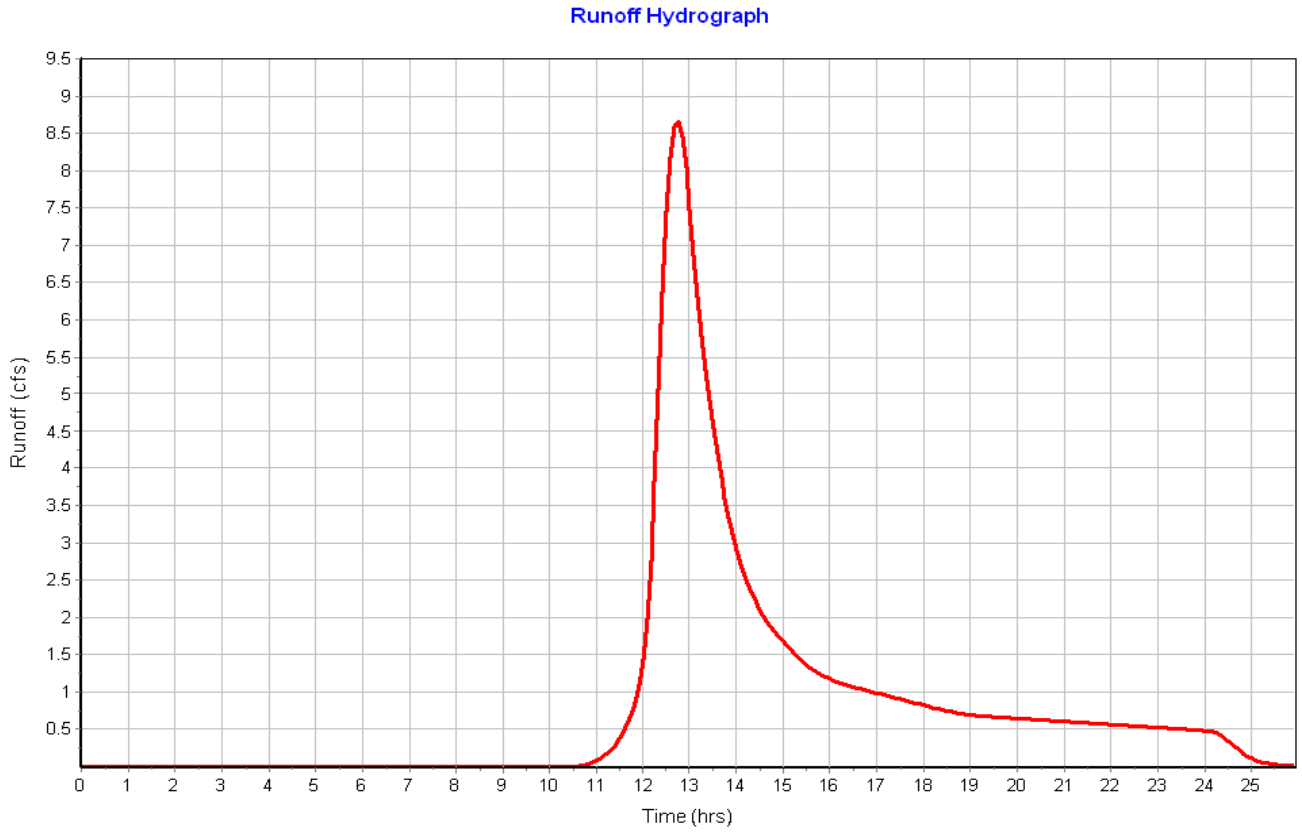
Total TOC (min) 60.31

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.22
Peak Runoff (cfs)	8.69
Weighted Curve Number	73.64
Time of Concentration (days hh:mm:ss)	0 01:00:19

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 4.36
Peak Rate Factor 484.00
Weighted Curve Number 73.62
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.19	C	73.00
Gravel roads	0.17	C	89.00
Composite Area & Weighted CN	4.36		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

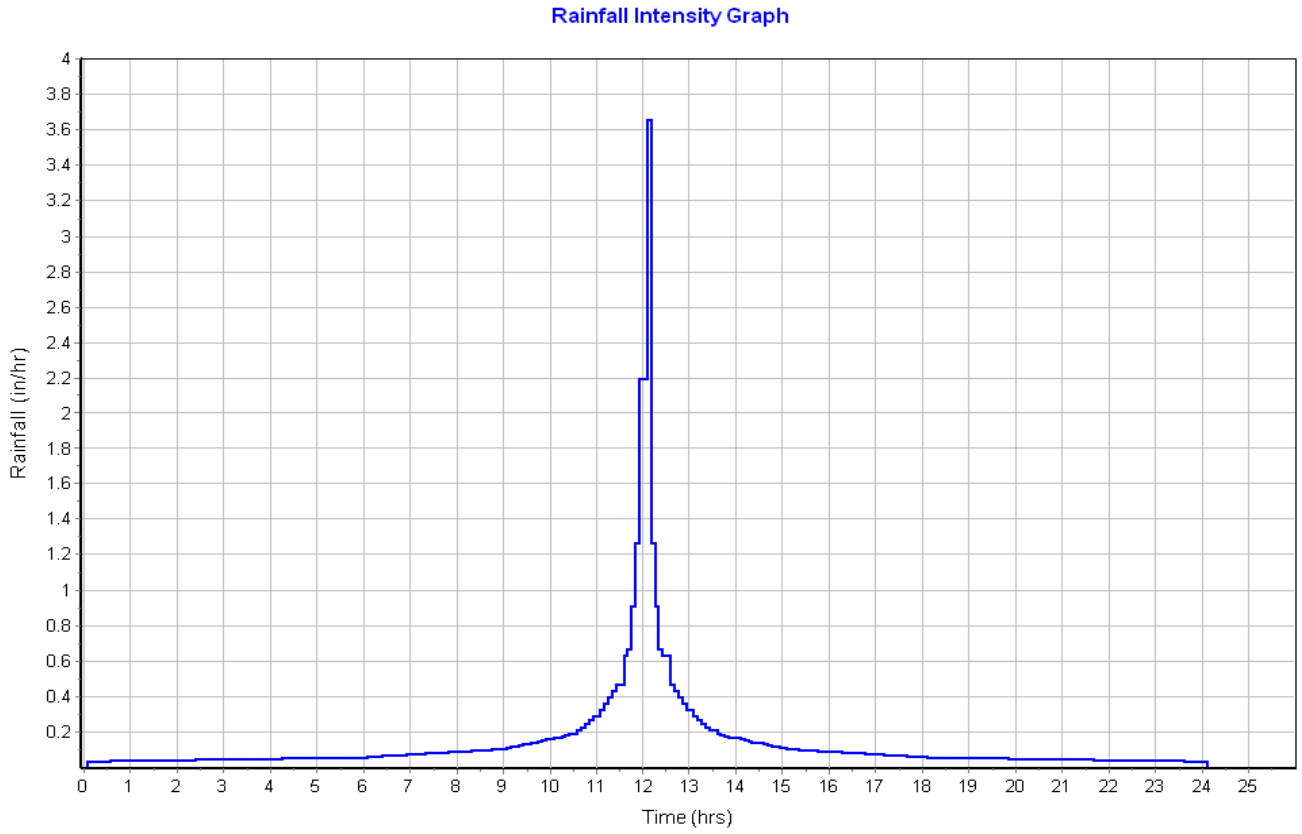
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

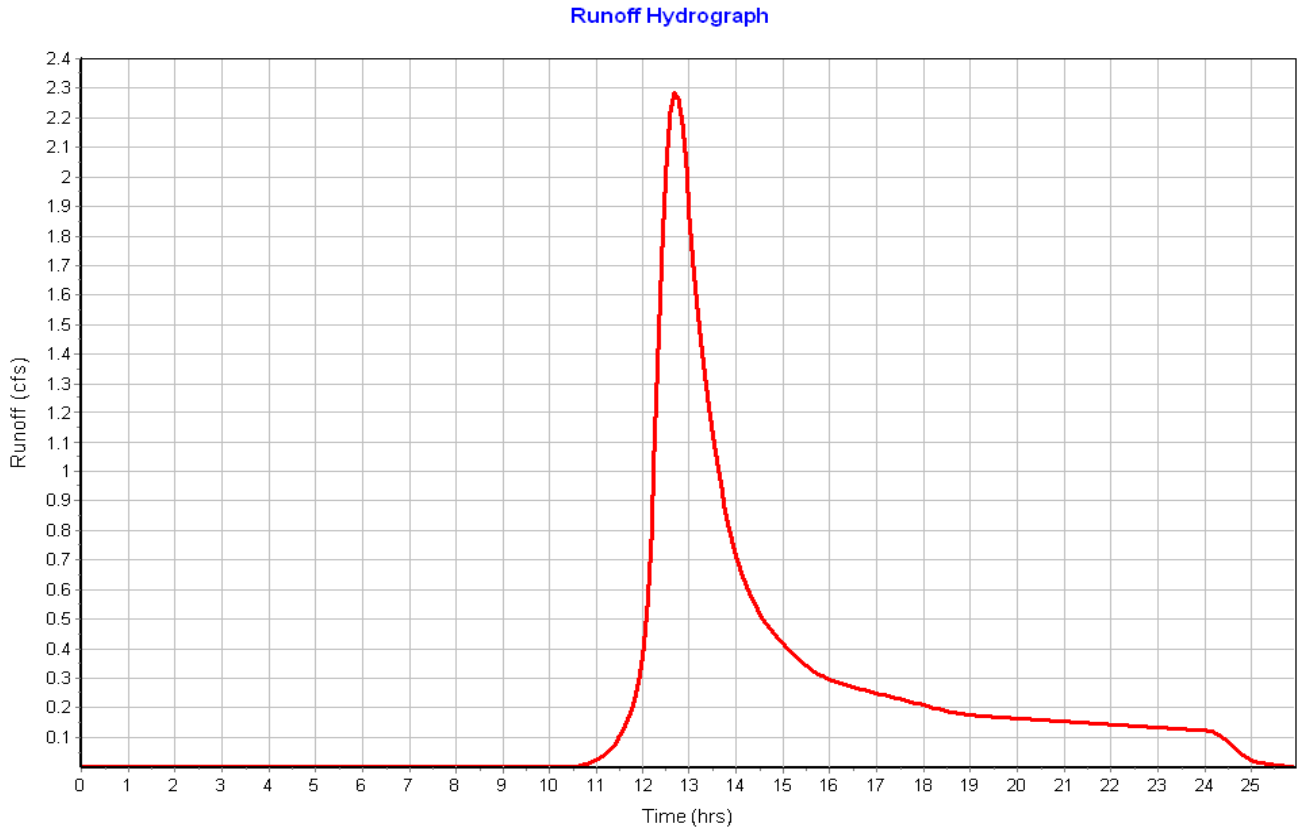
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 1.22
Peak Runoff (cfs) 2.29
Weighted Curve Number 73.62
Time of Concentration (days hh:mm:ss) 0 00:56:46

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	5.30
Peak Rate Factor	484.00
Weighted Curve Number	73.66
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.11	C	73.00
> 75% grass cover, Good	1.54	C	74.00
Gravel roads	0.20	C	89.00
Paved parking & roofs	0.07	C	98.00
Brush, Good	0.38	C	65.00
Composite Area & Weighted CN	5.30		73.66

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

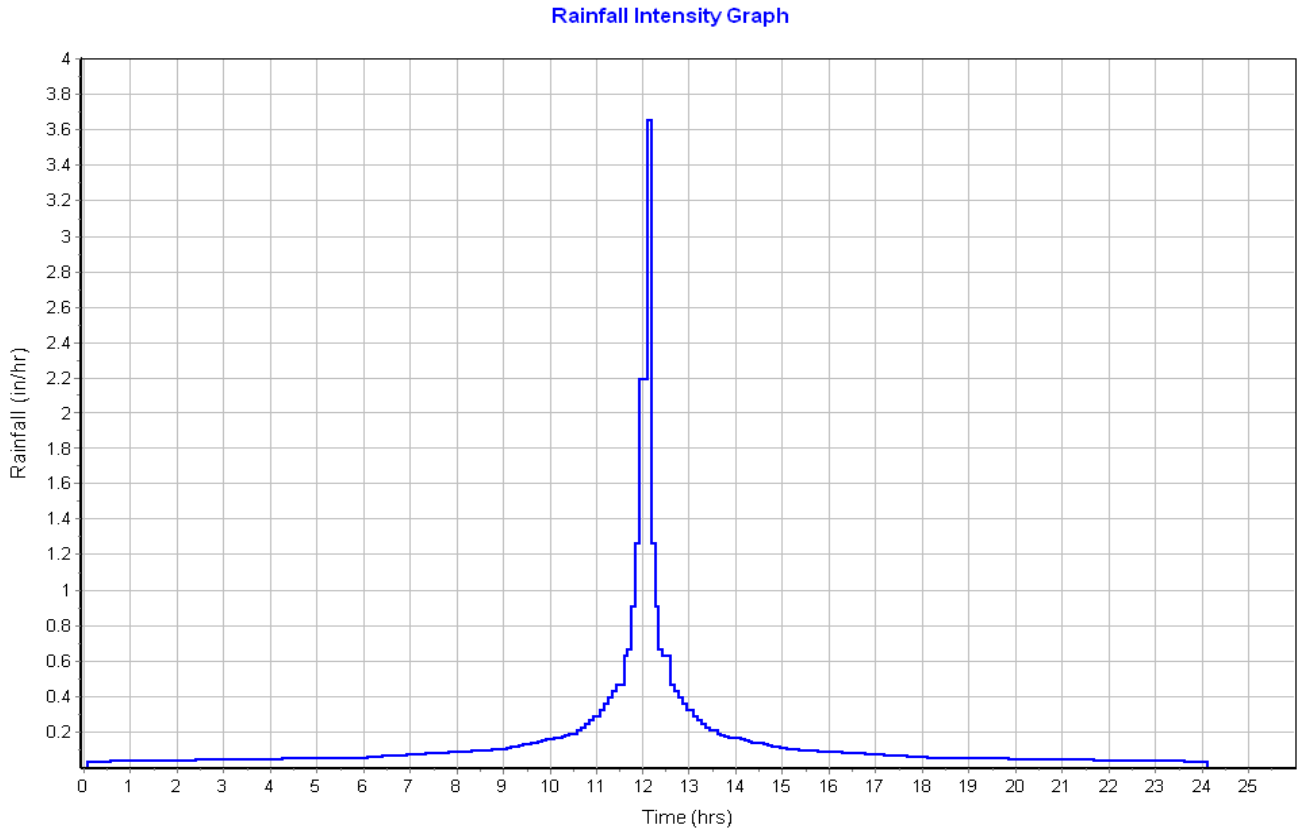
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

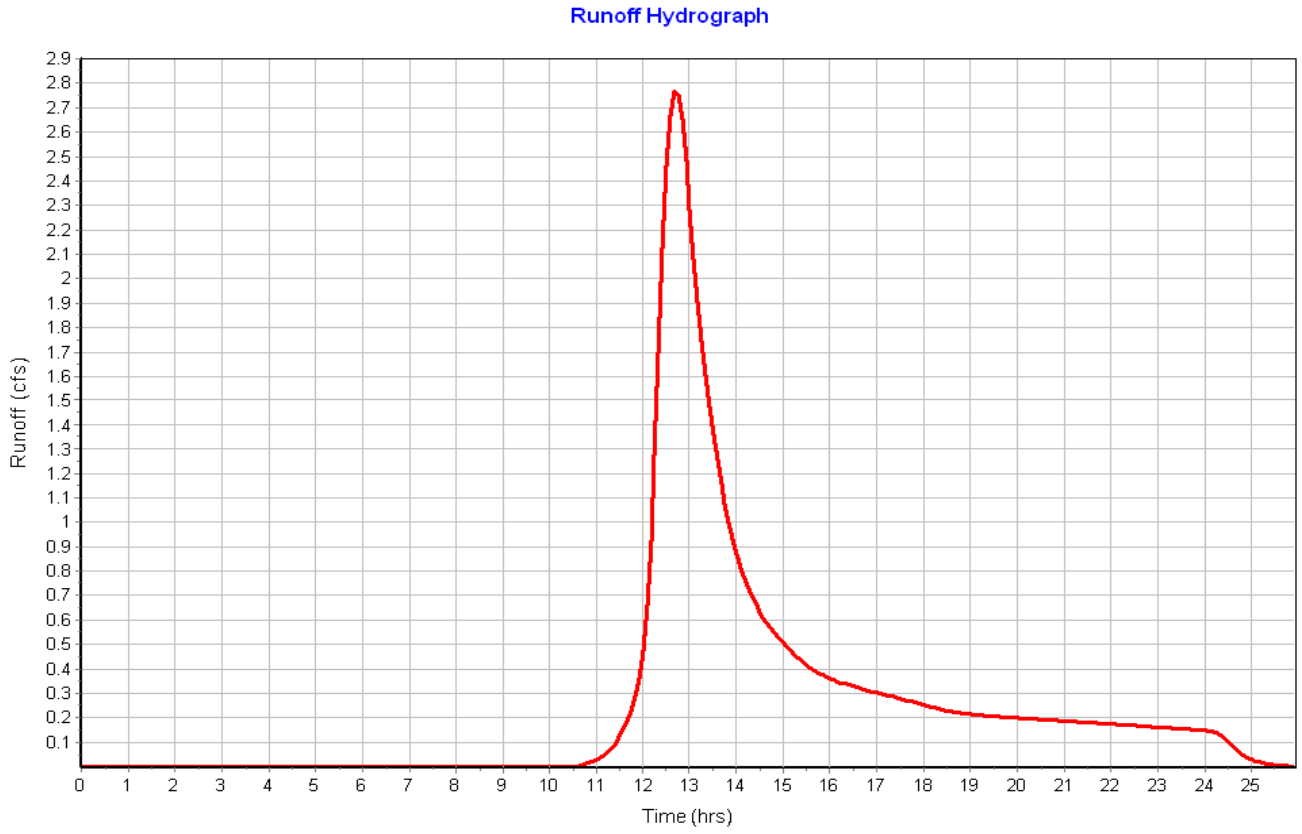
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.22
Peak Runoff (cfs)	2.77
Weighted Curve Number	73.66
Time of Concentration (days hh:mm:ss)	0 00:57:25

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	5.02
Peak Rate Factor	484.00
Weighted Curve Number	73.76
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.92	C	73.00
> 75% grass cover, Good	0.53	C	74.00
Gravel roads	0.30	C	89.00
Paved parking & roofs	0.02	C	98.00
Brush, Good	0.25	C	65.00
Composite Area & Weighted CN	5.02		73.76

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

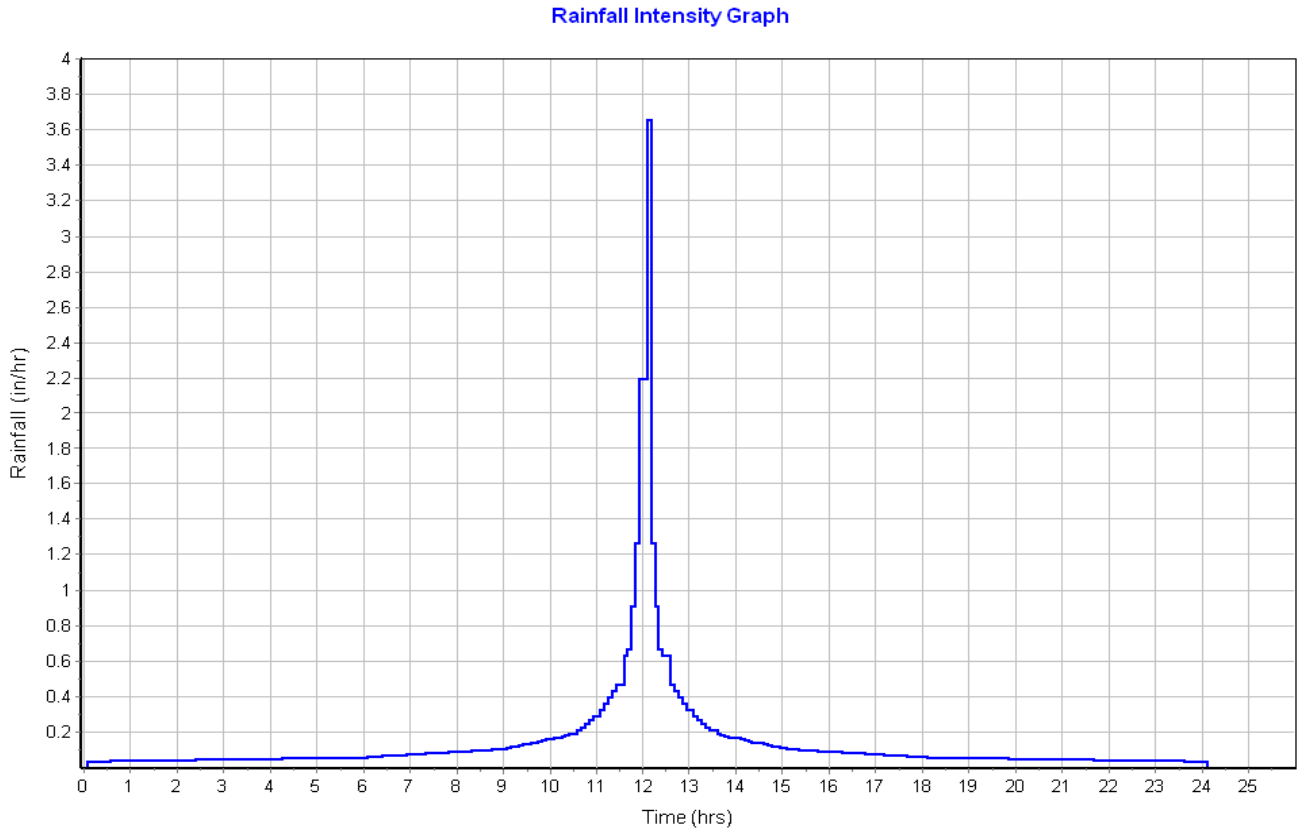
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

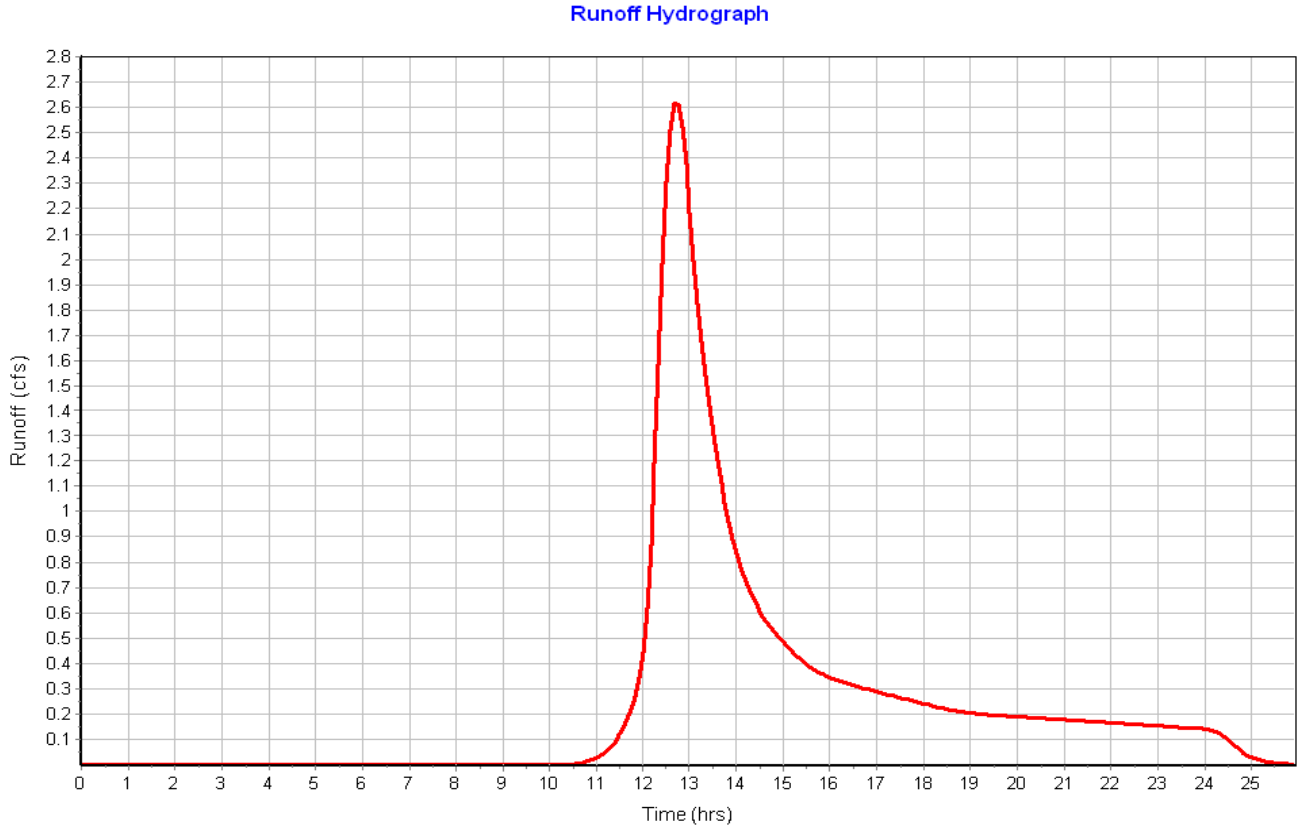
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.23
Peak Runoff (cfs)	2.62
Weighted Curve Number	73.76
Time of Concentration (days hh:mm:ss)	0 00:58:05

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 8.32
Peak Rate Factor 484.00
Weighted Curve Number 74.42
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	6.71	C	73.00
> 75% grass cover, Good	0.96	C	74.00
Gravel roads	0.60	C	89.00
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	8.32		74.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.11	0.00	0.00

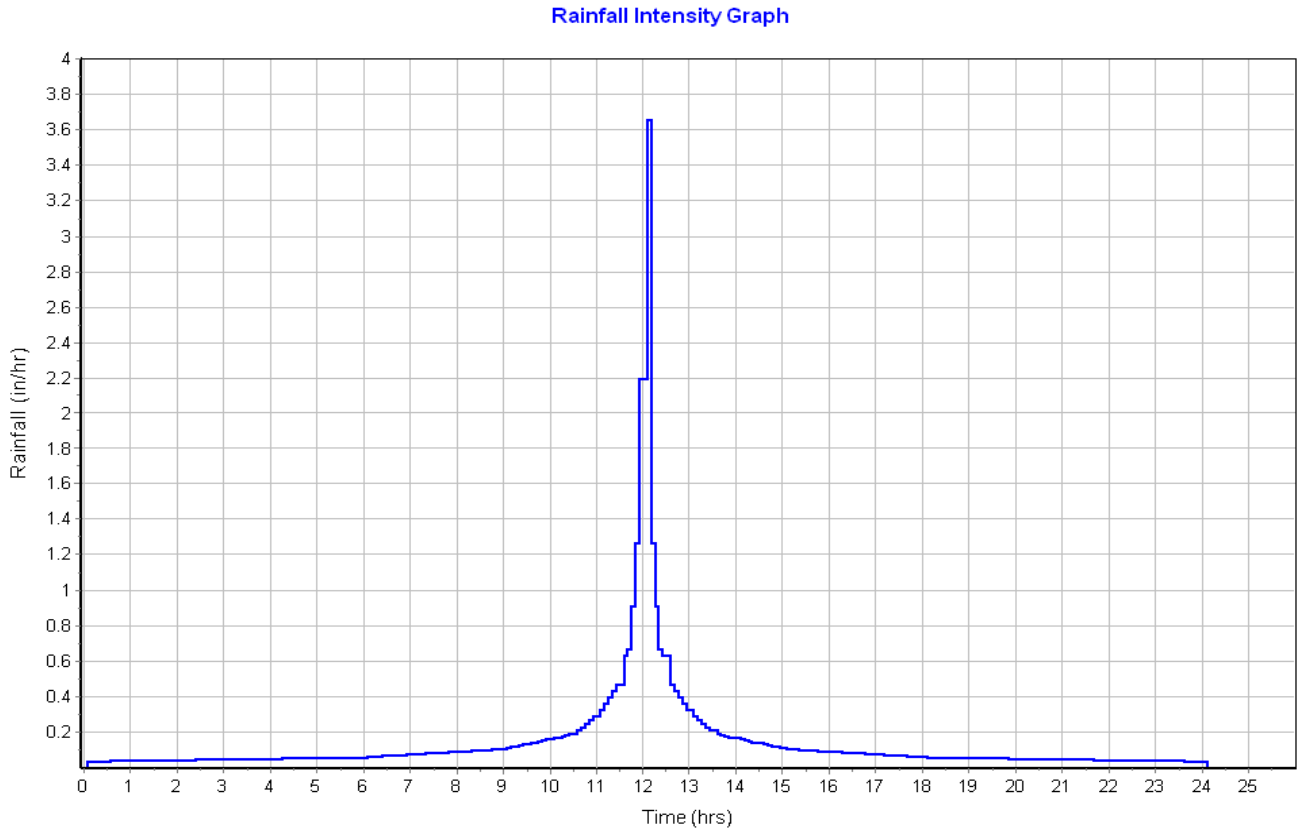
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1196.70	0.00	0.00
Slope (%) :	3.4	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.92	0.00	0.00
Computed Flow Time (min) :	21.68	0.00	0.00

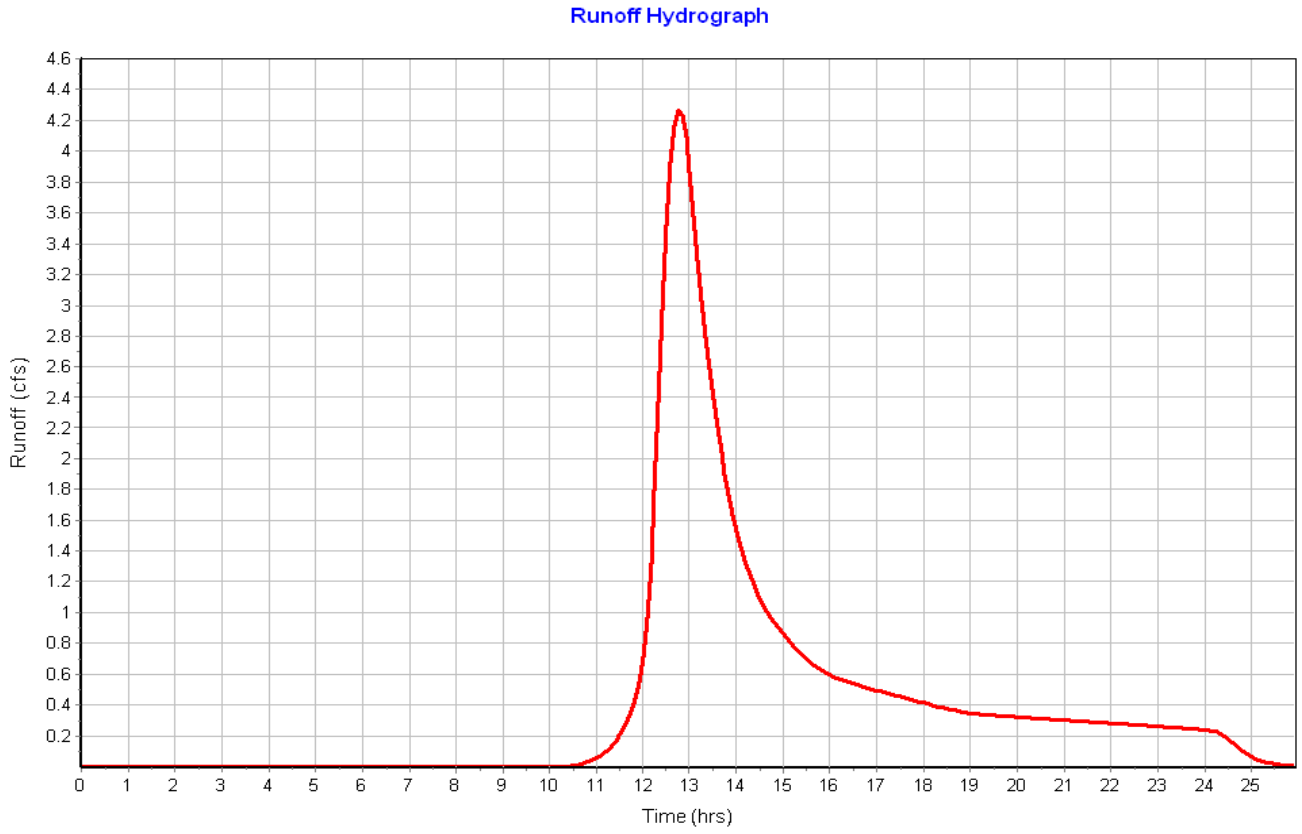
Total TOC (min) 63.79

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 1.27
Peak Runoff (cfs) 4.28
Weighted Curve Number 74.42
Time of Concentration (days hh:mm:ss) 0 01:03:47

Subbasin : Sub-05





Storage Nodes

Storage Node : Stor-01

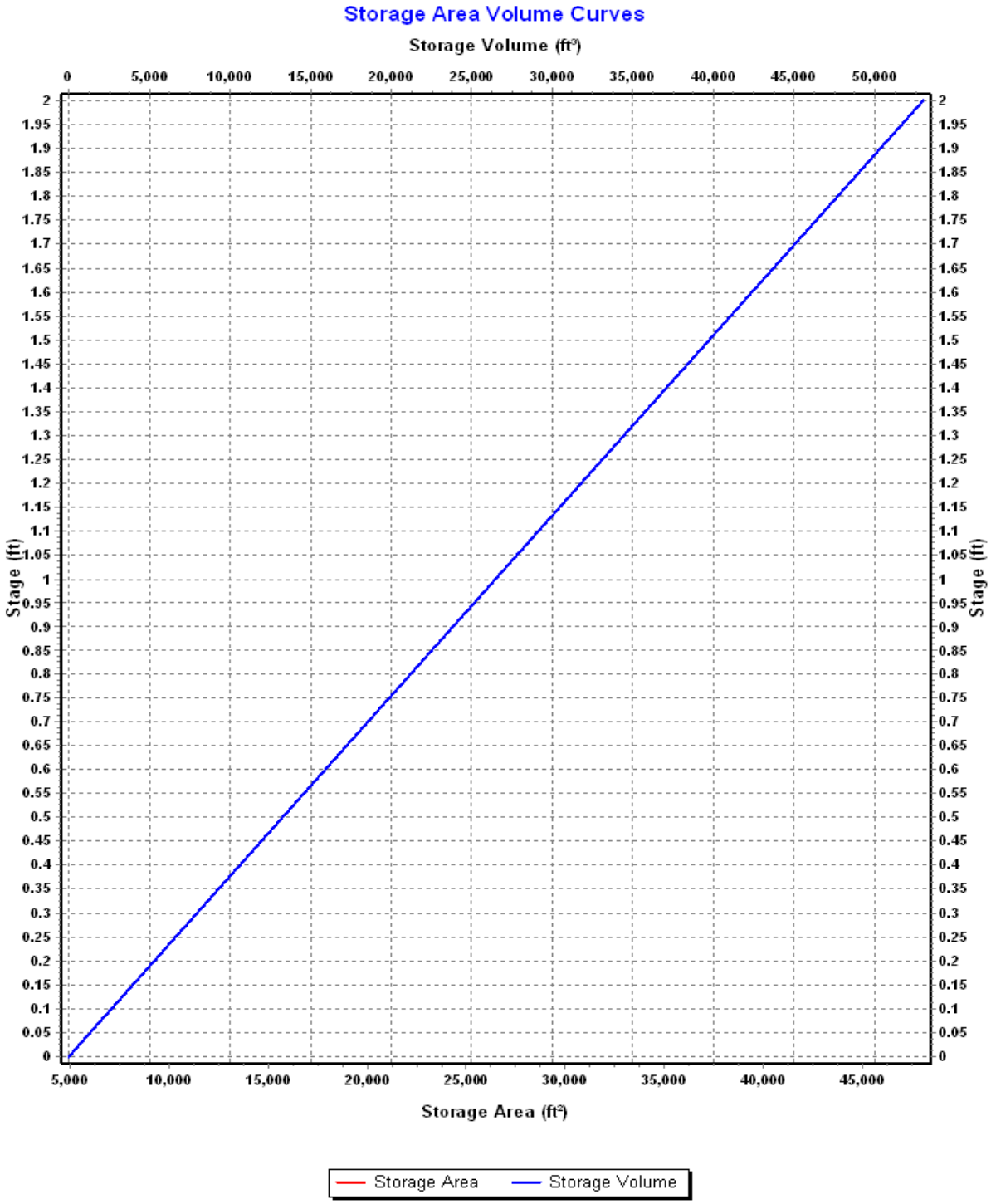
Input Data

Invert Elevation (ft) 206.00
Max (Rim) Elevation (ft) 208.00
Max (Rim) Offset (ft) 2.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -206.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	5.38
Peak Lateral Inflow (cfs)	5.38
Peak Outflow (cfs)	0.35
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	206.83
Average HGL Depth Attained (ft)	0.83
Time of Max HGL Occurrence (days hh:mm)	0 21:54
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 1 - Existing Conditions (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	5
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	1
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	1
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	17.09	484.00	73.64	6.50	3.57	61.06	28.94	0 01:00:18
2	Sub-02	4.36	484.00	73.62	6.50	3.57	15.57	7.64	0 00:56:46
3	Sub-03	5.30	484.00	73.66	6.50	3.58	18.95	9.23	0 00:57:25
4	Sub-04	5.02	484.00	73.76	6.50	3.59	18.00	8.72	0 00:58:04
5	Sub-05	8.32	484.00	74.42	6.50	3.65	30.39	13.95	0 01:03:47

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	206.00					16.32	206.00					
2	Out-02	Outfall	232.00					7.62	232.00					
3	Out-03	Outfall	204.00					28.90	204.00					
4	Out-04	Outfall	204.00					13.90	204.00					
5	Stor-01	Storage Node	206.00	208.00	0.00		0.00	17.93	207.82				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Weir-01	Weir	Stor-01	Out-01		206.00	206.00				16.32							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 17.09
Peak Rate Factor 484.00
Weighted Curve Number 73.64
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	14.37	C	73.00
> 75% grass cover, Good	2.17	C	74.00
Gravel roads	0.55	C	89.00
Composite Area & Weighted CN	17.09		73.64

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	40.37	0.00	0.00

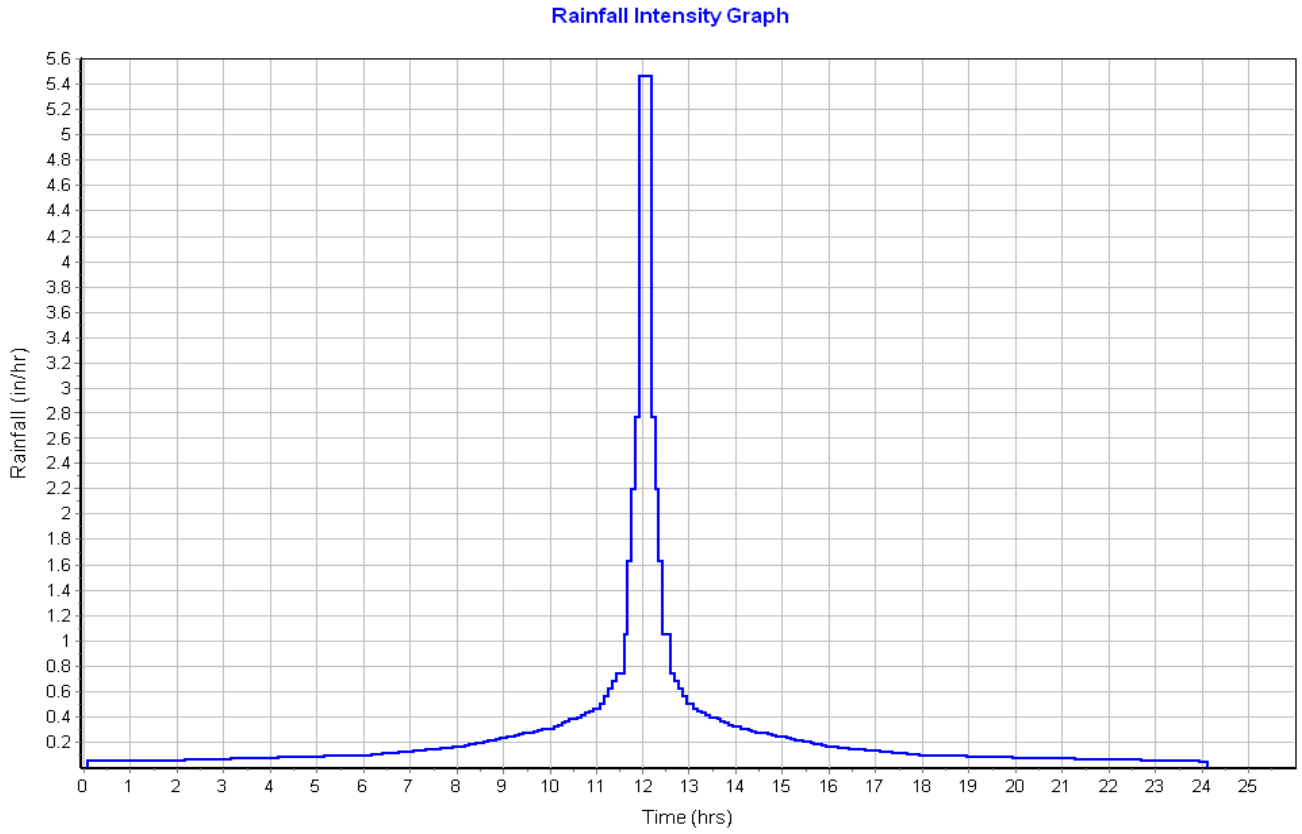
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1304.14	0.00	0.00
Slope (%) :	4.75	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.09	0.00	0.00
Computed Flow Time (min) :	19.94	0.00	0.00

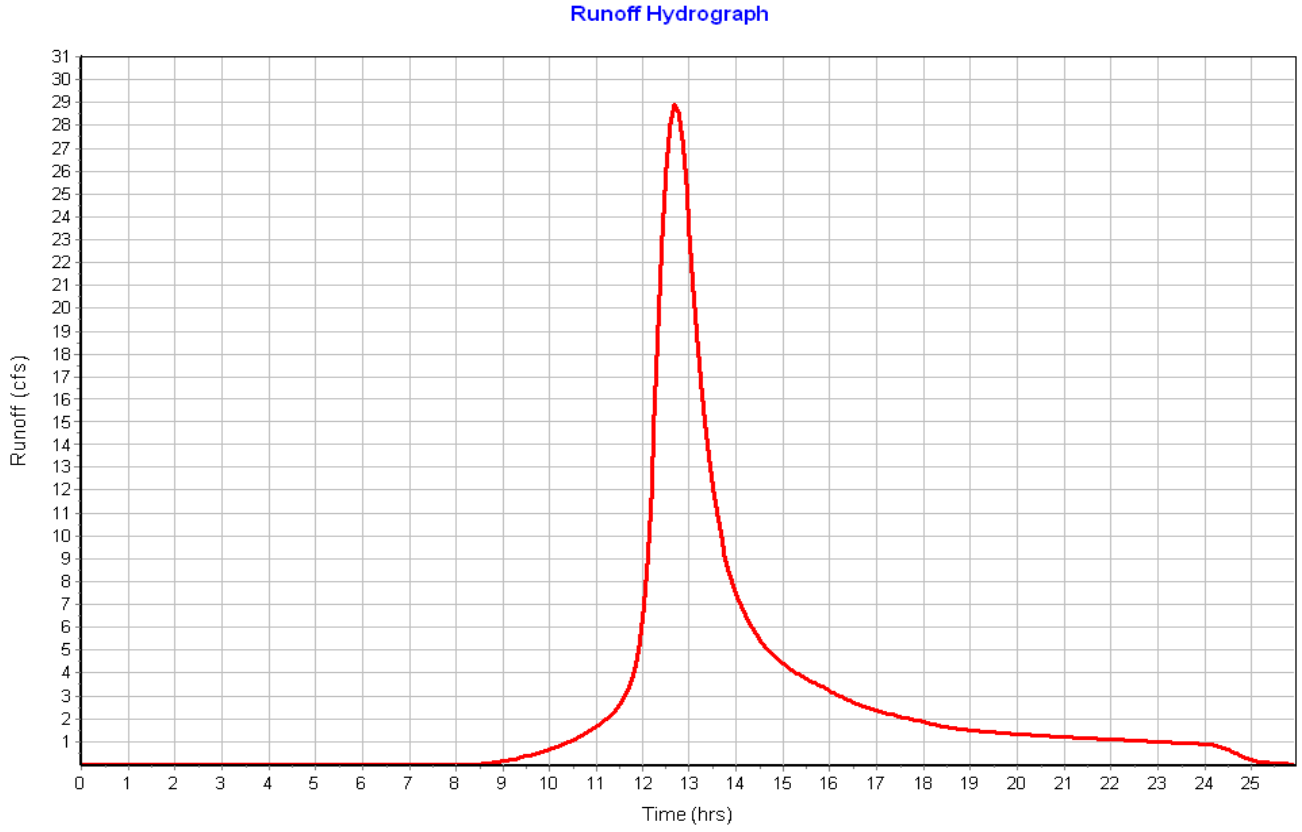
Total TOC (min) 60.31

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	3.57
Peak Runoff (cfs)	28.94
Weighted Curve Number	73.64
Time of Concentration (days hh:mm:ss)	0 01:00:19

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 4.36
Peak Rate Factor 484.00
Weighted Curve Number 73.62
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.19	C	73.00
Gravel roads	0.17	C	89.00
Composite Area & Weighted CN	4.36		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

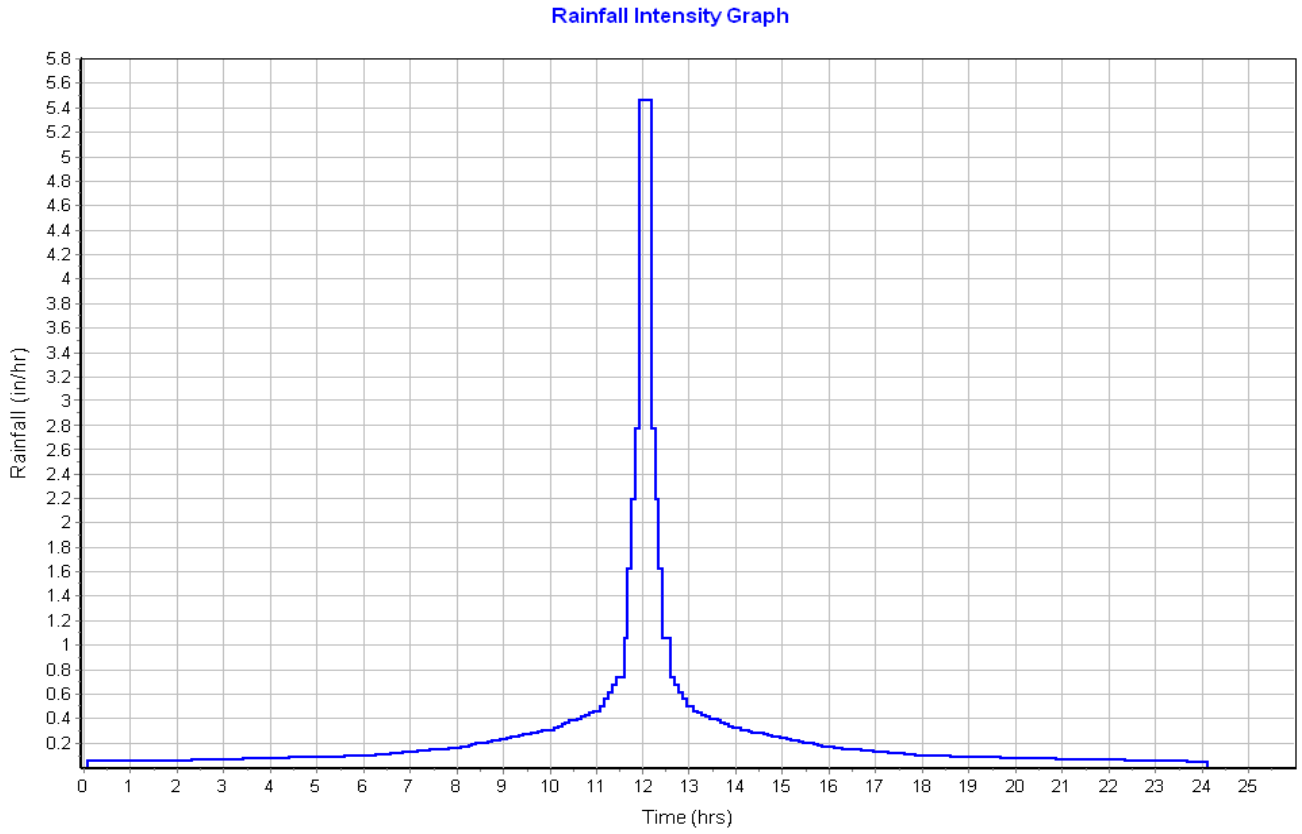
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

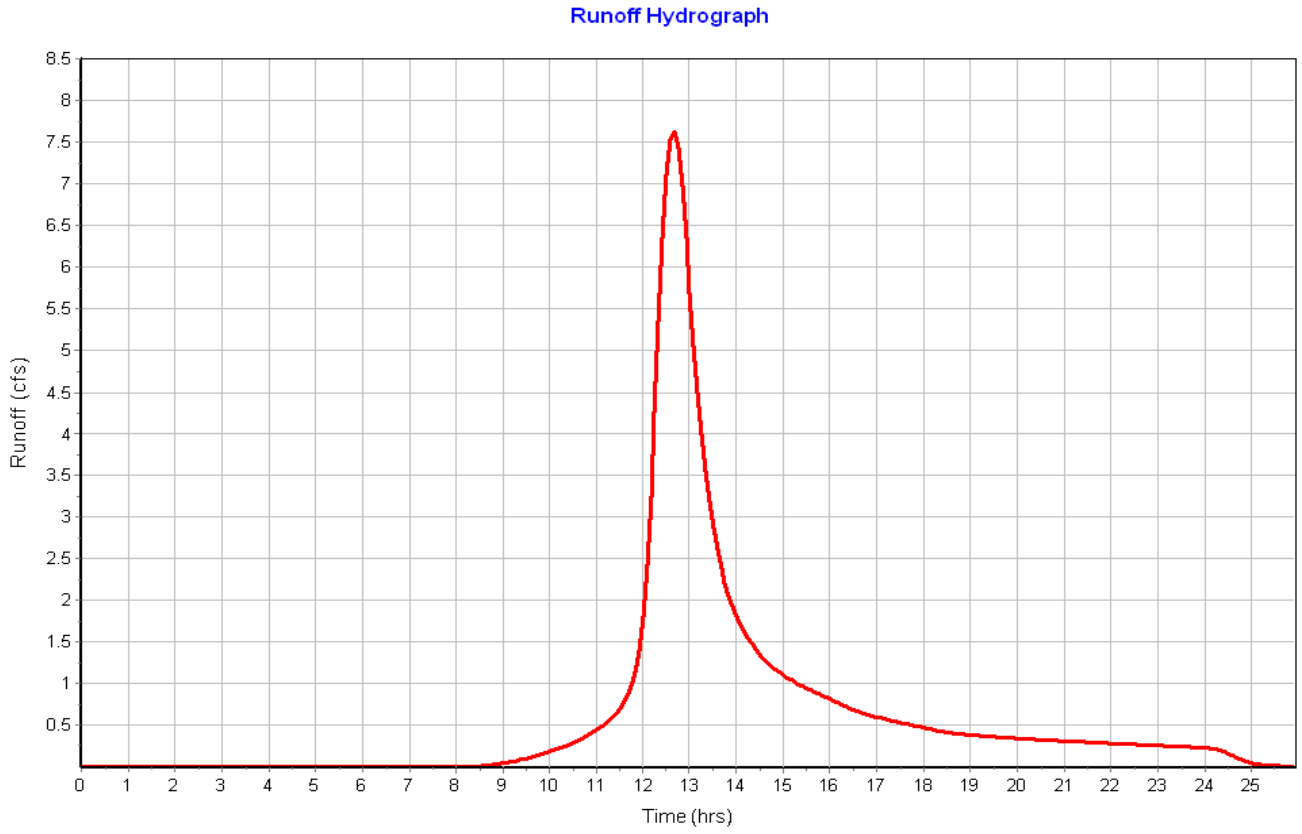
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.57
Peak Runoff (cfs) 7.64
Weighted Curve Number 73.62
Time of Concentration (days hh:mm:ss) 0 00:56:46

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 5.30
Peak Rate Factor 484.00
Weighted Curve Number 73.66
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.11	C	73.00
> 75% grass cover, Good	1.54	C	74.00
Gravel roads	0.20	C	89.00
Paved parking & roofs	0.07	C	98.00
Brush, Good	0.38	C	65.00
Composite Area & Weighted CN	5.30		73.66

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

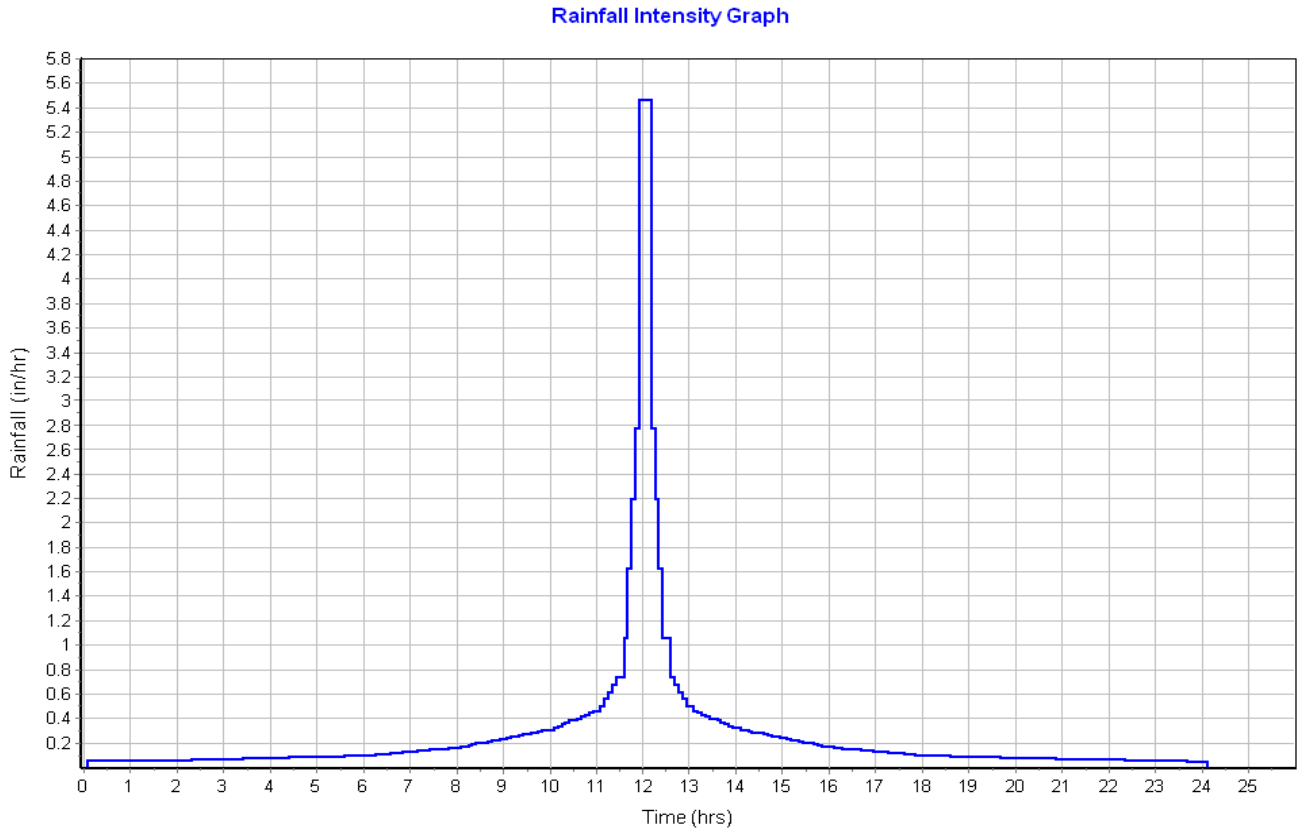
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

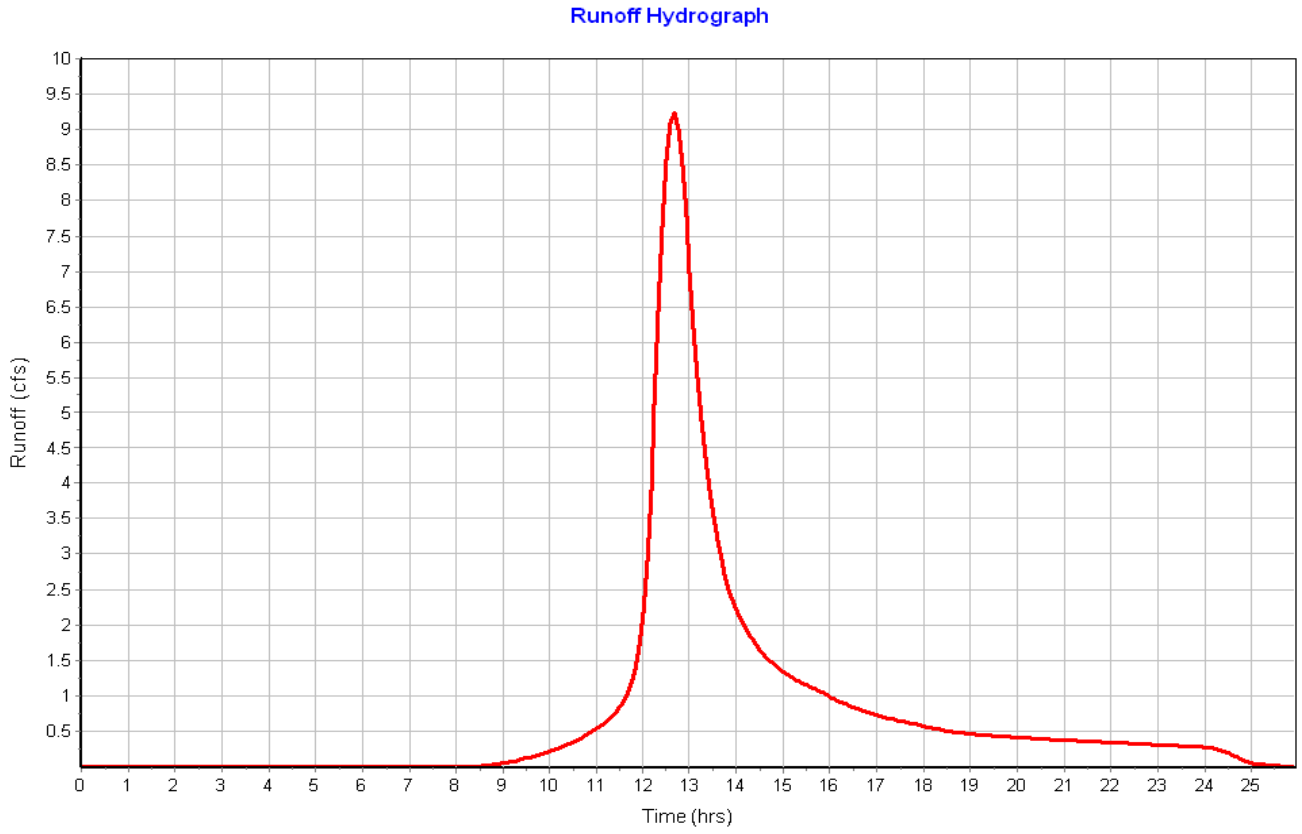
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.58
Peak Runoff (cfs) 9.23
Weighted Curve Number 73.66
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 5.02
Peak Rate Factor 484.00
Weighted Curve Number 73.76
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.92	C	73.00
> 75% grass cover, Good	0.53	C	74.00
Gravel roads	0.30	C	89.00
Paved parking & roofs	0.02	C	98.00
Brush, Good	0.25	C	65.00
Composite Area & Weighted CN	5.02		73.76

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

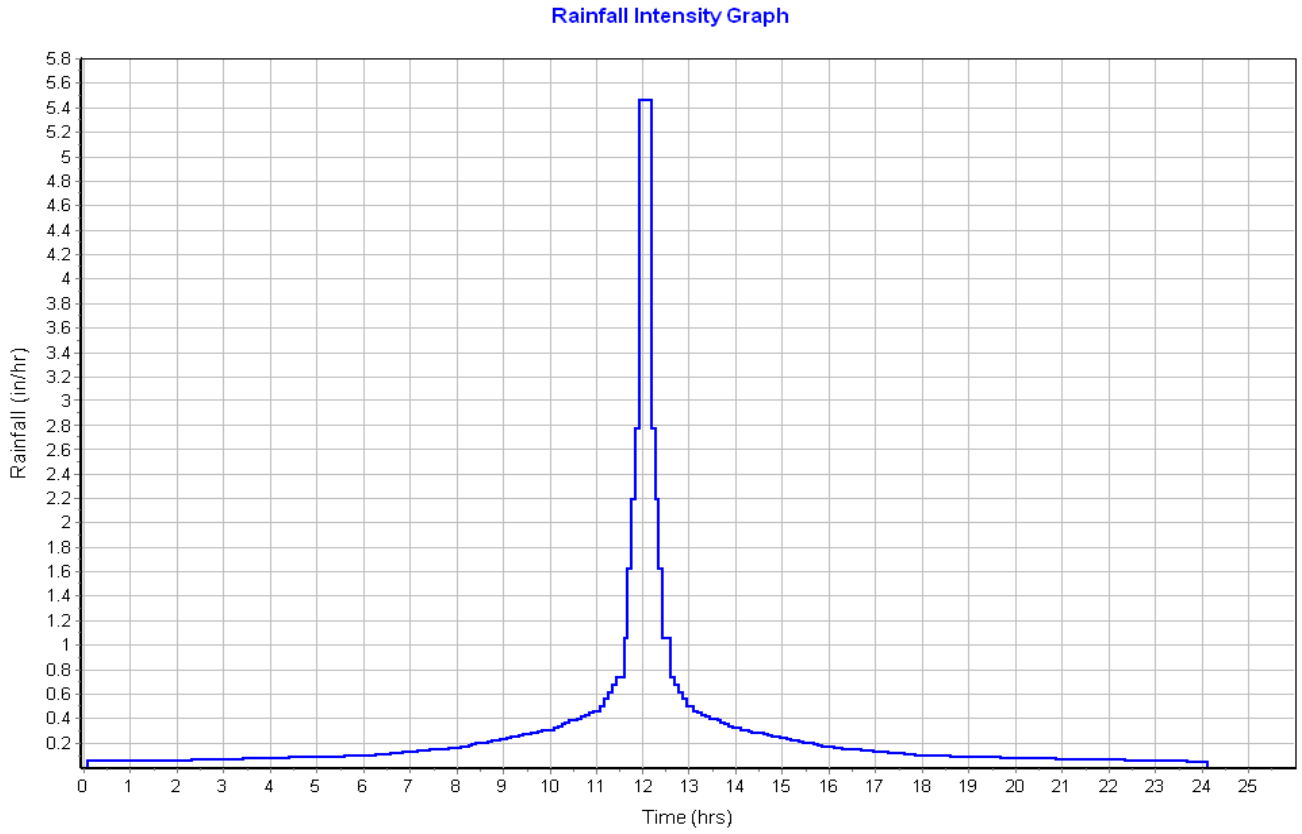
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

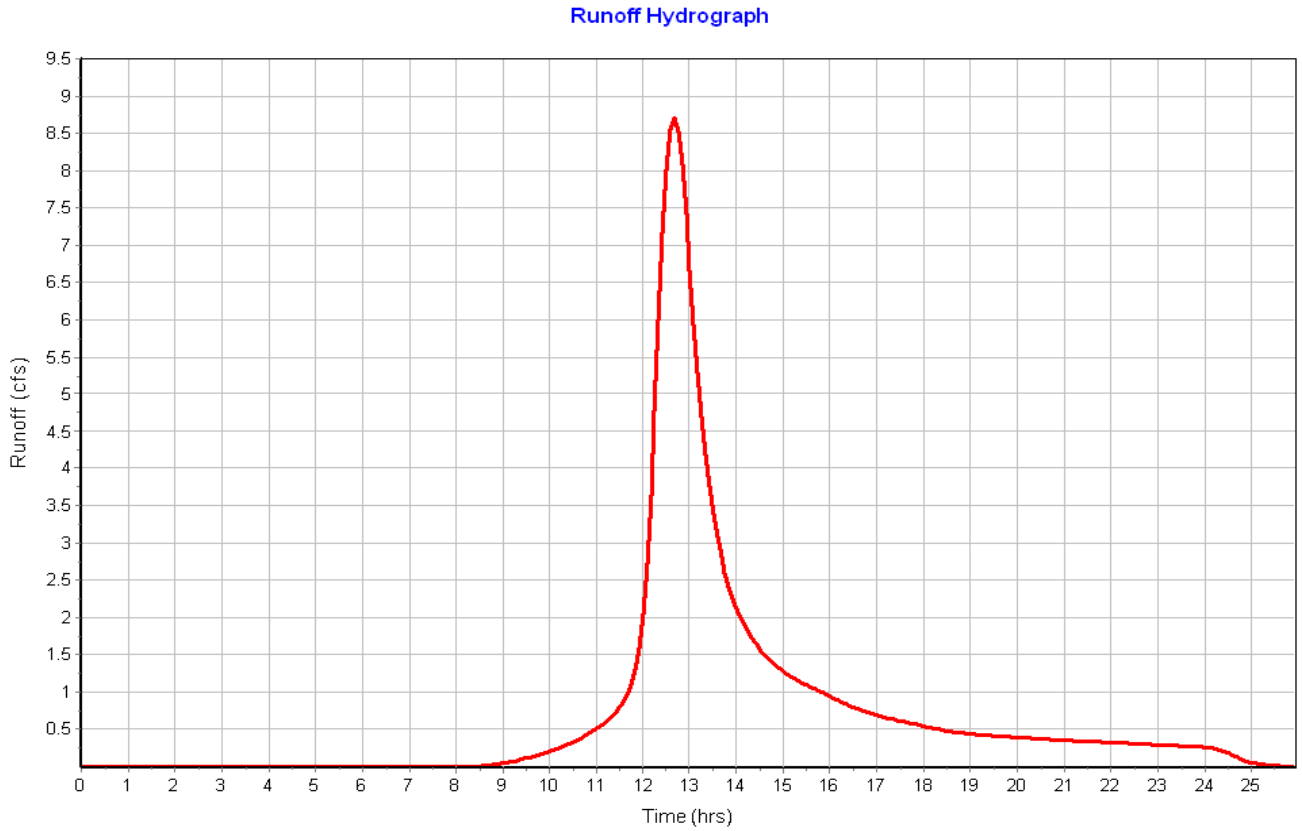
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.59
Peak Runoff (cfs) 8.72
Weighted Curve Number 73.76
Time of Concentration (days hh:mm:ss) 0 00:58:05

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 8.32
Peak Rate Factor 484.00
Weighted Curve Number 74.42
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	6.71	C	73.00
> 75% grass cover, Good	0.96	C	74.00
Gravel roads	0.60	C	89.00
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	8.32		74.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.11	0.00	0.00

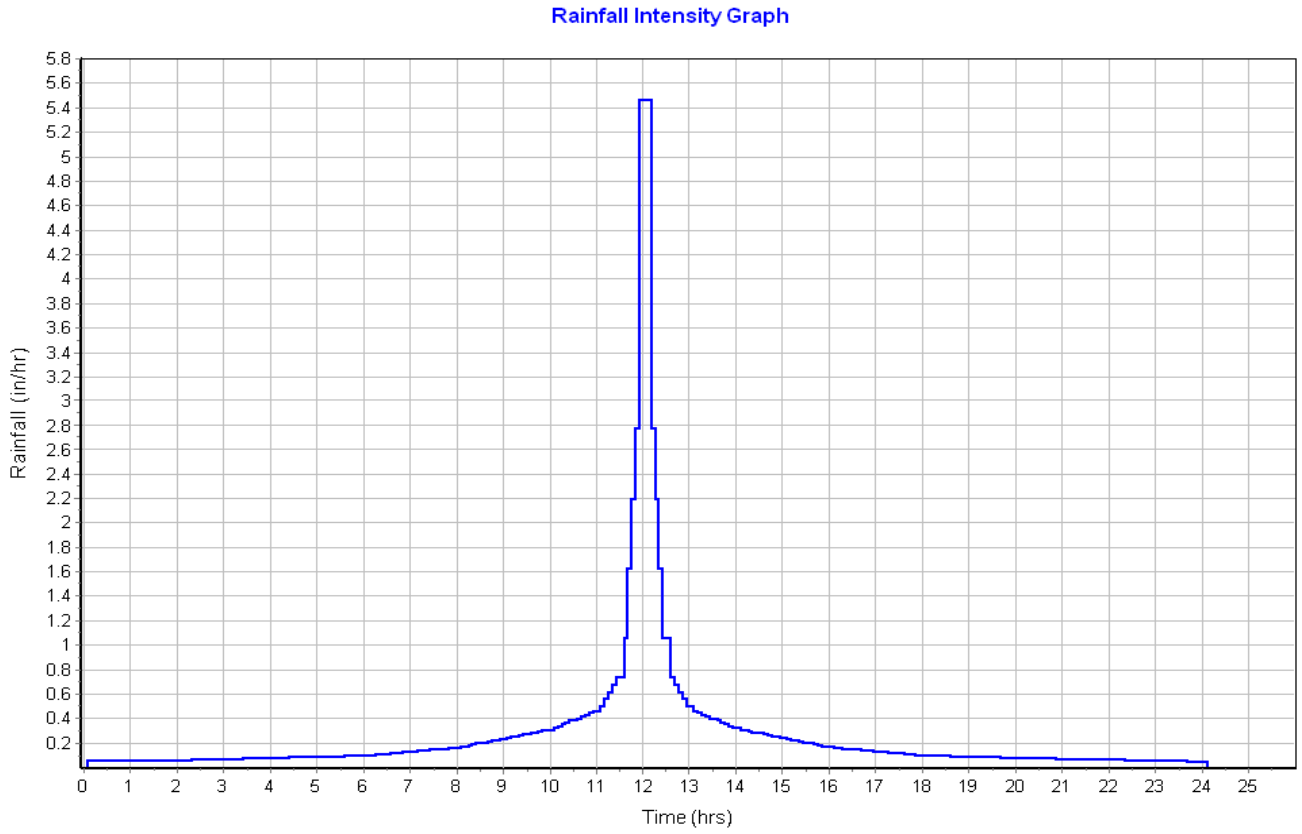
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1196.70	0.00	0.00
Slope (%) :	3.4	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.92	0.00	0.00
Computed Flow Time (min) :	21.68	0.00	0.00

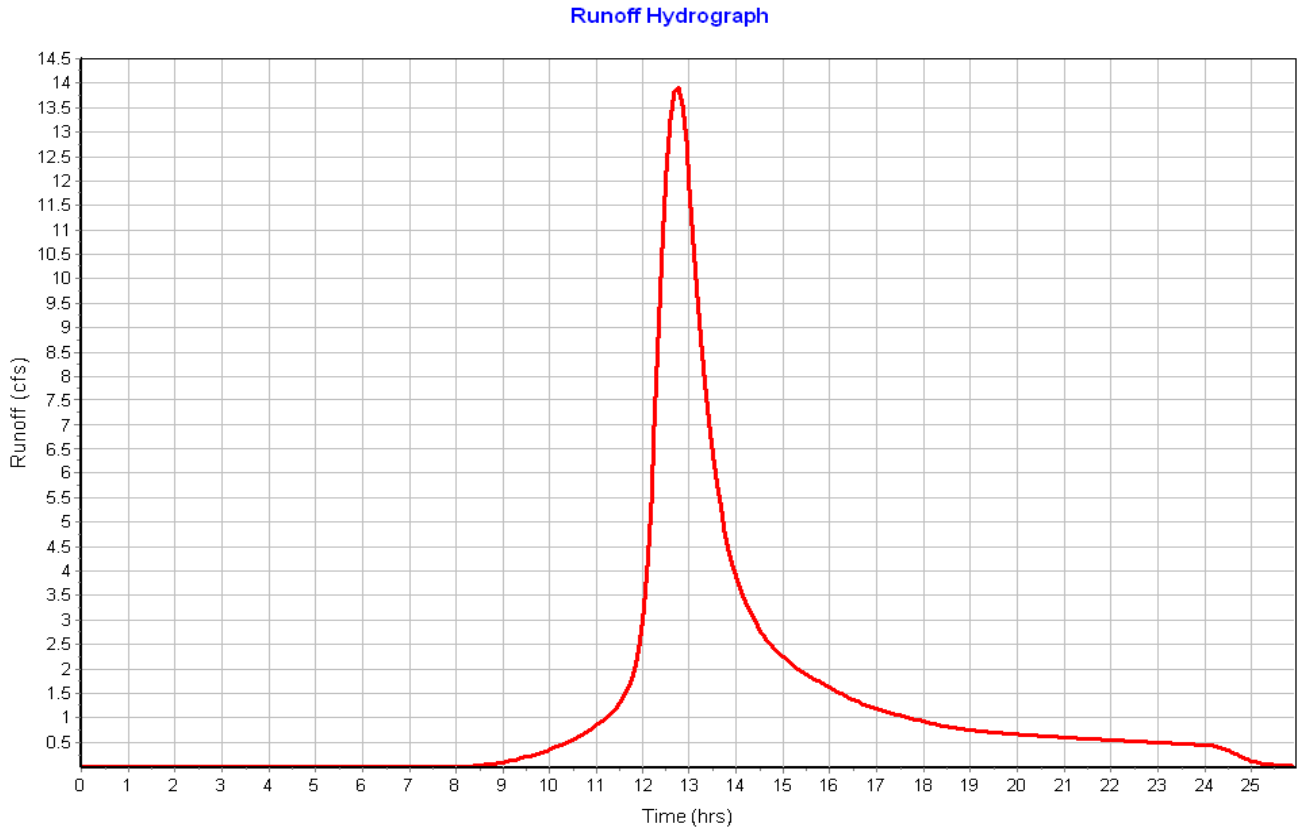
Total TOC (min) 63.79

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.65
Peak Runoff (cfs) 13.95
Weighted Curve Number 74.42
Time of Concentration (days hh:mm:ss) 0 01:03:47

Subbasin : Sub-05





Storage Nodes

Storage Node : Stor-01

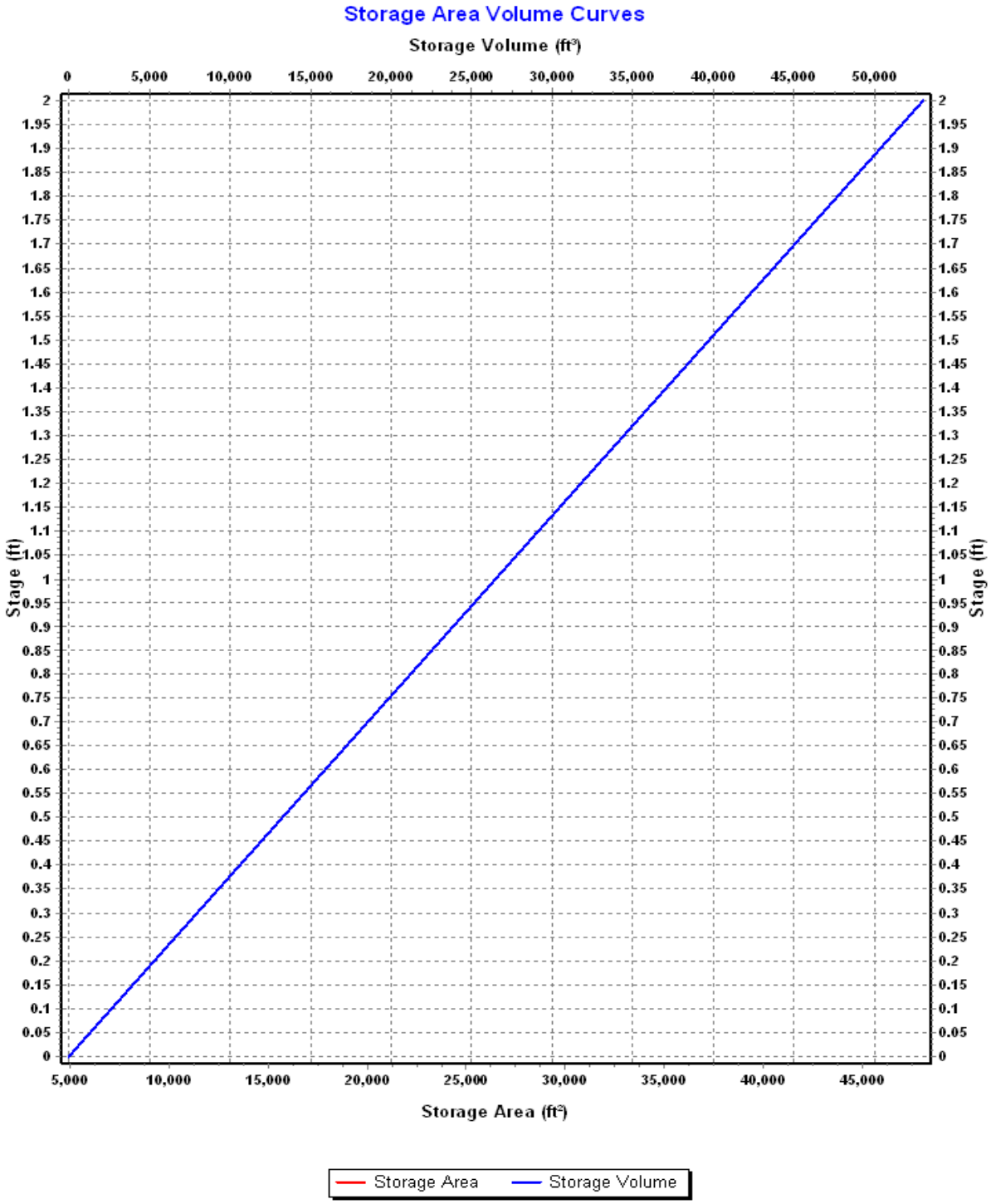
Input Data

Invert Elevation (ft) 206.00
Max (Rim) Elevation (ft) 208.00
Max (Rim) Offset (ft) 2.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -206.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	17.93
Peak Lateral Inflow (cfs)	17.93
Peak Outflow (cfs)	16.32
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.82
Max HGL Depth Attained (ft)	1.82
Average HGL Elevation Attained (ft)	206.96
Average HGL Depth Attained (ft)	0.96
Time of Max HGL Occurrence (days hh:mm)	0 12:56
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 1 - Existing Conditions (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	5
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	1
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	1
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	17.09	484.00	73.64	7.86	4.76	81.33	35.62	0 01:00:18
2	Sub-02	4.36	484.00	73.62	7.86	4.76	20.74	9.41	0 00:56:46
3	Sub-03	5.30	484.00	73.66	7.86	4.76	25.24	11.38	0 00:57:25
4	Sub-04	5.02	484.00	73.76	7.86	4.77	23.96	10.72	0 00:58:04
5	Sub-05	8.32	484.00	74.42	7.86	4.85	40.34	17.11	0 01:03:47

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	206.00					21.93	206.00					
2	Out-02	Outfall	232.00					9.38	232.00					
3	Out-03	Outfall	204.00					35.61	204.00					
4	Out-04	Outfall	204.00					17.06	204.00					
5	Stor-01	Storage Node	206.00	208.00	0.00		0.00	22.05	207.84				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Weir-01	Weir	Stor-01	Out-01		206.00	206.00				21.93							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 17.09
Peak Rate Factor 484.00
Weighted Curve Number 73.64
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	14.37	C	73.00
> 75% grass cover, Good	2.17	C	74.00
Gravel roads	0.55	C	89.00
Composite Area & Weighted CN	17.09		73.64

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	40.37	0.00	0.00

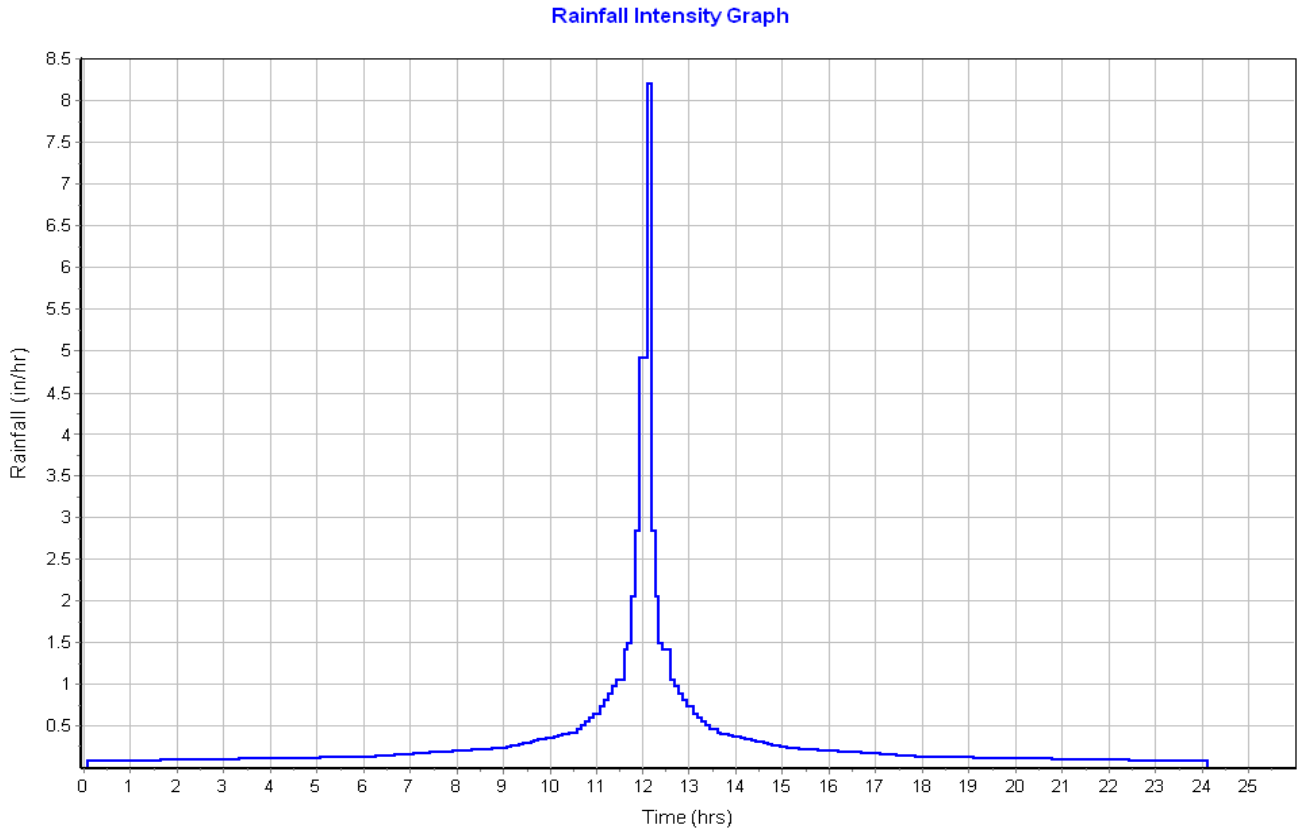
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1304.14	0.00	0.00
Slope (%) :	4.75	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.09	0.00	0.00
Computed Flow Time (min) :	19.94	0.00	0.00

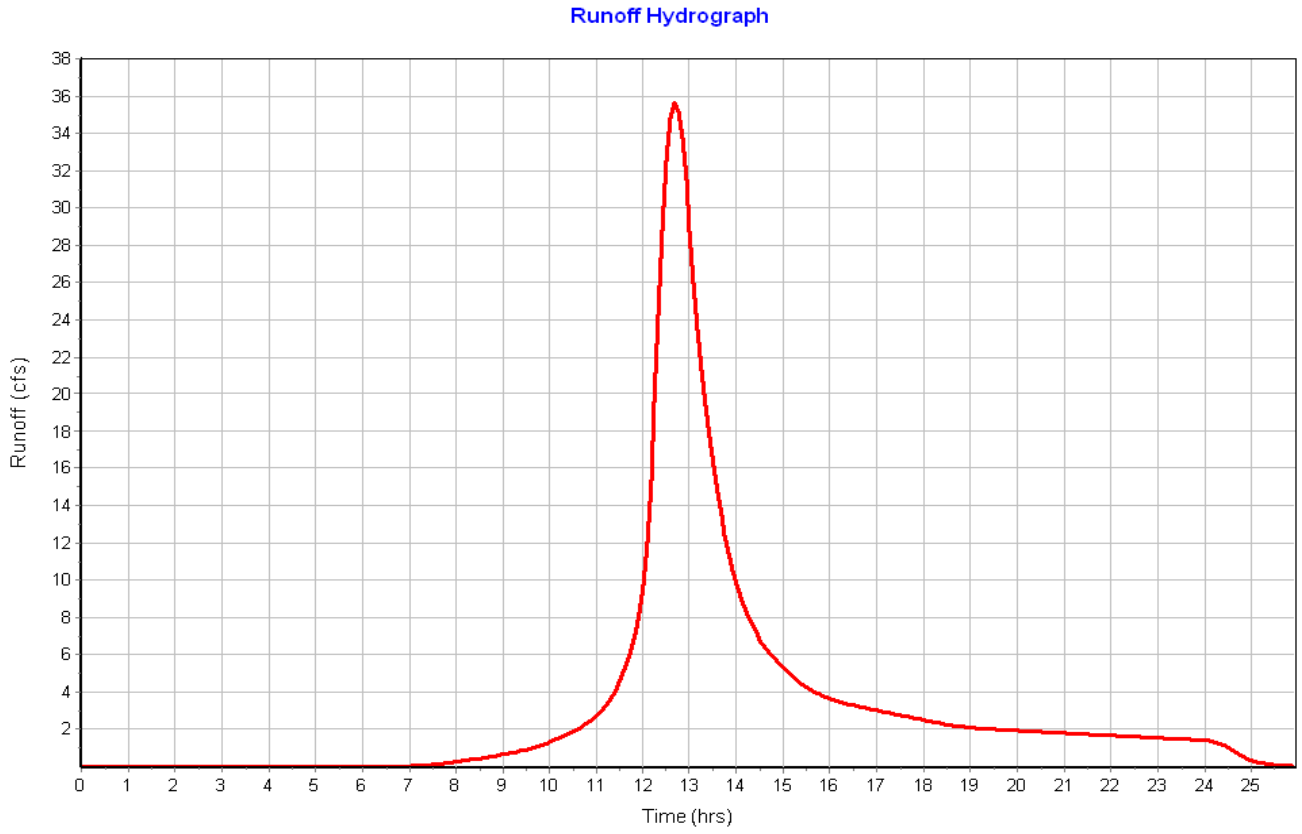
Total TOC (min) 60.31

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.76
Peak Runoff (cfs)	35.62
Weighted Curve Number	73.64
Time of Concentration (days hh:mm:ss)	0 01:00:19

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	4.36
Peak Rate Factor	484.00
Weighted Curve Number	73.62
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.19	C	73.00
Gravel roads	0.17	C	89.00
Composite Area & Weighted CN	4.36		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

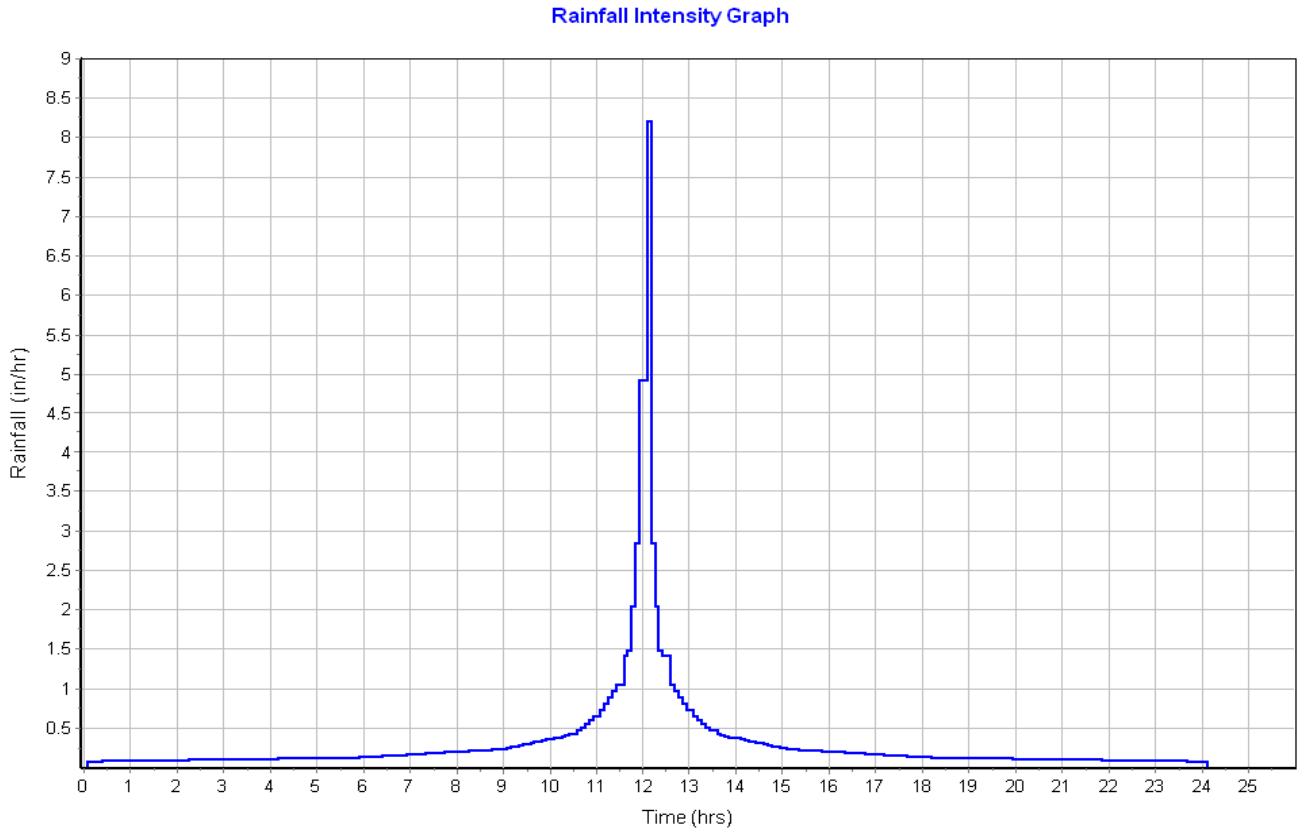
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

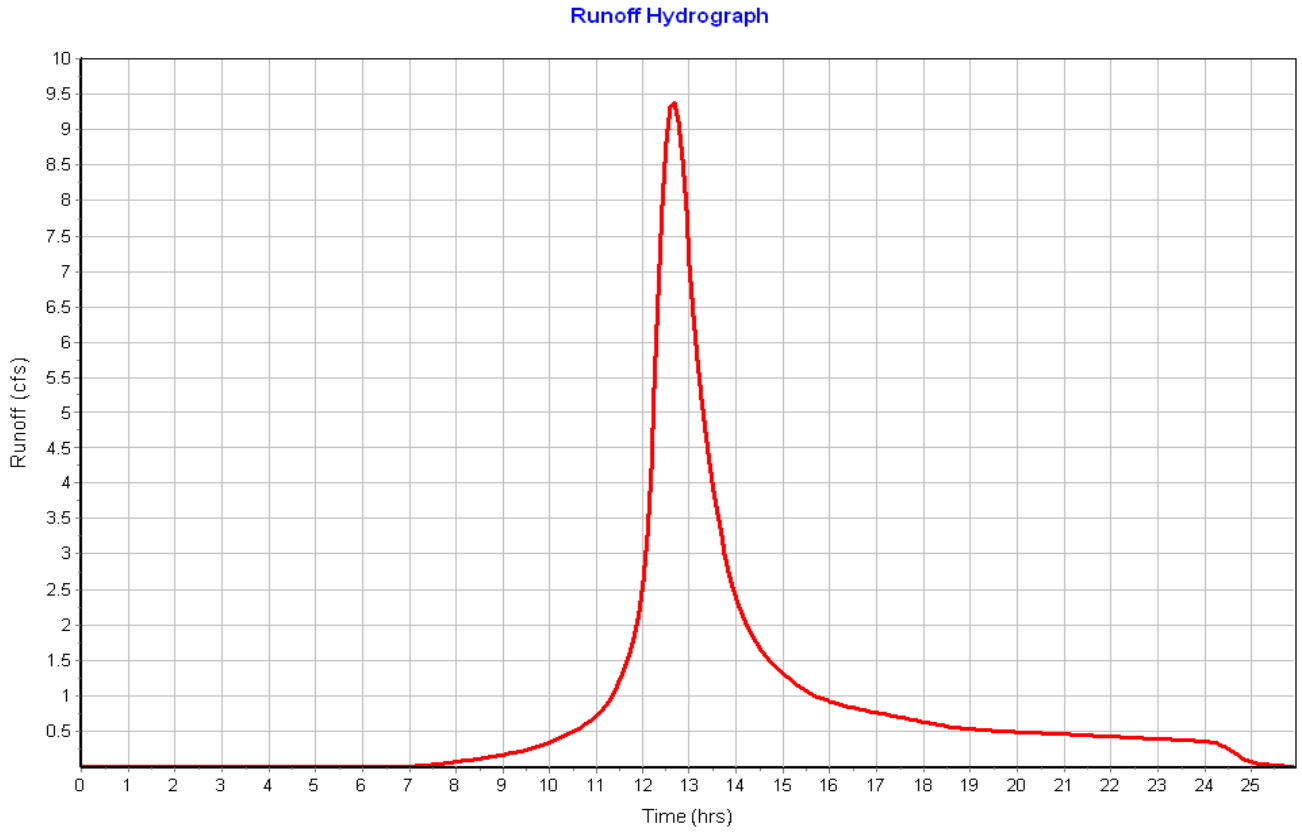
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.76
Peak Runoff (cfs)	9.41
Weighted Curve Number	73.62
Time of Concentration (days hh:mm:ss)	0 00:56:46

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 5.30
Peak Rate Factor 484.00
Weighted Curve Number 73.66
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.11	C	73.00
> 75% grass cover, Good	1.54	C	74.00
Gravel roads	0.20	C	89.00
Paved parking & roofs	0.07	C	98.00
Brush, Good	0.38	C	65.00
Composite Area & Weighted CN	5.30		73.66

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

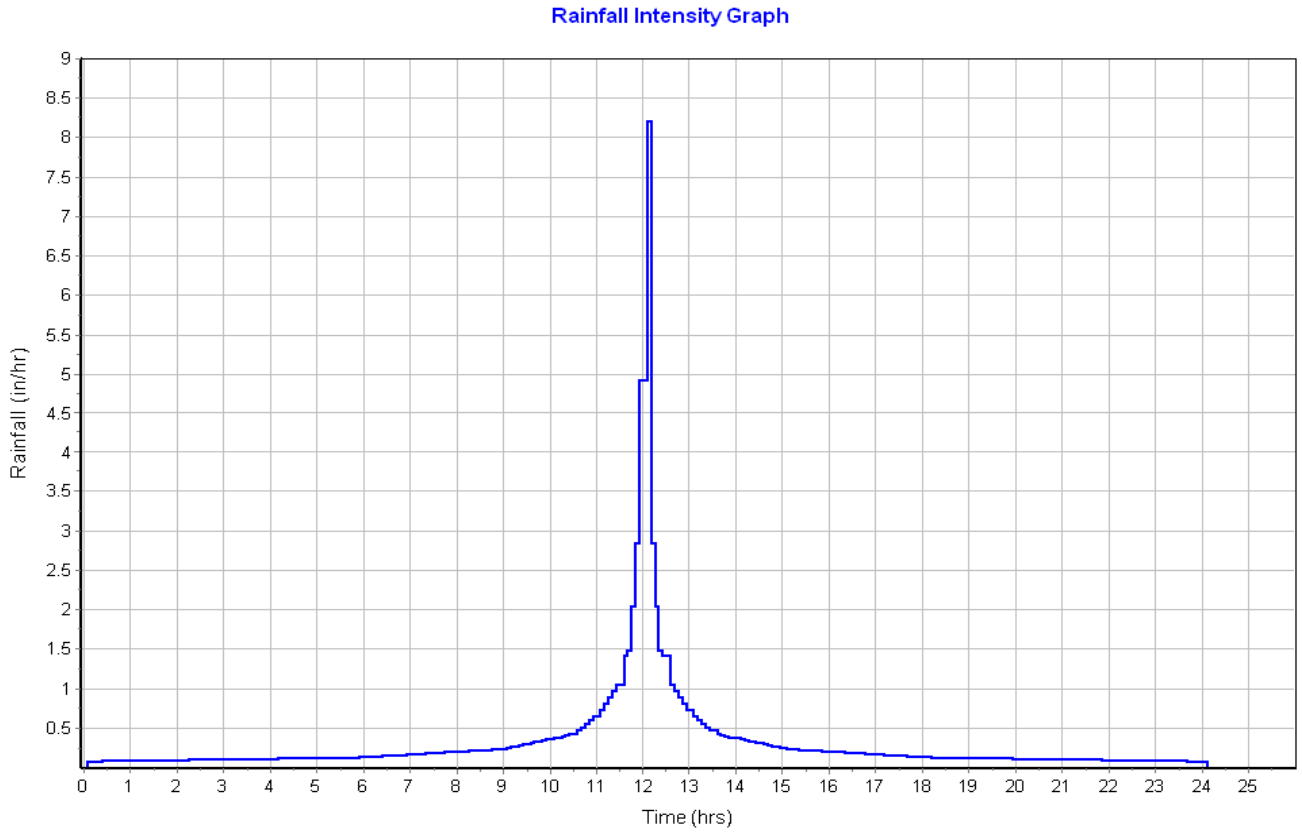
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

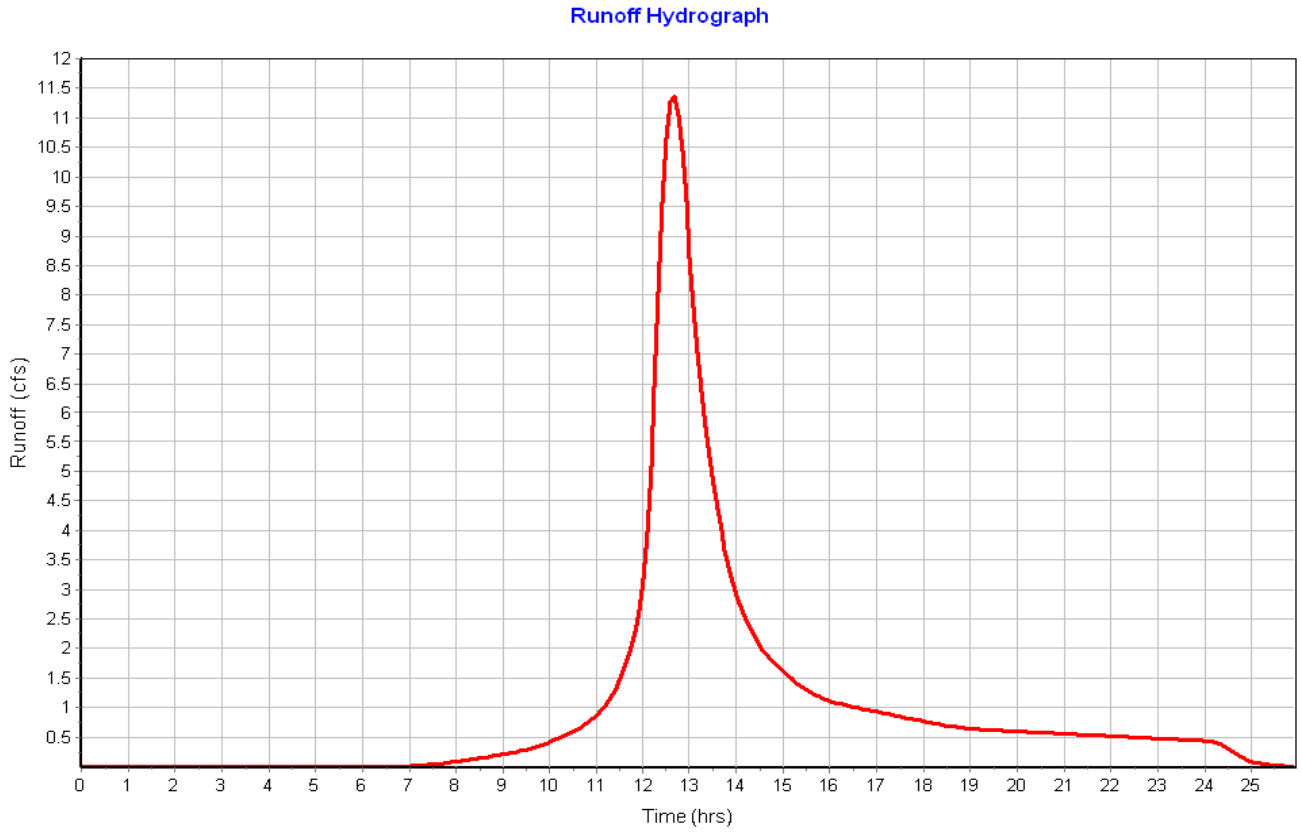
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 4.76
Peak Runoff (cfs) 11.38
Weighted Curve Number 73.66
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	5.02
Peak Rate Factor	484.00
Weighted Curve Number	73.76
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.92	C	73.00
> 75% grass cover, Good	0.53	C	74.00
Gravel roads	0.30	C	89.00
Paved parking & roofs	0.02	C	98.00
Brush, Good	0.25	C	65.00
Composite Area & Weighted CN	5.02		73.76

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

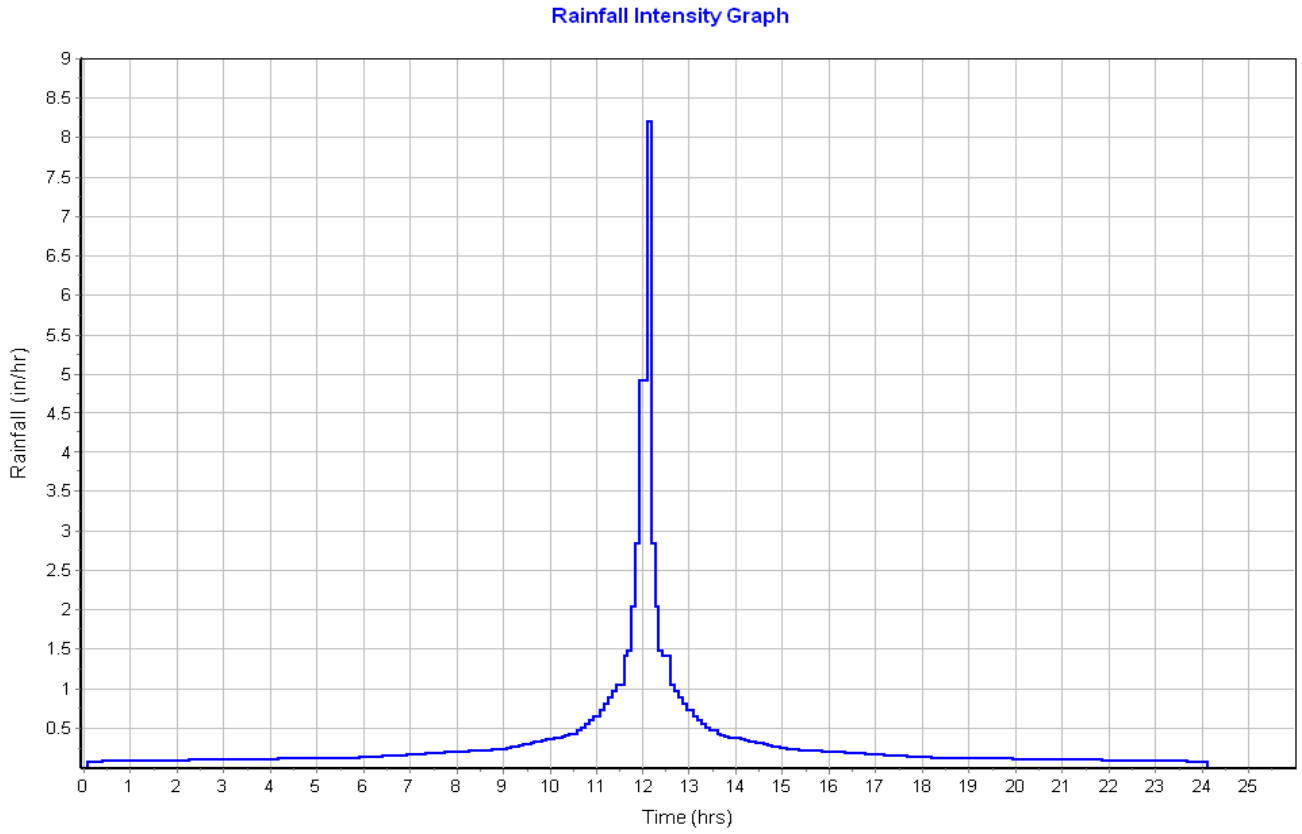
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

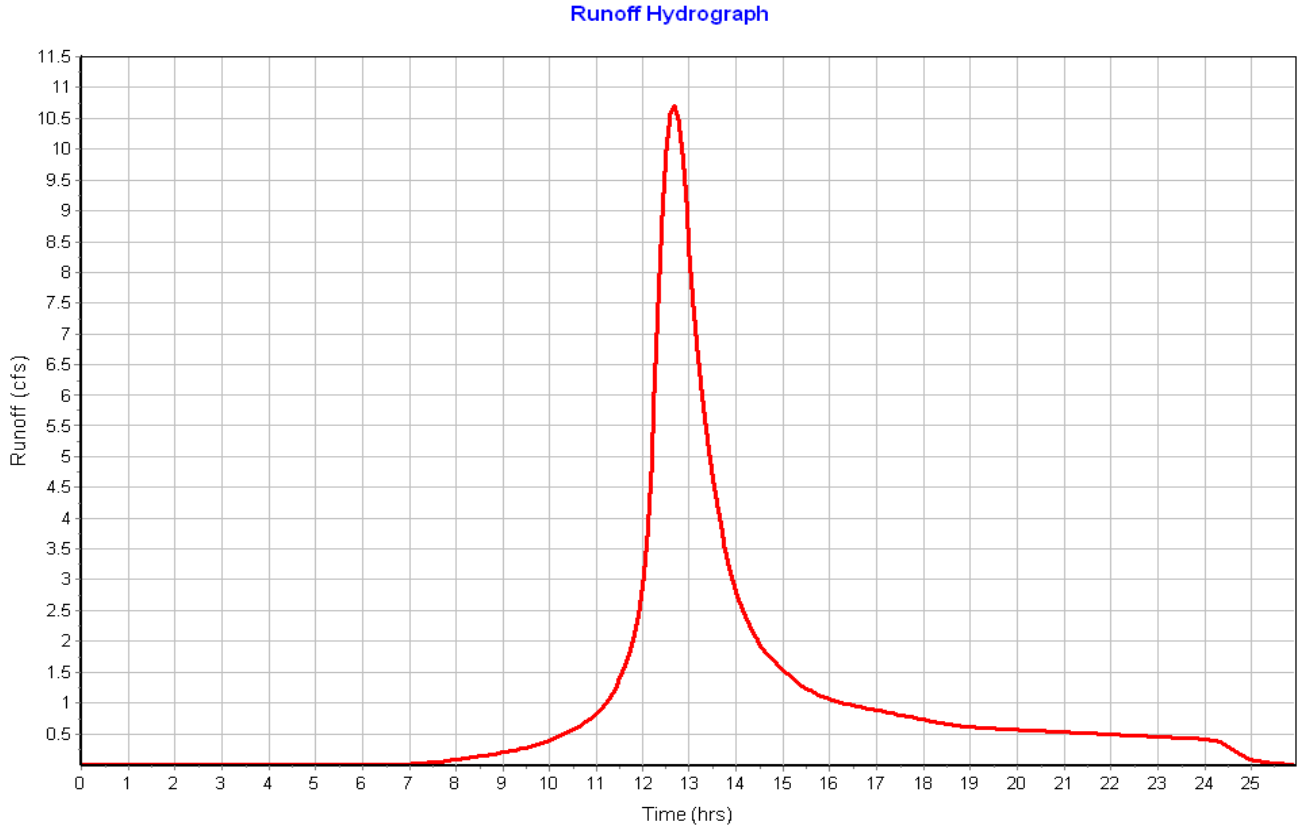
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.77
Peak Runoff (cfs)	10.72
Weighted Curve Number	73.76
Time of Concentration (days hh:mm:ss)	0 00:58:05

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 8.32
Peak Rate Factor 484.00
Weighted Curve Number 74.42
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	6.71	C	73.00
> 75% grass cover, Good	0.96	C	74.00
Gravel roads	0.60	C	89.00
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	8.32		74.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.11	0.00	0.00

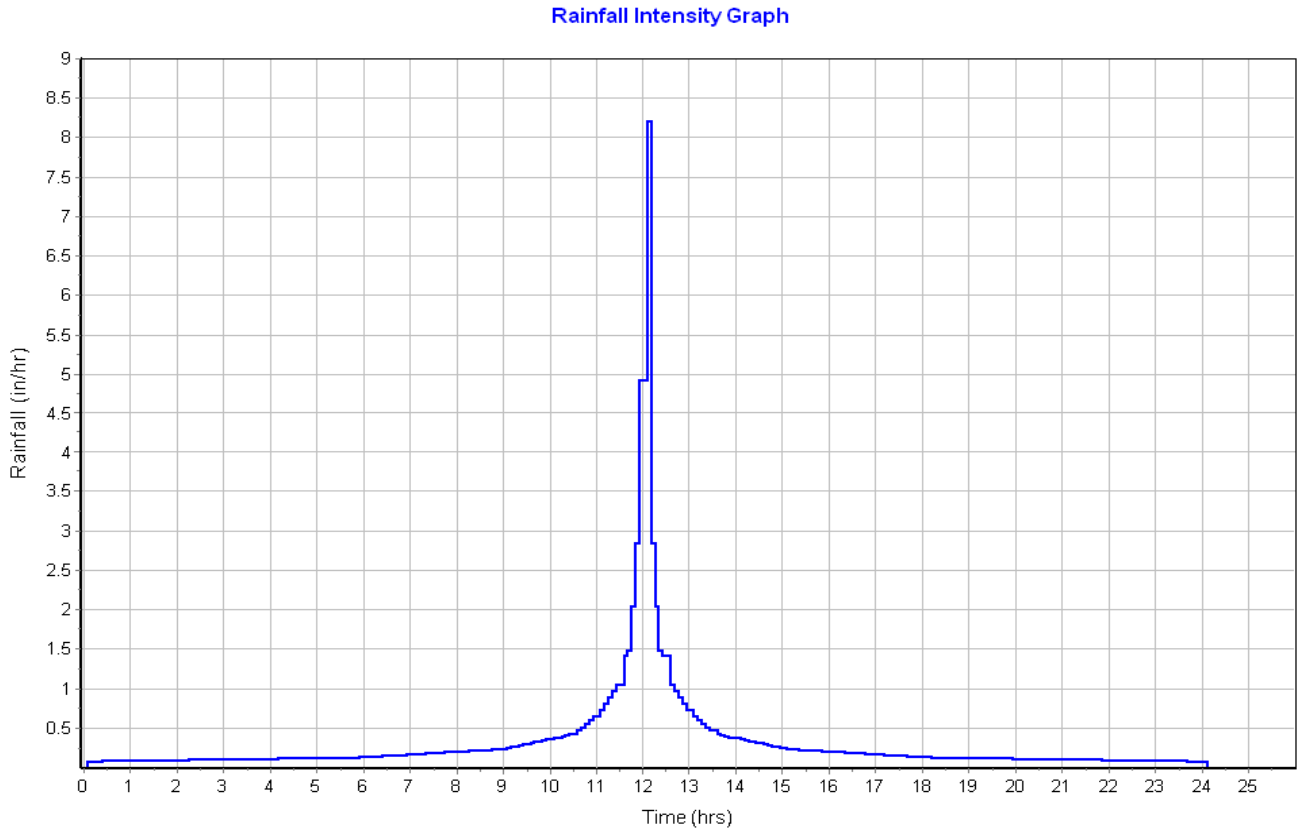
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1196.70	0.00	0.00
Slope (%) :	3.4	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.92	0.00	0.00
Computed Flow Time (min) :	21.68	0.00	0.00

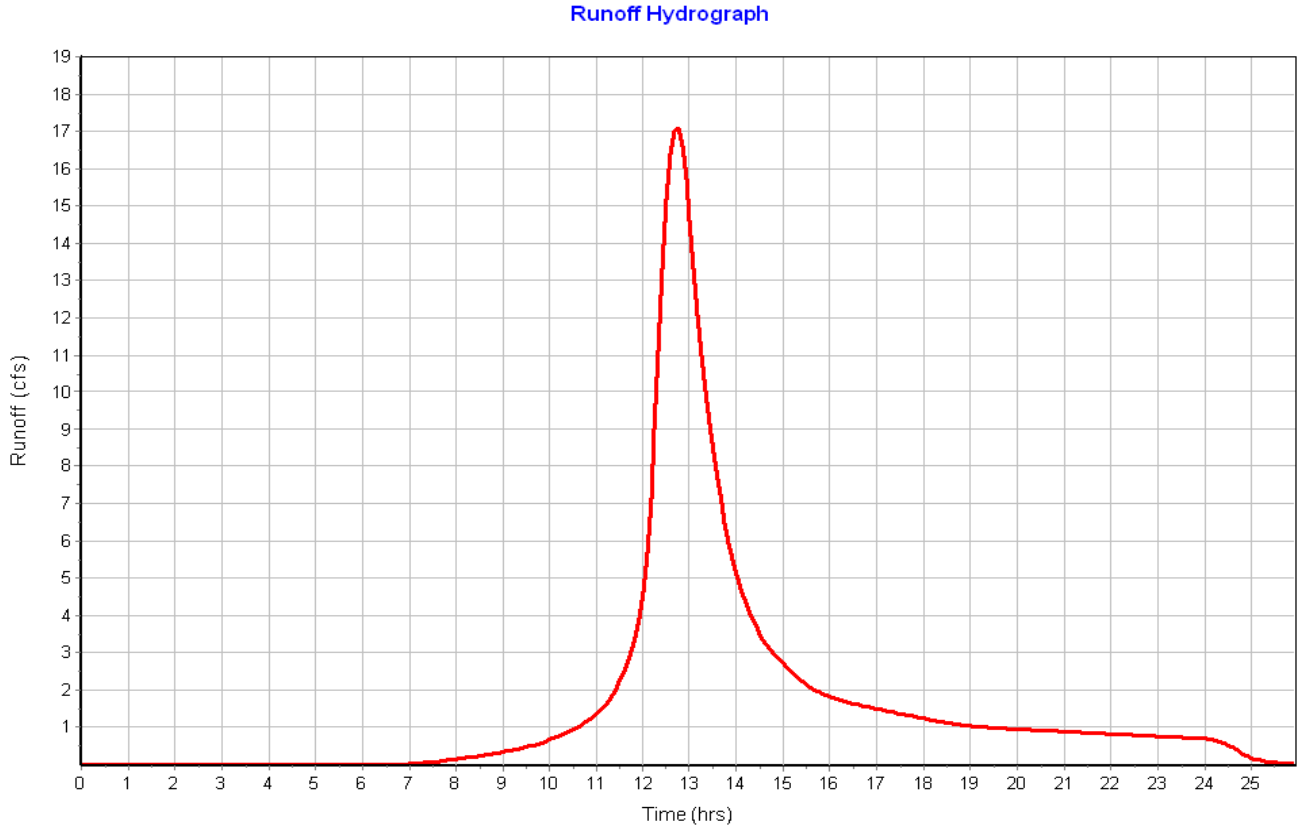
Total TOC (min) 63.79

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 4.85
Peak Runoff (cfs) 17.11
Weighted Curve Number 74.42
Time of Concentration (days hh:mm:ss) 0 01:03:47

Subbasin : Sub-05





Storage Nodes

Storage Node : Stor-01

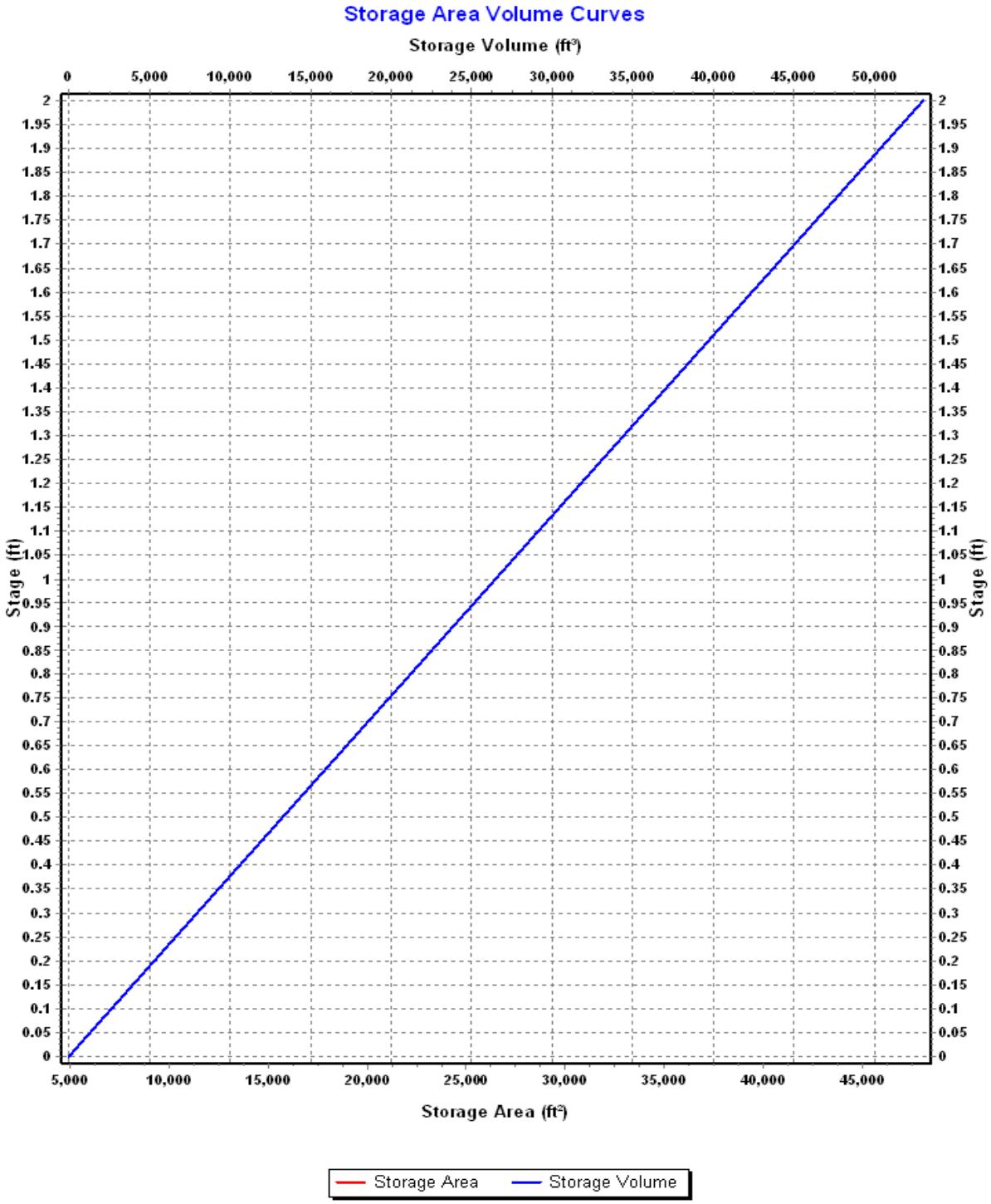
Input Data

Invert Elevation (ft) 206.00
Max (Rim) Elevation (ft) 208.00
Max (Rim) Offset (ft) 2.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -206.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	22.05
Peak Lateral Inflow (cfs)	22.05
Peak Outflow (cfs)	21.93
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.84
Max HGL Depth Attained (ft)	1.84
Average HGL Elevation Attained (ft)	207.01
Average HGL Depth Attained (ft)	1.01
Time of Max HGL Occurrence (days hh:mm)	0 12:46
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 1 - Existing Conditions (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	5
Nodes	5
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	1
Links	1
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	1
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	17.09	484.00	73.64	9.70	6.42	109.79	47.95	0 01:00:18
2	Sub-02	4.36	484.00	73.62	9.70	6.42	28.00	12.66	0 00:56:46
3	Sub-03	5.30	484.00	73.66	9.70	6.43	34.06	15.30	0 00:57:25
4	Sub-04	5.02	484.00	73.76	9.70	6.44	32.33	14.42	0 00:58:04
5	Sub-05	8.32	484.00	74.42	9.70	6.52	54.28	22.90	0 01:03:47

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	206.00					29.55	206.00					
2	Out-02	Outfall	232.00					12.60	232.00					
3	Out-03	Outfall	204.00					47.88	204.00					
4	Out-04	Outfall	204.00					22.83	204.00					
5	Stor-01	Storage Node	206.00	208.00	0.00		0.00	29.61	207.86				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Weir-01	Weir	Stor-01	Out-01		206.00	206.00				29.55							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 17.09
Peak Rate Factor 484.00
Weighted Curve Number 73.64
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	14.37	C	73.00
> 75% grass cover, Good	2.17	C	74.00
Gravel roads	0.55	C	89.00
Composite Area & Weighted CN	17.09		73.64

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	40.37	0.00	0.00

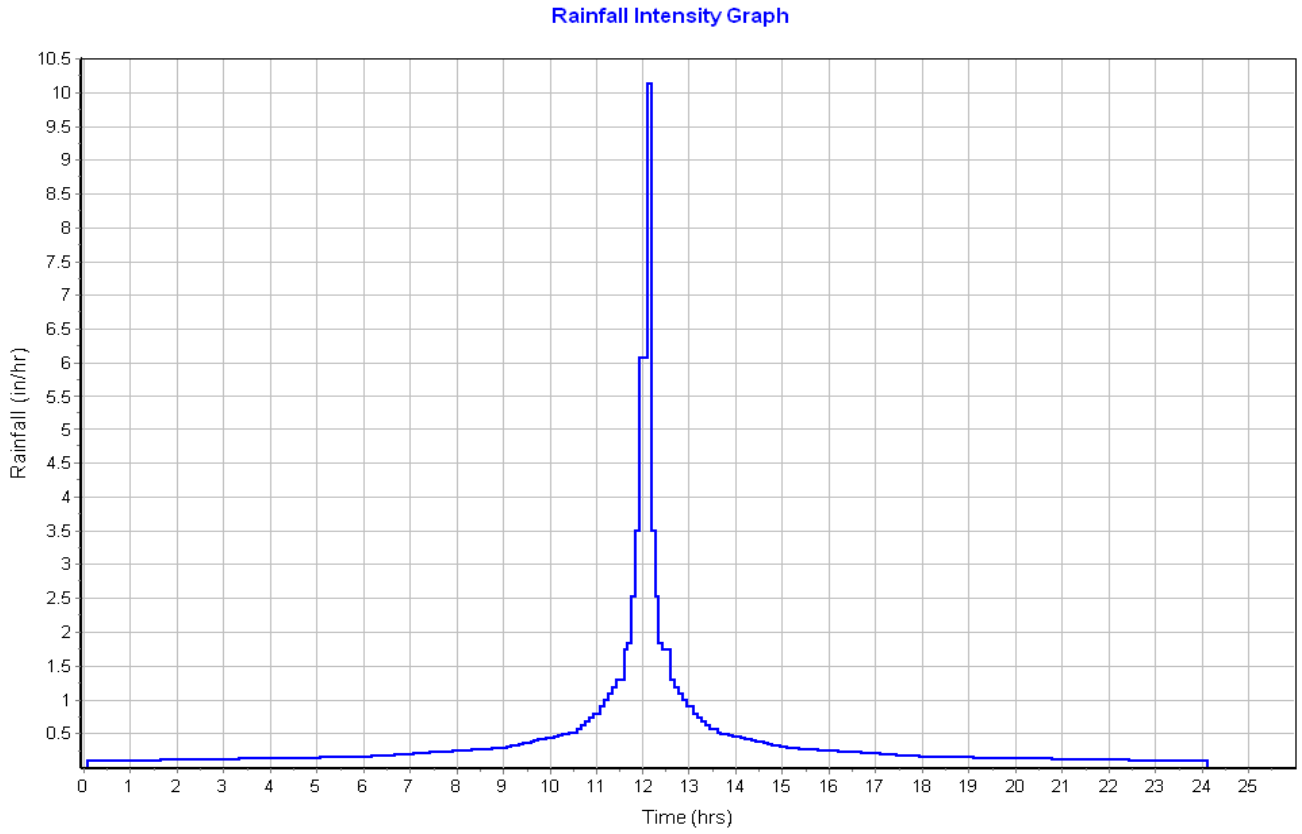
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1304.14	0.00	0.00
Slope (%) :	4.75	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.09	0.00	0.00
Computed Flow Time (min) :	19.94	0.00	0.00

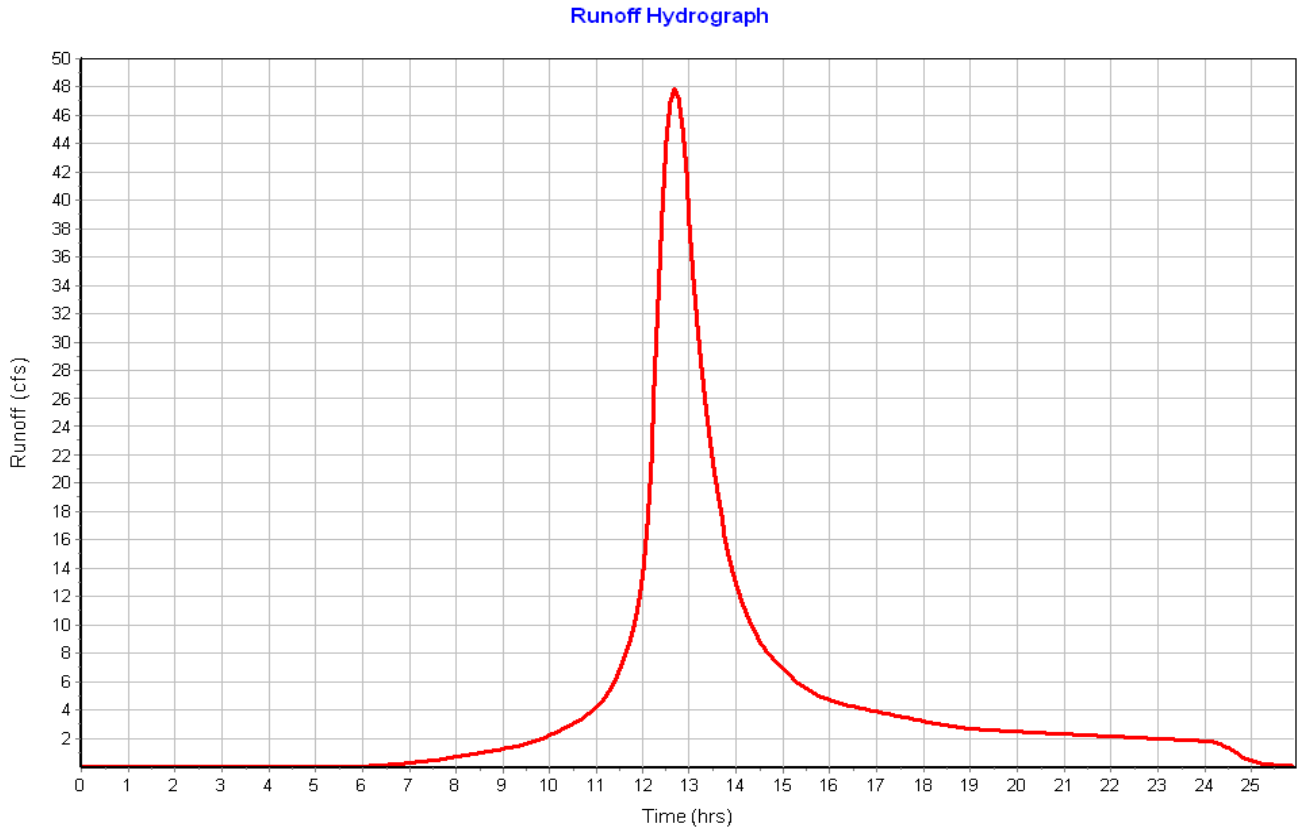
Total TOC (min) 60.31

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.42
Peak Runoff (cfs)	47.95
Weighted Curve Number	73.64
Time of Concentration (days hh:mm:ss)	0 01:00:19

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 4.36
Peak Rate Factor 484.00
Weighted Curve Number 73.62
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.19	C	73.00
Gravel roads	0.17	C	89.00
Composite Area & Weighted CN	4.36		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

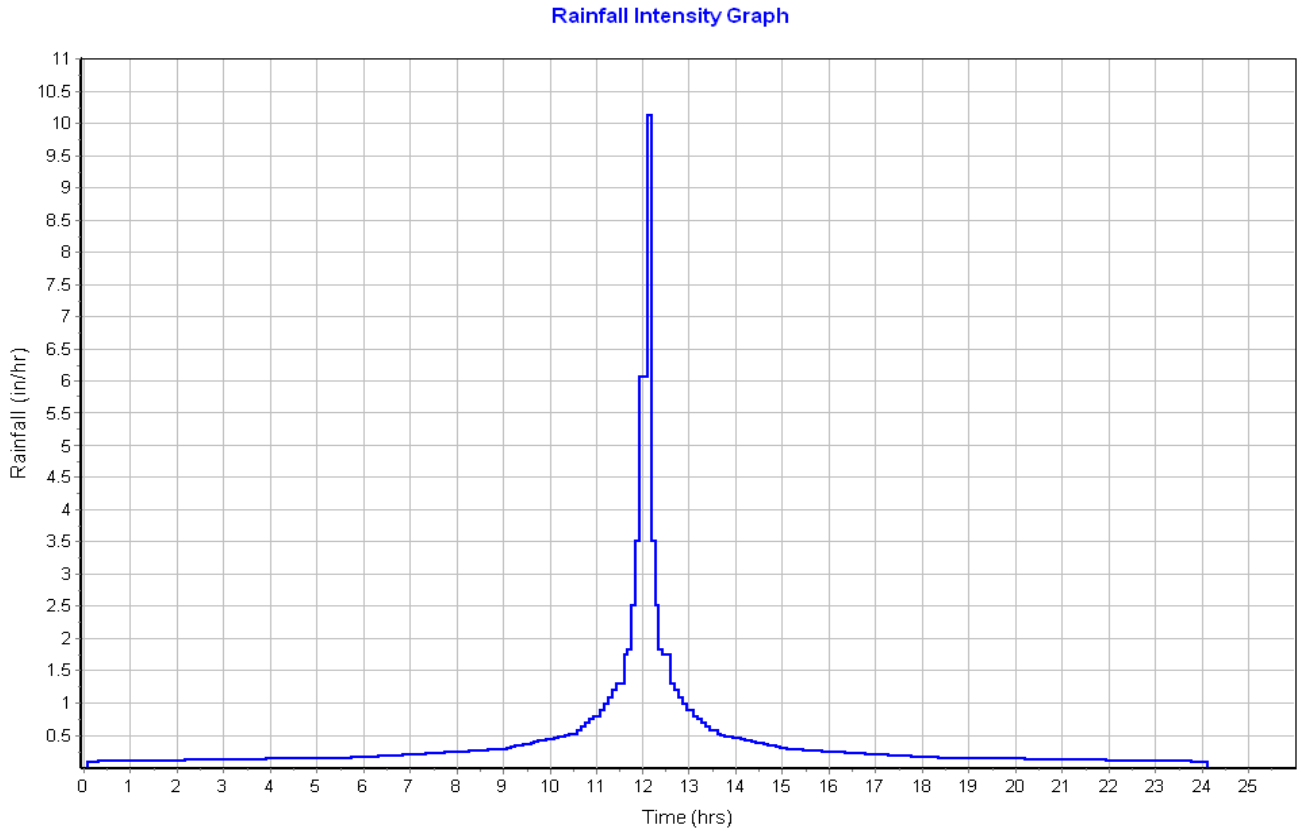
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

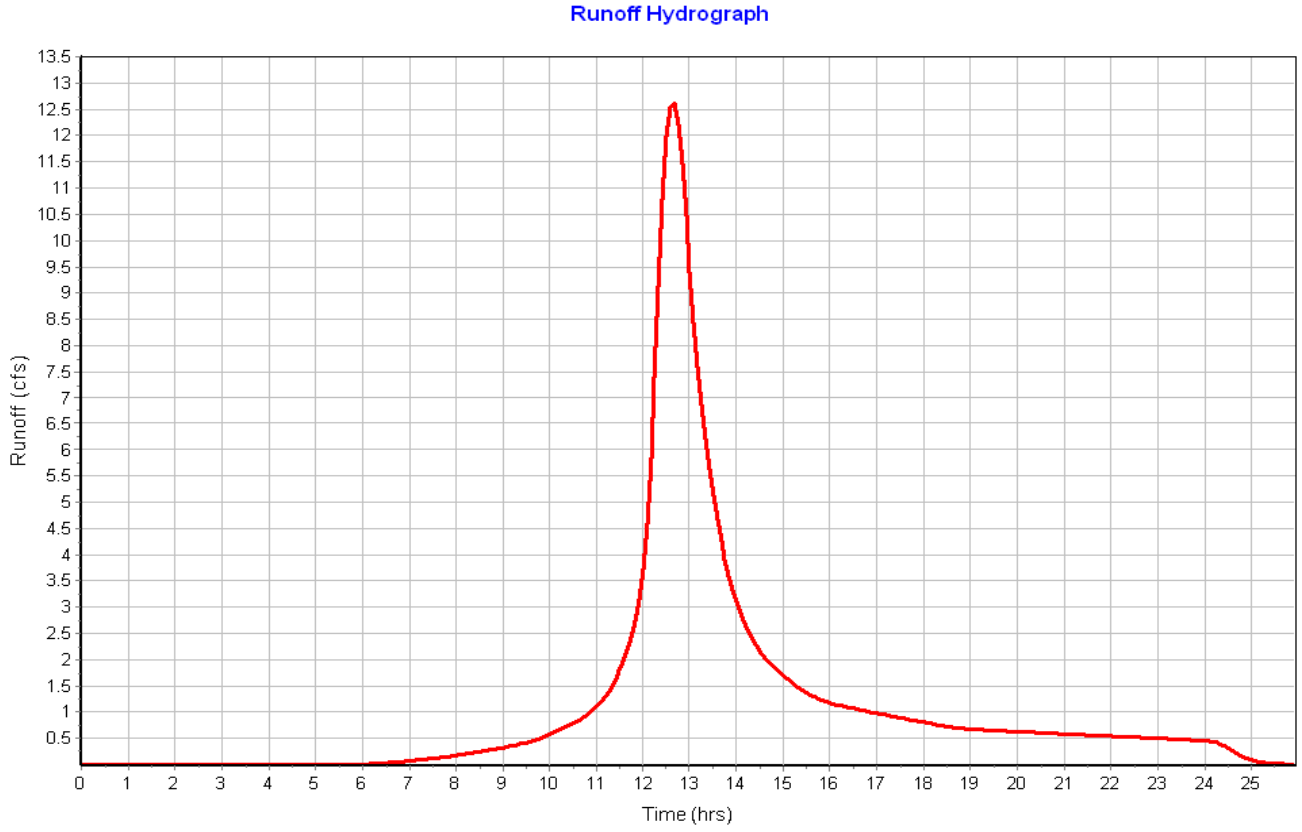
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.42
Peak Runoff (cfs) 12.66
Weighted Curve Number 73.62
Time of Concentration (days hh:mm:ss) 0 00:56:46

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 5.30
Peak Rate Factor 484.00
Weighted Curve Number 73.66
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.11	C	73.00
> 75% grass cover, Good	1.54	C	74.00
Gravel roads	0.20	C	89.00
Paved parking & roofs	0.07	C	98.00
Brush, Good	0.38	C	65.00
Composite Area & Weighted CN	5.30		73.66

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

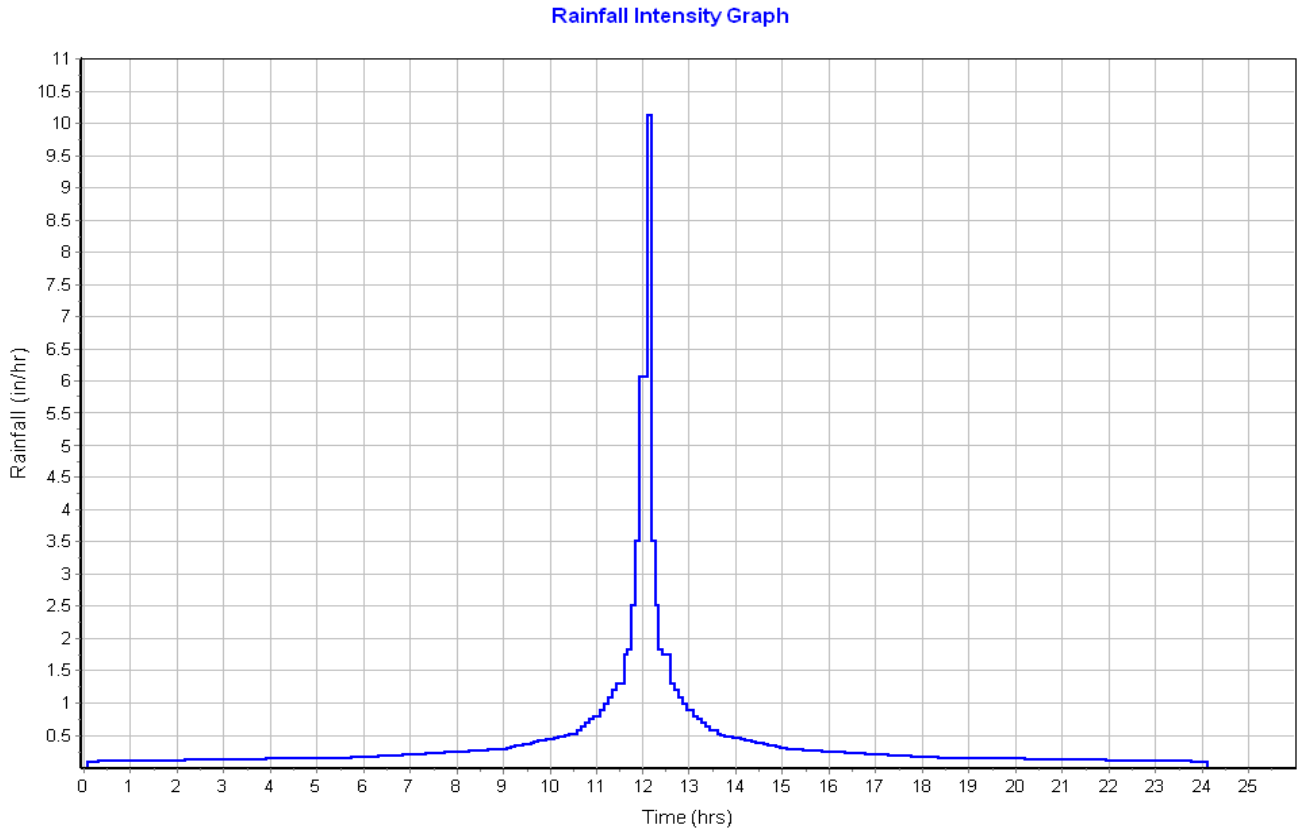
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

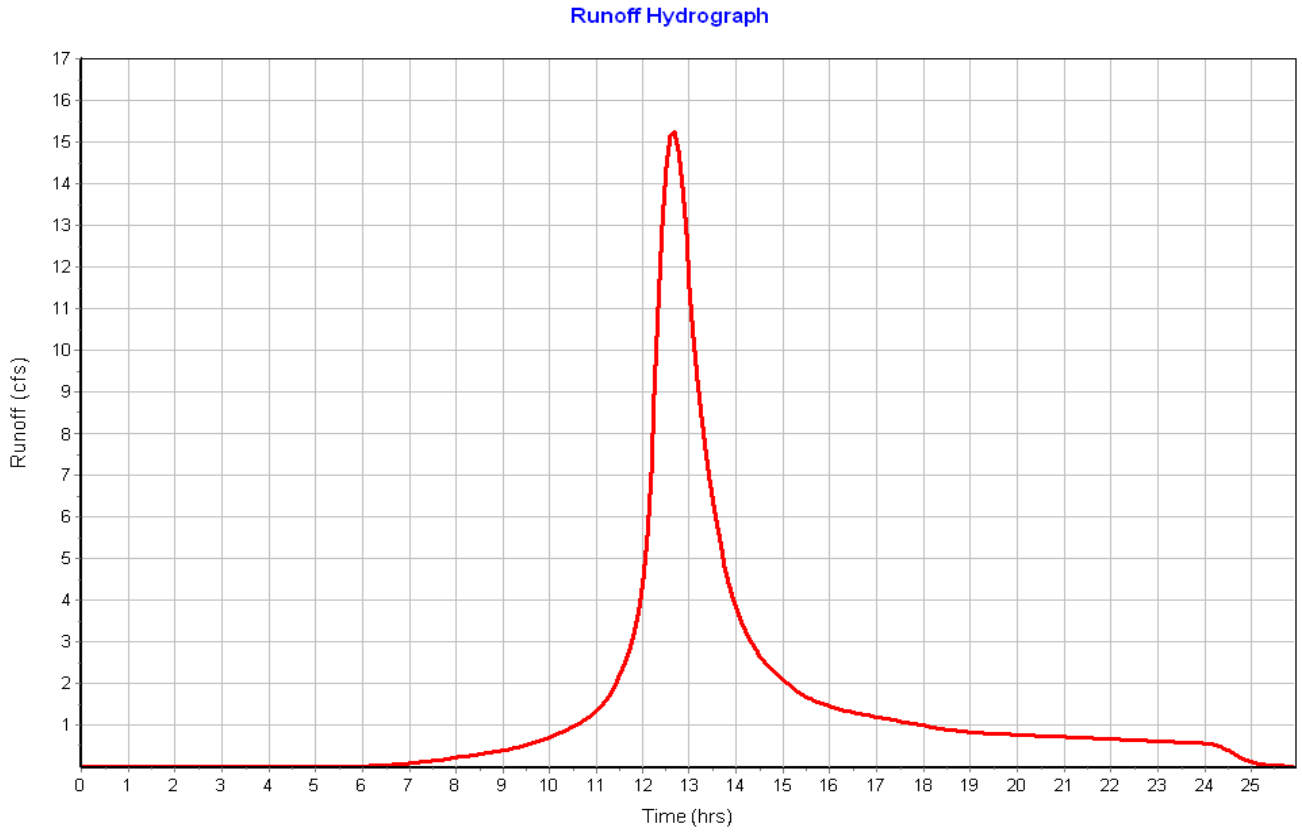
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.43
Peak Runoff (cfs) 15.30
Weighted Curve Number 73.66
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	5.02
Peak Rate Factor	484.00
Weighted Curve Number	73.76
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.92	C	73.00
> 75% grass cover, Good	0.53	C	74.00
Gravel roads	0.30	C	89.00
Paved parking & roofs	0.02	C	98.00
Brush, Good	0.25	C	65.00
Composite Area & Weighted CN	5.02		73.76

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

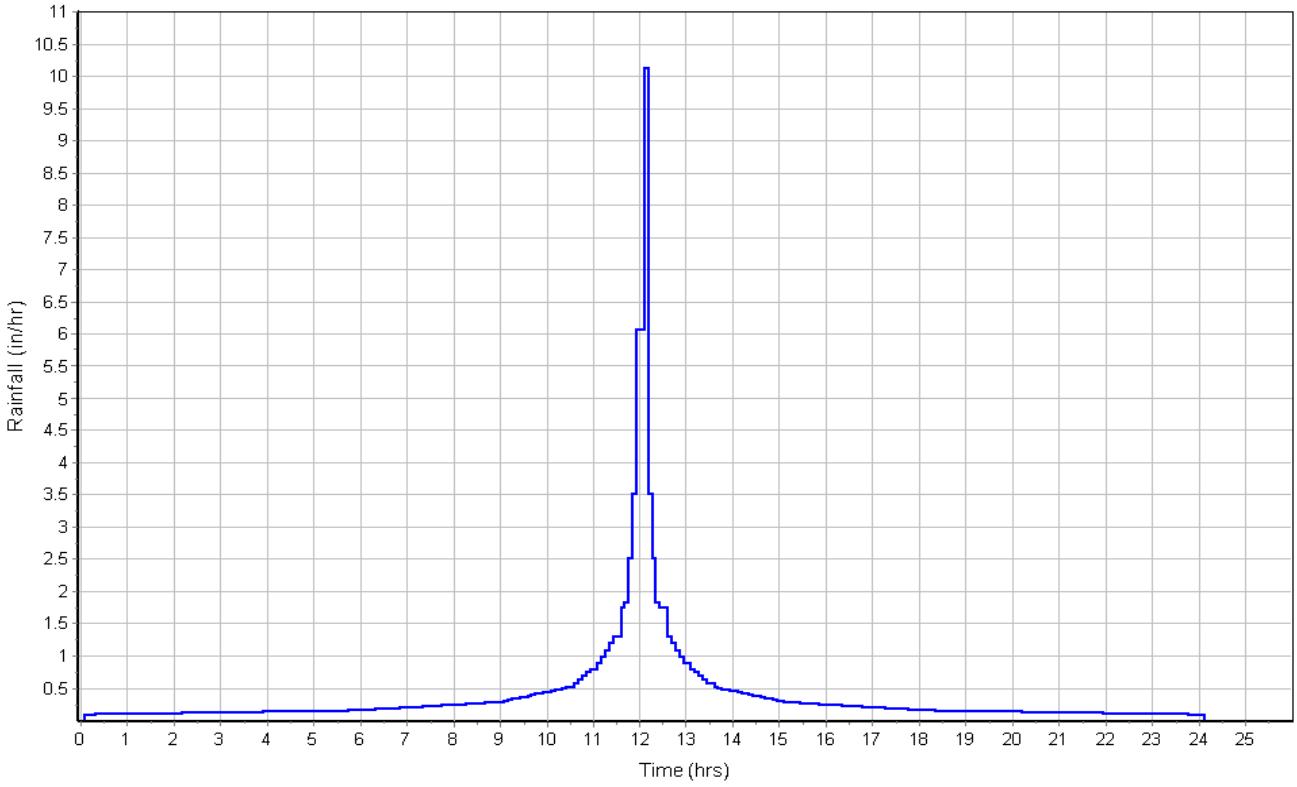
Total TOC (min) 58.08

Subbasin Runoff Results

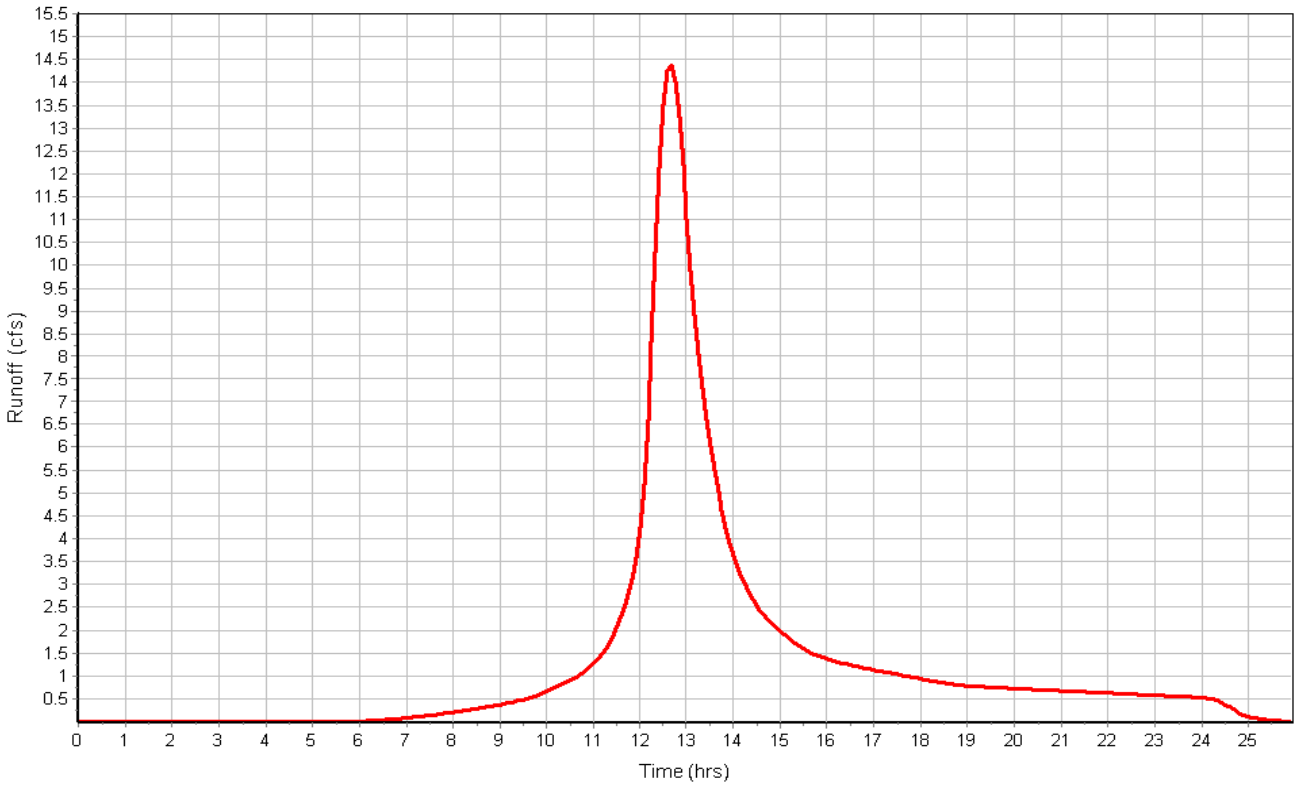
Total Rainfall (in)	9.70
Total Runoff (in)	6.44
Peak Runoff (cfs)	14.42
Weighted Curve Number	73.76
Time of Concentration (days hh:mm:ss)	0 00:58:05

Subbasin : Sub-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-05

Input Data

Area (ac) 8.32
Peak Rate Factor 484.00
Weighted Curve Number 74.42
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	6.71	C	73.00
> 75% grass cover, Good	0.96	C	74.00
Gravel roads	0.60	C	89.00
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	8.32		74.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.11	0.00	0.00

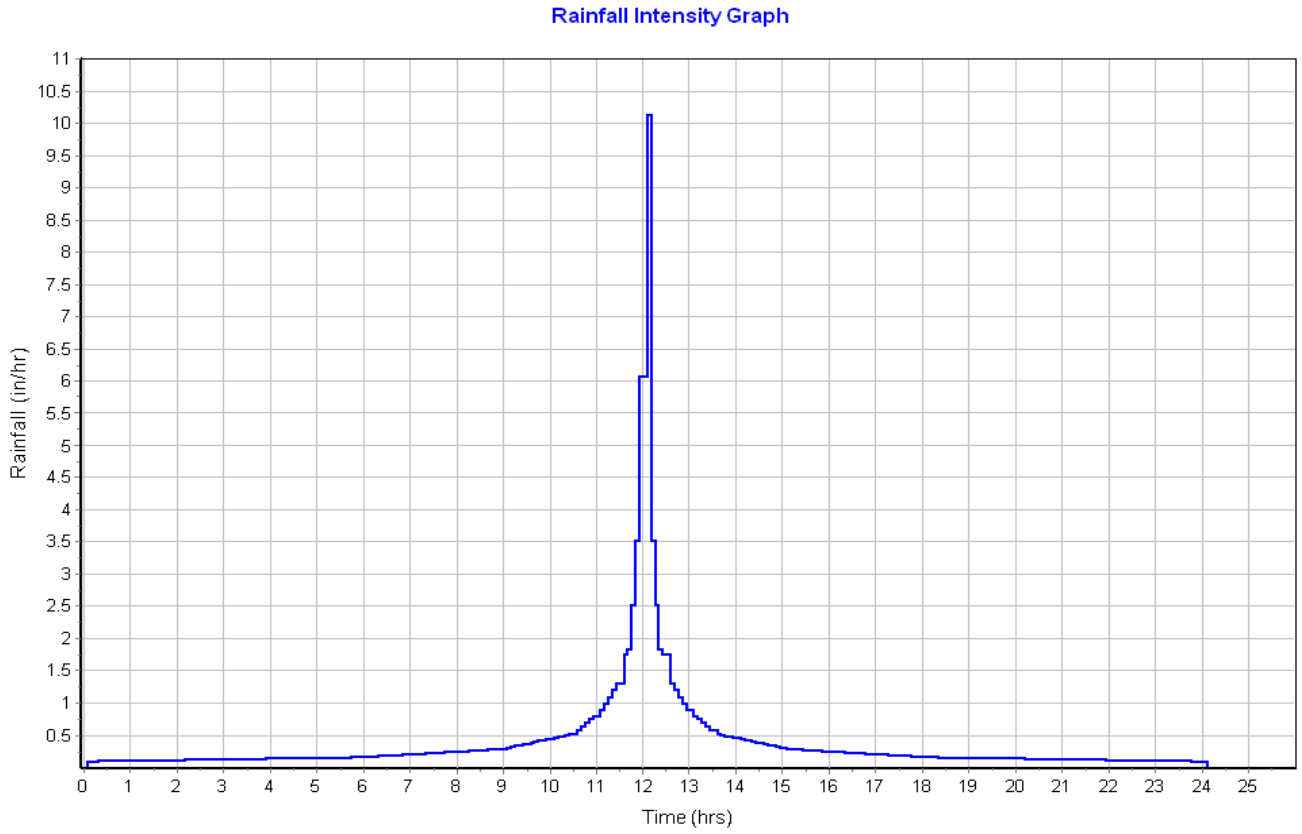
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	1196.70	0.00	0.00
Slope (%) :	3.4	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.92	0.00	0.00
Computed Flow Time (min) :	21.68	0.00	0.00

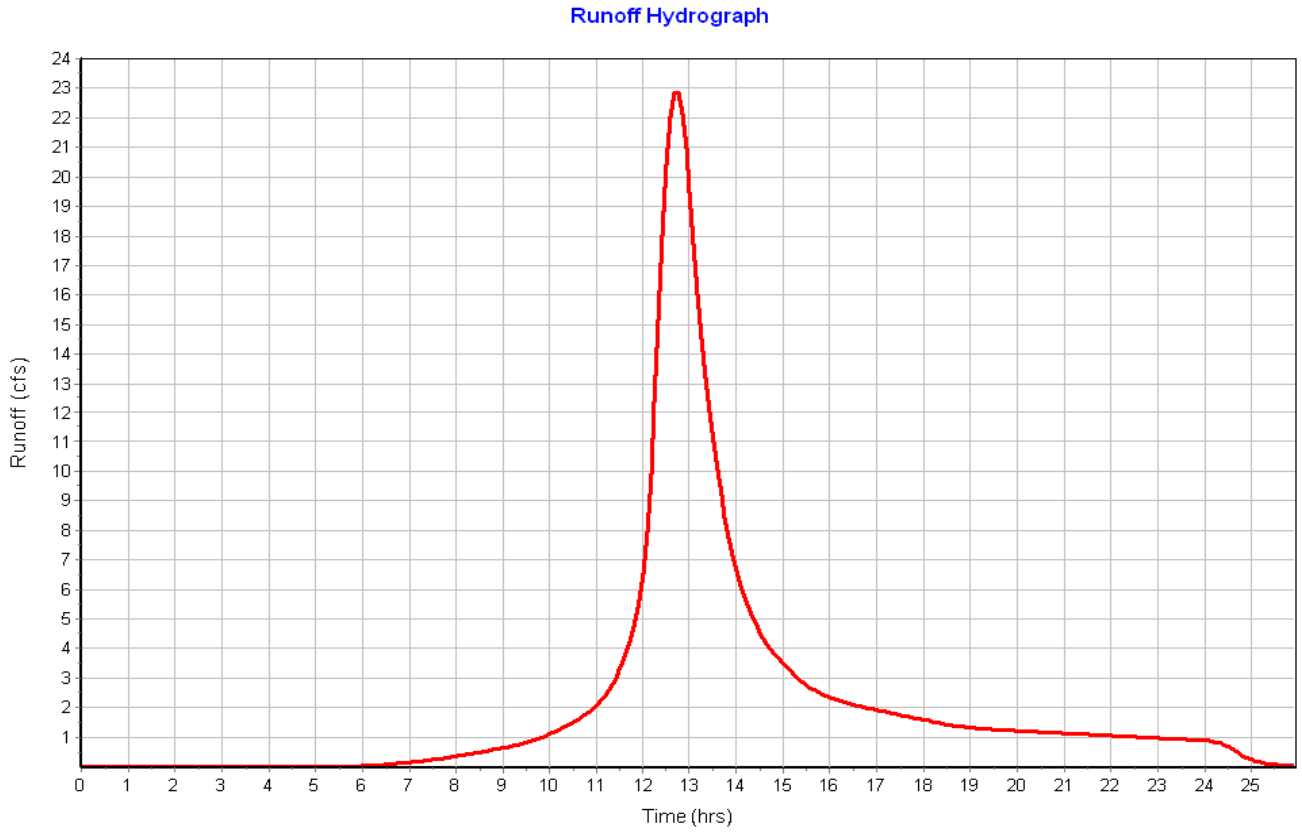
Total TOC (min) 63.79

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.52
Peak Runoff (cfs) 22.90
Weighted Curve Number 74.42
Time of Concentration (days hh:mm:ss) 0 01:03:47

Subbasin : Sub-05





Storage Nodes

Storage Node : Stor-01

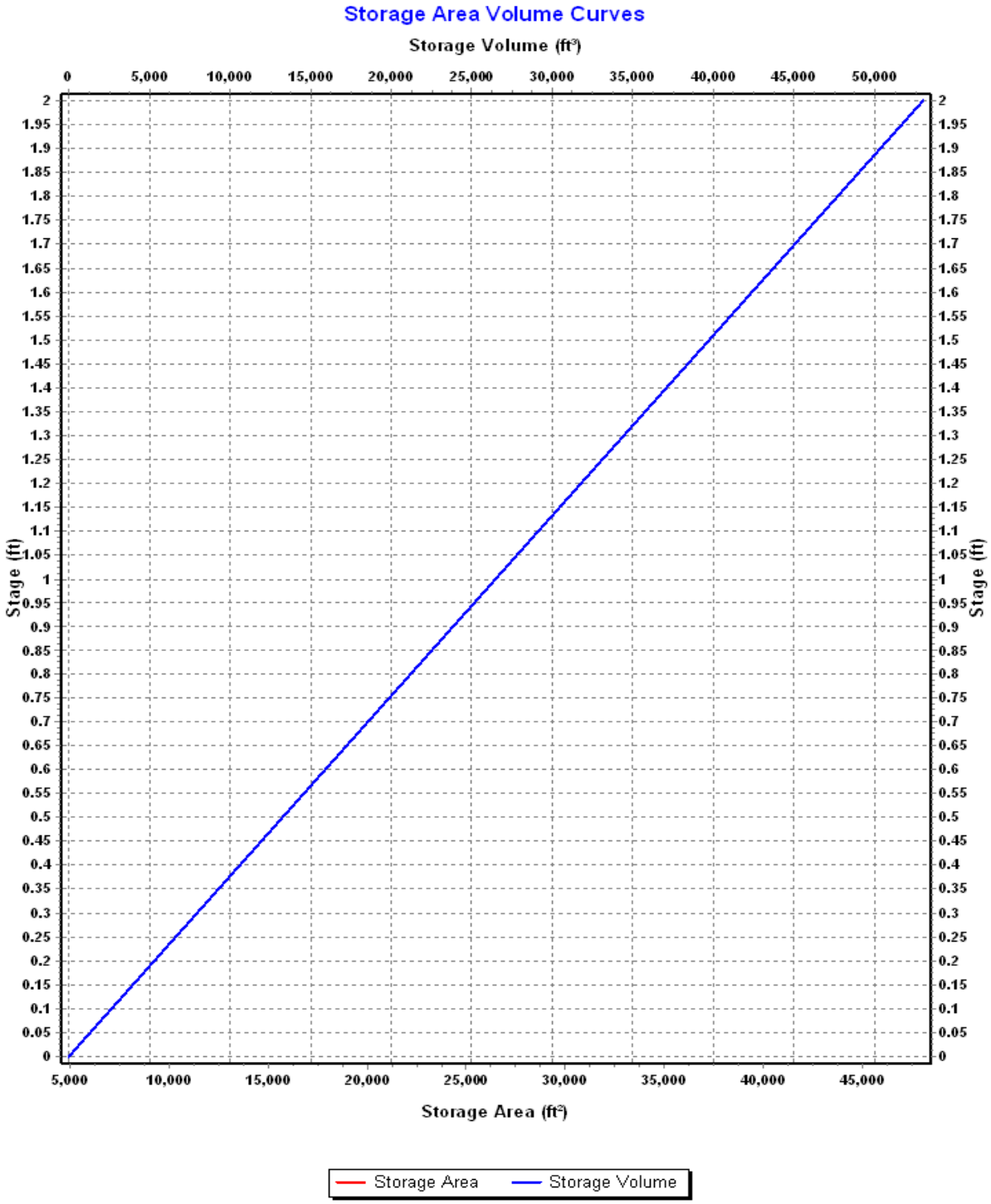
Input Data

Invert Elevation (ft) 206.00
Max (Rim) Elevation (ft) 208.00
Max (Rim) Offset (ft) 2.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -206.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	29.61
Peak Lateral Inflow (cfs)	29.61
Peak Outflow (cfs)	29.55
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.86
Max HGL Depth Attained (ft)	1.86
Average HGL Elevation Attained (ft)	207.06
Average HGL Depth Attained (ft)	1.06
Time of Max HGL Occurrence (days hh:mm)	0 12:45
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

SSA Model Inputs and Outputs

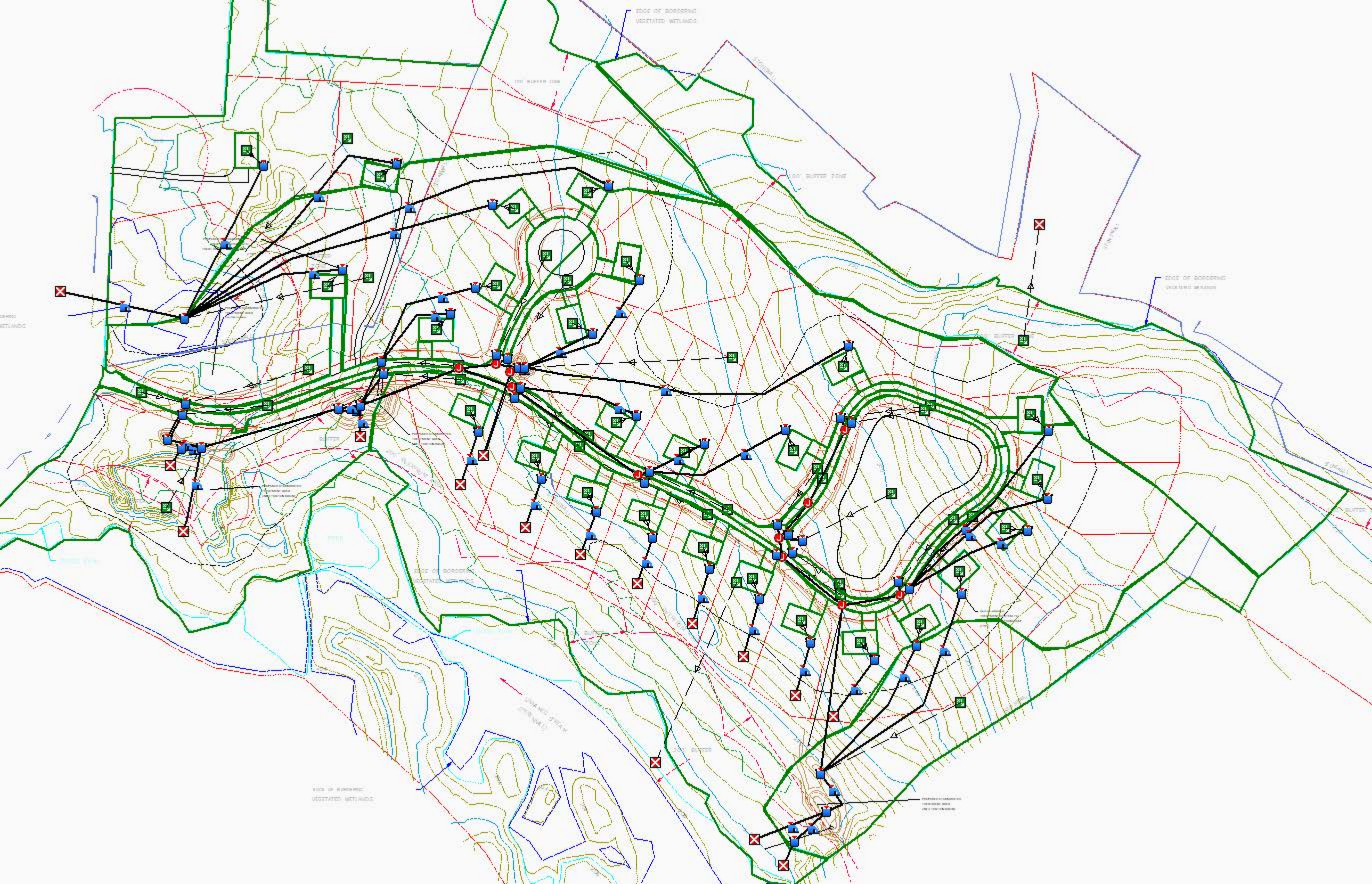
for

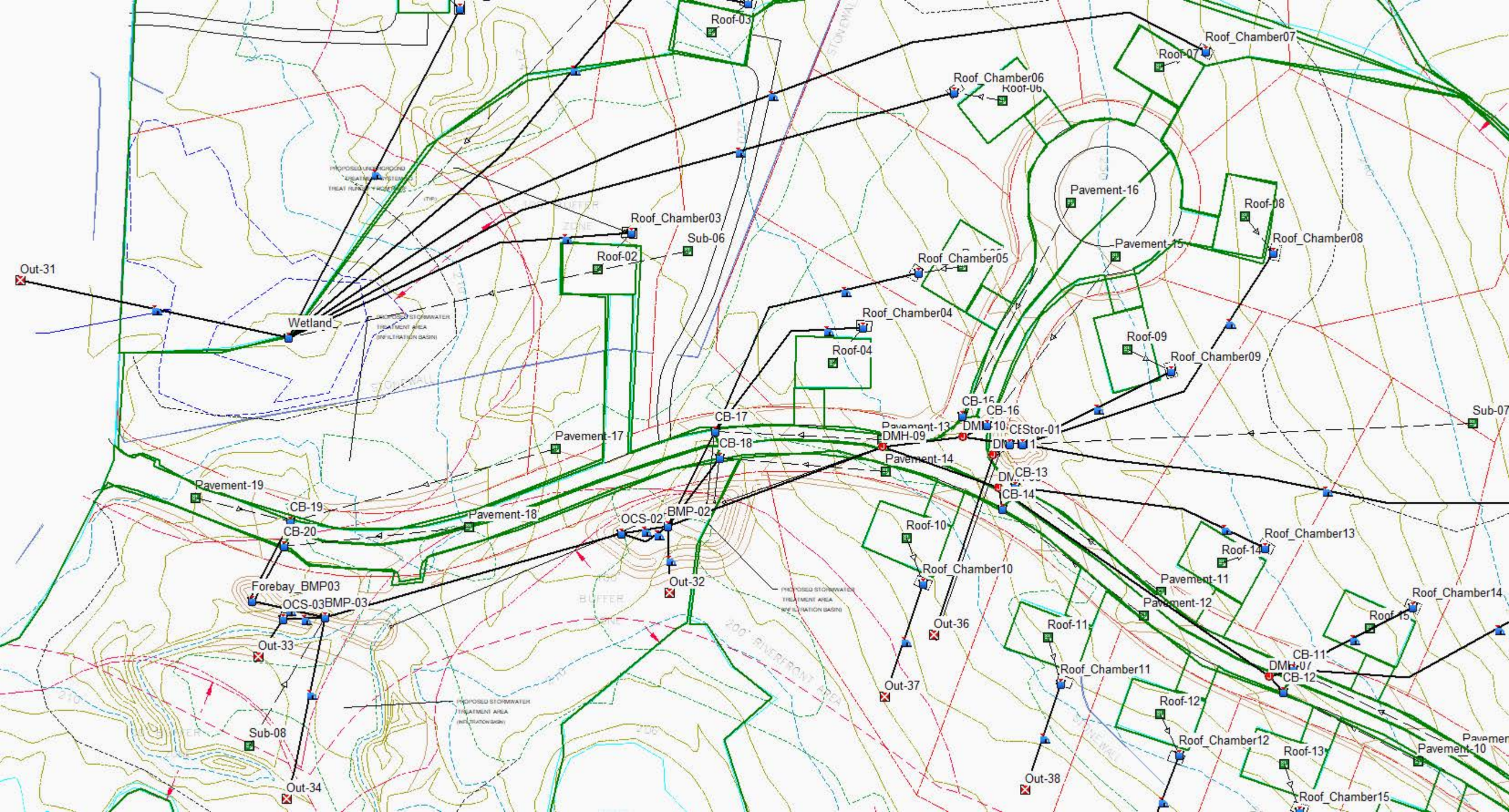
Scenario 1

Proposed Conditions Under Existing Regulations

Output List

- Model Schematic with Labels
- 2-year SCS Type III
- 100-year SCS Type III

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Roof-07
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Roof-06
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Roof-08
Roof_Chamber08
Pavement-15
Roof_Chamber03
Sub-06
Roof-02
Out-31
Roof_Chamber05
Roof_Chamber04
Roof-04
Roof-09
Roof_Chamber09
Wetland
CB-15
CB-16
Sub-07
CB-17
Pavement-13
DMH-10
CEStor-01
Pavement-17
CB-18
DMH-09
DMH-11
Pavement-14
CB-13
Pavement-19
CB-14
CB-19
Roof_Chamber13
CB-20
Pavement-18
OCS-02
BMP-02
Roof-10
Roof-14
Roof_Chamber10
Pavement-11
Forebay_BMP03
OCS-03
BMP-03
Out-32
Pavement-12
Roof_Chamber14
Roof-15
Out-36
Roof-11
Out-33
CB-11
DMH-07
CB-12
Roof_Chamber11
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Sub-08
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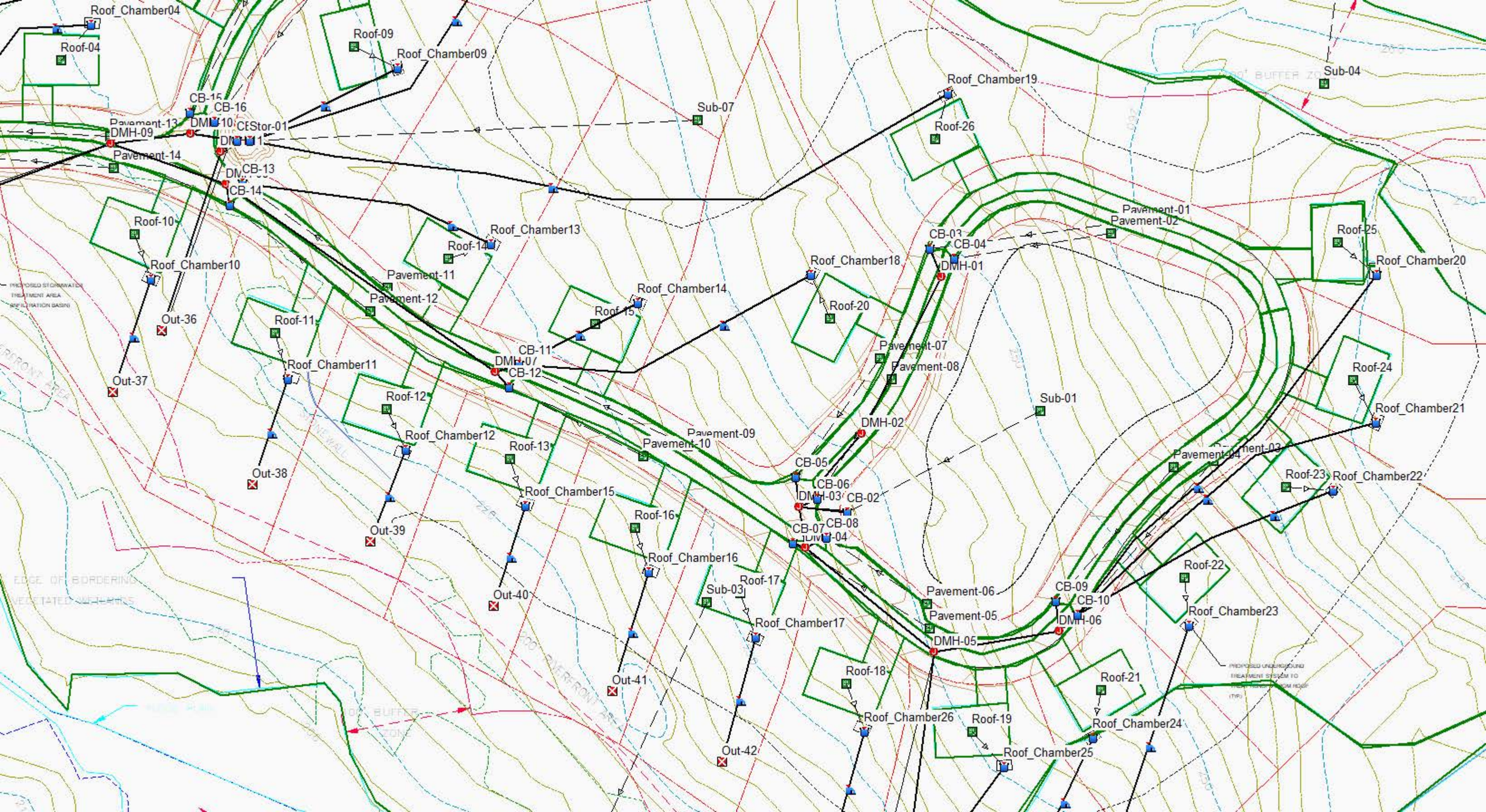
Roof-13
Pavement-10
Out-34
Out-38
Roof_Chamber15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CStor-01
DMH-09
DMH-11
Pavement-14
CB-13
CB-14
Sub-07
Roof_Chamber19
Roof-26
Sub-04
Roof-10
Roof_Chamber10
Out-36
Out-37
Roof_Chamber13
Roof-14
Pavement-11
Pavement-12
Roof-11
Roof_Chamber11
Roof-15
Roof_Chamber14
CB-11
DMH-07
CB-12
Roof-12
Roof_Chamber12
Out-38
Out-39
Roof-13
Roof_Chamber15
Out-40
Roof_Chamber18
Roof-20
Pavement-01
Pavement-02
CB-03
CB-04
DMH-01
Roof-25
Roof_Chamber20
Pavement-07
Pavement-08
Roof-24
Roof_Chamber21
Sub-01
DMH-02
Pavement-09
Pavement-10
CB-05
CB-06
DMH-03
CB-02
CB-07
CB-08
DMH-04
Roof-16
Roof_Chamber16
Roof-17
Sub-03
Roof_Chamber17
Out-41
Out-42
Pavement-06
Pavement-05
DMH-05
CB-09
CB-10
DMH-06
Roof-22
Roof_Chamber23
Roof-18
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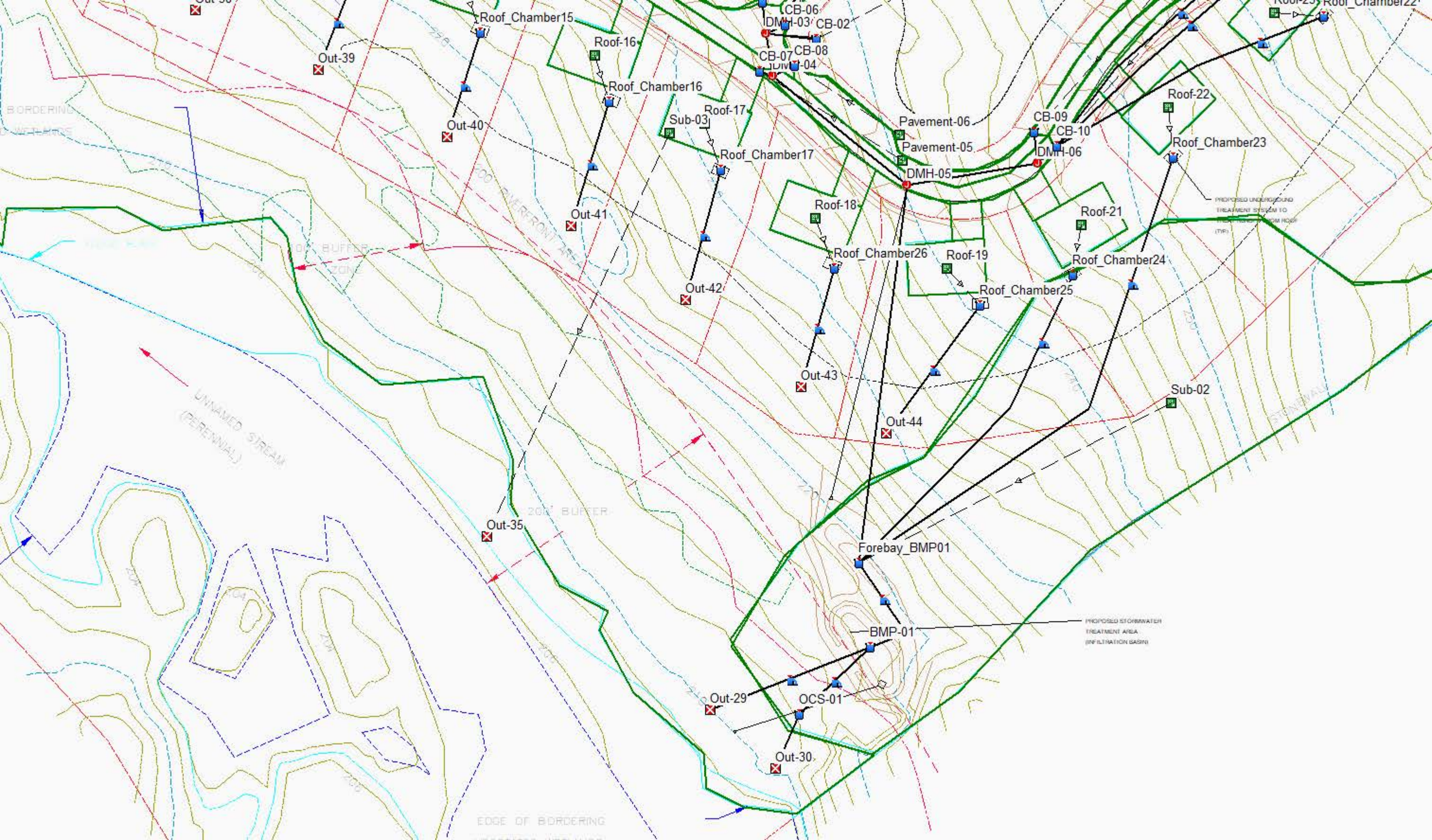
Roof-21
Roof_Chamber24
Roof-23
Roof_Chamber22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CB-06
DMH-03
CB-02
CB-07
CB-08
Pavement-06
Pavement-05
DMH-05
Roof-18
Roof_Chamber26
Out-43
Out-44
CB-09
CB-10
DMH-06
Roof-22
Roof_Chamber23
Roof-21
Roof_Chamber24
Roof-19
Roof_Chamber25
Sub-02
Forebay_BMP01
BMP-01
Out-29
OCS-01
Out-30
UNNAMED STREAM
(PERENNIAL)
EDGE OF BORDERING

Project Description

File Name ..... Scenario 1 - Proposed Conditions (Existing Regulations) (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins.....	53
Nodes.....	84
Junctions	11
Outfalls	17
Flow Diversions	0
Inlets	0
Storage Nodes	56
Links.....	72
Channels	0
Pipes	35
Pumps	0
Orifices	0
Weirs	37
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Pavement-01	0.13	484.00	98.00	3.10	2.86	0.38	0.35	0 00:01:36
2	Pavement-02	0.07	484.00	98.00	3.10	2.85	0.19	0.17	0 00:01:20
3	Pavement-03	0.12	484.00	98.00	3.10	2.86	0.35	0.32	0 00:01:27
4	Pavement-04	0.08	484.00	98.00	3.10	2.86	0.23	0.22	0 00:01:22
5	Pavement-05	0.14	484.00	98.00	3.10	2.87	0.41	0.37	0 00:01:16
6	Pavement-06	0.06	484.00	98.00	3.10	2.85	0.18	0.17	0 00:01:04
7	Pavement-07	0.07	484.00	98.00	3.10	2.86	0.21	0.18	0 00:00:58
8	Pavement-08	0.05	484.00	98.00	3.10	2.84	0.15	0.13	0 00:00:58
9	Pavement-09	0.11	484.00	98.00	3.10	2.86	0.31	0.28	0 00:02:02
10	Pavement-10	0.11	484.00	98.00	3.10	2.86	0.30	0.27	0 00:01:44
11	Pavement-11	0.08	484.00	98.00	3.10	2.86	0.22	0.20	0 00:01:36
12	Pavement-12	0.11	484.00	98.00	3.10	2.86	0.32	0.30	0 00:01:38
13	Pavement-13	0.11	484.00	98.00	3.10	2.86	0.31	0.28	0 00:01:59
14	Pavement-14	0.08	484.00	98.00	3.10	2.86	0.22	0.20	0 00:01:18
15	Pavement-15	0.17	484.00	92.87	3.10	2.33	0.41	0.33	0 00:16:46
16	Pavement-16	0.26	484.00	90.84	3.10	2.15	0.56	0.58	0 00:02:09
17	Pavement-17	0.15	484.00	98.00	3.10	2.87	0.43	0.40	0 00:02:49
18	Pavement-18	0.11	484.00	98.00	3.10	2.86	0.32	0.30	0 00:02:22
19	Pavement-19	0.08	484.00	98.00	3.10	2.86	0.23	0.22	0 00:01:06
20	Roof-01	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
21	Roof-02	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
22	Roof-03	0.05	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
23	Roof-04	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
24	Roof-05	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
25	Roof-06	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
26	Roof-07	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
27	Roof-08	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
28	Roof-09	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
29	Roof-10	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
30	Roof-11	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
31	Roof-12	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
32	Roof-13	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
33	Roof-14	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
34	Roof-15	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
35	Roof-16	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
36	Roof-17	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
37	Roof-18	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
38	Roof-19	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
39	Roof-20	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
40	Roof-21	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
41	Roof-22	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
42	Roof-23	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
43	Roof-24	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
44	Roof-25	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
45	Roof-26	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:00:06
46	Sub-01	1.64	484.00	73.47	3.10	0.94	1.55	0.95	0 00:31:55
47	Sub-02	2.48	484.00	73.09	3.10	0.92	2.29	1.23	0 00:42:04
48	Sub-03	9.20	484.00	73.58	3.10	0.95	8.74	4.50	0 00:45:55
49	Sub-04	4.36	484.00	73.02	3.10	0.92	4.01	1.82	0 00:56:46
50	Sub-05	5.21	484.00	73.69	3.10	0.96	4.98	2.26	0 00:57:25
51	Sub-06	4.48	484.00	73.88	3.10	0.97	4.33	1.96	0 00:58:04
52	Sub-07	5.44	484.00	73.62	3.10	0.95	5.18	2.62	0 00:47:13
53	Sub-08	3.74	484.00	73.61	3.10	0.95	3.56	1.61	0 00:57:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	Junction	241.00	247.00	0.00	0.00	0.00	0.51	245.20	0.00	1.80	0 00:00	0.00	0.00
2	DMH-02	Junction	231.15	238.00	0.00	0.00	0.00	0.51	235.41	0.00	2.59	0 00:00	0.00	0.00
3	DMH-03	Junction	229.00	236.00	0.00	0.00	0.00	1.09	232.90	0.00	3.10	0 00:00	0.00	0.00
4	DMH-04	Junction	228.50	237.00	0.00	0.00	0.00	1.09	232.39	0.00	4.61	0 00:00	0.00	0.00
5	DMH-05	Junction	228.00	242.00	0.00	0.00	0.00	1.82	229.38	0.00	12.62	0 00:00	0.00	0.00
6	DMH-06	Junction	241.00	247.00	0.00	0.00	0.00	0.98	245.29	0.00	1.71	0 00:00	0.00	0.00
7	DMH-07	Junction	223.00	229.75	0.00	0.00	0.00	0.85	227.34	0.00	2.41	0 00:00	0.00	0.00
8	DMH-08	Junction	216.50	224.00	0.00	0.00	0.00	1.49	220.95	0.00	3.05	0 00:00	0.00	0.00
9	DMH-09	Junction	214.15	222.00	0.00	0.00	0.00	2.33	218.41	0.00	3.59	0 00:00	0.00	0.00
10	DMH-10	Junction	216.15	223.00	0.00	0.00	0.00	1.60	220.03	0.00	2.97	0 00:00	0.00	0.00
11	DMH-11	Junction	216.00	224.00	0.00	0.00	0.00	1.31	219.44	0.00	4.56	0 00:00	0.00	0.00
12	Out-01	Outfall	232.00					1.81	232.00					
13	Out-29	Outfall	210.00					0.00	210.00					
14	Out-30	Outfall	212.00					2.51	212.39					
15	Out-31	Outfall	206.00					0.00	206.00					
16	Out-32	Outfall	212.00					0.00	212.00					
17	Out-33	Outfall	202.00					1.85	202.47					
18	Out-34	Outfall	204.00					0.00	204.00					
19	Out-35	Outfall	204.00					4.50	204.00					
20	Out-36	Outfall	217.90					1.31	218.33					
21	Out-37	Outfall	216.00					0.15	216.00					
22	Out-38	Outfall	220.00					0.15	220.00					
23	Out-39	Outfall	220.00					0.15	220.00					
24	Out-40	Outfall	223.00					0.15	223.00					
25	Out-41	Outfall	223.00					0.15	223.00					
26	Out-42	Outfall	228.00					0.15	228.00					
27	Out-43	Outfall	230.00					0.15	230.00					
28	Out-44	Outfall	238.00					0.15	238.00					
29	BMP-01	Storage Node	216.00	218.00	0.00		0.00	2.53	217.20				0.00	0.00
30	BMP-02	Storage Node	213.00	217.00	0.00		0.00	3.10	215.57				0.00	0.00
31	BMP-03	Storage Node	204.00	206.00	0.00		0.00	3.68	205.42				0.00	0.00
32	CB-01	Storage Node	217.15	224.00	0.00		1000.00	2.67	220.62				0.00	0.00
33	CB-02	Storage Node	231.15	238.00	0.00		1000.00	0.95	234.80				0.00	0.00
34	CB-03	Storage Node	241.15	248.00	0.00		1000.00	0.35	245.47				0.00	0.00
35	CB-04	Storage Node	241.15	248.00	0.00		1000.00	0.17	245.35				0.00	0.00
36	CB-05	Storage Node	0.00	236.00	0.00		1000.00	0.18	54.36				0.00	0.00
37	CB-06	Storage Node	0.00	236.00	0.00		1000.00	0.13	39.41				0.00	0.00
38	CB-07	Storage Node	0.00	236.00	0.00		1000.00	0.36	108.87				0.00	0.00
39	CB-08	Storage Node	0.00	236.00	0.00		1000.00	0.17	49.34				0.00	0.00
40	CB-09	Storage Node	241.15	248.00	0.00		1000.00	0.22	245.39				0.00	0.00
41	CB-10	Storage Node	241.15	248.00	0.00		1000.00	0.76	245.62				0.00	0.00
42	CB-11	Storage Node	223.15	230.00	0.00		1000.00	0.58	227.56				0.00	0.00
43	CB-12	Storage Node	223.15	230.00	0.00		1000.00	0.27	227.40				0.00	0.00
44	CB-13	Storage Node	217.15	224.00	0.00		1000.00	0.35	221.44				0.00	0.00
45	CB-14	Storage Node	217.15	224.00	0.00		1000.00	0.30	221.43				0.00	0.00
46	CB-15	Storage Node	217.15	224.00	0.00		1000.00	0.58	221.39				0.00	0.00
47	CB-16	Storage Node	217.15	224.00	0.00		1000.00	0.33	221.33				0.00	0.00
48	CB-17	Storage Node	211.15	218.00	0.00		1000.00	0.58	215.58				0.00	0.00
49	CB-18	Storage Node	211.15	218.00	0.00		1000.00	0.20	215.57				0.00	0.00
50	CB-19	Storage Node	203.65	210.50	0.00		1000.00	0.61	208.02				0.00	0.00
51	CB-20	Storage Node	203.65	210.50	0.00		1000.00	0.30	207.88				0.00	0.00
52	Forebay_BMP01	Storage Node	219.00	220.00	0.00		0.00	2.53	219.57				0.00	0.00
53	Forebay_BMP03	Storage Node	206.00	208.00	0.00		0.00	0.91	207.03				0.00	0.00
54	OCS-01	Storage Node	210.65	217.00	0.00		0.00	2.51	215.06				0.00	0.00
55	OCS-02	Storage Node	210.00	215.50	0.00		0.00	2.18	211.50				0.00	0.00
56	OCS-03	Storage Node	198.65	205.25	0.00		0.00	1.85	203.15				0.00	0.00
57	Roof_Chamber01	Storage Node	213.00	215.00	0.00		0.00	0.15	214.76				0.00	0.00
58	Roof_Chamber02	Storage Node	219.00	221.00	0.00		0.00	0.15	220.76				0.00	0.00
59	Roof_Chamber03	Storage Node	216.00	218.00	0.00		0.00	0.15	217.76				0.00	0.00
60	Roof_Chamber04	Storage Node	219.00	221.00	0.00		0.00	0.15	220.76				0.00	0.00
61	Roof_Chamber05	Storage Node	221.00	223.00	0.00		0.00	0.15	222.76				0.00	0.00
62	Roof_Chamber06	Storage Node	223.00	225.00	0.00		0.00	0.15	224.76				0.00	0.00
63	Roof_Chamber07	Storage Node	232.00	234.00	0.00		0.00	0.15	233.76				0.00	0.00
64	Roof_Chamber08	Storage Node	233.00	235.00	0.00		0.00	0.15	234.76				0.00	0.00
65	Roof_Chamber09	Storage Node	228.00	230.00	0.00		0.00	0.15	229.76				0.00	0.00
66	Roof_Chamber10	Storage Node	216.00	218.00	0.00		0.00	0.15	217.76				0.00	0.00
67	Roof_Chamber11	Storage Node	220.00	222.00	0.00		0.00	0.15	221.76				0.00	0.00
68	Roof_Chamber12	Storage Node	220.00	222.00	0.00		0.00	0.15	221.76				0.00	0.00
69	Roof_Chamber13	Storage Node	228.00	230.00	0.00		0.00	0.15	229.76				0.00	0.00
70	Roof_Chamber14	Storage Node	232.00	234.00	0.00		0.00	0.15	233.76				0.00	0.00
71	Roof_Chamber15	Storage Node	223.00	225.00	0.00		0.00	0.15	224.76				0.00	0.00
72	Roof_Chamber16	Storage Node	223.00	225.00	0.00		0.00	0.15	224.76				0.00	0.00
73	Roof_Chamber17	Storage Node	228.00	230.00	0.00		0.00	0.15	229.76				0.00	0.00
74	Roof_Chamber18	Storage Node	242.00	244.00	0.00		0.00	0.15	243.76				0.00	0.00
75	Roof_Chamber19	Storage Node	252.00	254.00	0.00		0.00	0.15	253.76				0.00	0.00
76	Roof_Chamber20	Storage Node	269.00	271.00	0.00		0.00	0.15	270.76				0.00	0.00
77	Roof_Chamber21	Storage Node	270.00	272.00	0.00		0.00	0.15	271.76				0.00	0.00
78	Roof_Chamber22	Storage Node	264.00	266.00	0.00		0.00	0.15	265.76				0.00	0.00
79	Roof_Chamber23	Storage Node	250.00	252.00	0.00		0.00	0.15	251.76				0.00	0.00
80	Roof_Chamber24	Storage Node	243.00	245.00	0.00		0.00	0.15	244.76				0.00	0.00
81	Roof_Chamber25	Storage Node	238.00	240.00	0.00		0.00	0.15	239.76				0.00	0.00
82	Roof_Chamber26	Storage Node	230.00	232.00	0.00		0.00	0.15	231.76				0.00	0.00
83	Stor-01	Storage Node	222.00	225.00	0.00		0.00	2.68	224.14				0.00	0.00
84	Wetland	Storage Node	206.00	208.00	0.00		0.00	4.28	207.62				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-28	Pipe	OCS-01	Out-30	42.00	214.65	212.00	6.3100	18.000	0.0200	2.51	17.15	0.15	6.65	0.40	0.27	0.00	Calculated
2	Link-29	Pipe	OCS-03	Out-33	40.00	202.65	202.00	1.6300	18.000	0.0200	1.85	8.70	0.21	3.74	0.48	0.32	0.00	Calculated
3	Link-30	Pipe	OCS-02	BMP-03	215.00	211.00	207.00	1.8600	18.000	0.0200	2.18	9.31	0.23	4.25	0.50	0.33	0.00	Calculated
4	Link-31	Pipe	CB-04	DMH-01	17.51	245.15	245.00	0.8600	12.000	0.0200	0.17	2.14	0.08	1.51	0.20	0.20	0.00	Calculated
5	Link-32	Pipe	CB-03	DMH-01	24.09	245.15	245.00	0.6200	12.000	0.0200	0.35	1.83	0.19	1.90	0.28	0.28	0.00	Calculated
6	Link-33	Pipe	DMH-01	DMH-02	139.54	245.00	235.15	7.0600	12.000	0.0200	0.51	6.15	0.08	3.87	0.23	0.23	0.00	Calculated
7	Link-34	Pipe	DMH-02	DMH-03	76.23	235.15	233.15	2.6200	12.000	0.0200	0.51	3.75	0.14	3.28	0.25	0.25	0.00	Calculated
8	Link-35	Pipe	CB-05	DMH-03	24.01	233.15	233.00	0.6200	12.000	0.0200	0.00	1.83	0.00	0.00	0.00	0.00	0.00	Calculated
9	Link-36	Pipe	CB-06	DMH-03	15.56	233.15	233.00	0.9600	12.000	0.0200	0.00	2.27	0.00	0.00	0.00	0.00	0.00	Calculated
10	Link-37	Pipe	CB-02	DMH-03	38.28	234.50	233.15	3.5300	18.000	0.0200	0.95	12.82	0.07	4.04	0.29	0.19	0.00	Calculated
11	Link-38	Pipe	DMH-03	DMH-04	32.64	232.50	232.00	1.5300	18.000	0.0200	1.09	8.45	0.13	2.94	0.39	0.26	0.00	Calculated
12	Link-39	Pipe	CB-08	DMH-04	18.32	233.15	233.00	0.8200	12.000	0.0200	0.00	2.10	0.00	0.00	0.00	0.00	0.00	Calculated
13	Link-40	Pipe	CB-07	DMH-04	10.99	233.15	233.00	1.3600	12.000	0.0200	0.00	2.71	0.00	0.00	0.00	0.00	0.00	Calculated
14	Link-41	Pipe	DMH-04	DMH-05	130.94	232.00	230.00	1.5300	18.000	0.0200	1.09	8.44	0.13	5.01	0.38	0.25	0.00	Calculated
15	Link-42	Pipe	CB-09	DMH-06	23.74	245.15	245.00	0.6300	12.000	0.0200	0.22	1.84	0.12	1.30	0.26	0.26	0.00	Calculated
16	Link-43	Pipe	CB-10	DMH-06	19.02	245.15	245.00	0.7900	12.000	0.0200	0.76	2.06	0.37	2.45	0.42	0.42	0.00	Calculated
17	Link-44	Pipe	DMH-06	DMH-05	100.67	245.00	239.15	5.8100	12.000	0.0200	0.98	5.58	0.18	5.26	0.29	0.29	0.00	Calculated
18	Link-45	Pipe	DMH-05	Forebay_BMP01	245.00	229.00	220.00	3.6700	18.000	0.0200	1.82	13.09	0.14	5.18	0.38	0.25	0.00	Calculated
19	Link-46	Pipe	CB-11	DMH-07	20.06	227.15	227.00	0.7500	12.000	0.0200	0.58	2.00	0.29	2.19	0.37	0.37	0.00	Calculated
20	Link-47	Pipe	CB-12	DMH-07	16.46	227.15	227.00	0.9100	12.000	0.0200	0.27	2.21	0.12	1.39	0.30	0.30	0.00	Calculated
21	Link-48	Pipe	DMH-07	DMH-08	260.00	227.00	221.00	2.3100	12.000	0.0200	0.85	3.52	0.24	3.65	0.34	0.34	0.00	Calculated
22	Link-49	Pipe	CB-13	DMH-08	12.97	221.15	221.00	1.1600	12.000	0.0200	0.35	2.49	0.14	2.07	0.27	0.27	0.00	Calculated
23	Link-50	Pipe	CB-14	DMH-08	16.41	221.15	221.00	0.9100	12.000	0.0200	0.30	2.21	0.14	1.93	0.25	0.25	0.00	Calculated
24	Link-51	Pipe	DMH-08	DMH-09	96.22	220.50	219.15	1.4000	18.000	0.0200	1.49	8.09	0.18	3.40	0.45	0.30	0.00	Calculated
25	Link-52	Pipe	CB-01	DMH-10	37.16	220.20	219.70	1.3500	24.000	0.0200	1.37	17.06	0.08	3.05	0.40	0.20	0.00	Calculated
26	Link-53	Pipe	CB-15	DMH-10	16.23	221.15	220.15	6.1600	12.000	0.0200	0.58	5.75	0.10	4.31	0.23	0.23	0.00	Calculated
27	Link-54	Pipe	CB-16	DMH-10	20.81	221.15	220.15	4.8100	12.000	0.0200	0.32	5.08	0.06	3.44	0.18	0.18	0.00	Calculated
28	Link-55	Pipe	DMH-10	DMH-09	63.63	219.65	217.80	2.9100	18.000	0.0200	1.60	11.64	0.14	3.52	0.46	0.31	0.00	Calculated
29	Link-56	Pipe	DMH-09	BMP-02	130.00	217.75	217.00	0.5800	24.000	0.0200	2.32	11.17	0.21	2.97	0.59	0.30	0.00	Calculated
30	Link-62	Pipe	CB-18	BMP-02	33.00	215.15	214.85	0.9100	12.000	0.0200	0.21	2.21	0.09	1.81	0.57	0.57	0.00	Calculated
31	Link-63	Pipe	CB-17	BMP-02	52.00	215.15	214.85	0.5800	12.000	0.0200	0.59	1.76	0.34	2.19	0.57	0.57	0.00	Calculated
32	Link-77	Pipe	CB-19	Forebay_BMP03	67.00	207.65	207.00	0.9700	12.000	0.0200	0.61	2.28	0.27	2.52	0.35	0.35	0.00	Calculated
33	Link-78	Pipe	CB-20	Forebay_BMP03	47.00	207.65	207.00	1.3800	12.000	0.0200	0.30	2.72	0.11	2.24	0.23	0.23	0.00	Calculated
34	Link-80	Pipe	CB-01	DMH-11	16.14	220.20	220.00	1.2400	24.000	0.0200	1.31	16.37	0.08	2.91	0.40	0.20	0.00	Calculated
35	Link-81	Pipe	DMH-11	Out-36	148.58	219.00	217.00	1.3500	24.000	0.0200	1.31	12.65	0.10	2.56	0.44	0.22	0.00	Calculated
36	Orifice-1	Weir	BMP-02	OCS-02		213.00	210.00				1.67							
37	Weir-01	Weir	Forebay_BMP01	BMP-01		219.00	216.00				2.53							
38	Weir-02	Weir	BMP-01	Out-29		216.00	210.00				0.00							
39	Weir-03	Weir	BMP-01	OCS-01		216.00	210.65				2.51							
40	Weir-04	Weir	Wetland	Out-31		206.00	206.00				0.00							
41	Weir-06	Weir	BMP-02	Out-32		213.00	212.00				0.00							
42	Weir-07	Weir	BMP-02	OCS-02		213.00	210.00				0.51							
43	Weir-09	Weir	BMP-03	OCS-03		204.00	198.65				1.85							
44	Weir-10	Weir	BMP-03	Out-34		204.00	204.00				0.00							
45	Weir-16	Weir	Forebay_BMP03	BMP-03		206.00	204.00				0.91							
46	Weir-17	Weir	Stor-01	CB-01		222.00	217.15				2.67							
47	Weir-19	Weir	Roof_Chamber01	Wetland		213.00	206.00				0.15							
48	Weir-20	Weir	Roof_Chamber02	Wetland		219.00	206.00				0.15							
49	Weir-21	Weir	Roof_Chamber03	Wetland		216.00	206.00				0.15							
50	Weir-22	Weir	Roof_Chamber04	CB-17		219.00	211.15				0.15							
51	Weir-23	Weir	Roof_Chamber05	CB-17		221.00	211.15				0.15							
52	Weir-24	Weir	Roof_Chamber06	Wetland		223.00	206.00				0.15							
53	Weir-25	Weir	Roof_Chamber07	Wetland		232.00	206.00				0.15							
54	Weir-26	Weir	Roof_Chamber09	Stor-01		228.00	222.00				0.15							
55	Weir-27	Weir	Roof_Chamber08	Stor-01		233.00	222.00				0.15							
56	Weir-28	Weir	Roof_Chamber13	CB-13		228.00	217.15				0.15							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
57	Weir-29	Weir	Roof_Chamber14	CB-11		232.00	223.15				0.15							
58	Weir-30	Weir	Roof_Chamber18	CB-11		242.00	223.15				0.15							
59	Weir-31	Weir	Roof_Chamber19	Stor-01		252.00	222.00				0.15							
60	Weir-32	Weir	Roof_Chamber20	CB-10		269.00	241.15				0.15							
61	Weir-33	Weir	Roof_Chamber21	CB-10		270.00	241.15				0.15							
62	Weir-34	Weir	Roof_Chamber22	CB-10		264.00	241.15				0.15							
63	Weir-35	Weir	Roof_Chamber23	Forebay_BMP01		250.00	219.00				0.15							
64	Weir-36	Weir	Roof_Chamber24	Forebay_BMP01		243.00	219.00				0.15							
65	Weir-37	Weir	Roof_Chamber25	Out-44		238.00	238.00				0.15							
66	Weir-38	Weir	Roof_Chamber26	Out-43		230.00	230.00				0.15							
67	Weir-39	Weir	Roof_Chamber17	Out-42		228.00	228.00				0.15							
68	Weir-40	Weir	Roof_Chamber16	Out-41		223.00	223.00				0.15							
69	Weir-41	Weir	Roof_Chamber15	Out-40		223.00	223.00				0.15							
70	Weir-42	Weir	Roof_Chamber12	Out-39		220.00	220.00				0.15							
71	Weir-43	Weir	Roof_Chamber11	Out-38		220.00	220.00				0.15							
72	Weir-44	Weir	Roof_Chamber10	Out-37		216.00	216.00				0.15							

Subbasin Hydrology

Subbasin : Pavement-01

Input Data

Area (ac)	0.13
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.13	C	98.00
Composite Area & Weighted CN	0.13		98.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	40	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	0.54	0.00	0.00

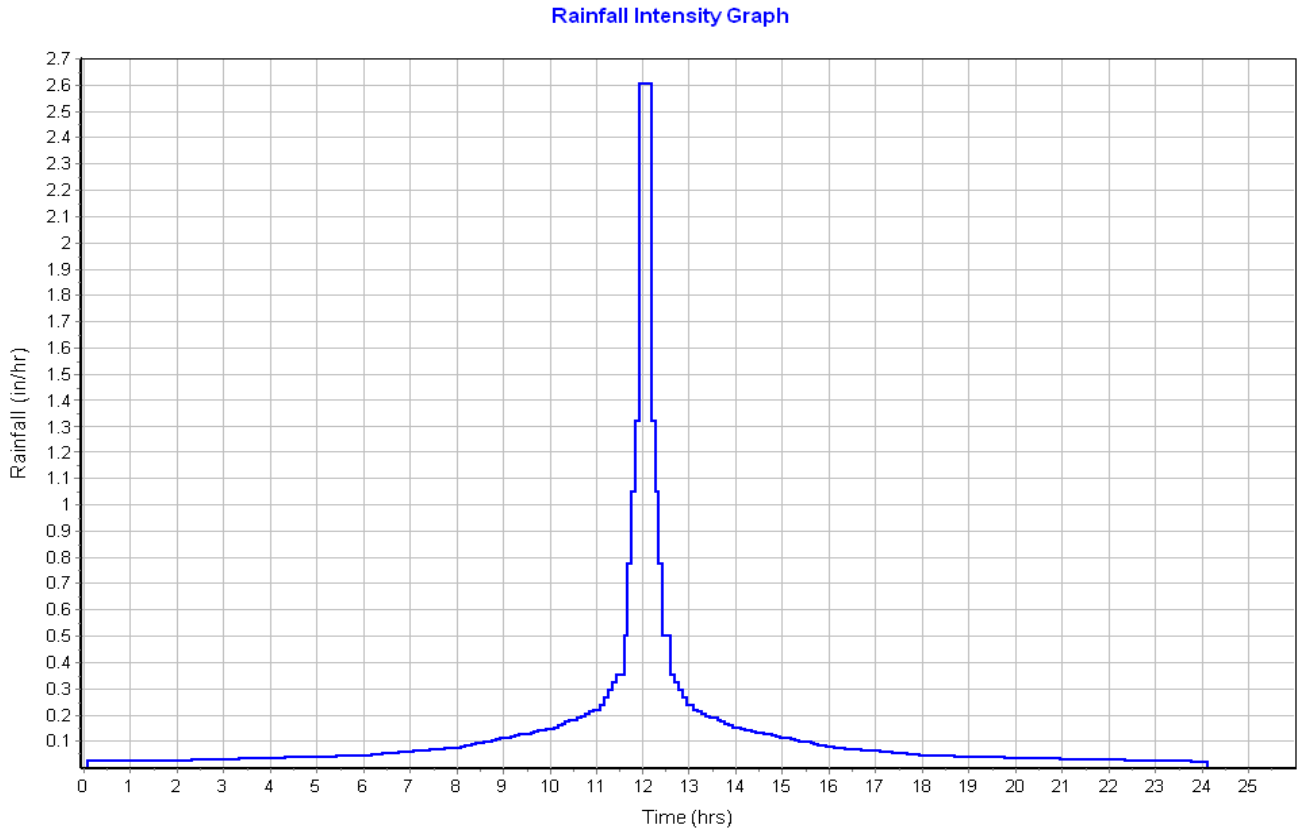
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

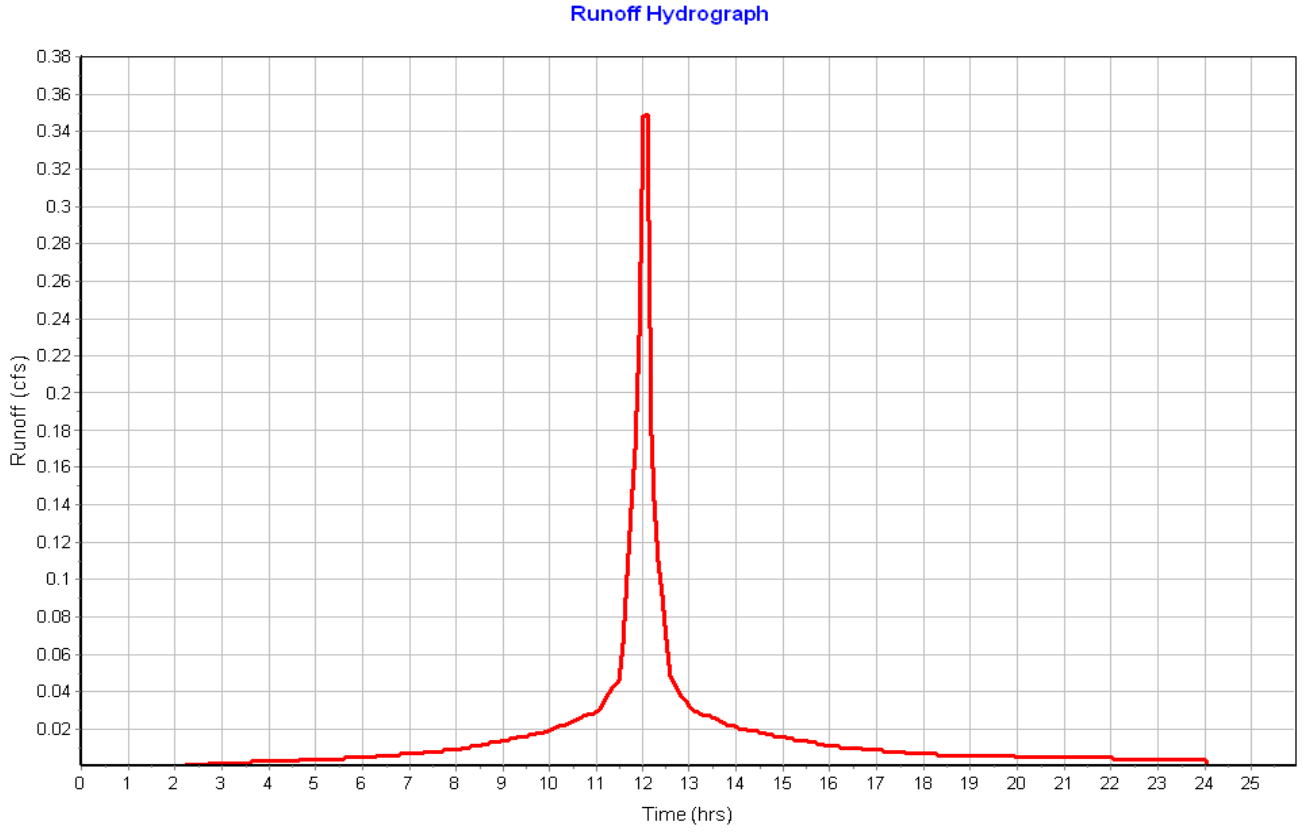
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.35
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Pavement-01





Subbasin : Pavement-02

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.17	0.00	0.00
Computed Flow Time (min) :	0.43	0.00	0.00

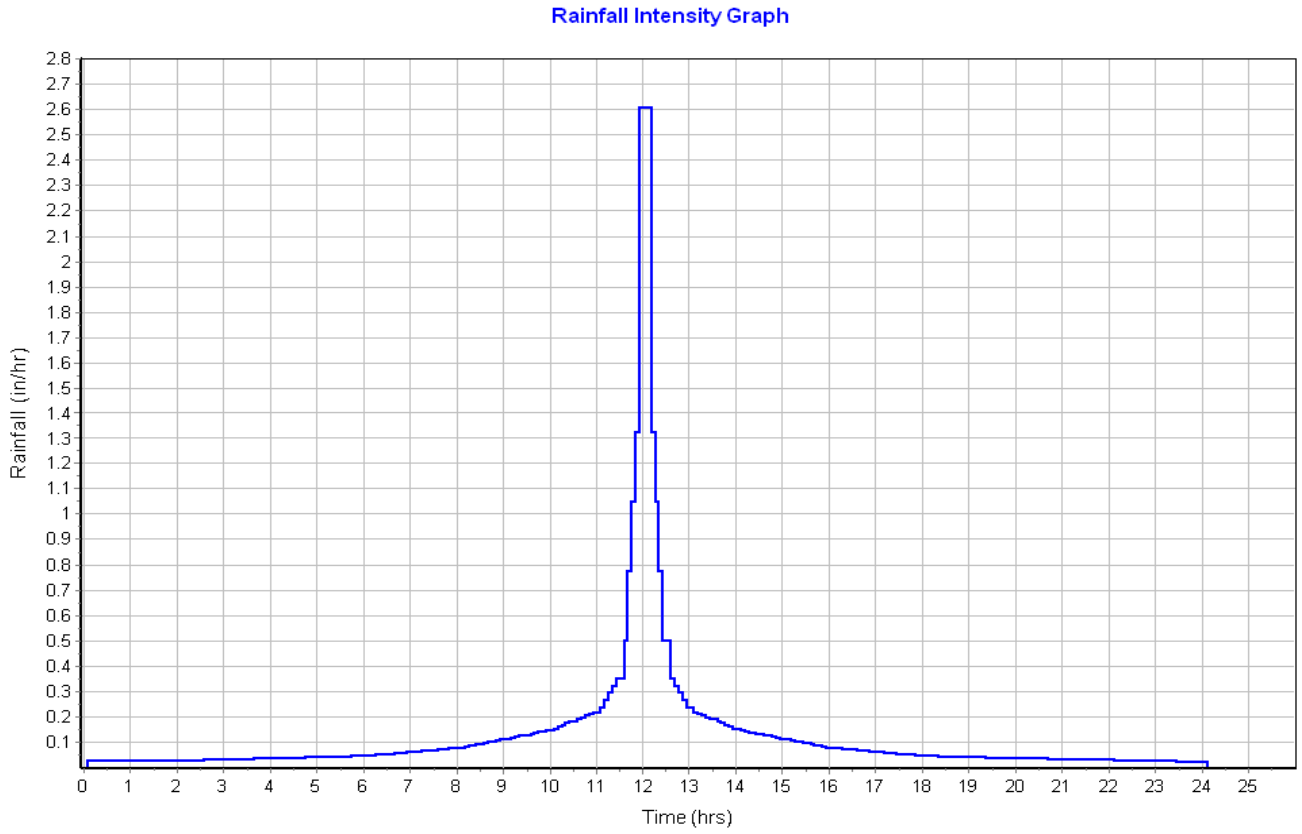
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.82	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

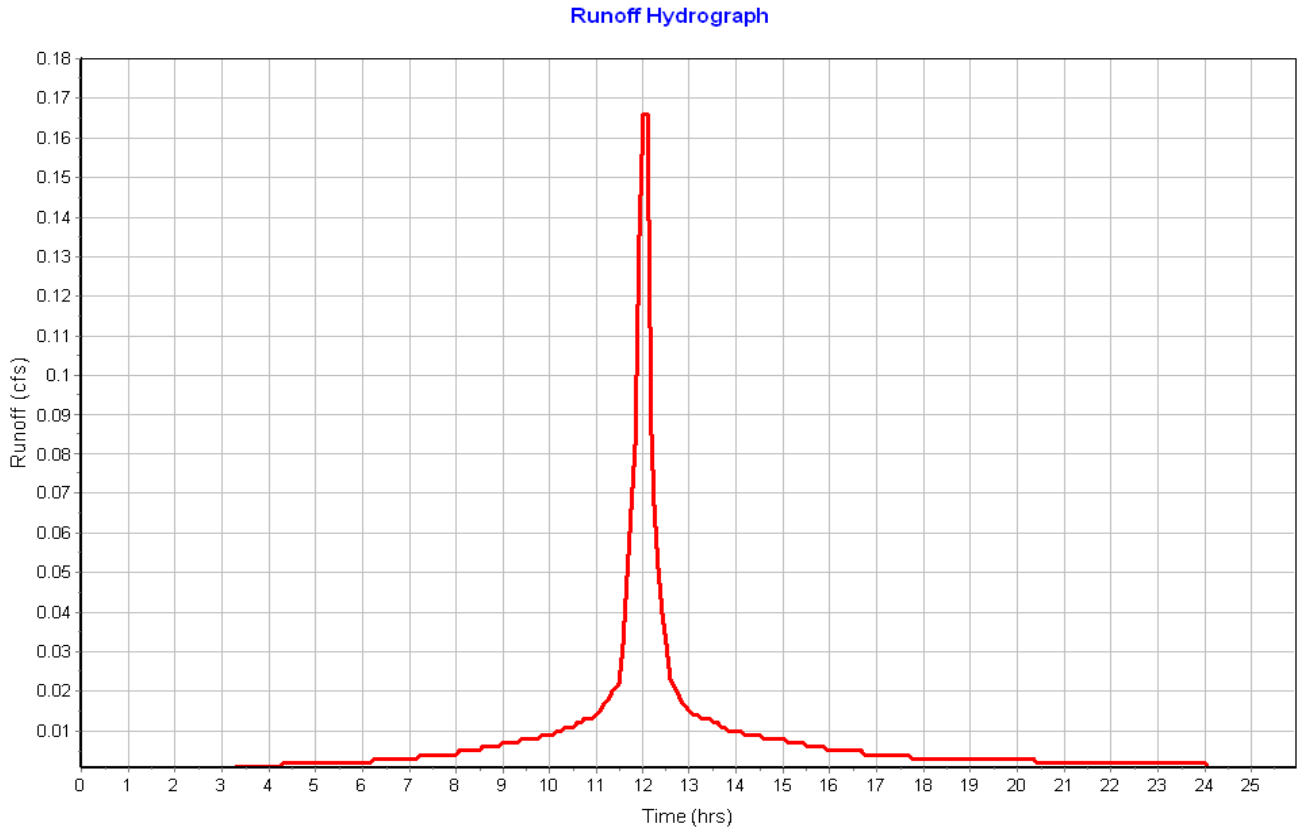
Total TOC (min) 1.34

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.17
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:20

Subbasin : Pavement-02





Subbasin : Pavement-03

Input Data

Area (ac) 0.12
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
Composite Area & Weighted CN	0.12		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	41.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.25	0.00	0.00
Computed Flow Time (min) :	0.56	0.00	0.00

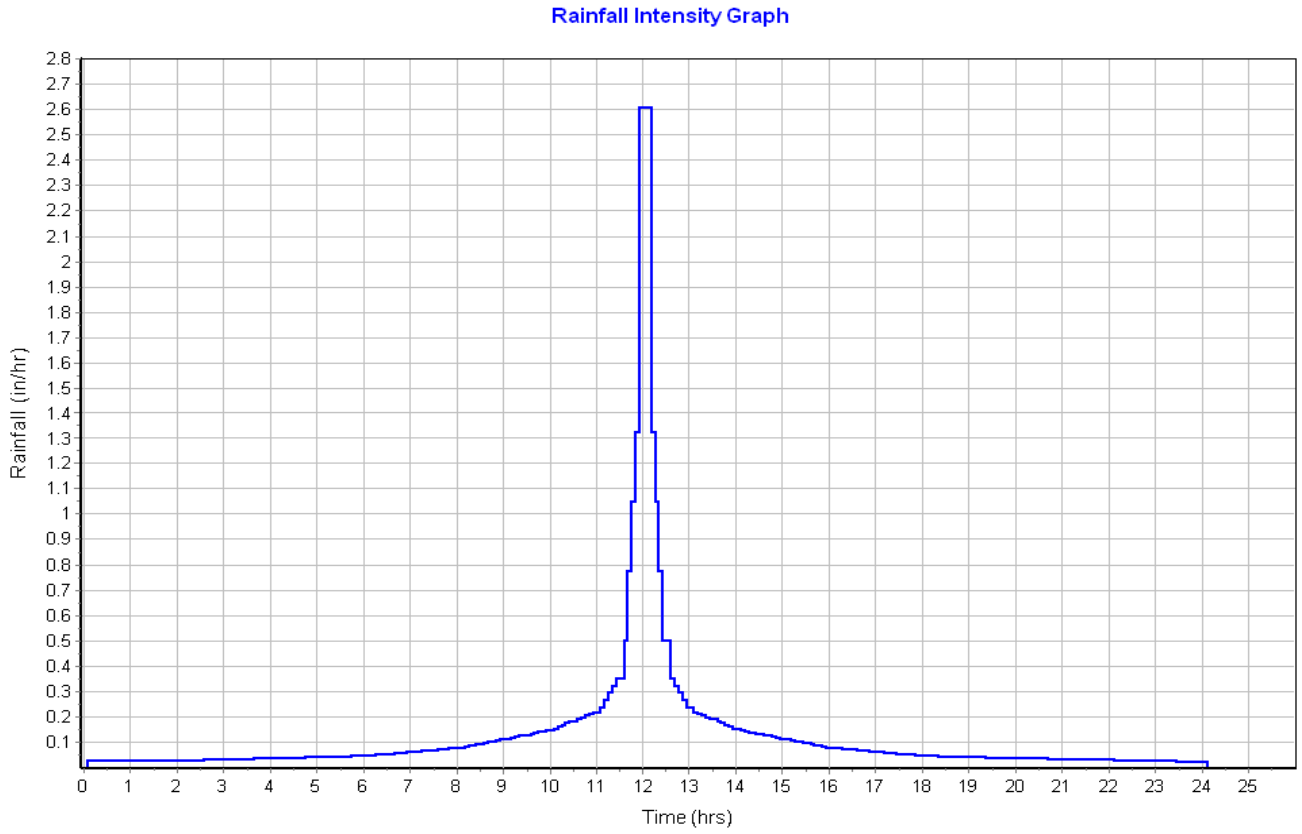
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	266.17	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

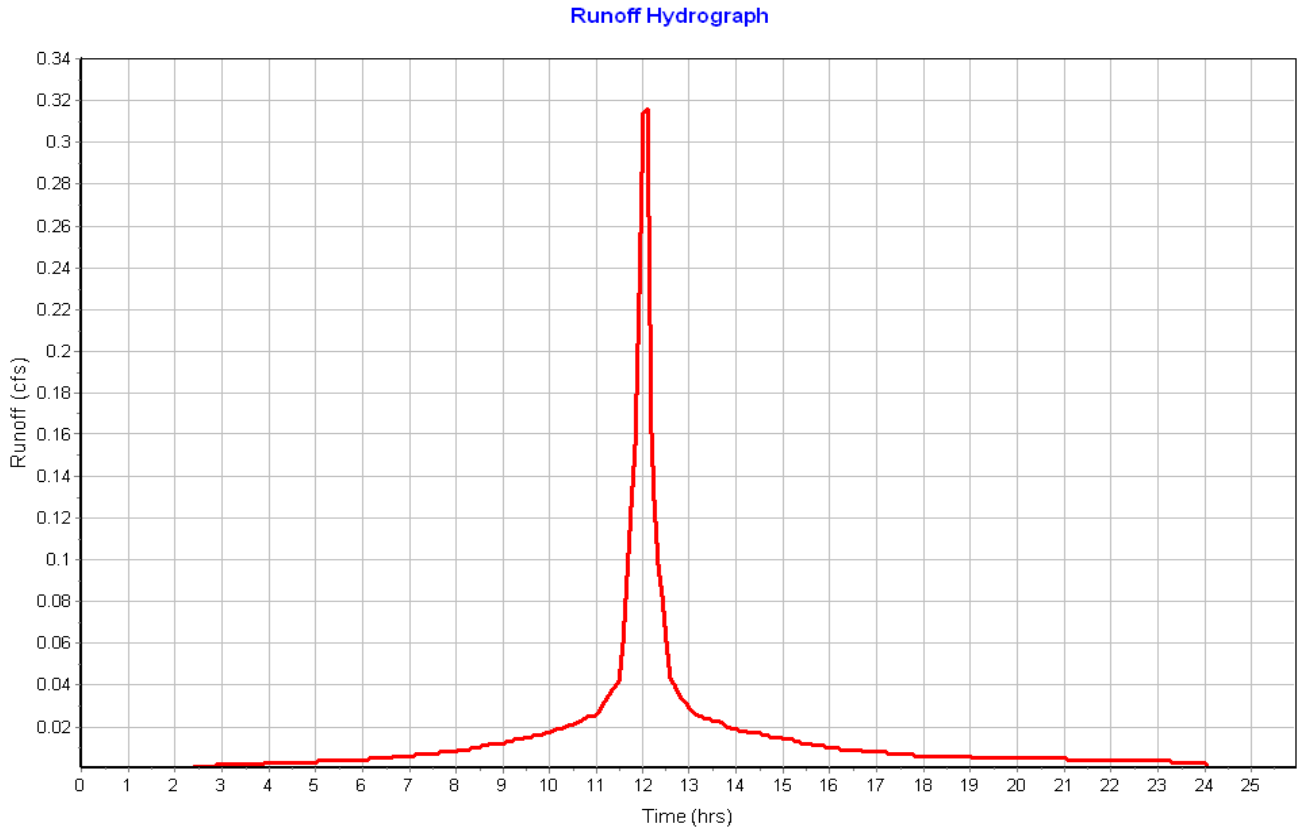
Total TOC (min) 1.45

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:27

Subbasin : Pavement-03





Subbasin : Pavement-04

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	36.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.22	0.00	0.00
Computed Flow Time (min) :	0.50	0.00	0.00

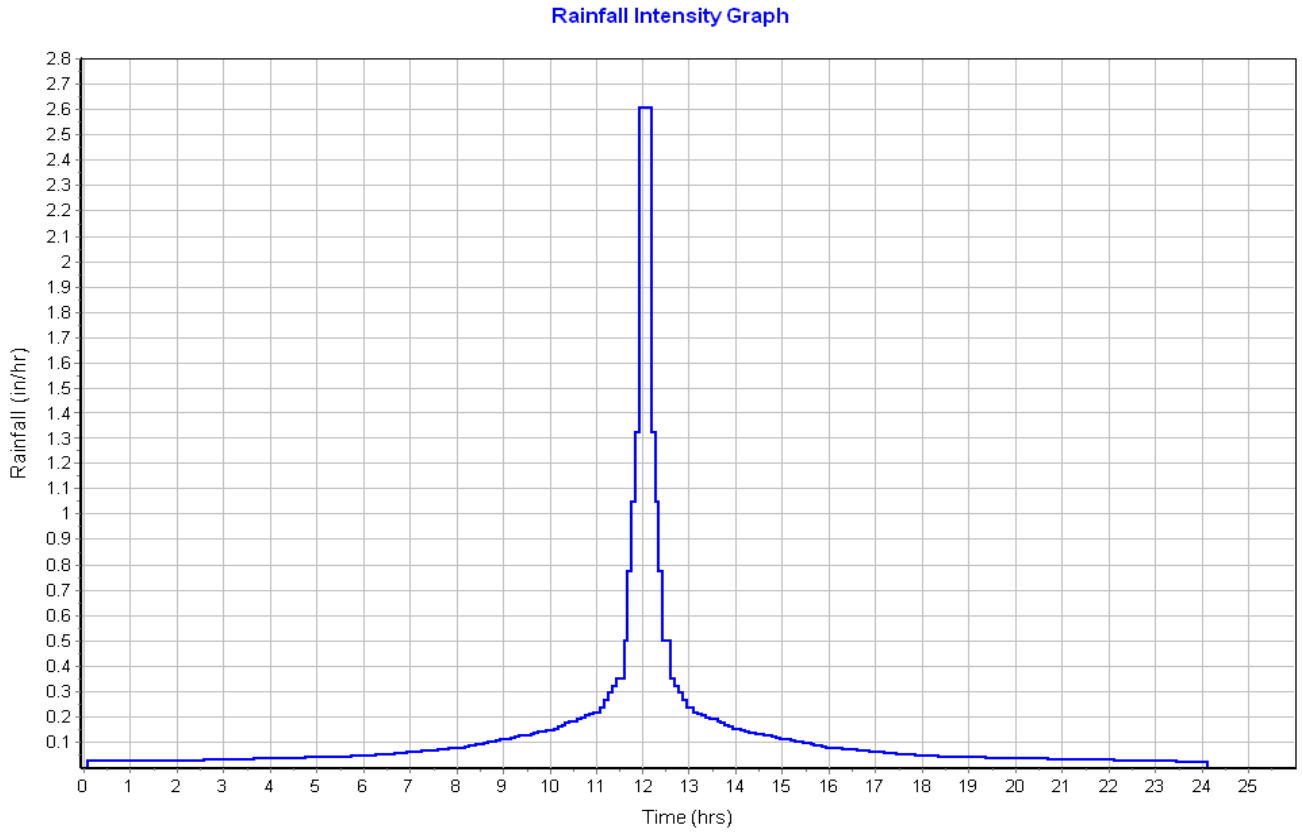
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.91	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

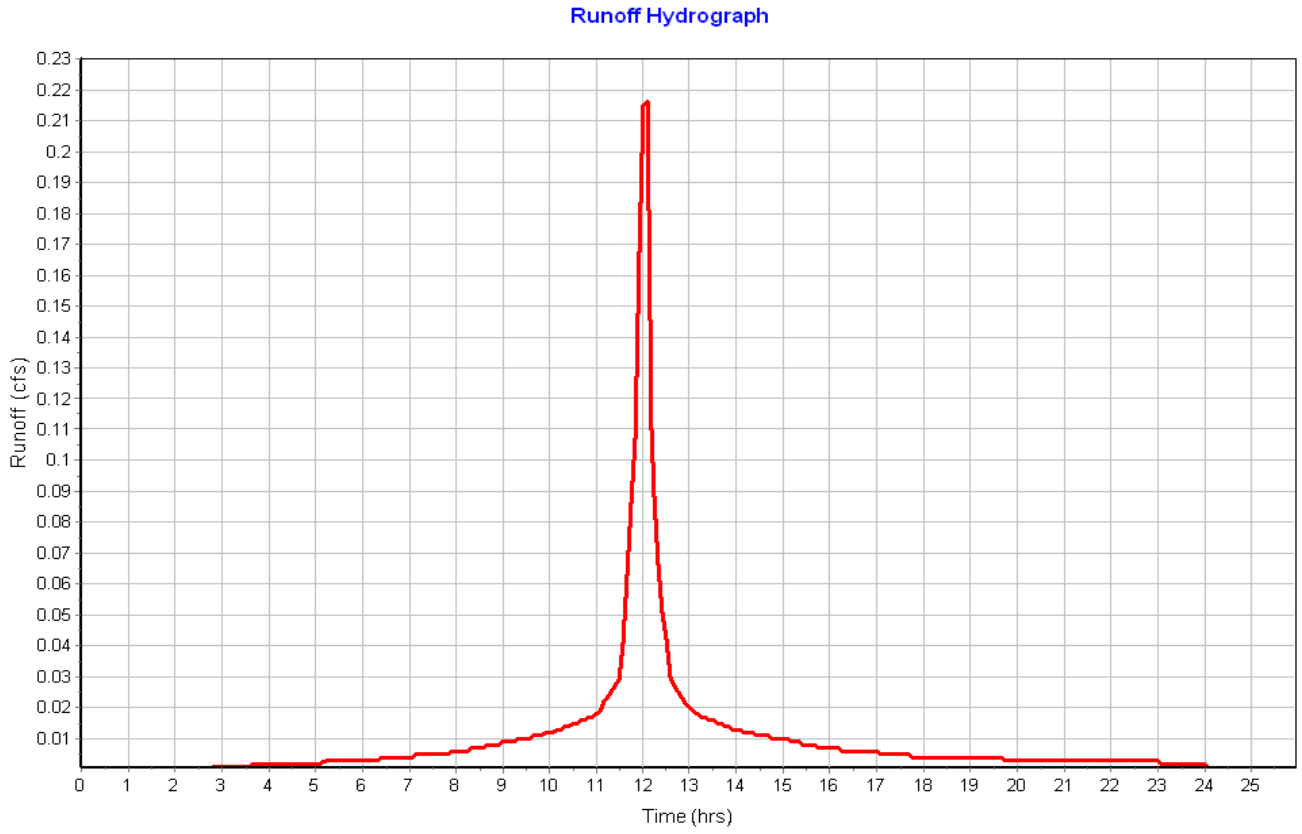
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.22
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Pavement-04





Subbasin : Pavement-05

Input Data

Area (ac) 0.14
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.14	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

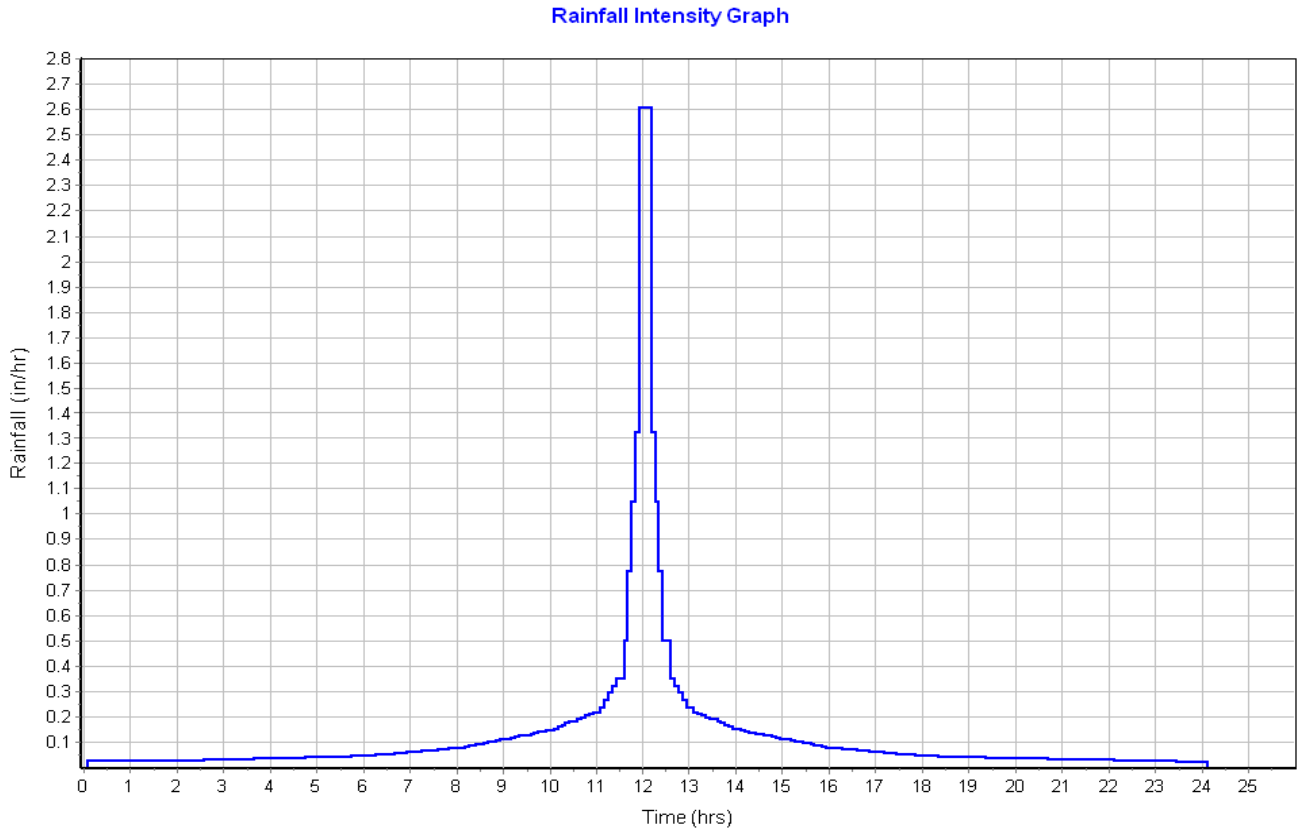
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	272.65	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

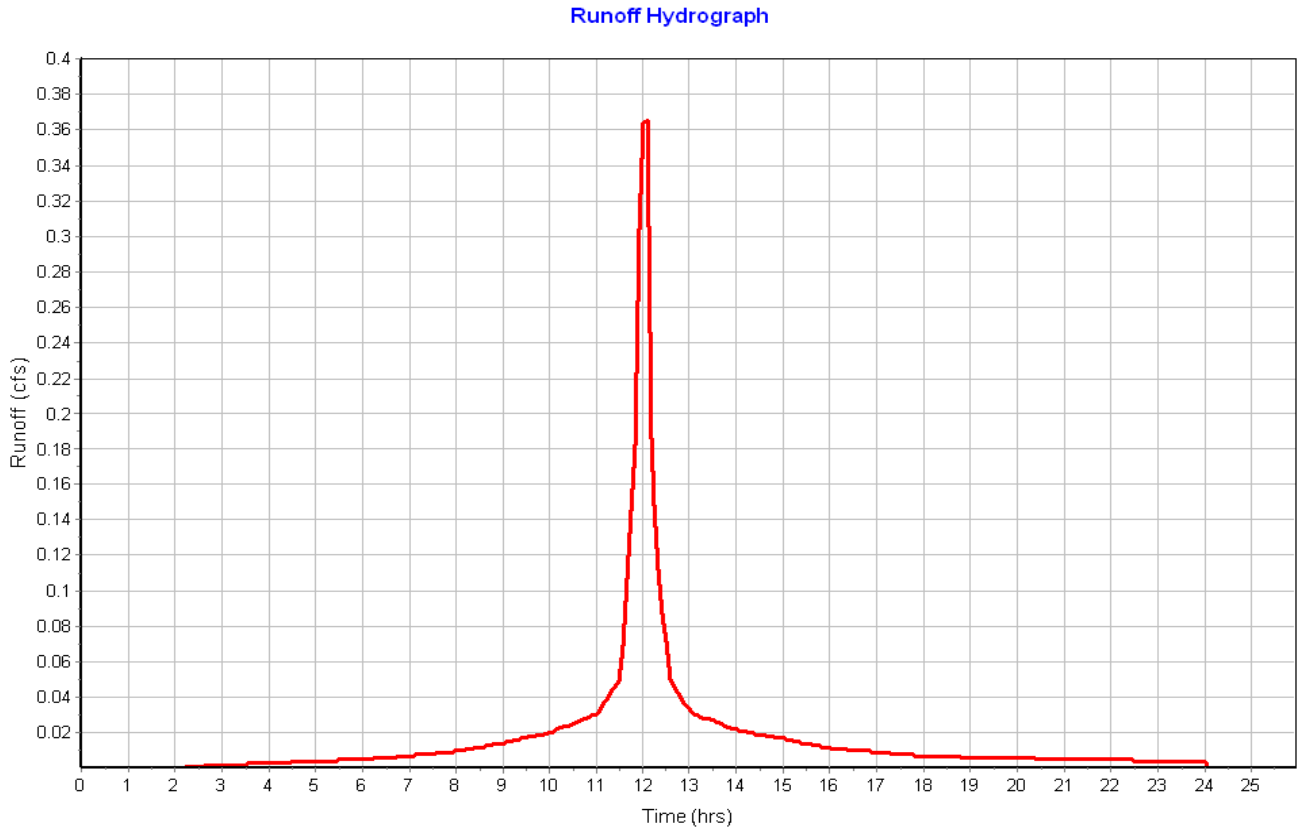
Total TOC (min) 1.27

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.87
Peak Runoff (cfs) 0.37
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:16

Subbasin : Pavement-05





Subbasin : Pavement-06

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.22	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

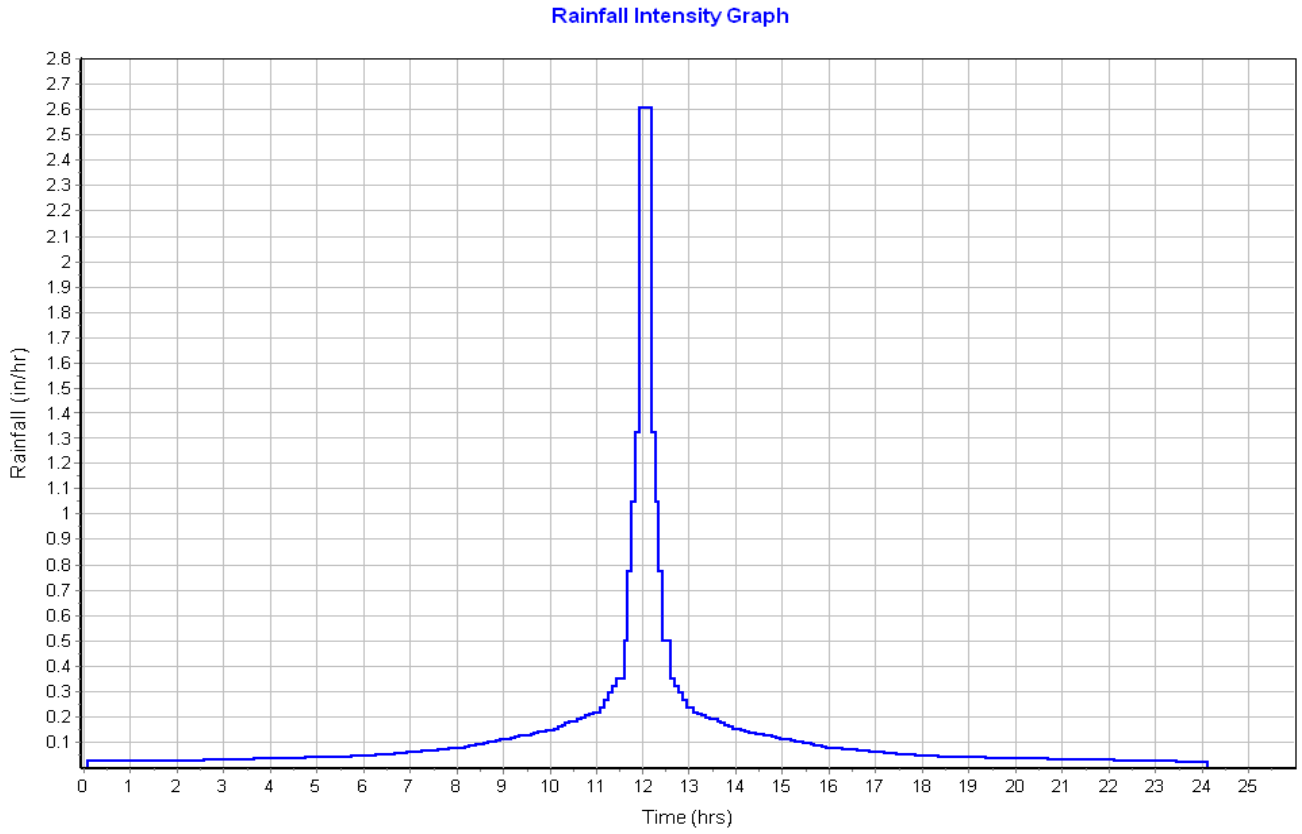
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	220.27	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	0.86	0.00	0.00

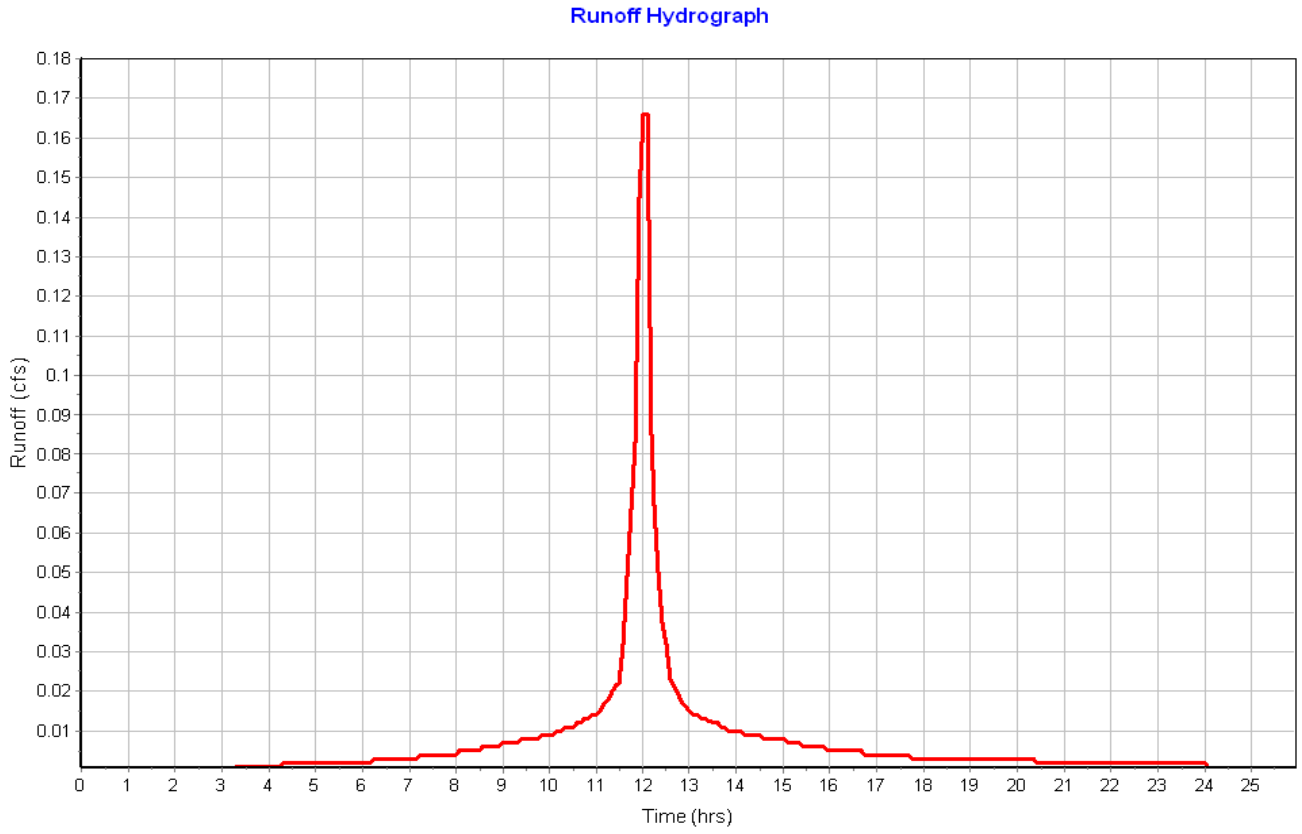
Total TOC (min) 1.07

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.17
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:04

Subbasin : Pavement-06





Subbasin : Pavement-07

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.65	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.01	0.00	0.00
Computed Flow Time (min) :	0.24	0.00	0.00

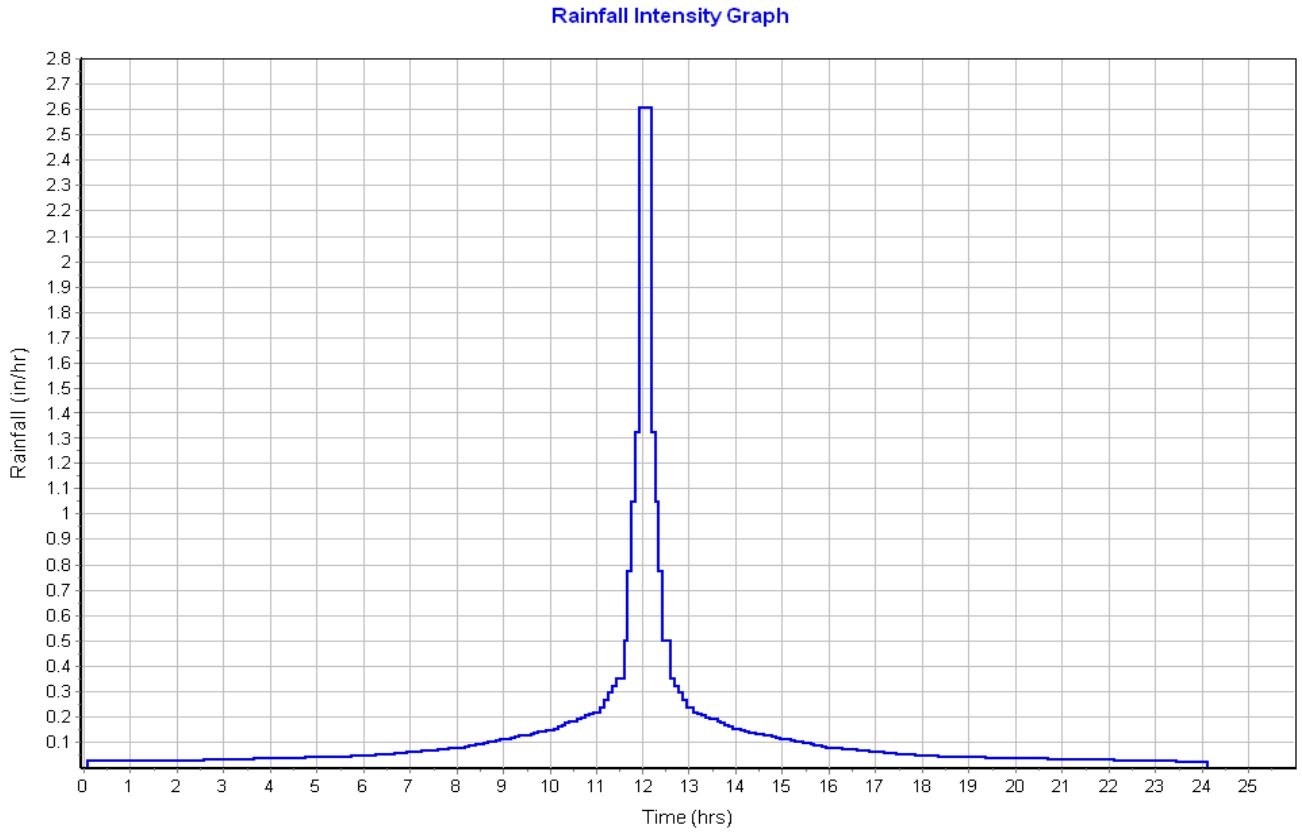
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	211.90	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

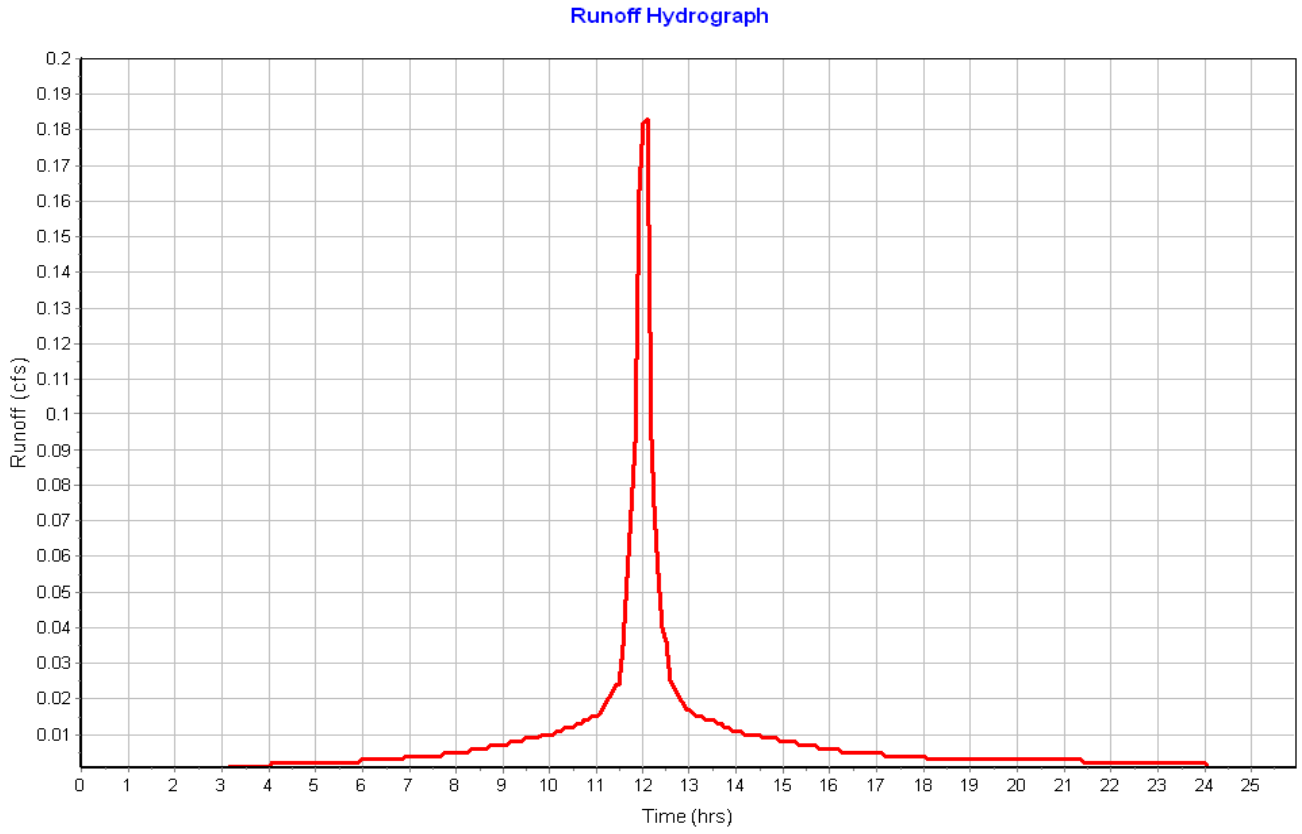
Total TOC (min) 0.97

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.18
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:58

Subbasin : Pavement-07





Subbasin : Pavement-08

Input Data

Area (ac) 0.05
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.97	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

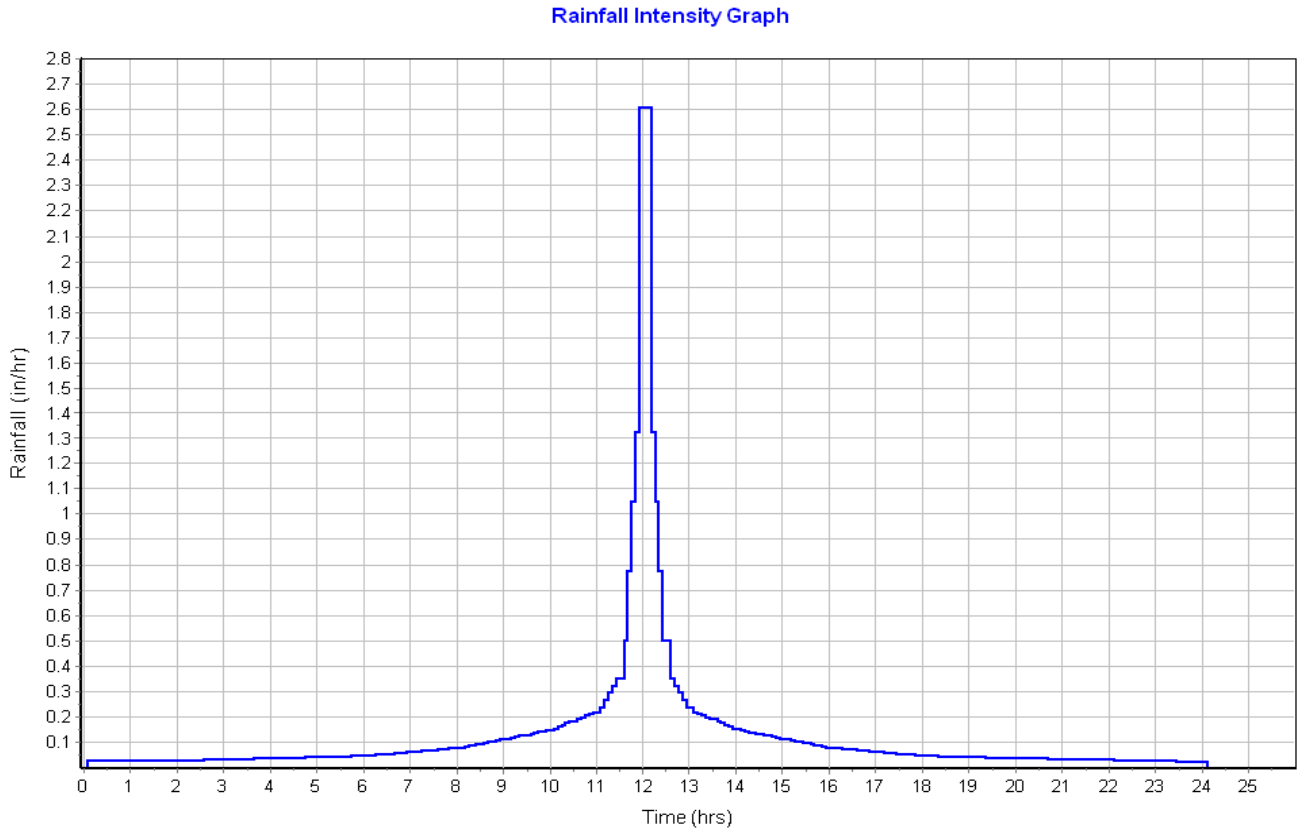
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	226.53	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.78	0.00	0.00

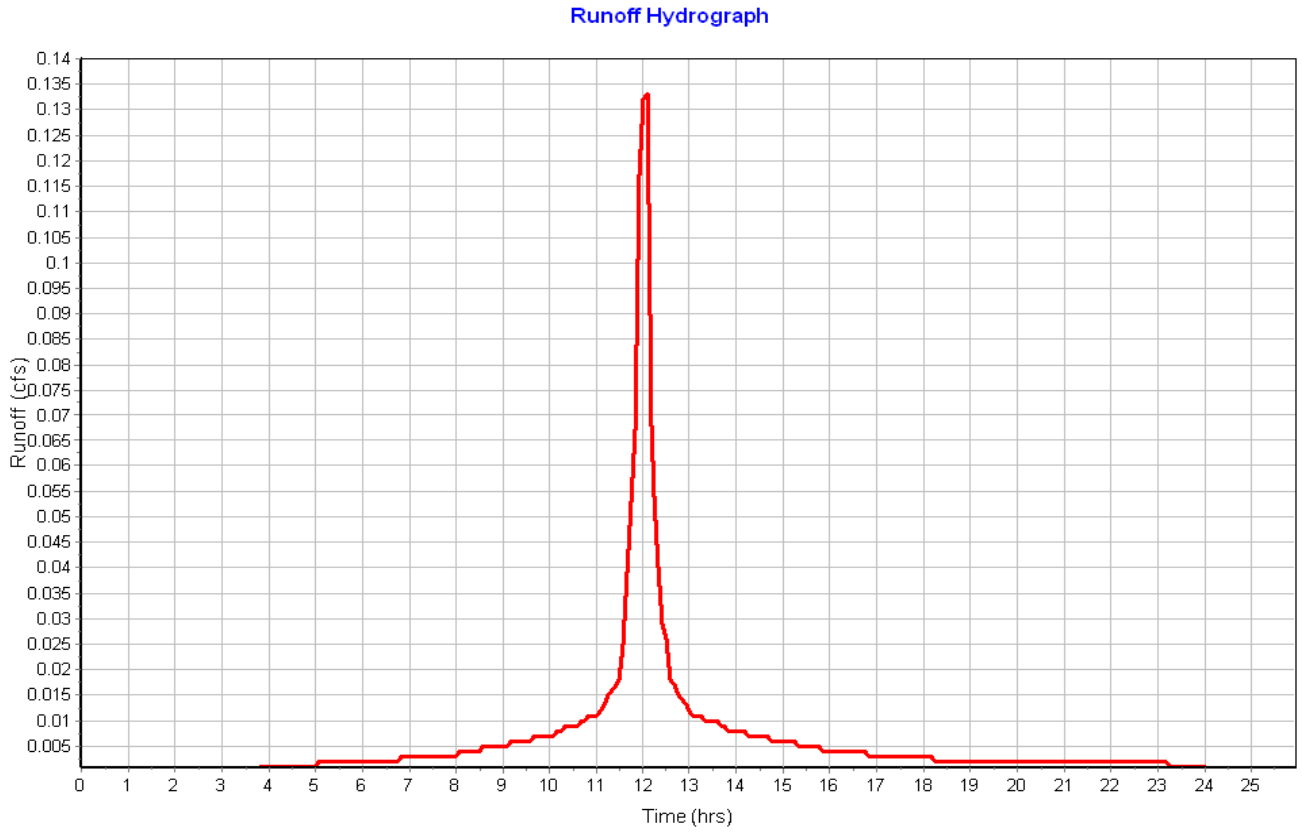
Total TOC (min) 0.98

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.84
Peak Runoff (cfs) 0.13
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:59

Subbasin : Pavement-08





Subbasin : Pavement-09

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	82.18	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.54	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

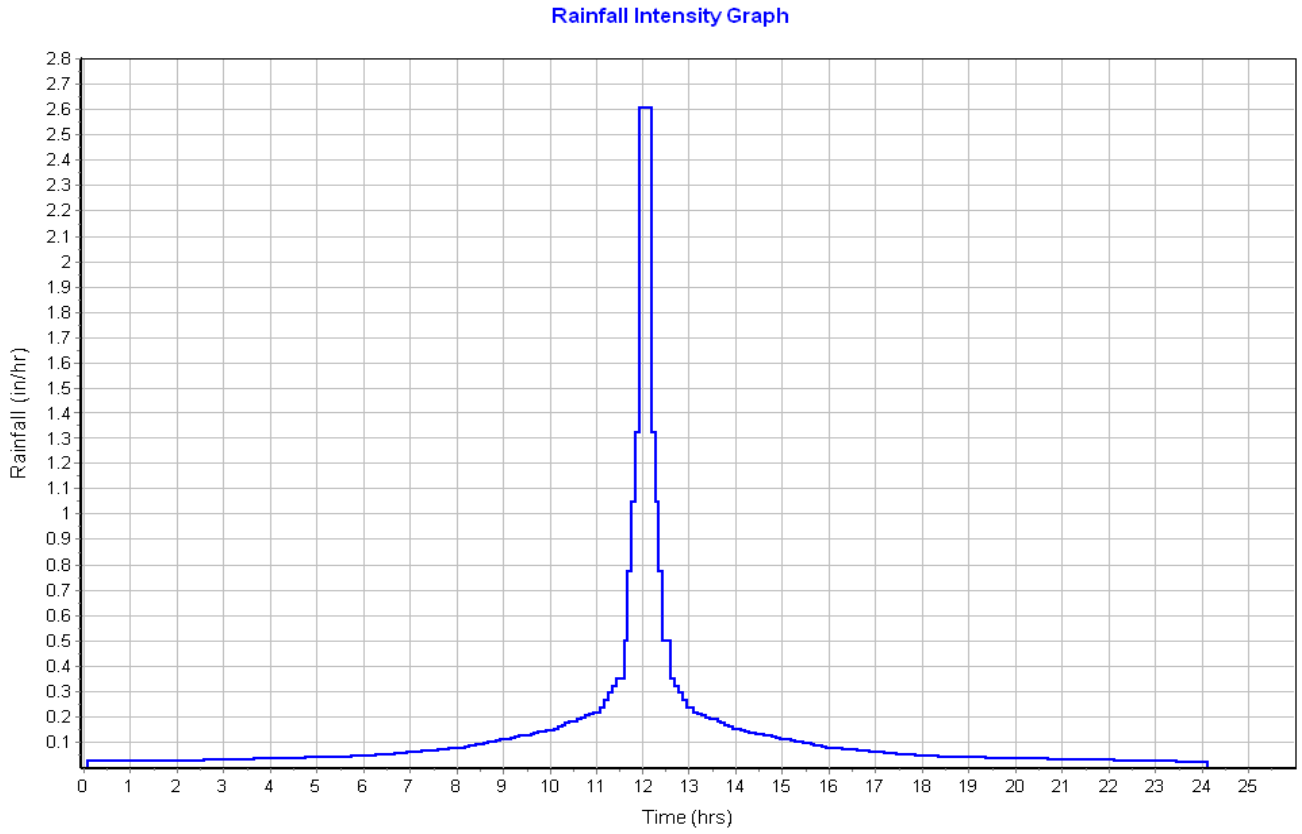
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	198.77	0.00	0.00
Slope (%) :	2.02	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.89	0.00	0.00
Computed Flow Time (min) :	1.15	0.00	0.00

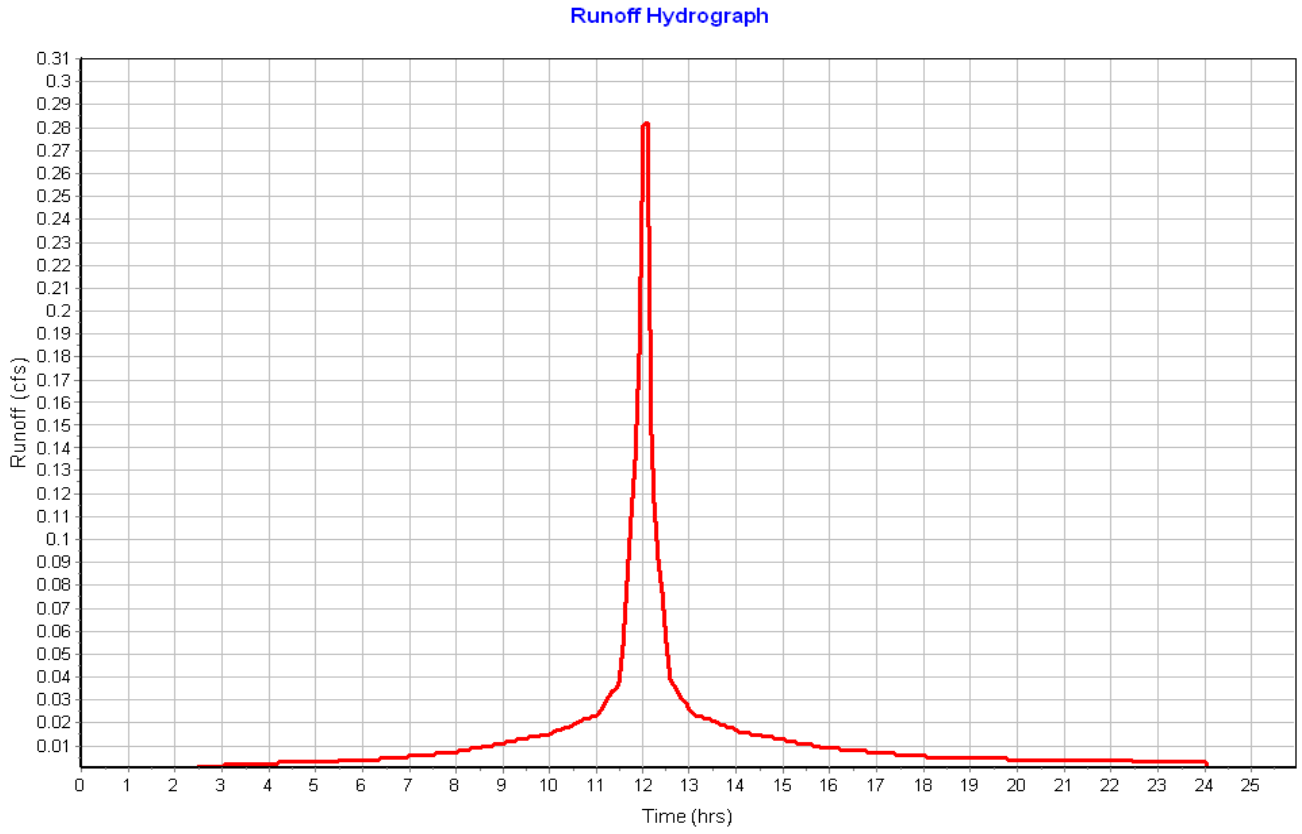
Total TOC (min) 2.04

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.28
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:02

Subbasin : Pavement-09





Subbasin : Pavement-10

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	23.24	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.11	0.00	0.00
Computed Flow Time (min) :	0.35	0.00	0.00

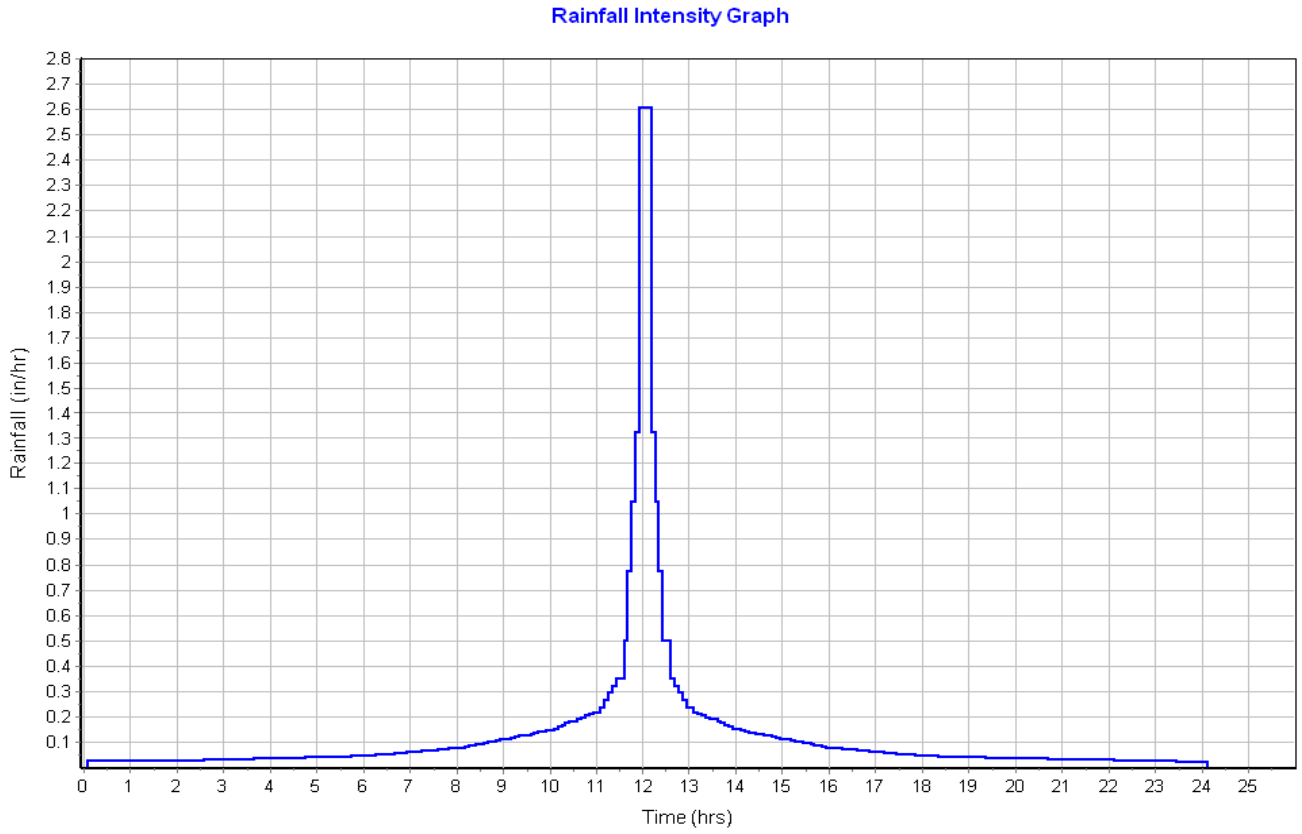
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	256.65	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.08	0.00	0.00
Computed Flow Time (min) :	1.39	0.00	0.00

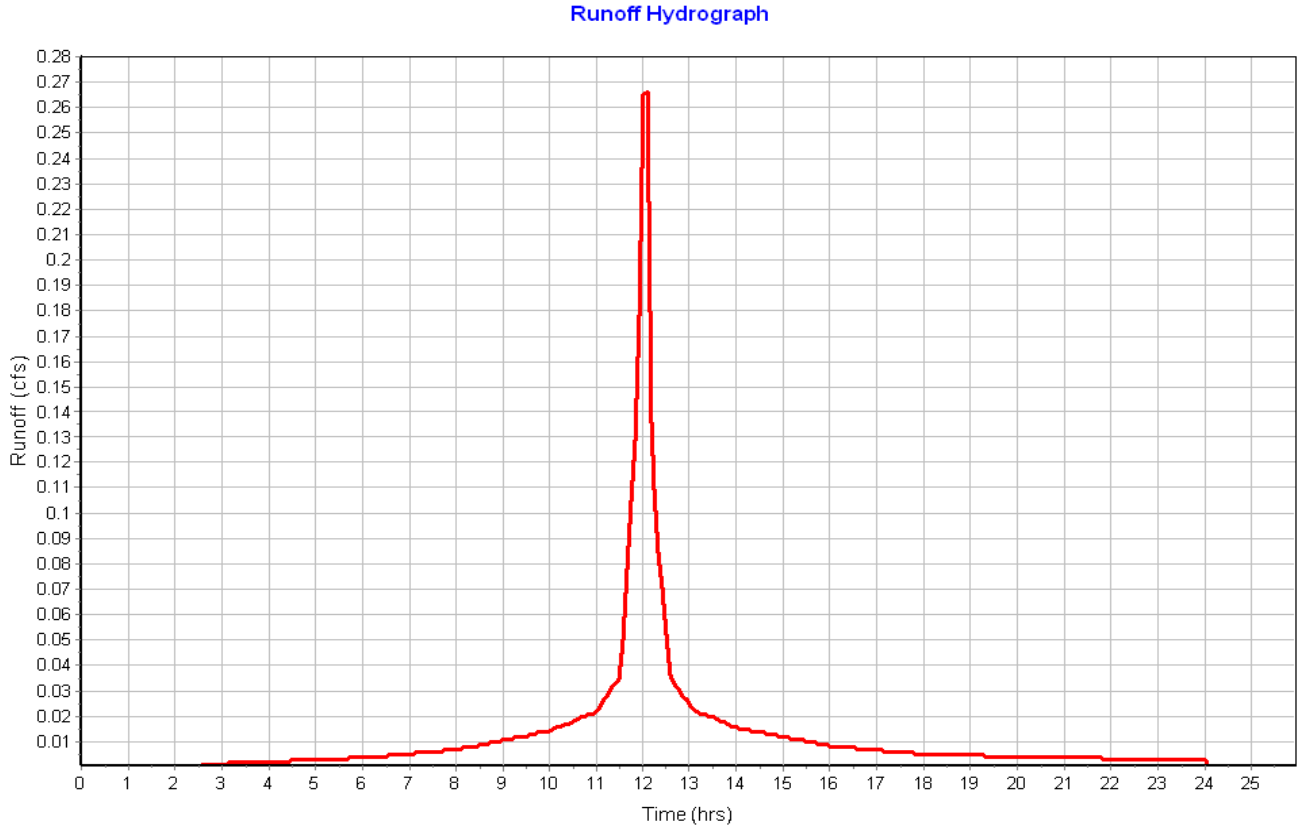
Total TOC (min) 1.74

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.27
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:44

Subbasin : Pavement-10





Subbasin : Pavement-11

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.30	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.96	0.00	0.00
Computed Flow Time (min) :	0.20	0.00	0.00

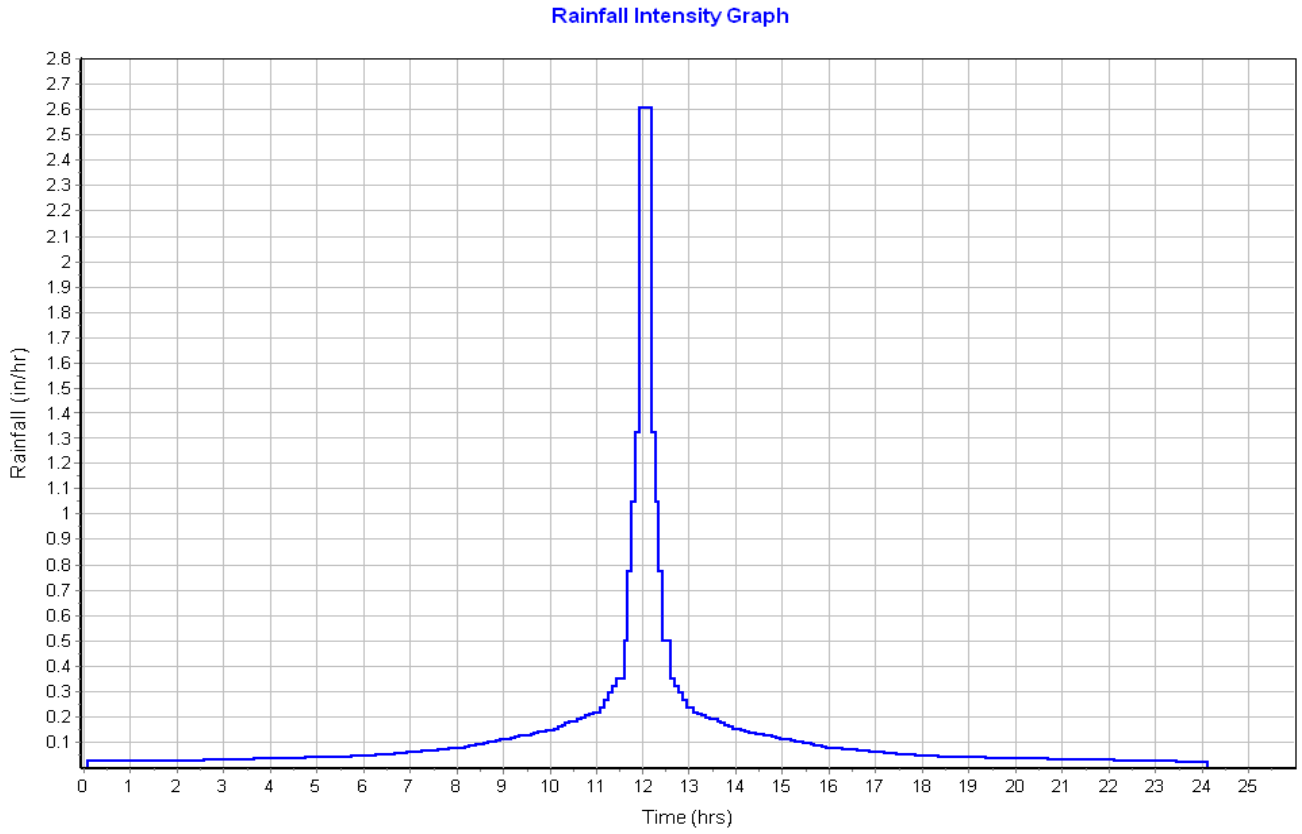
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.19	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.08	0.00	0.00
Computed Flow Time (min) :	1.42	0.00	0.00

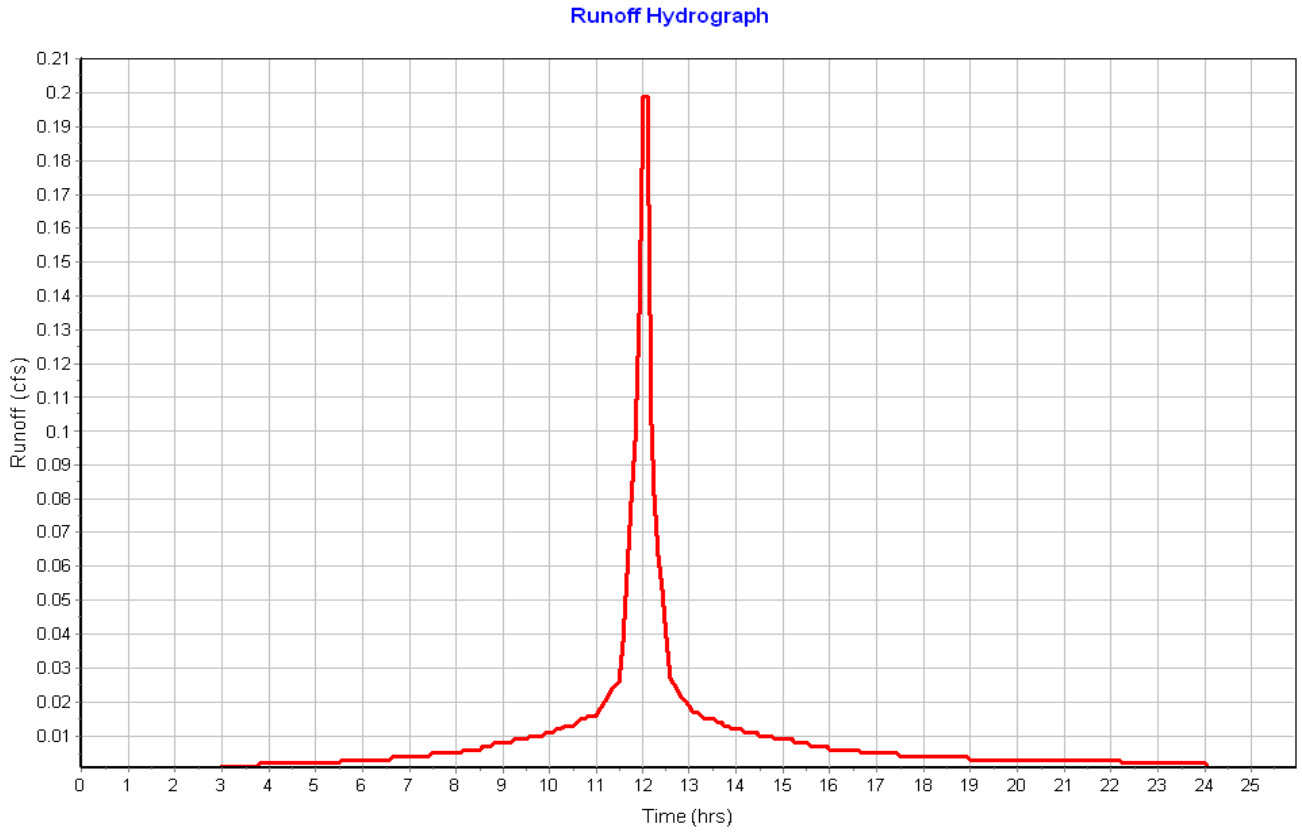
Total TOC (min) 1.61

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.20
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:37

Subbasin : Pavement-11





Subbasin : Pavement-12

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.20	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

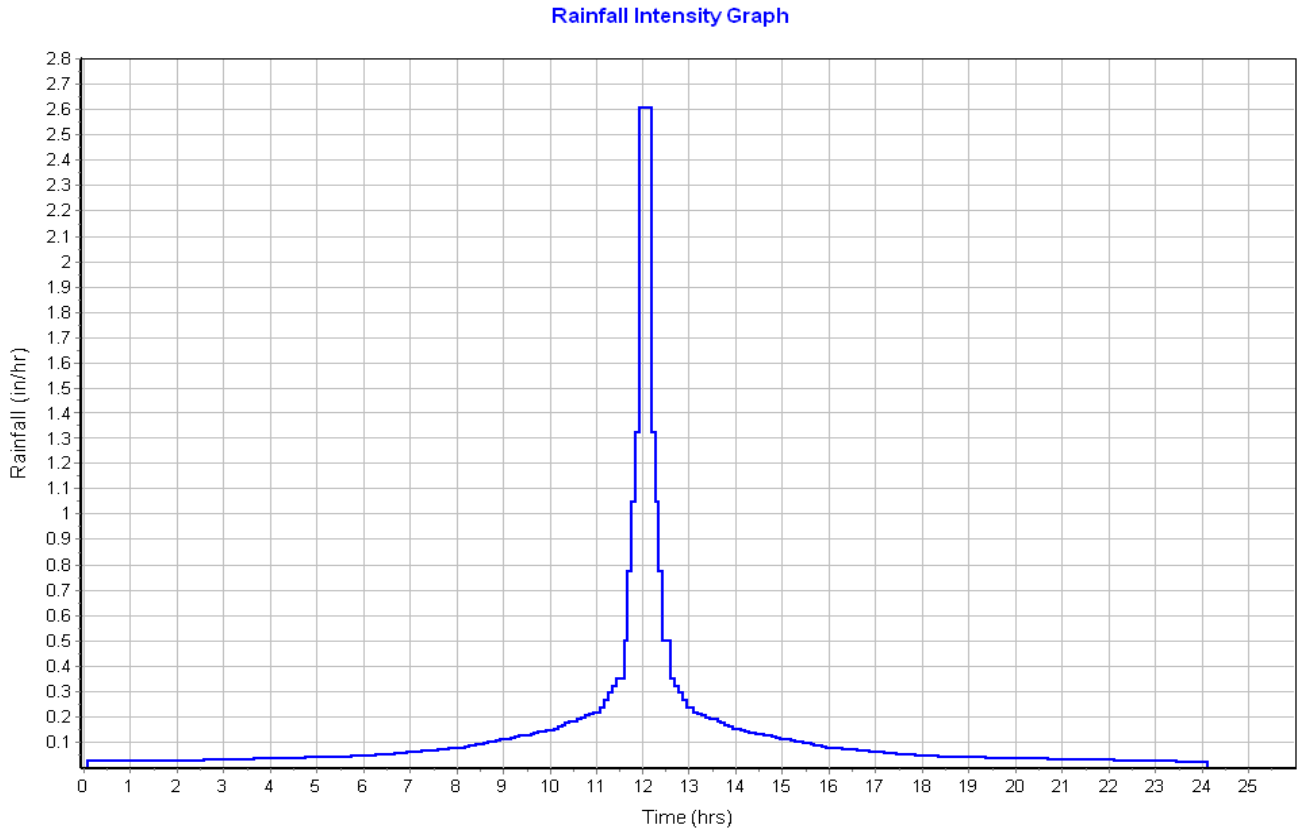
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	264.62	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.08	0.00	0.00
Computed Flow Time (min) :	1.43	0.00	0.00

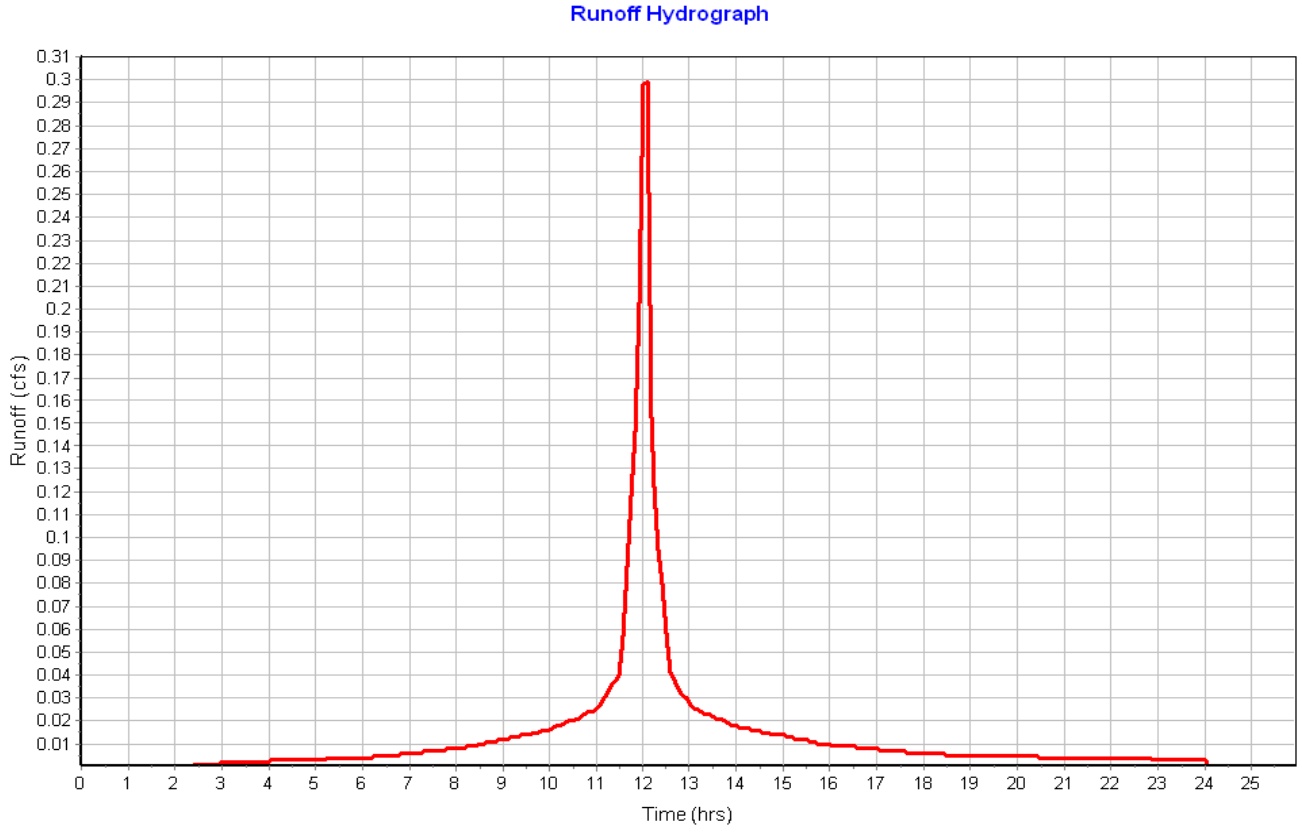
Total TOC (min) 1.64

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.30
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:38

Subbasin : Pavement-12





Subbasin : Pavement-13

Input Data

Area (ac)	0.11
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	117.15	0.00	0.00
Slope (%) :	1.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.44	0.00	0.00
Computed Flow Time (min) :	1.36	0.00	0.00

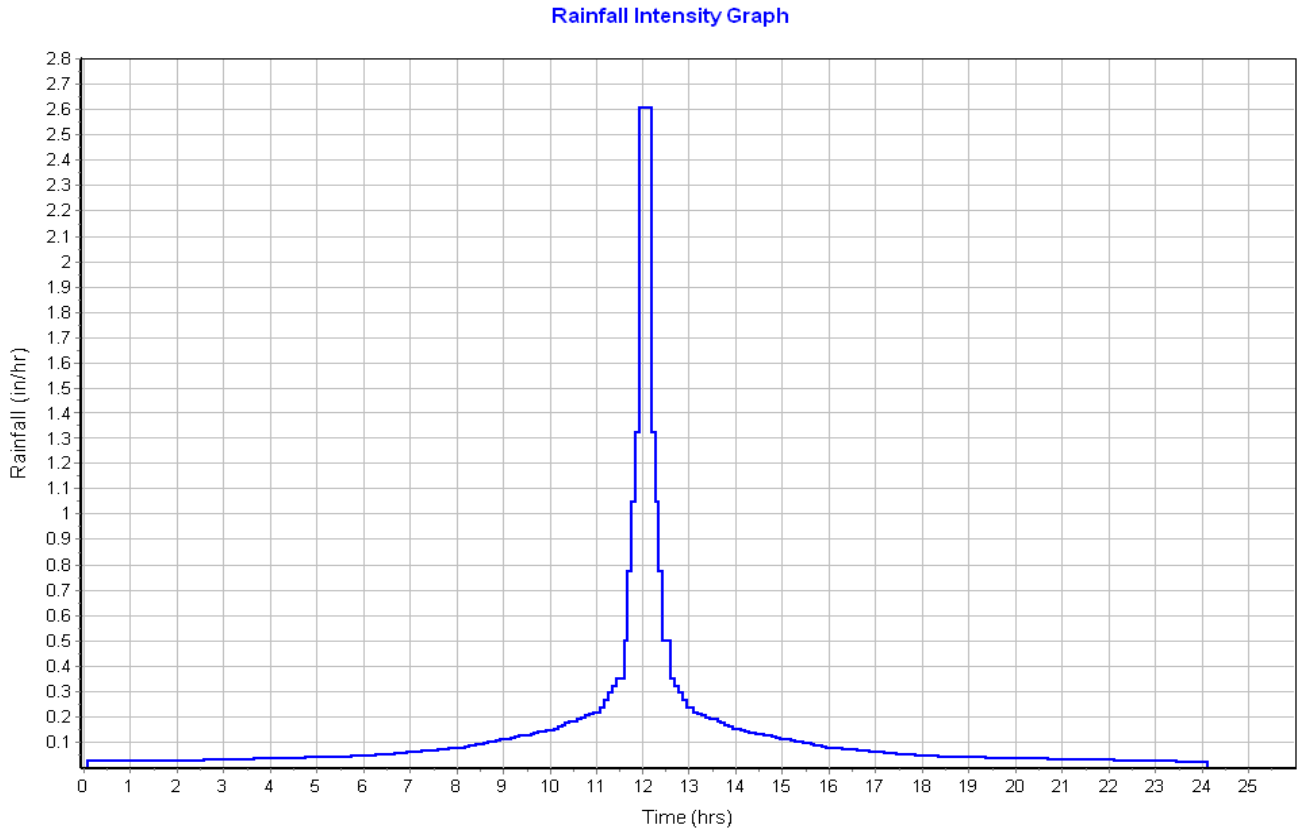
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	133.60	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	0.63	0.00	0.00

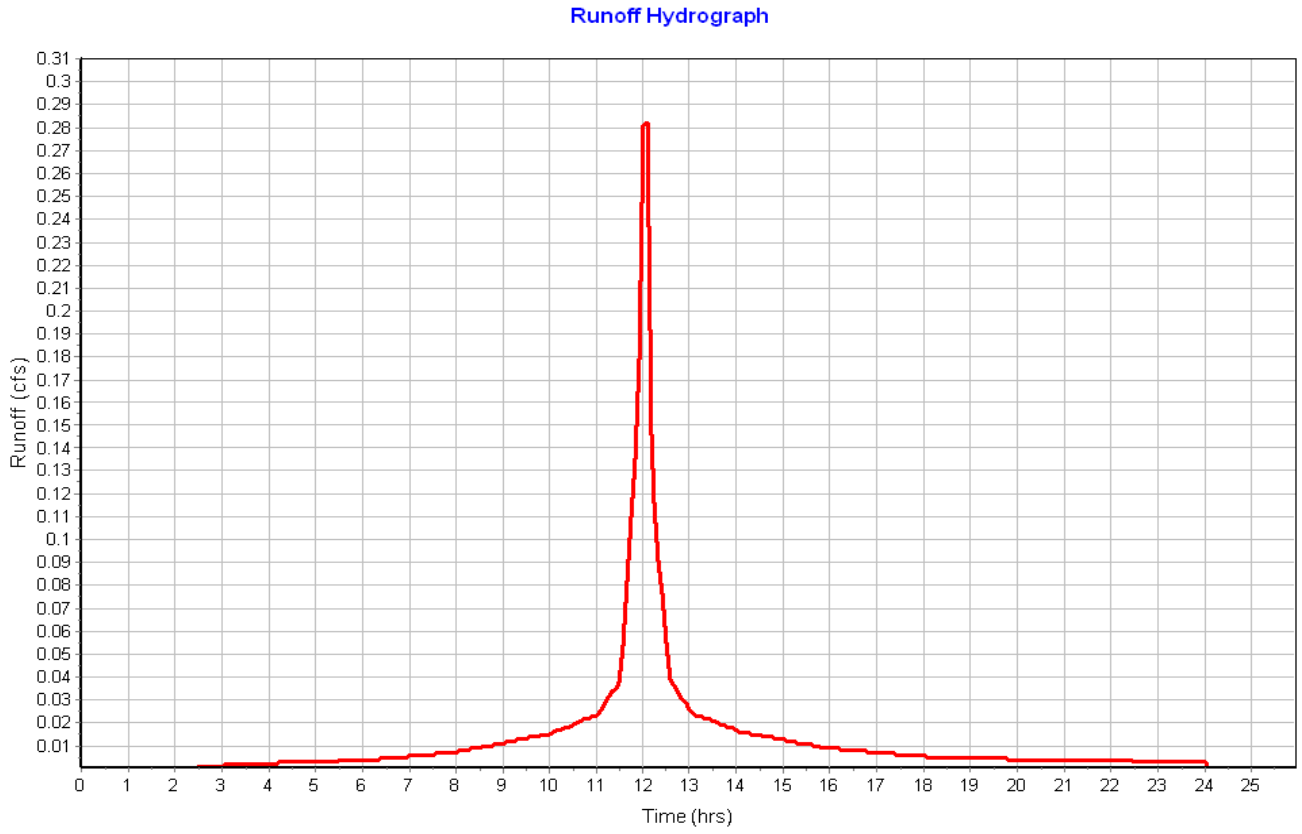
Total TOC (min) 1.99

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.28
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:59

Subbasin : Pavement-13





Subbasin : Pavement-14

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.39	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.99	0.00	0.00
Computed Flow Time (min) :	0.22	0.00	0.00

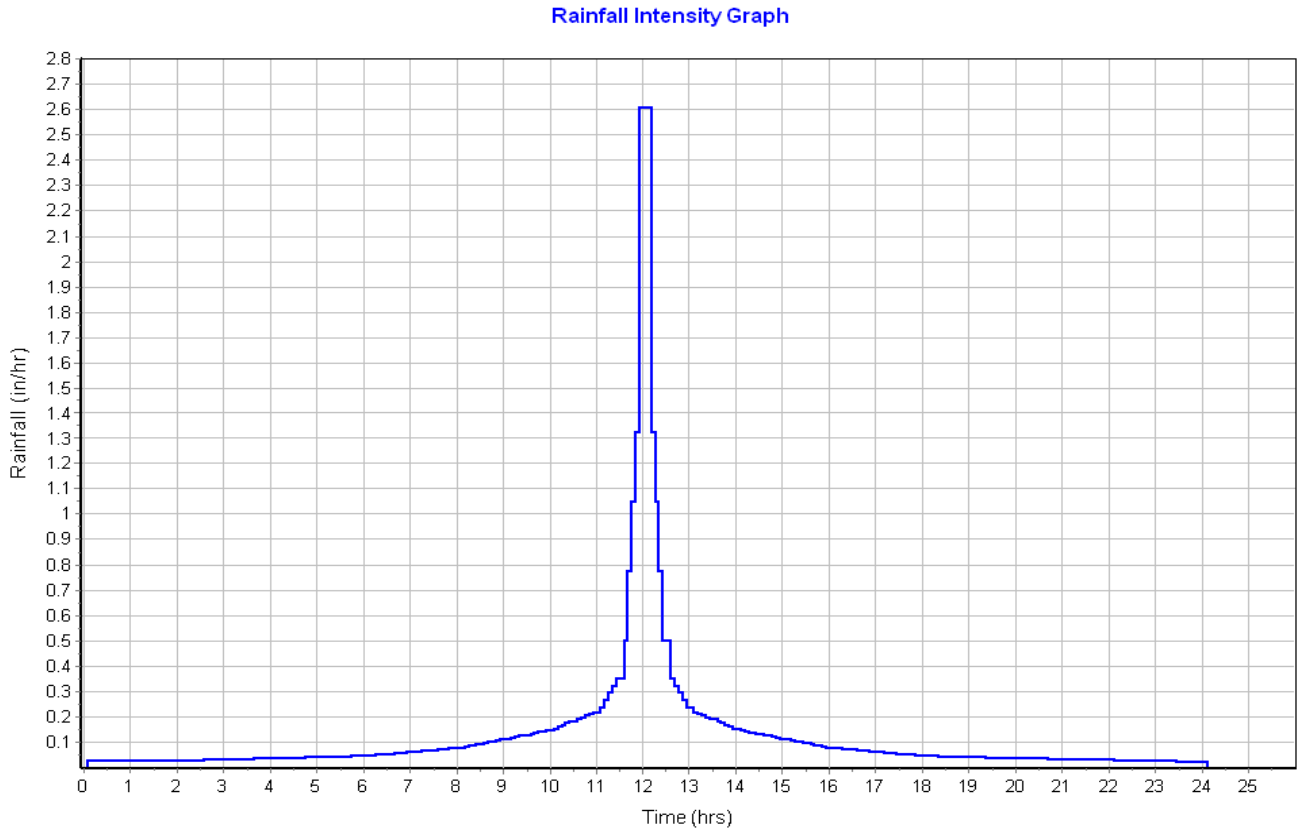
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	229.13	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.08	0.00	0.00

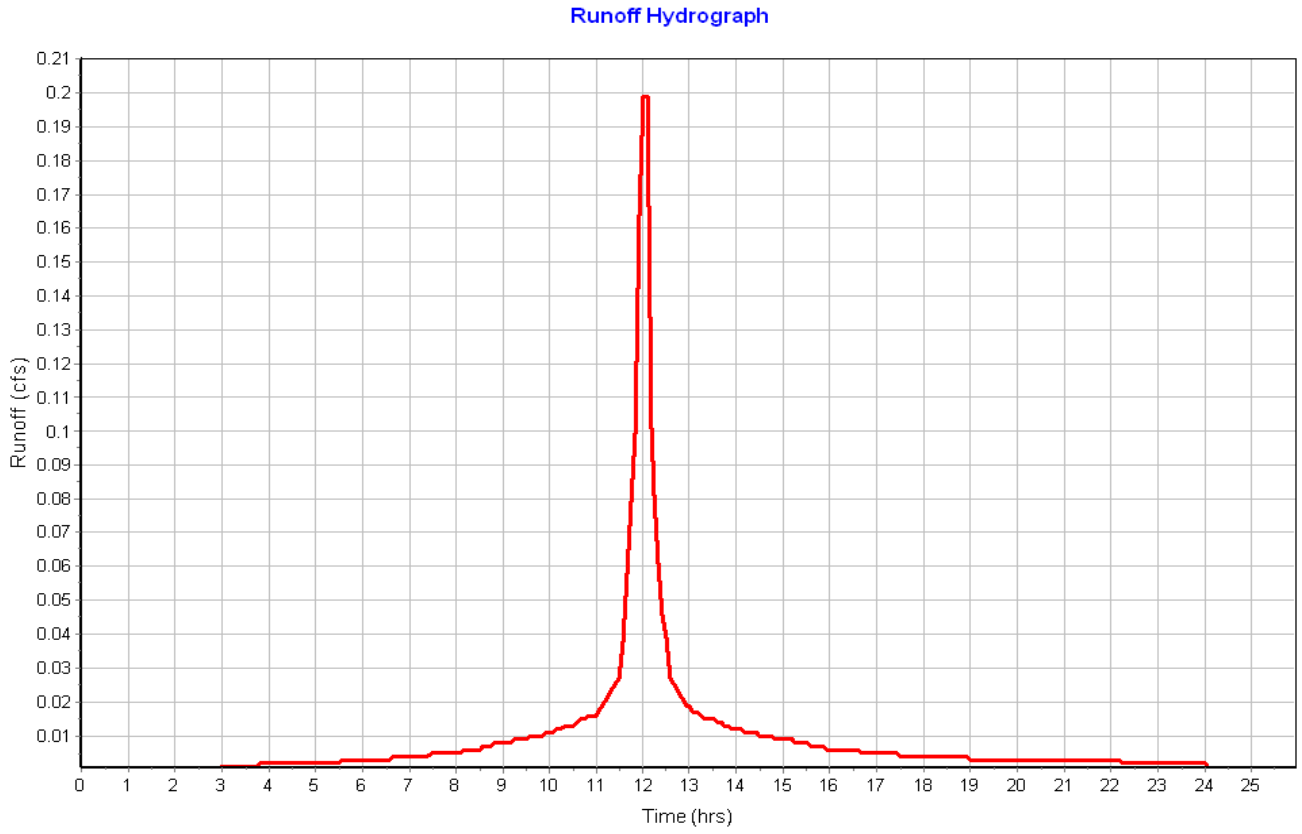
Total TOC (min) 1.31

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.20
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:19

Subbasin : Pavement-14





Subbasin : Pavement-15

Input Data

Area (ac) 0.17
Peak Rate Factor 484.00
Weighted Curve Number 92.87
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.18		92.87

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	.4	.01
Flow Length (ft) :	22.40	76.05	35.47
Slope (%) :	2	2.63	2
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	1.10	0.08	1.21
Computed Flow Time (min) :	0.34	15.44	0.49

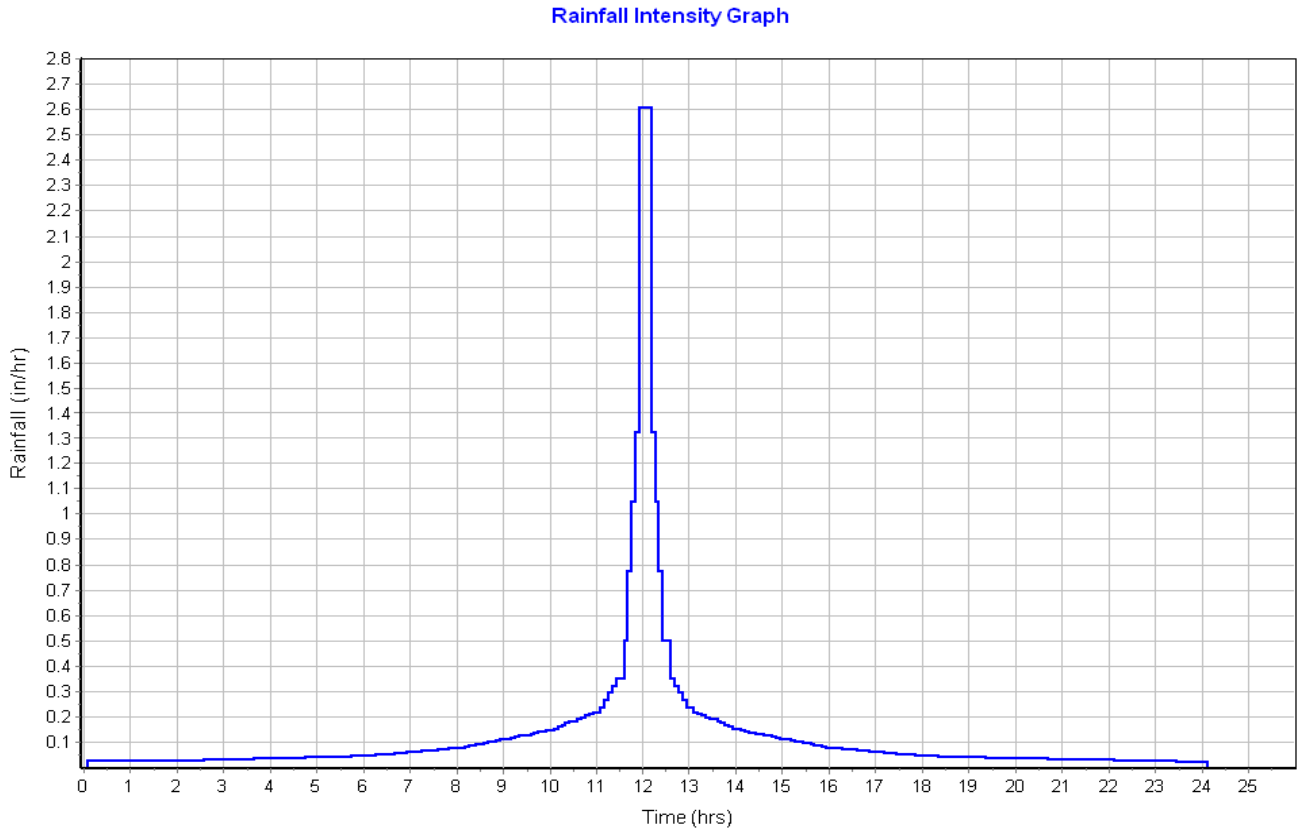
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	133.69	0.00	0.00
Slope (%) :	4.5	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.31	0.00	0.00
Computed Flow Time (min) :	0.52	0.00	0.00

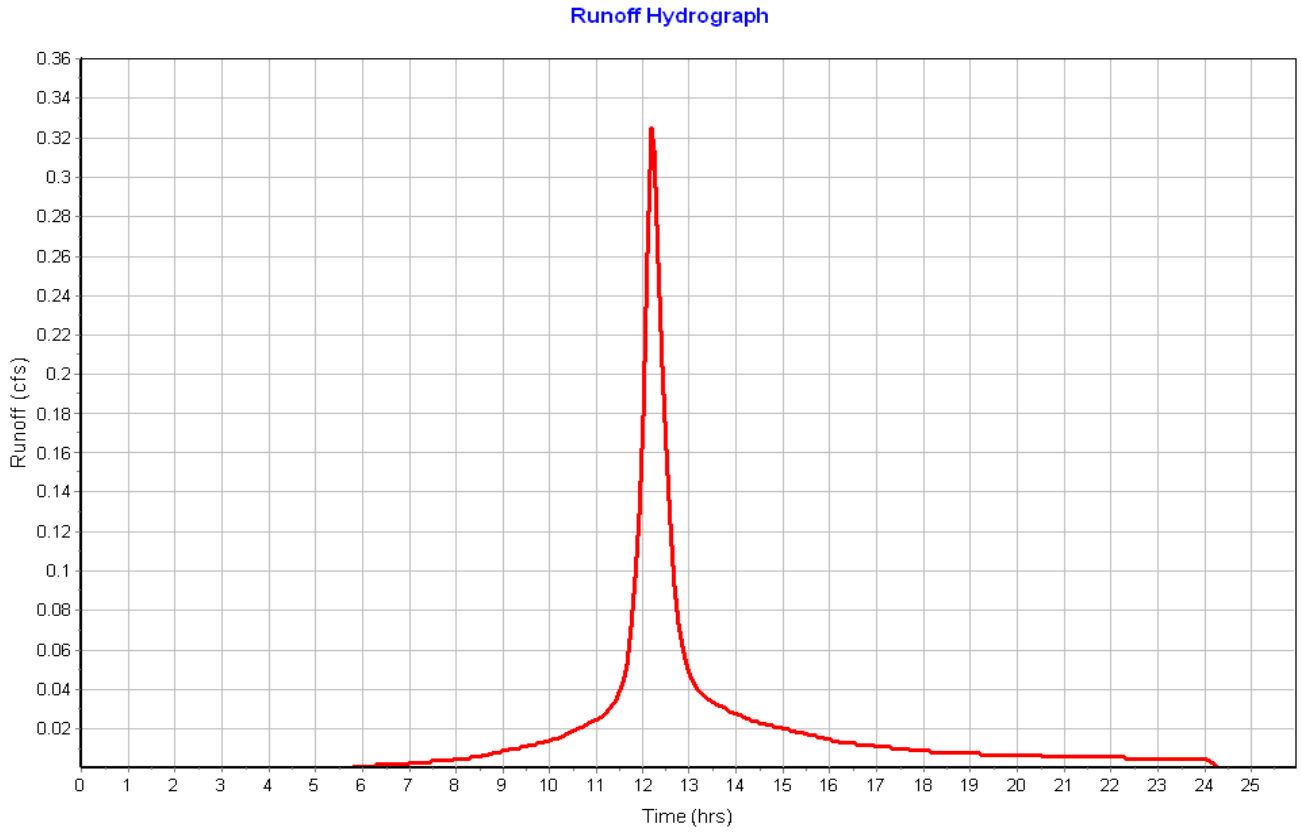
Total TOC (min) 16.78

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.33
Peak Runoff (cfs) 0.33
Weighted Curve Number 92.87
Time of Concentration (days hh:mm:ss) 0 00:16:47

Subbasin : Pavement-15





Subbasin : Pavement-16

Input Data

Area (ac)	0.26
Peak Rate Factor	484.00
Weighted Curve Number	90.84
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.18	C	98.00
> 75% grass cover, Good	0.08	C	74.00
Composite Area & Weighted CN	0.26		90.84

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	74.01	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.40	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

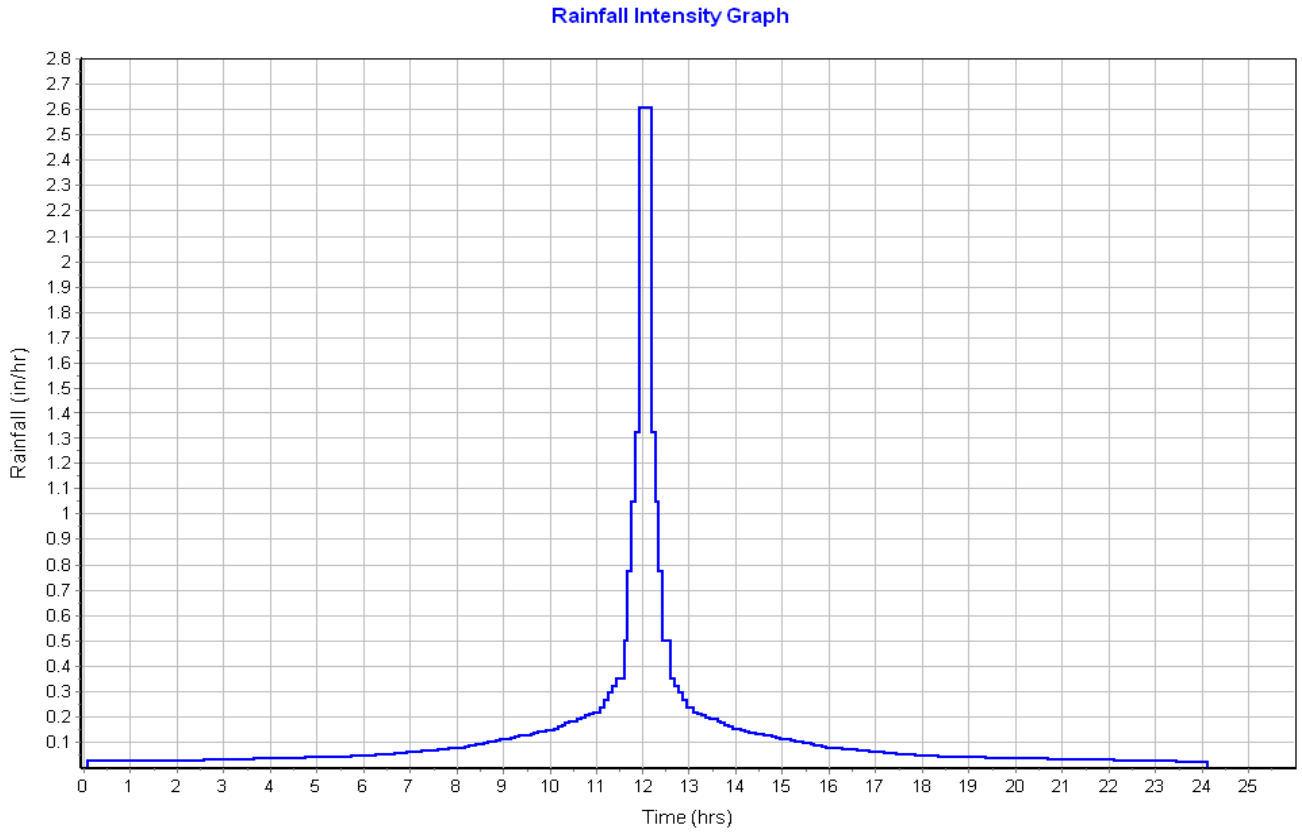
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	270.03	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.28	0.00	0.00

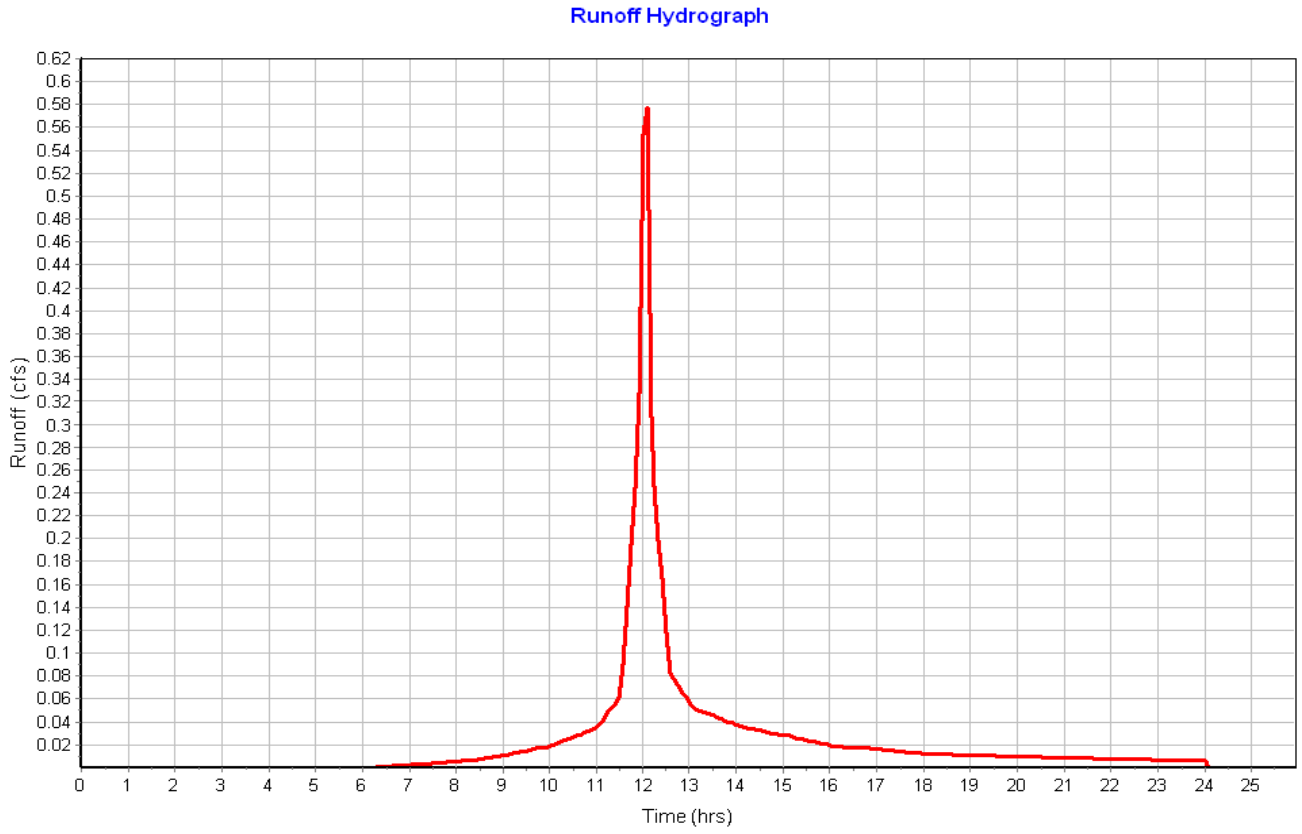
Total TOC (min) 2.16

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.15
Peak Runoff (cfs)	0.58
Weighted Curve Number	90.84
Time of Concentration (days hh:mm:ss)	0 00:02:10

Subbasin : Pavement-16





Subbasin : Pavement-17

Input Data

Area (ac)	0.15
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.15	C	98.00
Composite Area & Weighted CN	0.15		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	135.74	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.58	0.00	0.00
Computed Flow Time (min) :	1.43	0.00	0.00

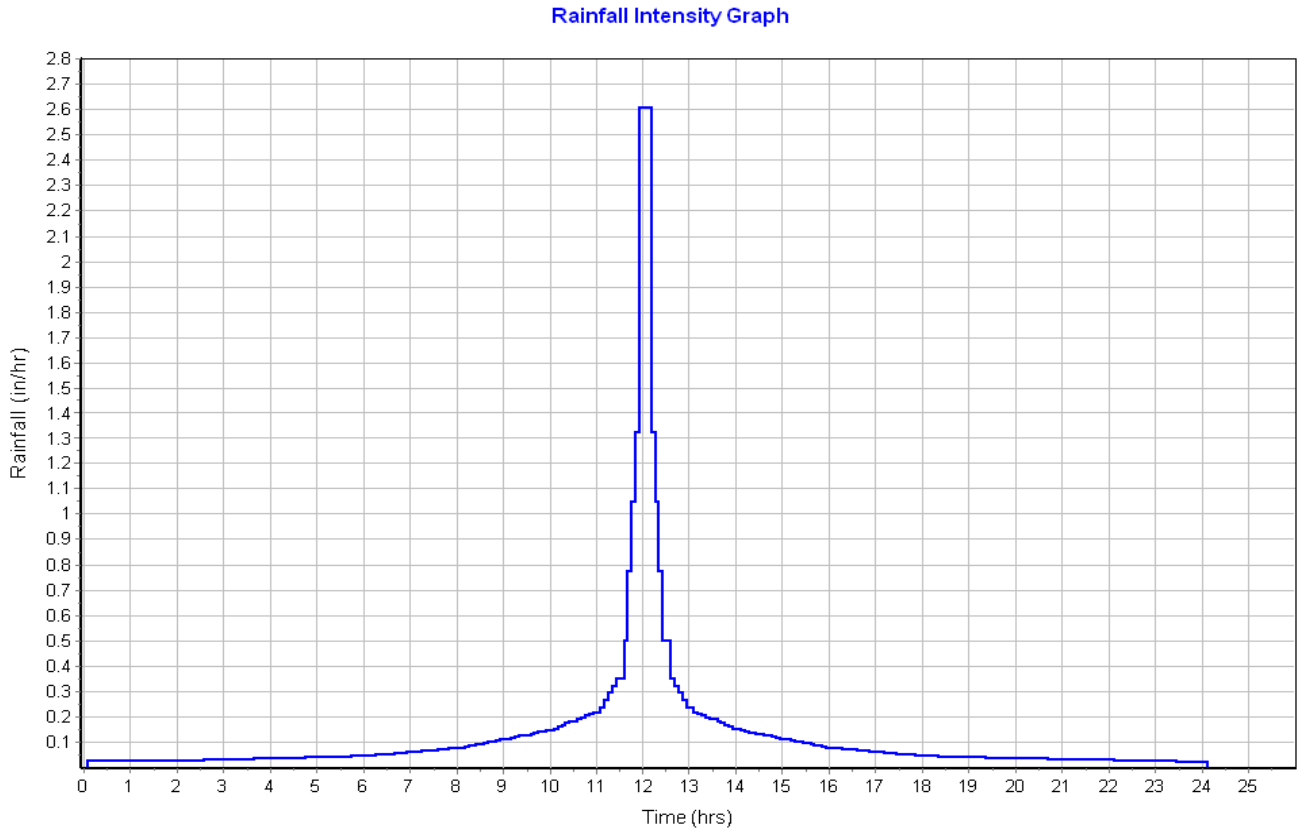
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	257.69	0.00	0.00
Slope (%) :	2.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.10	0.00	0.00
Computed Flow Time (min) :	1.39	0.00	0.00

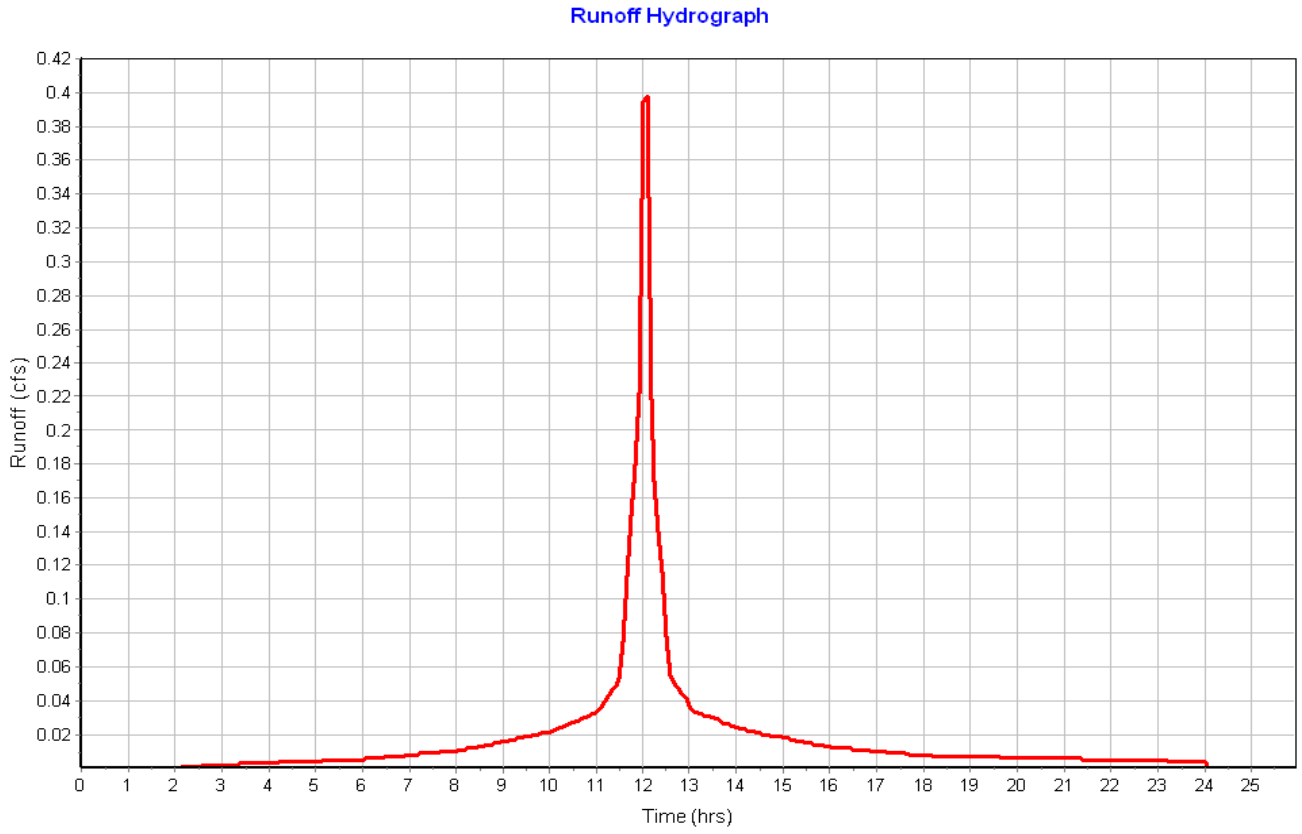
Total TOC (min) 2.82

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.87
Peak Runoff (cfs)	0.40
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:49

Subbasin : Pavement-17





Subbasin : Pavement-18

Input Data

Area (ac)	0.11
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.62	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

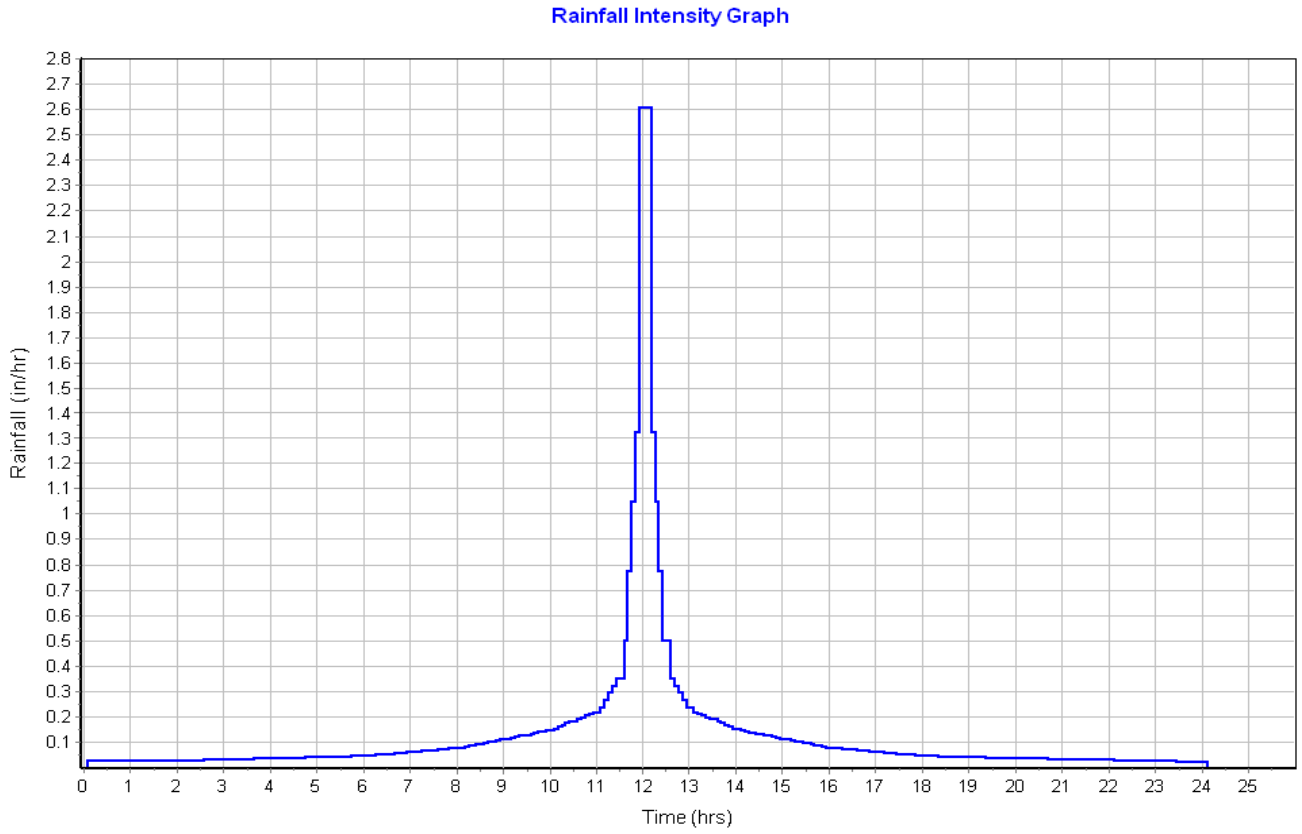
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	382.38	0.00	0.00
Slope (%) :	2.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.95	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

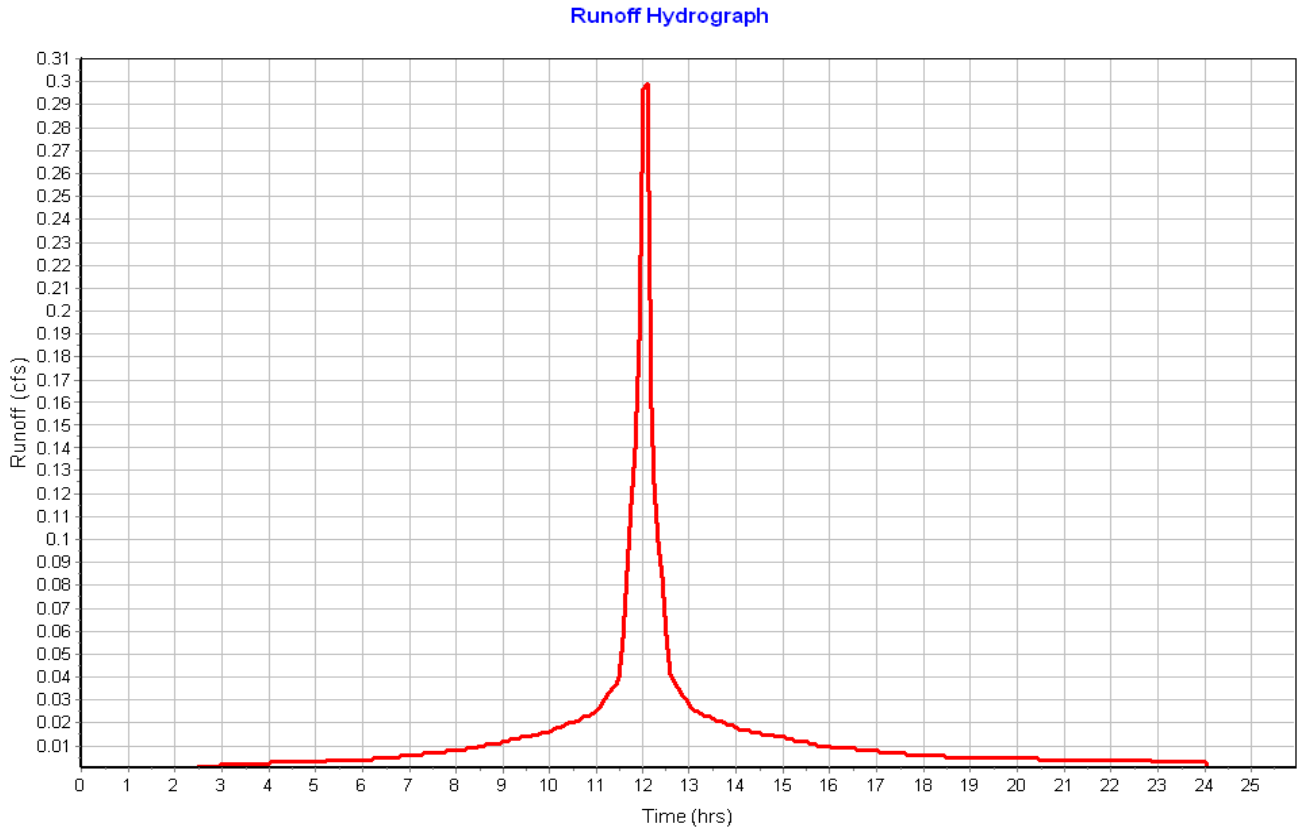
Total TOC (min) 2.37

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.30
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:22

Subbasin : Pavement-18





Subbasin : Pavement-19

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	27.28	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.15	0.00	0.00
Computed Flow Time (min) :	0.40	0.00	0.00

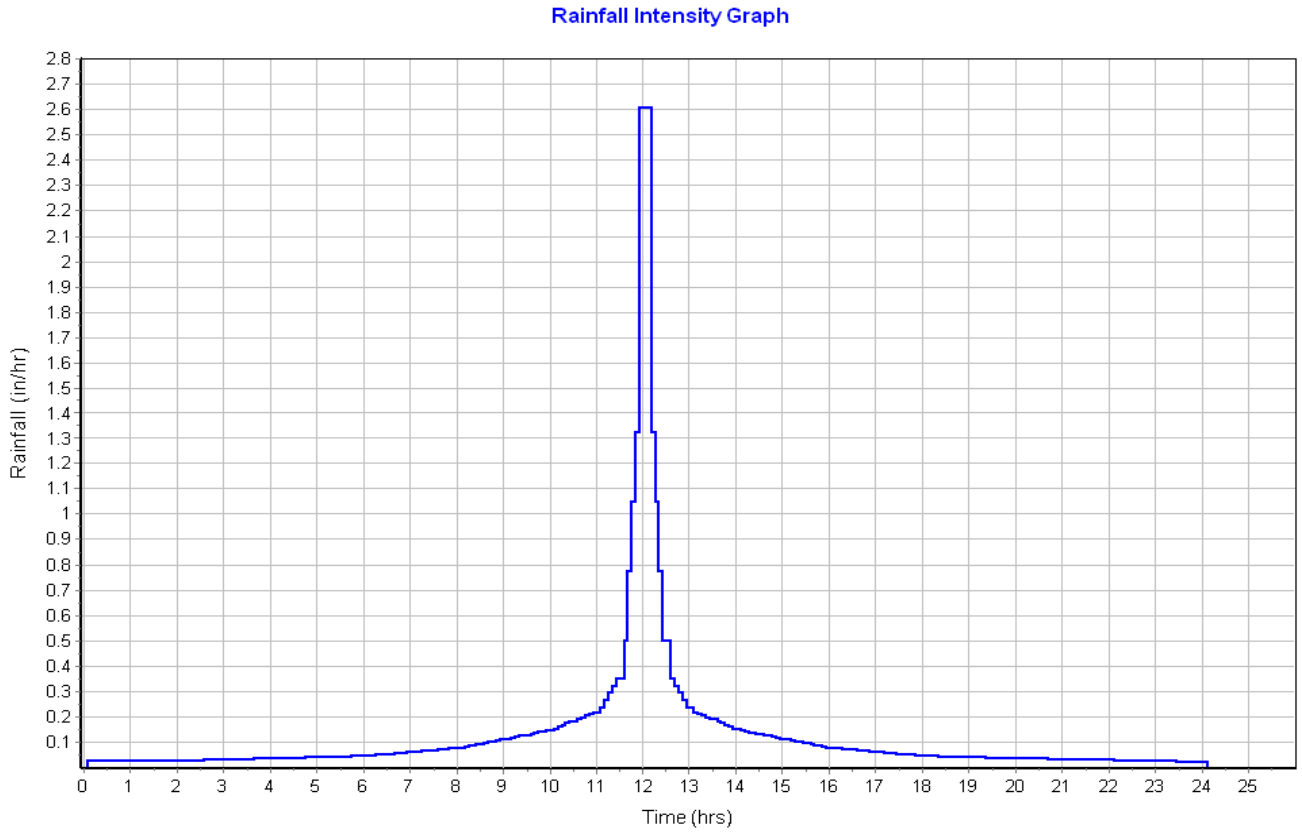
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	112.86	0.00	0.00
Slope (%) :	1.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.65	0.00	0.00
Computed Flow Time (min) :	0.71	0.00	0.00

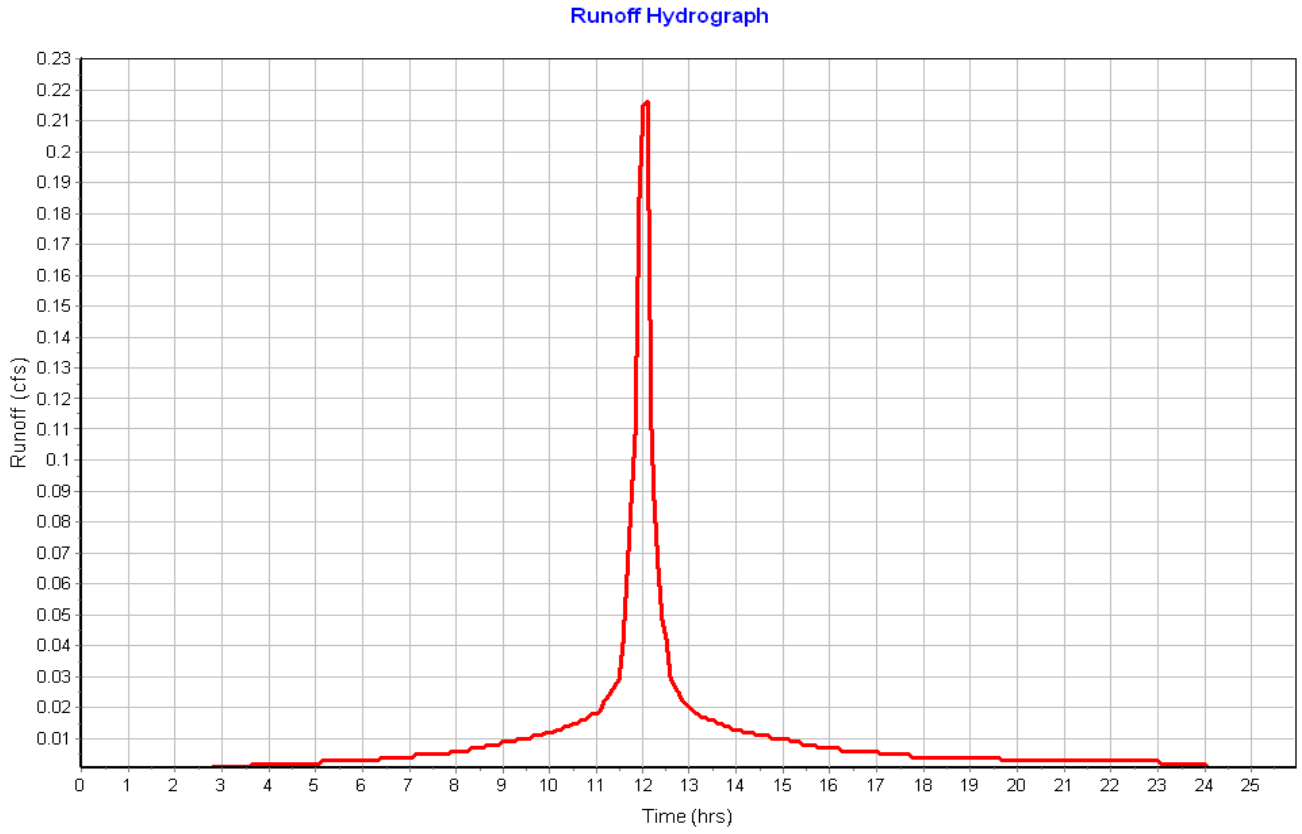
Total TOC (min) 1.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.22
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:07

Subbasin : Pavement-19





Subbasin : Roof-01

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

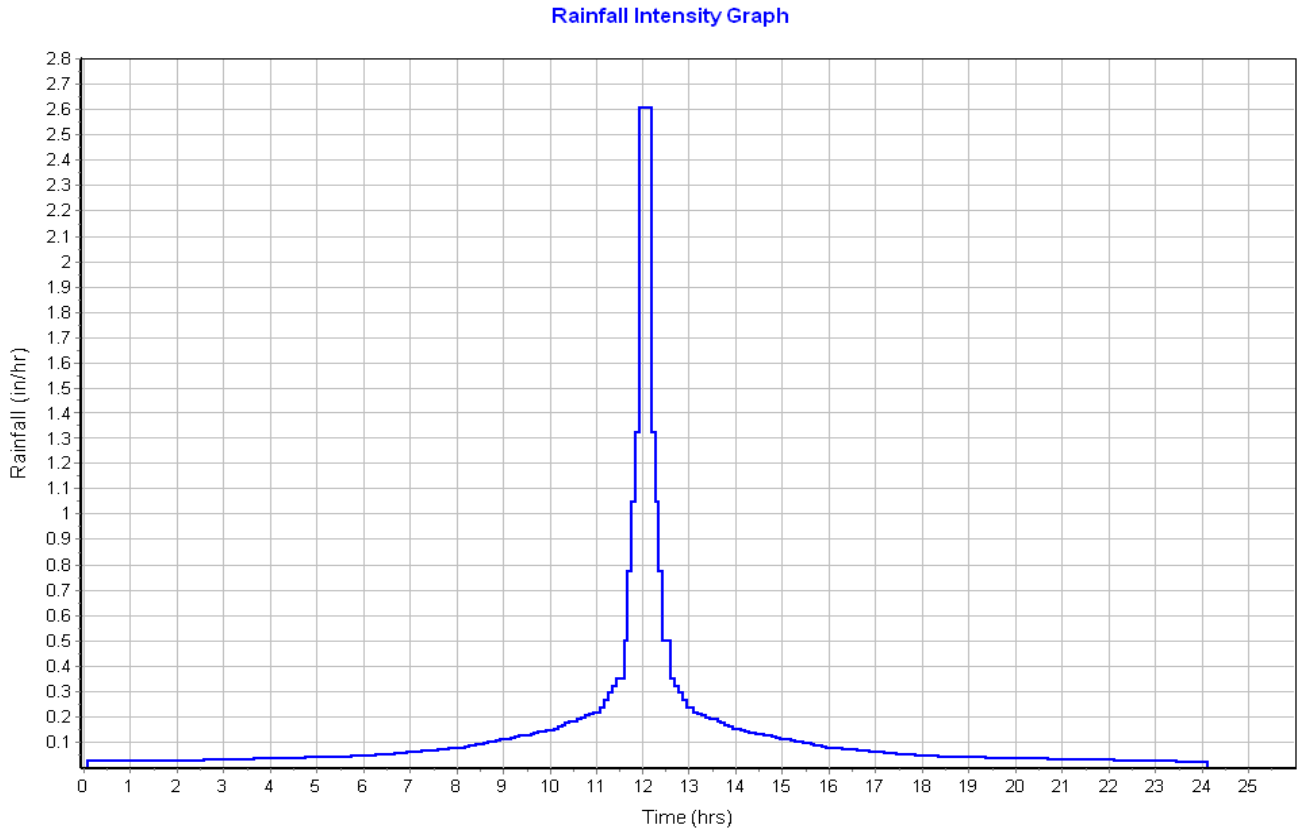
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

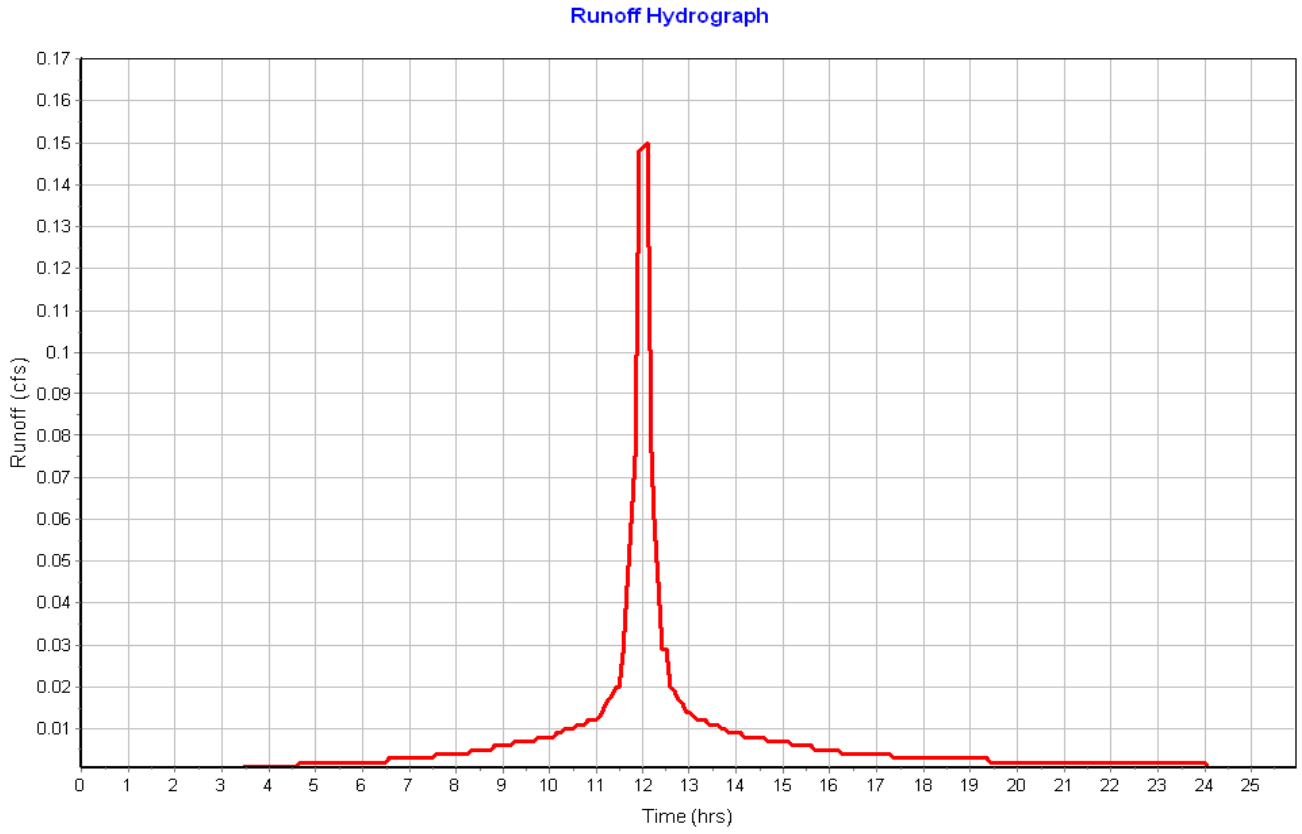
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-01





Subbasin : Roof-02

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

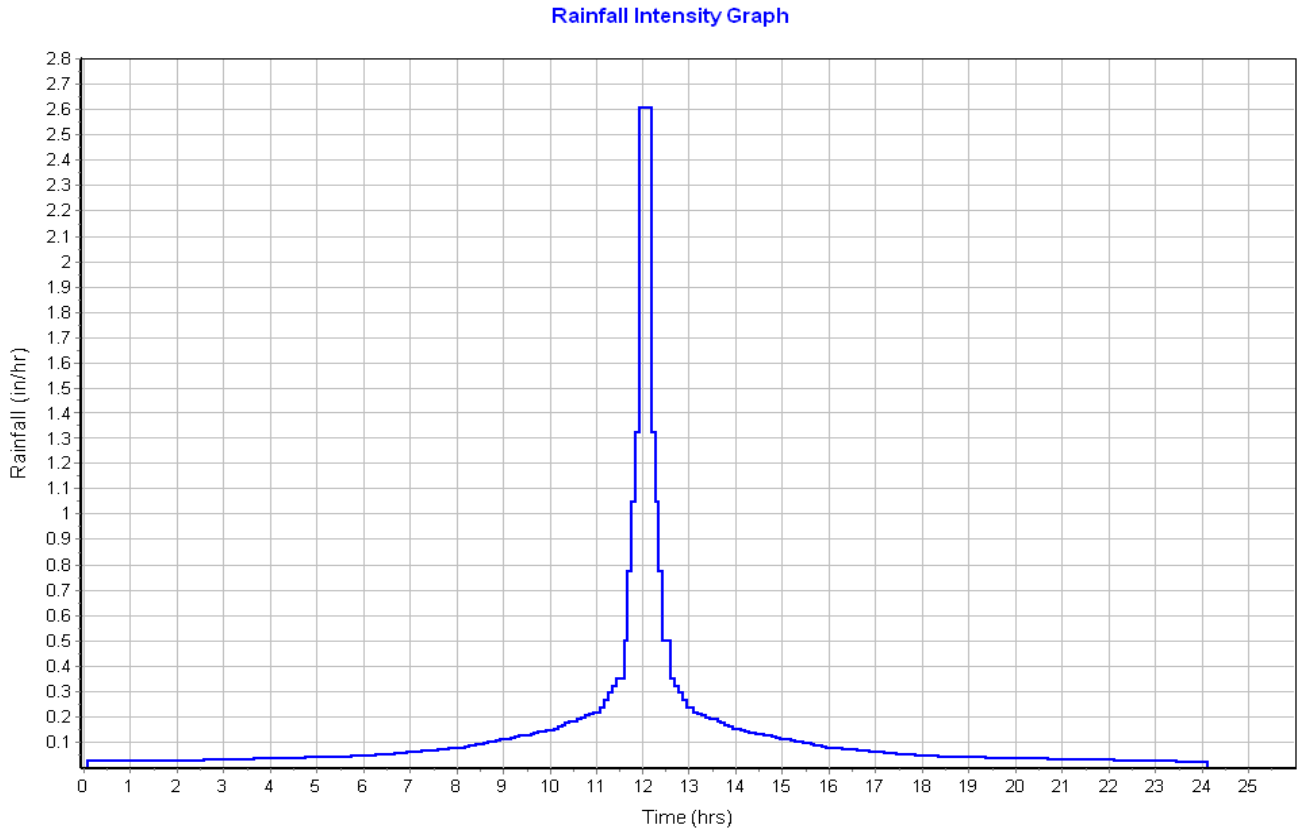
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

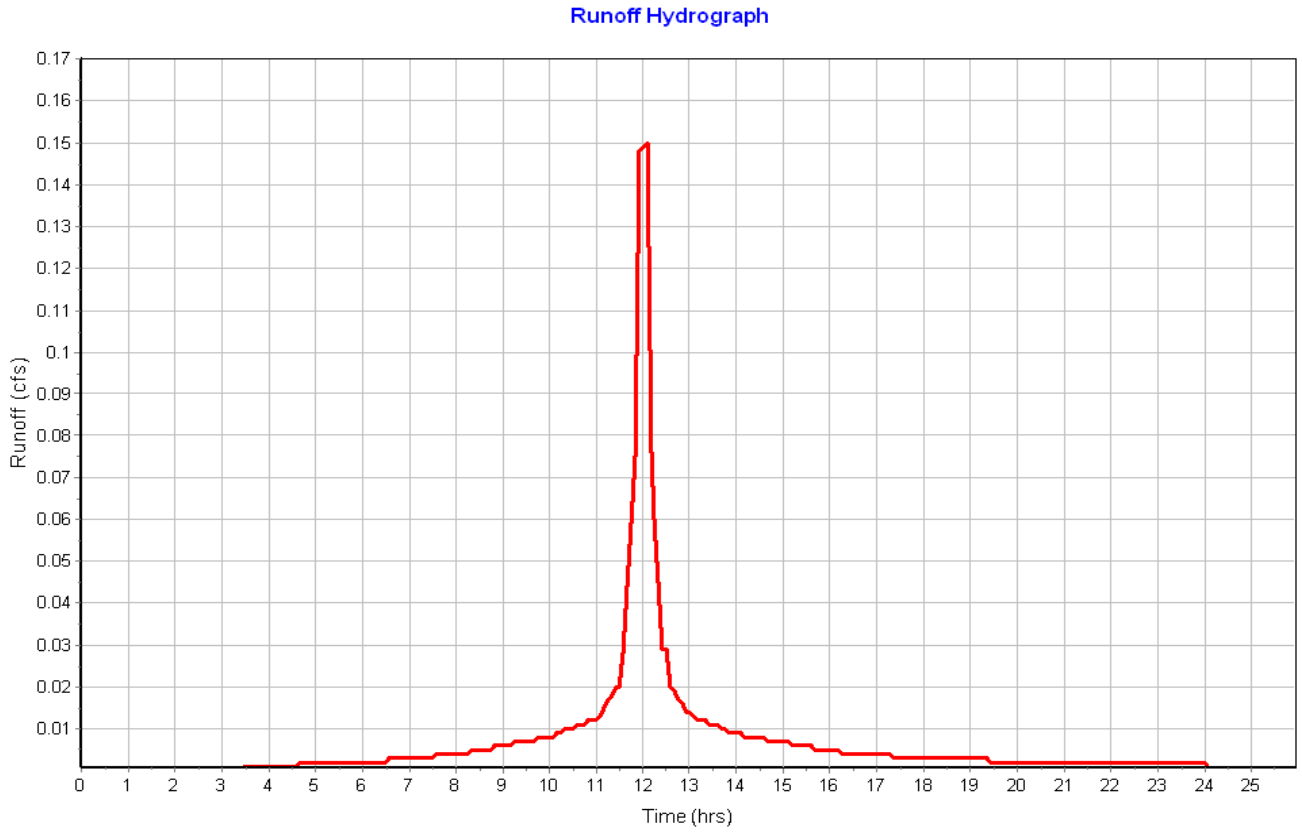
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-02





Subbasin : Roof-03

Input Data

Area (ac) 0.05
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

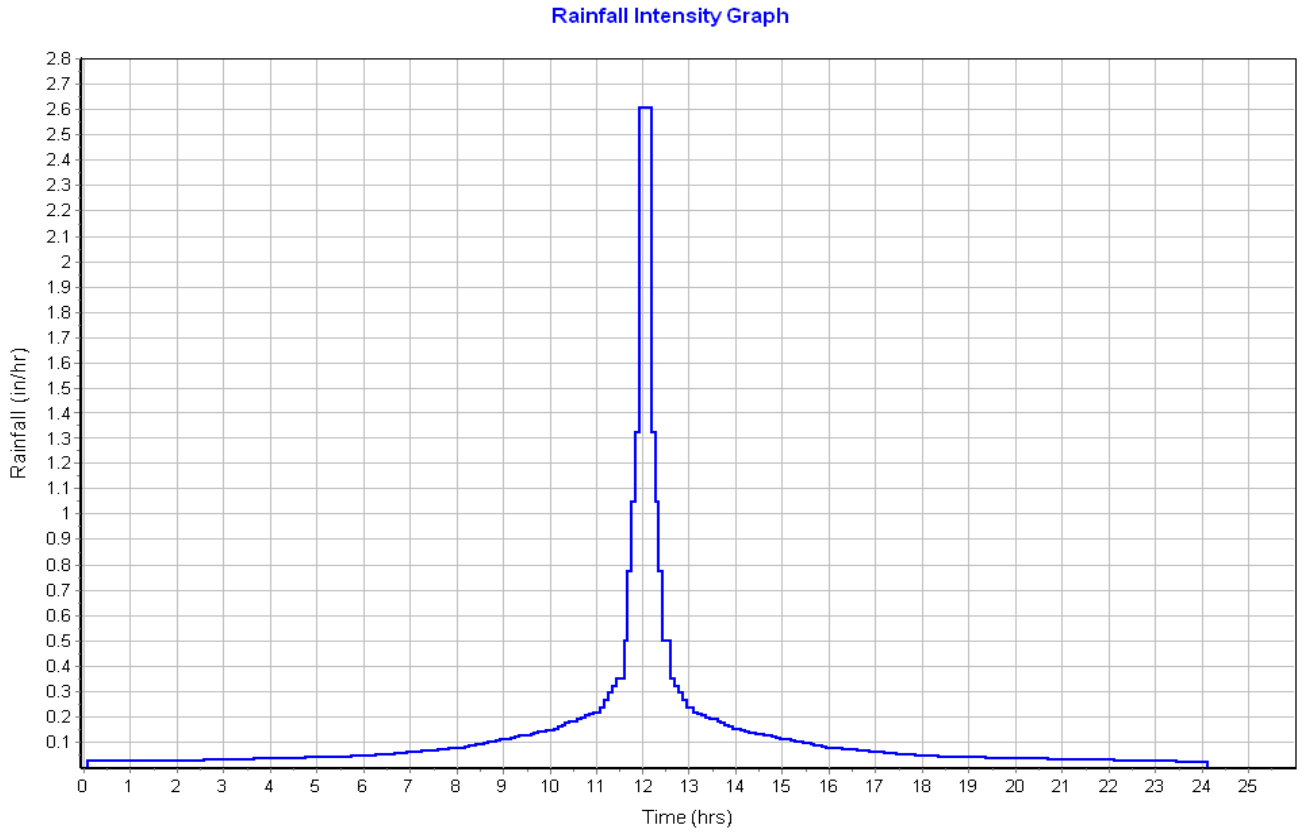
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

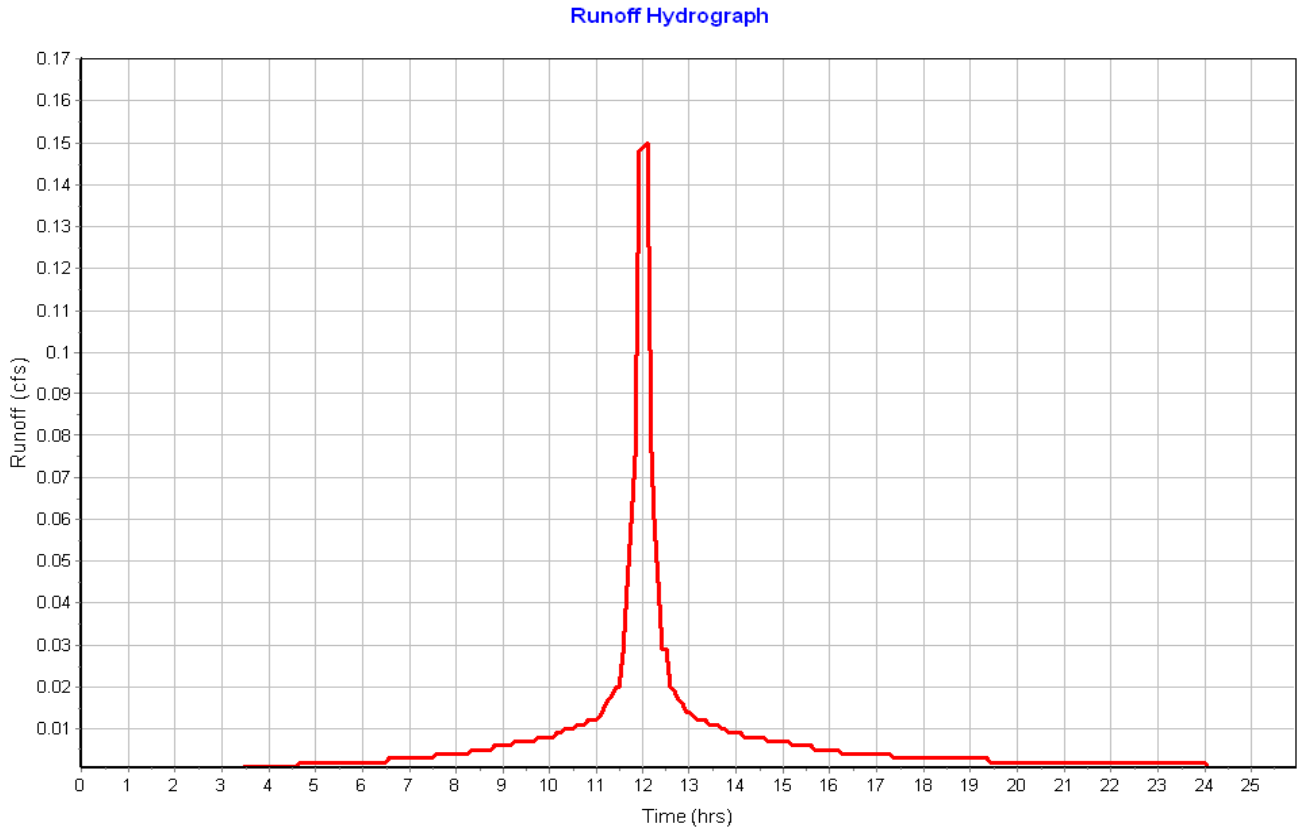
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-03





Subbasin : Roof-04

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

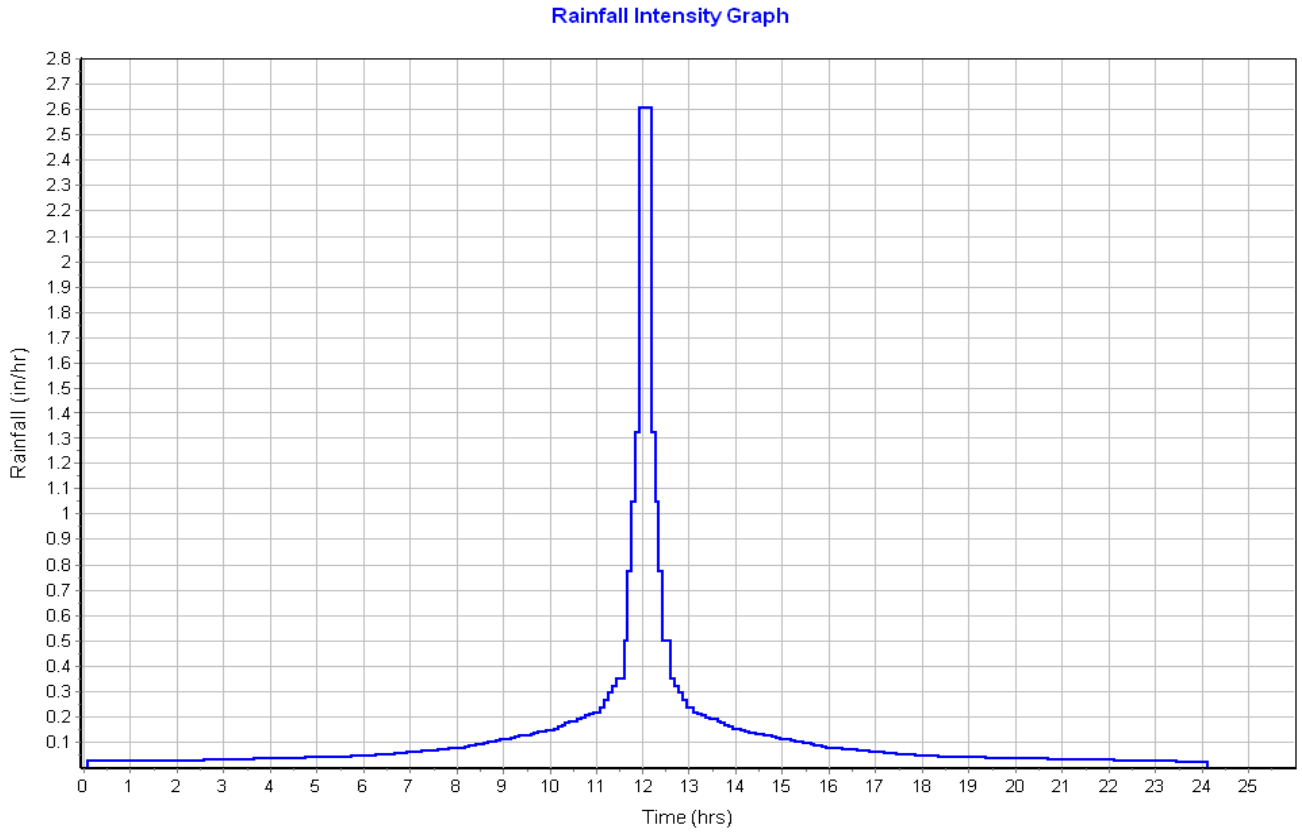
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

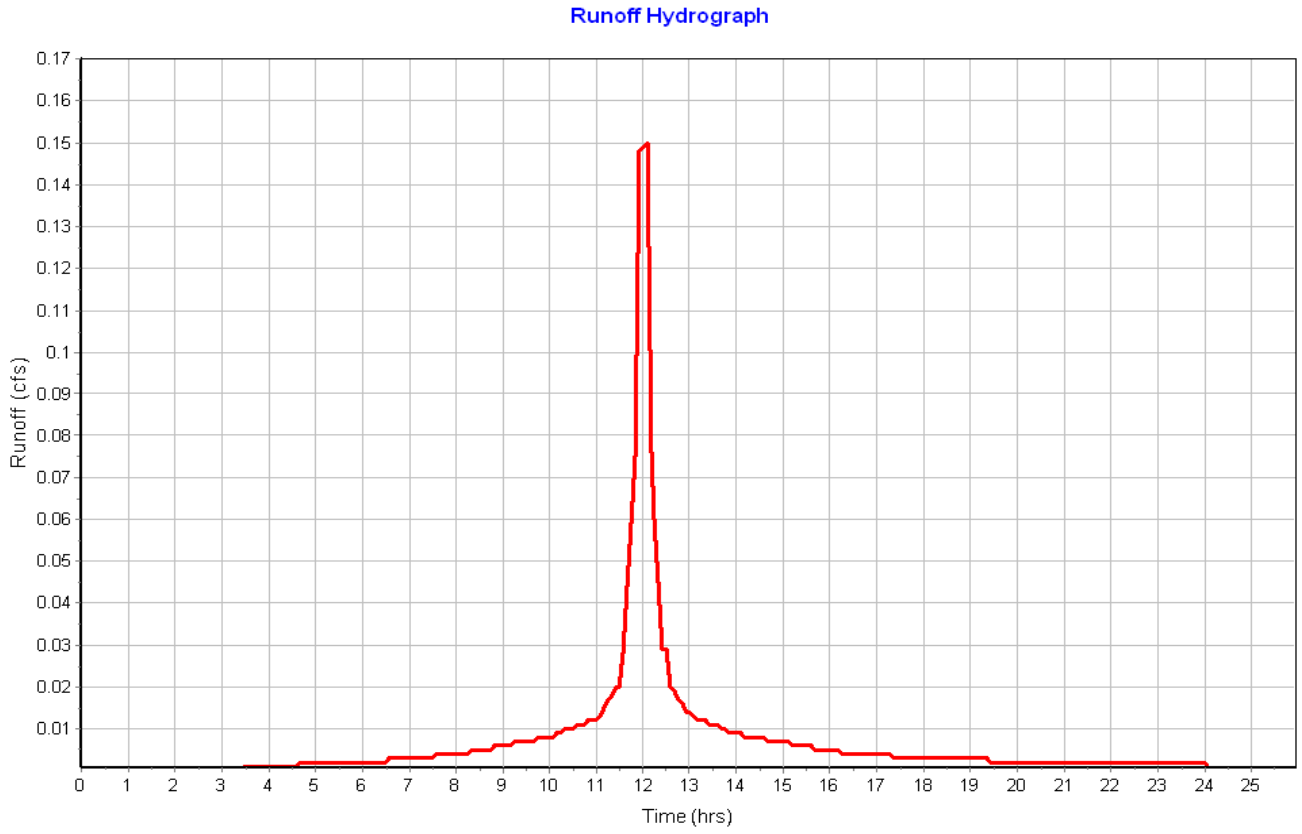
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-04





Subbasin : Roof-05

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

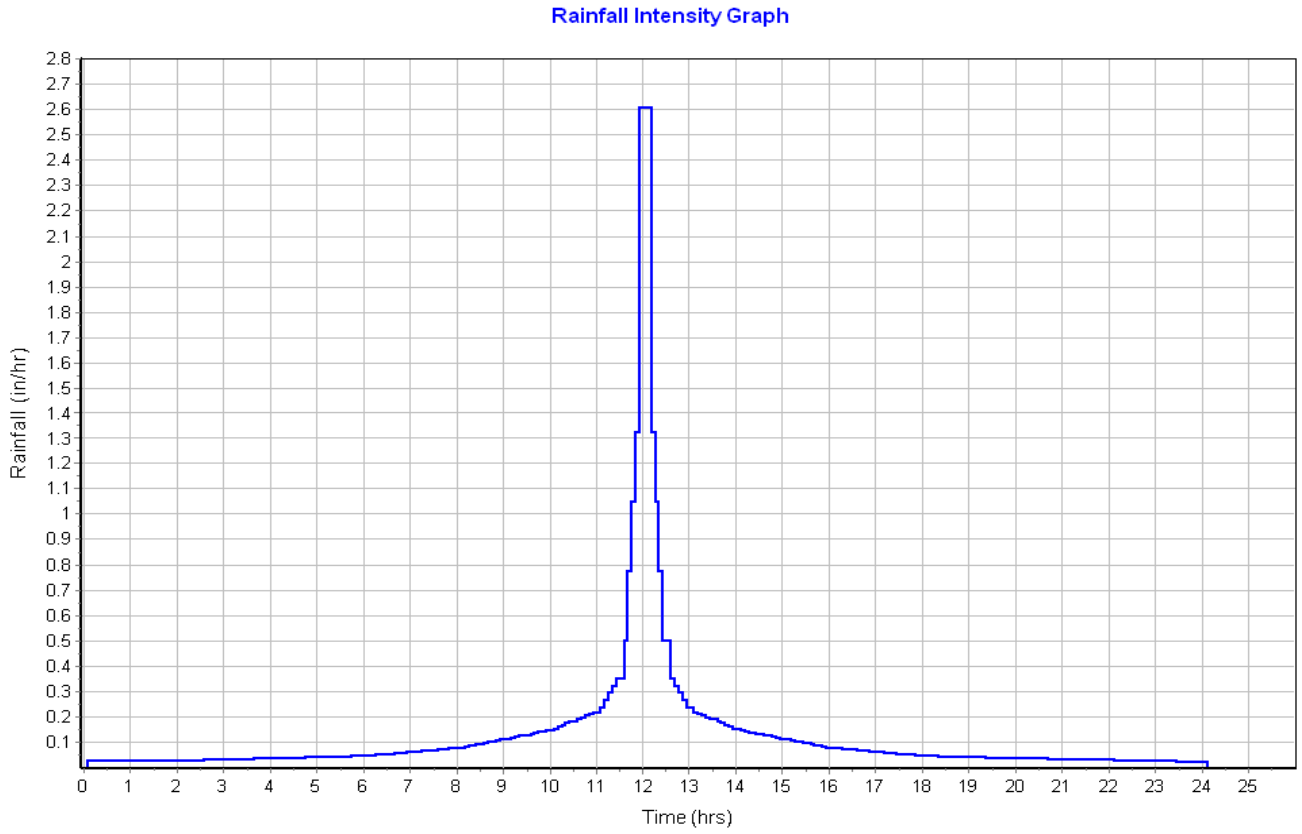
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

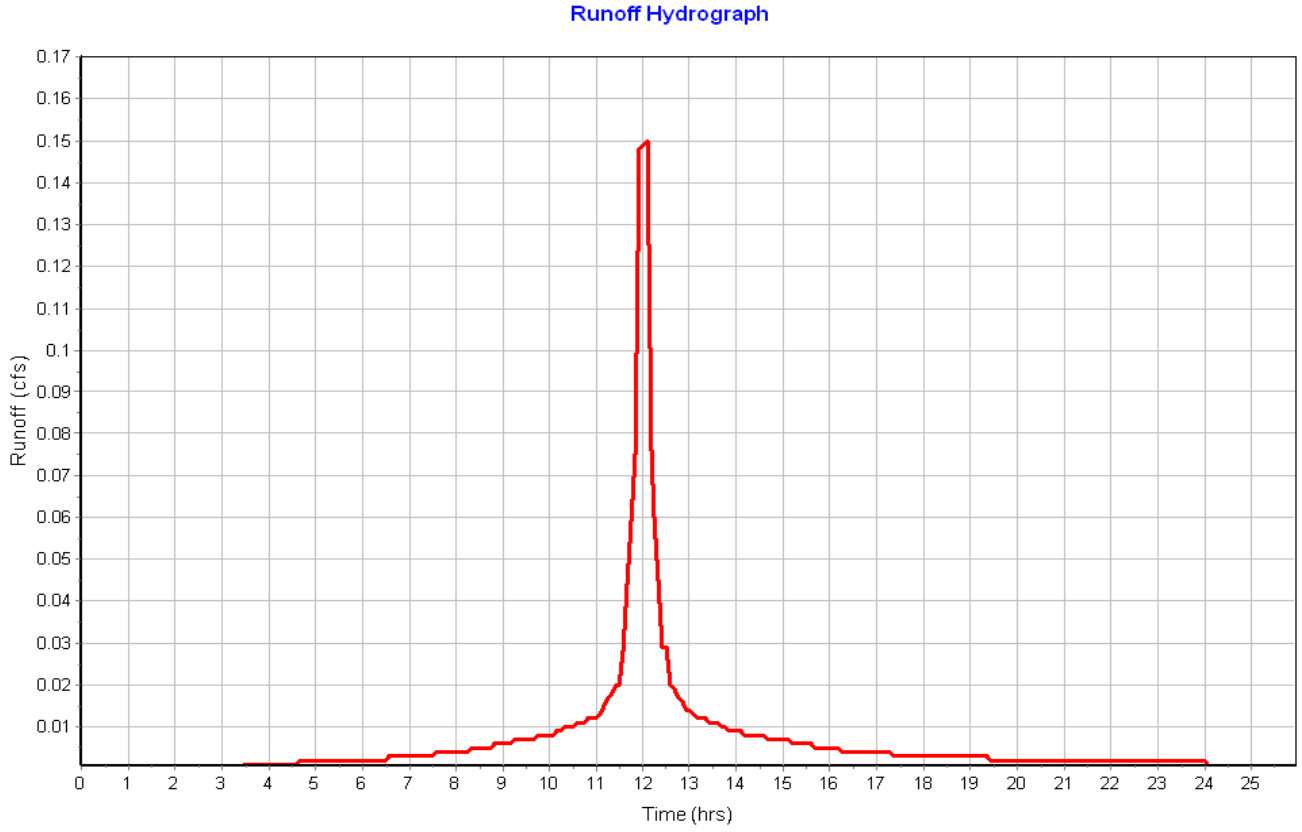
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-05





Subbasin : Roof-06

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

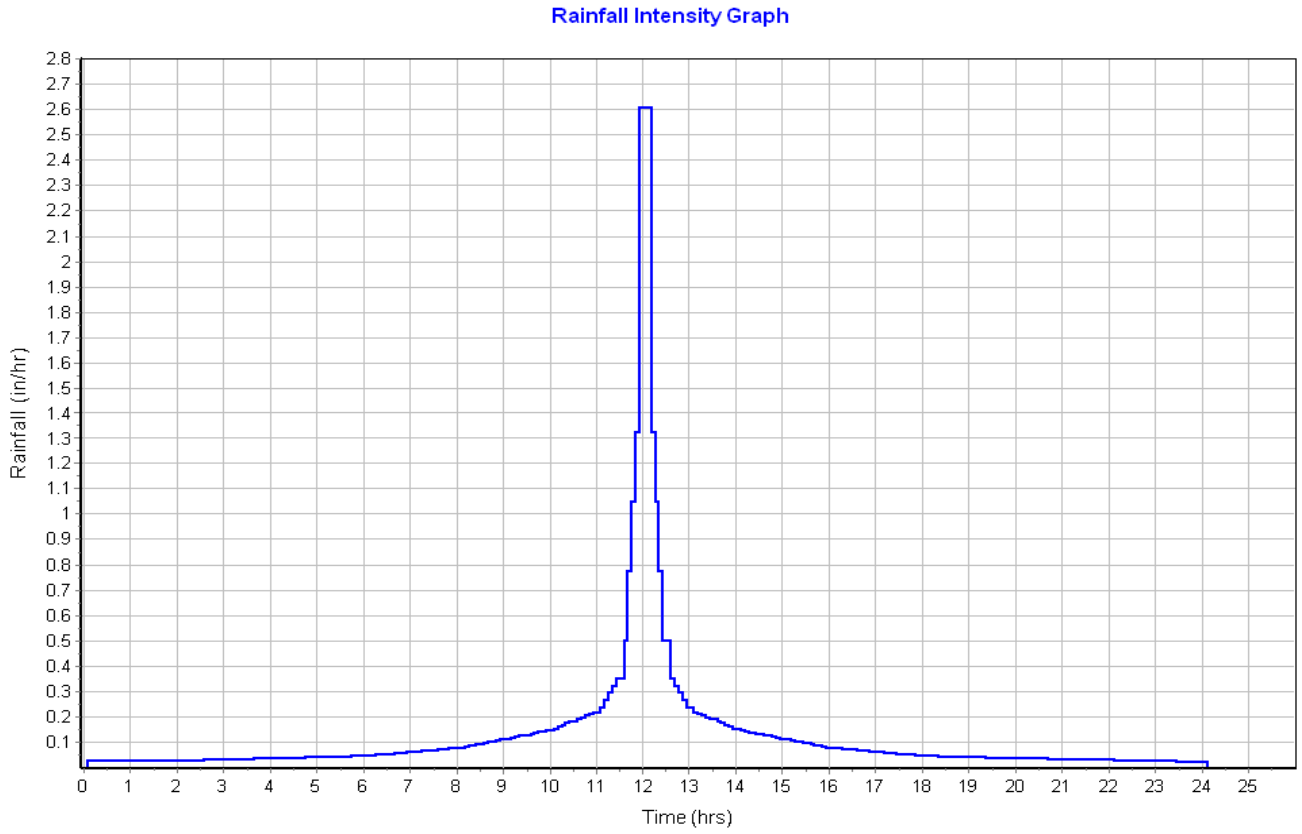
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

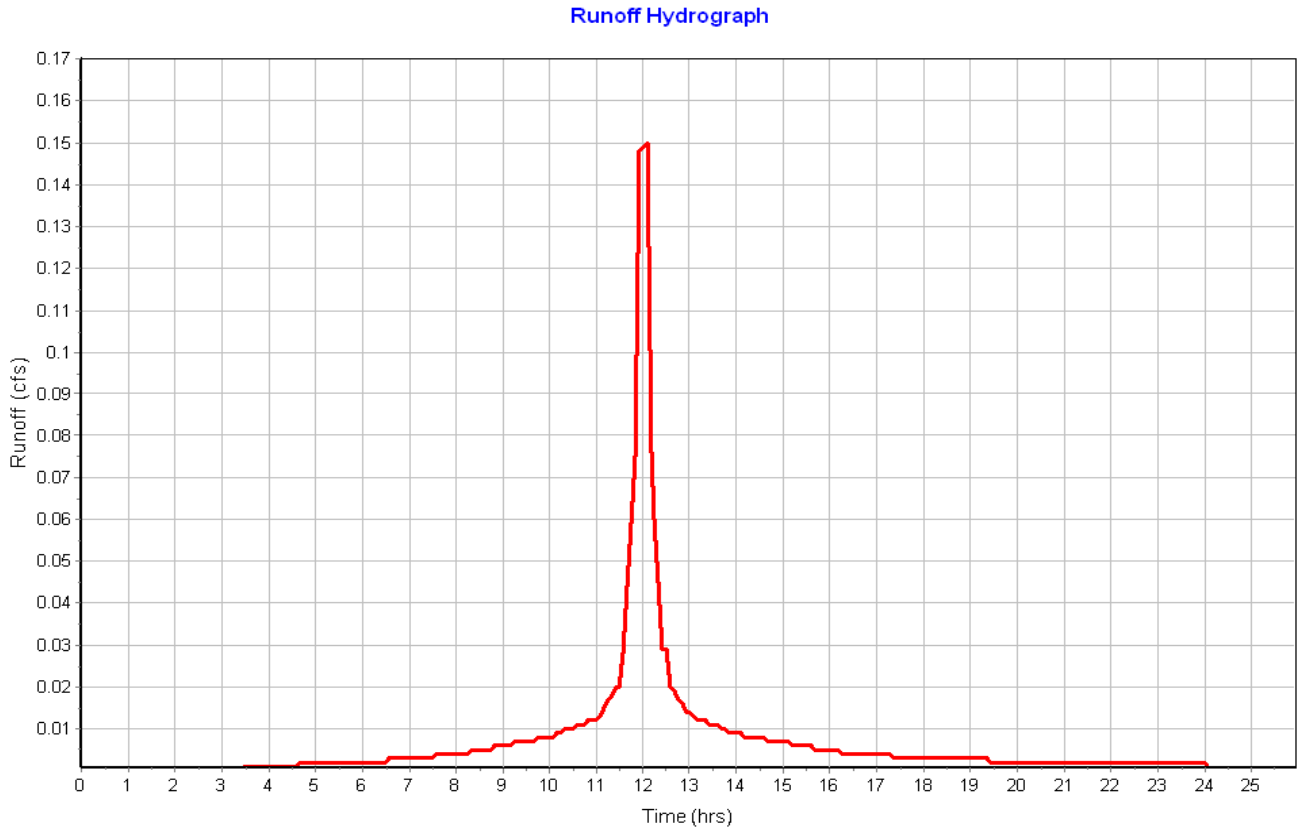
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-06





Subbasin : Roof-07

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

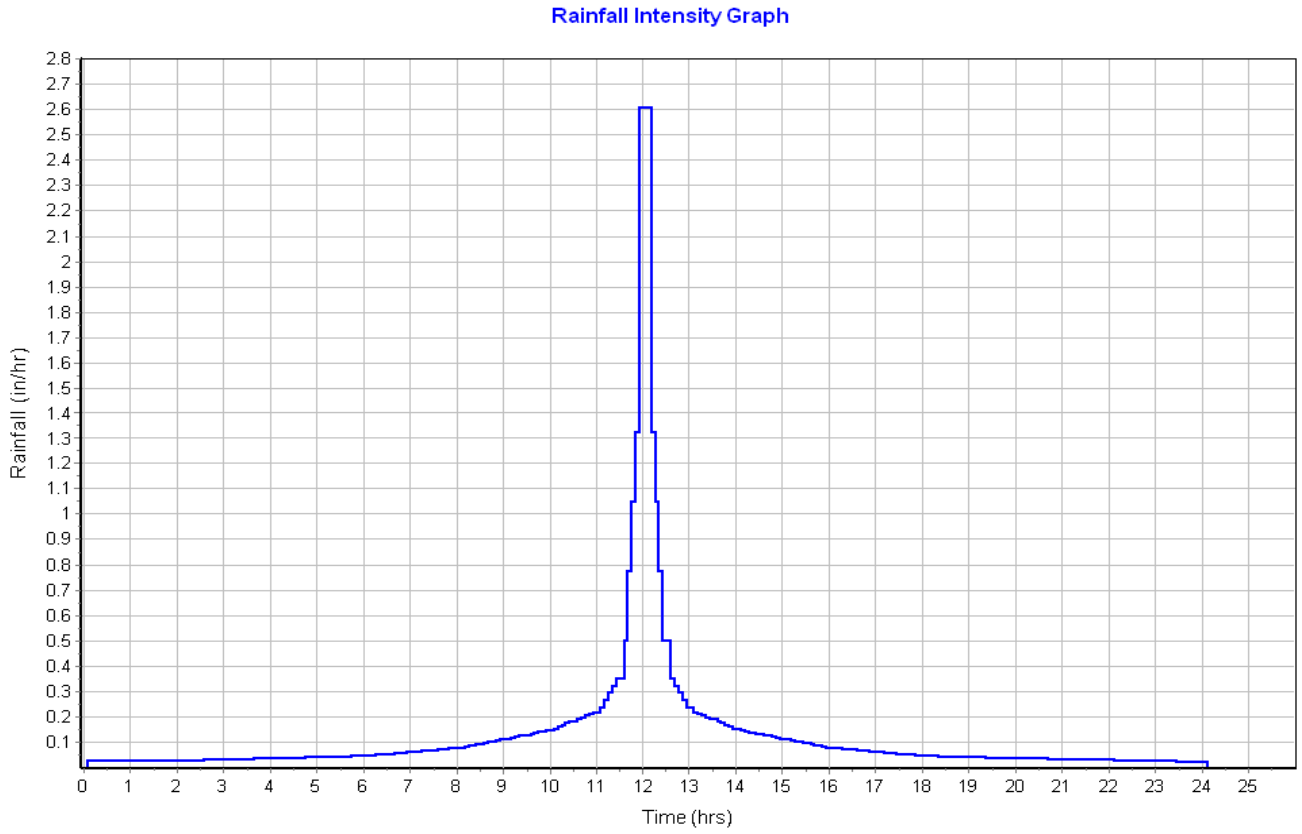
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

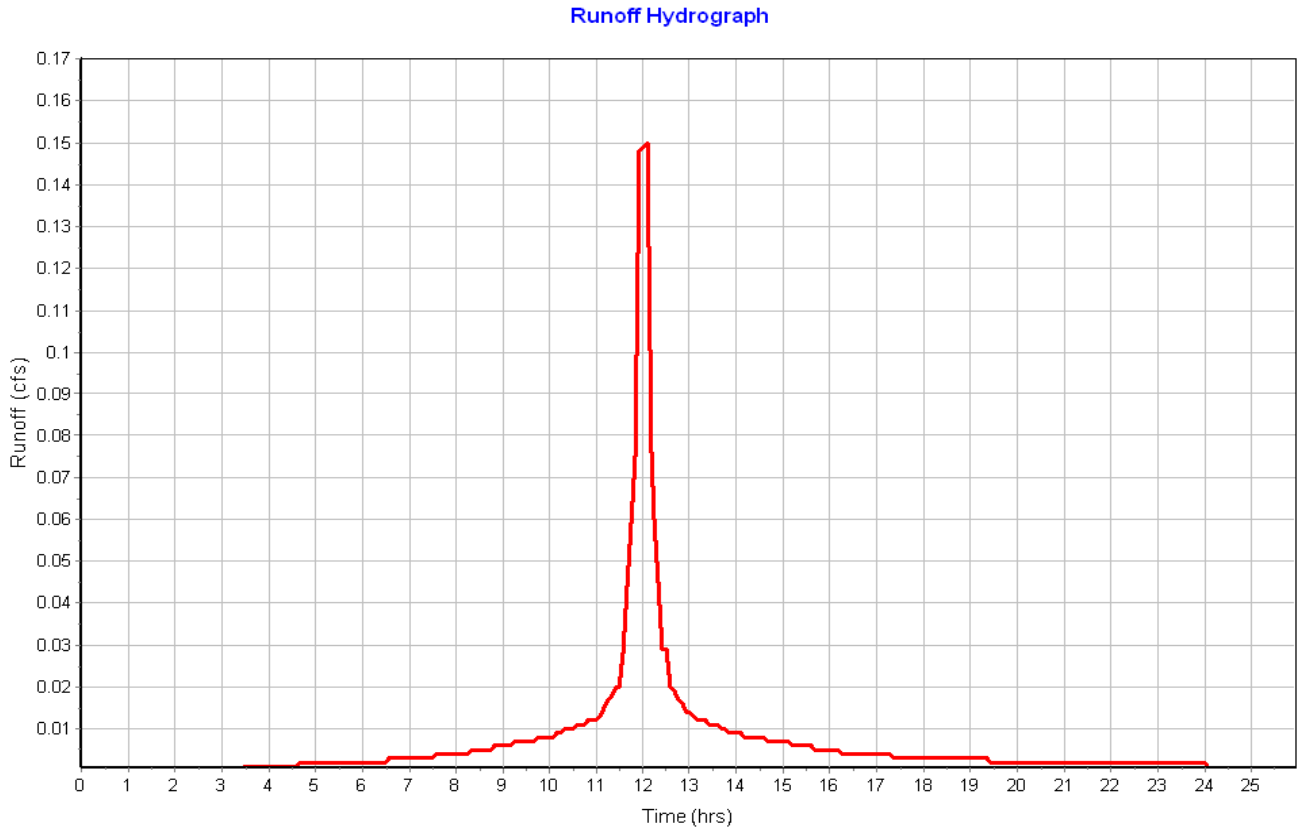
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-07





Subbasin : Roof-08

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

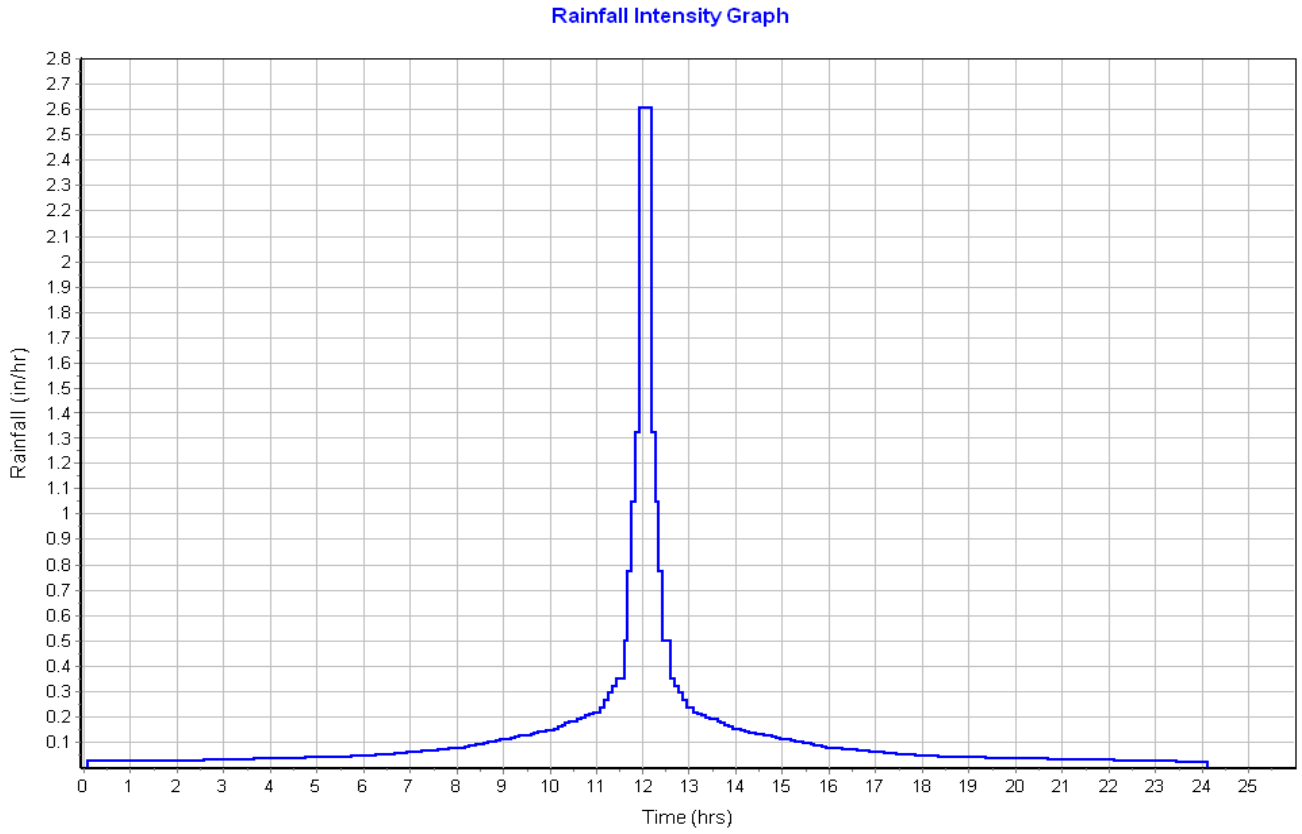
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

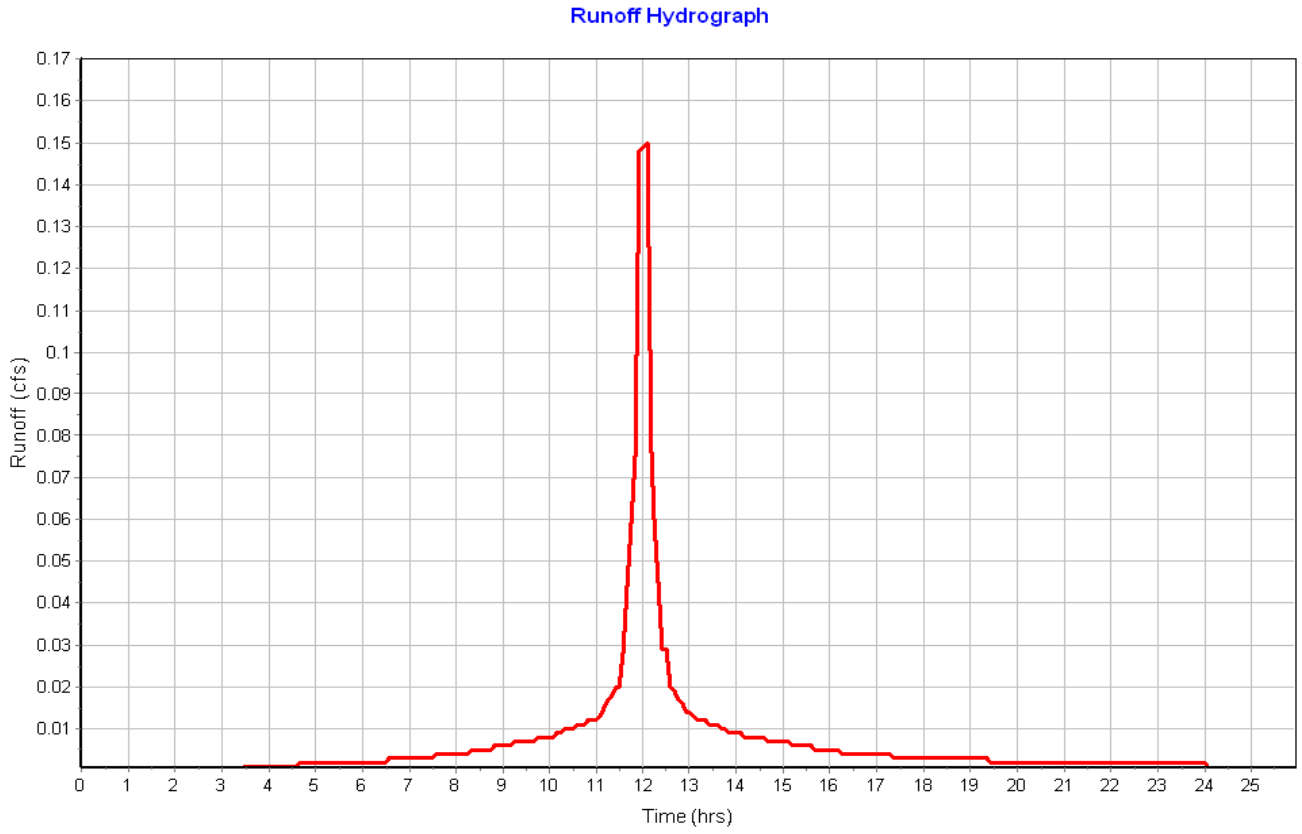
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-08





Subbasin : Roof-09

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

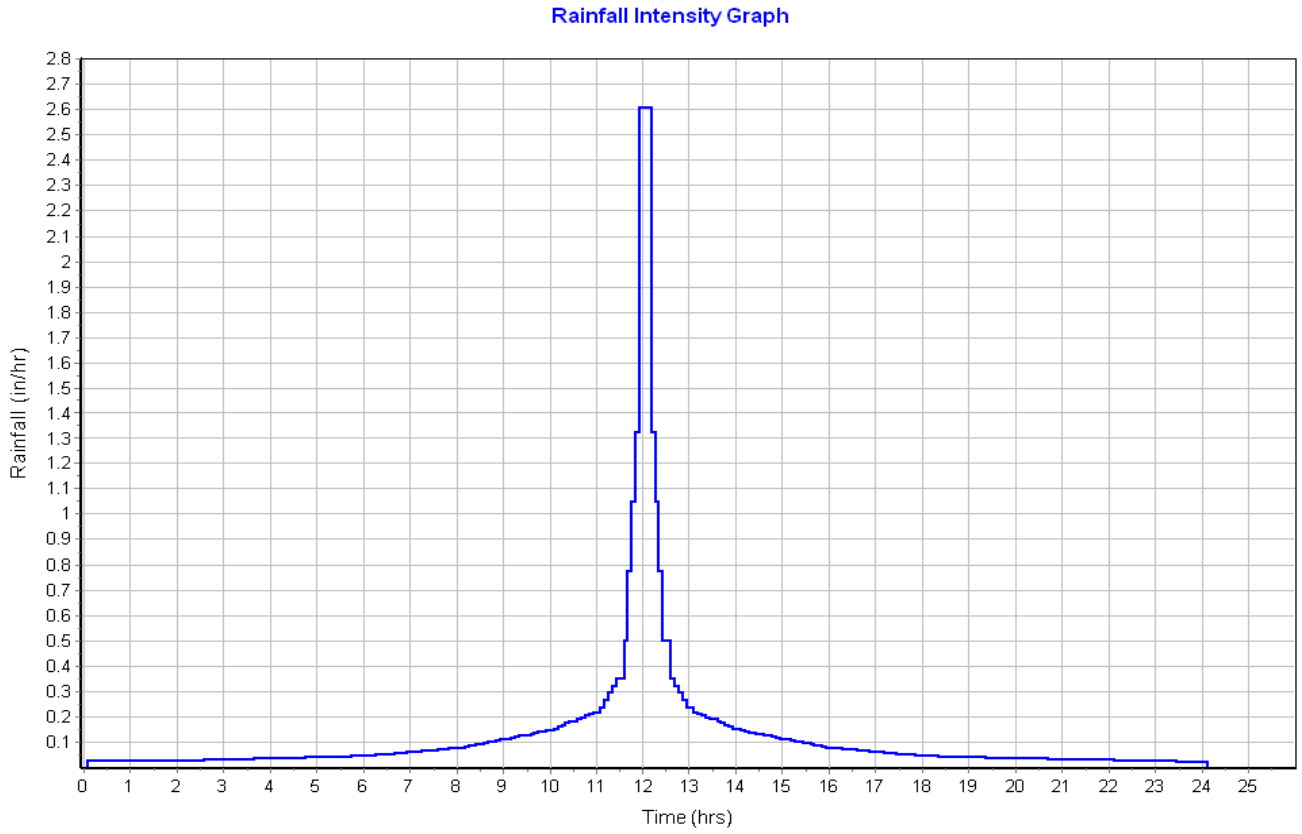
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

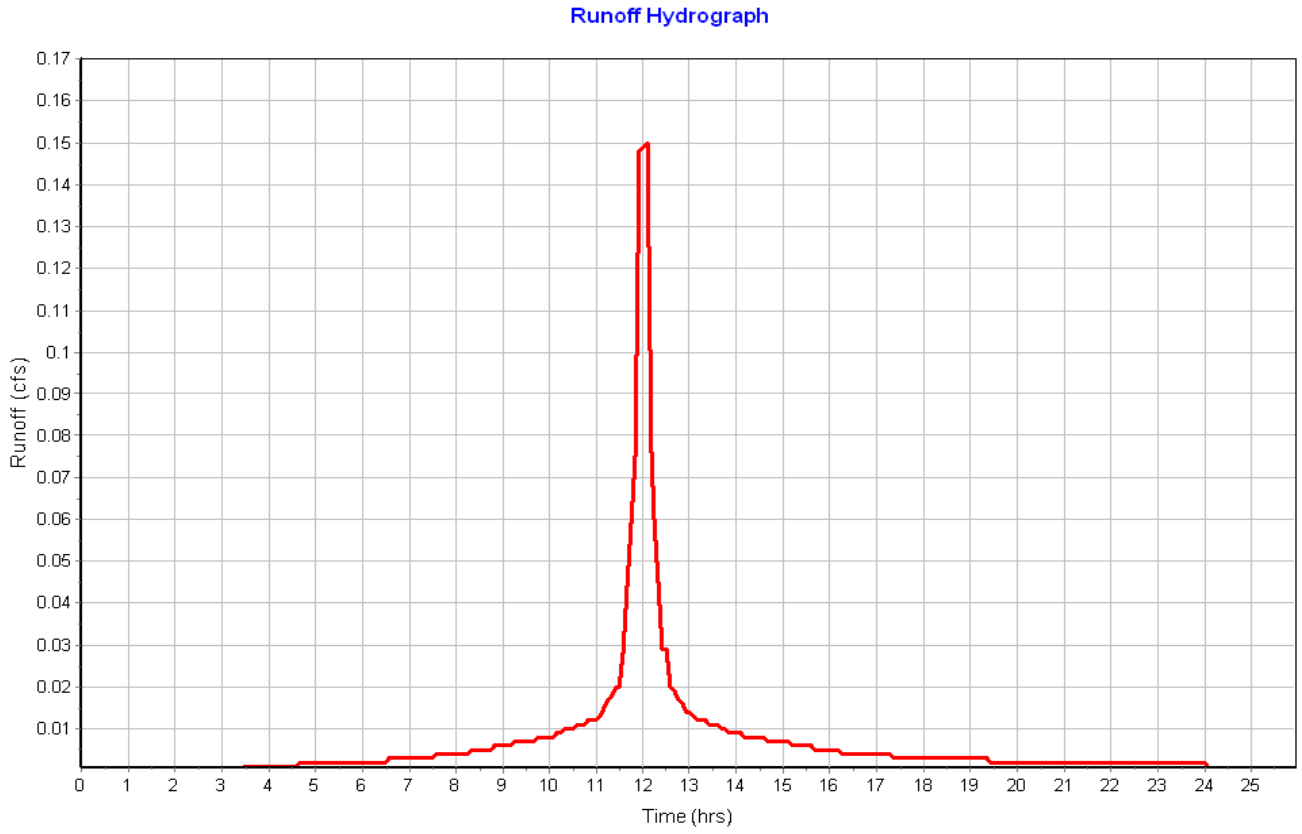
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-09





Subbasin : Roof-10

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

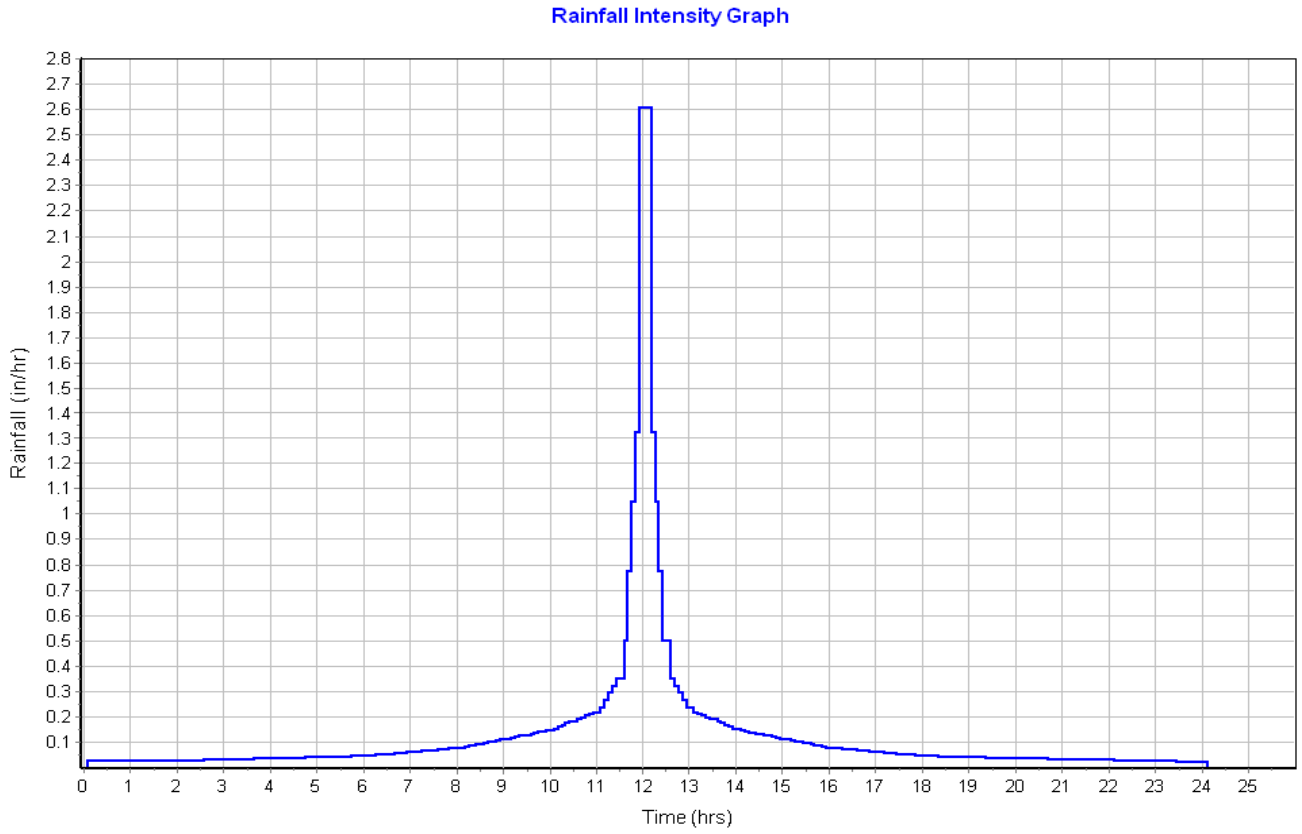
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

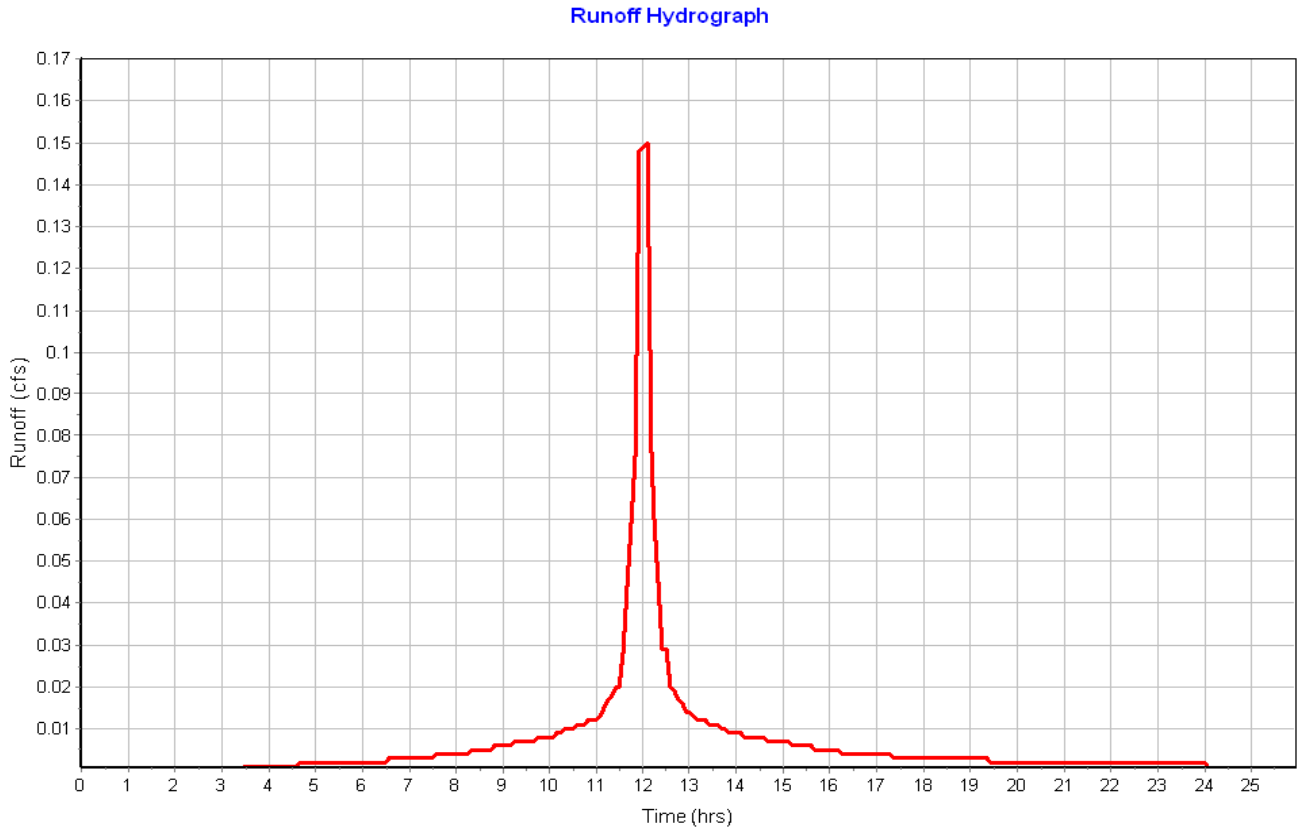
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-10





Subbasin : Roof-11

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

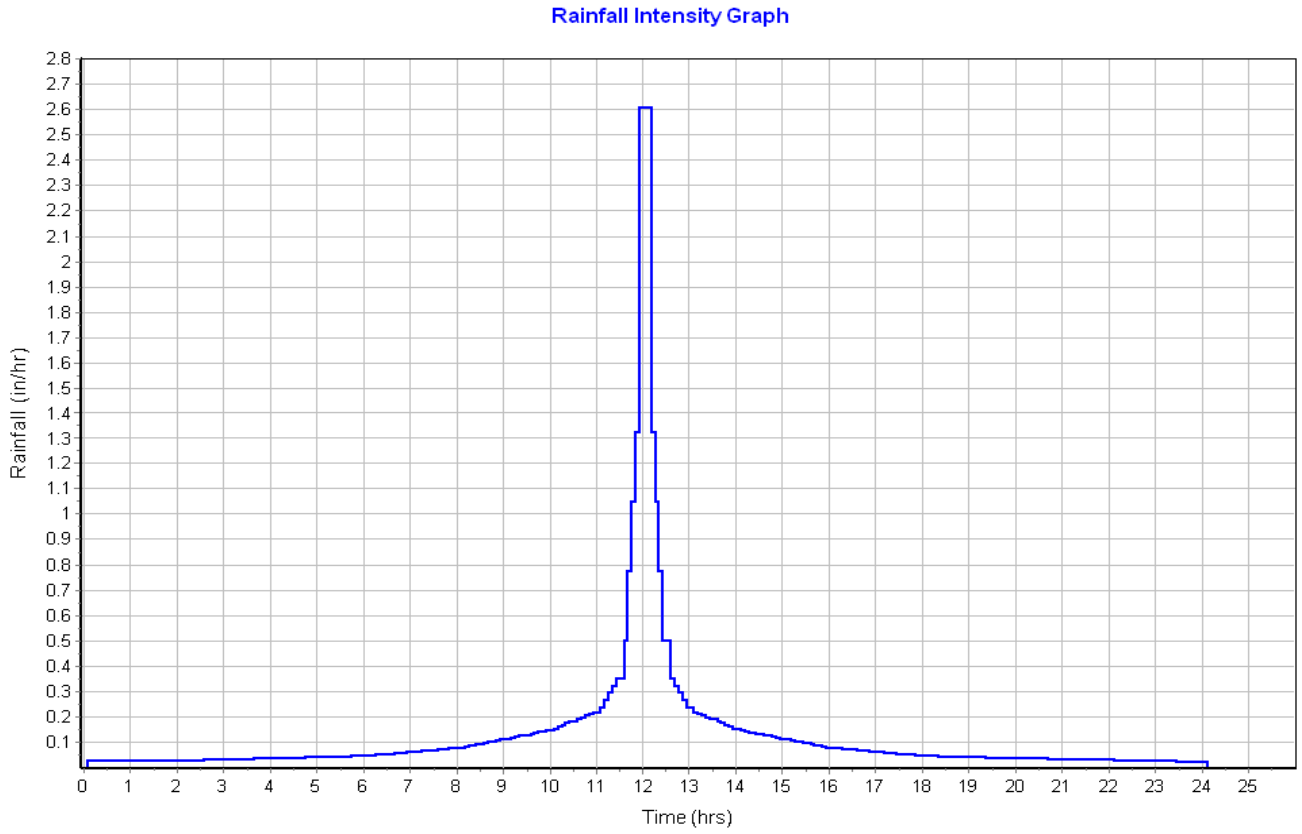
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

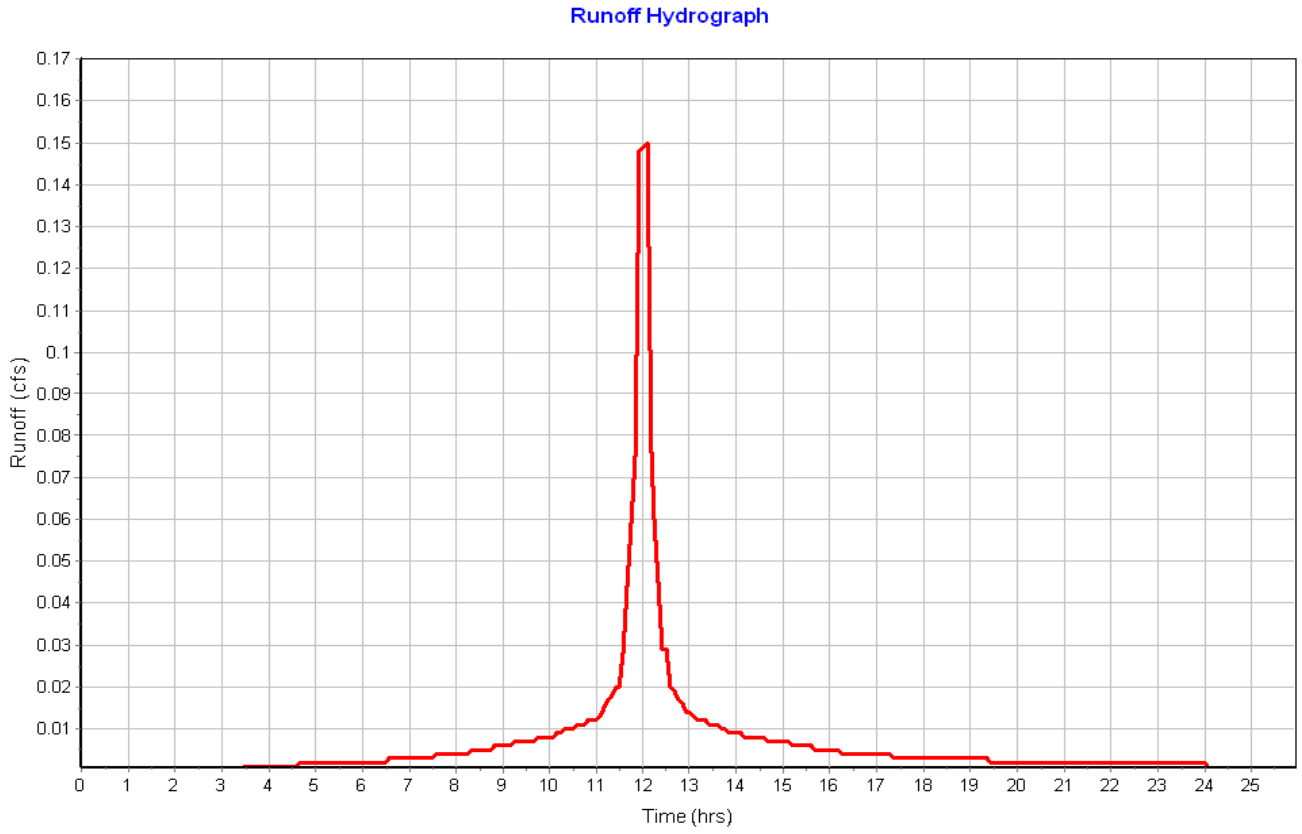
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-11





Subbasin : Roof-12

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

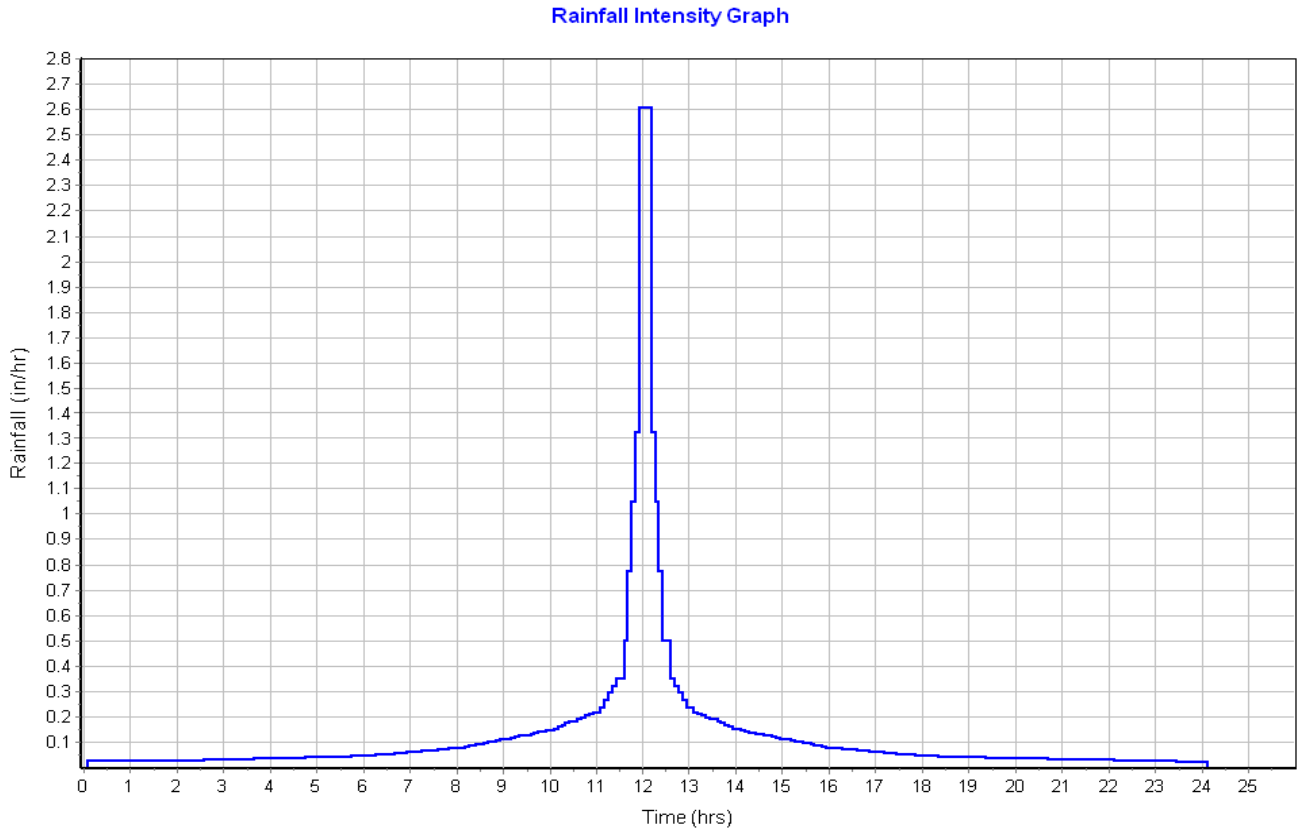
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

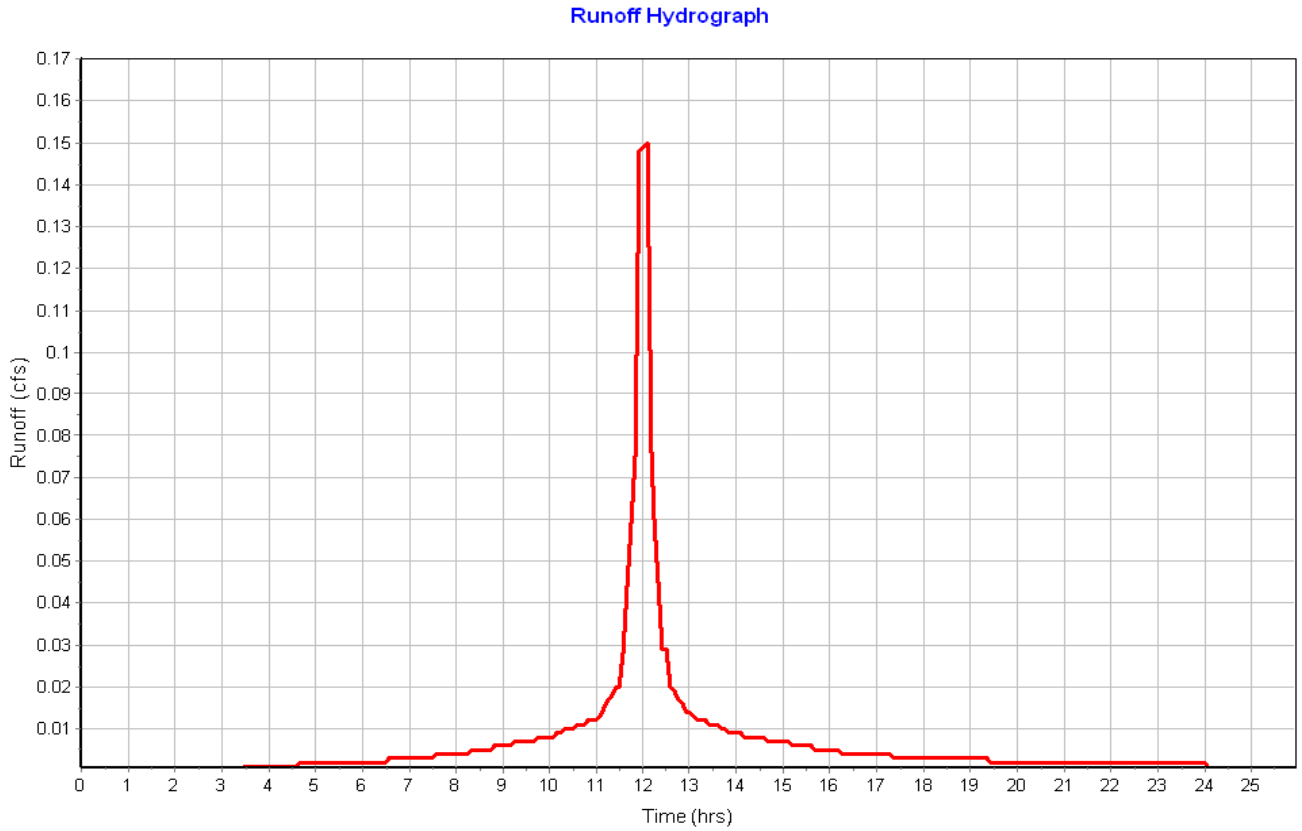
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-12





Subbasin : Roof-13

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

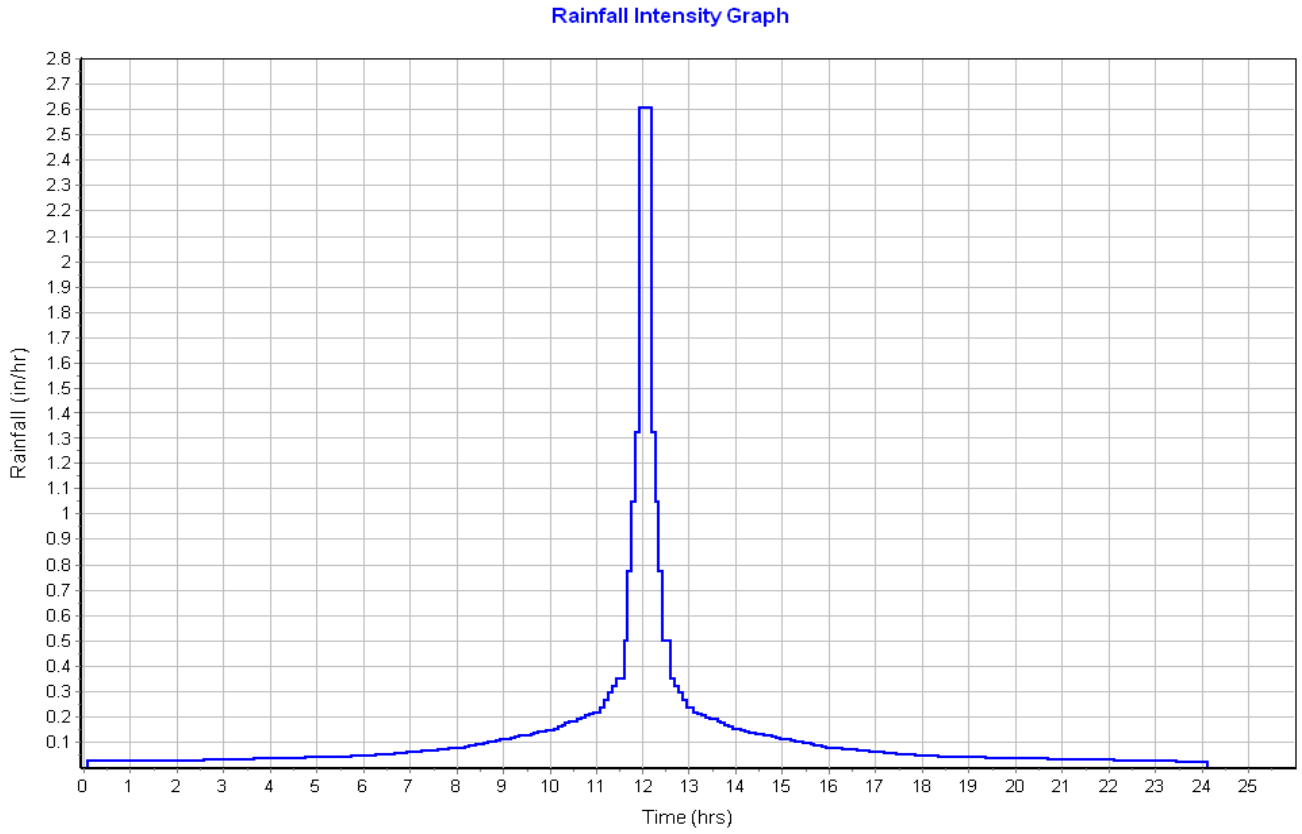
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

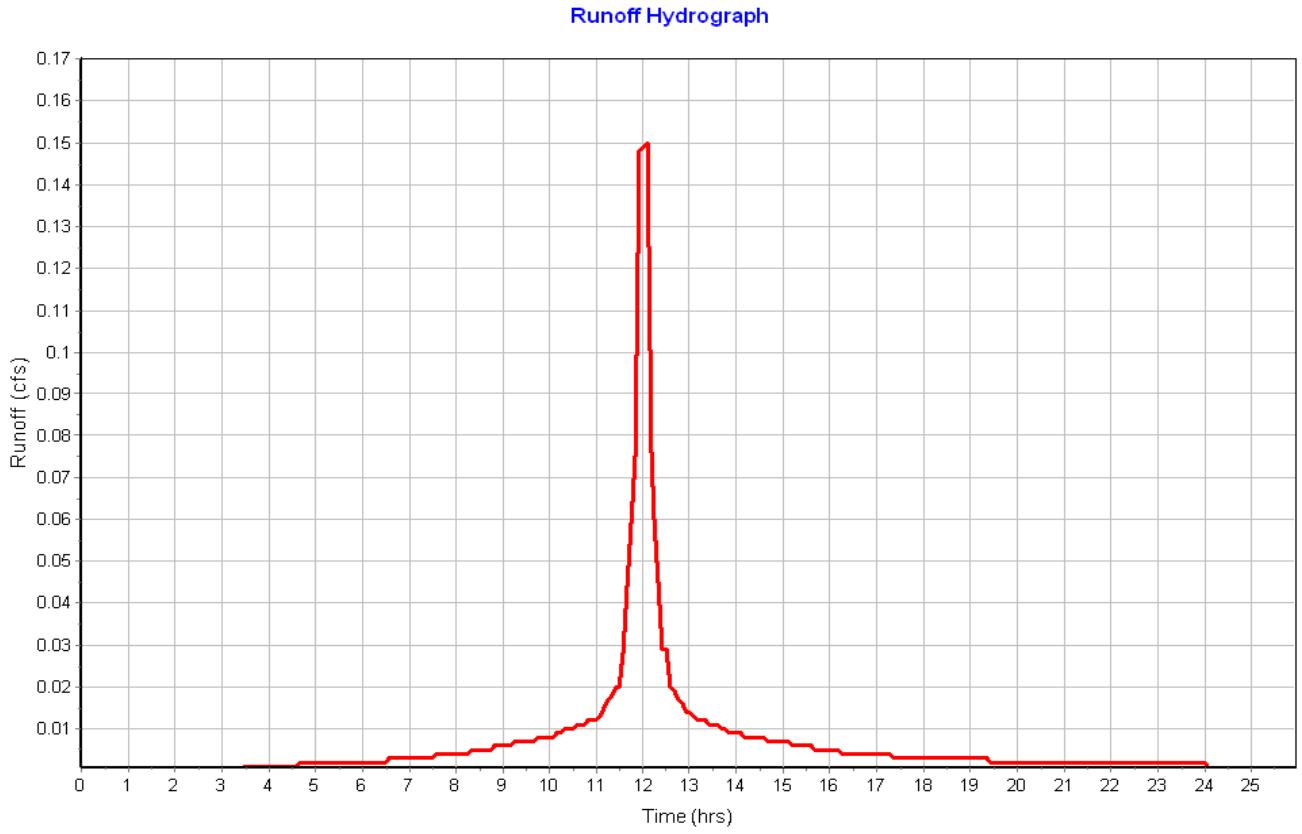
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-13





Subbasin : Roof-14

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

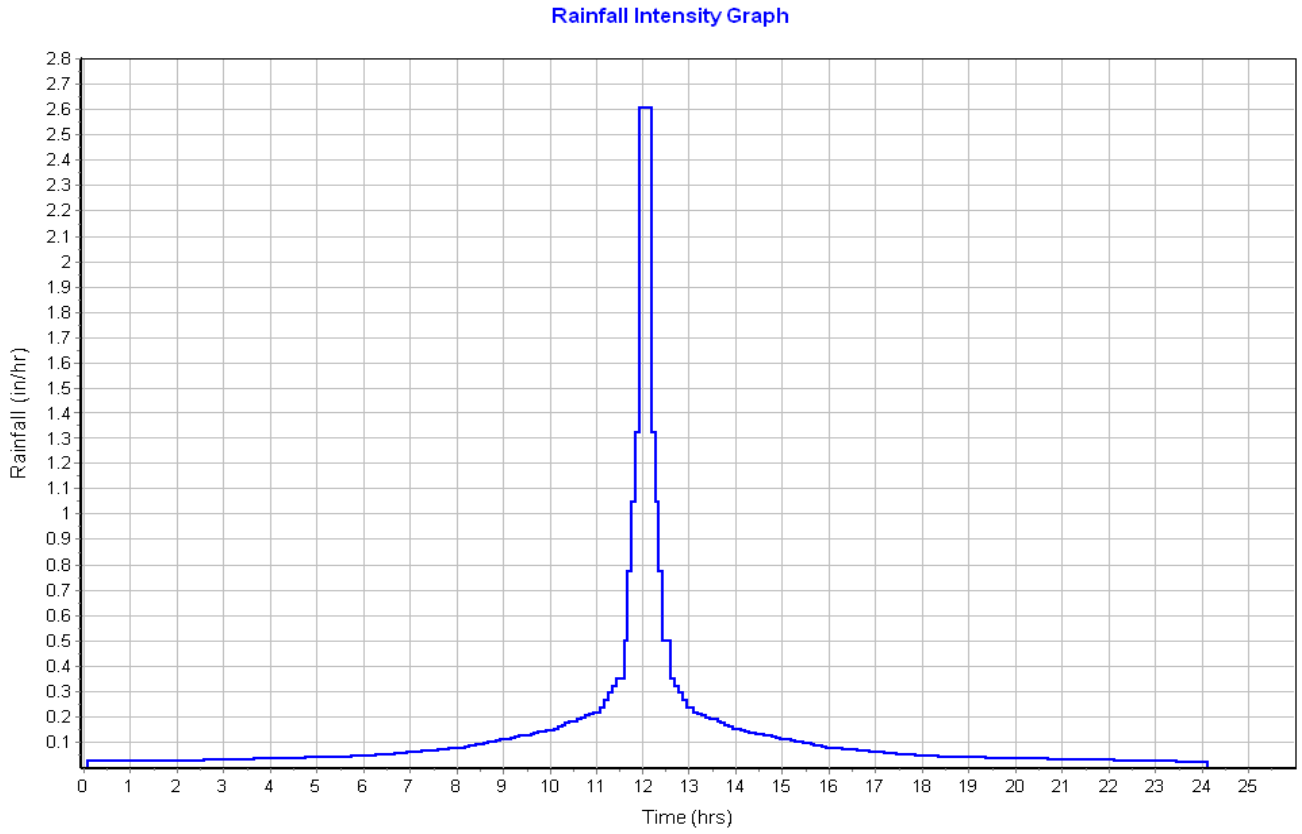
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

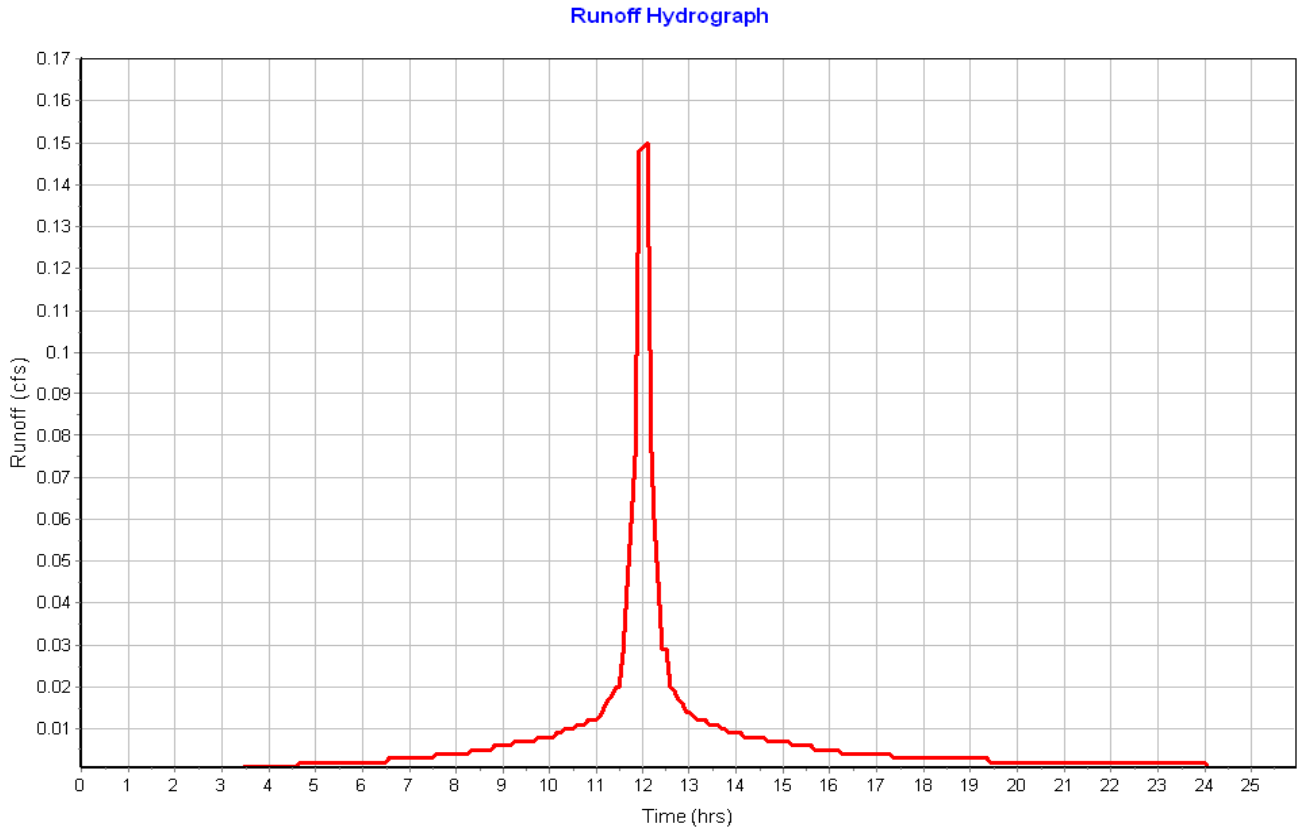
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-14





Subbasin : Roof-15

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

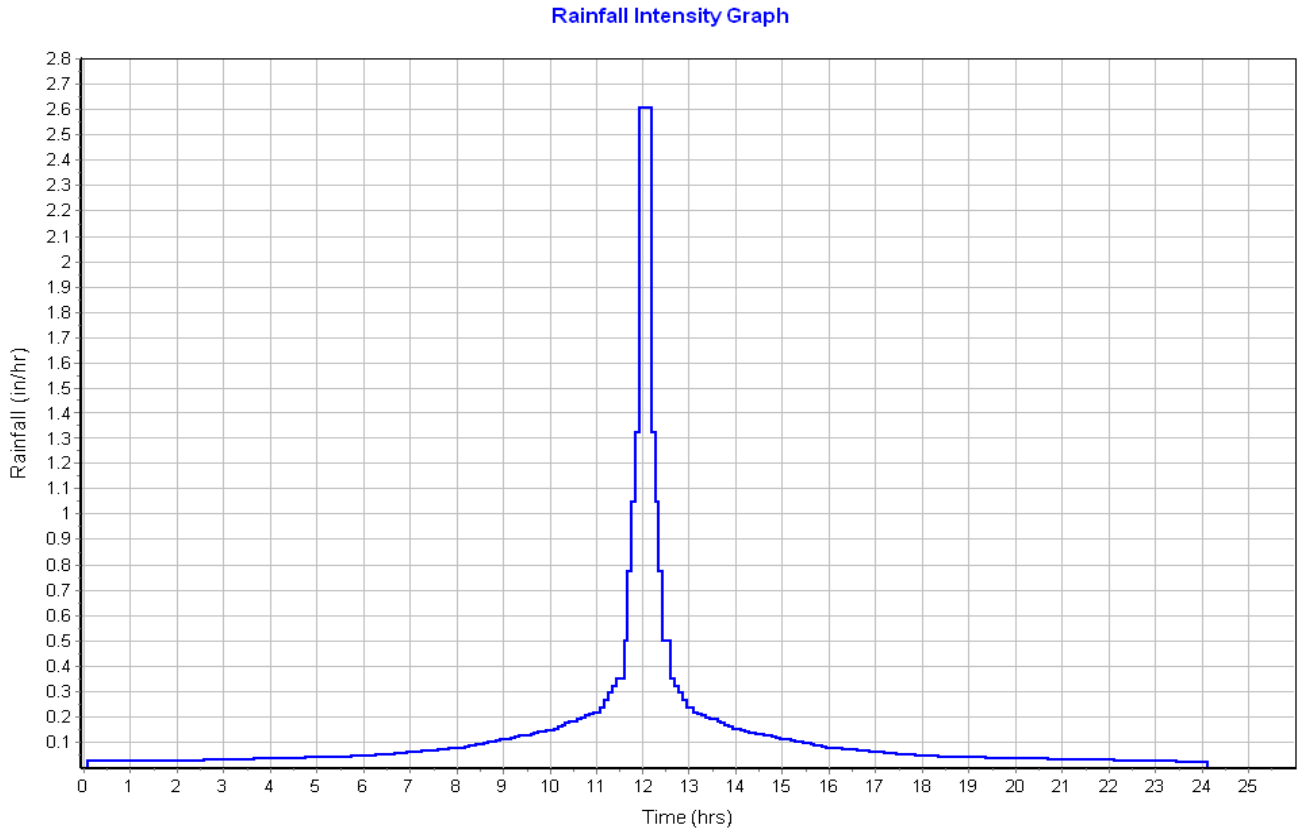
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

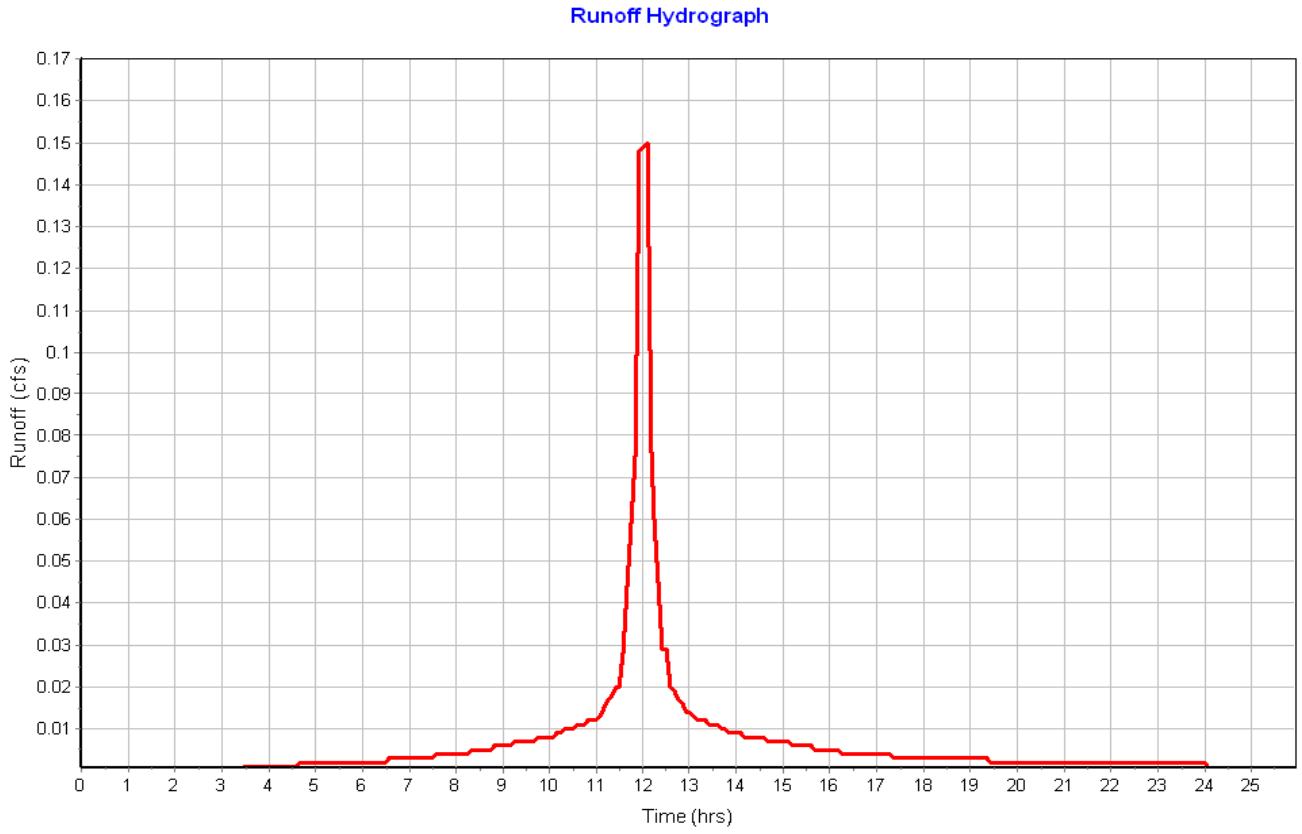
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-15





Subbasin : Roof-16

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

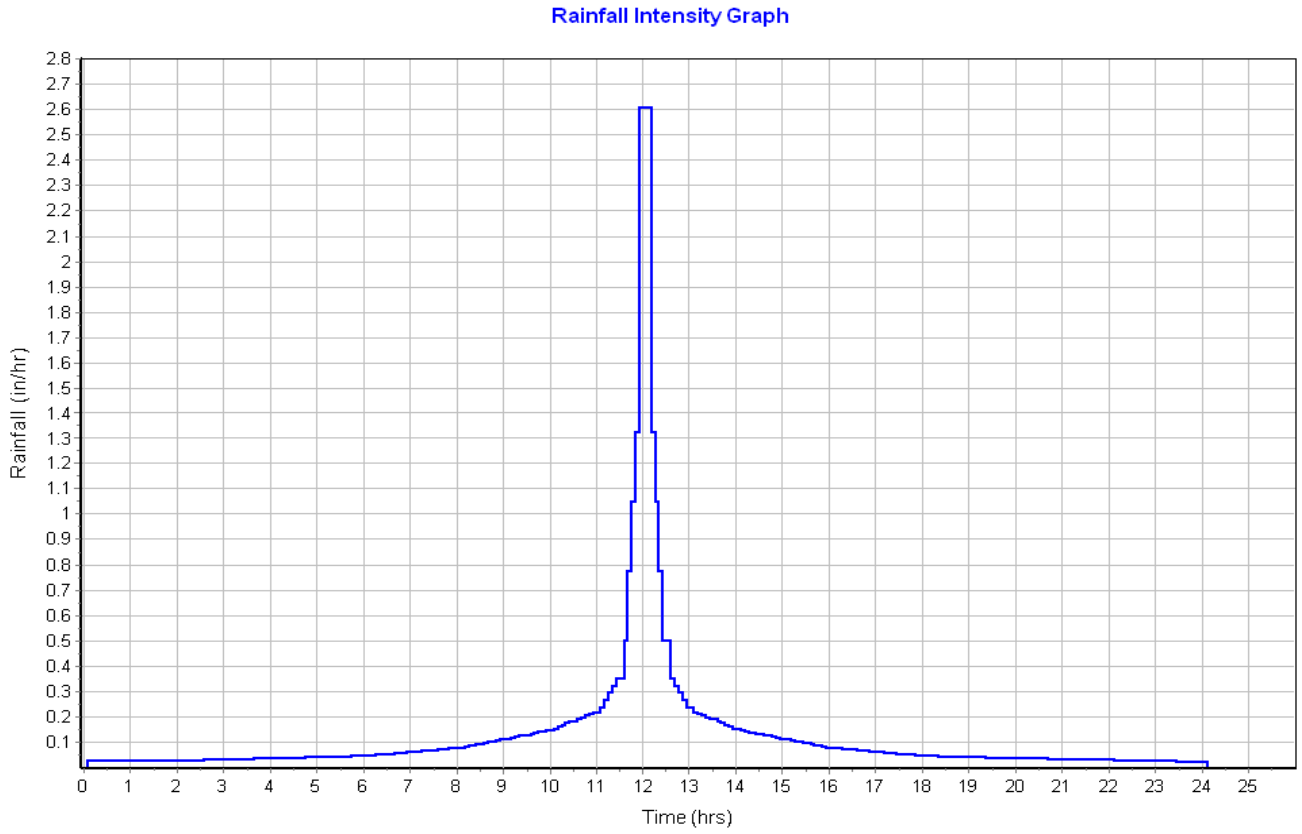
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

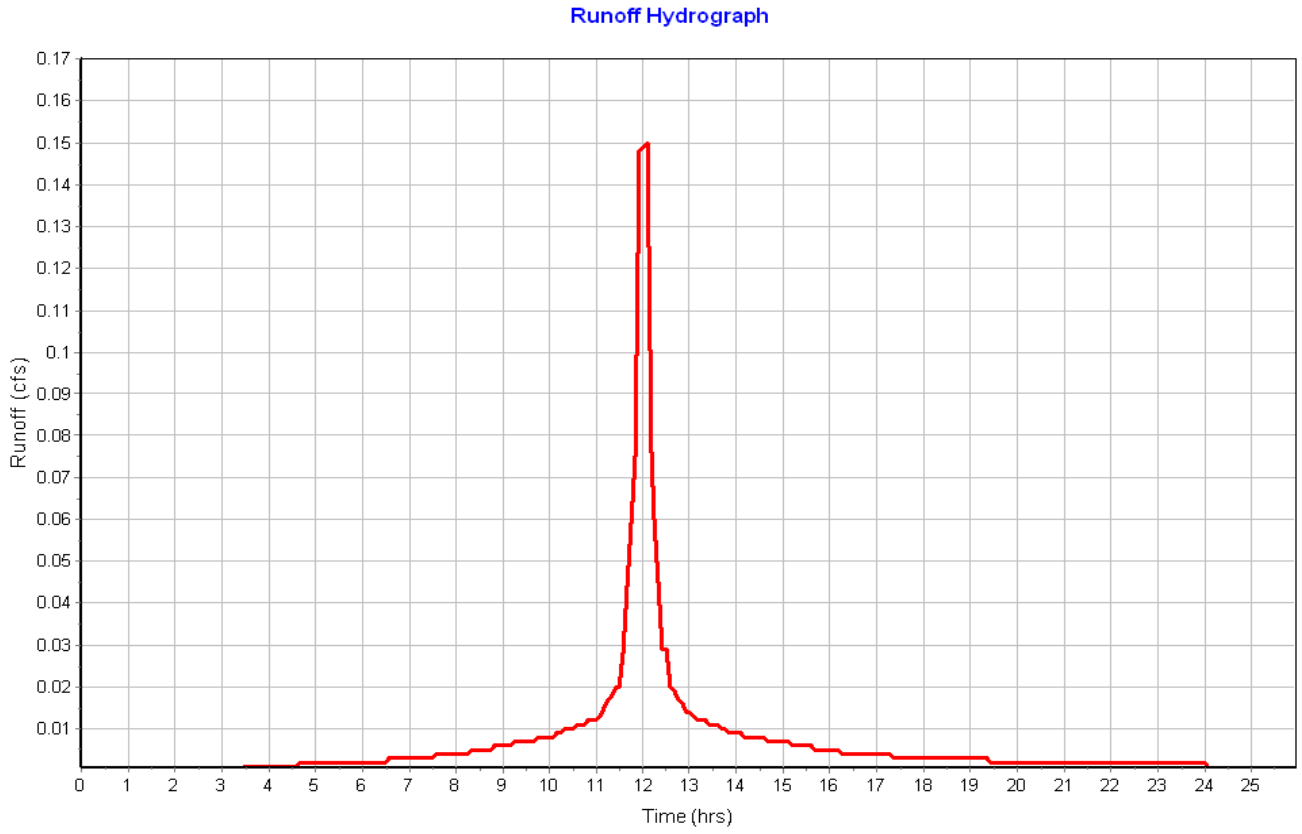
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-16





Subbasin : Roof-17

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

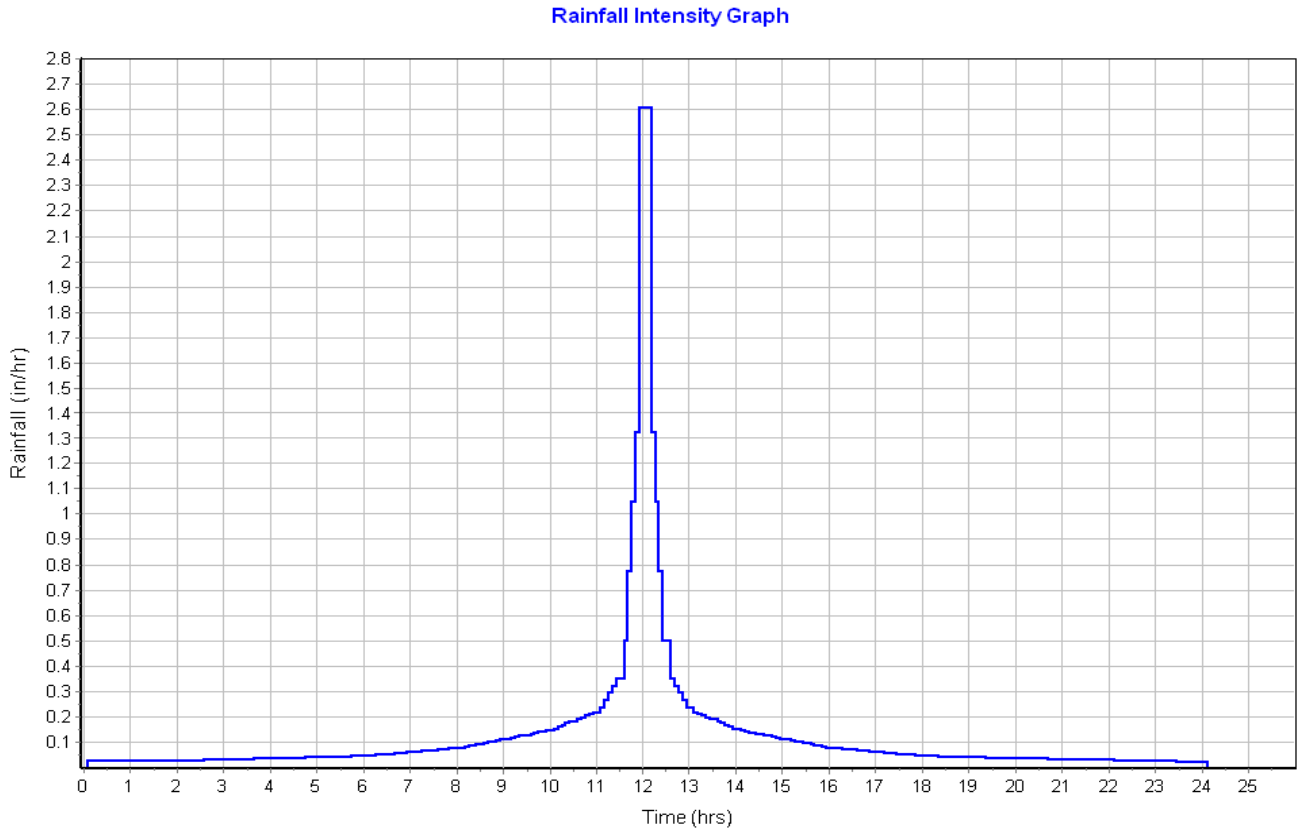
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

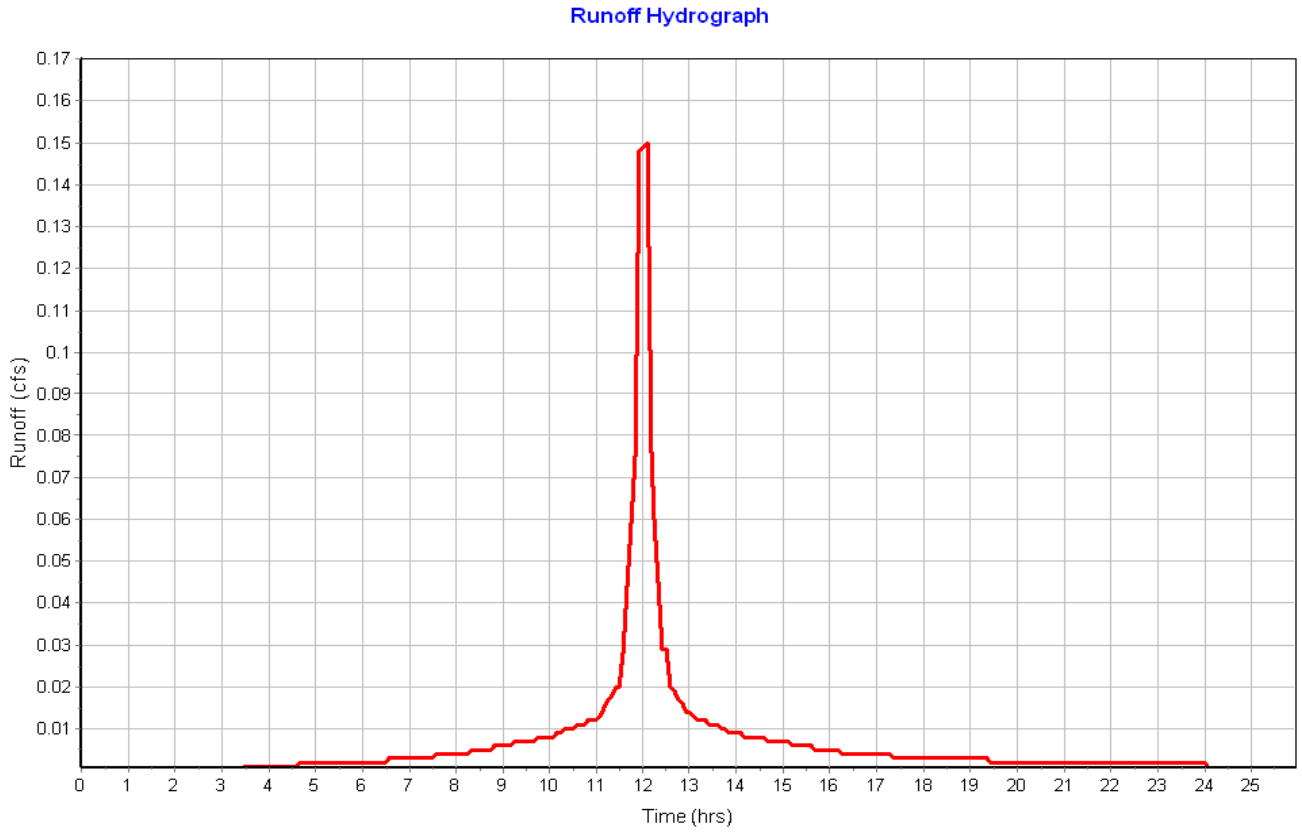
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-17





Subbasin : Roof-18

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

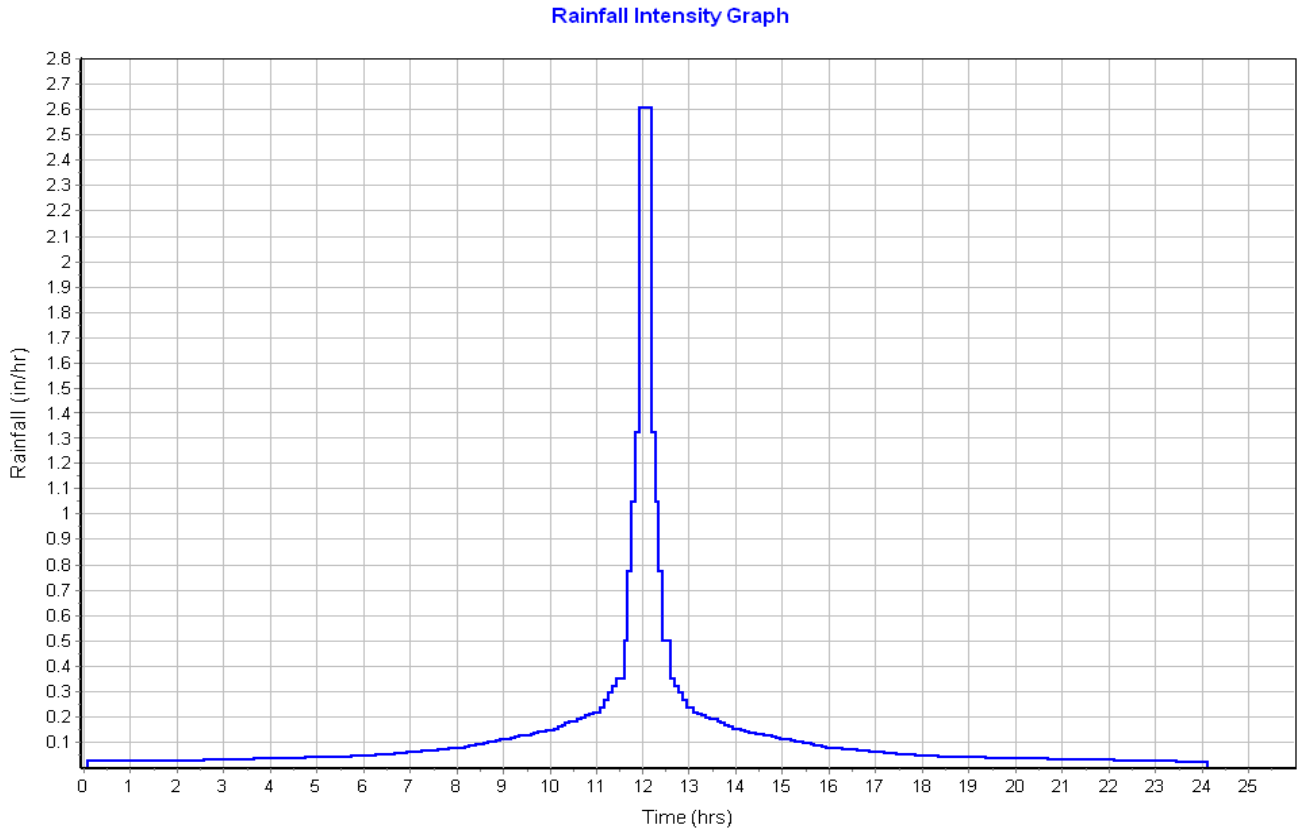
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

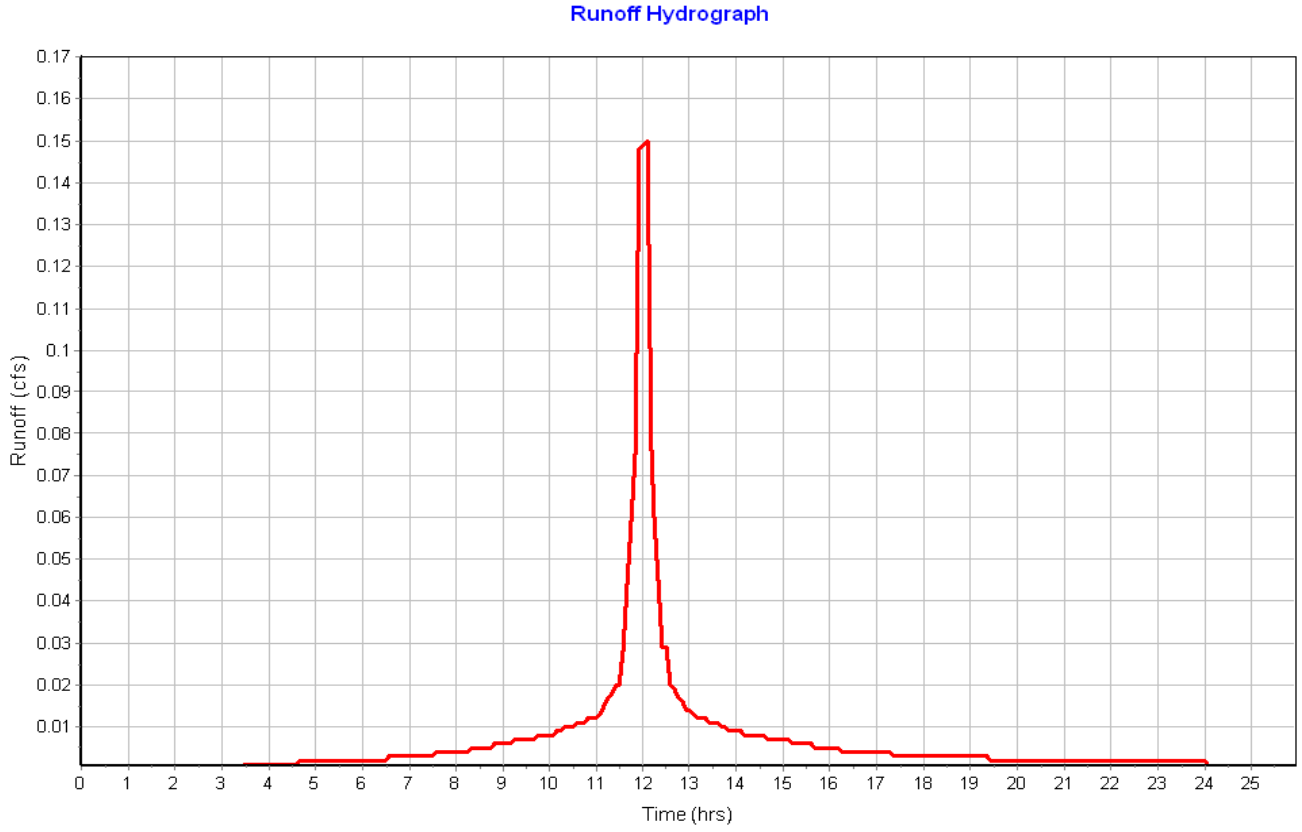
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-18





Subbasin : Roof-19

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

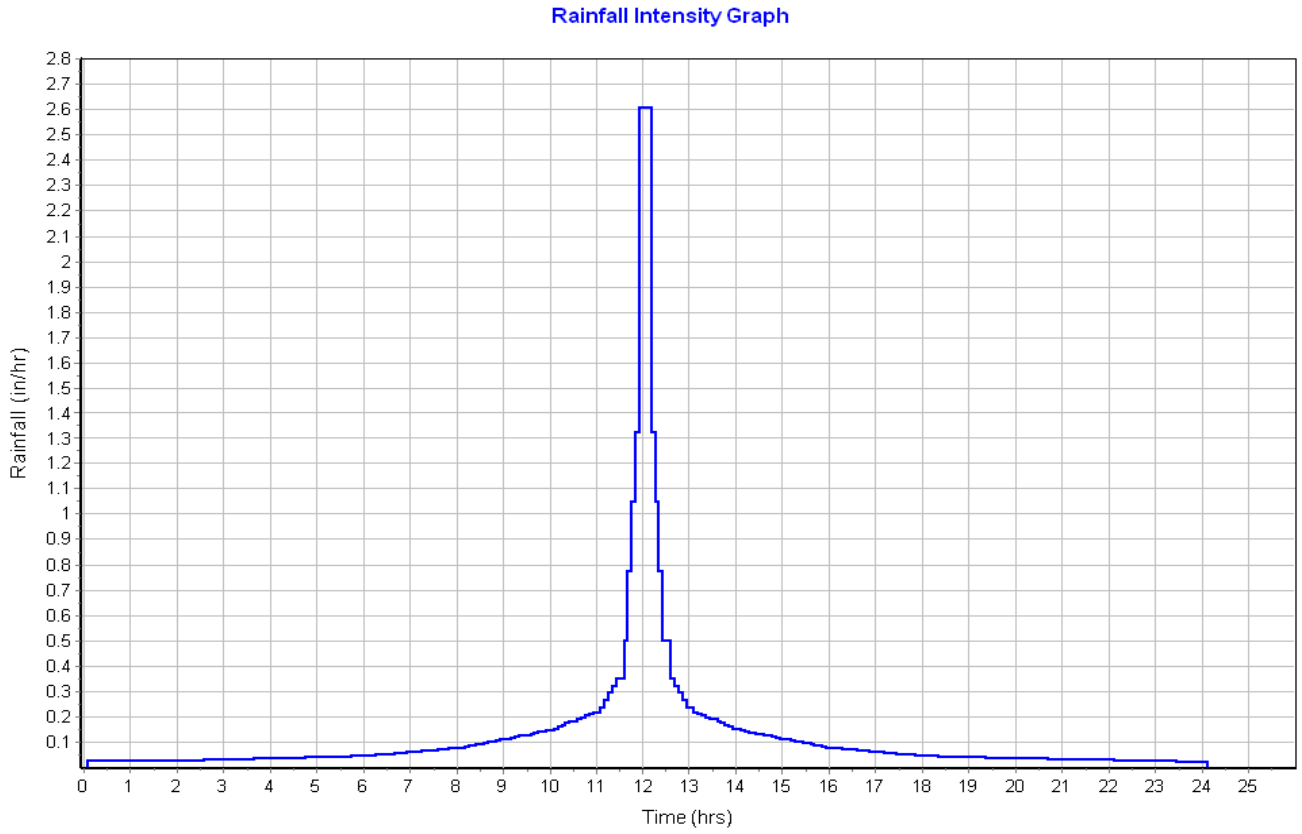
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

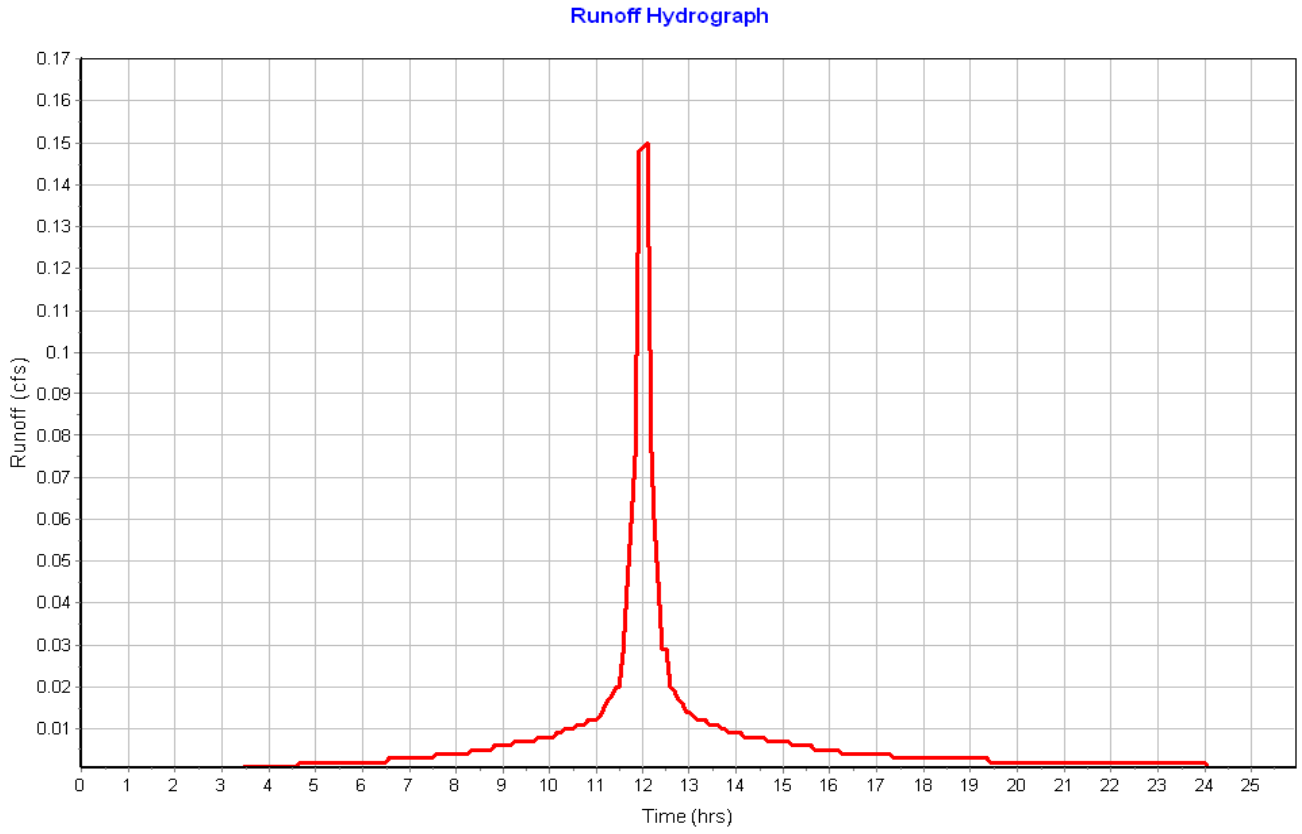
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-19





Subbasin : Roof-20

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

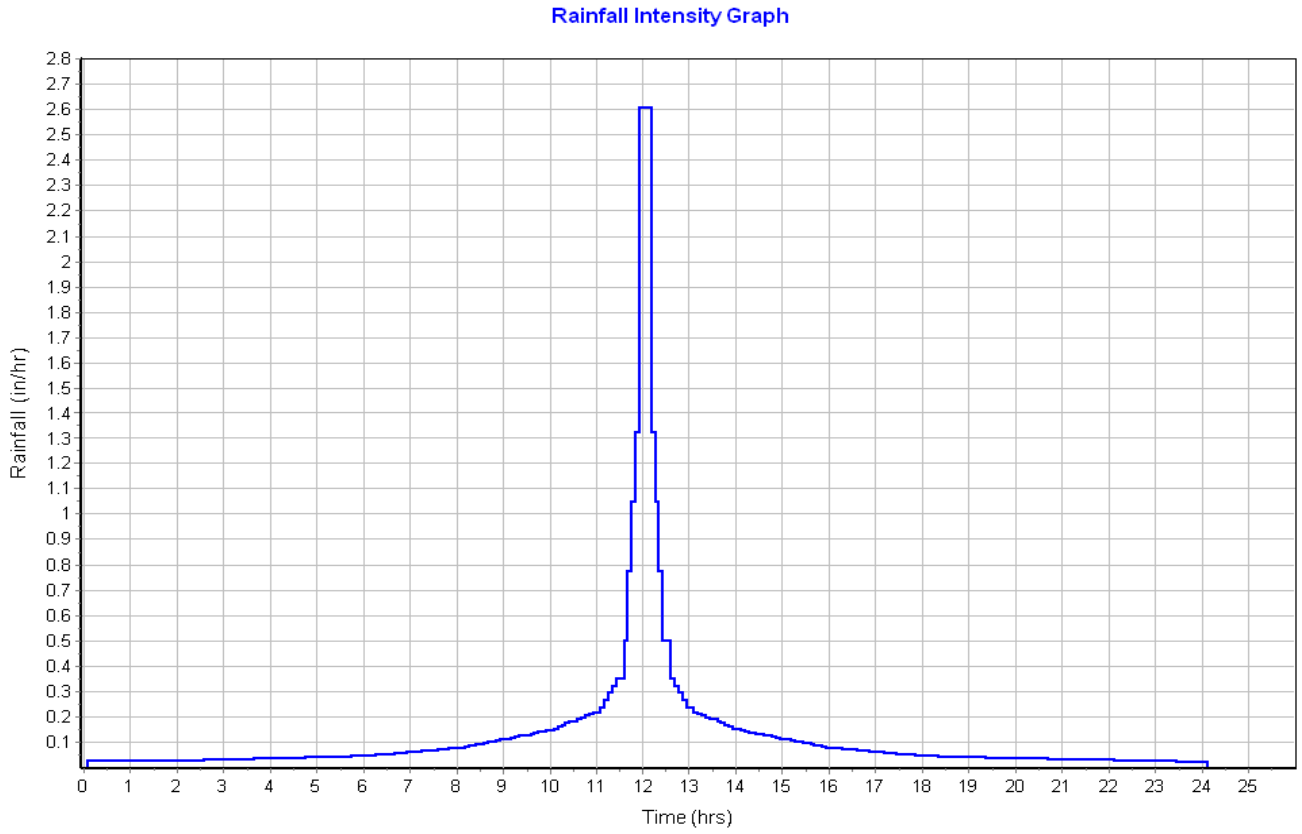
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

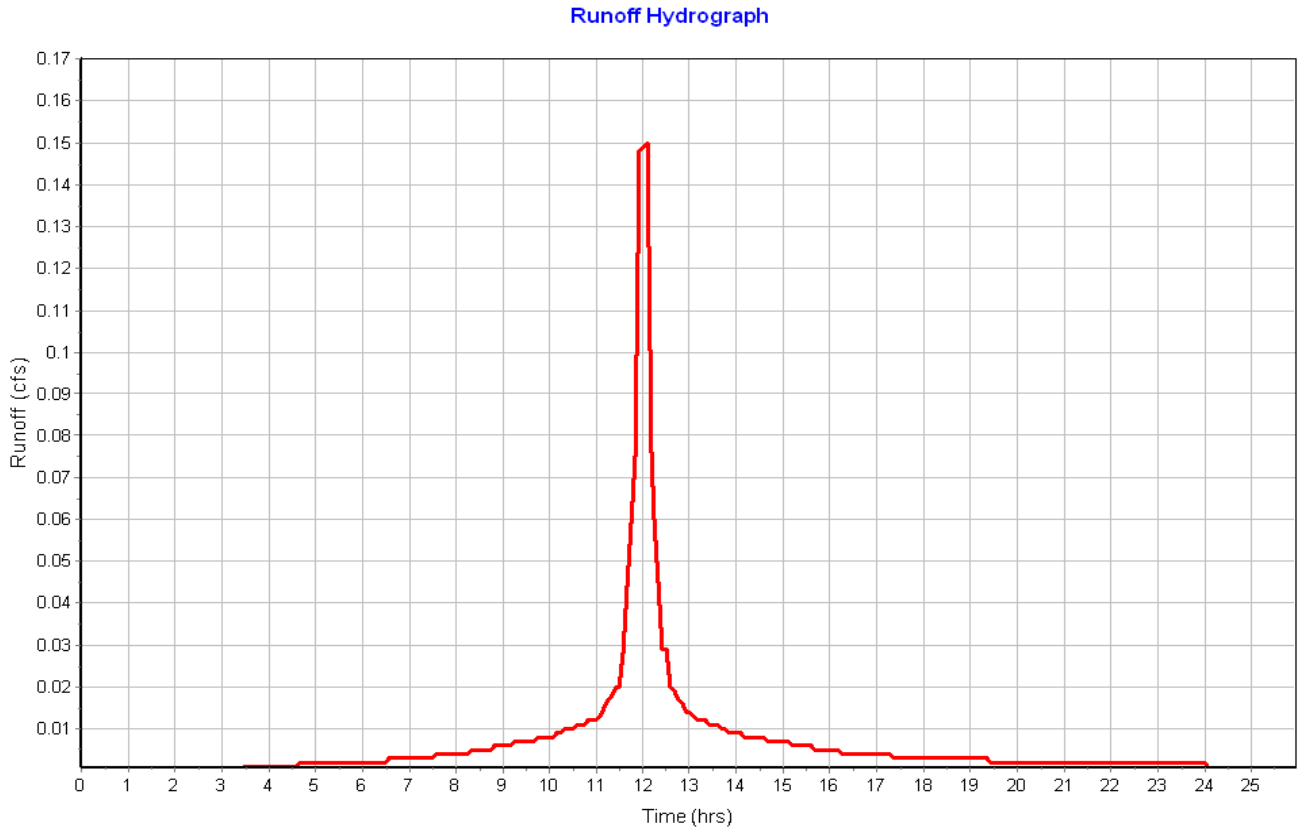
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-20





Subbasin : Roof-21

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

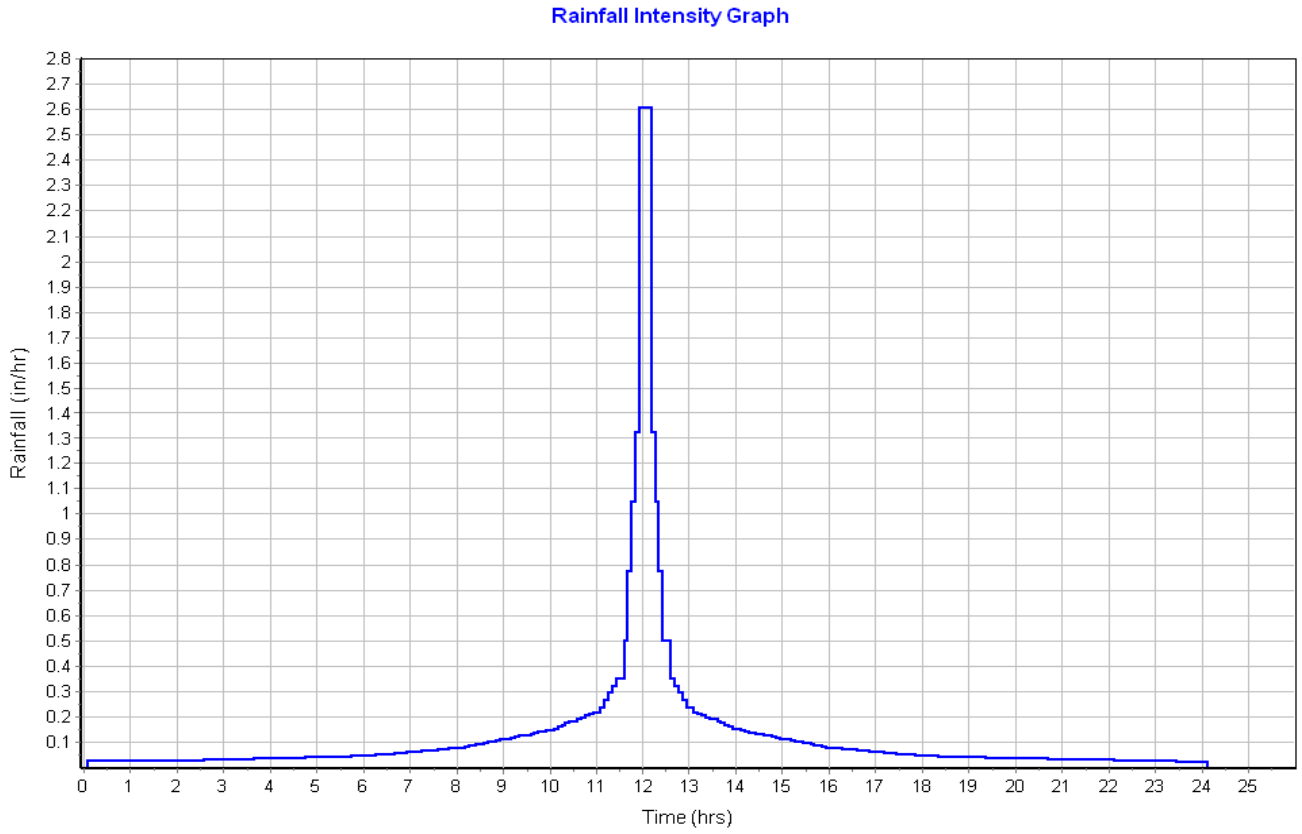
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

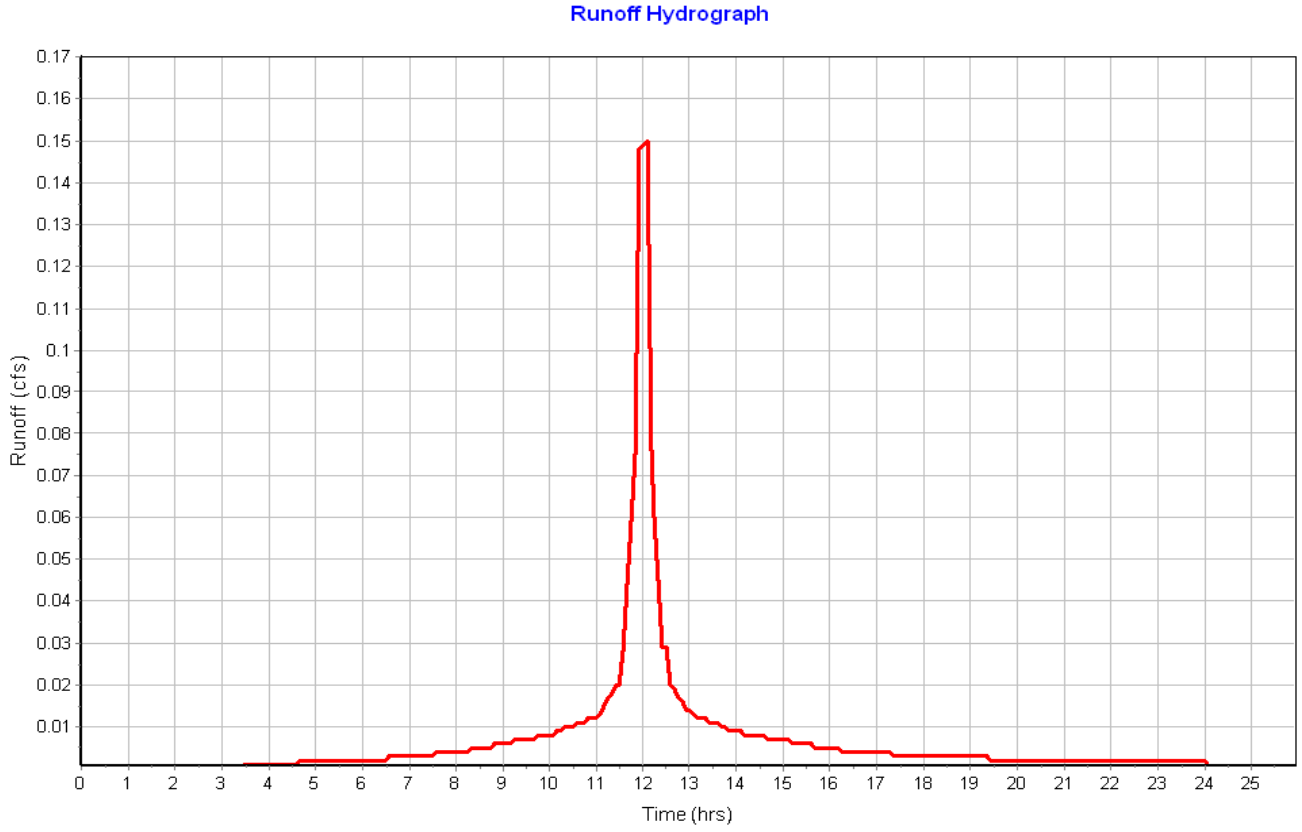
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-21





Subbasin : Roof-22

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

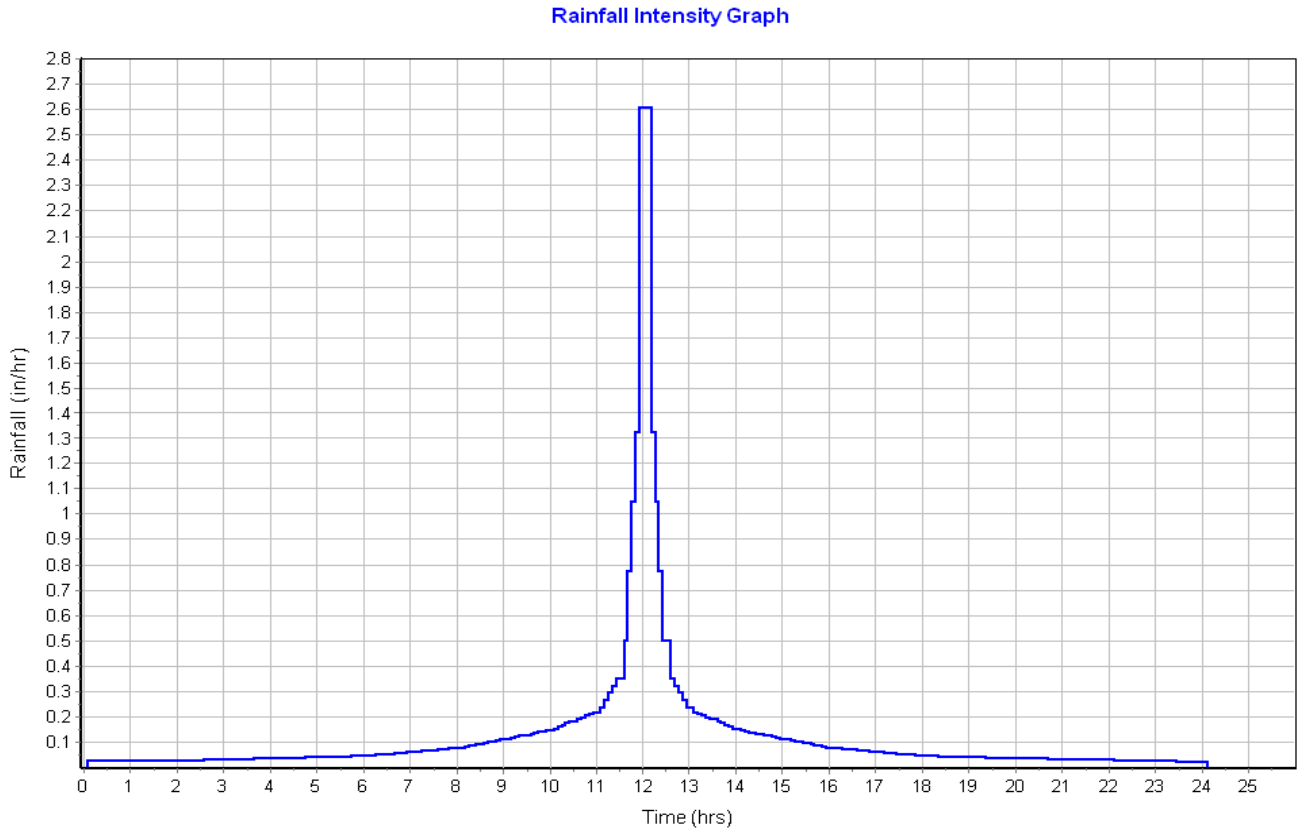
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

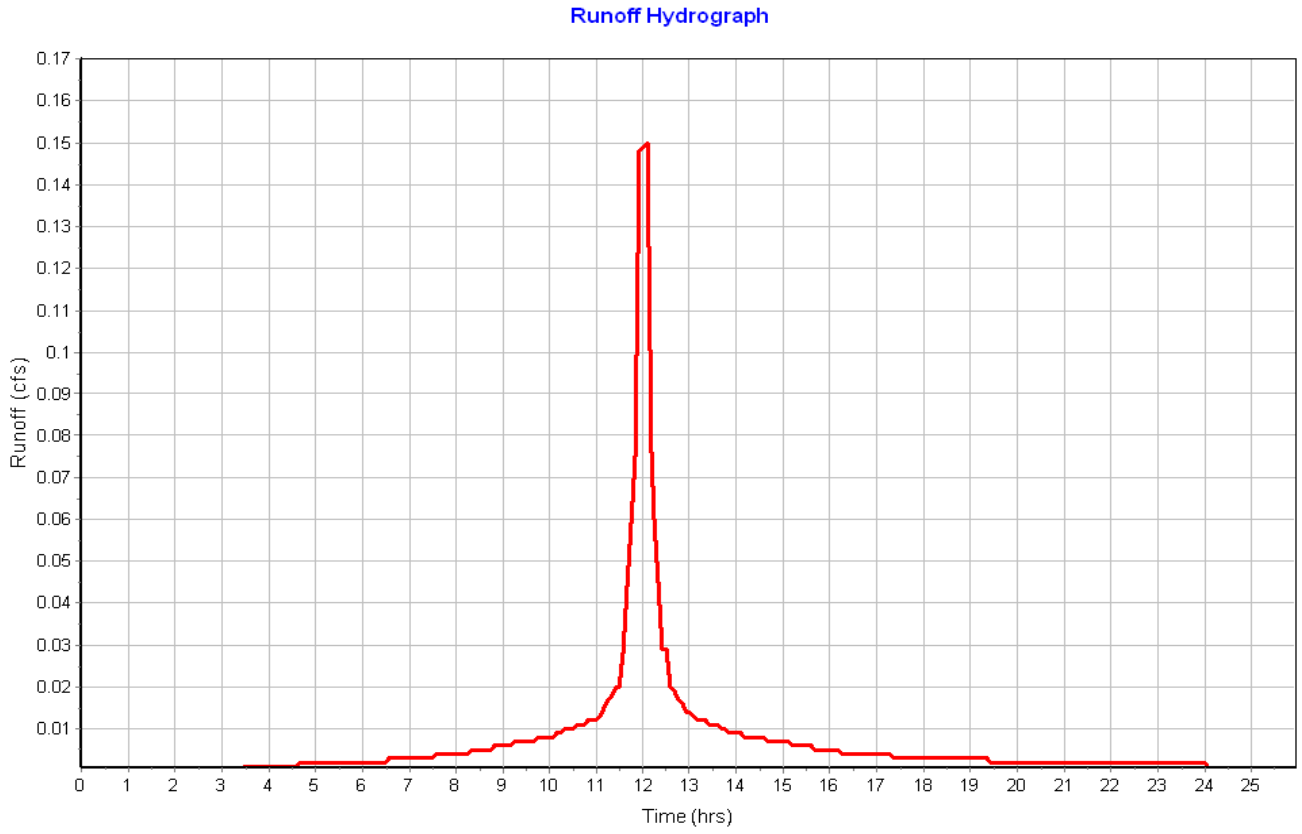
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-22





Subbasin : Roof-23

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

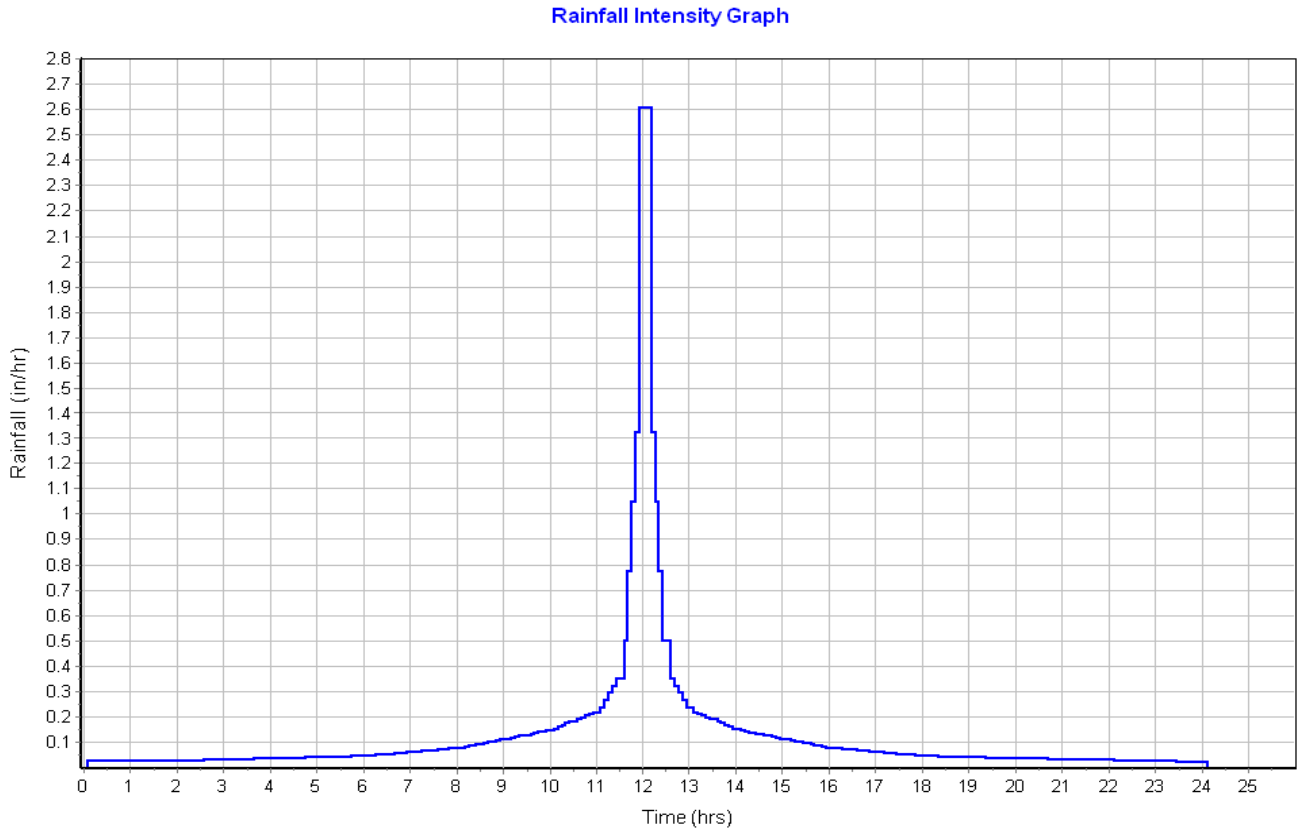
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

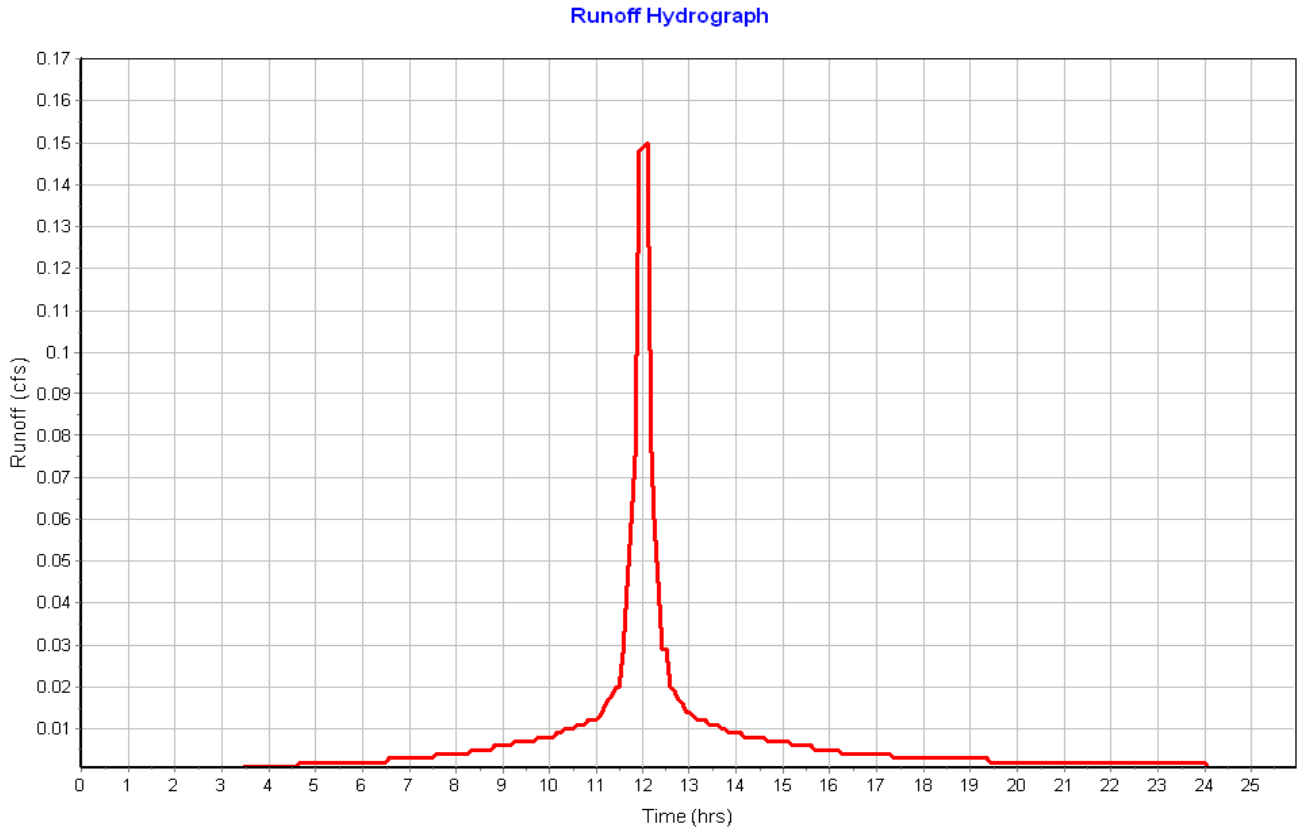
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-23





Subbasin : Roof-24

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

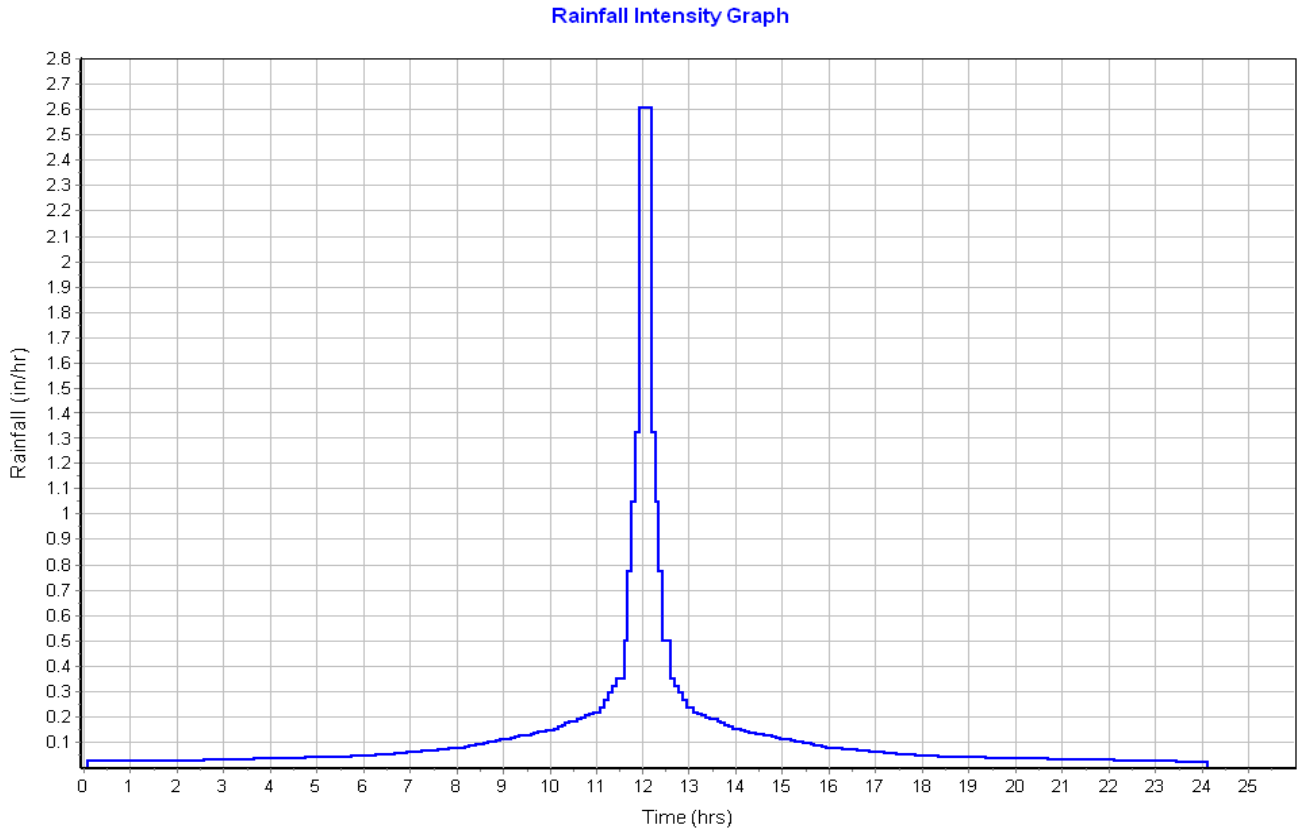
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

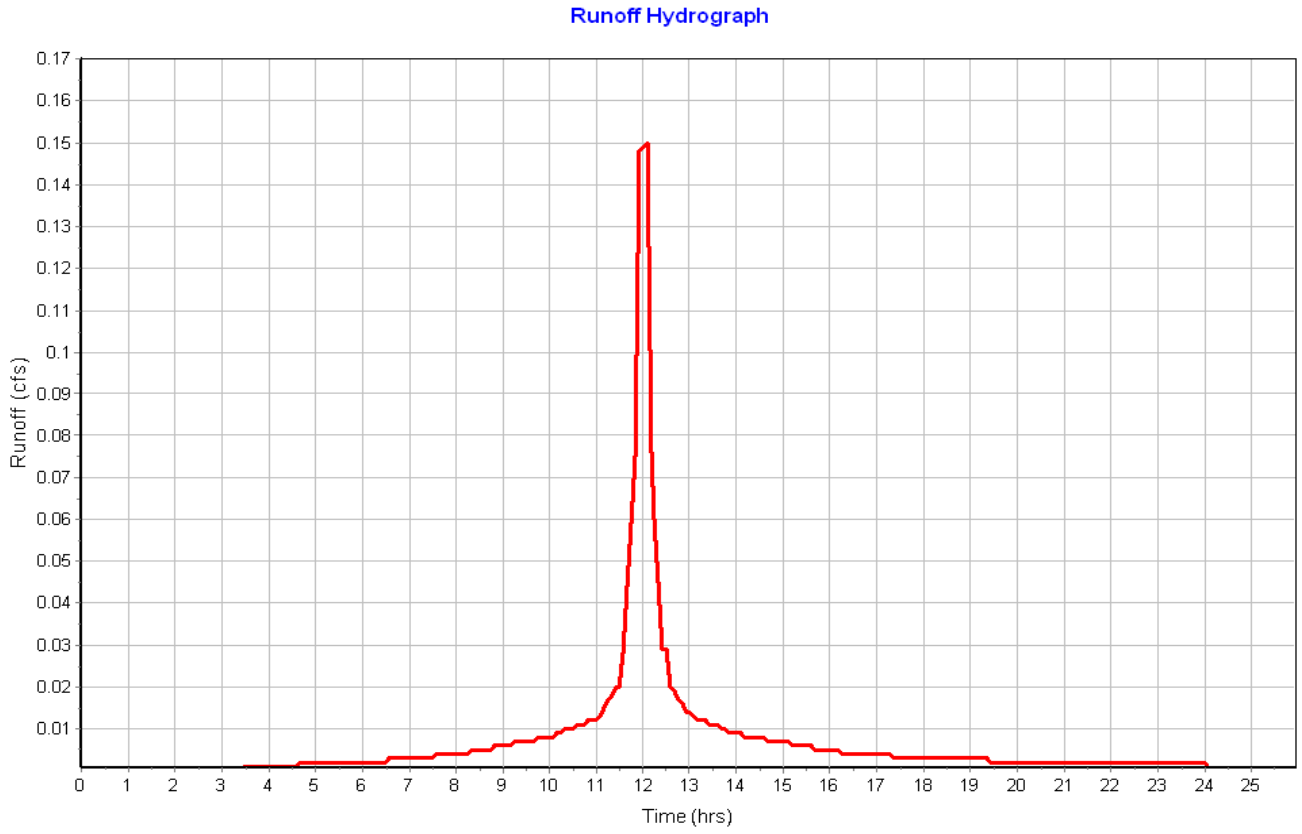
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-24





Subbasin : Roof-25

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

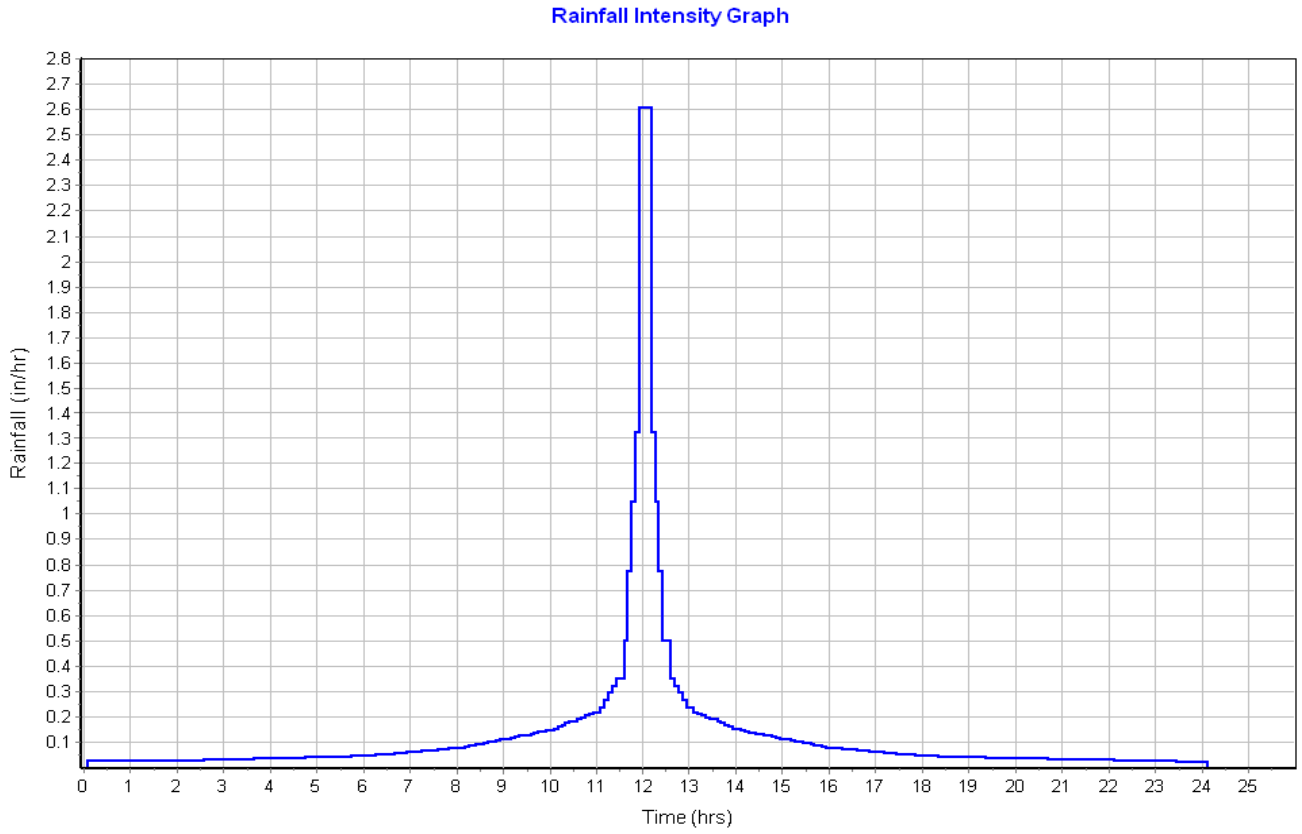
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

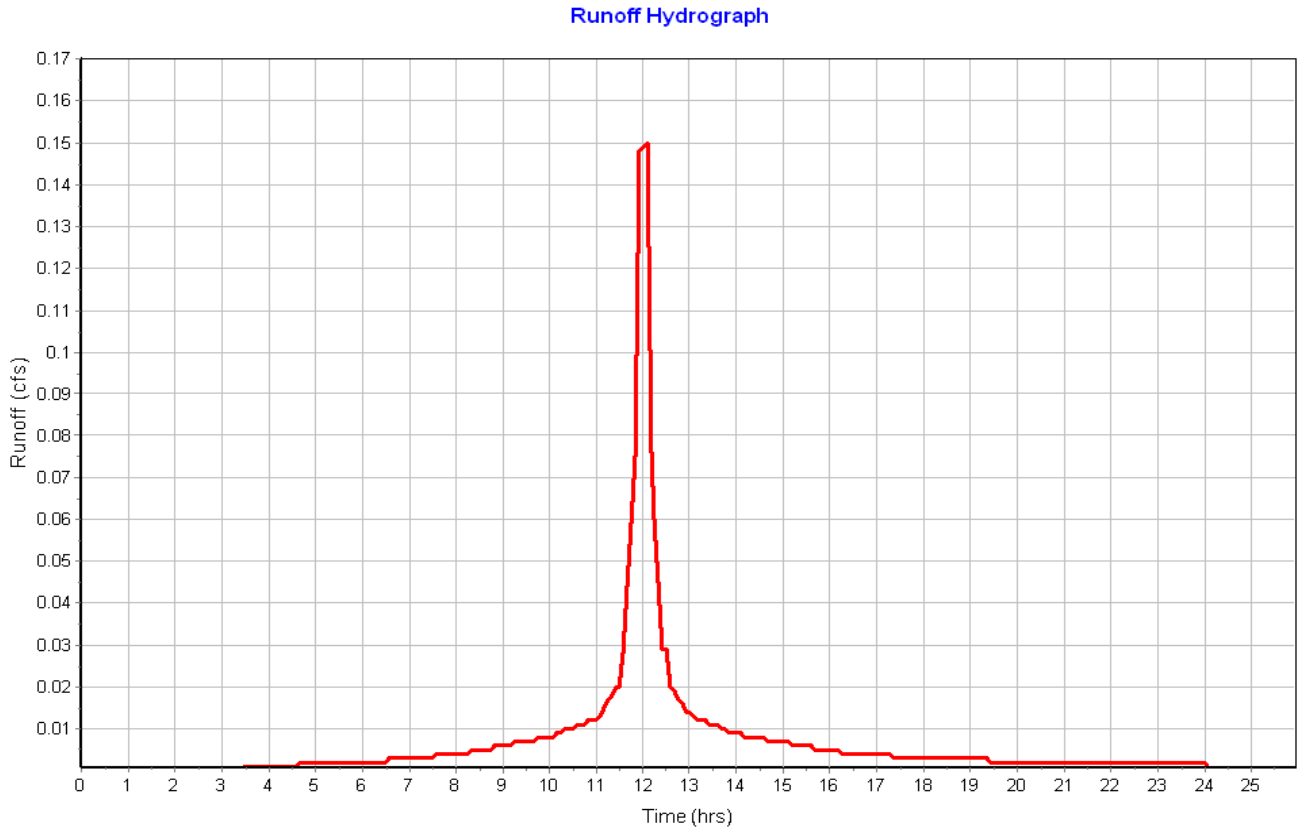
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-25





Subbasin : Roof-26

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

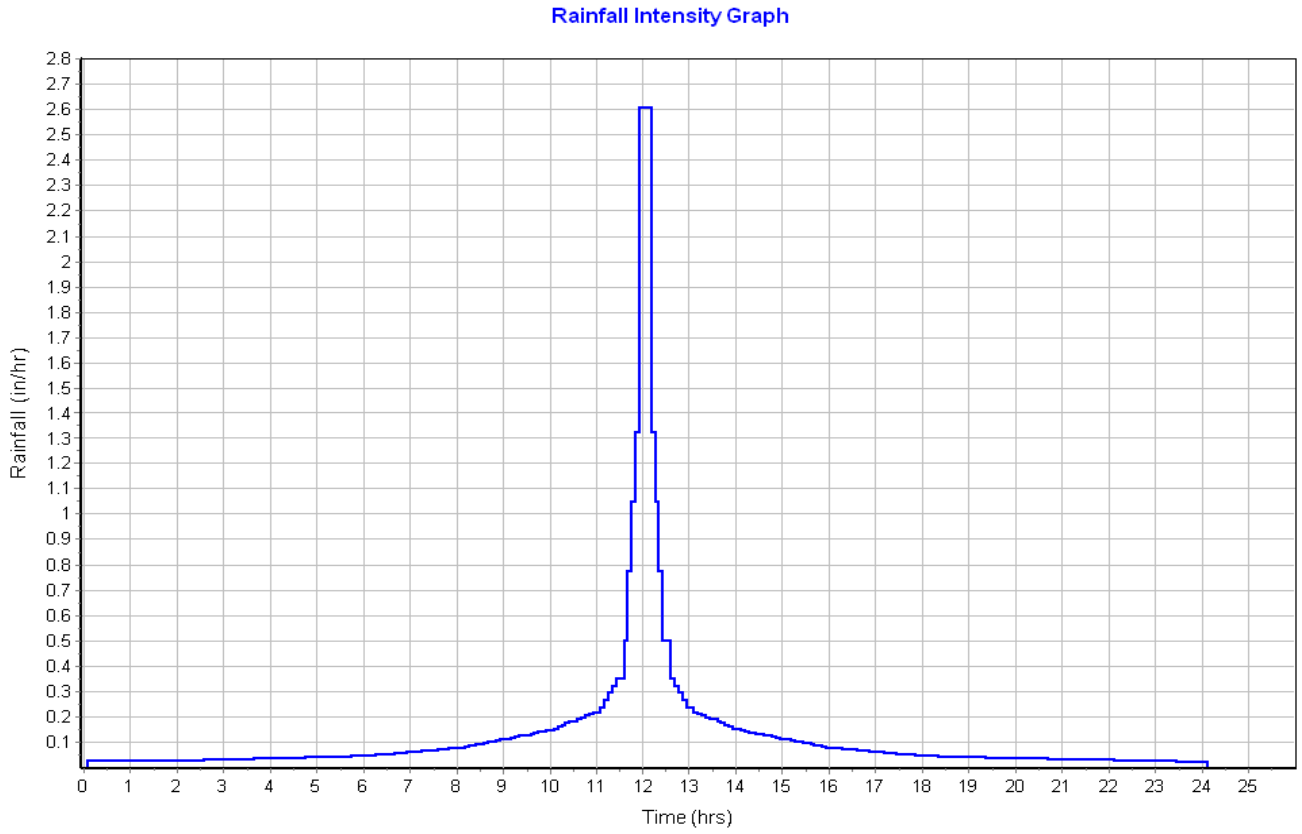
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

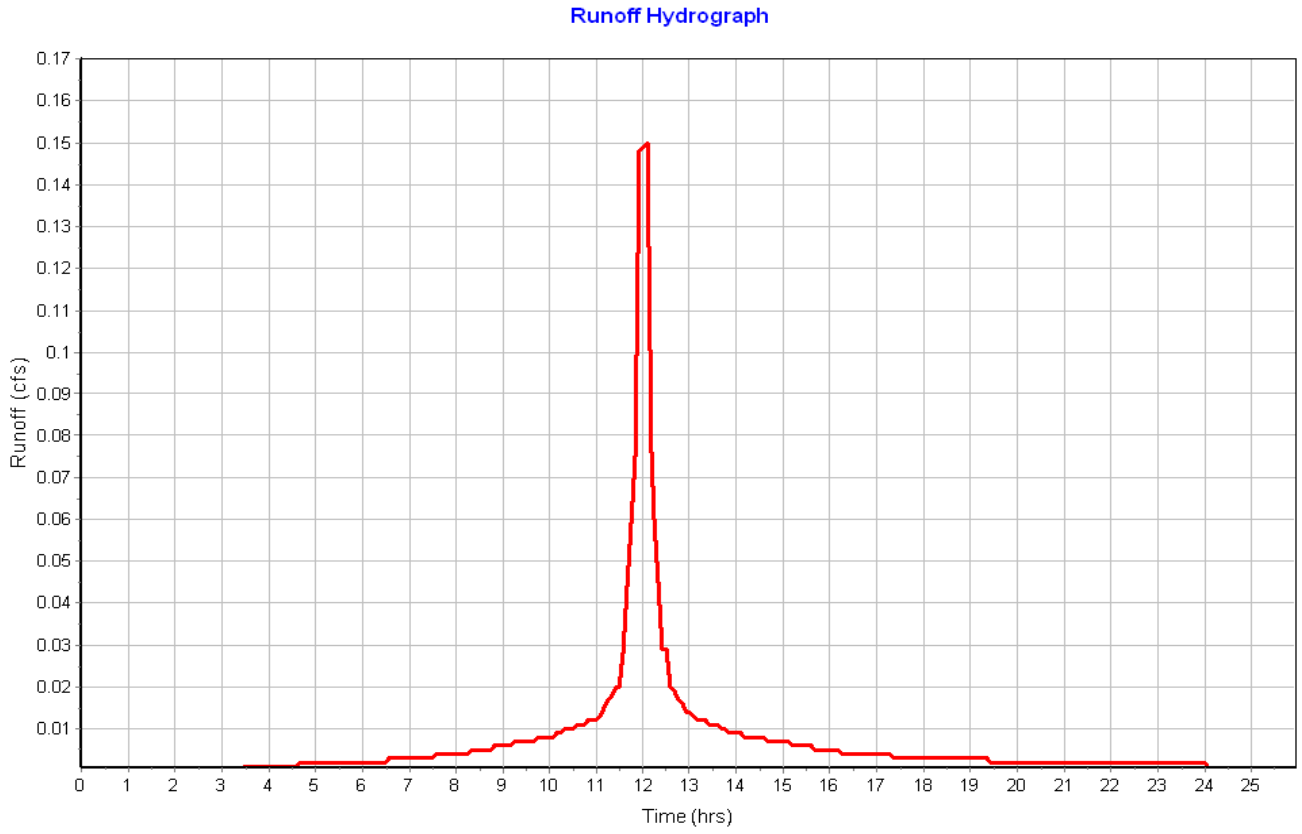
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-26





Subbasin : Sub-01

Input Data

Area (ac) 1.64
Peak Rate Factor 484.00
Weighted Curve Number 73.47
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	0.87	C	73.00
> 75% grass cover, Good	0.78	C	74.00
Composite Area & Weighted CN	1.65		73.47

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	7.1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.16	0.00	0.00
Computed Flow Time (min) :	31.11	0.00	0.00

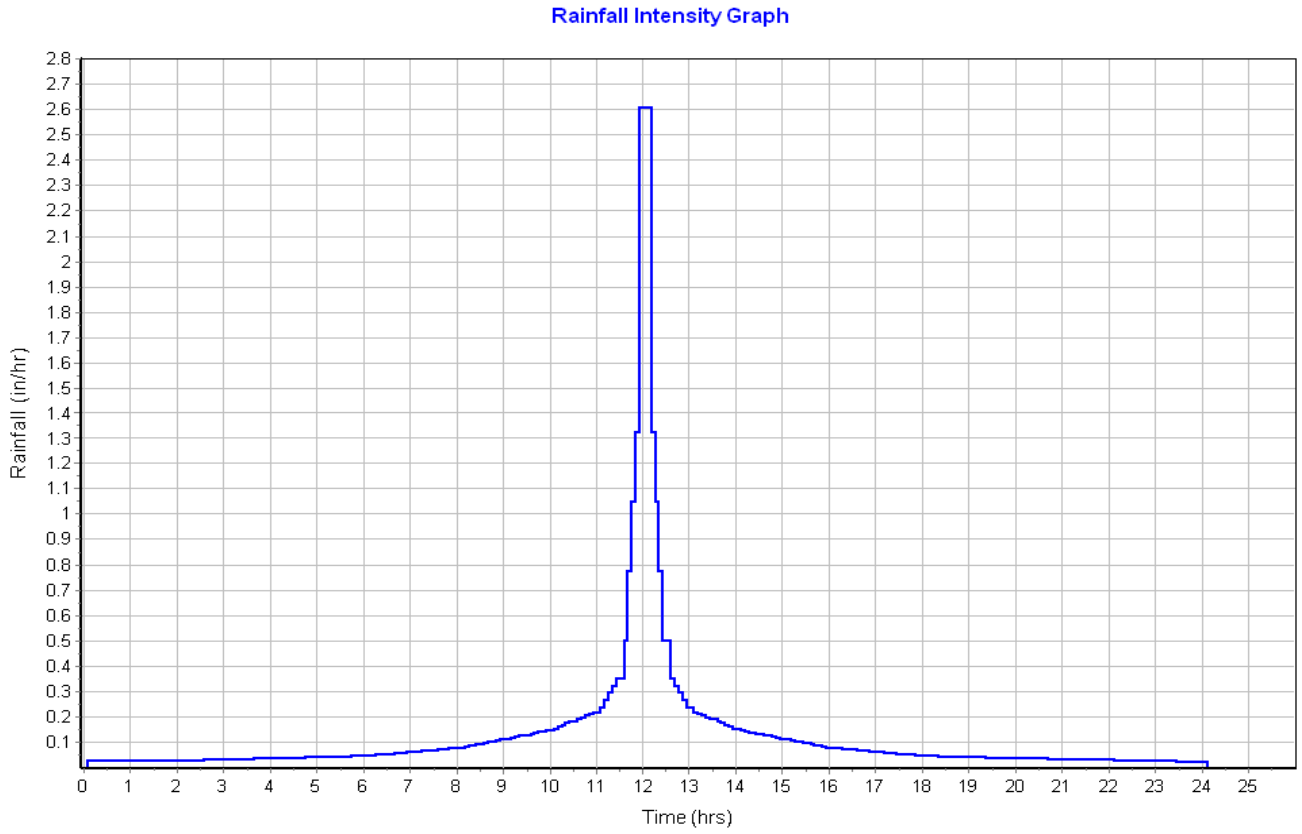
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	65	0.00	0.00
Slope (%) :	7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.32	0.00	0.00
Computed Flow Time (min) :	0.82	0.00	0.00

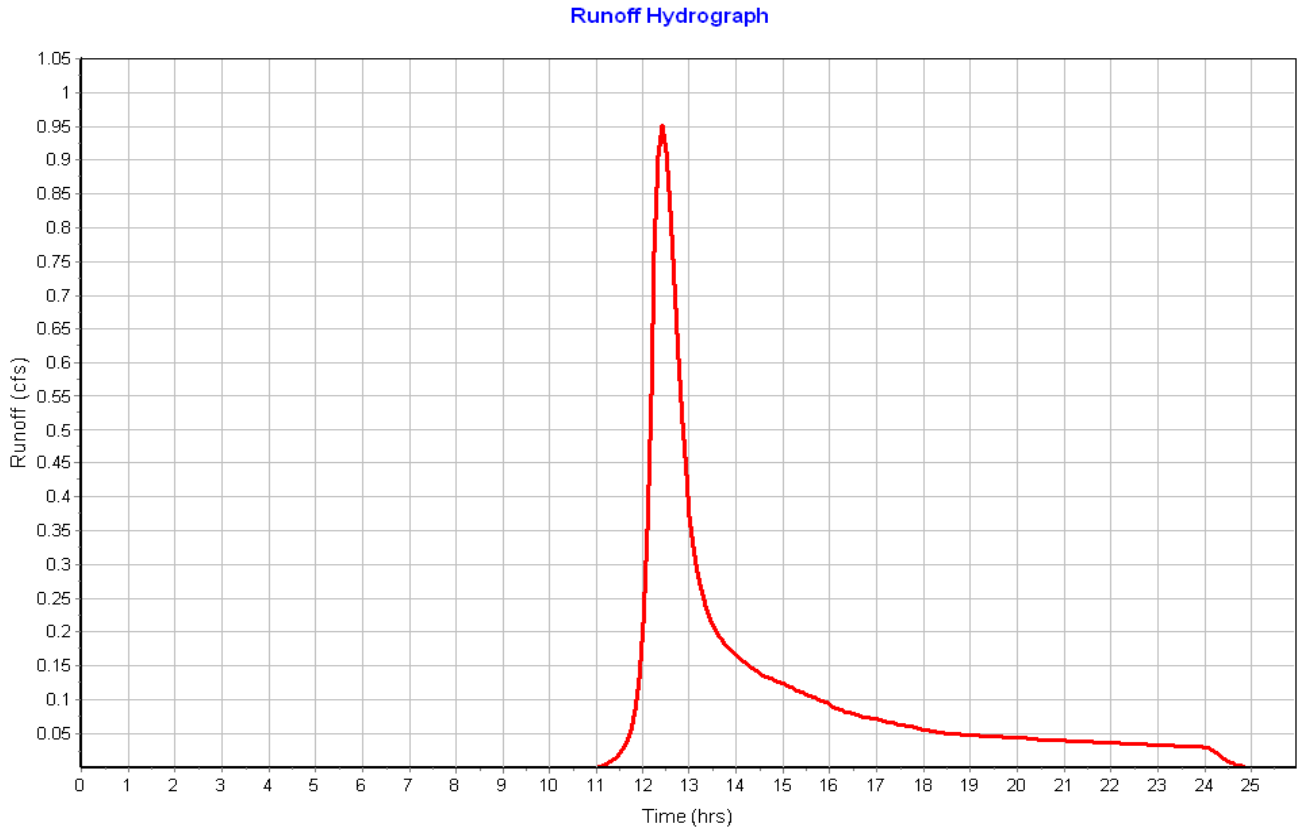
Total TOC (min) 31.93

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.94
Peak Runoff (cfs) 0.95
Weighted Curve Number 73.47
Time of Concentration (days hh:mm:ss) 0 00:31:56

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	2.48
Peak Rate Factor	484.00
Weighted Curve Number	73.09
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	2.25	C	73.00
> 75% grass cover, Good	0.23	C	74.00
Composite Area & Weighted CN	2.48		73.09

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	6.14	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.15	0.00	0.00
Computed Flow Time (min) :	32.97	0.00	0.00

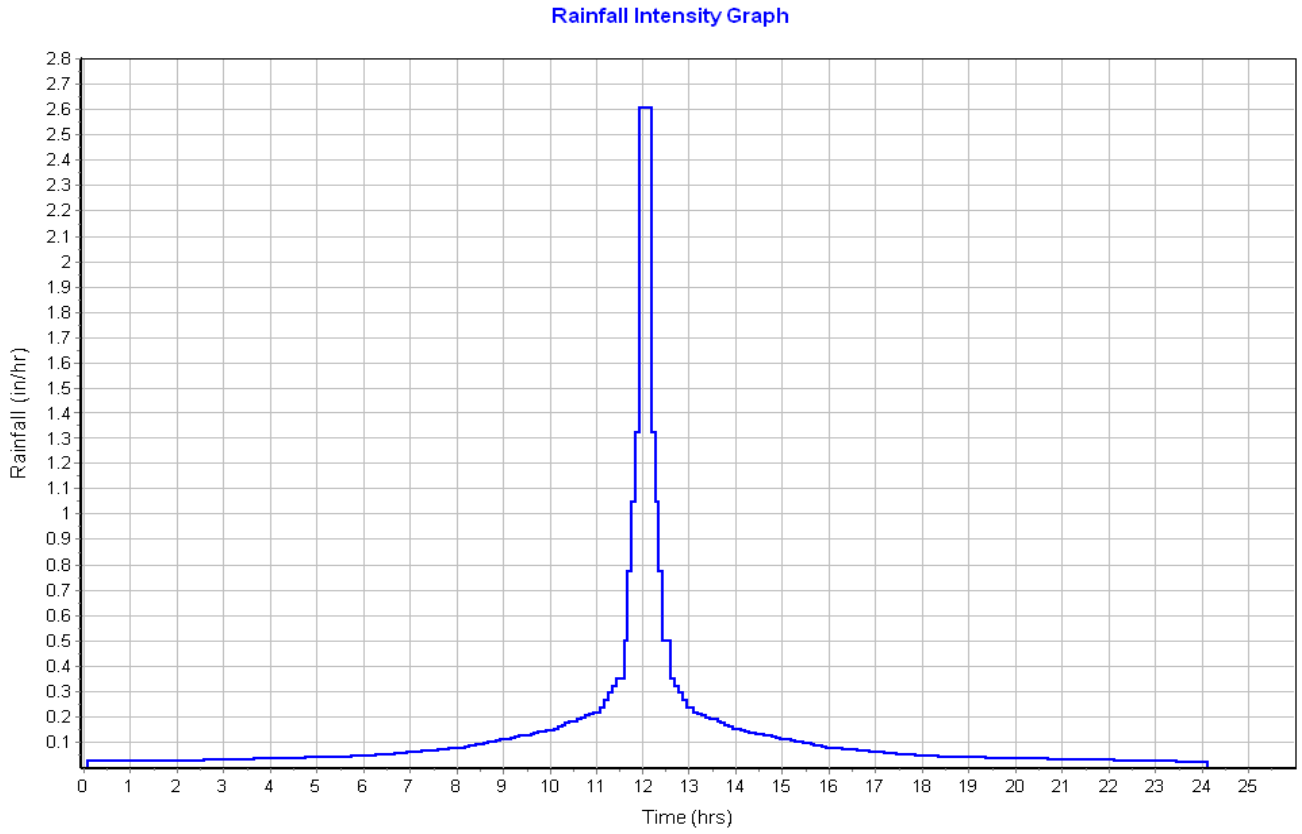
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	677	0.00	0.00
Slope (%) :	6.14	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	9.10	0.00	0.00

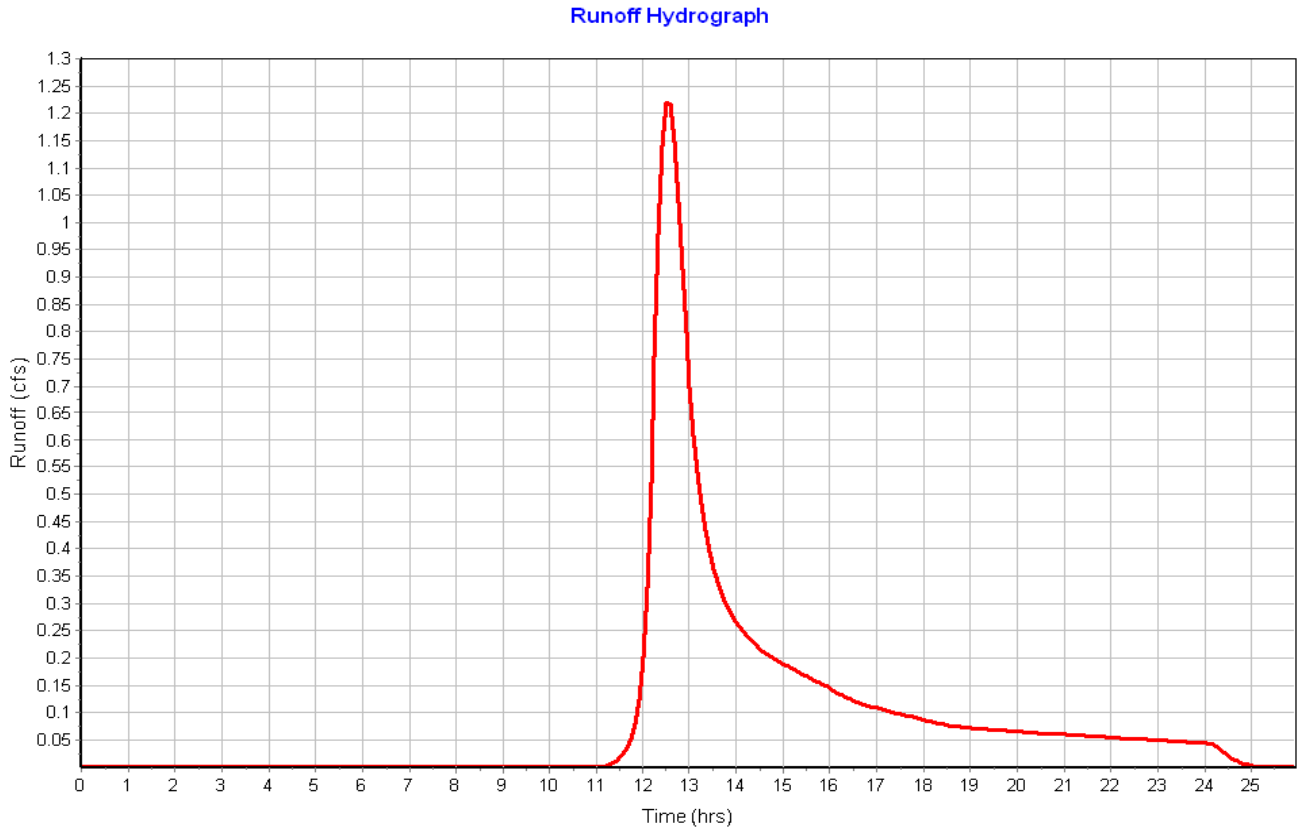
Total TOC (min) 42.07

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	0.92
Peak Runoff (cfs)	1.23
Weighted Curve Number	73.09
Time of Concentration (days hh:mm:ss)	0 00:42:04

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	9.20
Peak Rate Factor	484.00
Weighted Curve Number	73.58
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	5.33	C	74.00
Woods, Fair	3.87	C	73.00
Composite Area & Weighted CN	9.20		73.58

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	35.79	0.00	0.00

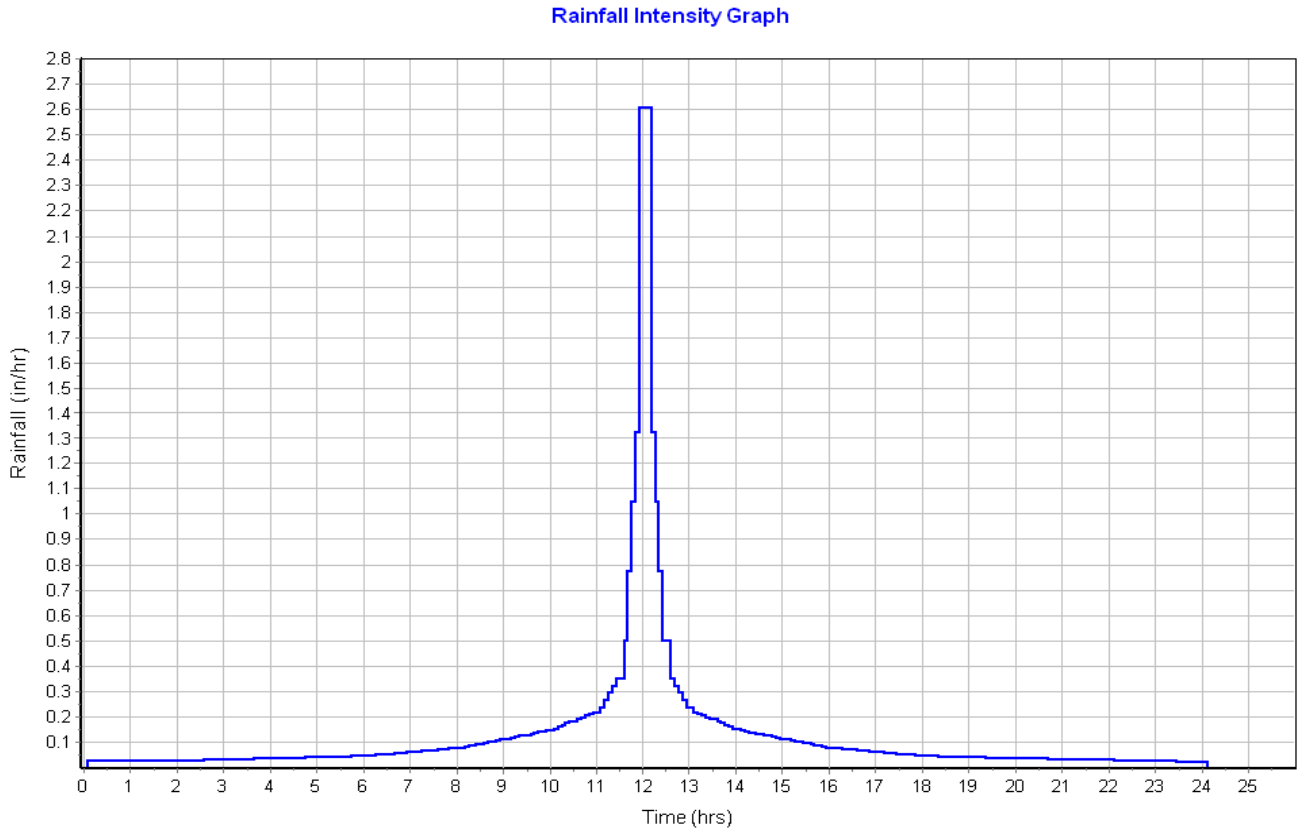
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	680.91	0.00	0.00
Slope (%) :	5	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.12	0.00	0.00
Computed Flow Time (min) :	10.13	0.00	0.00

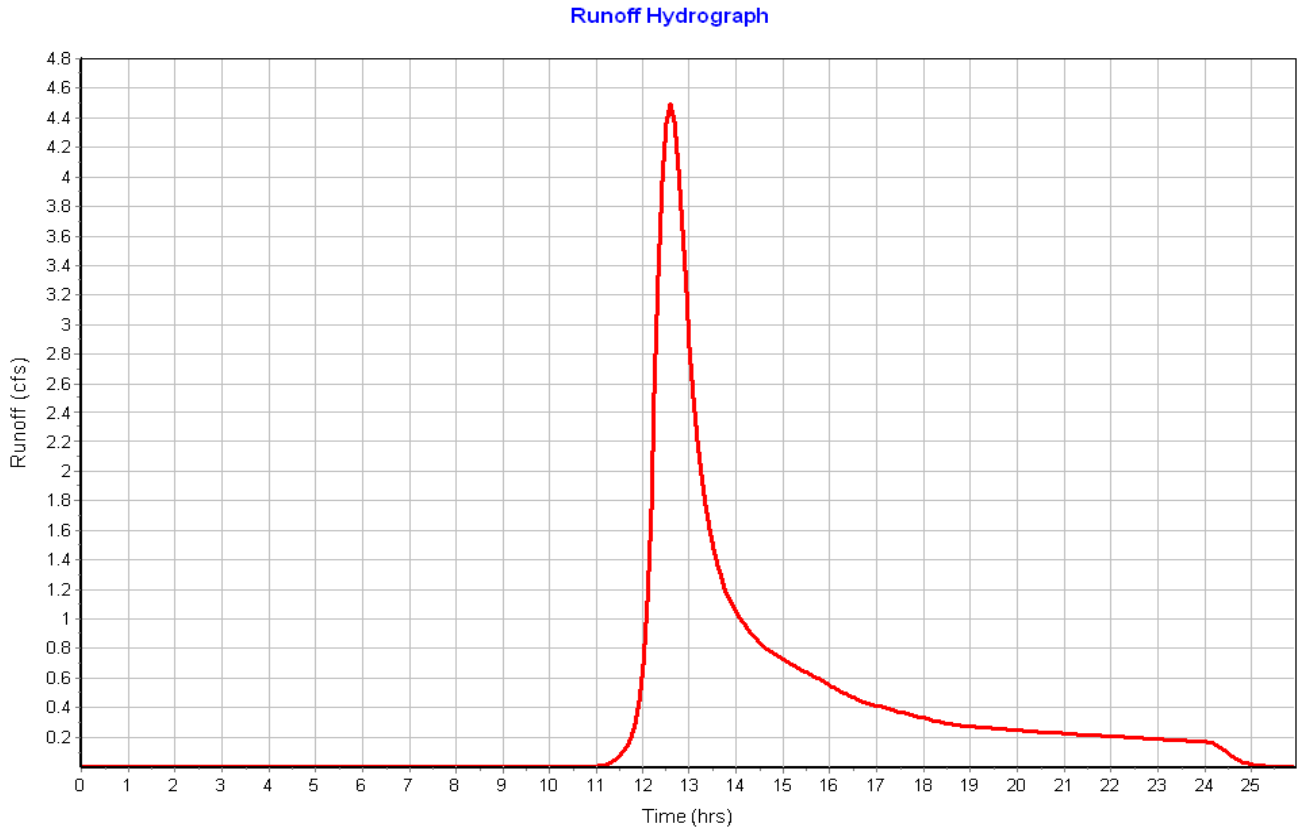
Total TOC (min) 45.92

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	0.95
Peak Runoff (cfs)	4.50
Weighted Curve Number	73.58
Time of Concentration (days hh:mm:ss)	0 00:45:55

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	4.36
Peak Rate Factor	484.00
Weighted Curve Number	73.02
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.29	C	73.00
> 75% grass cover, Good	0.07	C	74.00
Composite Area & Weighted CN	4.36		73.02

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

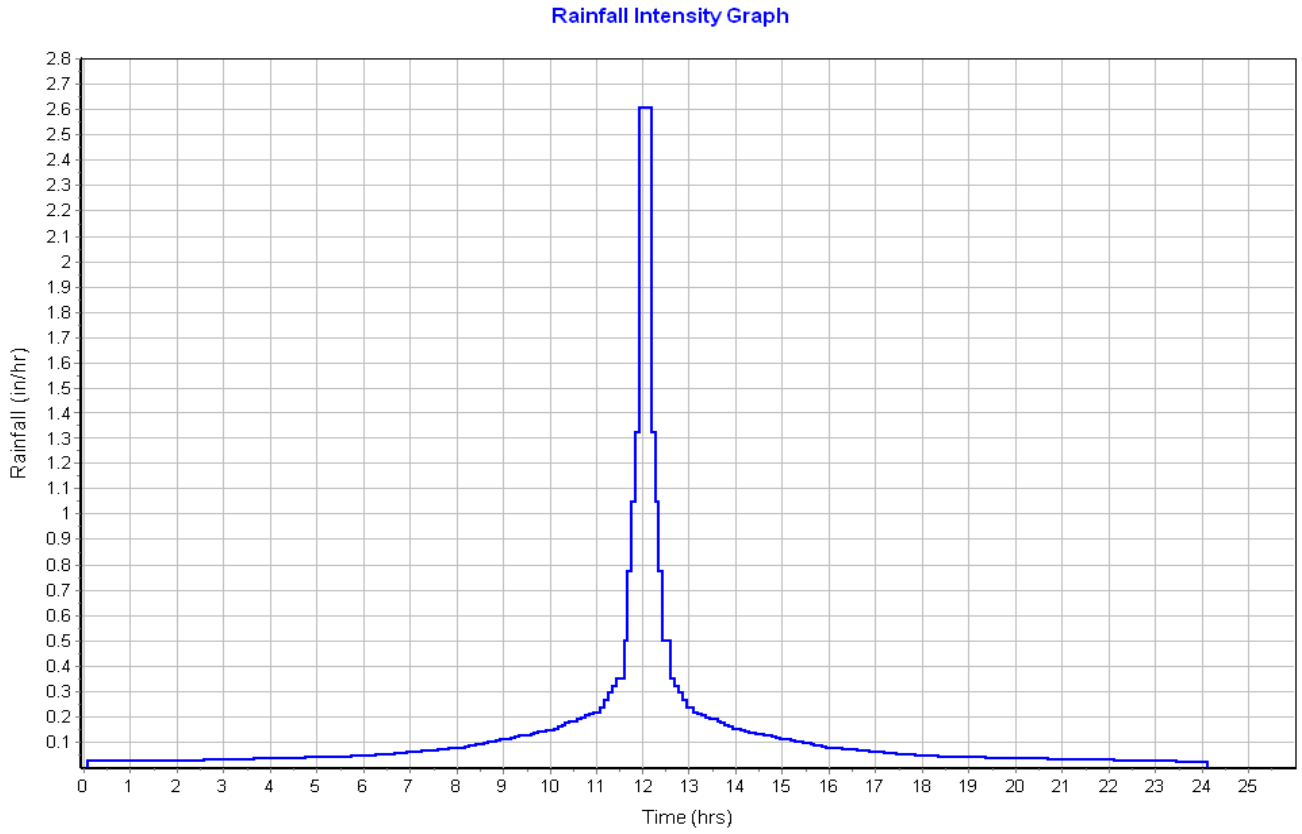
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

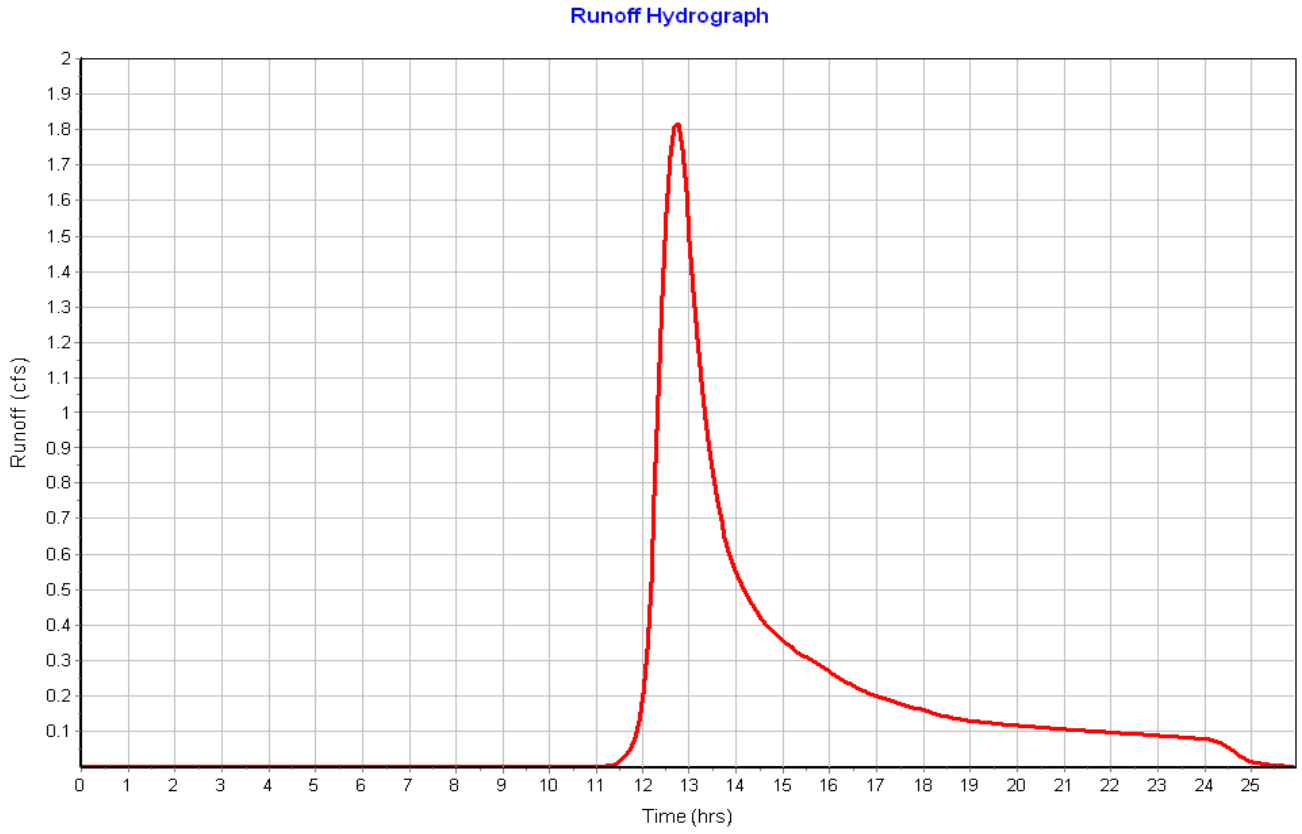
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	0.92
Peak Runoff (cfs)	1.82
Weighted Curve Number	73.02
Time of Concentration (days hh:mm:ss)	0 00:56:46

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 5.21
Peak Rate Factor 484.00
Weighted Curve Number 73.69
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.10	C	73.00
Paved parking & roofs	0.06	C	98.00
> 75% grass cover, Good	2.04	C	74.00
Composite Area & Weighted CN	5.20		73.69

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

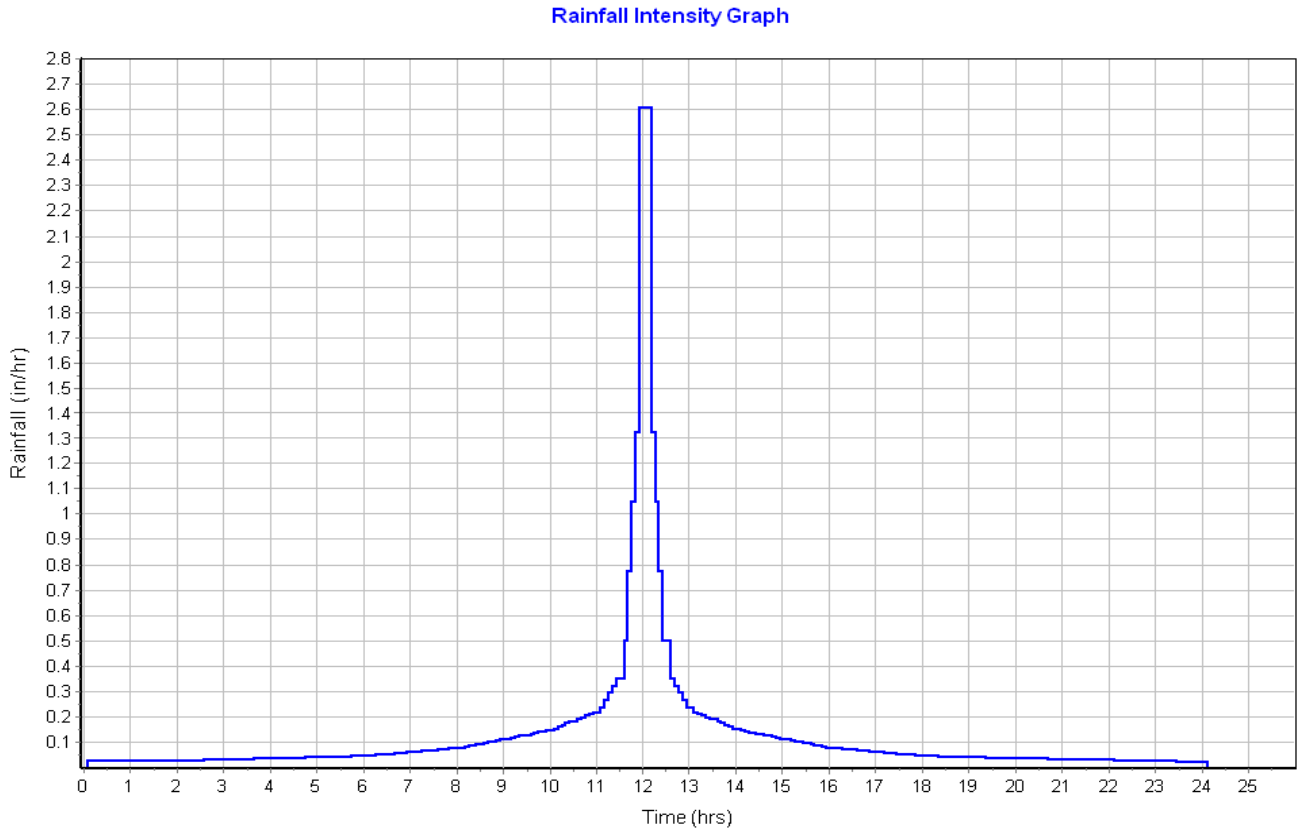
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

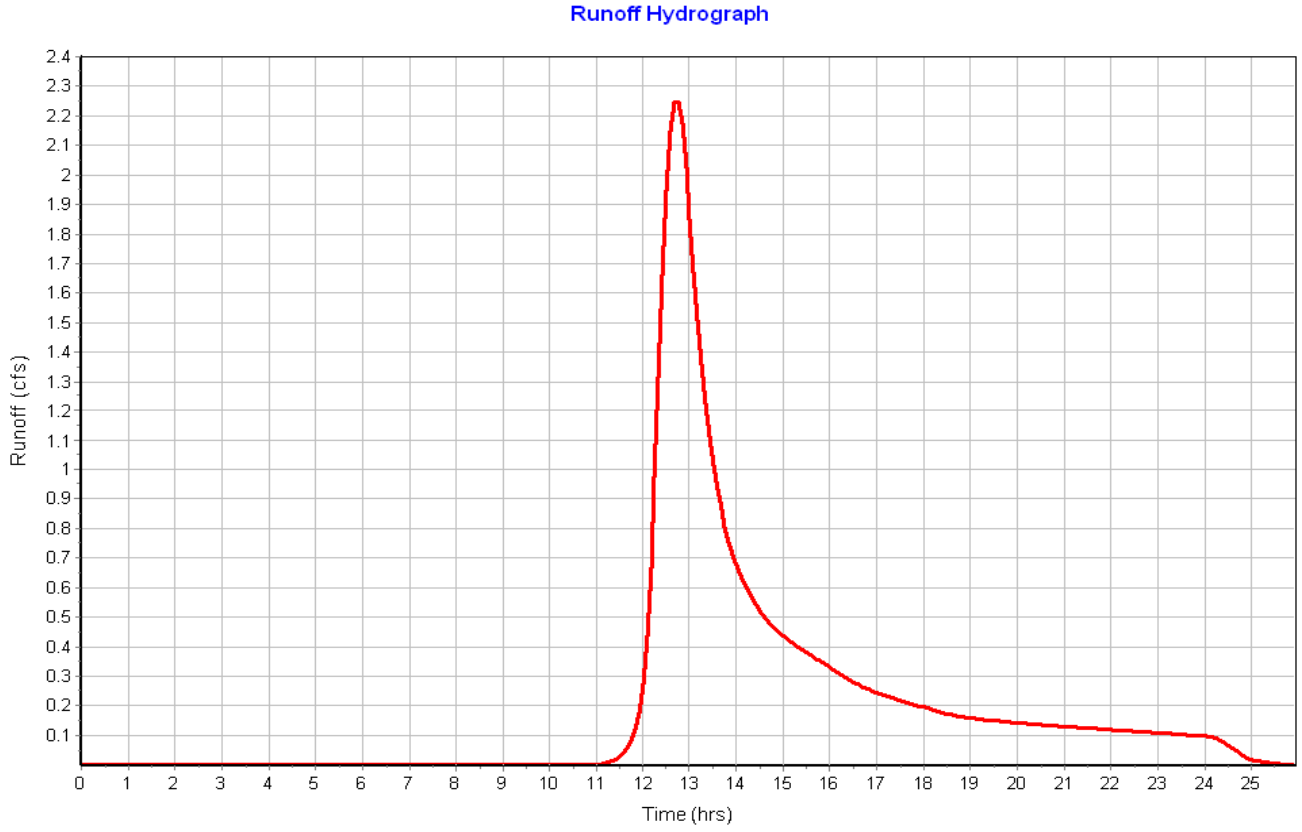
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.96
Peak Runoff (cfs) 2.26
Weighted Curve Number 73.69
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 4.48
Peak Rate Factor 484.00
Weighted Curve Number 73.88
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.81	C	74.00
Woods, Fair	0.34	C	73.00
Brush, Good	0.25	C	65.00
Paved parking & roofs	0.09	C	98.00
Composite Area & Weighted CN	4.49		73.88

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

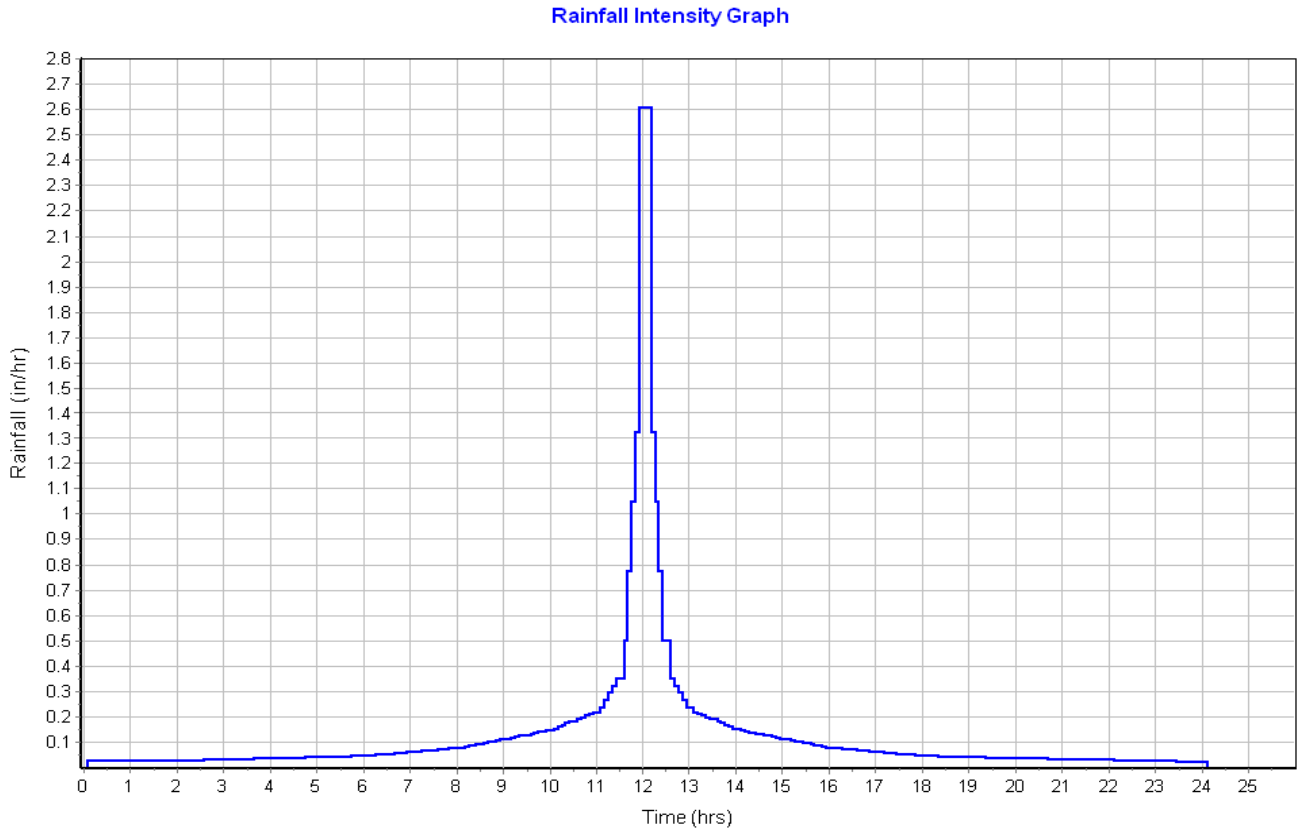
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

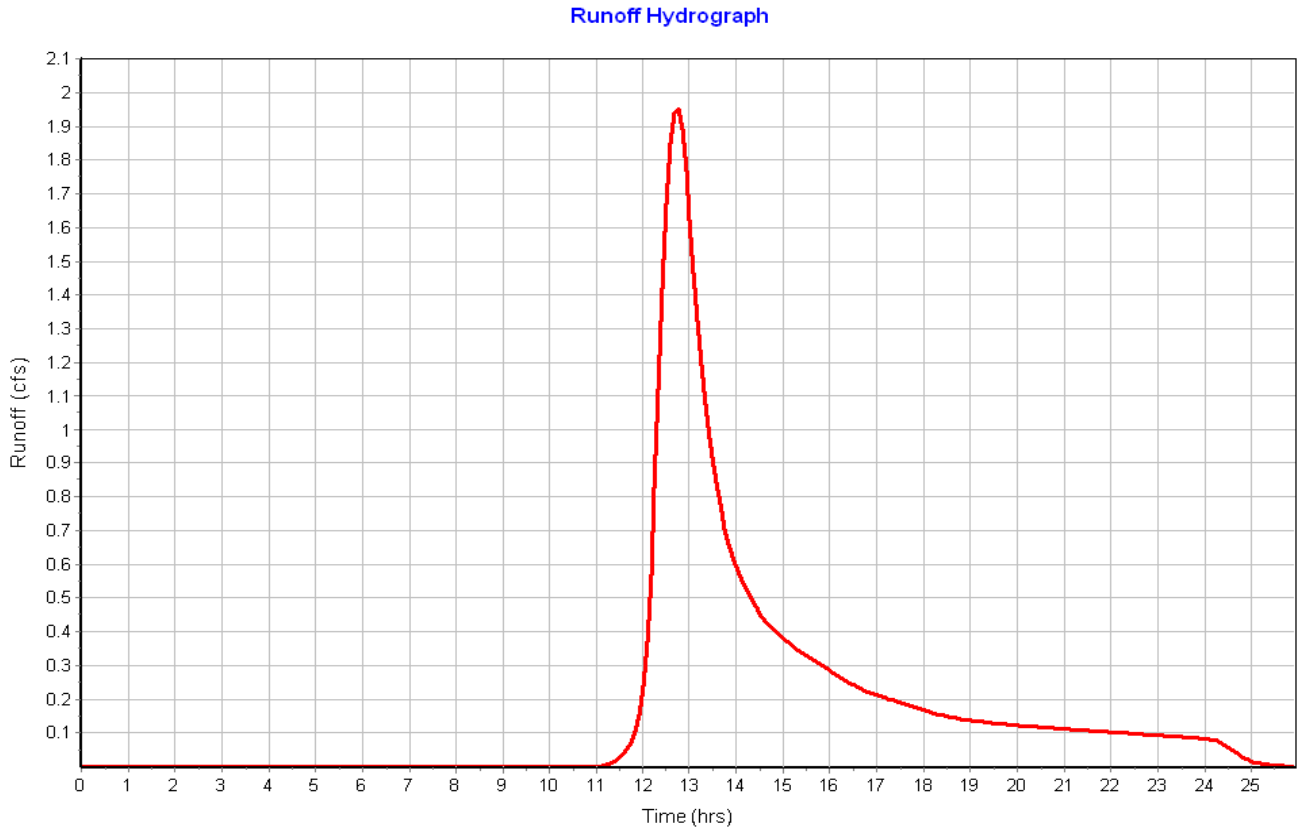
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.97
Peak Runoff (cfs) 1.96
Weighted Curve Number 73.88
Time of Concentration (days hh:mm:ss) 0 00:58:05

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac) 5.44
Peak Rate Factor 484.00
Weighted Curve Number 73.62
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.36	C	74.00
Woods, Fair	2.08	C	73.00
Composite Area & Weighted CN	5.44		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	4.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	36.69	0.00	0.00

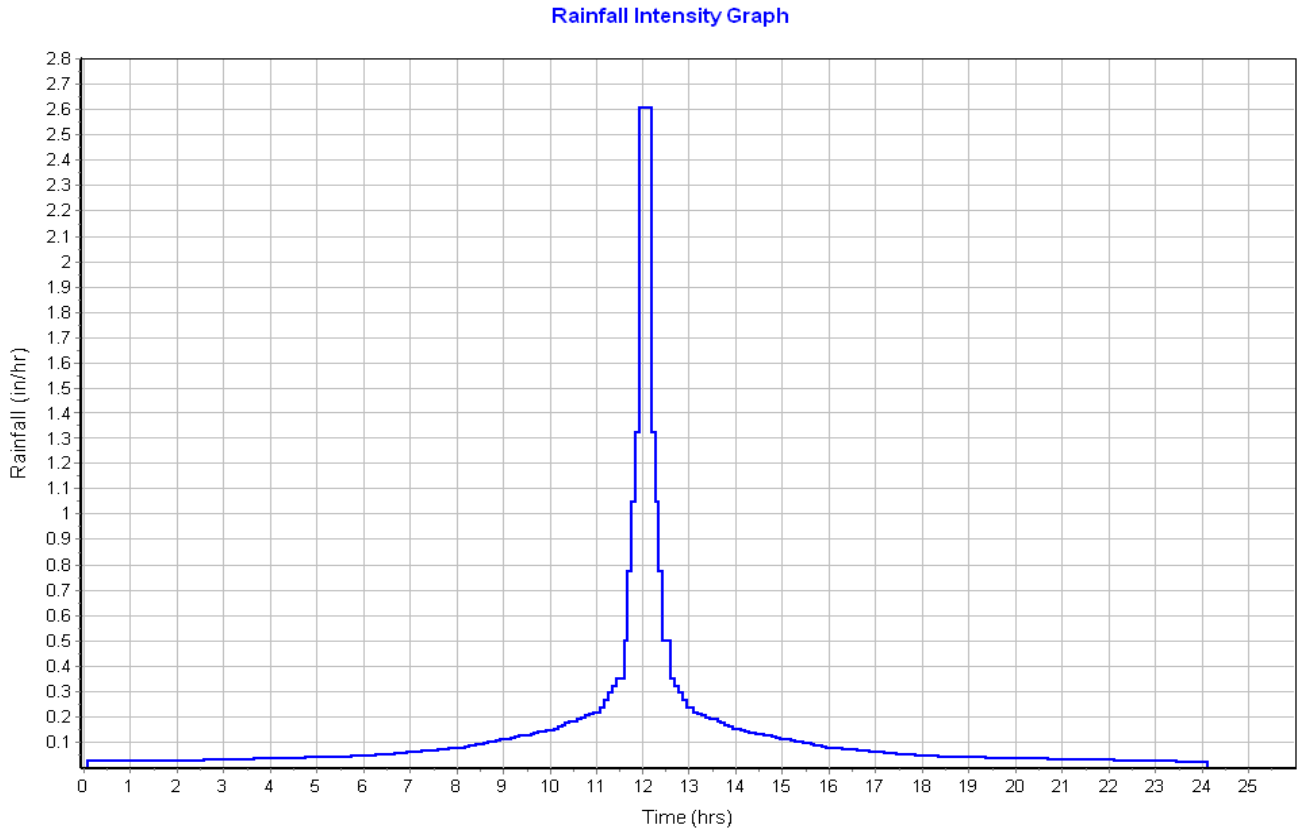
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	682.79	0.00	0.00
Slope (%) :	4.7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	10.54	0.00	0.00

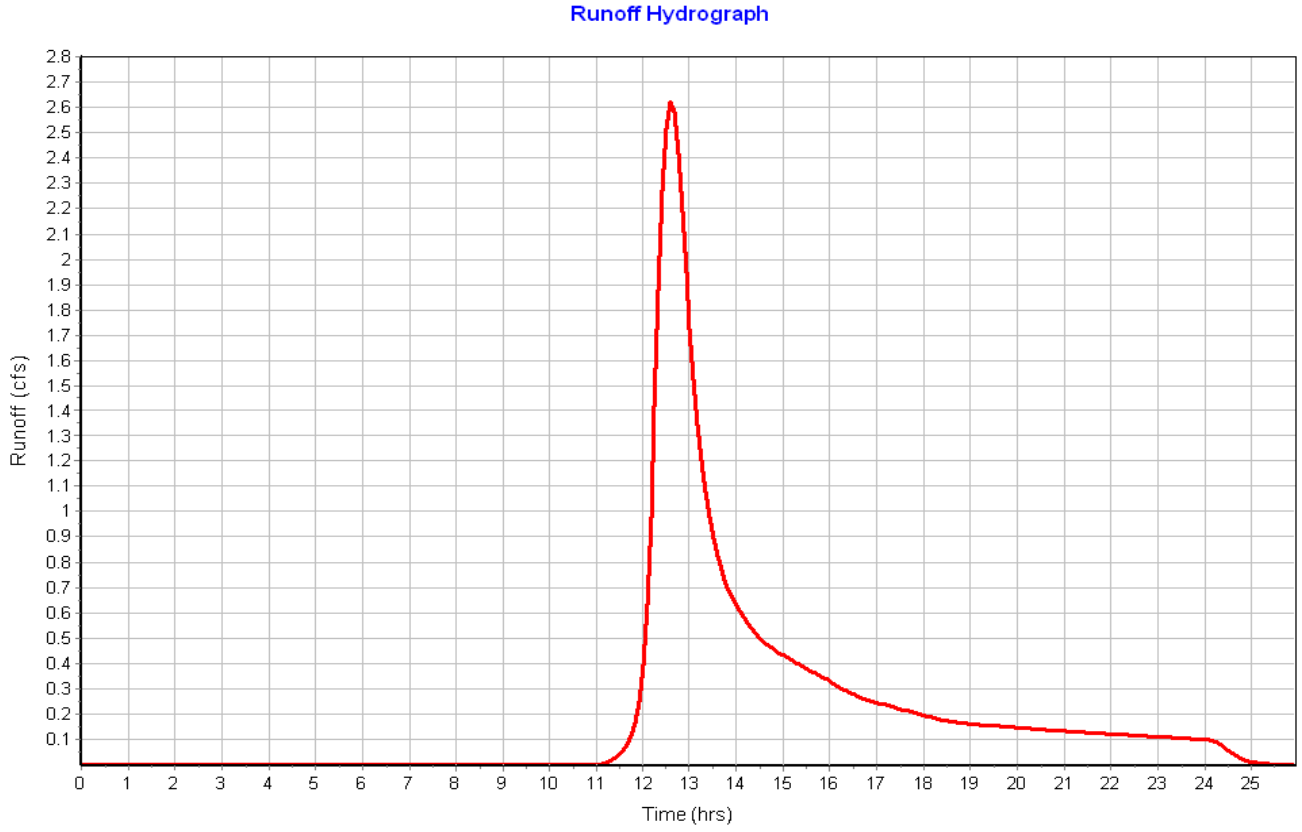
Total TOC (min) 47.22

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.95
Peak Runoff (cfs) 2.62
Weighted Curve Number 73.62
Time of Concentration (days hh:mm:ss) 0 00:47:13

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac) 3.74
Peak Rate Factor 484.00
Weighted Curve Number 73.61
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	2.29	C	74.00
Woods, Fair	1.46	C	73.00
Composite Area & Weighted CN	3.75		73.61

Time of Concentration

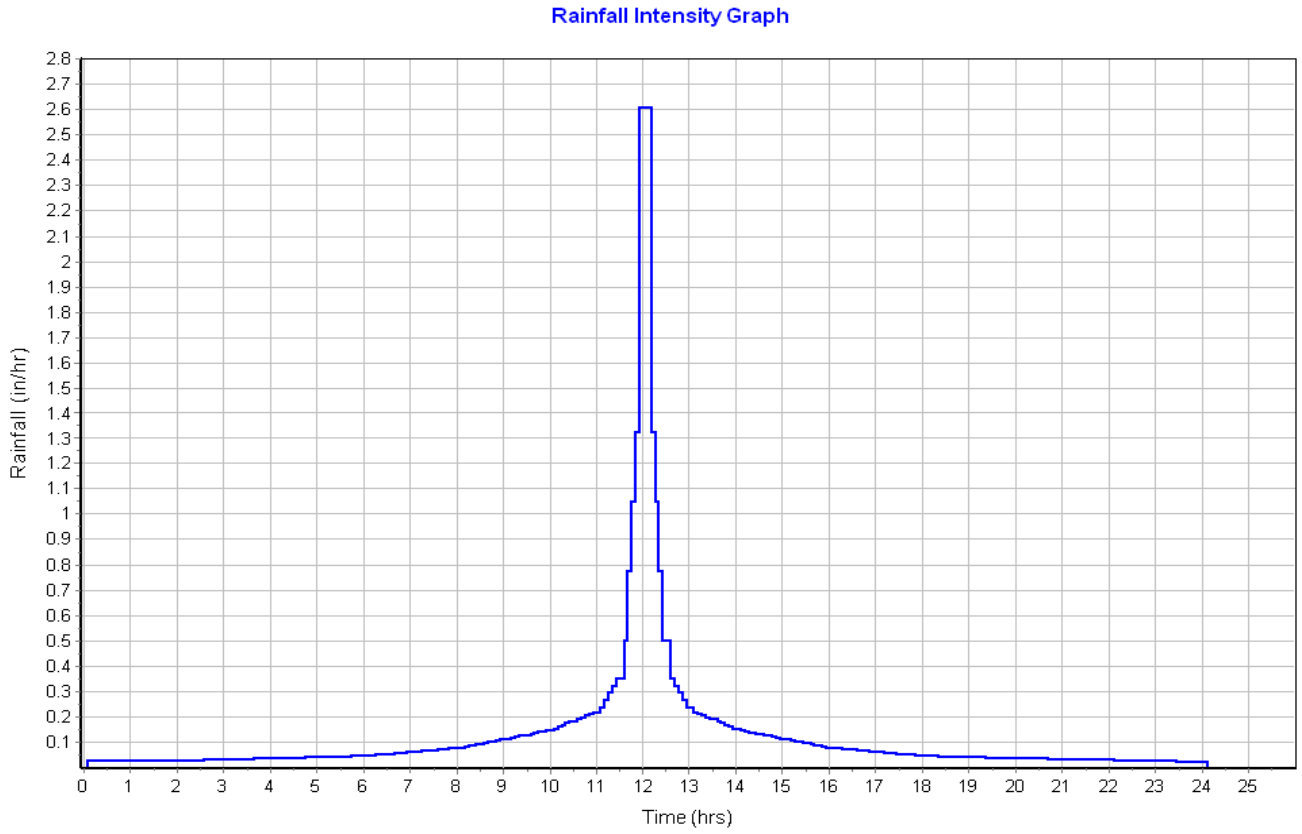
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	1.5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	57.93	0.00	0.00

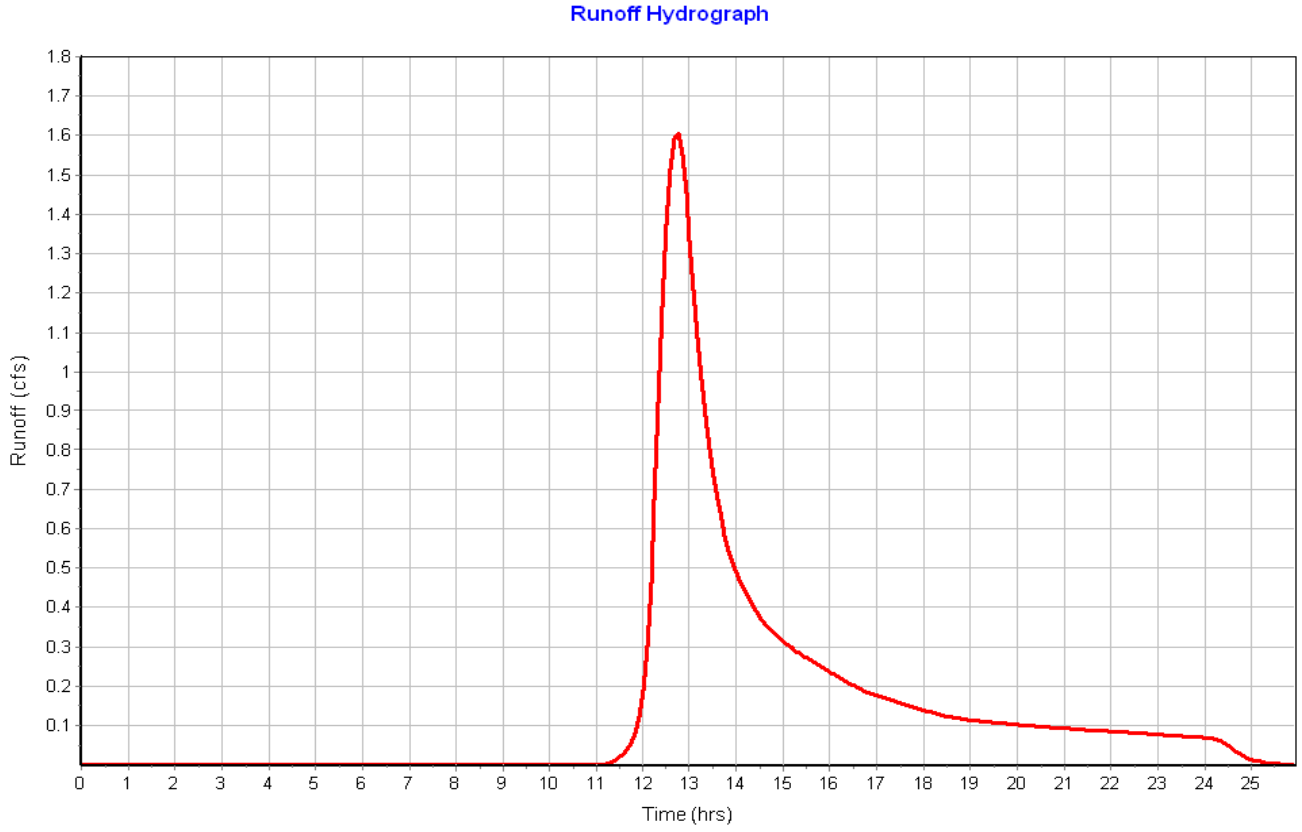
Total TOC (min) 57.93

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.95
Peak Runoff (cfs) 1.61
Weighted Curve Number 73.61
Time of Concentration (days hh:mm:ss) 0 00:57:56

Subbasin : Sub-08





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-01	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00
2	DMH-02	231.15	238.00	6.85	0.00	-231.15	0.00	-238.00	0.00	0.00
3	DMH-03	229.00	236.00	7.00	0.00	-229.00	0.00	-236.00	0.00	0.00
4	DMH-04	228.50	237.00	8.50	0.00	-228.50	0.00	-237.00	0.00	0.00
5	DMH-05	228.00	242.00	14.00	0.00	-228.00	0.00	-242.00	0.00	0.00
6	DMH-06	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00
7	DMH-07	223.00	229.75	6.75	0.00	-223.00	0.00	-229.75	0.00	0.00
8	DMH-08	216.50	224.00	7.50	0.00	-216.50	0.00	-224.00	0.00	0.00
9	DMH-09	214.15	222.00	7.85	0.00	-214.15	0.00	-222.00	0.00	0.00
10	DMH-10	216.15	223.00	6.85	0.00	-216.15	0.00	-223.00	0.00	0.00
11	DMH-11	216.00	224.00	8.00	0.00	-216.00	0.00	-224.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	0.51	0.00	245.20	4.20	0.00	1.80	244.55	3.55	0 12:10	0 00:00	0.00	0.00
2	DMH-02	0.51	0.00	235.41	4.26	0.00	2.59	234.64	3.49	0 12:10	0 00:00	0.00	0.00
3	DMH-03	1.09	0.00	232.90	3.90	0.00	3.10	232.11	3.11	0 12:30	0 00:00	0.00	0.00
4	DMH-04	1.09	0.00	232.39	3.89	0.00	4.61	231.58	3.08	0 12:30	0 00:00	0.00	0.00
5	DMH-05	1.82	0.00	229.38	1.38	0.00	12.62	229.01	1.01	0 12:10	0 00:00	0.00	0.00
6	DMH-06	0.98	0.00	245.29	4.29	0.00	1.71	244.56	3.56	0 12:10	0 00:00	0.00	0.00
7	DMH-07	0.85	0.00	227.34	4.34	0.00	2.41	226.58	3.58	0 12:10	0 00:00	0.00	0.00
8	DMH-08	1.49	0.00	220.95	4.45	0.00	3.05	220.10	3.60	0 12:10	0 00:00	0.00	0.00
9	DMH-09	2.33	0.00	218.41	4.26	0.00	3.59	217.53	3.38	0 12:10	0 00:00	0.00	0.00
10	DMH-10	1.60	0.00	220.03	3.88	0.00	2.97	219.27	3.12	0 12:35	0 00:00	0.00	0.00
11	DMH-11	1.31	0.00	219.44	3.44	0.00	4.56	218.22	2.22	0 12:41	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-28	42.00	214.65	4.00	212.00	0.00	2.65	6.3100	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-29	40.00	202.65	4.00	202.00	0.00	0.65	1.6300	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-30	215.00	211.00	1.00	207.00	3.00	4.00	1.8600	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-31	17.51	245.15	4.00	245.00	4.00	0.15	0.8600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
5	Link-32	24.09	245.15	4.00	245.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
6	Link-33	139.54	245.00	4.00	235.15	4.00	9.85	7.0600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-34	76.23	235.15	4.00	233.15	4.15	2.00	2.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
8	Link-35	24.01	233.15	233.15	233.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
9	Link-36	15.56	233.15	233.15	233.00	4.00	0.15	0.9600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
10	Link-37	38.28	234.50	3.35	233.15	4.15	1.35	3.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
11	Link-38	32.64	232.50	3.50	232.00	3.50	0.50	1.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
12	Link-39	18.32	233.15	233.15	233.00	4.50	0.15	0.8200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
13	Link-40	10.99	233.15	233.15	233.00	4.50	0.15	1.3600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
14	Link-41	130.94	232.00	3.50	230.00	2.00	2.00	1.5300	CIRCULAR	18.000	18.000	0.0200	2.0000	0.8000	0.0000	0.00	No	1
15	Link-42	23.74	245.15	4.00	245.00	4.00	0.15	0.6300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
16	Link-43	19.02	245.15	4.00	245.00	4.00	0.15	0.7900	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
17	Link-44	100.67	245.00	4.00	239.15	11.15	5.85	5.8100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
18	Link-45	245.00	229.00	1.00	220.00	1.00	9.00	3.6700	CIRCULAR	18.000	18.000	0.0200	0.0200	0.5000	0.0000	0.00	No	1
19	Link-46	20.06	227.15	4.00	227.00	4.00	0.15	0.7500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
20	Link-47	16.46	227.15	4.00	227.00	4.00	0.15	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
21	Link-48	260.00	227.00	4.00	221.00	4.50	6.00	2.3100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
22	Link-49	12.97	221.15	4.00	221.00	4.50	0.15	1.1600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
23	Link-50	16.41	221.15	4.00	221.00	4.50	0.15	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
24	Link-51	96.22	220.50	4.00	219.15	5.00	1.35	1.4000	CIRCULAR	18.000	18.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
25	Link-52	37.16	220.20	3.05	219.70	3.55	0.50	1.3500	CIRCULAR	24.000	24.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
26	Link-53	16.23	221.15	4.00	220.15	4.00	1.00	6.1600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
27	Link-54	20.81	221.15	4.00	220.15	4.00	1.00	4.8100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
28	Link-55	63.63	219.65	3.50	217.80	3.65	1.85	2.9100	CIRCULAR	18.000	18.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
29	Link-56	130.00	217.75	3.60	217.00	4.00	0.75	0.5800	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
30	Link-62	33.00	215.15	4.00	214.85	1.85	0.30	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
31	Link-63	52.00	215.15	4.00	214.85	1.85	0.30	0.5800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
32	Link-77	67.00	207.65	4.00	207.00	1.00	0.65	0.9700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
33	Link-78	47.00	207.65	4.00	207.00	1.00	0.65	1.3800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
34	Link-80	16.14	220.20	3.05	220.00	4.00	0.20	1.2400	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
35	Link-81	148.58	219.00	3.00	217.00	-0.90	2.00	1.3500	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		(min)		
1	Link-28	2.51	0 12:34	17.15	0.15	6.65	0.11	0.40	0.27	0.00		Calculated
2	Link-29	1.85	0 13:24	8.70	0.21	3.74	0.18	0.48	0.32	0.00		Calculated
3	Link-30	2.18	0 12:26	9.31	0.23	4.25	0.84	0.50	0.33	0.00		Calculated
4	Link-31	0.17	0 12:05	2.14	0.08	1.51	0.19	0.20	0.20	0.00		Calculated
5	Link-32	0.35	0 12:10	1.83	0.19	1.90	0.21	0.28	0.28	0.00		Calculated
6	Link-33	0.51	0 12:10	6.15	0.08	3.87	0.60	0.23	0.23	0.00		Calculated
7	Link-34	0.51	0 12:10	3.75	0.14	3.28	0.39	0.25	0.25	0.00		Calculated
8	Link-35	0.00	0 00:00	1.83	0.00	0.00		0.00	0.00	0.00		Calculated
9	Link-36	0.00	0 00:00	2.27	0.00	0.00		0.00	0.00	0.00		Calculated
10	Link-37	0.95	0 12:30	12.82	0.07	4.04	0.16	0.29	0.19	0.00		Calculated
11	Link-38	1.09	0 12:30	8.45	0.13	2.94	0.19	0.39	0.26	0.00		Calculated
12	Link-39	0.00	0 00:00	2.10	0.00	0.00		0.00	0.00	0.00		Calculated
13	Link-40	0.00	0 00:00	2.71	0.00	0.00		0.00	0.00	0.00		Calculated
14	Link-41	1.09	0 12:30	8.44	0.13	5.01	0.44	0.38	0.25	0.00		Calculated
15	Link-42	0.22	0 12:10	1.84	0.12	1.30	0.30	0.26	0.26	0.00		Calculated
16	Link-43	0.76	0 12:10	2.06	0.37	2.45	0.13	0.42	0.42	0.00		Calculated
17	Link-44	0.98	0 12:10	5.58	0.18	5.26	0.32	0.29	0.29	0.00		Calculated
18	Link-45	1.82	0 12:10	13.09	0.14	5.18	0.79	0.38	0.25	0.00		Calculated
19	Link-46	0.58	0 12:10	2.00	0.29	2.19	0.15	0.37	0.37	0.00		Calculated
20	Link-47	0.27	0 12:09	2.21	0.12	1.39	0.20	0.30	0.30	0.00		Calculated
21	Link-48	0.85	0 12:10	3.52	0.24	3.65	1.19	0.34	0.34	0.00		Calculated
22	Link-49	0.35	0 12:10	2.49	0.14	2.07	0.10	0.27	0.27	0.00		Calculated
23	Link-50	0.30	0 12:10	2.21	0.14	1.93	0.14	0.25	0.25	0.00		Calculated
24	Link-51	1.49	0 12:10	8.09	0.18	3.40	0.47	0.45	0.30	0.00		Calculated
25	Link-52	1.37	0 12:40	17.06	0.08	3.05	0.20	0.40	0.20	0.00		Calculated
26	Link-53	0.58	0 12:10	5.75	0.10	4.31	0.06	0.23	0.23	0.00		Calculated
27	Link-54	0.32	0 12:15	5.08	0.06	3.44	0.10	0.18	0.18	0.00		Calculated
28	Link-55	1.60	0 12:35	11.64	0.14	3.52	0.30	0.46	0.31	0.00		Calculated
29	Link-56	2.32	0 12:10	11.17	0.21	2.97	0.73	0.59	0.30	0.00		Calculated
30	Link-62	0.21	0 12:07	2.21	0.09	1.81	0.30	0.57	0.57	0.00		Calculated
31	Link-63	0.59	0 12:10	1.76	0.34	2.19	0.40	0.57	0.57	0.00		Calculated
32	Link-77	0.61	0 12:10	2.28	0.27	2.52	0.44	0.35	0.35	0.00		Calculated
33	Link-78	0.30	0 12:10	2.72	0.11	2.24	0.35	0.23	0.23	0.00		Calculated
34	Link-80	1.31	0 12:40	16.37	0.08	2.91	0.09	0.40	0.20	0.00		Calculated
35	Link-81	1.31	0 12:41	12.65	0.10	2.56	0.97	0.44	0.22	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

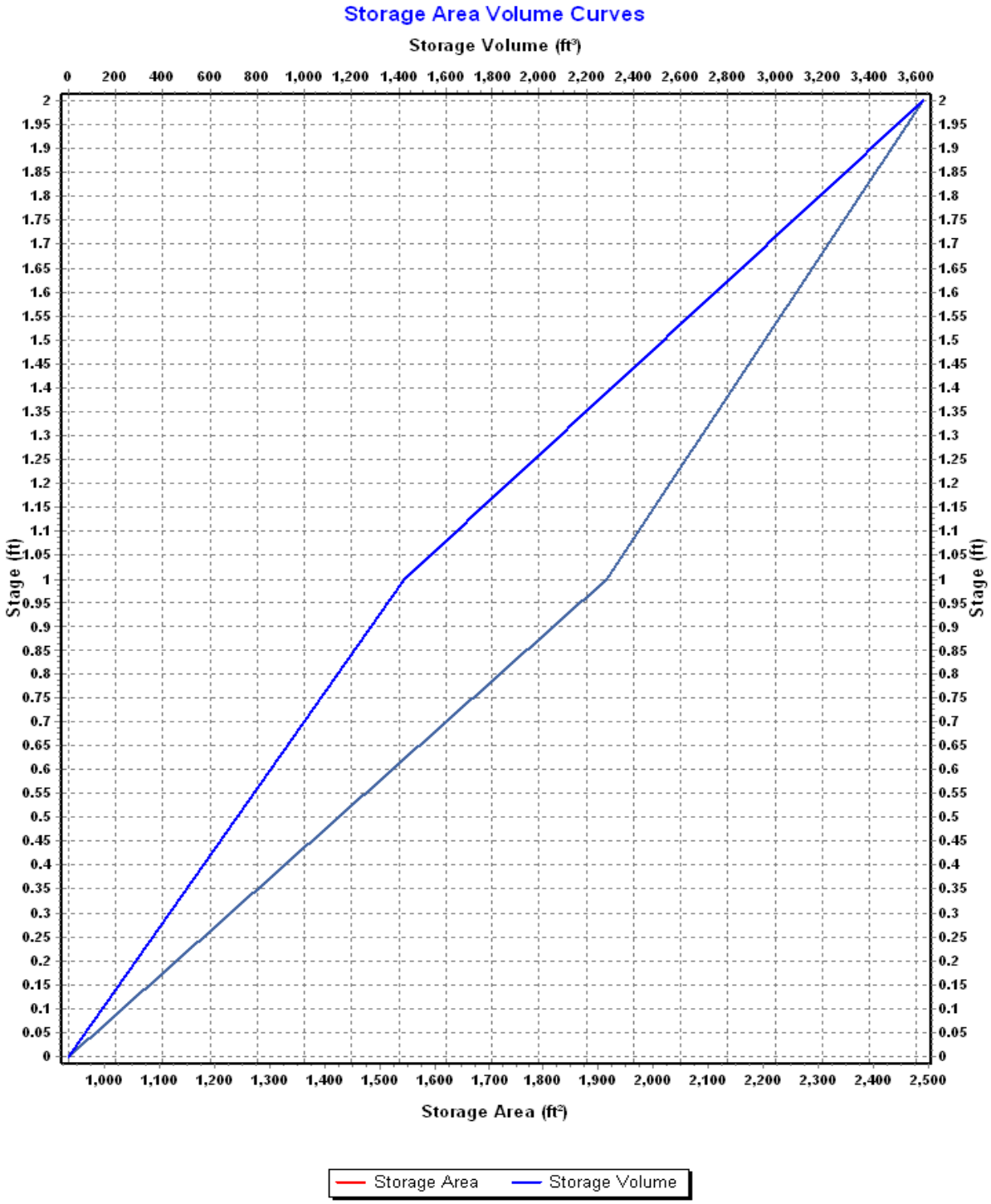
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	935	0.000
1	1914	1424.50
2	2490	3626.50


Storage Area Volume Curves
Storage Volume (ft³)
0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400 2,600 2,800 3,000 3,200 3,400 3,600
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900 2,000 2,100 2,200 2,300 2,400 2,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-02	Trapezoidal	No	217.60	1.60	25.00	0.40	3.33
2	Weir-03	Trapezoidal	No	217.00	1.00	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	2.53
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	2.51
Peak Exfiltration Flow Rate (cfm)	0.76
Max HGL Elevation Attained (ft)	217.20
Max HGL Depth Attained (ft)	1.2
Average HGL Elevation Attained (ft)	216.86
Average HGL Depth Attained (ft)	0.86
Time of Max HGL Occurrence (days hh:mm)	0 12:34
Total Exfiltration Volume (1000-ft³)	0.640
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	217.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

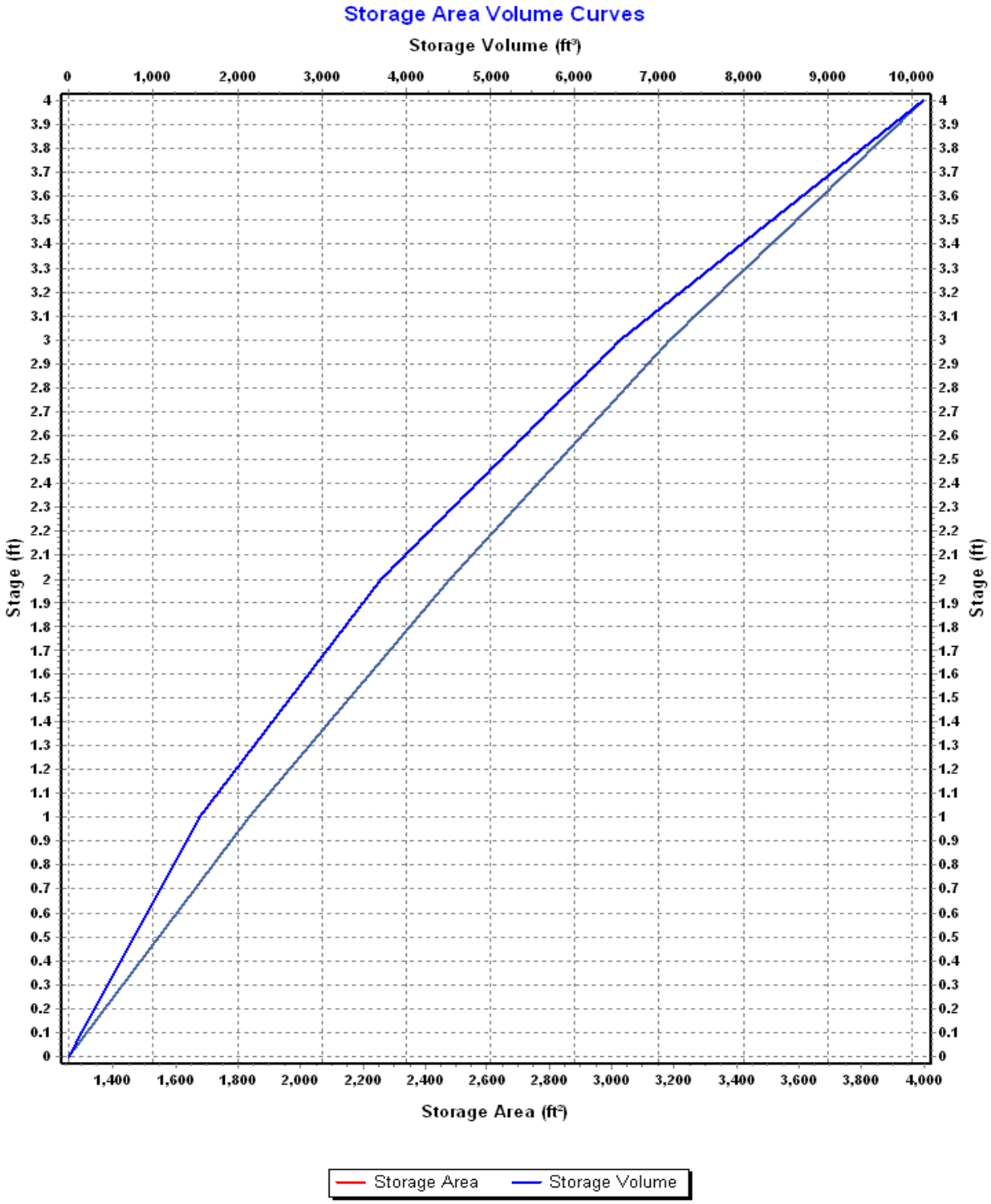
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1257	0.000
1	1833	1545.00
2	2480	3701.50
3	3184	6533.50
4	3997	10124.00


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
Stage (ft)
Stage (ft)
Storage Area (ft²)
1,400
1,600
1,800
2,000
2,200
2,400
2,600
2,800
3,000
3,200
3,400
3,600
3,800
4,000
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice-1	Trapezoidal	No	215.25	2.25	3.00	0.25	3.33
2	Weir-06	Trapezoidal	No	215.75	2.75	20.00	0.25	3.33
3	Weir-07	Trapezoidal	No	215.50	2.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	3.10
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	2.18
Peak Exfiltration Flow Rate (cfm)	1.08
Max HGL Elevation Attained (ft)	215.57
Max HGL Depth Attained (ft)	2.57
Average HGL Elevation Attained (ft)	214.87
Average HGL Depth Attained (ft)	1.87
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	1.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	204.00
Max (Rim) Elevation (ft)	206.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-204.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

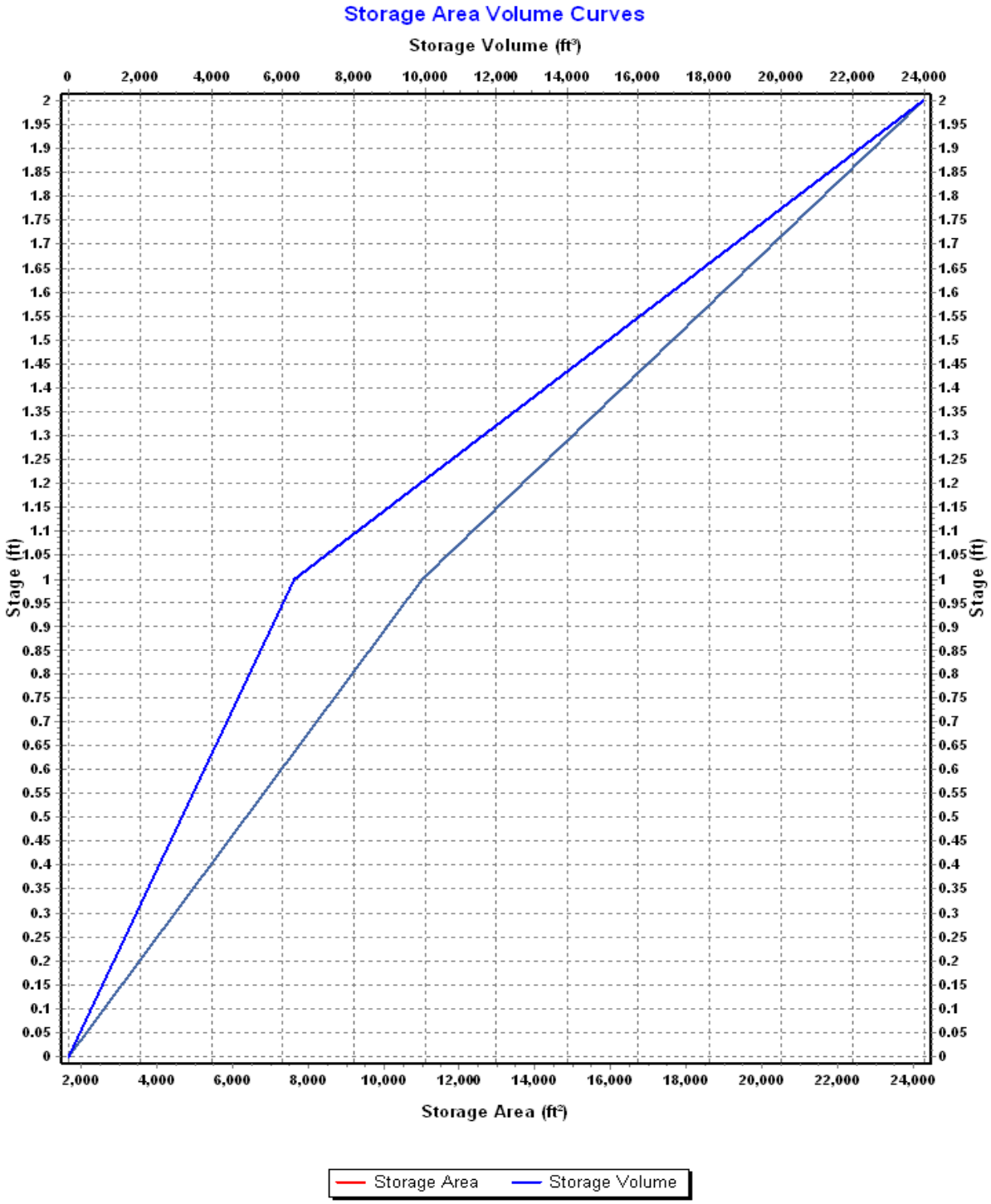
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1665	0.000
1	11026	6345.50
2	24243	23980.00


Storage Area Volume Curves
Storage Volume (ft³)
0 2,000 4,000 6,000 8,000 10,000 12,000 14,000 16,000 18,000 20,000 22,000 24,000
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Storage Area (ft²)
2,000 4,000 6,000 8,000 10,000 12,000 14,000 16,000 18,000 20,000 22,000 24,000
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-09	Trapezoidal	No	205.25	1.25	8.00	0.25	3.33
2	Weir-10	Trapezoidal	No	205.75	1.75	25.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	3.68
Peak Lateral Inflow (cfs)	1.60
Peak Outflow (cfs)	1.85
Peak Exfiltration Flow Rate (cfm)	6.20
Max HGL Elevation Attained (ft)	205.42
Max HGL Depth Attained (ft)	1.42
Average HGL Elevation Attained (ft)	204.90
Average HGL Depth Attained (ft)	0.9
Time of Max HGL Occurrence (days hh:mm)	0 13:24
Total Exfiltration Volume (1000-ft³)	4.841
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-01

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.67
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	2.67
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	220.62
Max HGL Depth Attained (ft)	3.47
Average HGL Elevation Attained (ft)	219.41
Average HGL Depth Attained (ft)	2.26
Time of Max HGL Occurrence (days hh:mm)	0 12:40
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	231.15
Max (Rim) Elevation (ft)	238.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-231.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.95
Peak Lateral Inflow (cfs)	0.95
Peak Outflow (cfs)	0.95
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	234.80
Max HGL Depth Attained (ft)	3.65
Average HGL Elevation Attained (ft)	233.94
Average HGL Depth Attained (ft)	2.79
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.35
Peak Lateral Inflow (cfs)	0.35
Peak Outflow (cfs)	0.35
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.47
Max HGL Depth Attained (ft)	4.32
Average HGL Elevation Attained (ft)	244.92
Average HGL Depth Attained (ft)	3.77
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.17
Peak Lateral Inflow (cfs)	0.17
Peak Outflow (cfs)	0.17
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.35
Max HGL Depth Attained (ft)	4.2
Average HGL Elevation Attained (ft)	244.76
Average HGL Depth Attained (ft)	3.61
Time of Max HGL Occurrence (days hh:mm)	0 12:05
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.18
Peak Lateral Inflow (cfs)	0.18
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	54.36
Max HGL Depth Attained (ft)	54.36
Average HGL Elevation Attained (ft)	33.51
Average HGL Depth Attained (ft)	33.51
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.13
Peak Lateral Inflow (cfs)	0.13
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	39.41
Max HGL Depth Attained (ft)	39.41
Average HGL Elevation Attained (ft)	24.22
Average HGL Depth Attained (ft)	24.22
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.36
Peak Lateral Inflow (cfs)	0.36
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	108.87
Max HGL Depth Attained (ft)	108.87
Average HGL Elevation Attained (ft)	67.13
Average HGL Depth Attained (ft)	67.13
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-08

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.17
Peak Lateral Inflow (cfs)	0.17
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	49.34
Max HGL Depth Attained (ft)	49.34
Average HGL Elevation Attained (ft)	30.38
Average HGL Depth Attained (ft)	30.38
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-09

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.22
Peak Lateral Inflow (cfs)	0.22
Peak Outflow (cfs)	0.22
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.39
Max HGL Depth Attained (ft)	4.24
Average HGL Elevation Attained (ft)	244.82
Average HGL Depth Attained (ft)	3.67
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-10

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.76
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.76
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.62
Max HGL Depth Attained (ft)	4.47
Average HGL Elevation Attained (ft)	244.93
Average HGL Depth Attained (ft)	3.78
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-11

Input Data

Invert Elevation (ft)	223.15
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.58
Peak Lateral Inflow (cfs)	0.28
Peak Outflow (cfs)	0.58
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	227.56
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	226.90
Average HGL Depth Attained (ft)	3.75
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-12

Input Data

Invert Elevation (ft)	223.15
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.27
Peak Lateral Inflow (cfs)	0.27
Peak Outflow (cfs)	0.27
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	227.40
Max HGL Depth Attained (ft)	4.25
Average HGL Elevation Attained (ft)	226.85
Average HGL Depth Attained (ft)	3.7
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-13

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.35
Peak Lateral Inflow (cfs)	0.20
Peak Outflow (cfs)	0.35
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	221.44
Max HGL Depth Attained (ft)	4.29
Average HGL Elevation Attained (ft)	220.81
Average HGL Depth Attained (ft)	3.66
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-14

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.30
Peak Lateral Inflow (cfs)	0.30
Peak Outflow (cfs)	0.30
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	221.43
Max HGL Depth Attained (ft)	4.28
Average HGL Elevation Attained (ft)	220.88
Average HGL Depth Attained (ft)	3.73
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-15

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.58
Peak Lateral Inflow (cfs)	0.58
Peak Outflow (cfs)	0.58
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	221.39
Max HGL Depth Attained (ft)	4.24
Average HGL Elevation Attained (ft)	220.67
Average HGL Depth Attained (ft)	3.52
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-16

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.33
Peak Lateral Inflow (cfs)	0.33
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	221.33
Max HGL Depth Attained (ft)	4.18
Average HGL Elevation Attained (ft)	220.67
Average HGL Depth Attained (ft)	3.52
Time of Max HGL Occurrence (days hh:mm)	0 12:15
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-17

Input Data

Invert Elevation (ft)	211.15
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.58
Peak Lateral Inflow (cfs)	0.28
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	215.58
Max HGL Depth Attained (ft)	4.43
Average HGL Elevation Attained (ft)	215.01
Average HGL Depth Attained (ft)	3.86
Time of Max HGL Occurrence (days hh:mm)	0 12:23
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-18

Input Data

Invert Elevation (ft)	211.15
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.20
Peak Lateral Inflow (cfs)	0.20
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	215.57
Max HGL Depth Attained (ft)	4.42
Average HGL Elevation Attained (ft)	214.94
Average HGL Depth Attained (ft)	3.79
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-19

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.61
Peak Lateral Inflow (cfs)	0.61
Peak Outflow (cfs)	0.61
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	208.02
Max HGL Depth Attained (ft)	4.37
Average HGL Elevation Attained (ft)	207.48
Average HGL Depth Attained (ft)	3.83
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-20

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.30
Peak Lateral Inflow (cfs)	0.30
Peak Outflow (cfs)	0.30
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.88
Max HGL Depth Attained (ft)	4.23
Average HGL Elevation Attained (ft)	207.36
Average HGL Depth Attained (ft)	3.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP01

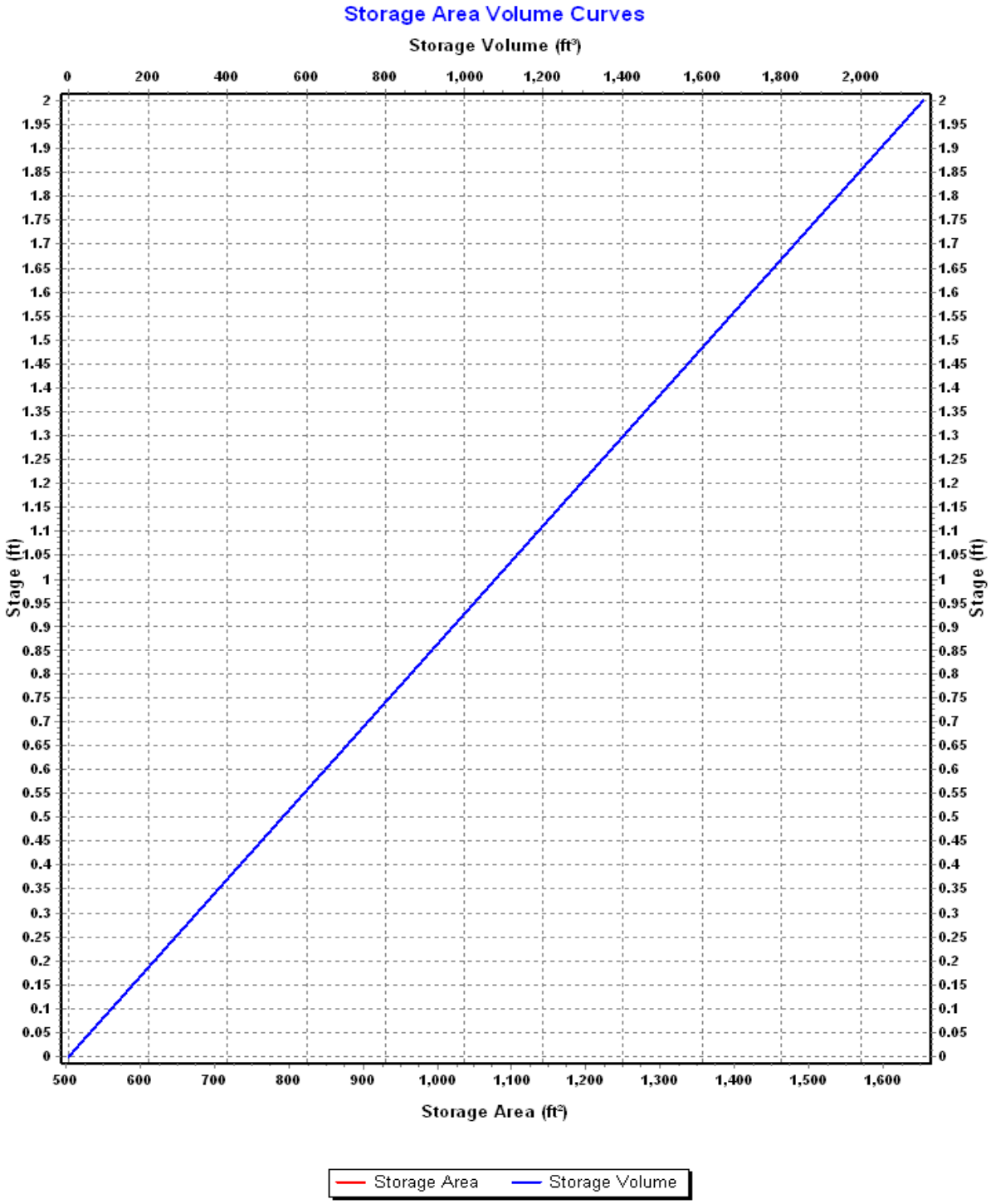
Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	504	0.000
2	1653	2157.00


Storage Area Volume Curves
Storage Volume (ft³)
0
200
400
600
800
1,000
1,200
1,400
1,600
1,800
2,000
Stage (ft)
Stage (ft)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0.55
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
1.05
1.1
1.15
1.2
1.25
1.3
1.35
1.4
1.45
1.5
1.55
1.6
1.65
1.7
1.75
1.8
1.85
1.9
1.95
2
500
600
700
800
900
1,000
1,100
1,200
1,300
1,400
1,500
1,600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Forebay_BMP01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	219.50	0.50	40.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	2.53
Peak Lateral Inflow (cfs)	1.22
Peak Outflow (cfs)	2.53
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	219.57
Max HGL Depth Attained (ft)	0.57
Average HGL Elevation Attained (ft)	219.44
Average HGL Depth Attained (ft)	0.44
Time of Max HGL Occurrence (days hh:mm)	0 12:31
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP03

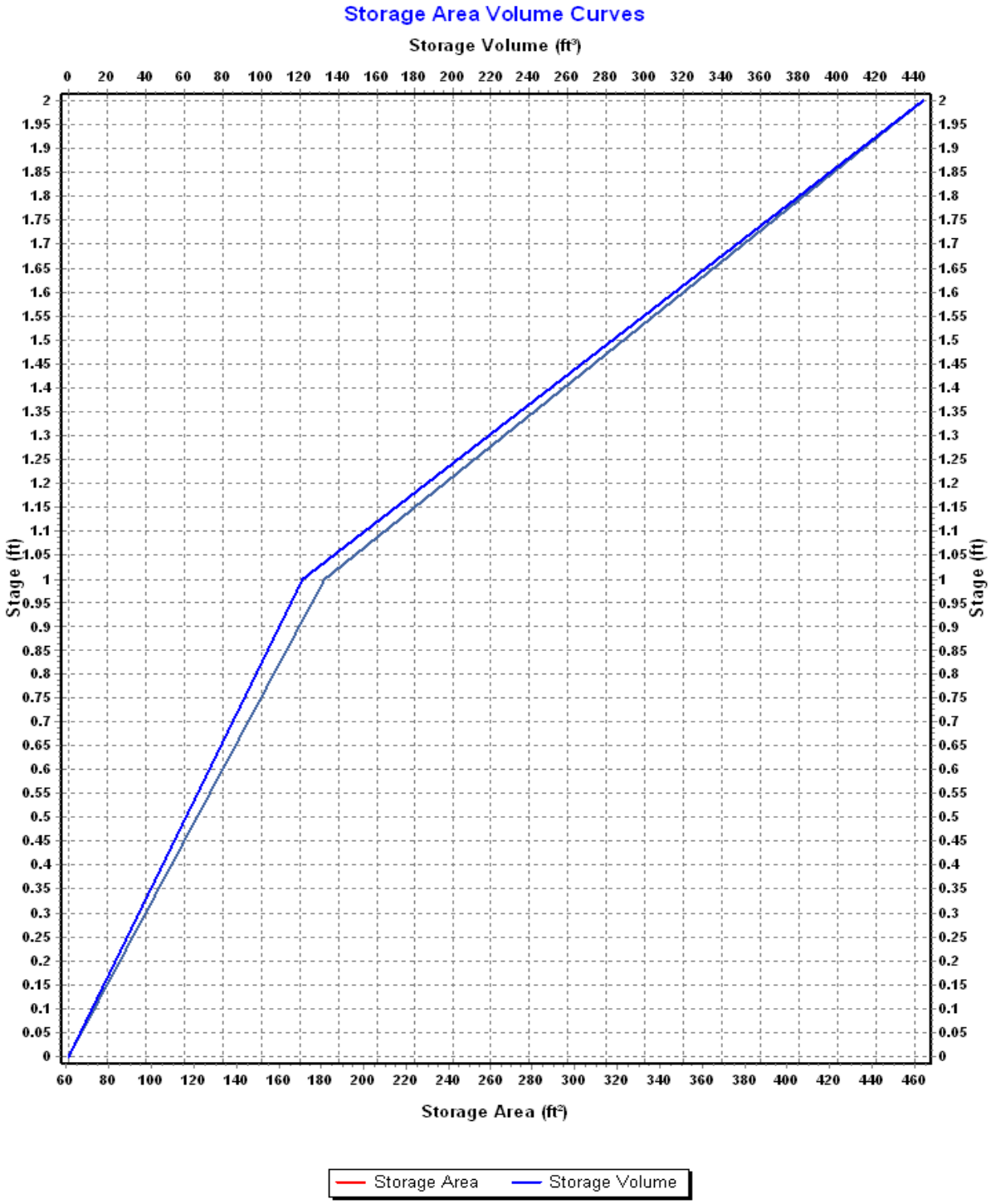
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	61	0.000
1	182	121.50
2	464	444.50


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Forebay_BMP03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	207.00	1.00	50.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.91
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.91
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.03
Max HGL Depth Attained (ft)	1.03
Average HGL Elevation Attained (ft)	206.89
Average HGL Depth Attained (ft)	0.89
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	210.65
Max (Rim) Elevation (ft)	217.00
Max (Rim) Offset (ft)	6.35
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-210.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.51
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	2.51
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	215.06
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	213.75
Average HGL Depth Attained (ft)	3.1
Time of Max HGL Occurrence (days hh:mm)	0 12:34
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	210.00
Max (Rim) Elevation (ft)	215.50
Max (Rim) Offset (ft)	5.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-210.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.18
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	2.18
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	211.50
Max HGL Depth Attained (ft)	1.5
Average HGL Elevation Attained (ft)	210.89
Average HGL Depth Attained (ft)	0.89
Time of Max HGL Occurrence (days hh:mm)	0 12:26
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	198.65
Max (Rim) Elevation (ft)	205.25
Max (Rim) Offset (ft)	6.60
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-198.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.85
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.85
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	203.15
Max HGL Depth Attained (ft)	4.5
Average HGL Elevation Attained (ft)	200.91
Average HGL Depth Attained (ft)	2.26
Time of Max HGL Occurrence (days hh:mm)	0 13:24
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber01

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	215.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-19	Trapezoidal	No	214.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	214.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	214.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber02

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-20	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	220.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber03

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-21	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	217.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber04

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-22	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	220.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber05

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	223.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-23	Trapezoidal	No	222.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	222.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	222.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber06

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-24	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber07

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-25	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	233.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber08

Input Data

Invert Elevation (ft)	233.00
Max (Rim) Elevation (ft)	235.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-233.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-27	Trapezoidal	No	234.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	234.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	234.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber09

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-26	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber10

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-44	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	217.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber11

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-43	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	221.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber12

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-42	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	221.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber13

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-28	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber14

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-29	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	233.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber15

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-41	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber16

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-40	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber17

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-39	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber18

Input Data

Invert Elevation (ft)	242.00
Max (Rim) Elevation (ft)	244.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-242.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-30	Trapezoidal	No	243.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	243.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	243.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber19

Input Data

Invert Elevation (ft)	252.00
Max (Rim) Elevation (ft)	254.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-252.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-31	Trapezoidal	No	253.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	253.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	253.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber20

Input Data

Invert Elevation (ft)	269.00
Max (Rim) Elevation (ft)	271.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-269.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-32	Trapezoidal	No	270.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	270.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	270.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber21

Input Data

Invert Elevation (ft)	270.00
Max (Rim) Elevation (ft)	272.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-270.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-33	Trapezoidal	No	271.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	271.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	271.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber22

Input Data

Invert Elevation (ft)	264.00
Max (Rim) Elevation (ft)	266.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-264.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-34	Trapezoidal	No	265.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	265.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	265.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber23

Input Data

Invert Elevation (ft)	250.00
Max (Rim) Elevation (ft)	252.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-250.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-35	Trapezoidal	No	251.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	251.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	251.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber24

Input Data

Invert Elevation (ft)	243.00
Max (Rim) Elevation (ft)	245.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-243.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-36	Trapezoidal	No	244.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	244.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	244.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber25

Input Data

Invert Elevation (ft)	238.00
Max (Rim) Elevation (ft)	240.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-238.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-37	Trapezoidal	No	239.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	239.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	239.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber26

Input Data

Invert Elevation (ft)	230.00
Max (Rim) Elevation (ft)	232.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-230.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-38	Trapezoidal	No	231.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	231.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	231.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.029
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-01

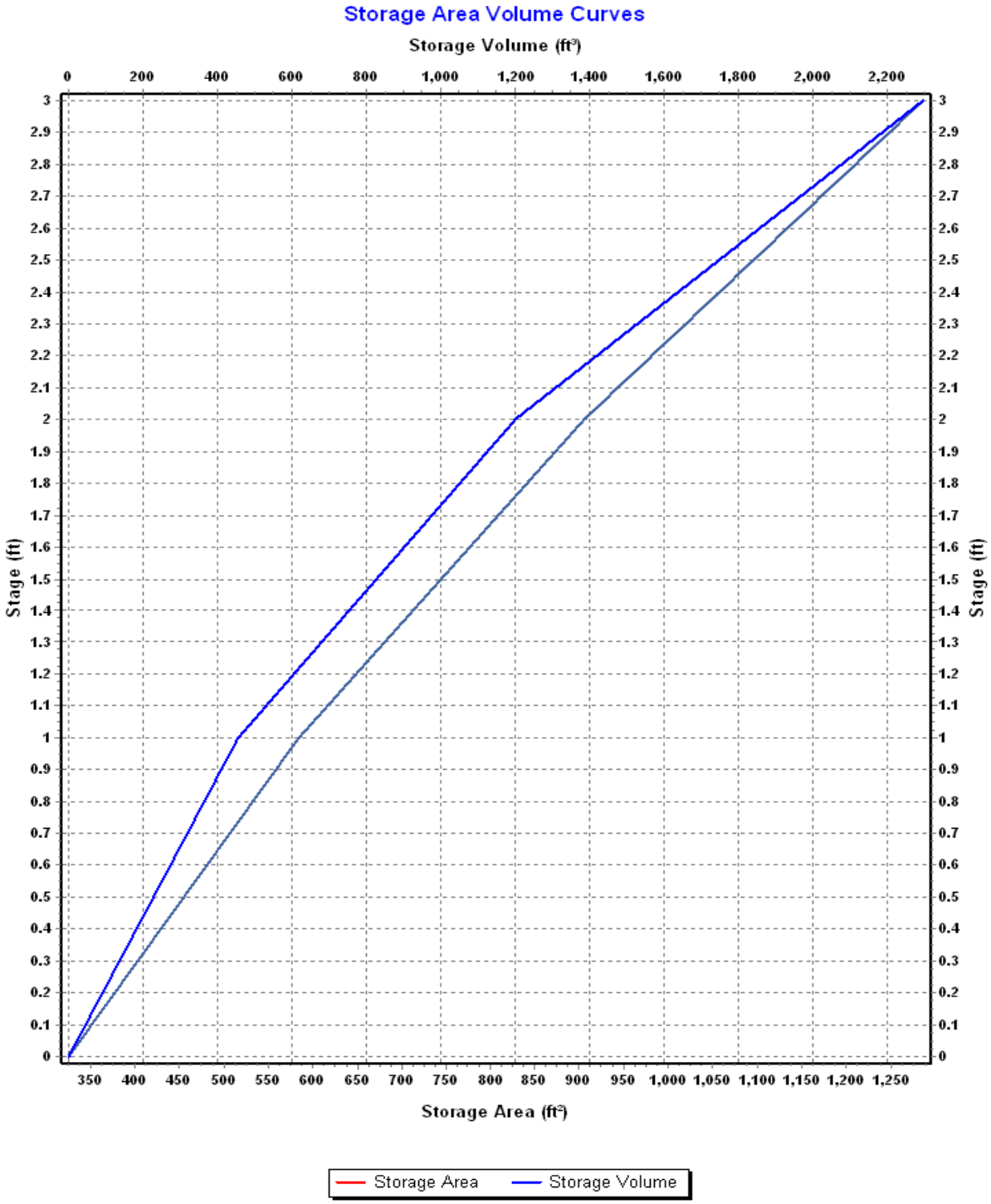
Input Data

Invert Elevation (ft)	222.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-222.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Detention Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	326	0.000
1	584	455.00
2	906	1200.00
3	1286	2296.00


Storage Area Volume Curves
Storage Volume (ft³)
0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000 2,200
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3
Stage (ft)
Storage Area (ft²)
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050 1,100 1,150 1,200 1,250
Storage Area
Storage Volume

Storage Node : Stor-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-17	Trapezoidal	No	224.00	2.00	16.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	2.68
Peak Lateral Inflow (cfs)	2.62
Peak Outflow (cfs)	2.67
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	224.14
Max HGL Depth Attained (ft)	2.14
Average HGL Elevation Attained (ft)	223.56
Average HGL Depth Attained (ft)	1.56
Time of Max HGL Occurrence (days hh:mm)	0 12:40
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Wetland

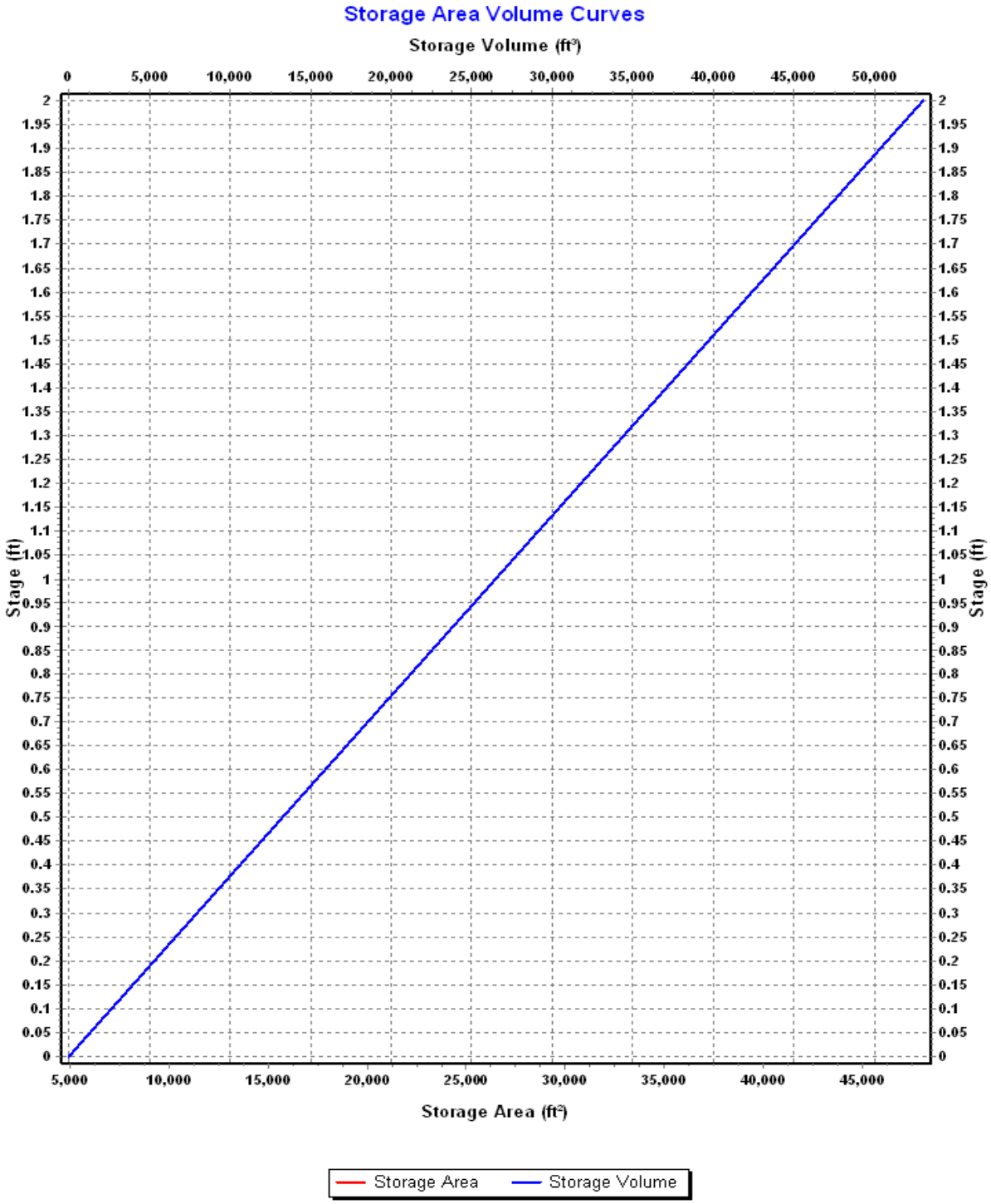
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Wetland (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	4.28
Peak Lateral Inflow (cfs)	4.20
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.62
Max HGL Depth Attained (ft)	1.62
Average HGL Elevation Attained (ft)	206.78
Average HGL Depth Attained (ft)	0.78
Time of Max HGL Occurrence (days hh:mm)	1 02:00
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 1 - Proposed Conditions (Existing Regulations) (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	53
Nodes	84
Junctions	11
Outfalls	17
Flow Diversions	0
Inlets	0
Storage Nodes	56
Links	72
Channels	0
Pipes	35
Pumps	0
Orifices	0
Weirs	37
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Pavement-01	0.13	484.00	98.00	6.50	6.26	0.83	0.74	0 00:01:36
2	Pavement-02	0.07	484.00	98.00	6.50	6.26	0.41	0.35	0 00:01:20
3	Pavement-03	0.12	484.00	98.00	6.50	6.26	0.77	0.67	0 00:01:27
4	Pavement-04	0.08	484.00	98.00	6.50	6.26	0.50	0.46	0 00:01:22
5	Pavement-05	0.14	484.00	98.00	6.50	6.26	0.90	0.77	0 00:01:16
6	Pavement-06	0.06	484.00	98.00	6.50	6.26	0.40	0.35	0 00:01:04
7	Pavement-07	0.07	484.00	98.00	6.50	6.26	0.46	0.39	0 00:00:58
8	Pavement-08	0.05	484.00	98.00	6.50	6.26	0.33	0.28	0 00:00:58
9	Pavement-09	0.11	484.00	98.00	6.50	6.26	0.67	0.60	0 00:02:02
10	Pavement-10	0.11	484.00	98.00	6.50	6.26	0.66	0.56	0 00:01:44
11	Pavement-11	0.08	484.00	98.00	6.50	6.26	0.48	0.42	0 00:01:36
12	Pavement-12	0.11	484.00	98.00	6.50	6.26	0.70	0.63	0 00:01:38
13	Pavement-13	0.11	484.00	98.00	6.50	6.26	0.69	0.60	0 00:01:59
14	Pavement-14	0.08	484.00	98.00	6.50	6.26	0.48	0.42	0 00:01:18
15	Pavement-15	0.17	484.00	92.87	6.50	5.66	0.98	0.76	0 00:16:46
16	Pavement-16	0.26	484.00	90.84	6.50	5.43	1.42	1.37	0 00:02:09
17	Pavement-17	0.15	484.00	98.00	6.50	6.26	0.95	0.84	0 00:02:49
18	Pavement-18	0.11	484.00	98.00	6.50	6.26	0.70	0.63	0 00:02:22
19	Pavement-19	0.08	484.00	98.00	6.50	6.26	0.51	0.46	0 00:01:06
20	Roof-01	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
21	Roof-02	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
22	Roof-03	0.05	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
23	Roof-04	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
24	Roof-05	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
25	Roof-06	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
26	Roof-07	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
27	Roof-08	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
28	Roof-09	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
29	Roof-10	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
30	Roof-11	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
31	Roof-12	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
32	Roof-13	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
33	Roof-14	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
34	Roof-15	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
35	Roof-16	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
36	Roof-17	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
37	Roof-18	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
38	Roof-19	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
39	Roof-20	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
40	Roof-21	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
41	Roof-22	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
42	Roof-23	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
43	Roof-24	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
44	Roof-25	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
45	Roof-26	0.06	484.00	98.00	6.50	6.26	0.34	0.32	0 00:00:06
46	Sub-01	1.64	484.00	73.47	6.50	3.56	5.84	3.82	0 00:31:55
47	Sub-02	2.48	484.00	73.09	6.50	3.52	8.73	5.03	0 00:42:04
48	Sub-03	9.20	484.00	73.58	6.50	3.57	32.83	18.06	0 00:45:55
49	Sub-04	4.36	484.00	73.02	6.50	3.51	15.31	7.52	0 00:56:46
50	Sub-05	5.21	484.00	73.69	6.50	3.58	18.64	9.09	0 00:57:25
51	Sub-06	4.48	484.00	73.88	6.50	3.60	16.11	7.80	0 00:58:04
52	Sub-07	5.44	484.00	73.62	6.50	3.57	19.42	10.53	0 00:47:13
53	Sub-08	3.74	484.00	73.61	6.50	3.57	13.36	6.49	0 00:57:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	Junction	241.00	247.00	0.00	0.00	0.00	1.09	245.28	0.00	1.72	0 00:00	0.00	0.00
2	DMH-02	Junction	231.15	238.00	0.00	0.00	0.00	1.09	235.54	0.00	2.46	0 00:00	0.00	0.00
3	DMH-03	Junction	229.00	236.00	0.00	0.00	0.00	4.13	233.37	0.00	2.63	0 00:00	0.00	0.00
4	DMH-04	Junction	228.50	237.00	0.00	0.00	0.00	3.86	232.81	0.00	4.19	0 00:00	0.00	0.00
5	DMH-05	Junction	228.00	242.00	0.00	0.00	0.00	4.96	229.65	0.00	12.35	0 00:00	0.00	0.00
6	DMH-06	Junction	241.00	247.00	0.00	0.00	0.00	2.07	245.44	0.00	1.56	0 00:00	0.00	0.00
7	DMH-07	Junction	223.00	229.75	0.00	0.00	0.00	1.79	227.52	0.00	2.23	0 00:00	0.00	0.00
8	DMH-08	Junction	216.50	224.00	0.00	0.00	0.00	3.16	221.19	0.00	2.81	0 00:00	0.00	0.00
9	DMH-09	Junction	214.15	222.00	0.00	0.00	0.00	7.53	219.04	0.00	2.96	0 00:00	0.00	0.00
10	DMH-10	Junction	216.15	223.00	0.00	0.00	0.00	5.92	220.46	0.00	2.54	0 00:00	0.00	0.00
11	DMH-11	Junction	216.00	224.00	0.00	0.00	0.00	5.31	219.95	0.00	4.05	0 00:00	0.00	0.00
12	Out-01	Outfall	232.00					7.50	232.00					
13	Out-29	Outfall	210.00					2.08	210.00					
14	Out-30	Outfall	212.00					7.22	212.68					
15	Out-31	Outfall	206.00					15.66	206.00					
16	Out-32	Outfall	212.00					1.88	212.00					
17	Out-33	Outfall	202.00					7.05	203.02					
18	Out-34	Outfall	204.00					5.31	204.00					
19	Out-35	Outfall	204.00					18.01	204.00					
20	Out-36	Outfall	217.90					5.31	218.80					
21	Out-37	Outfall	216.00					0.32	216.00					
22	Out-38	Outfall	220.00					0.32	220.00					
23	Out-39	Outfall	220.00					0.32	220.00					
24	Out-40	Outfall	223.00					0.32	223.00					
25	Out-41	Outfall	223.00					0.32	223.00					
26	Out-42	Outfall	228.00					0.32	228.00					
27	Out-43	Outfall	230.00					0.32	230.00					
28	Out-44	Outfall	238.00					0.32	238.00					
29	BMP-01	Storage Node	216.00	218.00	0.00		0.00	9.33	217.69				0.00	0.00
30	BMP-02	Storage Node	213.00	217.00	0.00		0.00	9.09	215.84				0.00	0.00
31	BMP-03	Storage Node	204.00	206.00	0.00		0.00	12.89	205.91				0.00	0.00
32	CB-01	Storage Node	217.15	224.00	0.00		1000.00	10.61	221.11				0.00	0.00
33	CB-02	Storage Node	231.15	238.00	0.00		1000.00	3.79	235.15				0.00	0.00
34	CB-03	Storage Node	241.15	248.00	0.00		1000.00	0.74	245.64				0.00	0.00
35	CB-04	Storage Node	241.15	248.00	0.00		1000.00	0.35	245.45				0.00	0.00
36	CB-05	Storage Node	0.00	236.00	0.00		1000.00	0.41	131.14				0.00	0.00
37	CB-06	Storage Node	0.00	236.00	0.00		1000.00	0.30	99.46				0.00	0.00
38	CB-07	Storage Node	0.00	236.00	0.00		1000.00	0.77	233.20				0.00	0.00
39	CB-08	Storage Node	0.00	236.00	0.00		1000.00	0.35	108.16				0.00	0.00
40	CB-09	Storage Node	241.15	248.00	0.00		1000.00	0.46	245.53				0.00	0.00
41	CB-10	Storage Node	241.15	248.00	0.00		1000.00	1.61	245.90				0.00	0.00
42	CB-11	Storage Node	223.15	230.00	0.00		1000.00	1.23	227.79				0.00	0.00
43	CB-12	Storage Node	223.15	230.00	0.00		1000.00	0.56	227.58				0.00	0.00
44	CB-13	Storage Node	217.15	224.00	0.00		1000.00	0.74	221.60				0.00	0.00
45	CB-14	Storage Node	217.15	224.00	0.00		1000.00	0.63	221.57				0.00	0.00
46	CB-15	Storage Node	217.15	224.00	0.00		1000.00	1.37	221.55				0.00	0.00
47	CB-16	Storage Node	217.15	224.00	0.00		1000.00	0.75	221.44				0.00	0.00
48	CB-17	Storage Node	211.15	218.00	0.00		1000.00	1.23	215.99				0.00	0.00
49	CB-18	Storage Node	211.15	218.00	0.00		1000.00	0.42	215.85				0.00	0.00
50	CB-19	Storage Node	203.65	210.50	0.00		1000.00	1.30	208.23				0.00	0.00
51	CB-20	Storage Node	203.65	210.50	0.00		1000.00	0.63	207.99				0.00	0.00
52	Forebay_BMP01	Storage Node	219.00	220.00	0.00		0.00	9.33	219.67				0.00	0.00
53	Forebay_BMP03	Storage Node	206.00	208.00	0.00		0.00	1.93	207.05				0.00	0.00
54	OCS-01	Storage Node	210.65	217.00	0.00		0.00	7.22	215.41				0.00	0.00
55	OCS-02	Storage Node	210.00	215.50	0.00		0.00	7.07	212.01				0.00	0.00
56	OCS-03	Storage Node	198.65	205.25	0.00		0.00	7.05	203.83				0.00	0.00
57	Roof_Chamber01	Storage Node	213.00	215.00	0.00		0.00	0.32	214.76				0.00	0.00
58	Roof_Chamber02	Storage Node	219.00	221.00	0.00		0.00	0.32	220.76				0.00	0.00
59	Roof_Chamber03	Storage Node	216.00	218.00	0.00		0.00	0.32	217.76				0.00	0.00
60	Roof_Chamber04	Storage Node	219.00	221.00	0.00		0.00	0.32	220.76				0.00	0.00
61	Roof_Chamber05	Storage Node	221.00	223.00	0.00		0.00	0.32	222.76				0.00	0.00
62	Roof_Chamber06	Storage Node	223.00	225.00	0.00		0.00	0.32	224.76				0.00	0.00
63	Roof_Chamber07	Storage Node	232.00	234.00	0.00		0.00	0.32	233.76				0.00	0.00
64	Roof_Chamber08	Storage Node	233.00	235.00	0.00		0.00	0.32	234.76				0.00	0.00
65	Roof_Chamber09	Storage Node	228.00	230.00	0.00		0.00	0.32	229.76				0.00	0.00
66	Roof_Chamber10	Storage Node	216.00	218.00	0.00		0.00	0.32	217.76				0.00	0.00
67	Roof_Chamber11	Storage Node	220.00	222.00	0.00		0.00	0.32	221.76				0.00	0.00
68	Roof_Chamber12	Storage Node	220.00	222.00	0.00		0.00	0.32	221.76				0.00	0.00
69	Roof_Chamber13	Storage Node	228.00	230.00	0.00		0.00	0.32	229.76				0.00	0.00
70	Roof_Chamber14	Storage Node	232.00	234.00	0.00		0.00	0.32	233.76				0.00	0.00
71	Roof_Chamber15	Storage Node	223.00	225.00	0.00		0.00	0.32	224.76				0.00	0.00
72	Roof_Chamber16	Storage Node	223.00	225.00	0.00		0.00	0.32	224.76				0.00	0.00
73	Roof_Chamber17	Storage Node	228.00	230.00	0.00		0.00	0.32	229.76				0.00	0.00
74	Roof_Chamber18	Storage Node	242.00	244.00	0.00		0.00	0.32	243.76				0.00	0.00
75	Roof_Chamber19	Storage Node	252.00	254.00	0.00		0.00	0.32	253.76				0.00	0.00
76	Roof_Chamber20	Storage Node	269.00	271.00	0.00		0.00	0.32	270.76				0.00	0.00
77	Roof_Chamber21	Storage Node	270.00	272.00	0.00		0.00	0.32	271.76				0.00	0.00
78	Roof_Chamber22	Storage Node	264.00	266.00	0.00		0.00	0.32	265.76				0.00	0.00
79	Roof_Chamber23	Storage Node	250.00	252.00	0.00		0.00	0.32	251.76				0.00	0.00
80	Roof_Chamber24	Storage Node	243.00	245.00	0.00		0.00	0.32	244.76				0.00	0.00
81	Roof_Chamber25	Storage Node	238.00	240.00	0.00		0.00	0.32	239.76				0.00	0.00
82	Roof_Chamber26	Storage Node	230.00	232.00	0.00		0.00	0.32	231.76				0.00	0.00
83	Stor-01	Storage Node	222.00	225.00	0.00		0.00	10.61	224.34				0.00	0.00
84	Wetland	Storage Node	206.00	208.00	0.00		0.00	17.08	207.82				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-28	Pipe	OCS-01	Out-30	42.00	214.65	212.00	6.3100	18.000	0.0200	7.22	17.15	0.42	8.64	0.72	0.48	0.00	Calculated
2	Link-29	Pipe	OCS-03	Out-33	40.00	202.65	202.00	1.6300	18.000	0.0200	7.05	8.70	0.81	5.06	1.10	0.74	0.00	Calculated
3	Link-30	Pipe	OCS-02	BMP-03	215.00	211.00	207.00	1.8600	18.000	0.0200	7.07	9.31	0.76	5.68	0.99	0.66	0.00	Calculated
4	Link-31	Pipe	CB-04	DMH-01	17.51	245.15	245.00	0.8600	12.000	0.0200	0.35	2.14	0.16	1.83	0.29	0.29	0.00	Calculated
5	Link-32	Pipe	CB-03	DMH-01	24.09	245.15	245.00	0.6200	12.000	0.0200	0.74	1.83	0.40	2.34	0.42	0.42	0.00	Calculated
6	Link-33	Pipe	DMH-01	DMH-02	139.54	245.00	235.15	7.0600	12.000	0.0200	1.09	6.15	0.18	4.72	0.34	0.34	0.00	Calculated
7	Link-34	Pipe	DMH-02	DMH-03	76.23	235.15	233.15	2.6200	12.000	0.0200	1.09	3.75	0.29	4.00	0.38	0.38	0.00	Calculated
8	Link-35	Pipe	CB-05	DMH-03	24.01	233.15	233.00	0.6200	12.000	0.0200	0.13	1.83	0.07	0.82	0.26	0.26	0.00	Calculated
9	Link-36	Pipe	CB-06	DMH-03	15.56	233.15	233.00	0.9600	12.000	0.0200	0.14	2.27	0.06	0.87	0.26	0.26	0.00	Calculated
10	Link-37	Pipe	CB-02	DMH-03	38.28	234.50	233.15	3.5300	18.000	0.0200	3.79	12.82	0.30	5.68	0.60	0.40	0.00	Calculated
11	Link-38	Pipe	DMH-03	DMH-04	32.64	232.50	232.00	1.5300	18.000	0.0200	3.86	8.45	0.46	3.78	0.84	0.56	0.00	Calculated
12	Link-39	Pipe	CB-08	DMH-04	18.32	233.15	233.00	0.8200	12.000	0.0200	0.00	2.10	0.00	0.00	0.00	0.00	0.00	Calculated
13	Link-40	Pipe	CB-07	DMH-04	10.99	233.15	233.00	1.3600	12.000	0.0200	0.01	2.71	0.00	0.85	0.04	0.04	0.00	Calculated
14	Link-41	Pipe	DMH-04	DMH-05	130.94	232.00	230.00	1.5300	18.000	0.0200	3.85	8.44	0.46	4.27	0.76	0.51	0.00	Calculated
15	Link-42	Pipe	CB-09	DMH-06	23.74	245.15	245.00	0.6300	12.000	0.0200	0.46	1.84	0.25	1.50	0.41	0.41	0.00	Calculated
16	Link-43	Pipe	CB-10	DMH-06	19.02	245.15	245.00	0.7900	12.000	0.0200	1.61	2.06	0.78	3.02	0.64	0.64	0.00	Calculated
17	Link-44	Pipe	DMH-06	DMH-05	100.67	245.00	239.15	5.8100	12.000	0.0200	2.07	5.58	0.37	6.41	0.43	0.43	0.00	Calculated
18	Link-45	Pipe	DMH-05	Forebay_BMP01	245.00	229.00	220.00	3.6700	18.000	0.0200	4.95	13.09	0.38	6.82	0.64	0.43	0.00	Calculated
19	Link-46	Pipe	CB-11	DMH-07	20.06	227.15	227.00	0.7500	12.000	0.0200	1.23	2.00	0.61	2.64	0.58	0.58	0.00	Calculated
20	Link-47	Pipe	CB-12	DMH-07	16.46	227.15	227.00	0.9100	12.000	0.0200	0.56	2.21	0.25	1.57	0.47	0.47	0.00	Calculated
21	Link-48	Pipe	DMH-07	DMH-08	260.00	227.00	221.00	2.3100	12.000	0.0200	1.79	3.52	0.51	4.43	0.51	0.51	0.00	Calculated
22	Link-49	Pipe	CB-13	DMH-08	12.97	221.15	221.00	1.1600	12.000	0.0200	0.74	2.49	0.30	2.49	0.40	0.40	0.00	Calculated
23	Link-50	Pipe	CB-14	DMH-08	16.41	221.15	221.00	0.9100	12.000	0.0200	0.63	2.21	0.29	2.33	0.38	0.38	0.00	Calculated
24	Link-51	Pipe	DMH-08	DMH-09	96.22	220.50	219.15	1.4000	18.000	0.0200	3.16	8.09	0.39	4.12	0.67	0.45	0.00	Calculated
25	Link-52	Pipe	CB-01	DMH-10	37.16	220.20	219.70	1.3500	24.000	0.0200	5.31	17.06	0.31	4.23	0.84	0.42	0.00	Calculated
26	Link-53	Pipe	CB-15	DMH-10	16.23	221.15	220.15	6.1600	12.000	0.0200	1.37	5.75	0.24	5.26	0.37	0.37	0.00	Calculated
27	Link-54	Pipe	CB-16	DMH-10	20.81	221.15	220.15	4.8100	12.000	0.0200	0.75	5.08	0.15	4.28	0.28	0.28	0.00	Calculated
28	Link-55	Pipe	DMH-10	DMH-09	63.63	219.65	217.80	2.9100	18.000	0.0200	5.92	11.64	0.51	4.90	0.97	0.65	0.00	Calculated
29	Link-56	Pipe	DMH-09	BMP-02	130.00	217.75	217.00	0.5800	24.000	0.0200	7.50	11.17	0.67	4.10	1.12	0.57	0.00	Calculated
30	Link-62	Pipe	CB-18	BMP-02	33.00	215.15	214.85	0.9100	12.000	0.0200	0.42	2.21	0.19	1.07	0.85	0.85	0.00	Calculated
31	Link-63	Pipe	CB-17	BMP-02	52.00	215.15	214.85	0.5800	12.000	0.0200	1.23	1.76	0.70	1.67	0.91	0.91	0.00	Calculated
32	Link-77	Pipe	CB-19	Forebay_BMP03	67.00	207.65	207.00	0.9700	12.000	0.0200	1.30	2.28	0.57	3.08	0.53	0.53	0.00	Calculated
33	Link-78	Pipe	CB-20	Forebay_BMP03	47.00	207.65	207.00	1.3800	12.000	0.0200	0.63	2.72	0.23	2.75	0.33	0.33	0.00	Calculated
34	Link-80	Pipe	CB-01	DMH-11	16.14	220.20	220.00	1.2400	24.000	0.0200	5.31	16.37	0.32	4.18	0.85	0.42	0.00	Calculated
35	Link-81	Pipe	DMH-11	Out-36	148.58	219.00	217.00	1.3500	24.000	0.0200	5.31	12.65	0.42	3.73	0.93	0.46	0.00	Calculated
36	Orifice-1	Weir	BMP-02	OCS-02		213.00	210.00				2.57							
37	Weir-01	Weir	Forebay_BMP01	BMP-01		219.00	216.00				9.33							
38	Weir-02	Weir	BMP-01	Out-29		216.00	210.00				2.08							
39	Weir-03	Weir	BMP-01	OCS-01		216.00	210.65				7.22							
40	Weir-04	Weir	Wetland	Out-31		206.00	206.00				15.66							
41	Weir-06	Weir	BMP-02	Out-32		213.00	212.00				1.88							
42	Weir-07	Weir	BMP-02	OCS-02		213.00	210.00				4.50							
43	Weir-09	Weir	BMP-03	OCS-03		204.00	198.65				7.05							
44	Weir-10	Weir	BMP-03	Out-34		204.00	204.00				5.31							
45	Weir-16	Weir	Forebay_BMP03	BMP-03		206.00	204.00				1.93							
46	Weir-17	Weir	Stor-01	CB-01		222.00	217.15				10.61							
47	Weir-19	Weir	Roof_Chamber01	Wetland		213.00	206.00				0.32							
48	Weir-20	Weir	Roof_Chamber02	Wetland		219.00	206.00				0.32							
49	Weir-21	Weir	Roof_Chamber03	Wetland		216.00	206.00				0.32							
50	Weir-22	Weir	Roof_Chamber04	CB-17		219.00	211.15				0.32							
51	Weir-23	Weir	Roof_Chamber05	CB-17		221.00	211.15				0.32							
52	Weir-24	Weir	Roof_Chamber06	Wetland		223.00	206.00				0.32							
53	Weir-25	Weir	Roof_Chamber07	Wetland		232.00	206.00				0.32							
54	Weir-26	Weir	Roof_Chamber09	Stor-01		228.00	222.00				0.32							
55	Weir-27	Weir	Roof_Chamber08	Stor-01		233.00	222.00				0.32							
56	Weir-28	Weir	Roof_Chamber13	CB-13		228.00	217.15				0.32							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
57	Weir-29	Weir	Roof_Chamber14	CB-11		232.00	223.15				0.32							
58	Weir-30	Weir	Roof_Chamber18	CB-11		242.00	223.15				0.32							
59	Weir-31	Weir	Roof_Chamber19	Stor-01		252.00	222.00				0.32							
60	Weir-32	Weir	Roof_Chamber20	CB-10		269.00	241.15				0.32							
61	Weir-33	Weir	Roof_Chamber21	CB-10		270.00	241.15				0.32							
62	Weir-34	Weir	Roof_Chamber22	CB-10		264.00	241.15				0.32							
63	Weir-35	Weir	Roof_Chamber23	Forebay_BMP01		250.00	219.00				0.32							
64	Weir-36	Weir	Roof_Chamber24	Forebay_BMP01		243.00	219.00				0.32							
65	Weir-37	Weir	Roof_Chamber25	Out-44		238.00	238.00				0.32							
66	Weir-38	Weir	Roof_Chamber26	Out-43		230.00	230.00				0.32							
67	Weir-39	Weir	Roof_Chamber17	Out-42		228.00	228.00				0.32							
68	Weir-40	Weir	Roof_Chamber16	Out-41		223.00	223.00				0.32							
69	Weir-41	Weir	Roof_Chamber15	Out-40		223.00	223.00				0.32							
70	Weir-42	Weir	Roof_Chamber12	Out-39		220.00	220.00				0.32							
71	Weir-43	Weir	Roof_Chamber11	Out-38		220.00	220.00				0.32							
72	Weir-44	Weir	Roof_Chamber10	Out-37		216.00	216.00				0.32							

Subbasin Hydrology

Subbasin : Pavement-01

Input Data

Area (ac)	0.13
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.13	C	98.00
Composite Area & Weighted CN	0.13		98.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	40	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	0.54	0.00	0.00

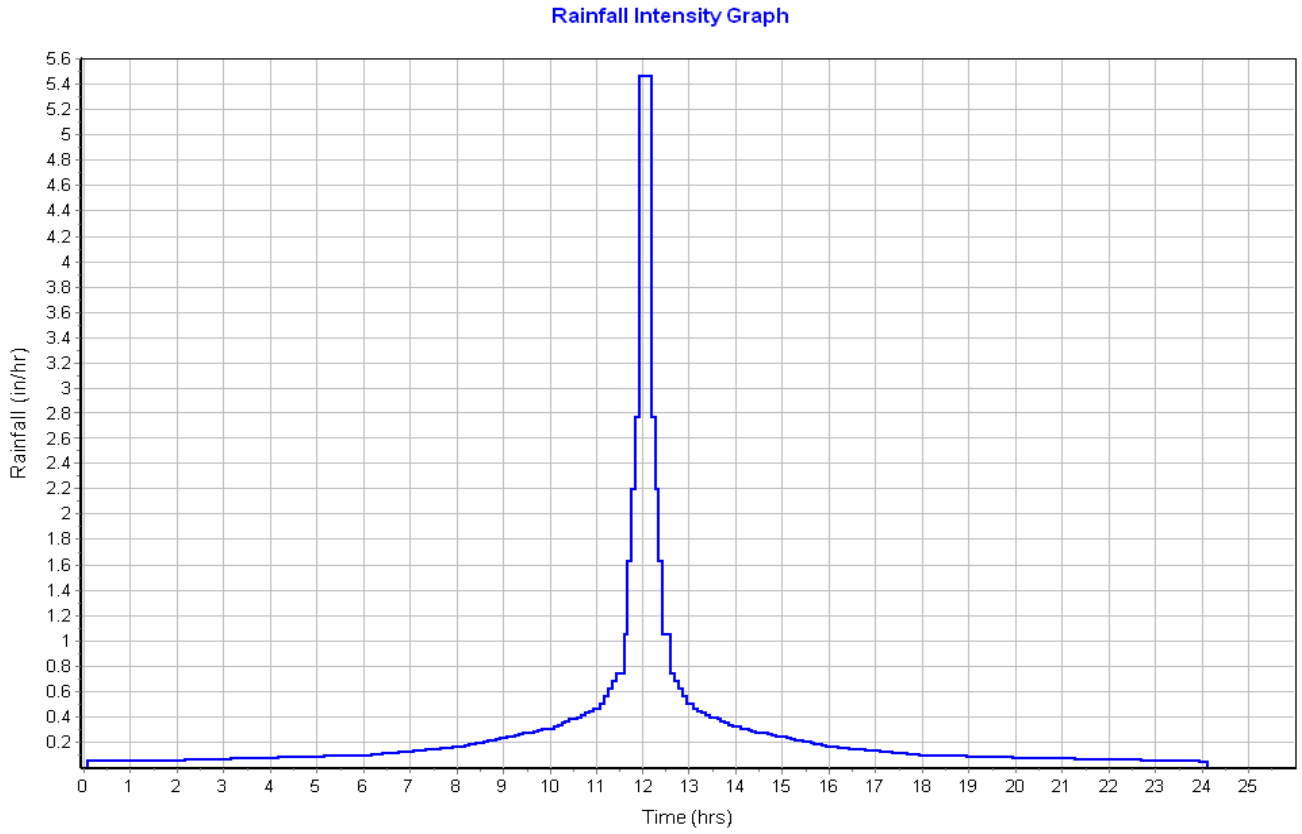
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

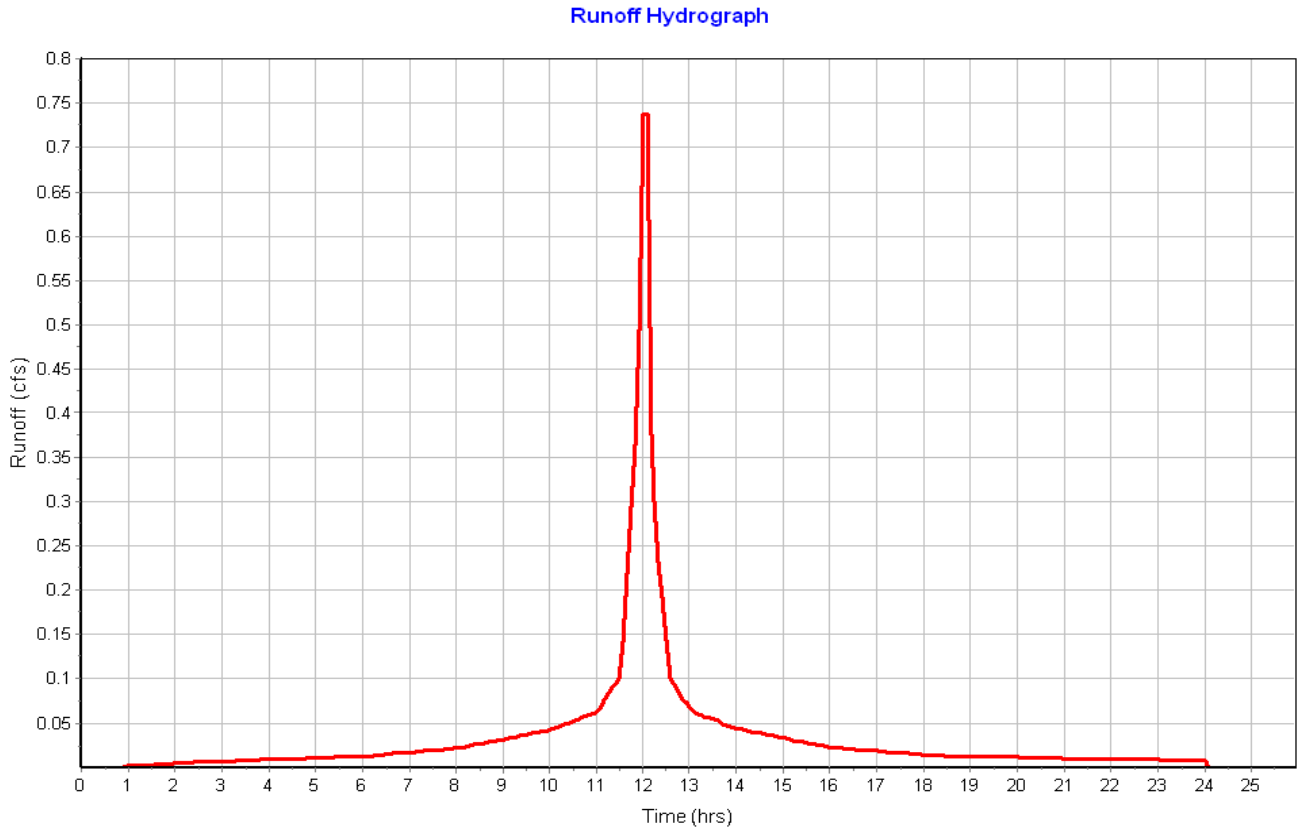
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.74
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Pavement-01





Subbasin : Pavement-02

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.17	0.00	0.00
Computed Flow Time (min) :	0.43	0.00	0.00

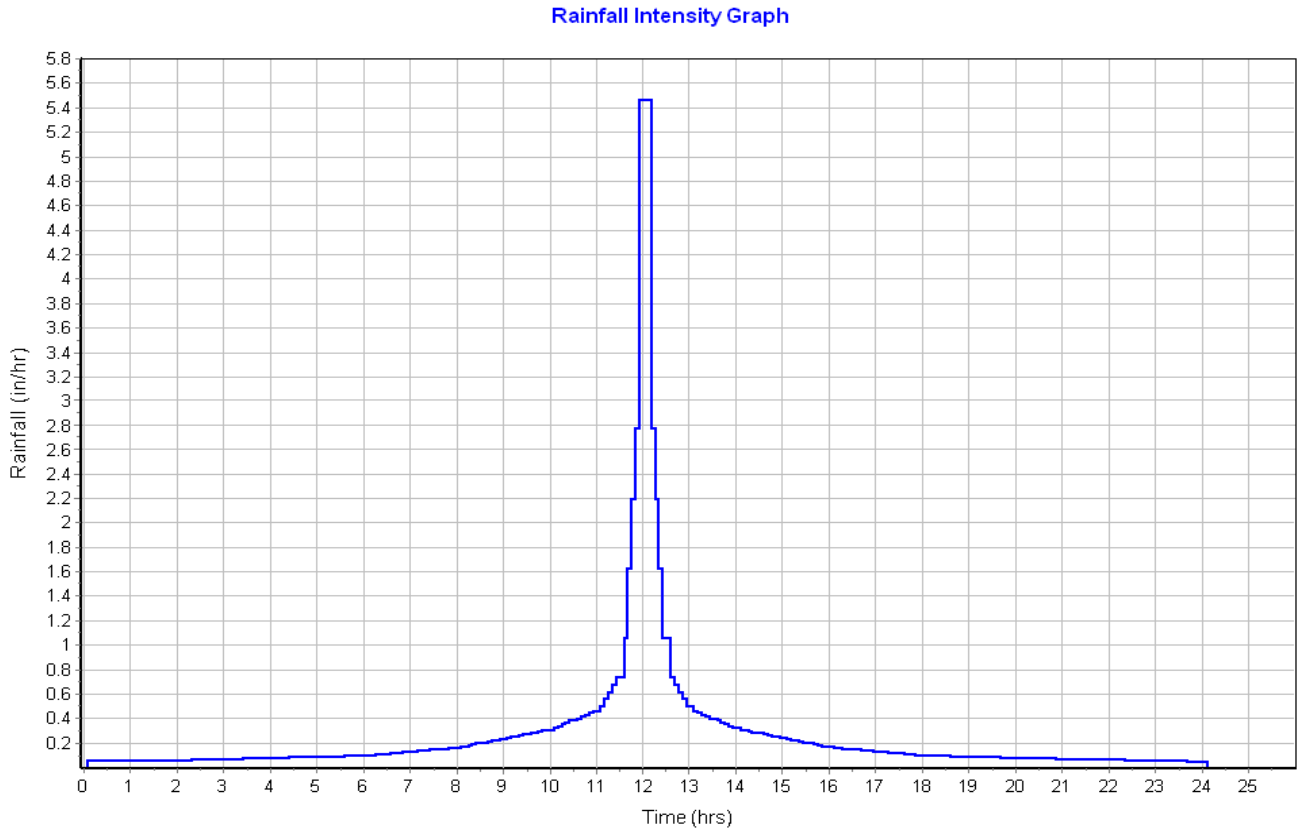
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.82	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

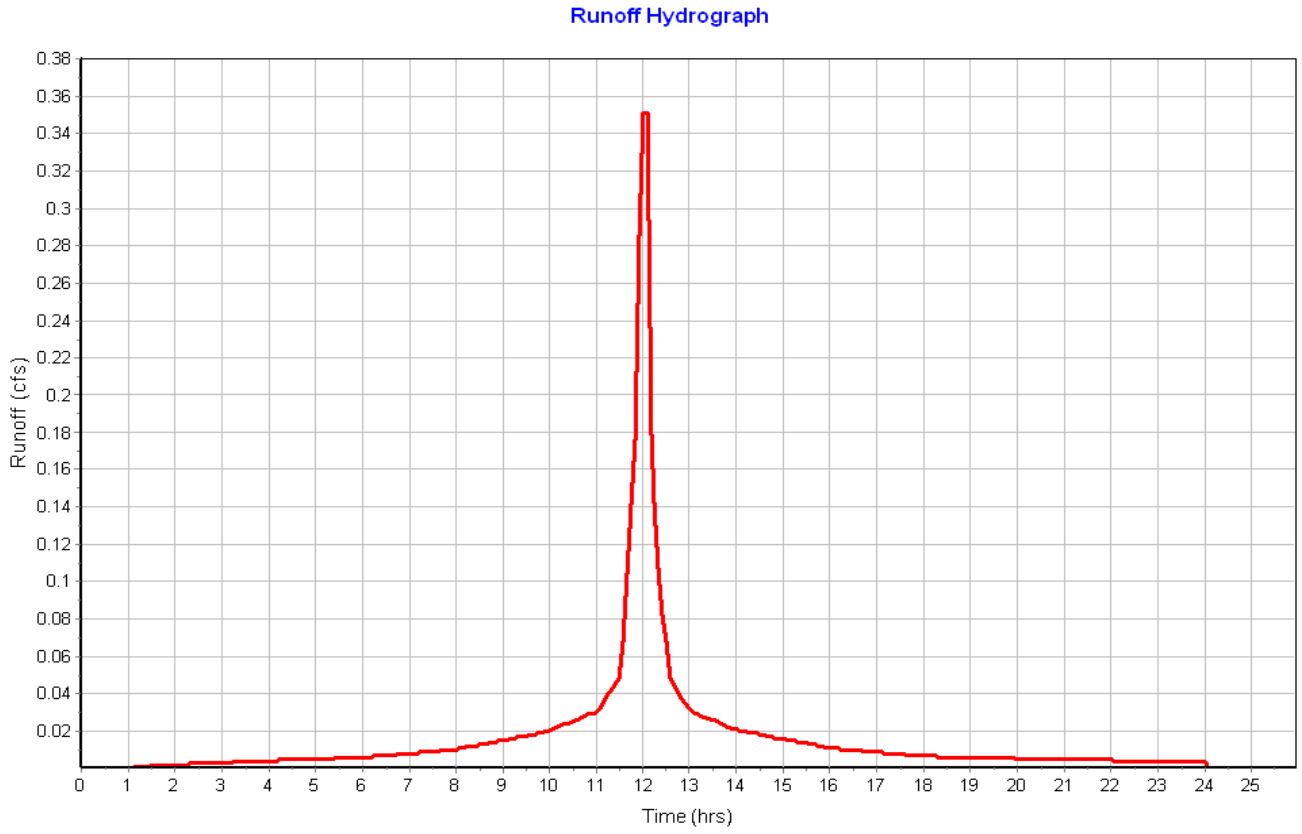
Total TOC (min) 1.34

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.35
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:20

Subbasin : Pavement-02





Subbasin : Pavement-03

Input Data

Area (ac)	0.12
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
Composite Area & Weighted CN	0.12		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	41.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.25	0.00	0.00
Computed Flow Time (min) :	0.56	0.00	0.00

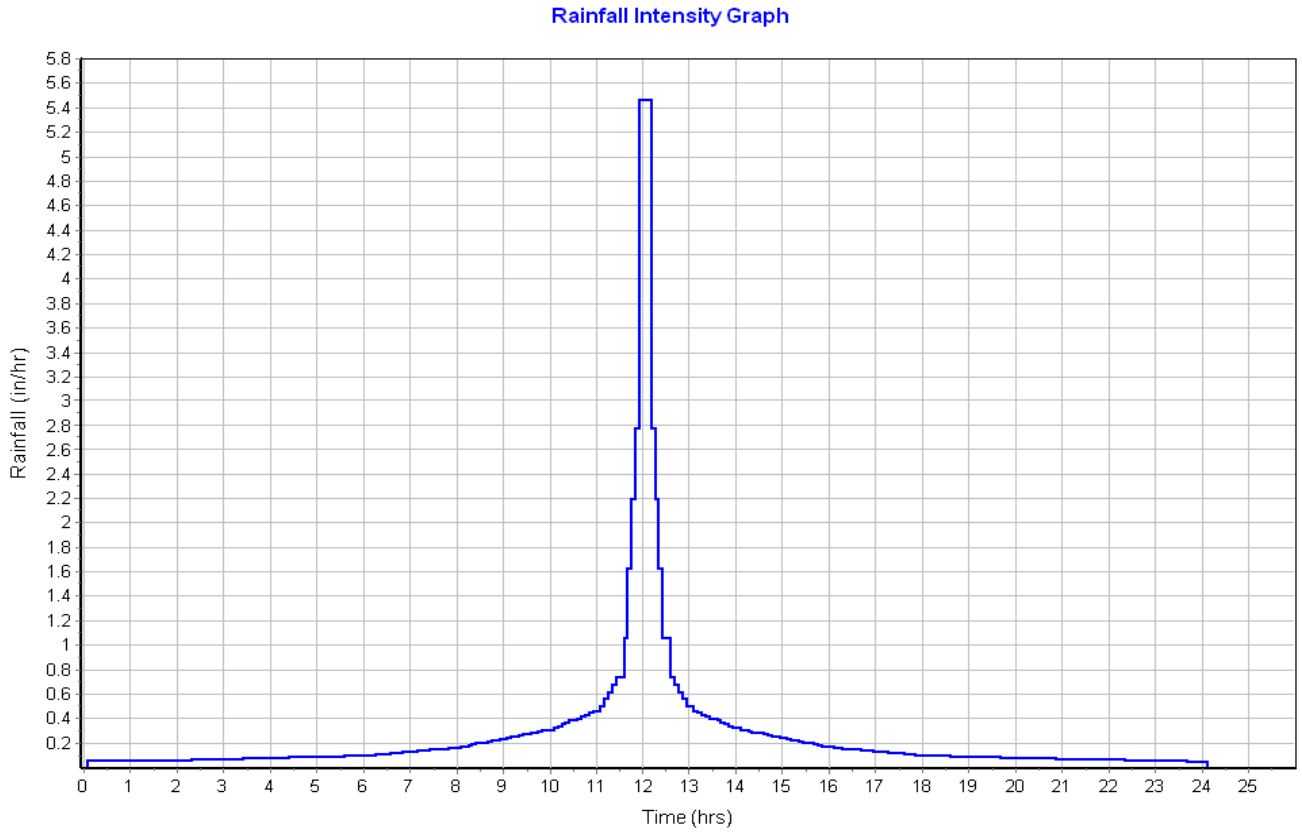
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	266.17	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

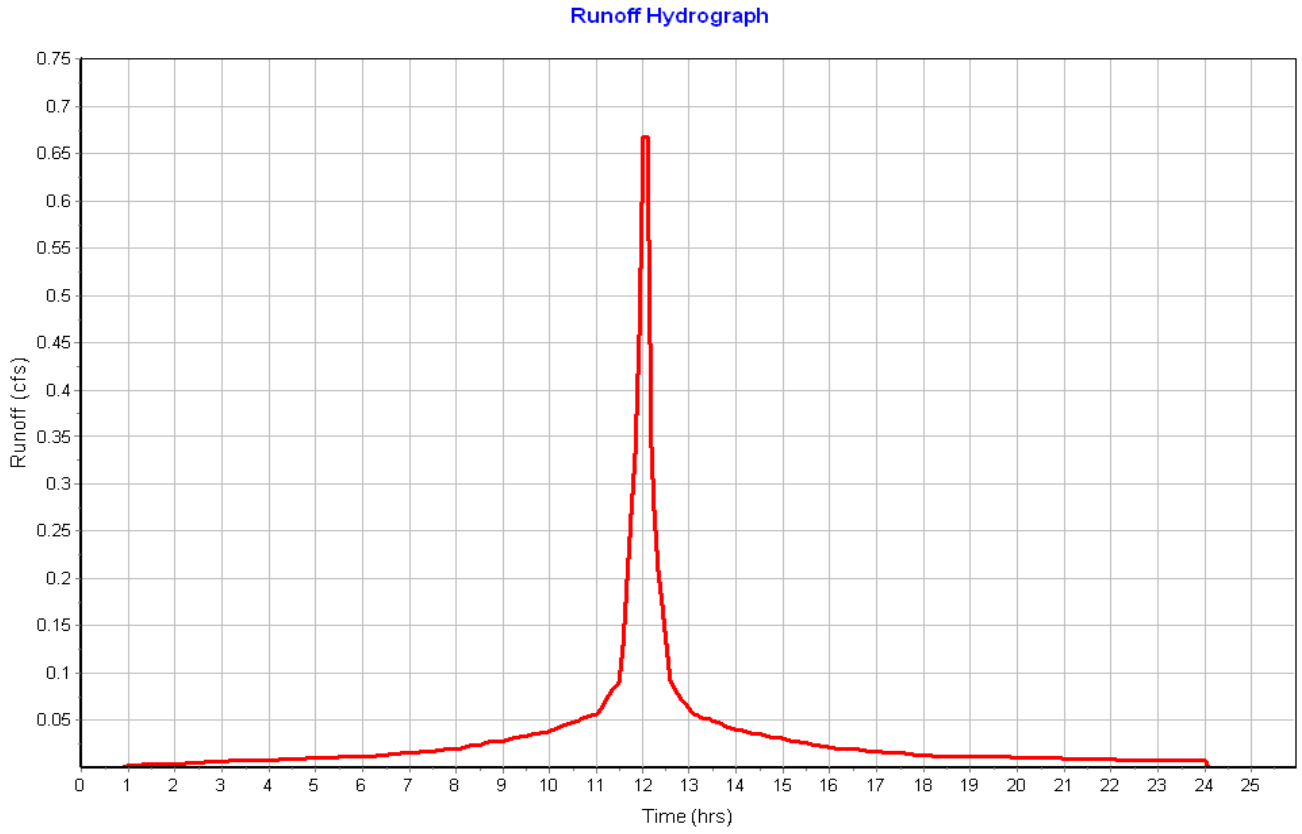
Total TOC (min) 1.45

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.67
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:27

Subbasin : Pavement-03





Subbasin : Pavement-04

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	36.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.22	0.00	0.00
Computed Flow Time (min) :	0.50	0.00	0.00

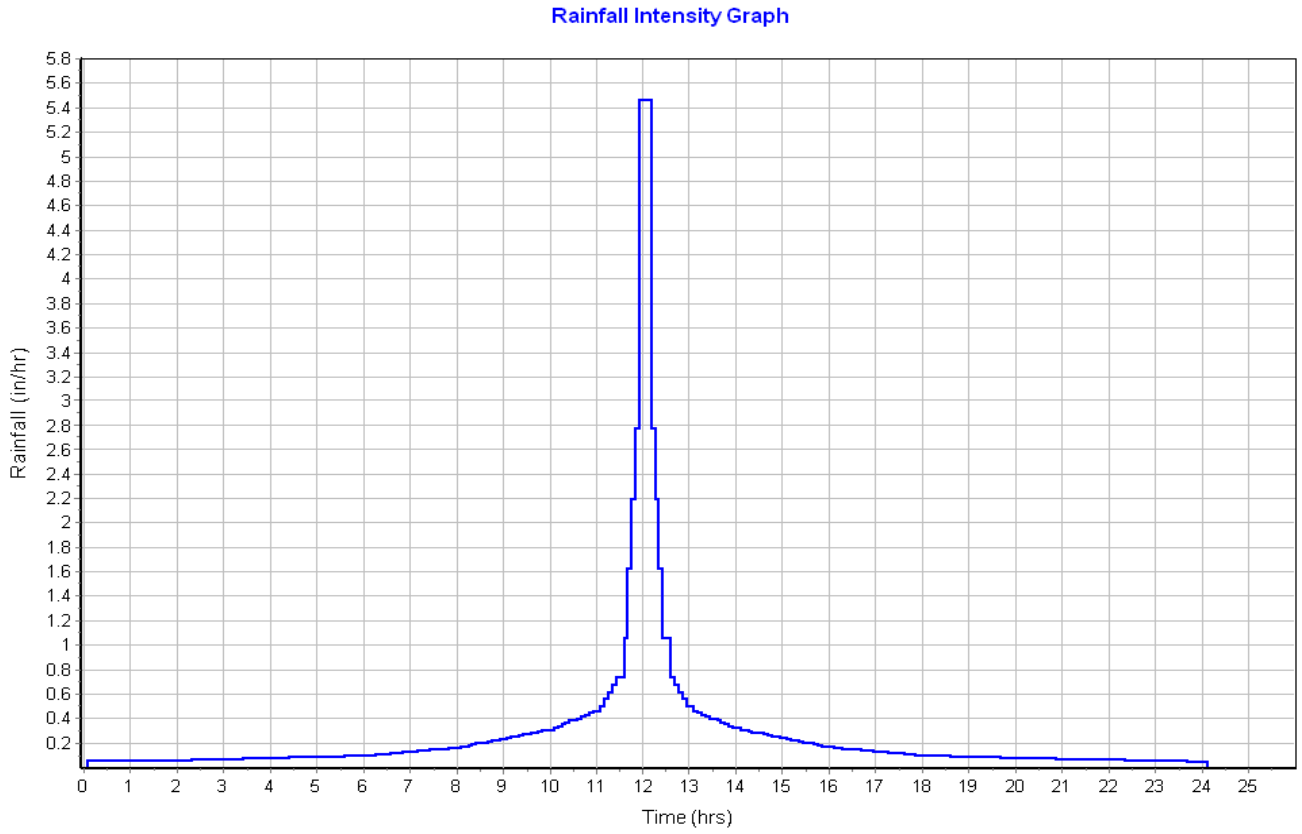
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.91	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

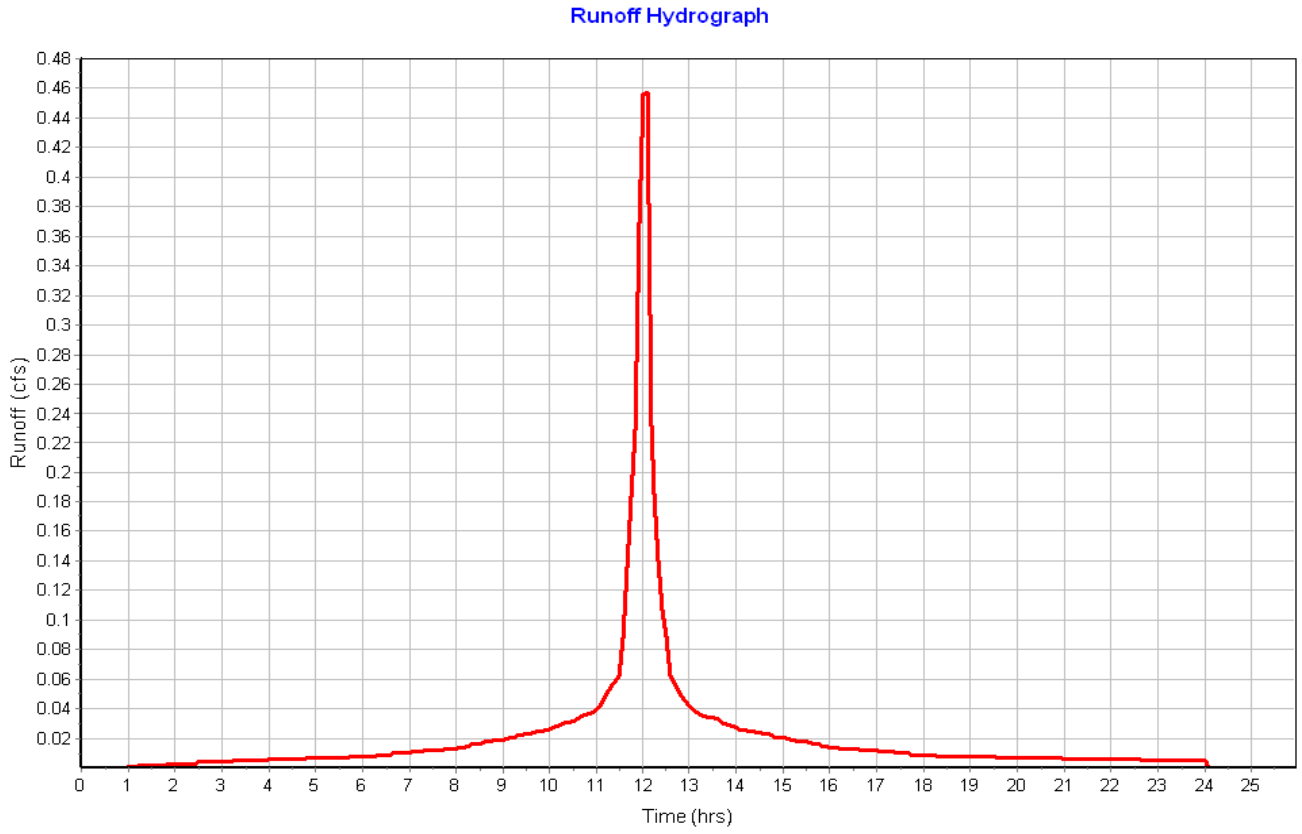
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.46
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:23

Subbasin : Pavement-04





Subbasin : Pavement-05

Input Data

Area (ac)	0.14
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.14	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

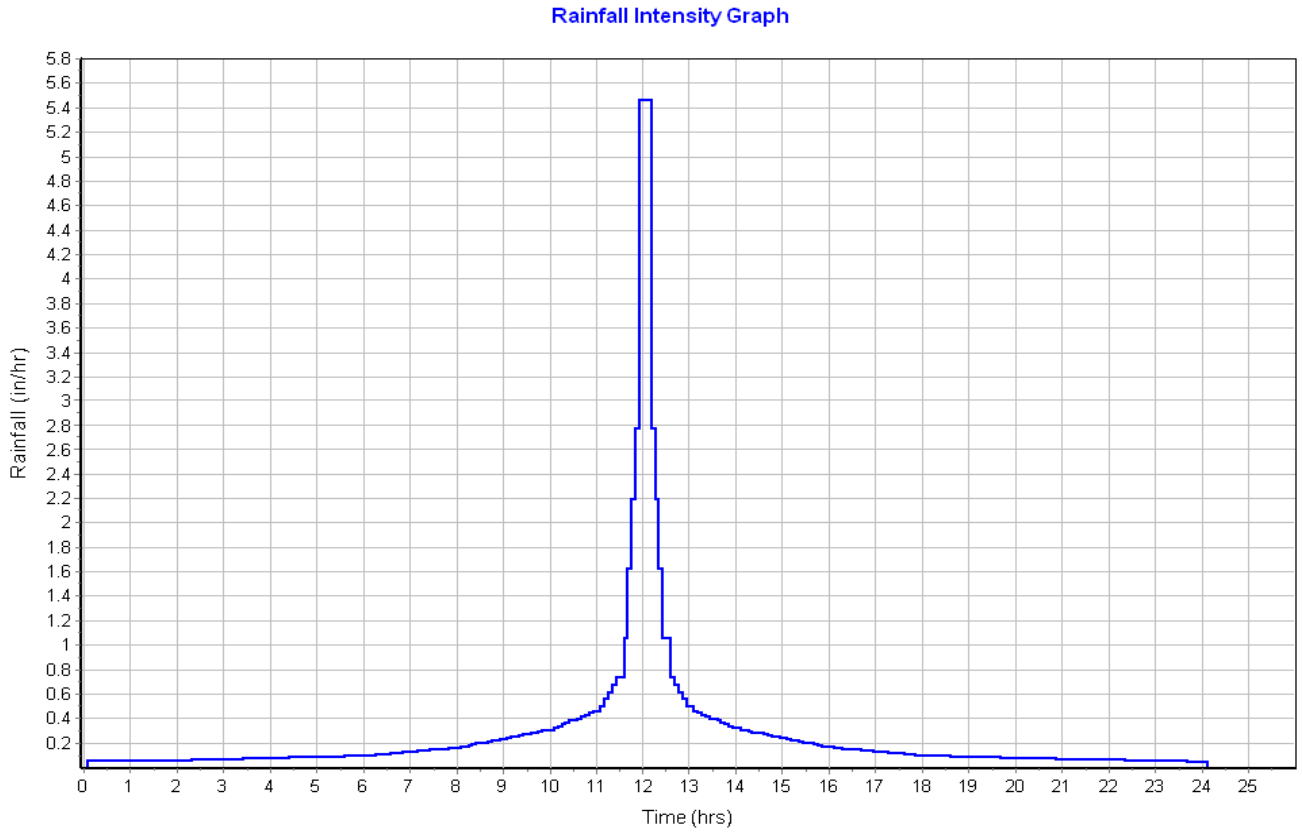
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	272.65	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

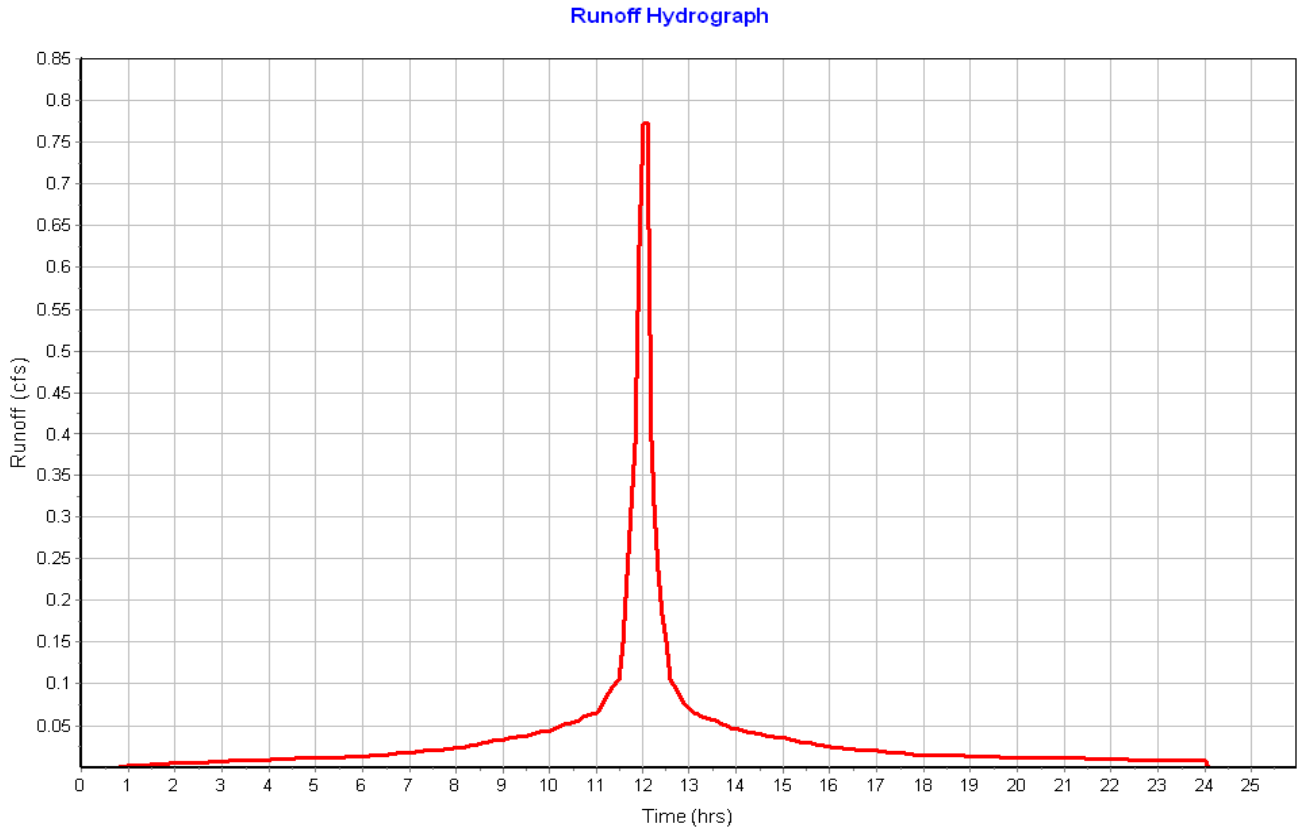
Total TOC (min) 1.27

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.77
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:16

Subbasin : Pavement-05





Subbasin : Pavement-06

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.22	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

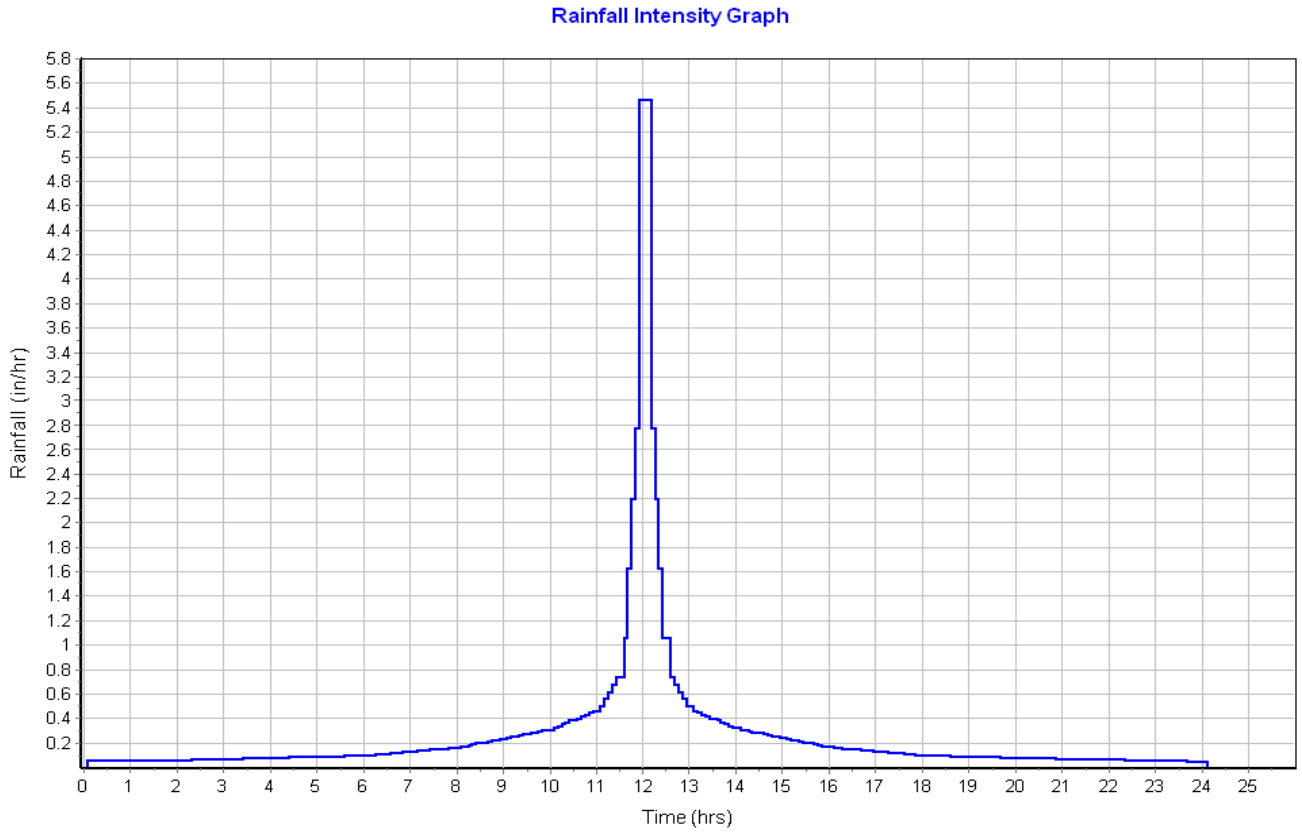
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	220.27	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	0.86	0.00	0.00

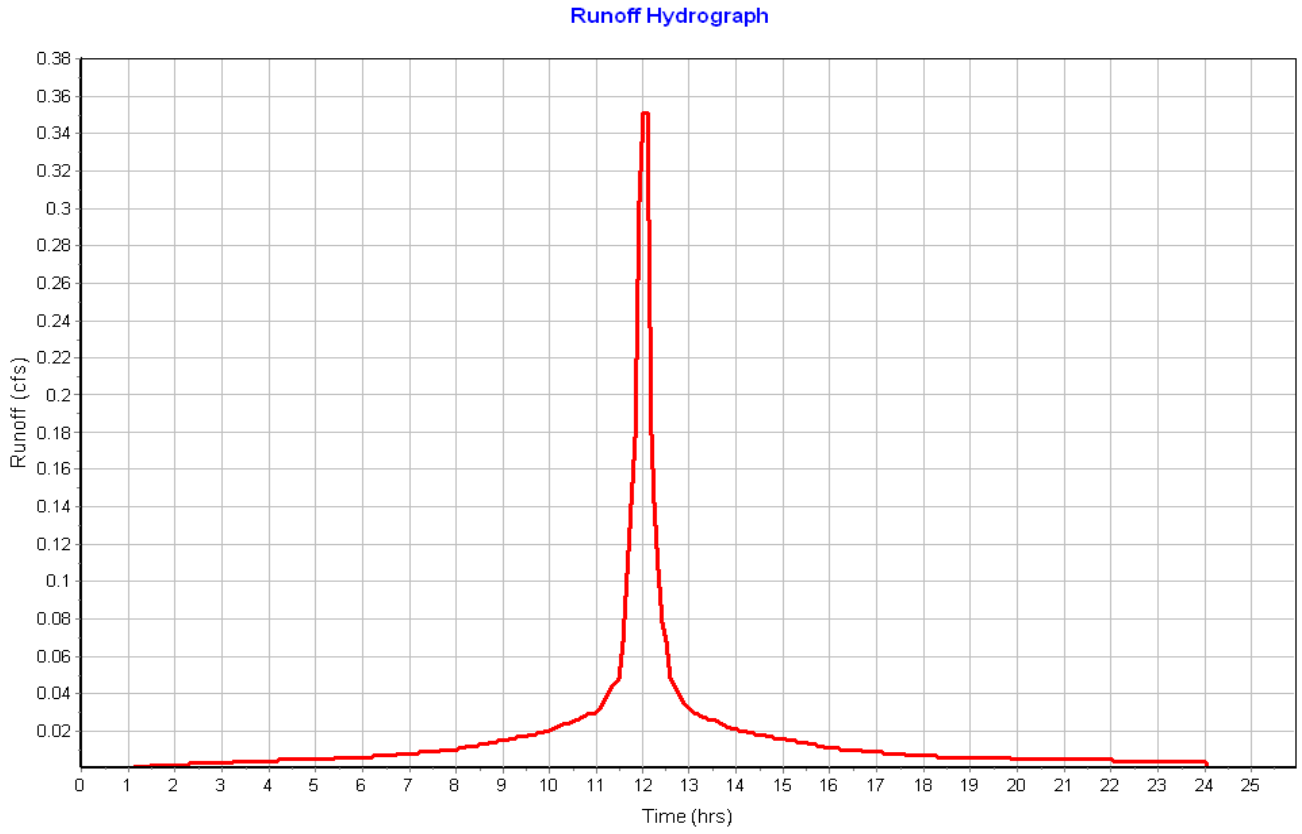
Total TOC (min) 1.07

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.35
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:04

Subbasin : Pavement-06





Subbasin : Pavement-07

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.65	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.01	0.00	0.00
Computed Flow Time (min) :	0.24	0.00	0.00

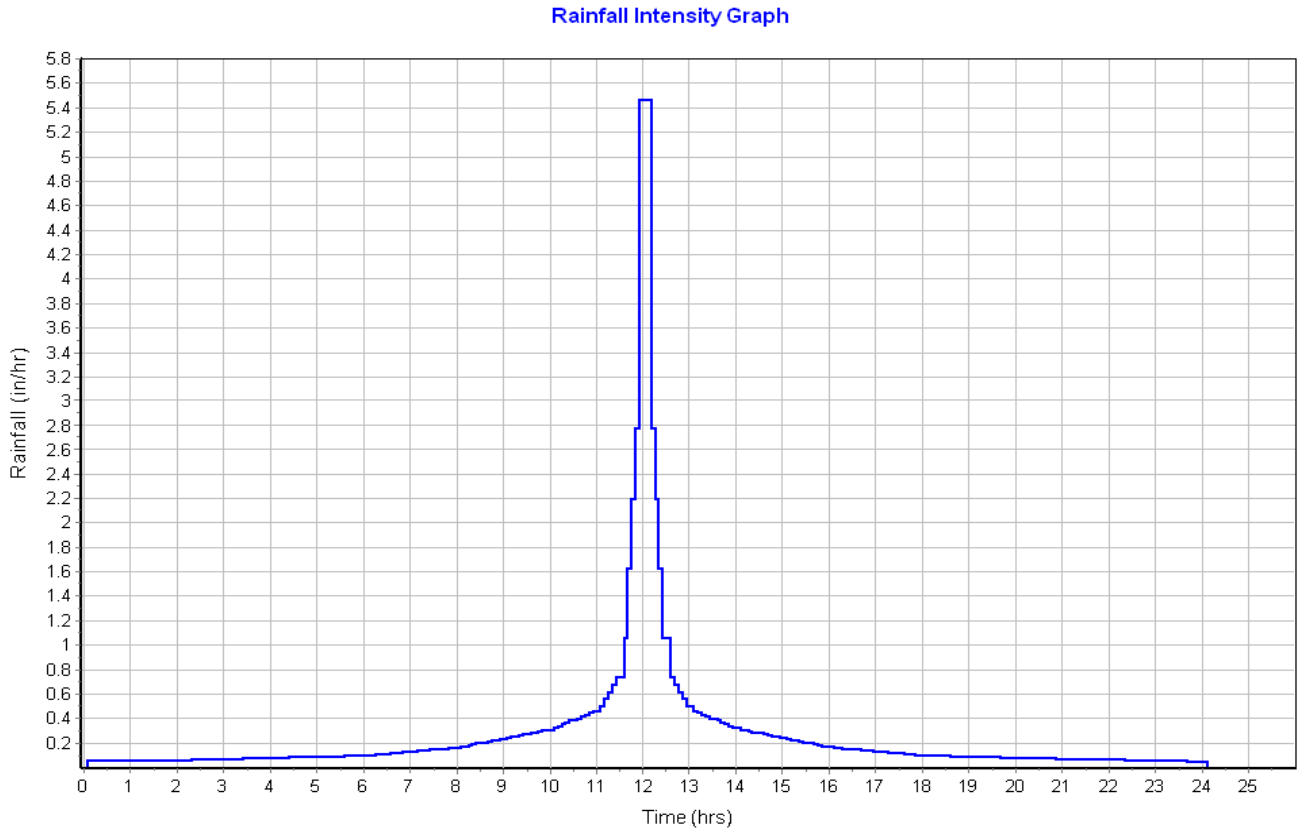
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	211.90	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

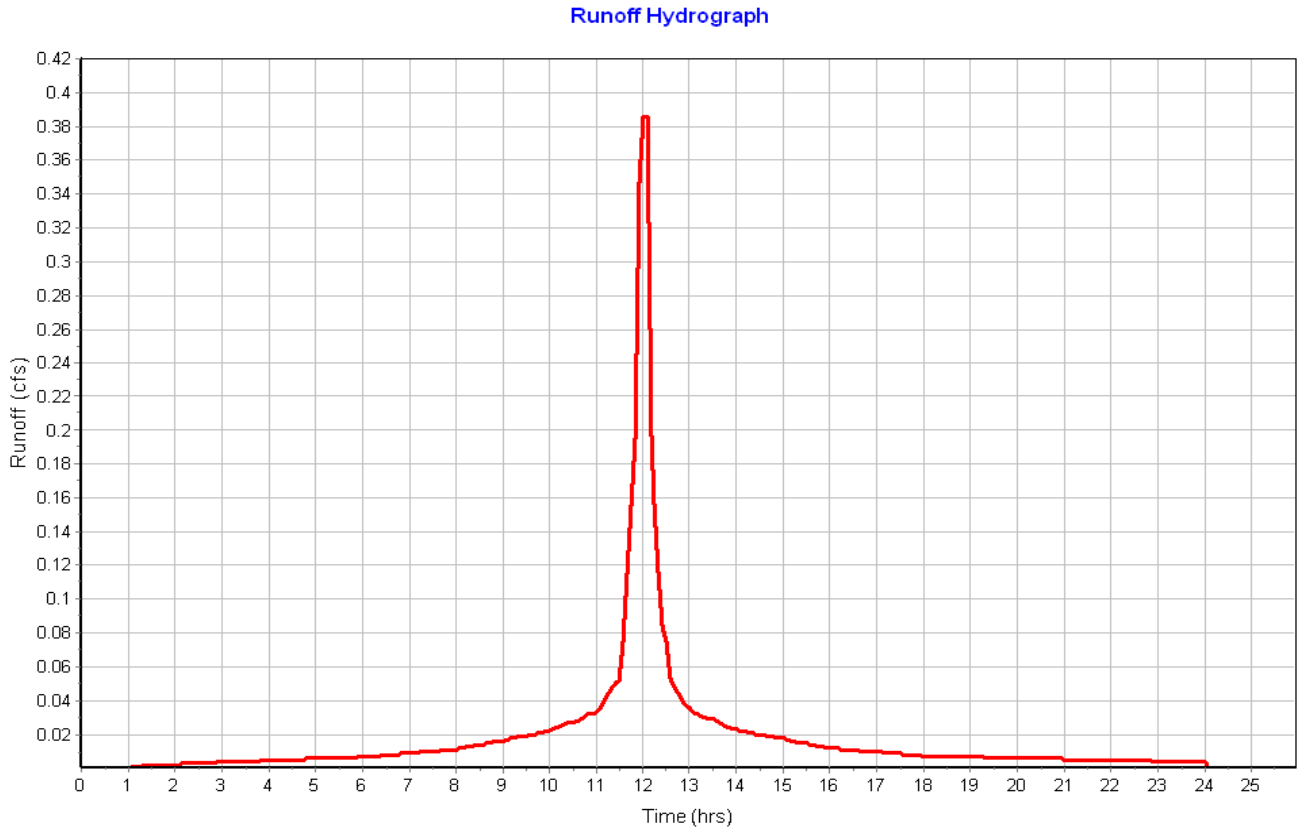
Total TOC (min) 0.97

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.39
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:58

Subbasin : Pavement-07





Subbasin : Pavement-08

Input Data

Area (ac) 0.05
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.97	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

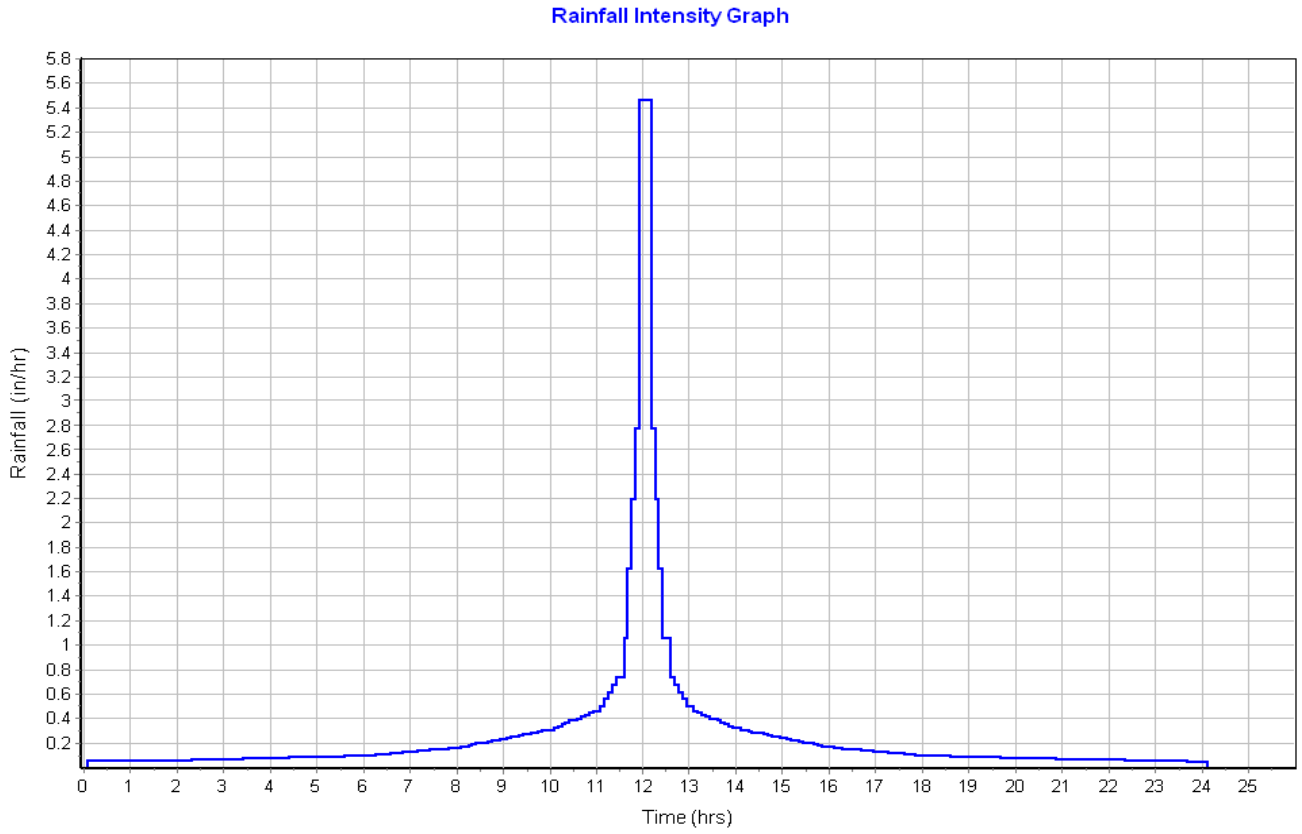
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	226.53	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.78	0.00	0.00

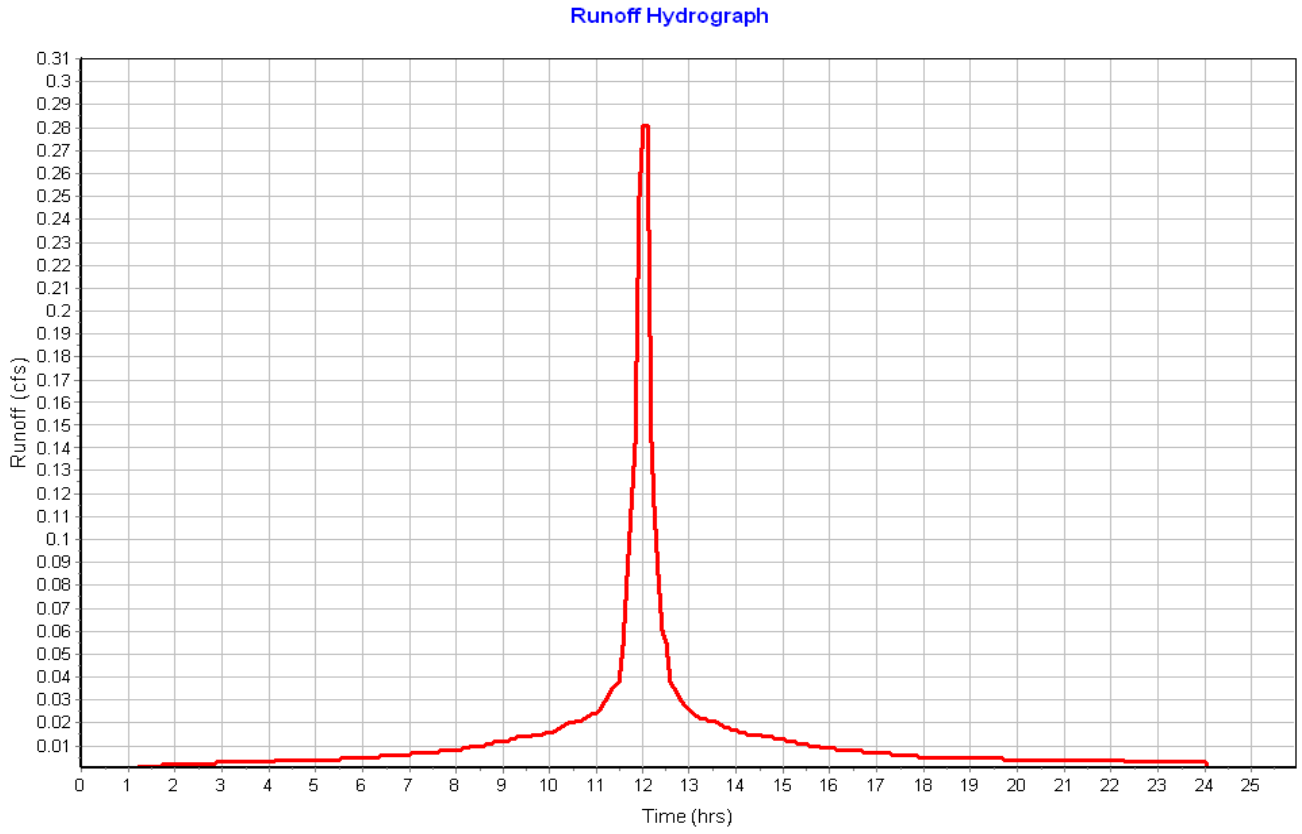
Total TOC (min) 0.98

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.28
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:59

Subbasin : Pavement-08





Subbasin : Pavement-09

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	82.18	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.54	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

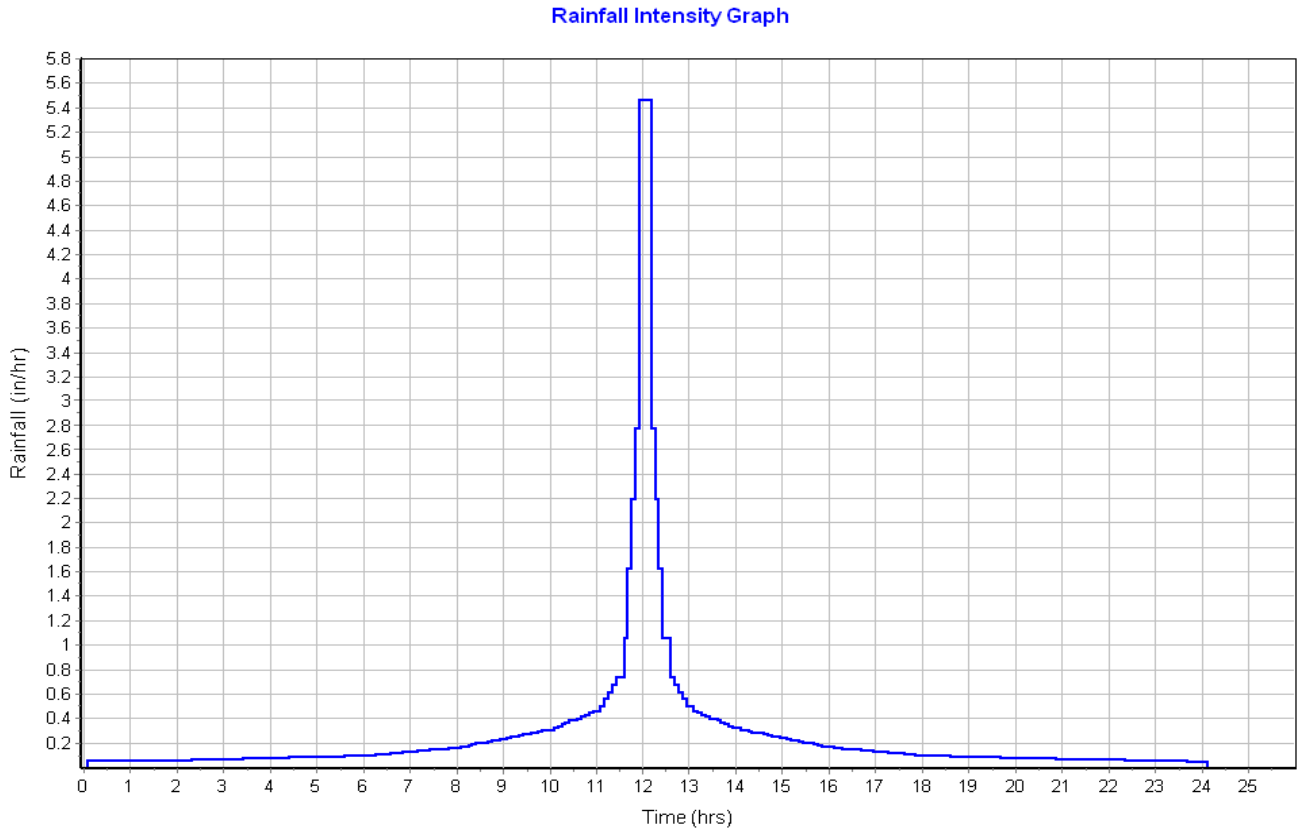
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	198.77	0.00	0.00
Slope (%) :	2.02	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.89	0.00	0.00
Computed Flow Time (min) :	1.15	0.00	0.00

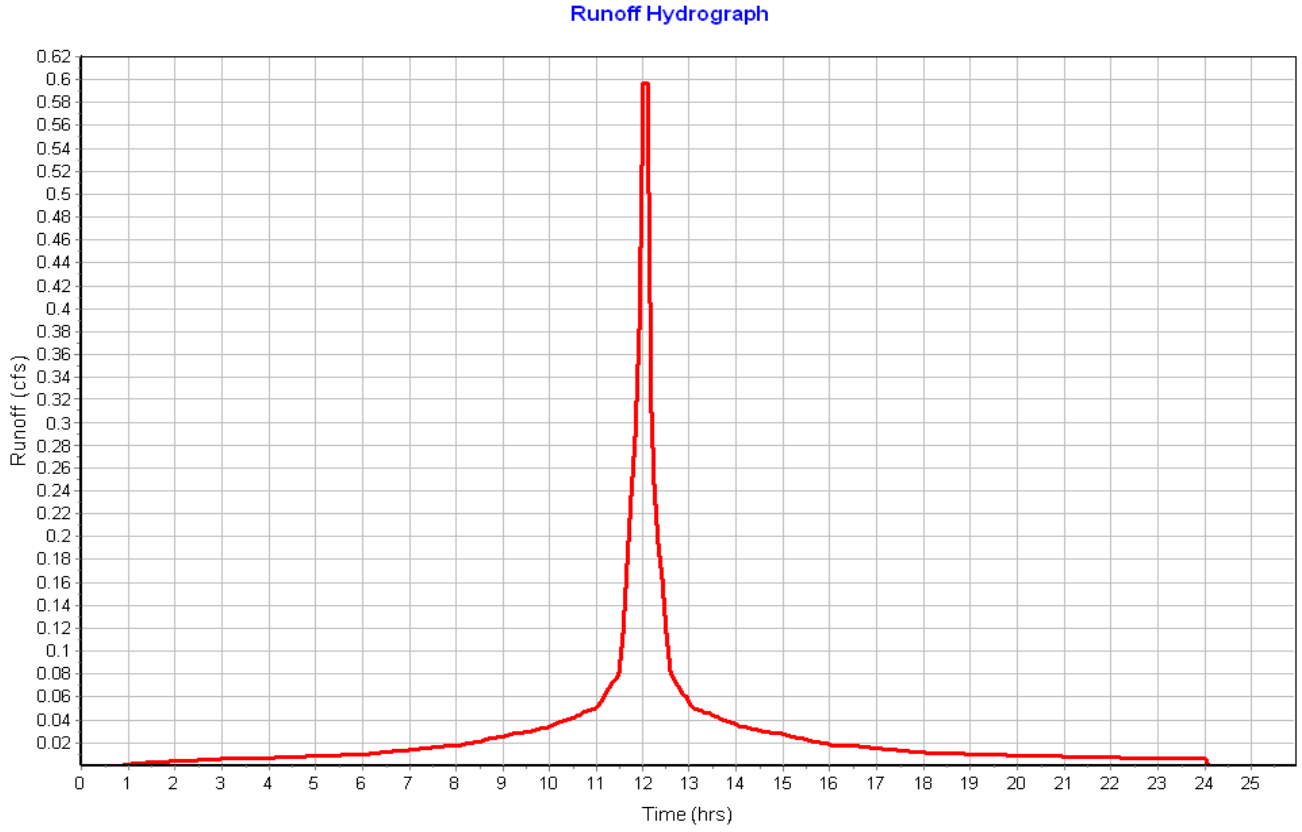
Total TOC (min) 2.04

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.60
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:02

Subbasin : Pavement-09





Subbasin : Pavement-10

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	23.24	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.11	0.00	0.00
Computed Flow Time (min) :	0.35	0.00	0.00

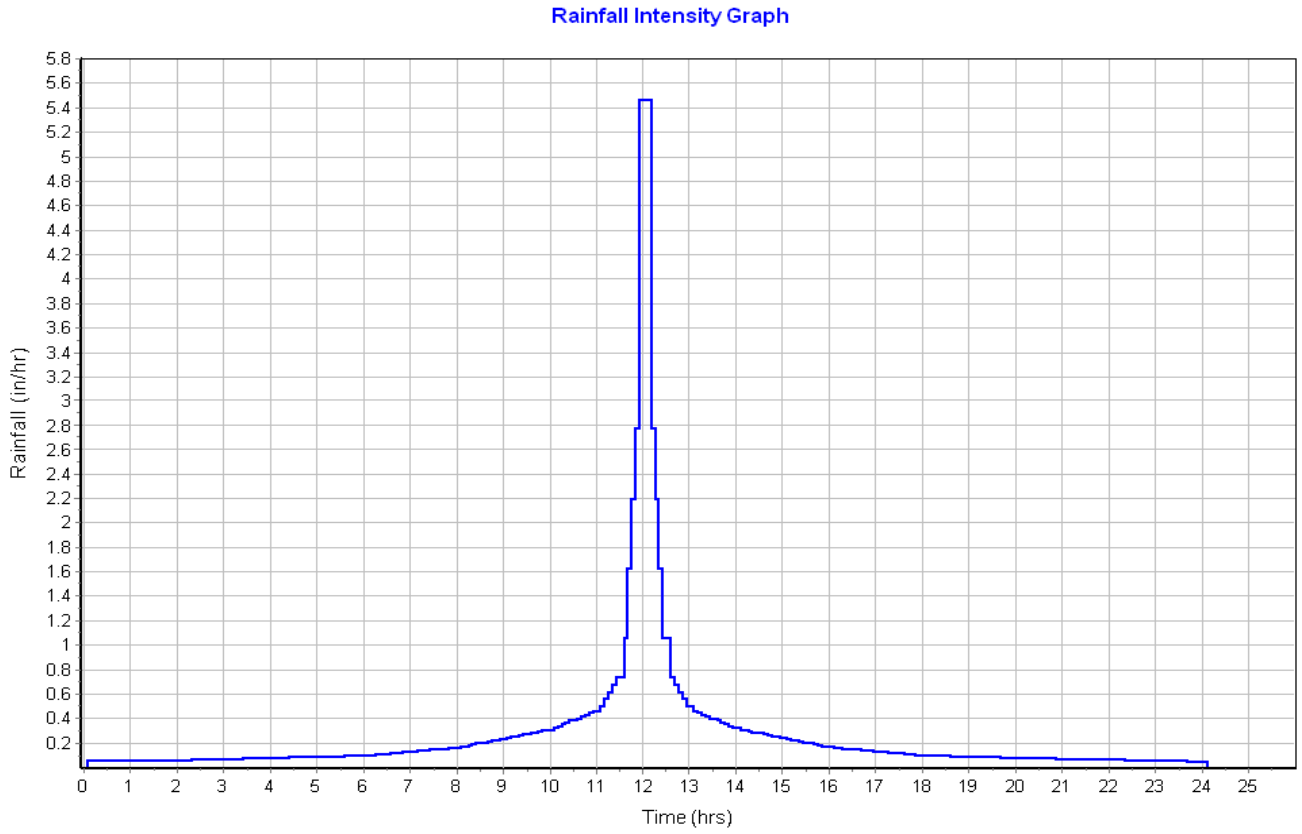
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	256.65	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.08	0.00	0.00
Computed Flow Time (min) :	1.39	0.00	0.00

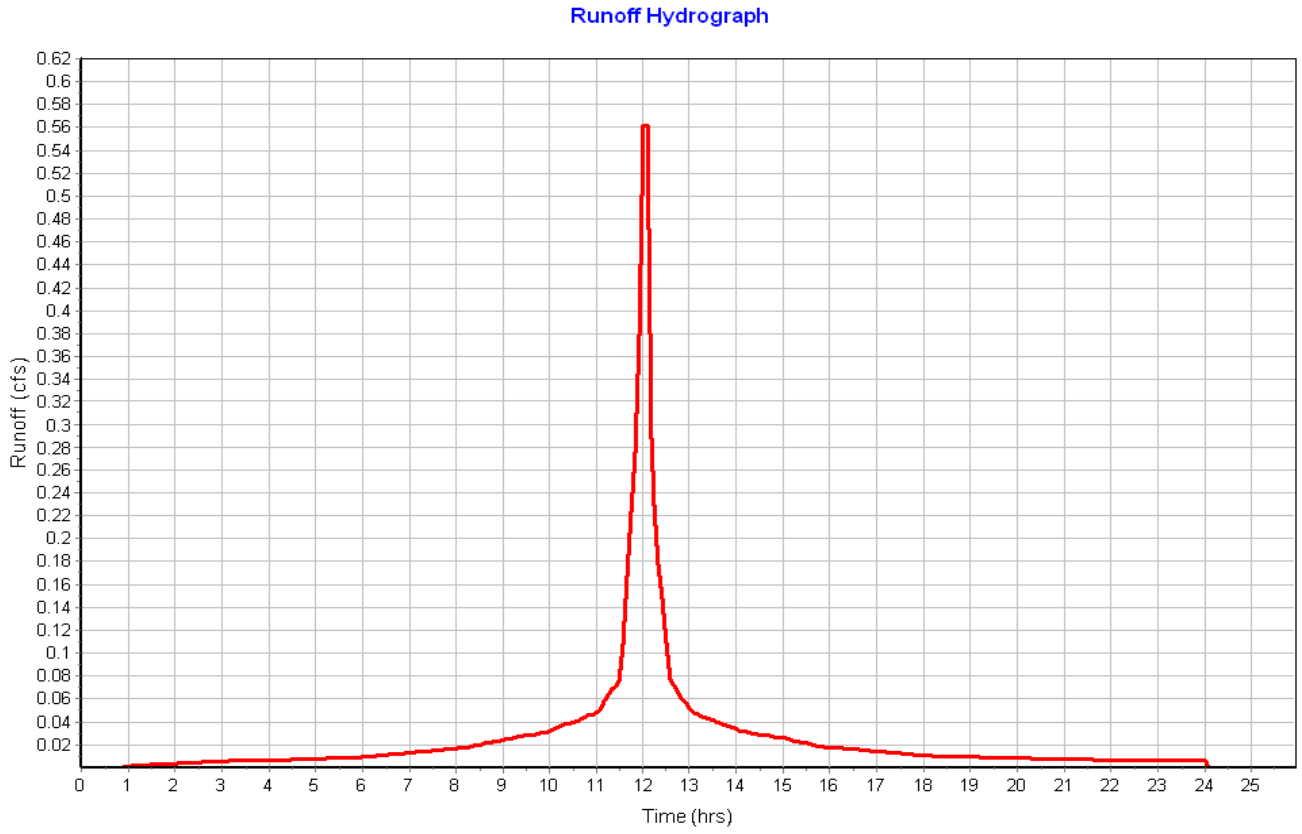
Total TOC (min) 1.74

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.56
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:44

Subbasin : Pavement-10





Subbasin : Pavement-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.30	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.96	0.00	0.00
Computed Flow Time (min) :	0.20	0.00	0.00

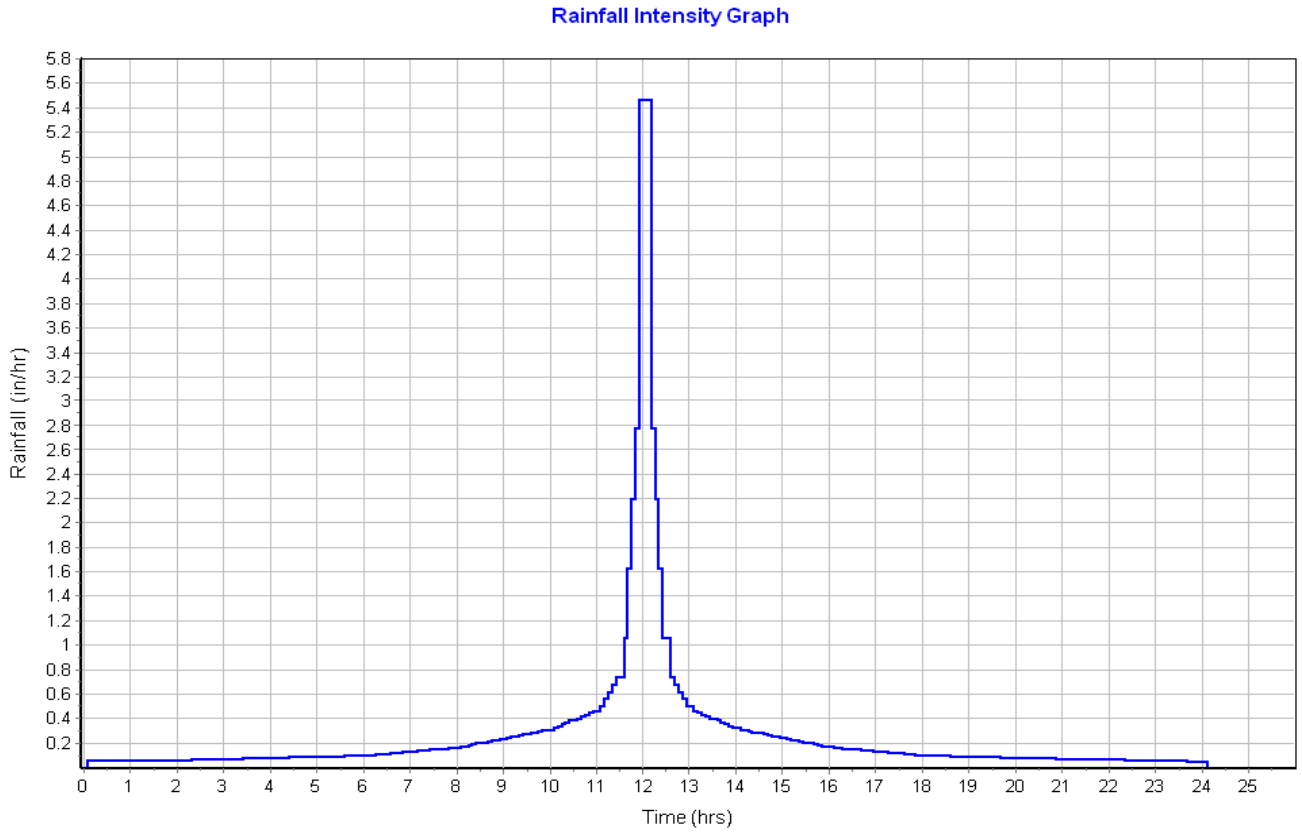
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.19	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.08	0.00	0.00
Computed Flow Time (min) :	1.42	0.00	0.00

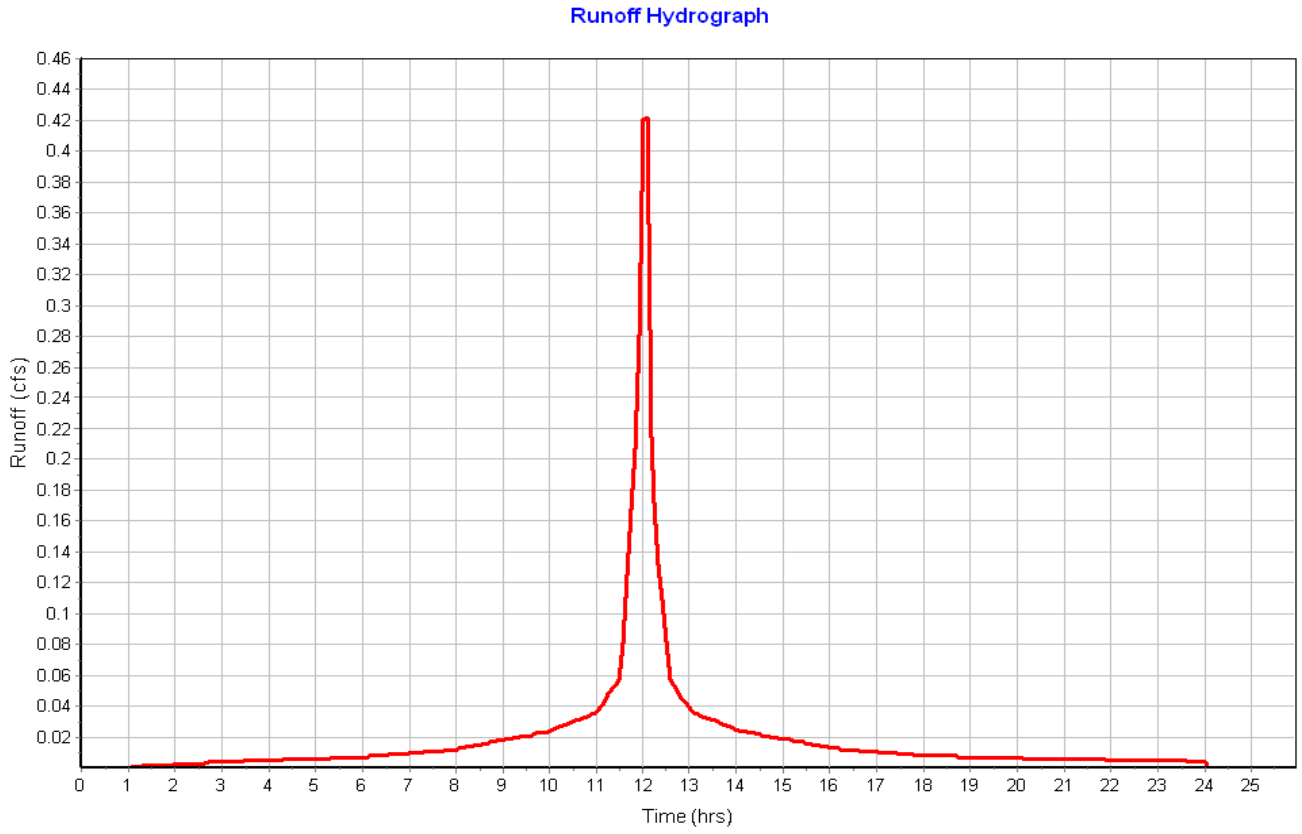
Total TOC (min) 1.61

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.42
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:37

Subbasin : Pavement-11





Subbasin : Pavement-12

Input Data

Area (ac)	0.11
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.20	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

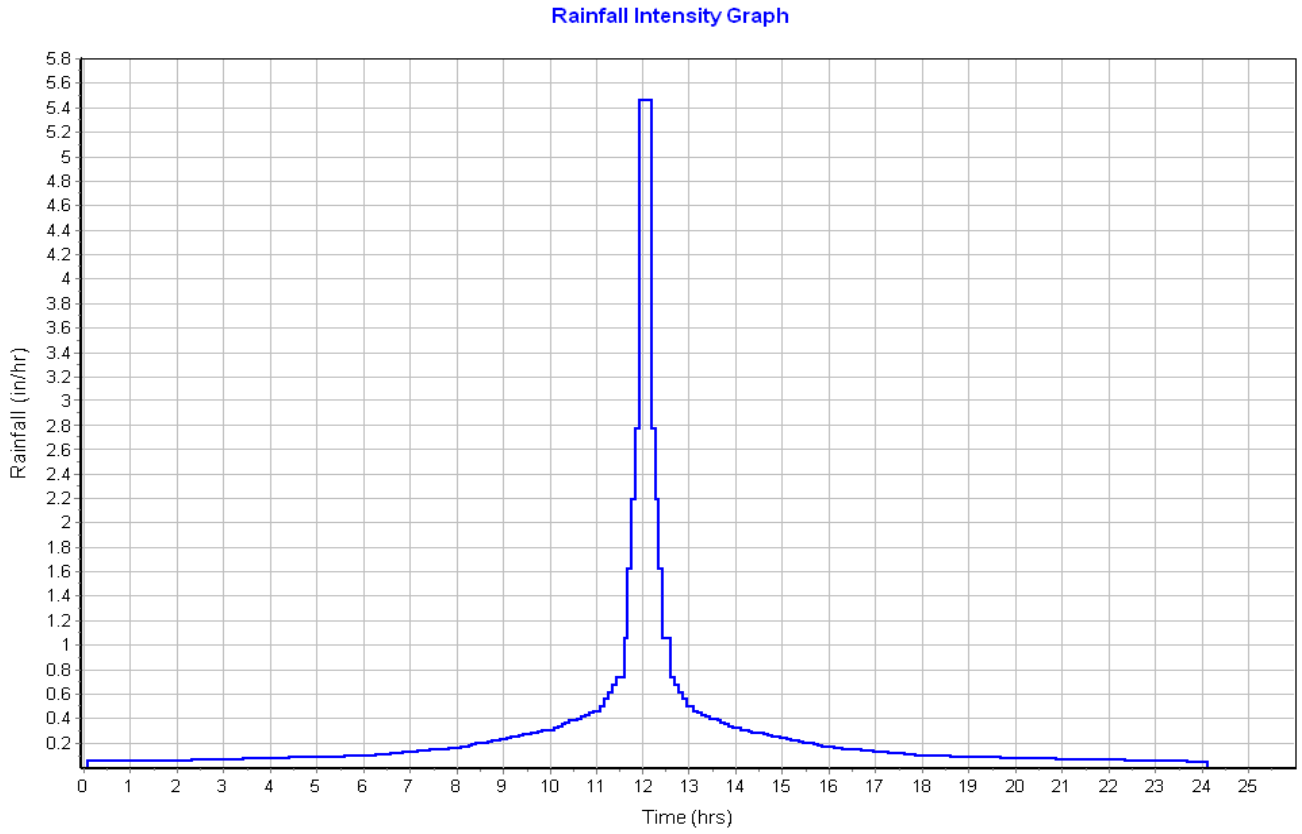
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	264.62	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.08	0.00	0.00
Computed Flow Time (min) :	1.43	0.00	0.00

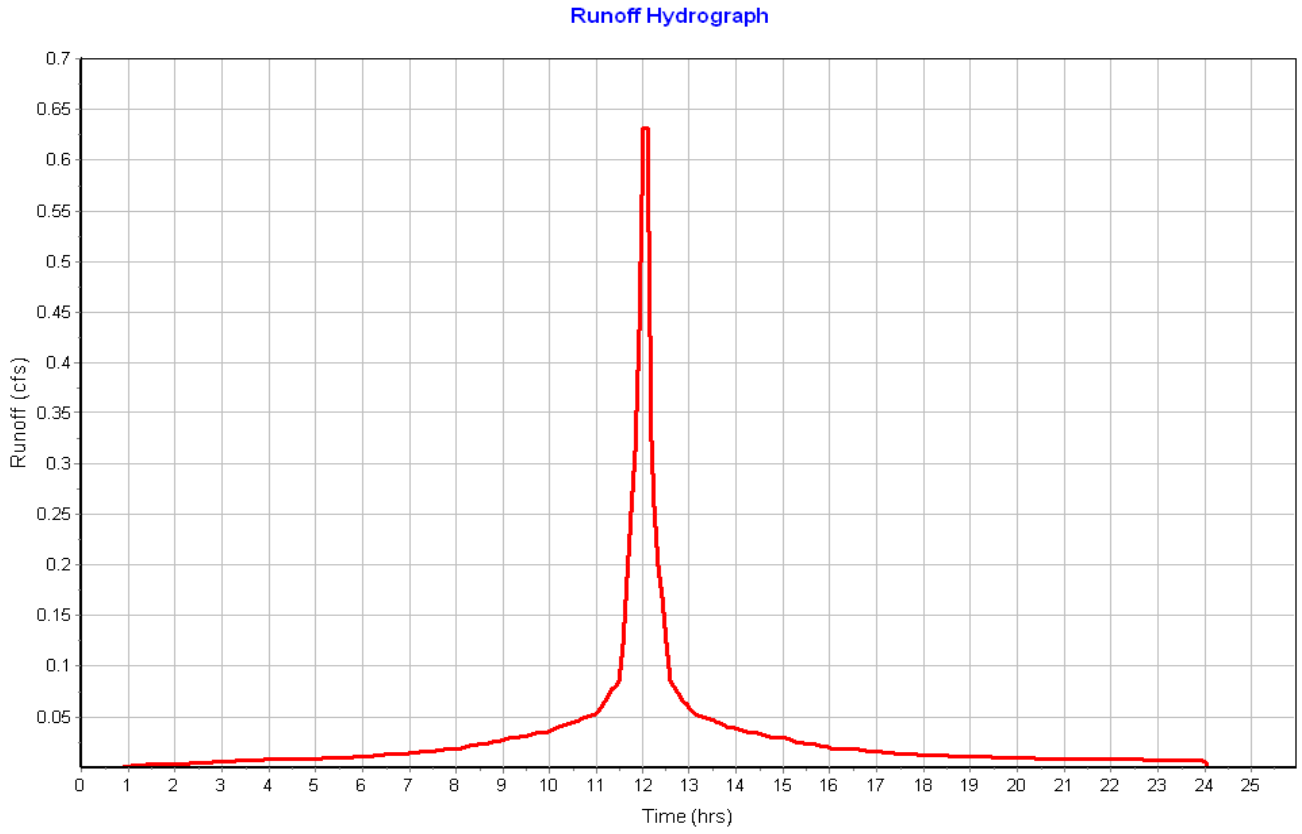
Total TOC (min) 1.64

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.63
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:38

Subbasin : Pavement-12





Subbasin : Pavement-13

Input Data

Area (ac)	0.11
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	117.15	0.00	0.00
Slope (%) :	1.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.44	0.00	0.00
Computed Flow Time (min) :	1.36	0.00	0.00

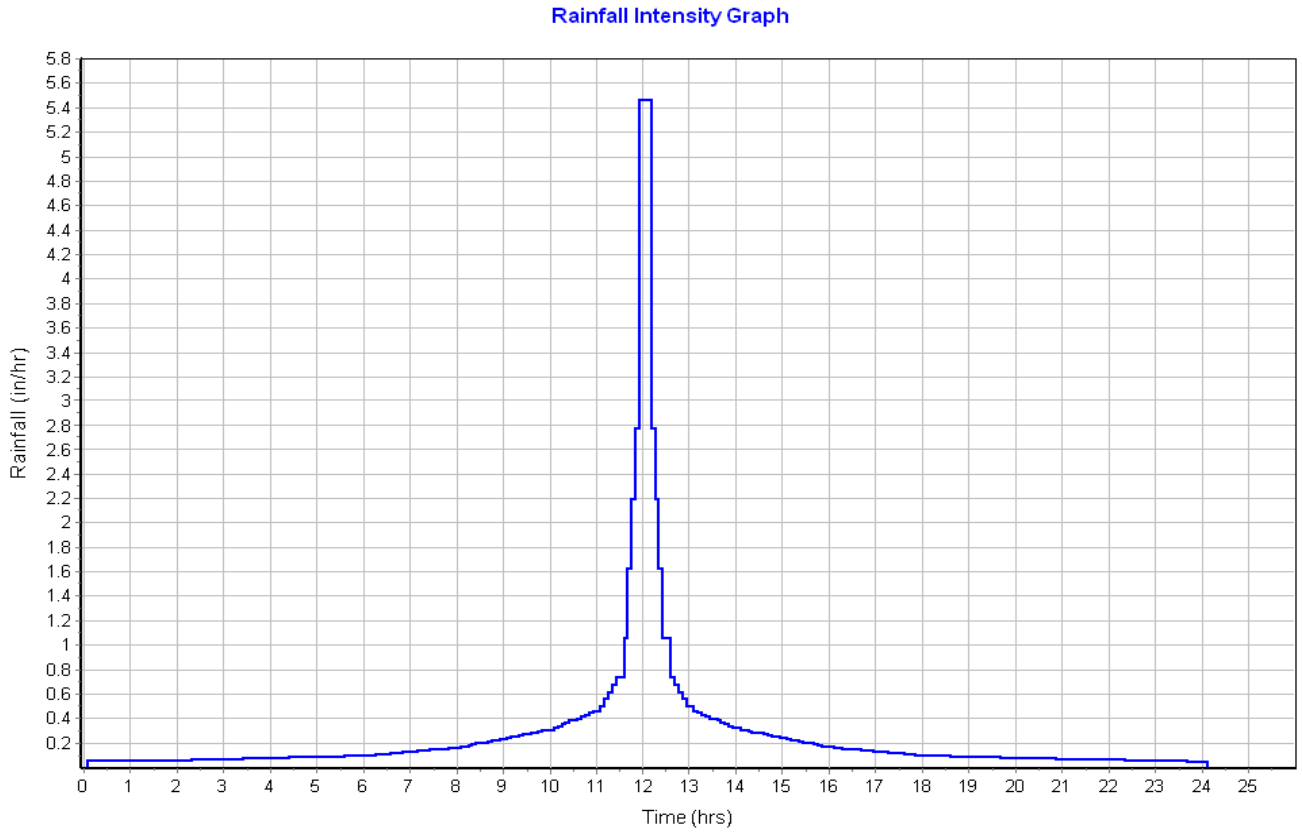
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	133.60	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	0.63	0.00	0.00

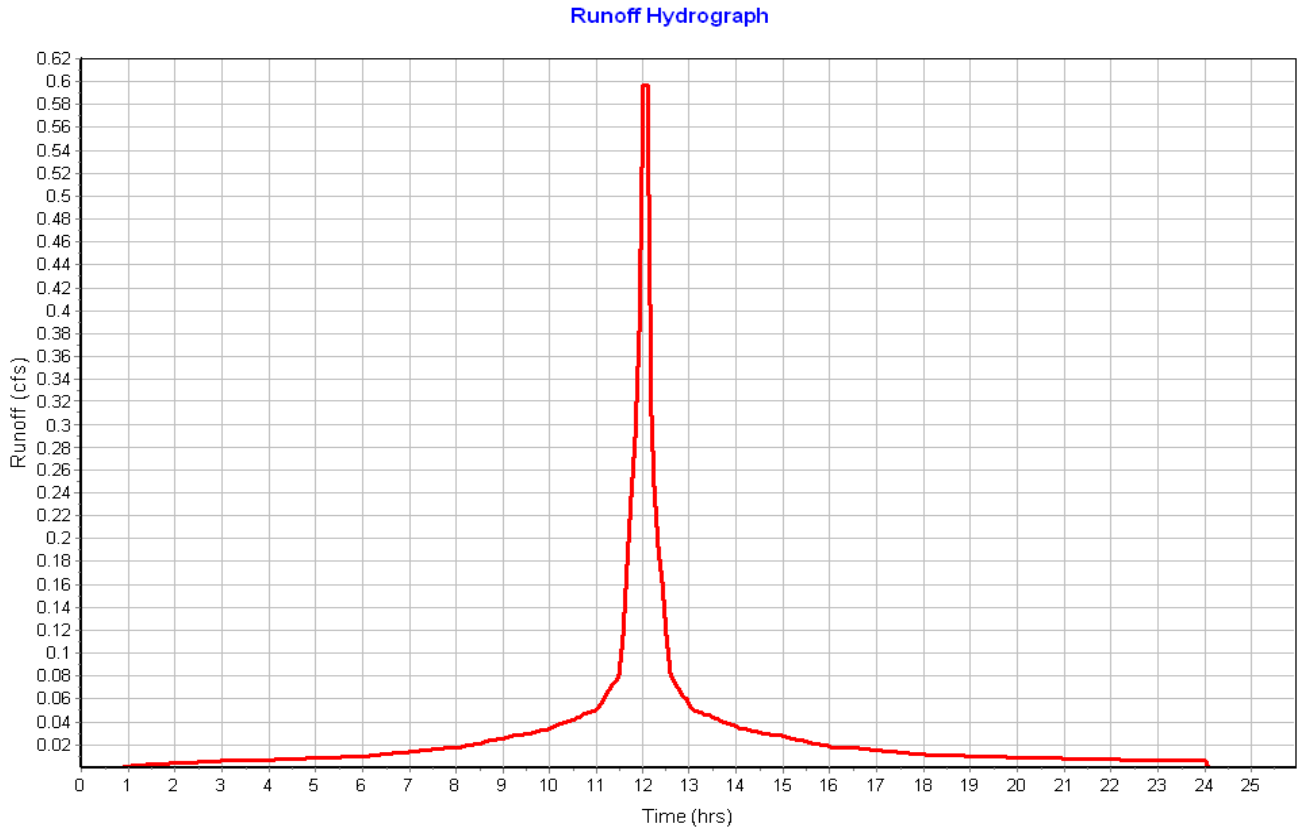
Total TOC (min) 1.99

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.60
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:59

Subbasin : Pavement-13





Subbasin : Pavement-14

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.39	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.99	0.00	0.00
Computed Flow Time (min) :	0.22	0.00	0.00

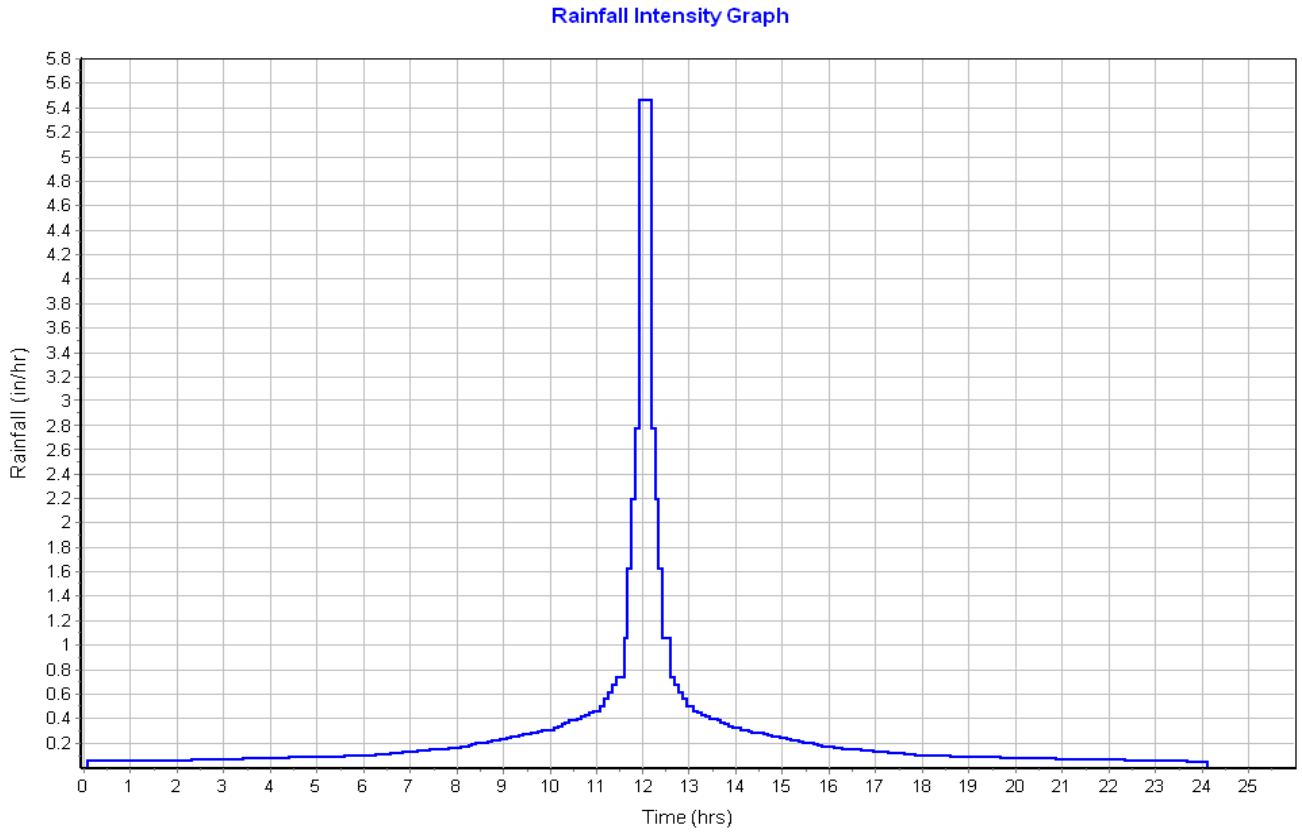
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	229.13	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.08	0.00	0.00

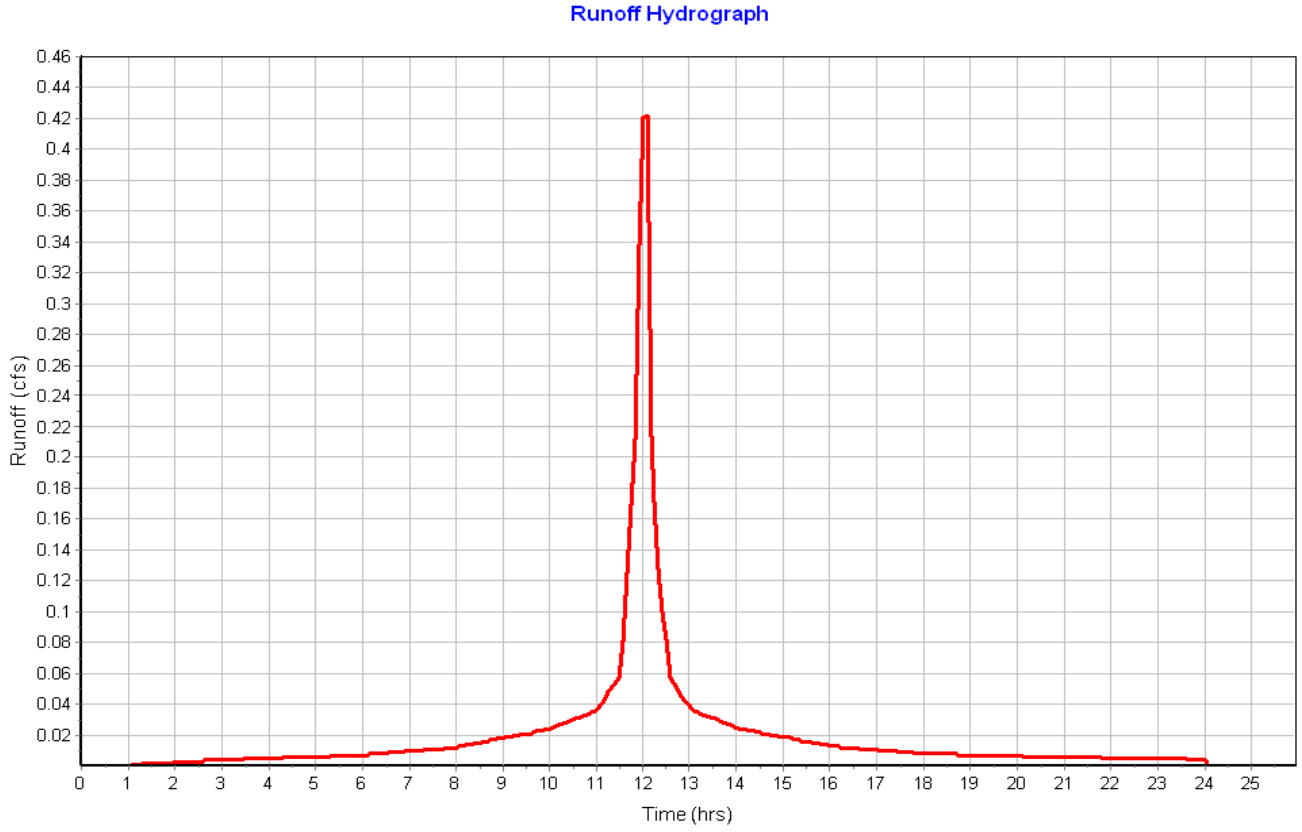
Total TOC (min) 1.31

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.42
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:19

Subbasin : Pavement-14





Subbasin : Pavement-15

Input Data

Area (ac) 0.17
Peak Rate Factor 484.00
Weighted Curve Number 92.87
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.18		92.87

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	.4	.01
Flow Length (ft) :	22.40	76.05	35.47
Slope (%) :	2	2.63	2
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	1.10	0.08	1.21
Computed Flow Time (min) :	0.34	15.44	0.49

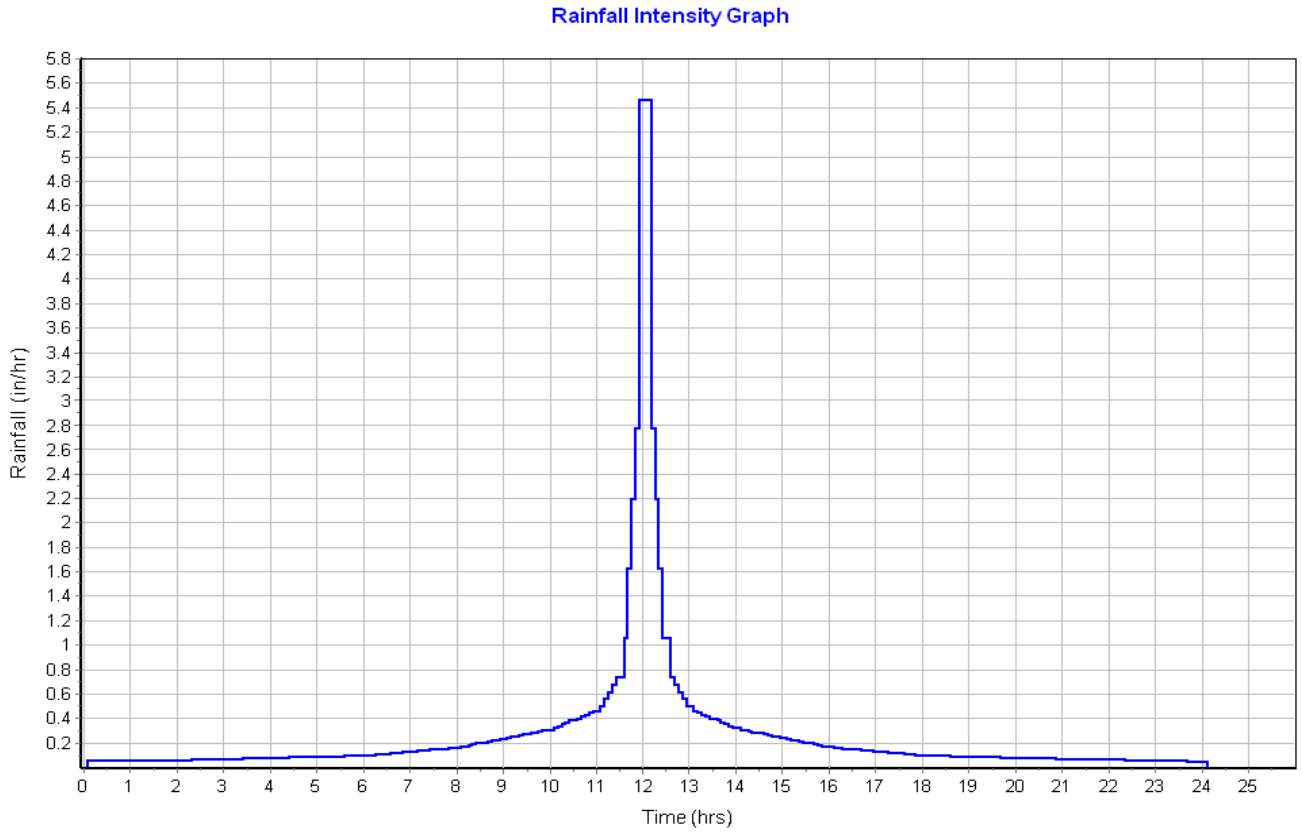
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	133.69	0.00	0.00
Slope (%) :	4.5	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.31	0.00	0.00
Computed Flow Time (min) :	0.52	0.00	0.00

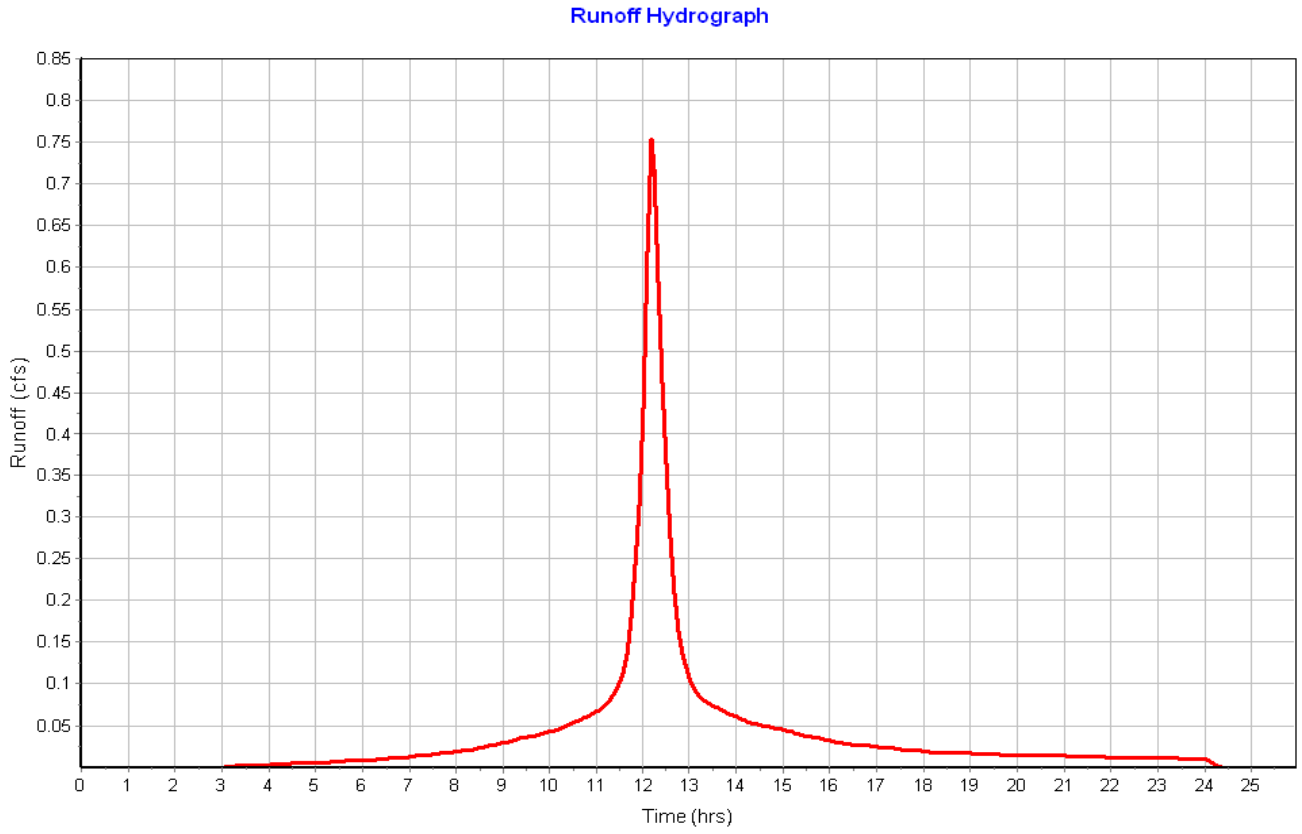
Total TOC (min) 16.78

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 5.66
Peak Runoff (cfs) 0.76
Weighted Curve Number 92.87
Time of Concentration (days hh:mm:ss) 0 00:16:47

Subbasin : Pavement-15





Subbasin : Pavement-16

Input Data

Area (ac) 0.26
Peak Rate Factor 484.00
Weighted Curve Number 90.84
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.18	C	98.00
> 75% grass cover, Good	0.08	C	74.00
Composite Area & Weighted CN	0.26		90.84

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	74.01	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.40	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

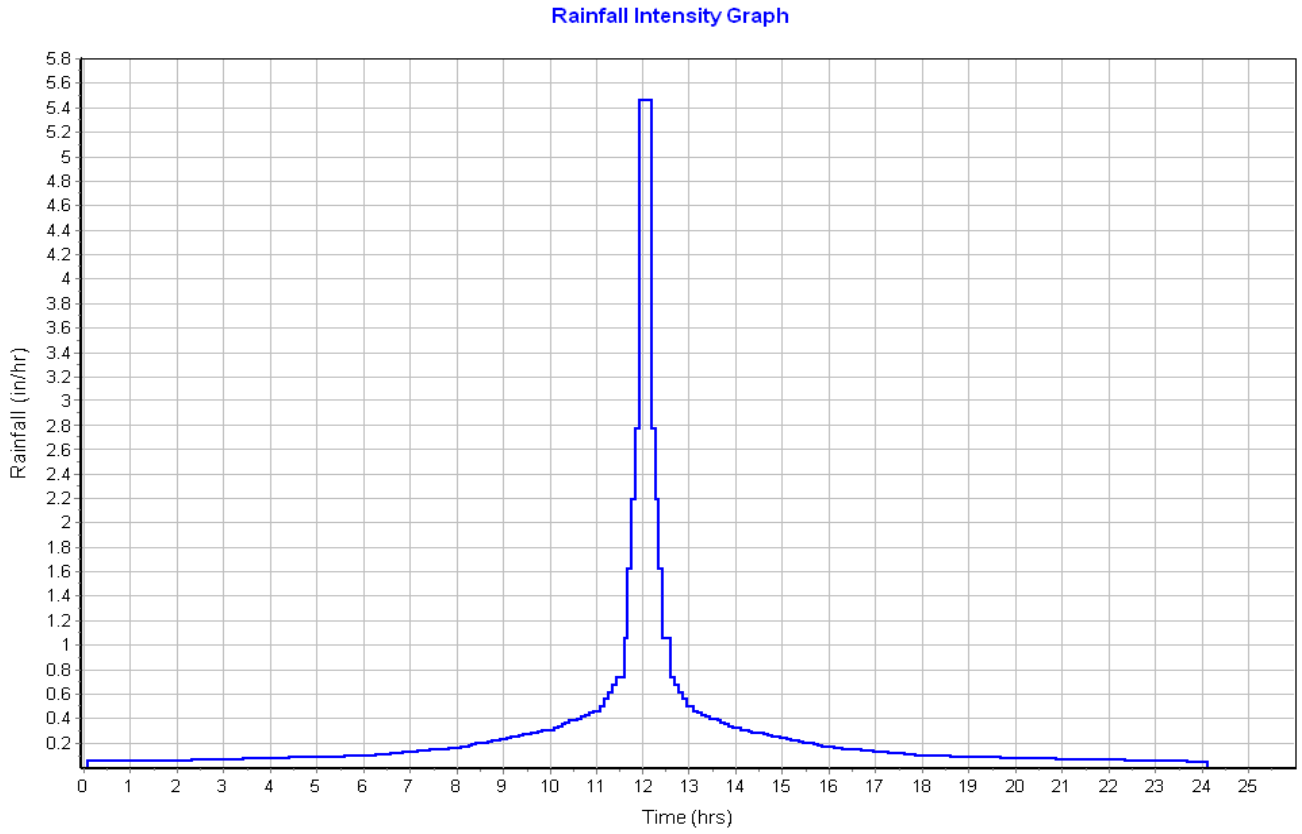
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	270.03	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.28	0.00	0.00

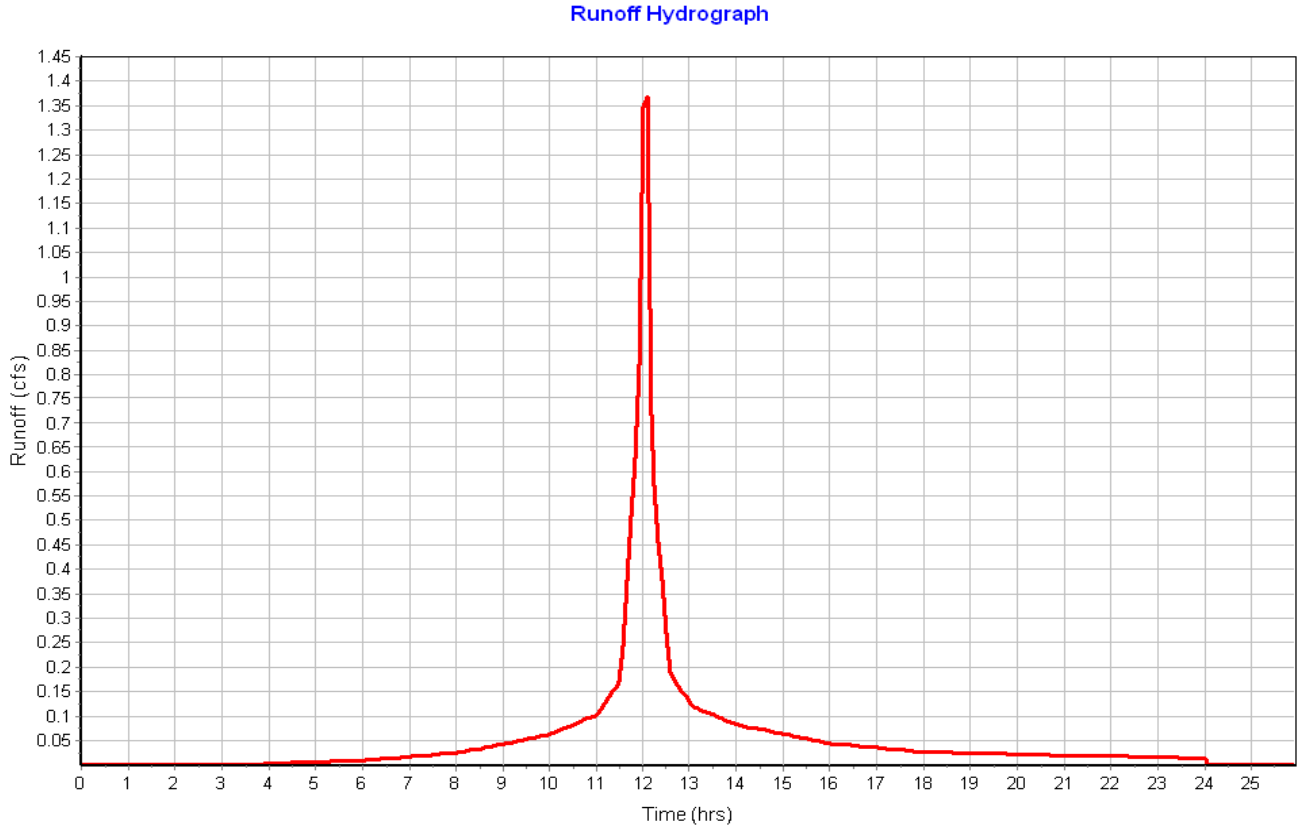
Total TOC (min) 2.16

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 5.43
Peak Runoff (cfs) 1.37
Weighted Curve Number 90.84
Time of Concentration (days hh:mm:ss) 0 00:02:10

Subbasin : Pavement-16





Subbasin : Pavement-17

Input Data

Area (ac) 0.15
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.15	C	98.00
Composite Area & Weighted CN	0.15		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	135.74	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.58	0.00	0.00
Computed Flow Time (min) :	1.43	0.00	0.00

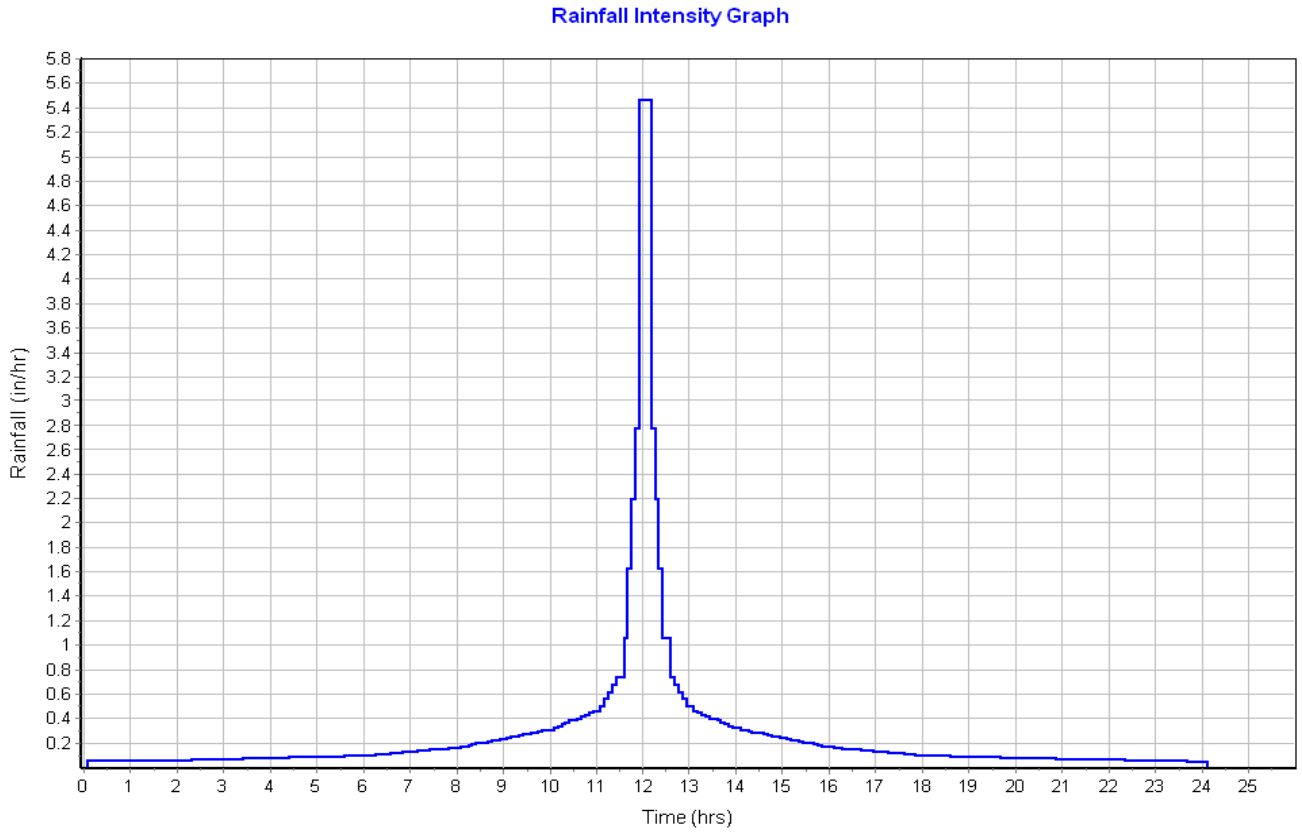
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	257.69	0.00	0.00
Slope (%) :	2.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.10	0.00	0.00
Computed Flow Time (min) :	1.39	0.00	0.00

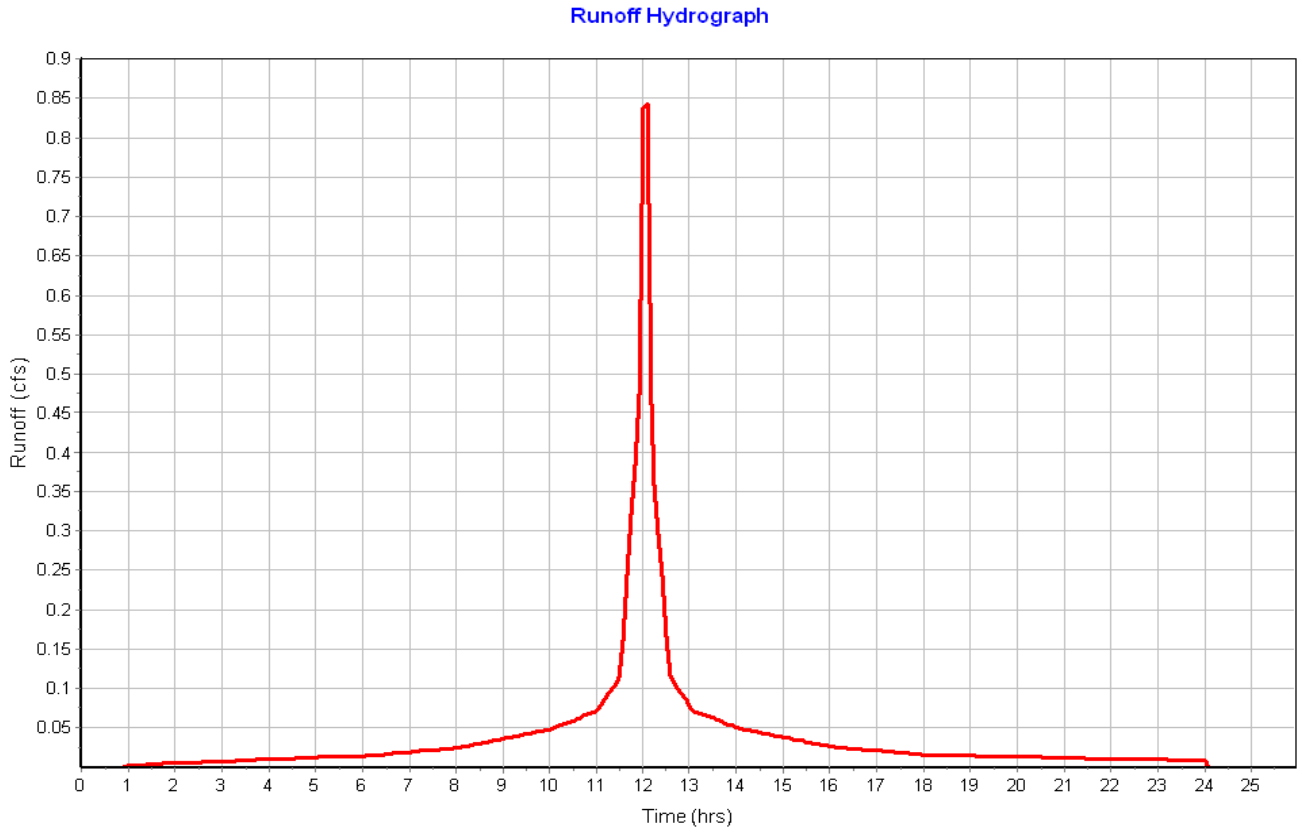
Total TOC (min) 2.82

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.84
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:49

Subbasin : Pavement-17





Subbasin : Pavement-18

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.62	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

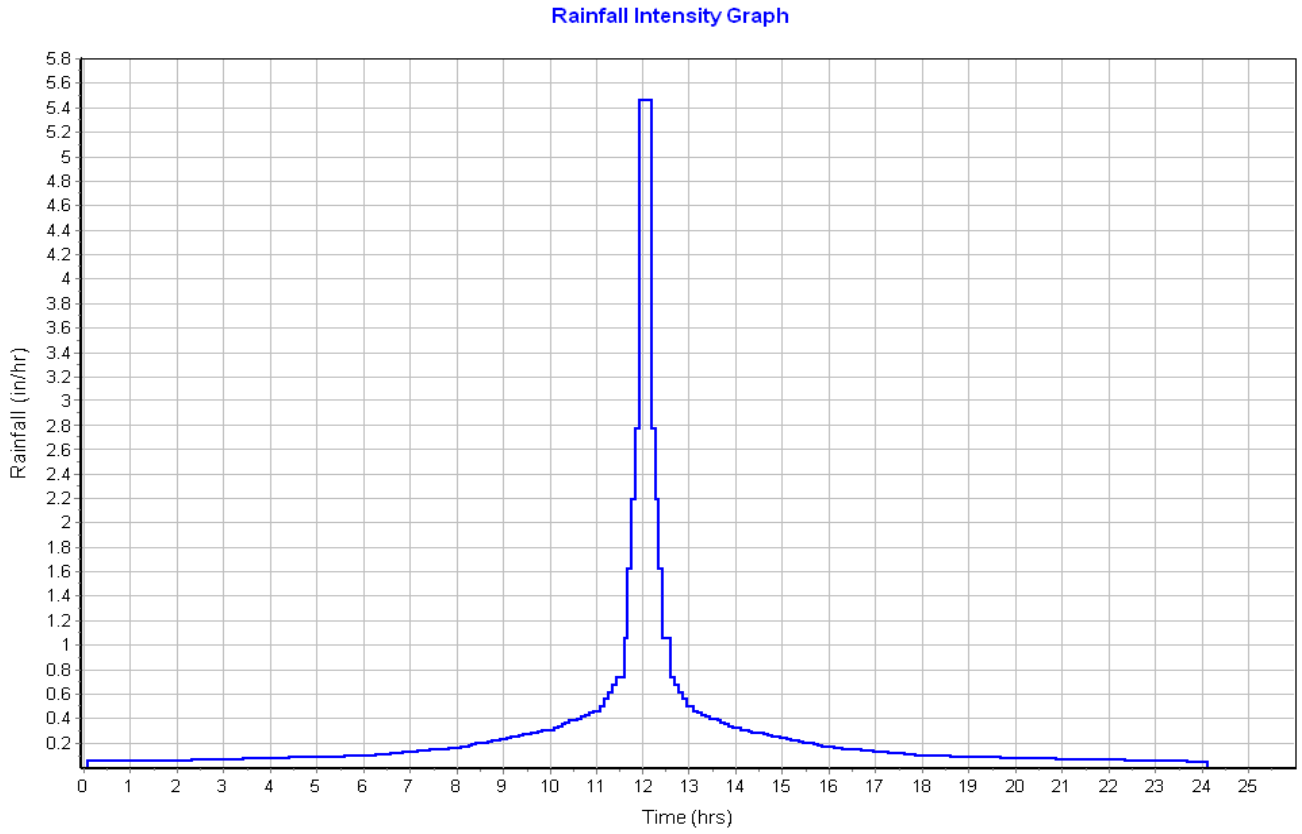
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	382.38	0.00	0.00
Slope (%) :	2.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.95	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

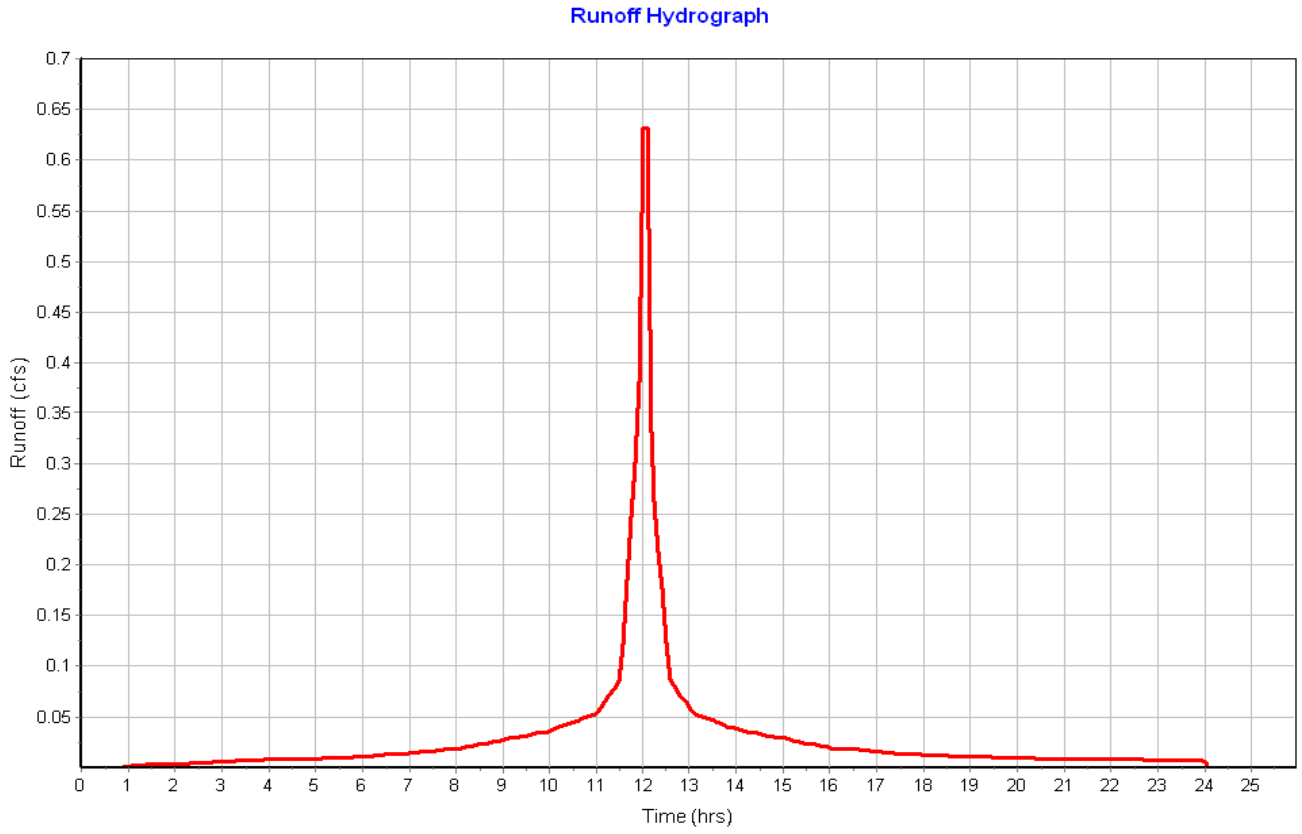
Total TOC (min) 2.37

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.63
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:22

Subbasin : Pavement-18





Subbasin : Pavement-19

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	27.28	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.15	0.00	0.00
Computed Flow Time (min) :	0.40	0.00	0.00

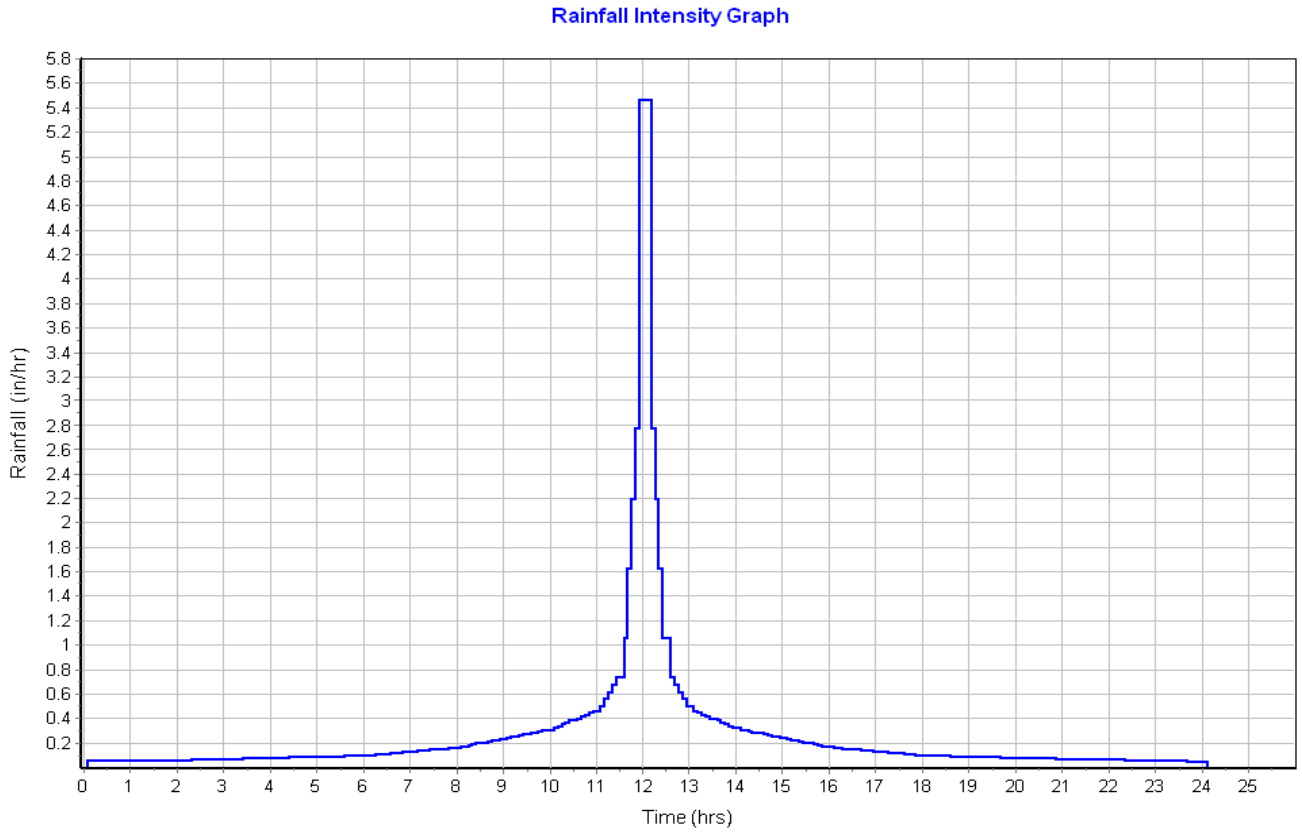
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	112.86	0.00	0.00
Slope (%) :	1.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.65	0.00	0.00
Computed Flow Time (min) :	0.71	0.00	0.00

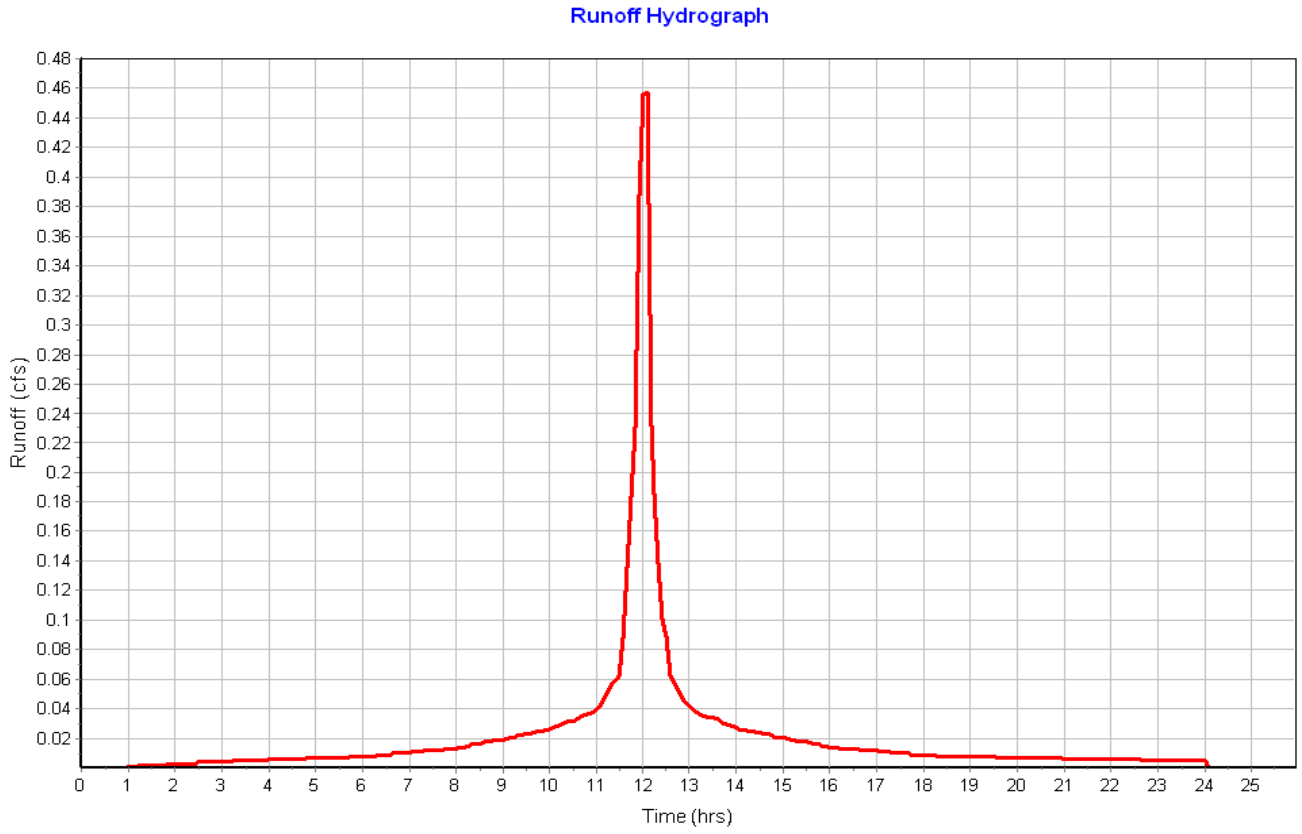
Total TOC (min) 1.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.46
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:07

Subbasin : Pavement-19





Subbasin : Roof-01

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

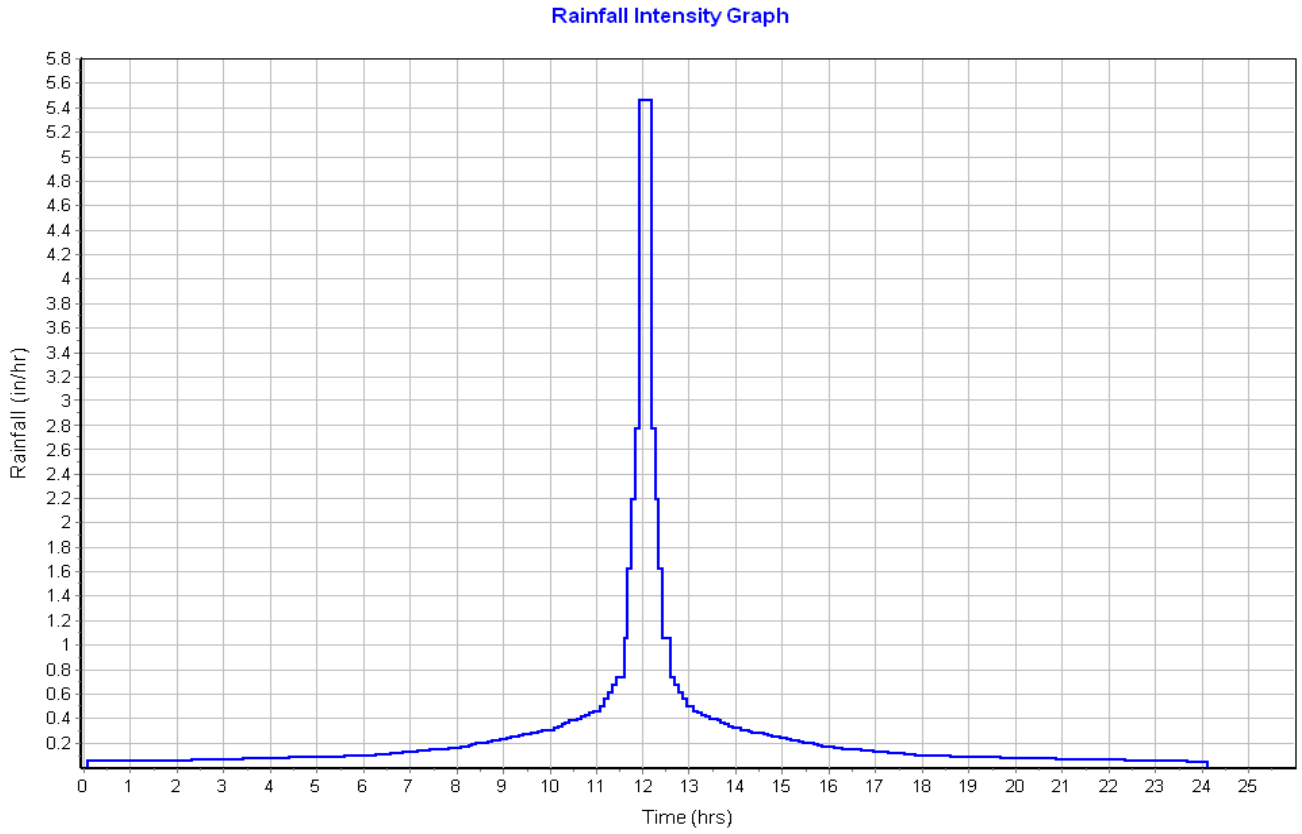
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

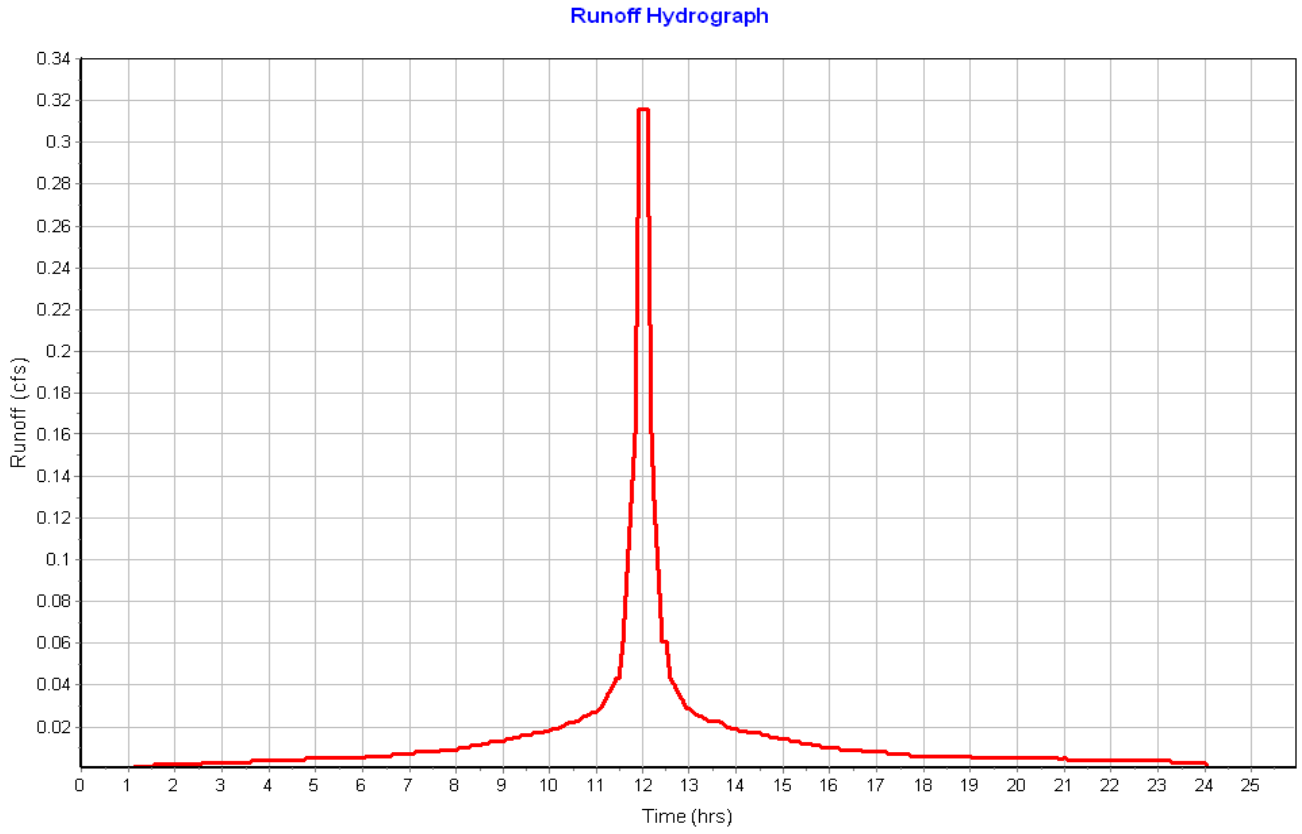
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-01





Subbasin : Roof-02

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

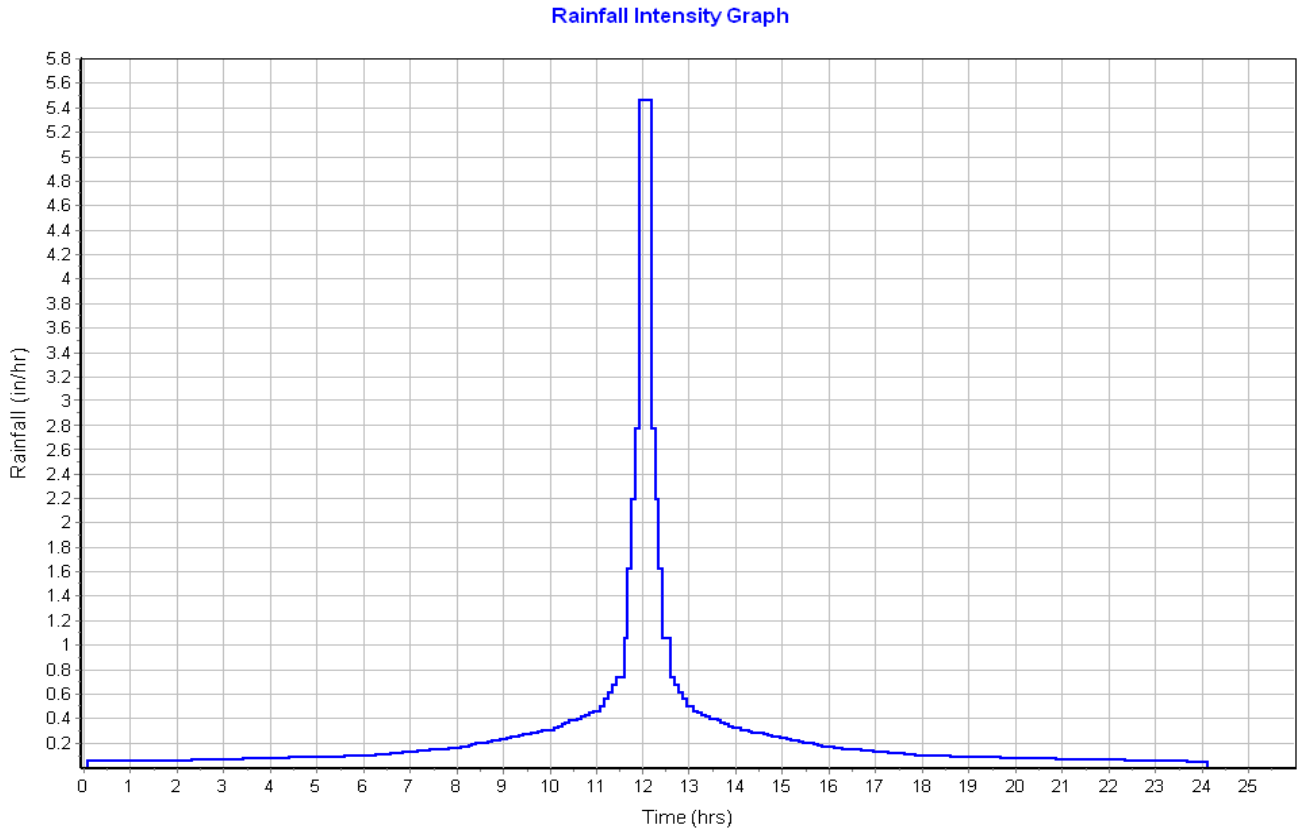
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

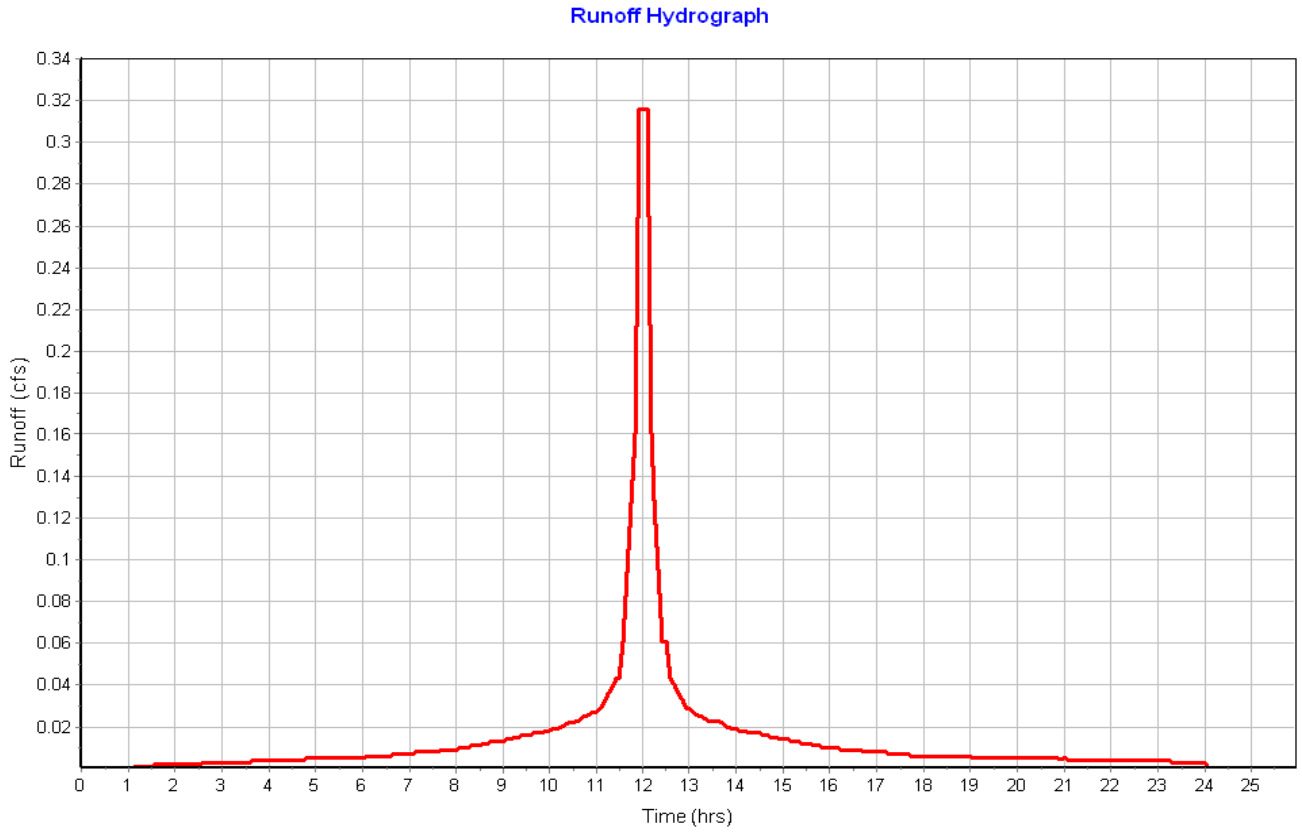
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-02





Subbasin : Roof-03

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

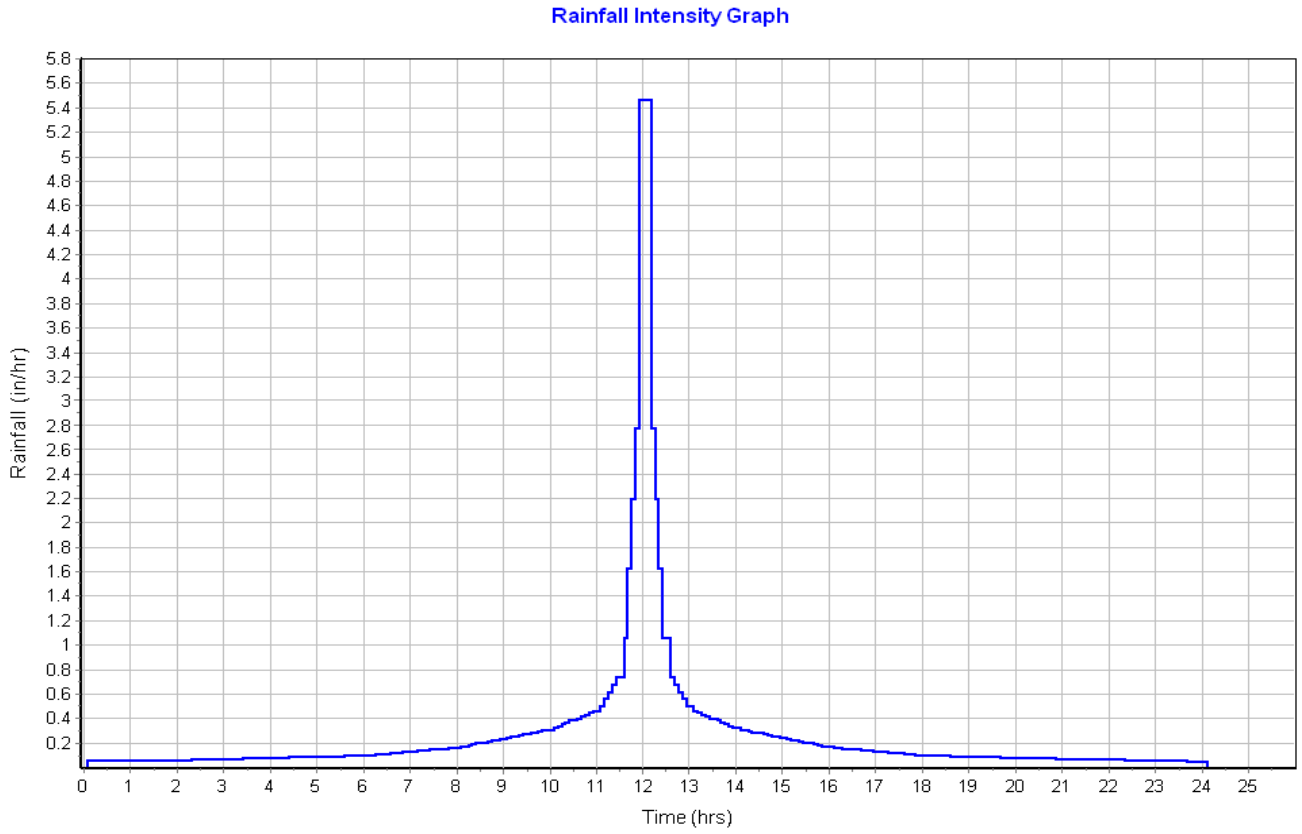
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

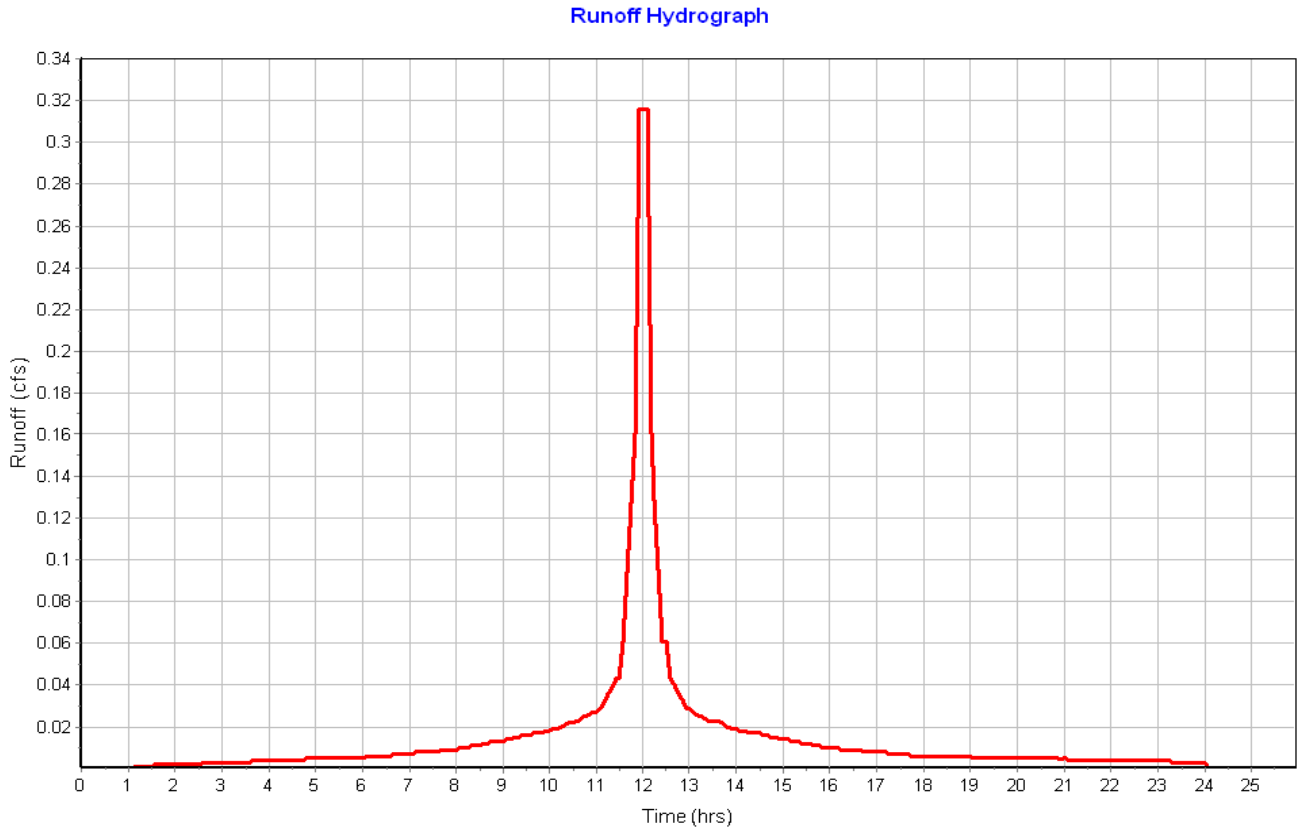
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-03





Subbasin : Roof-04

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

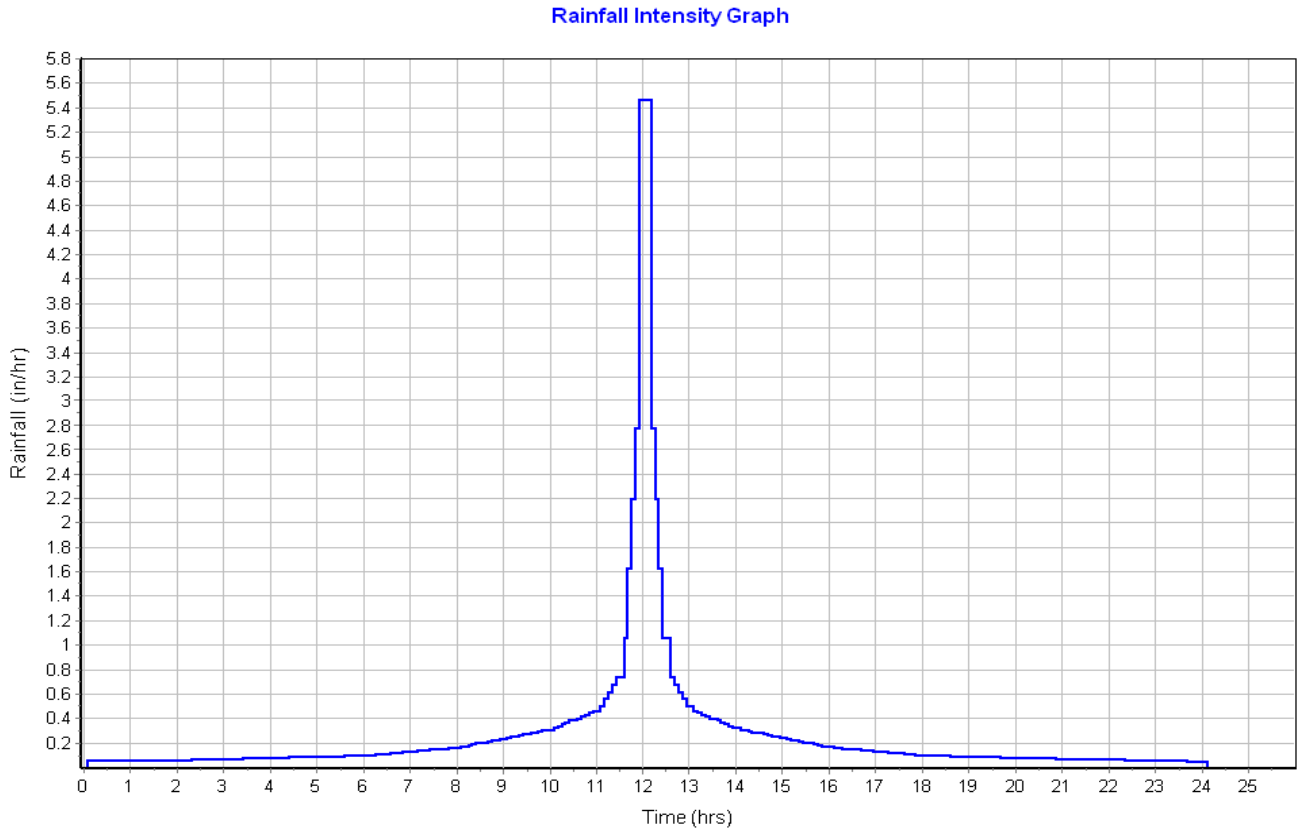
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

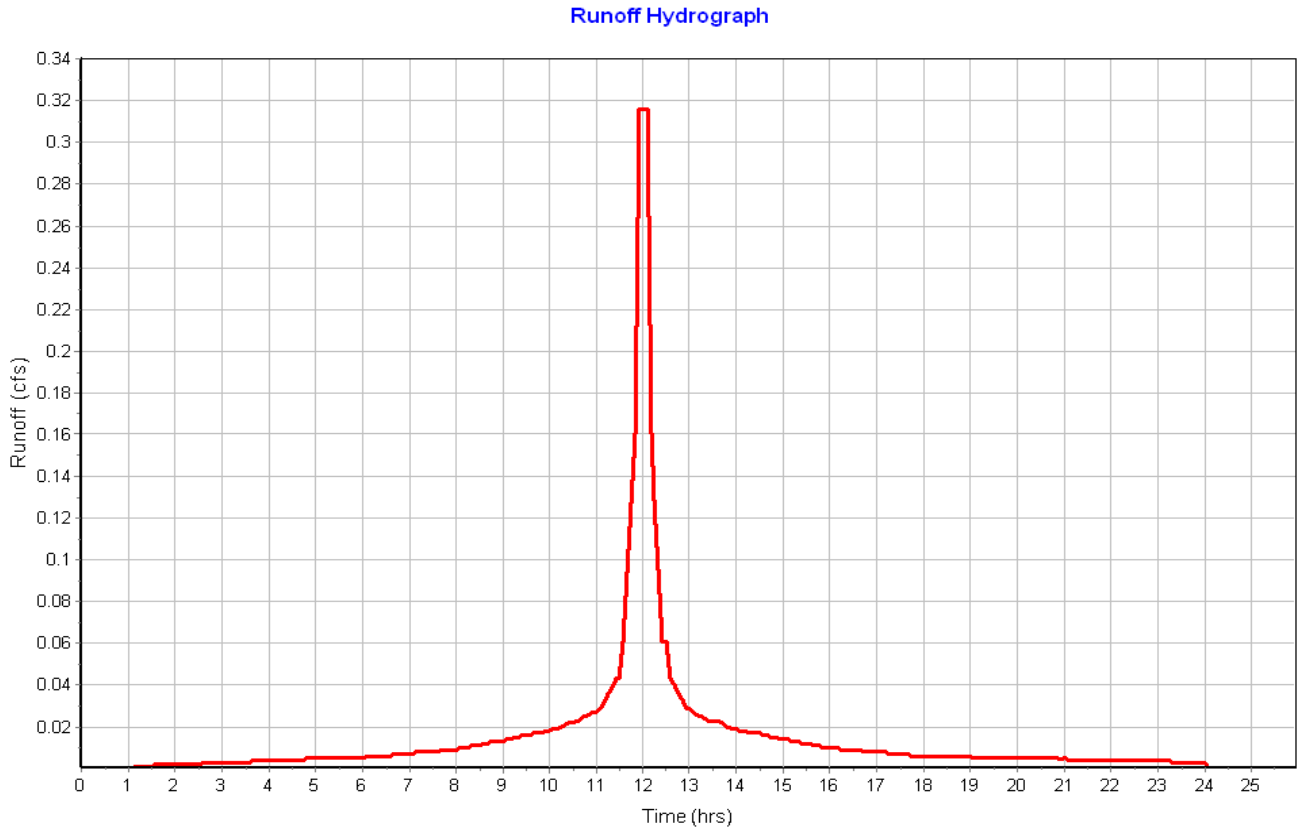
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-04





Subbasin : Roof-05

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

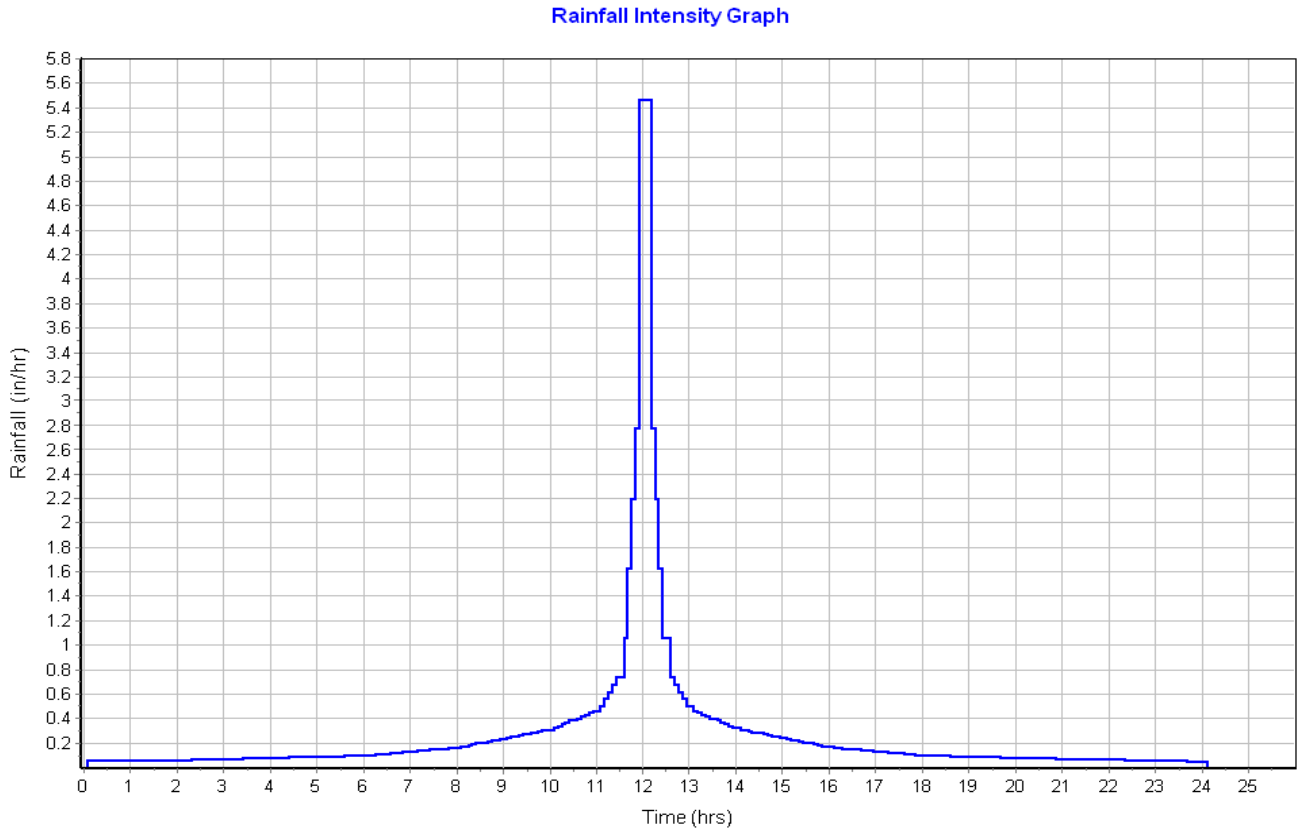
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

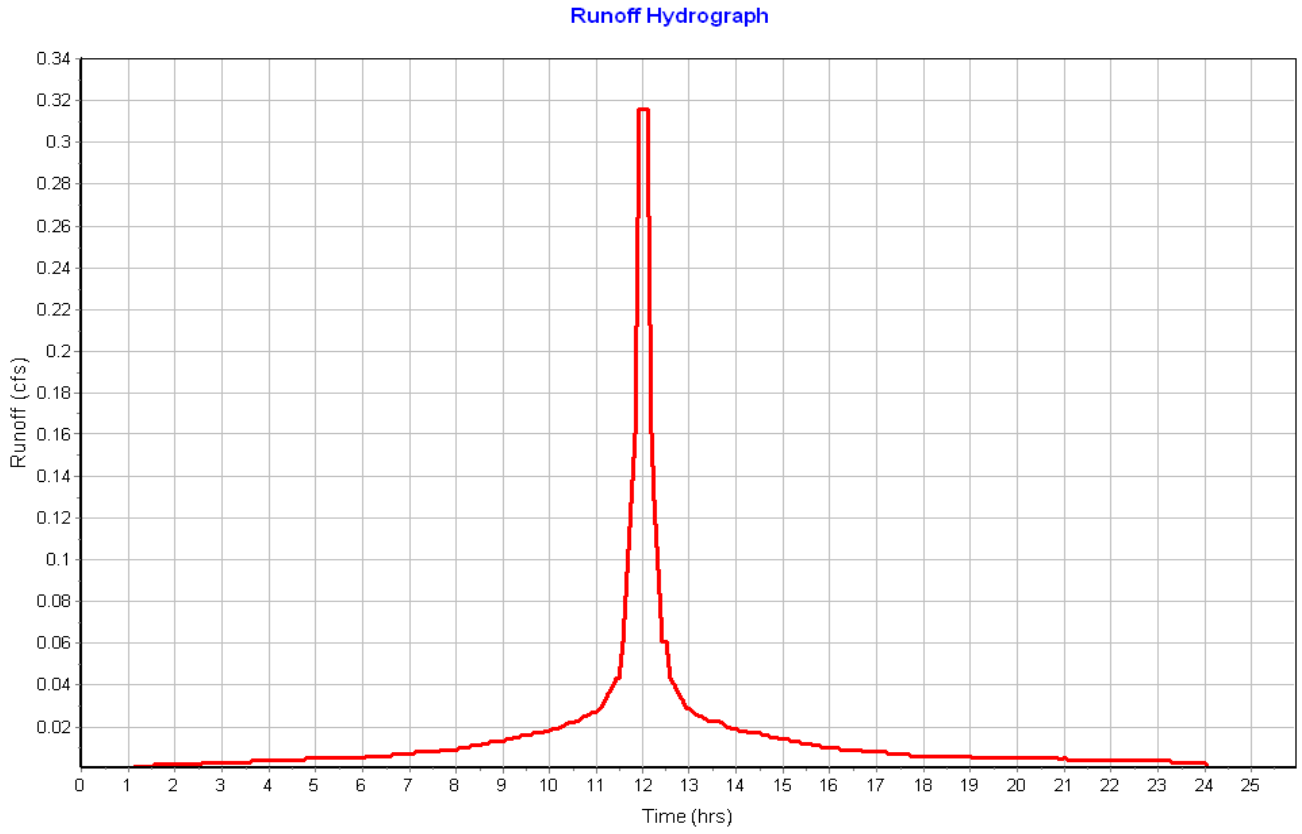
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-05





Subbasin : Roof-06

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

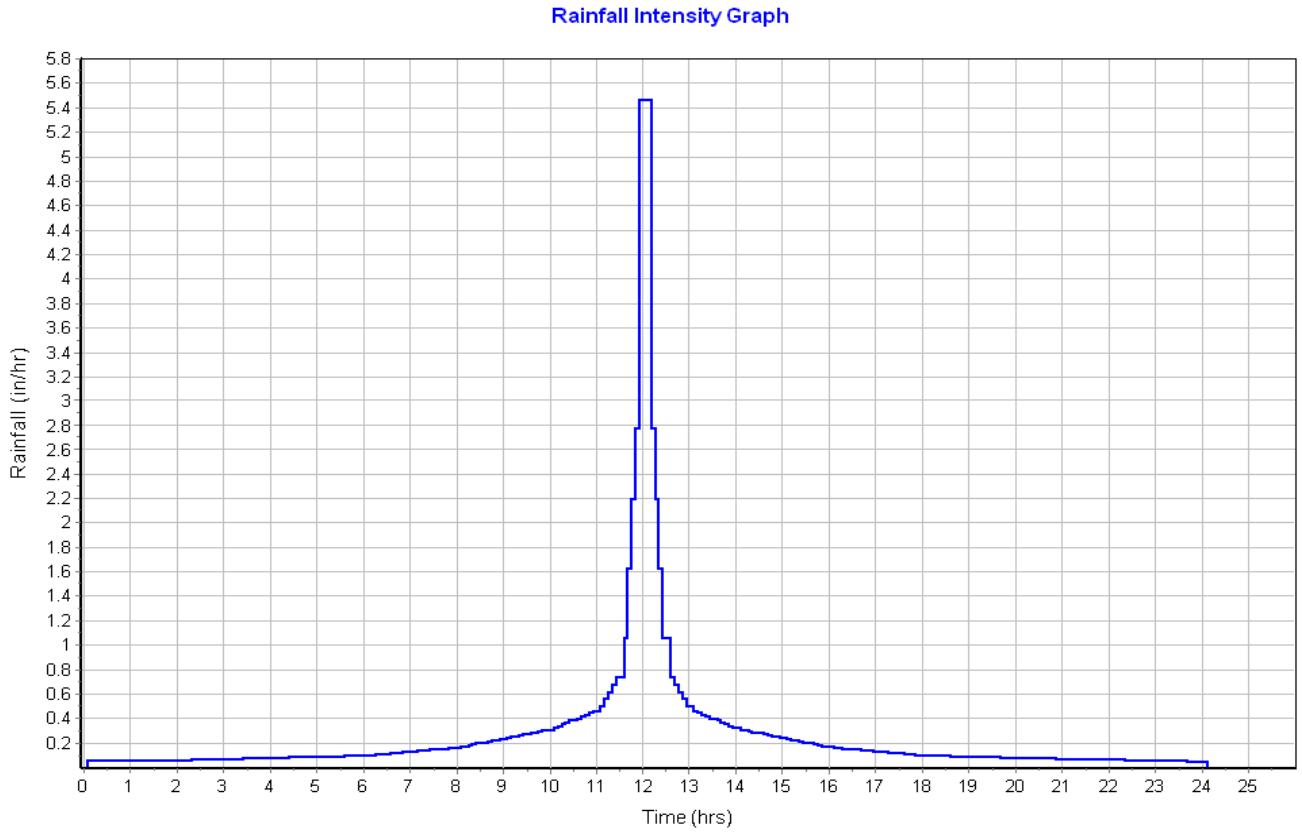
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

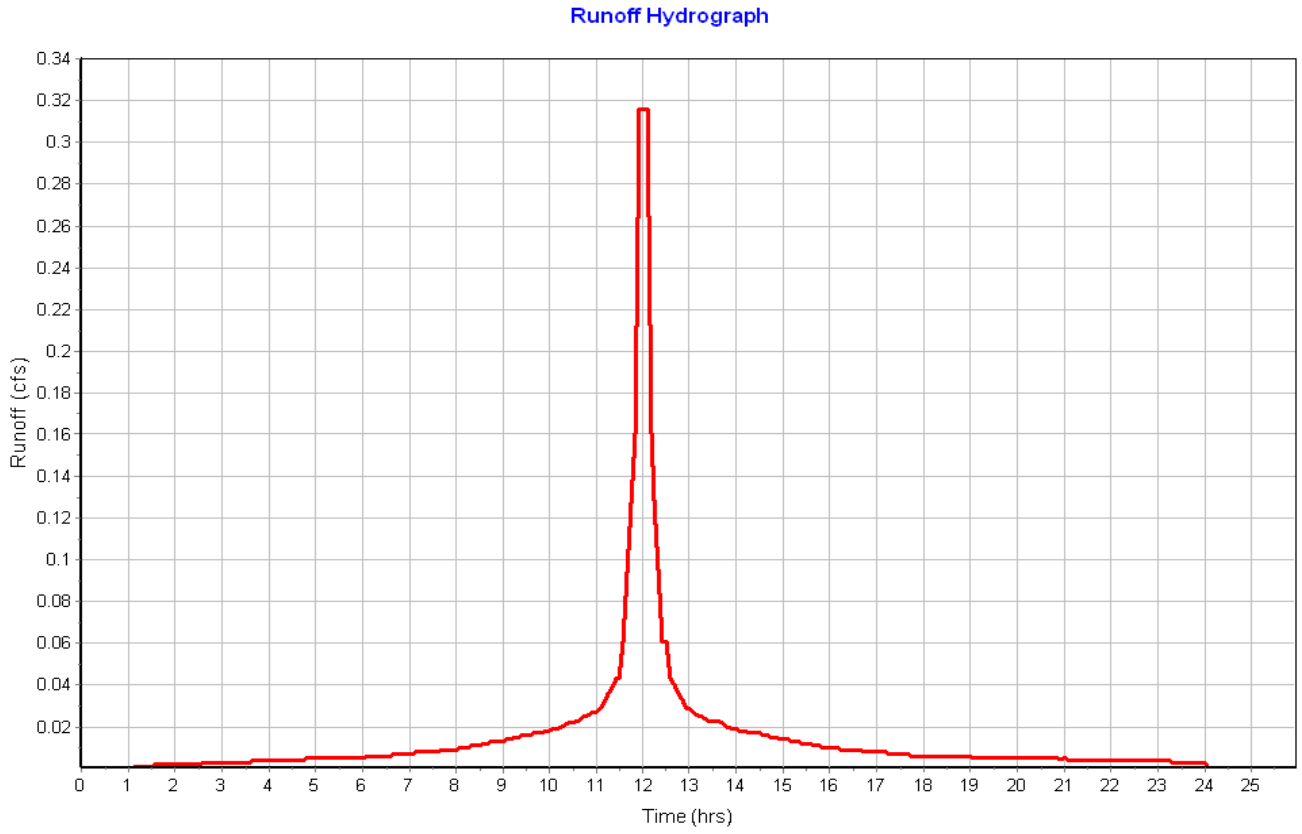
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-06





Subbasin : Roof-07

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

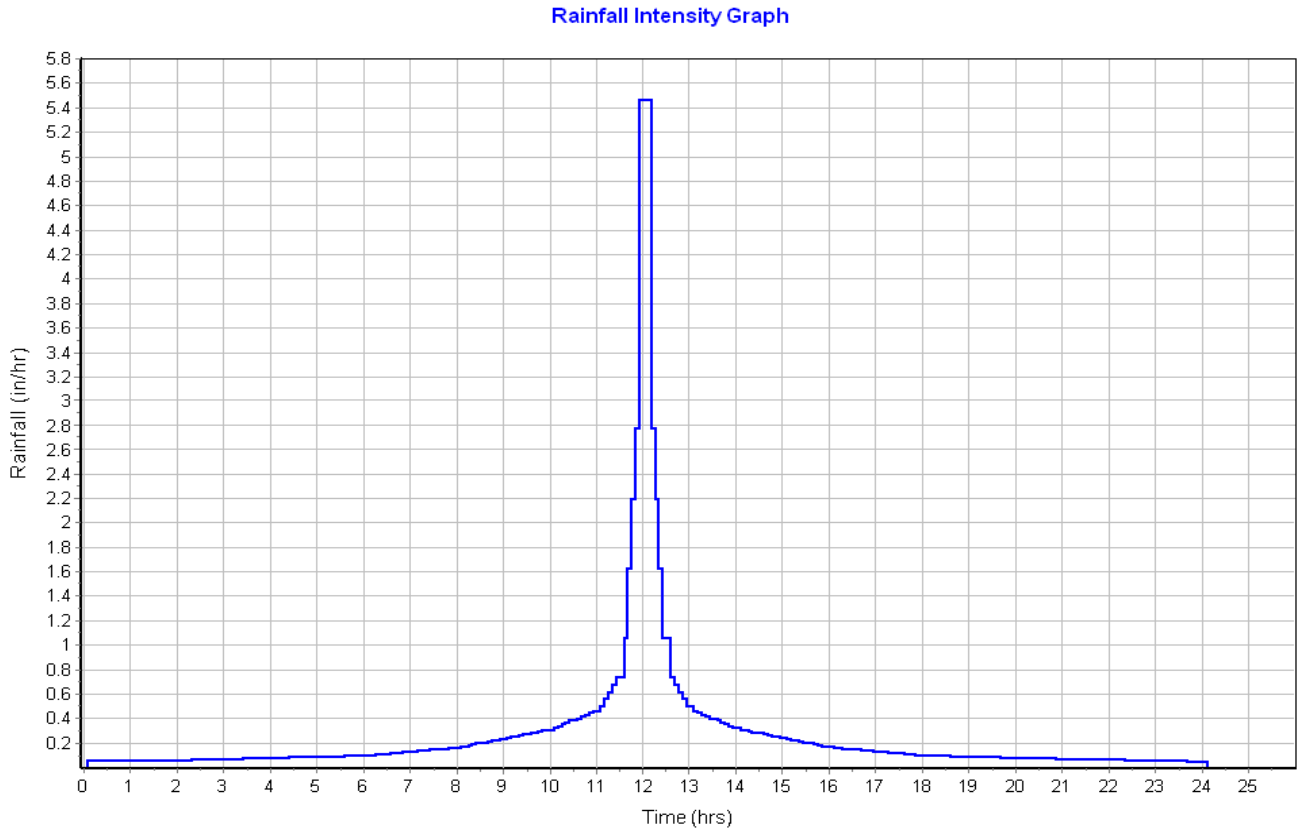
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

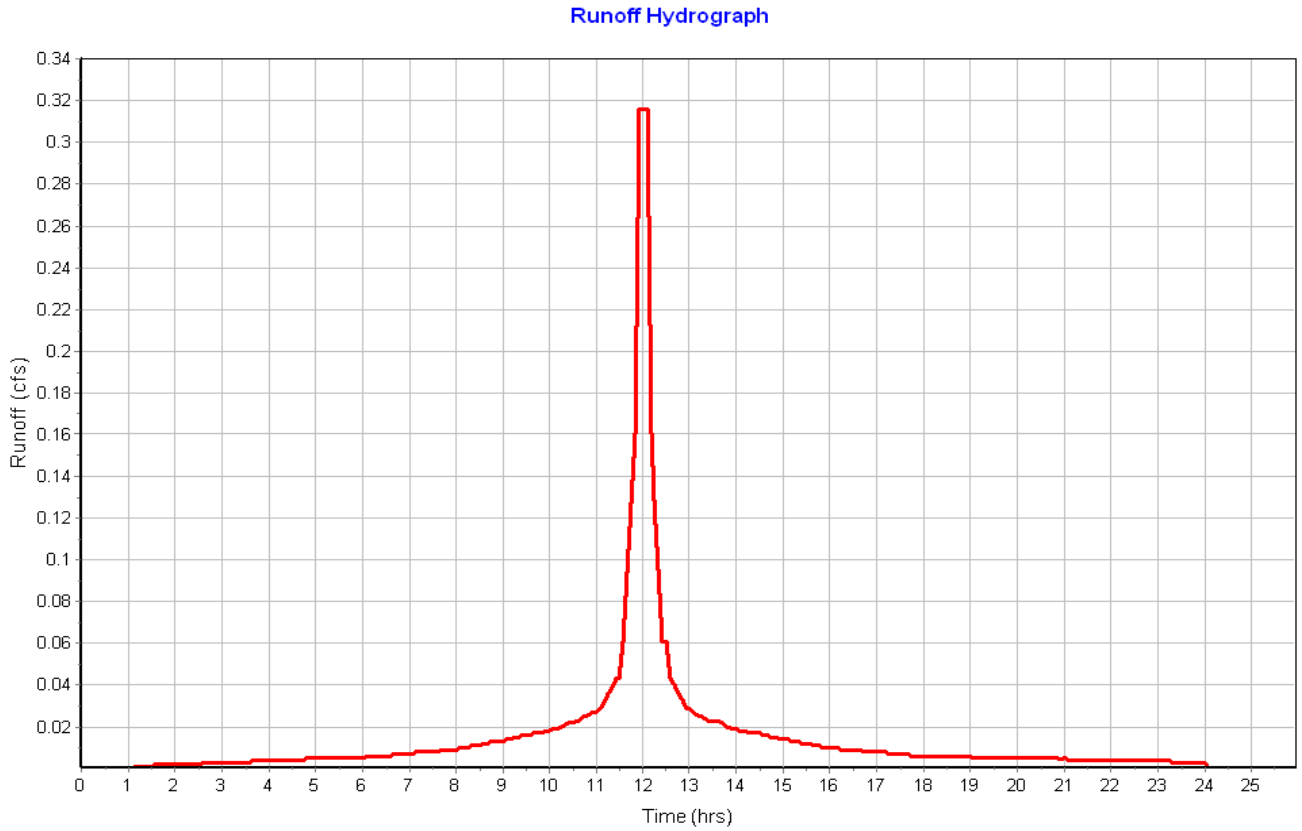
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-07





Subbasin : Roof-08

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

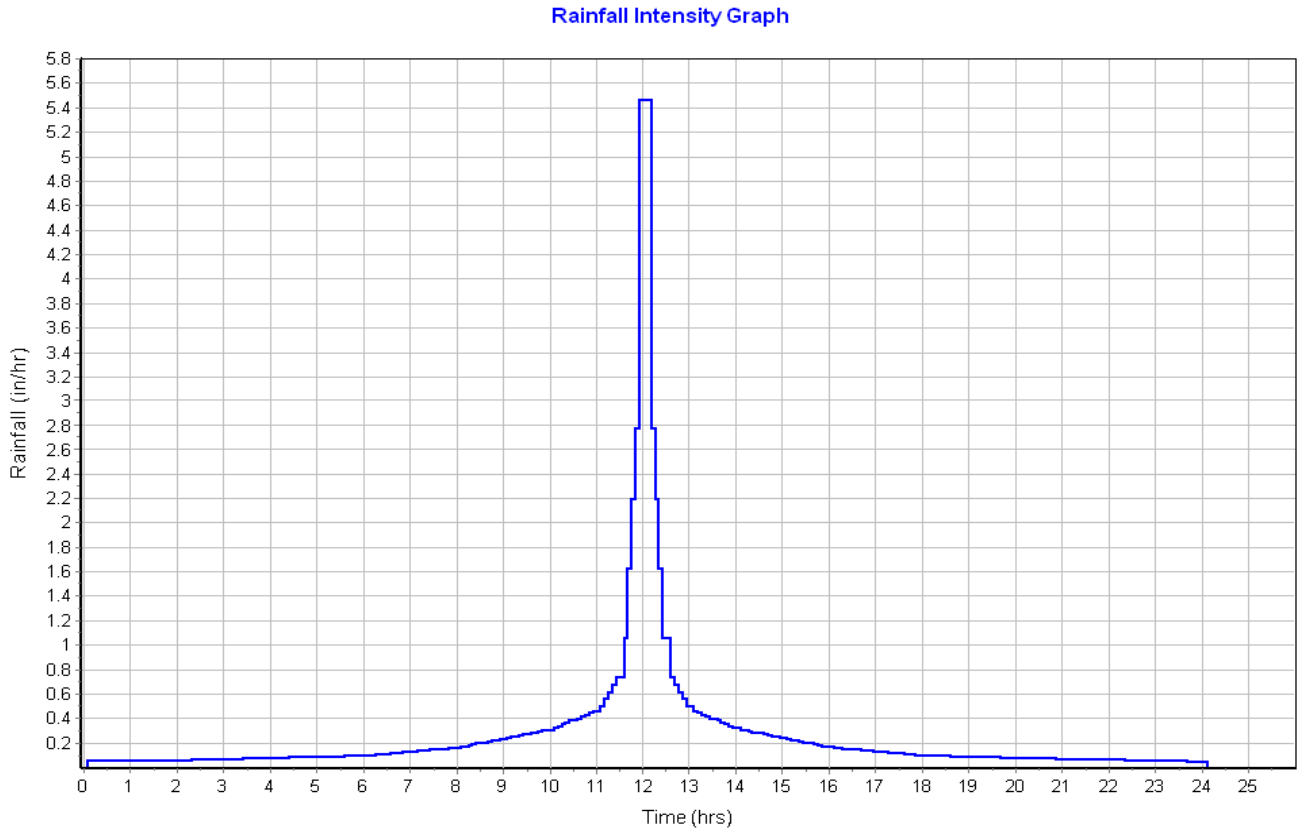
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

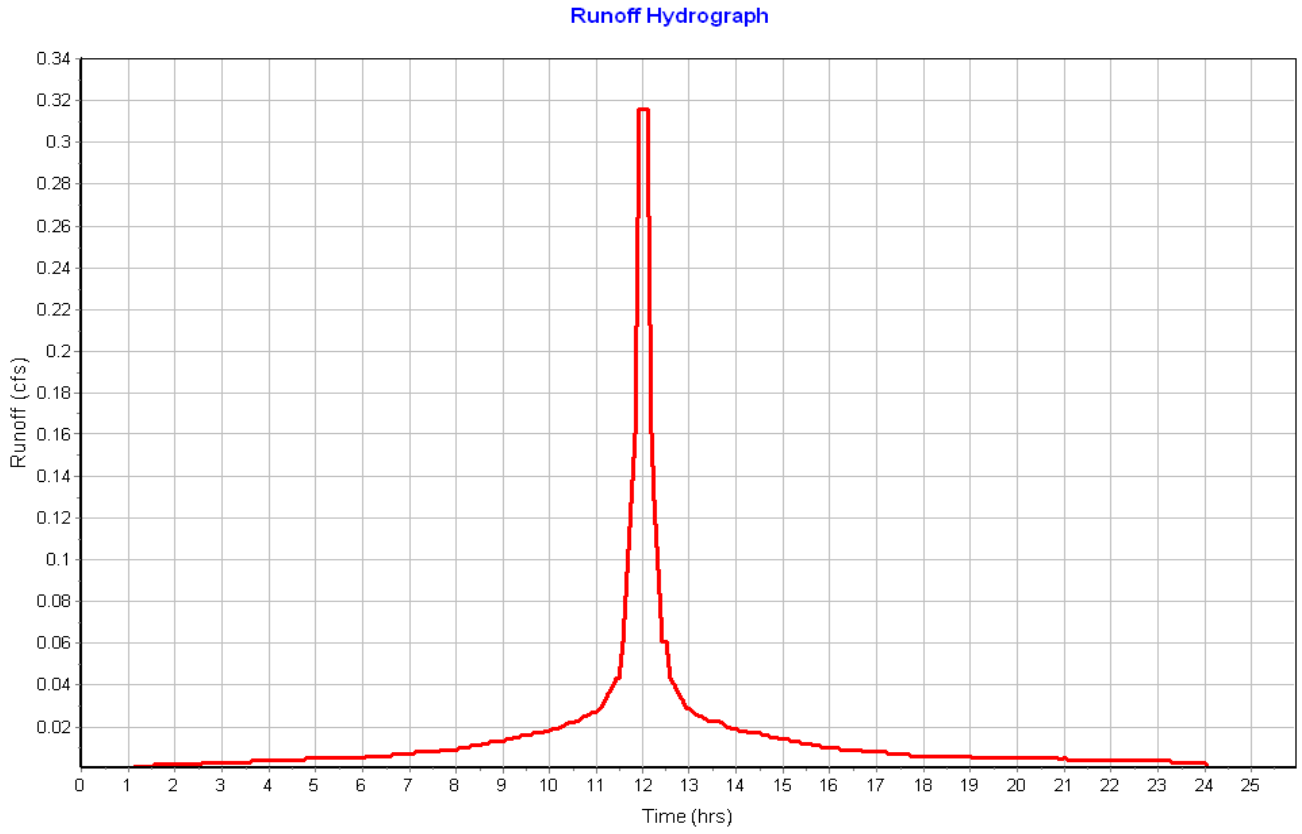
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-08





Subbasin : Roof-09

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

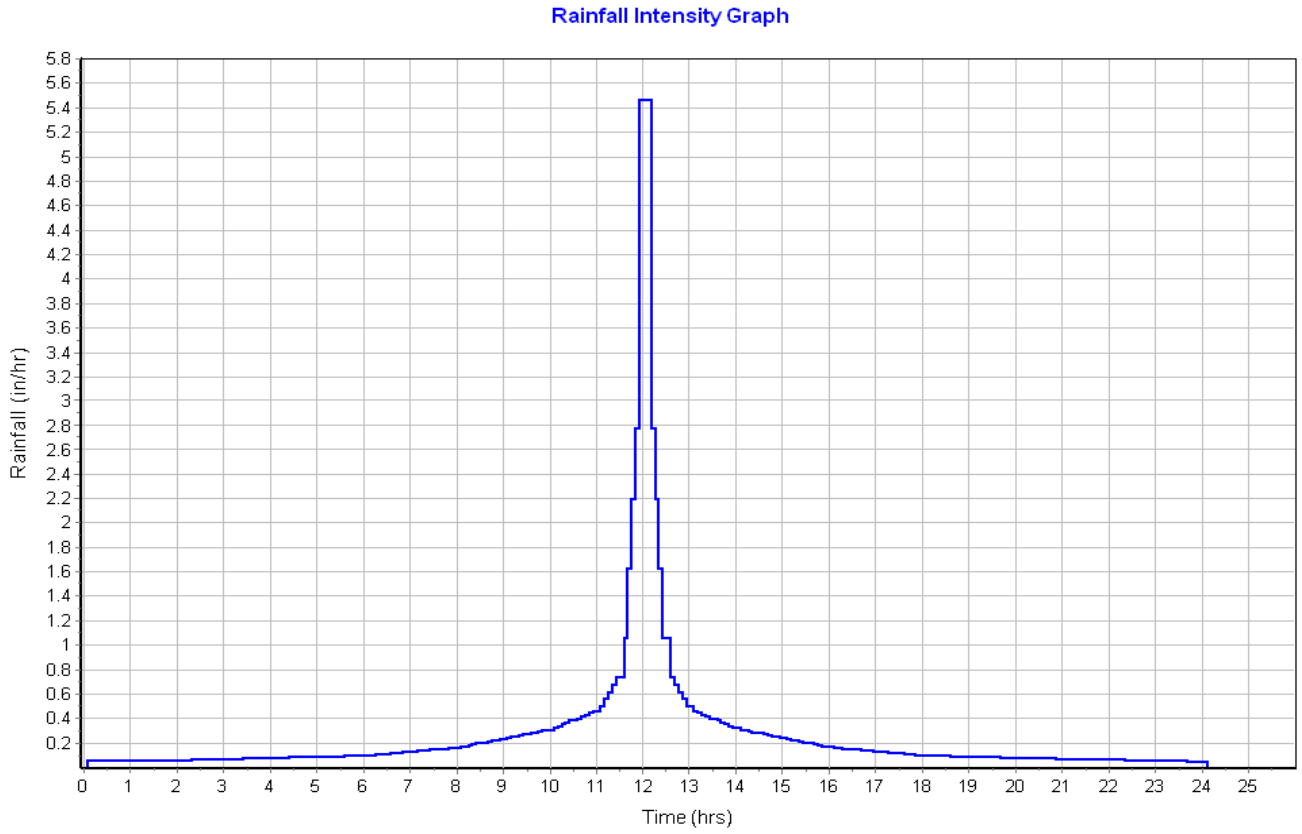
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

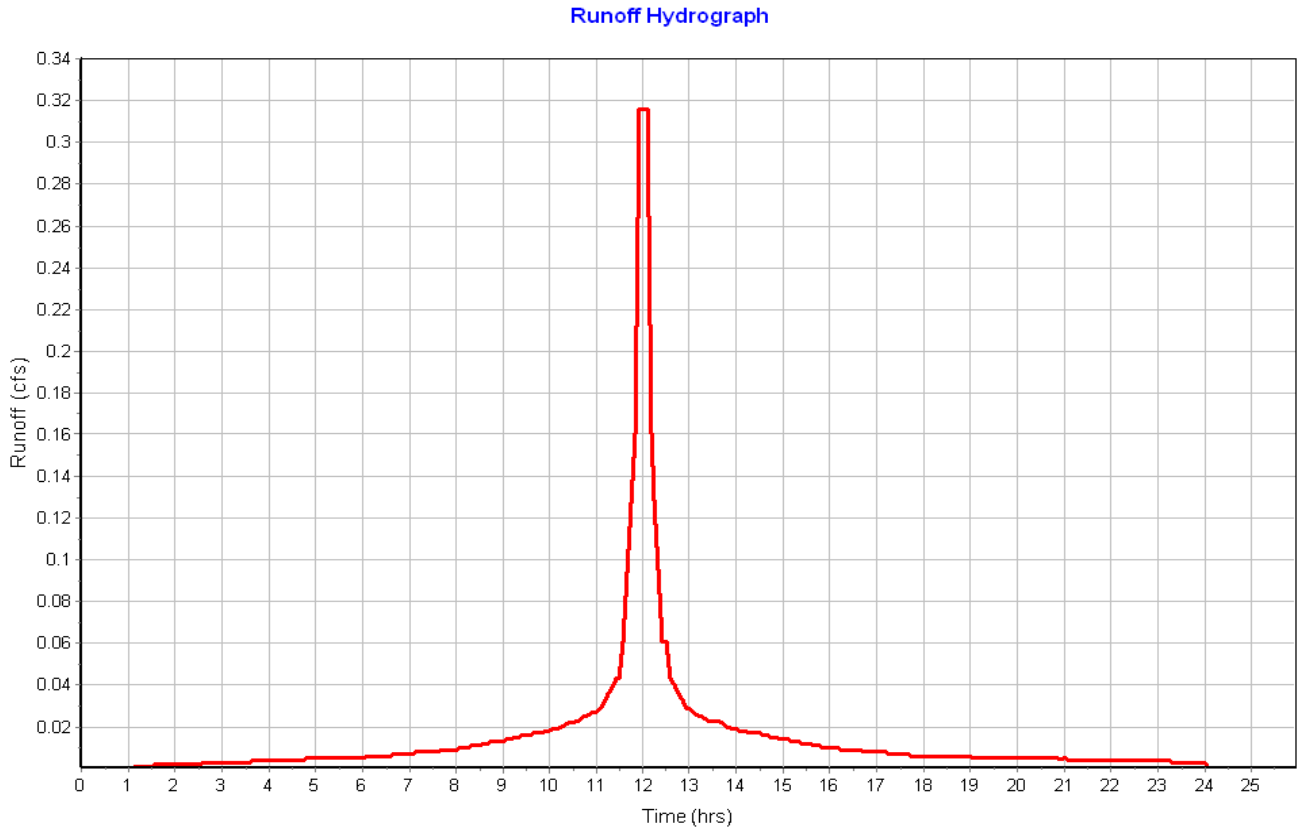
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-09





Subbasin : Roof-10

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

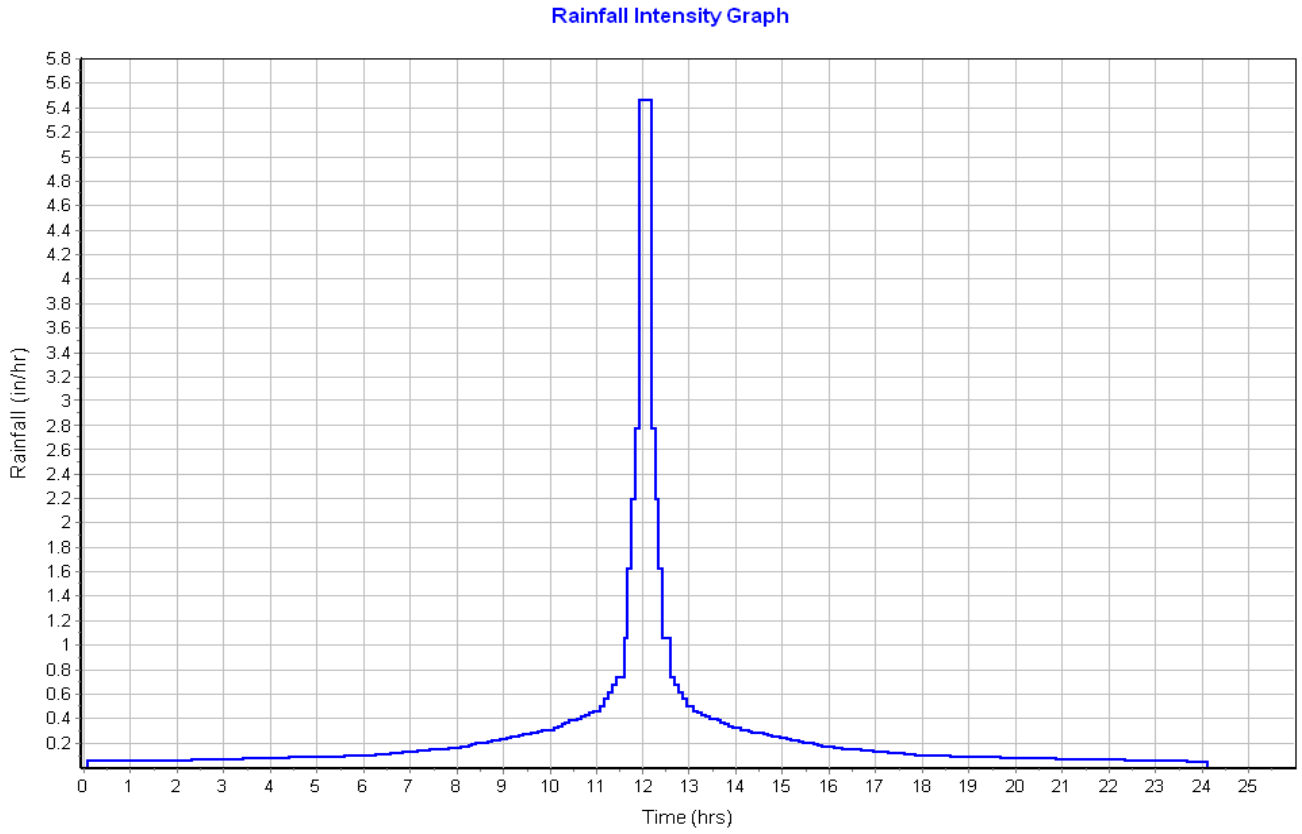
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

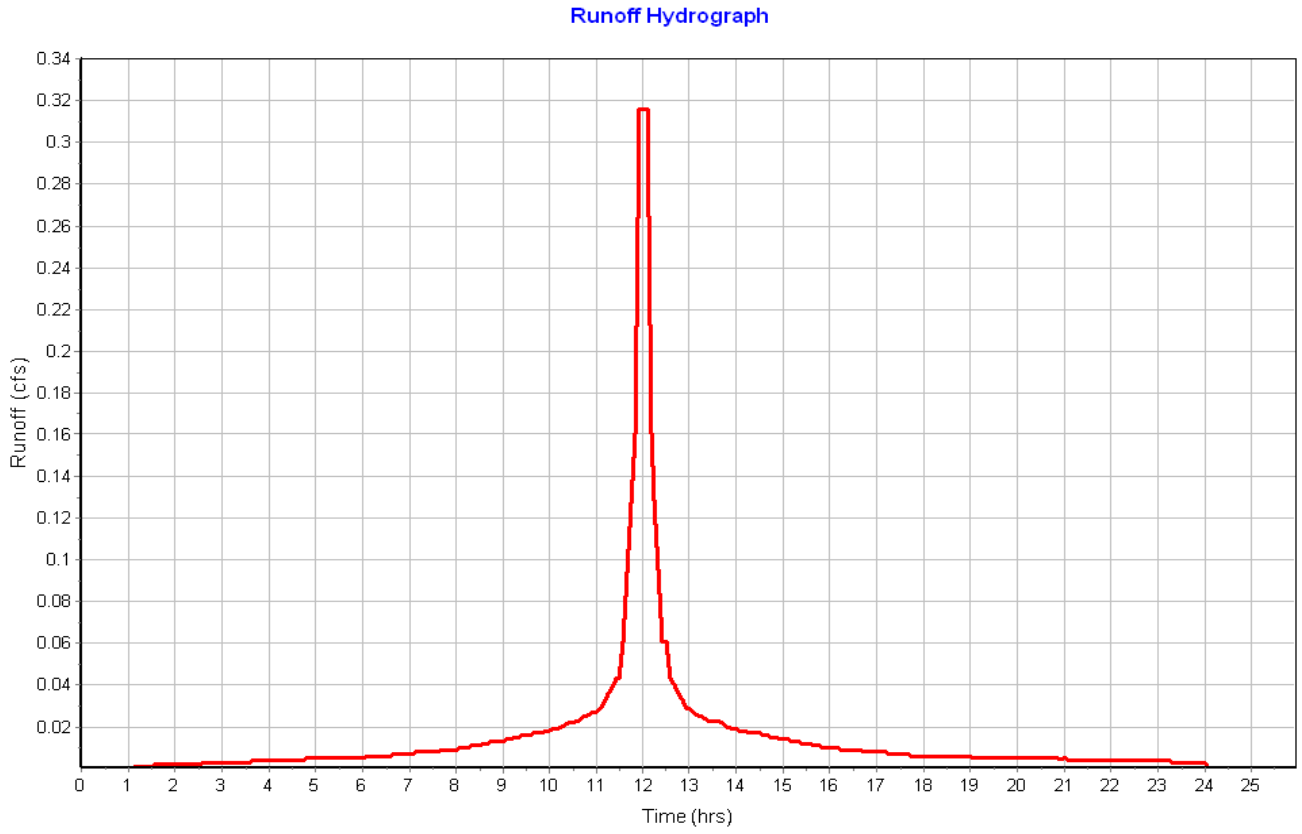
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-10





Subbasin : Roof-11

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

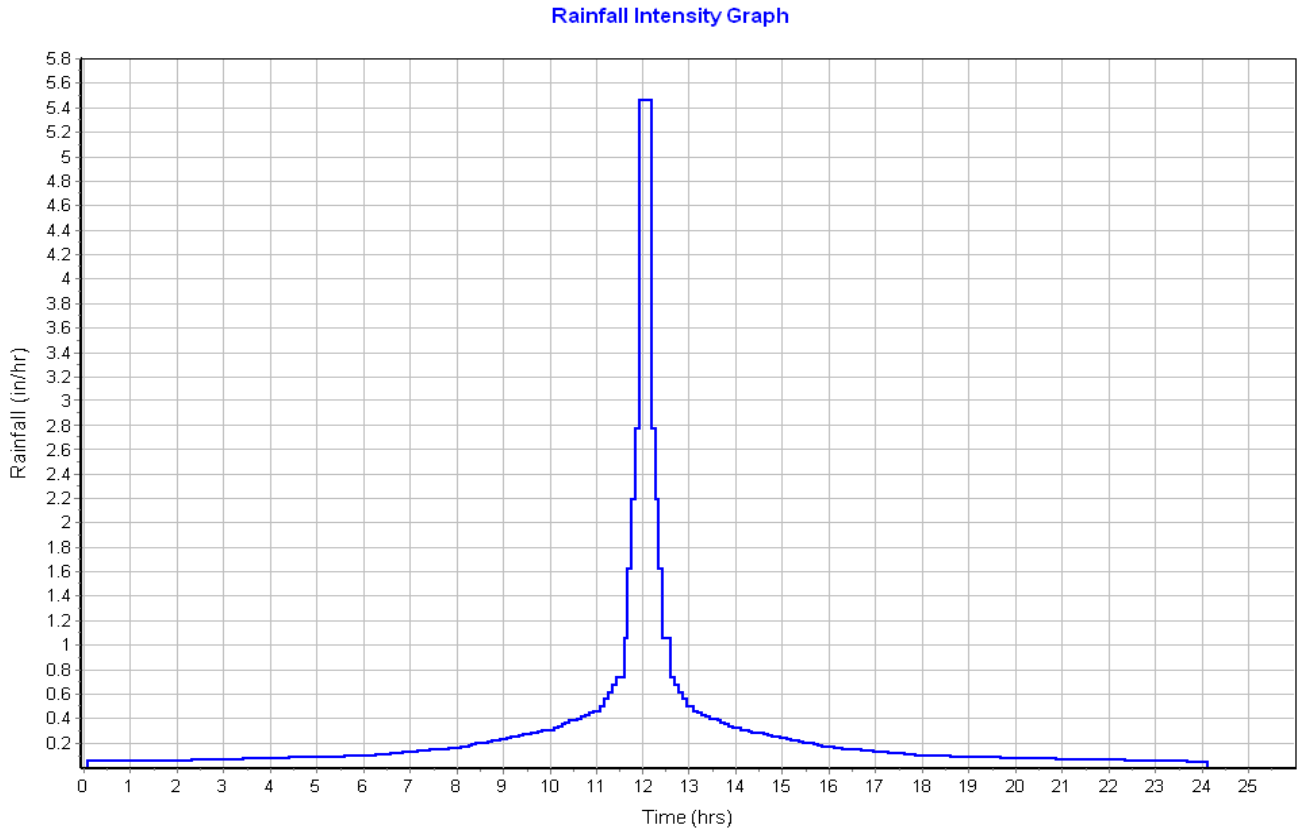
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

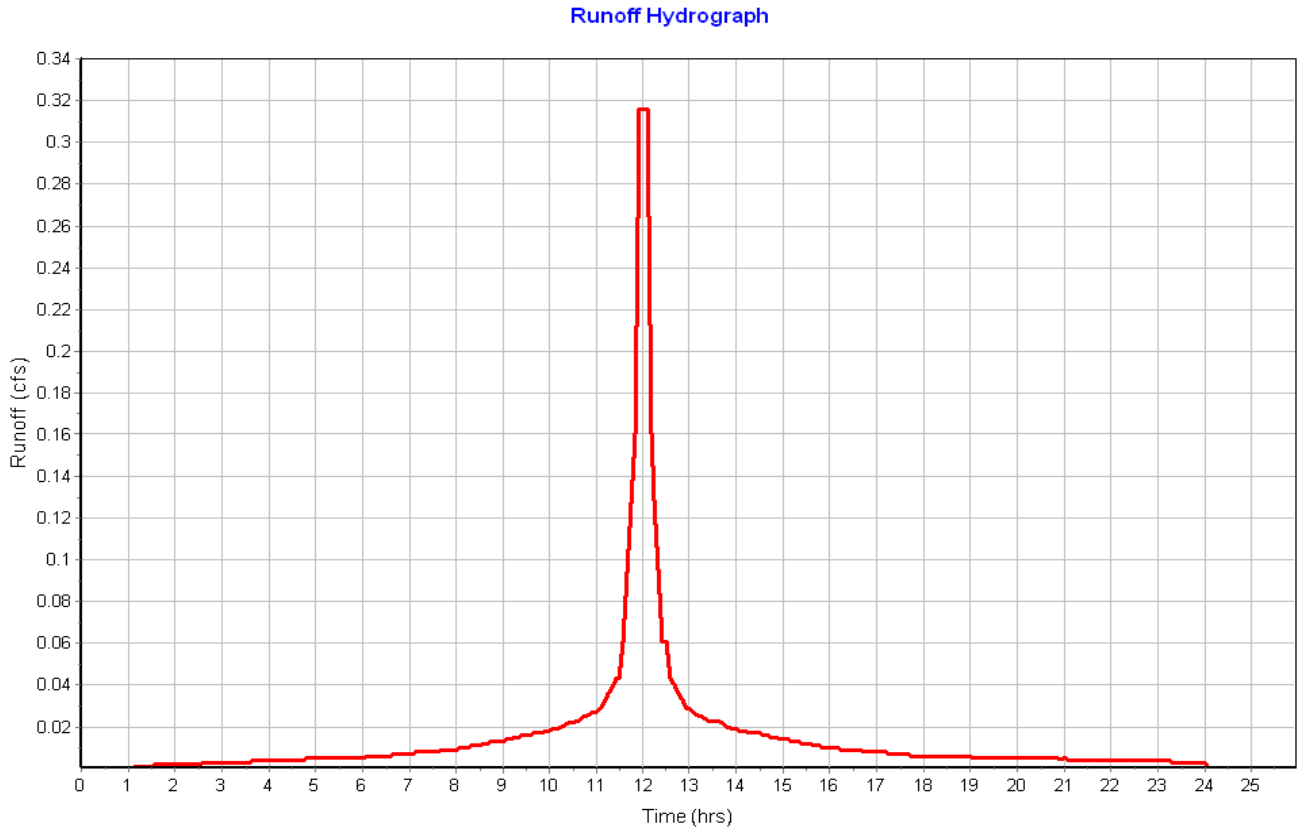
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-11





Subbasin : Roof-12

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

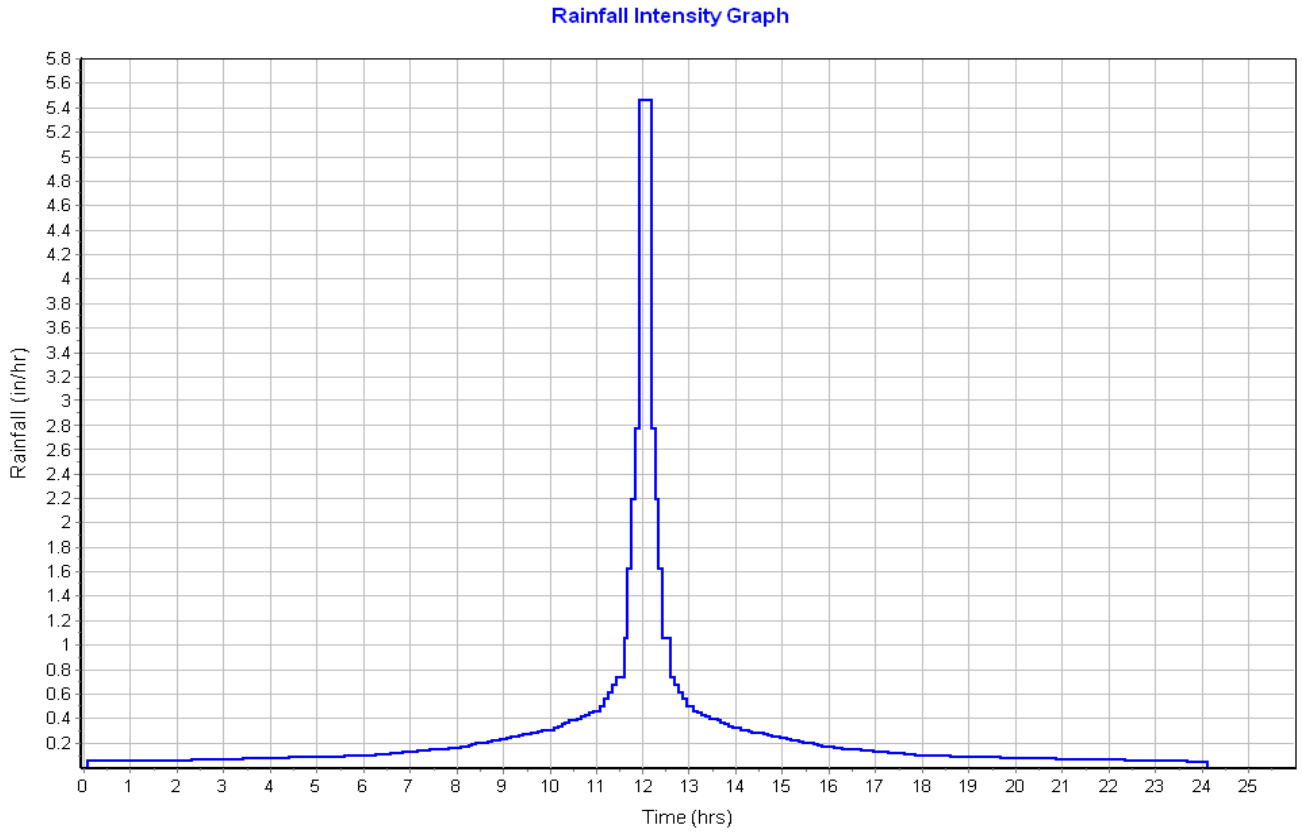
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

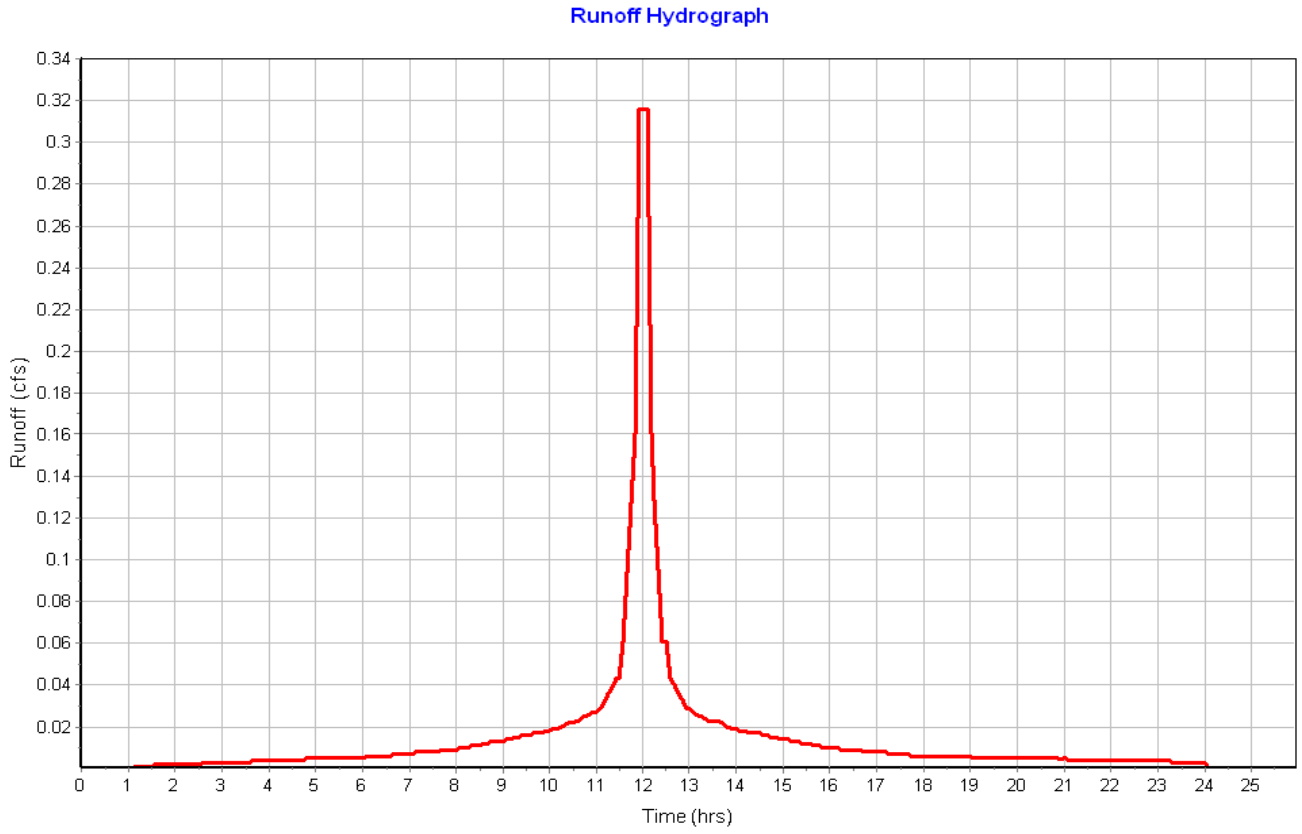
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-12





Subbasin : Roof-13

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

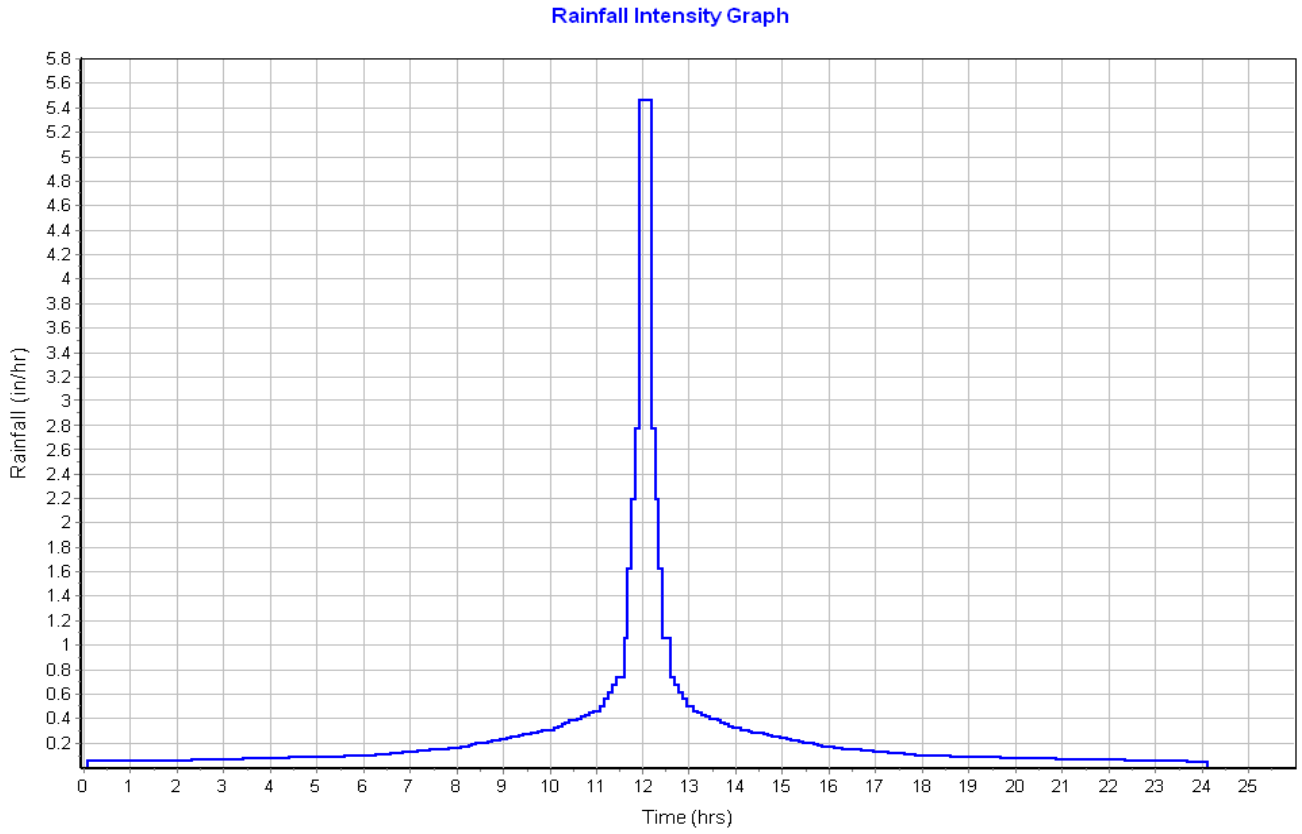
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

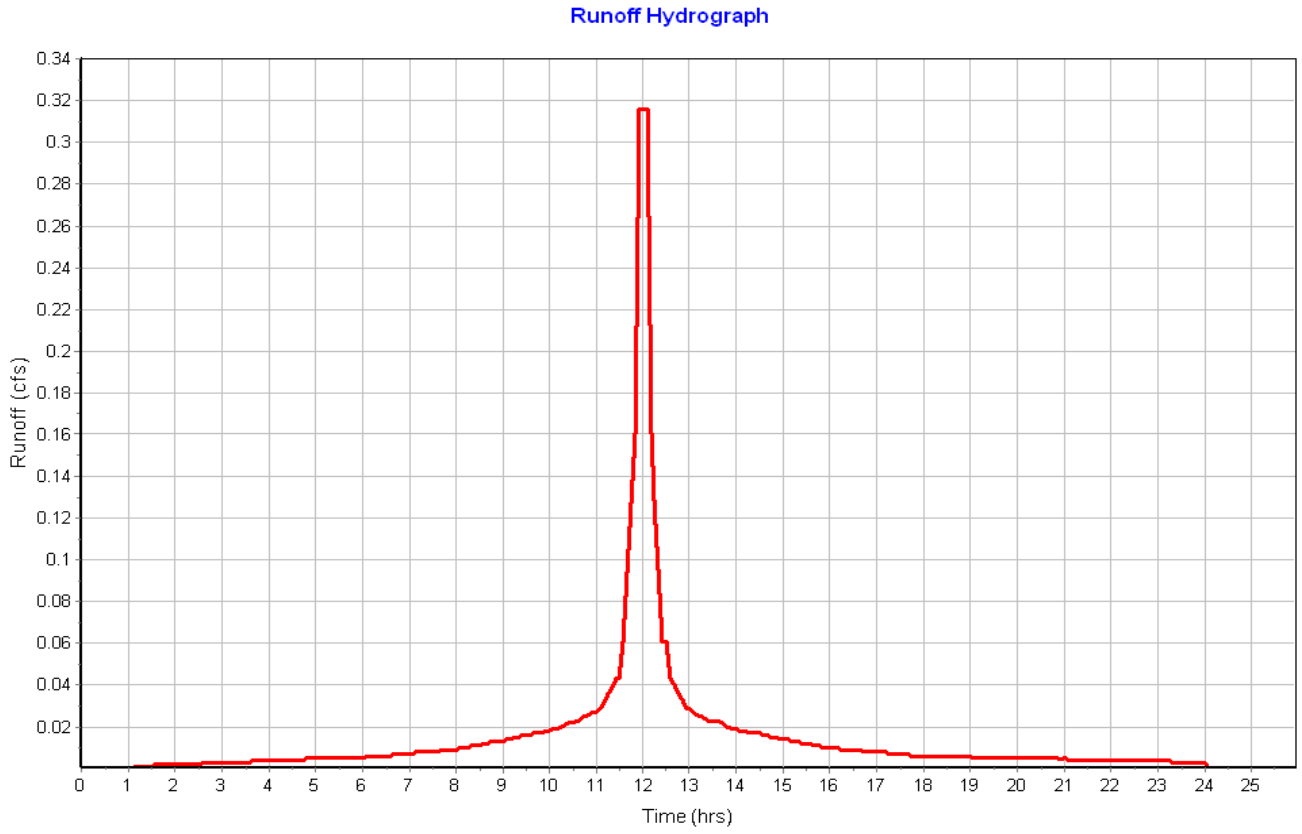
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-13





Subbasin : Roof-14

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

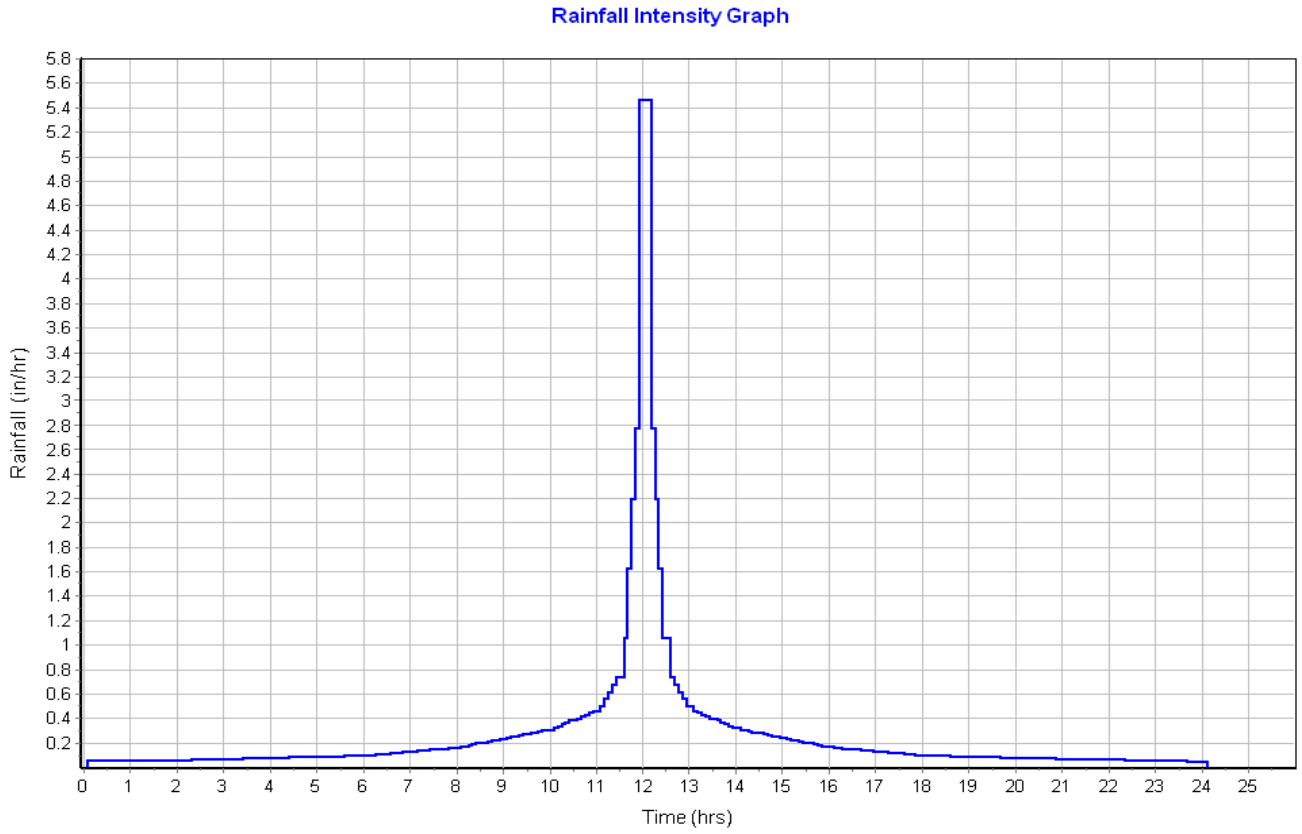
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

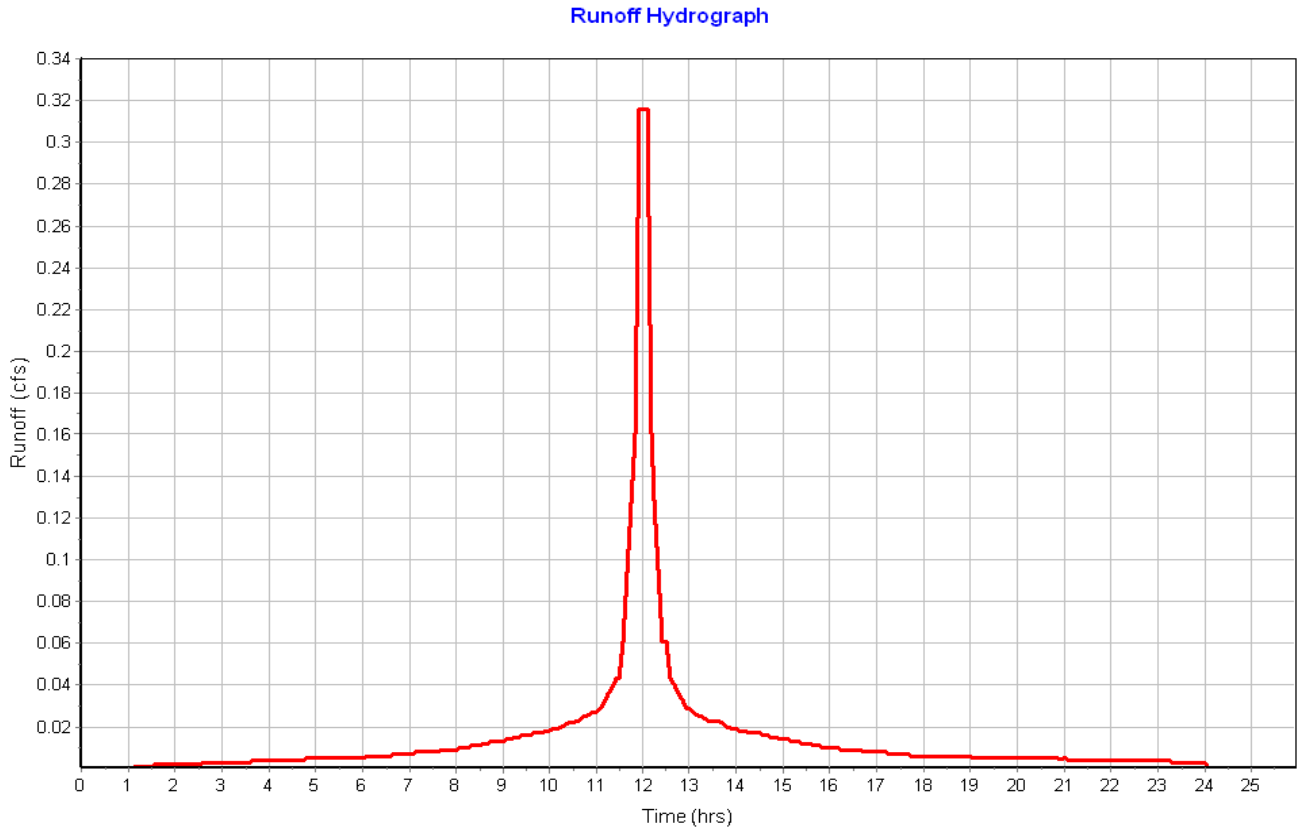
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-14





Subbasin : Roof-15

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

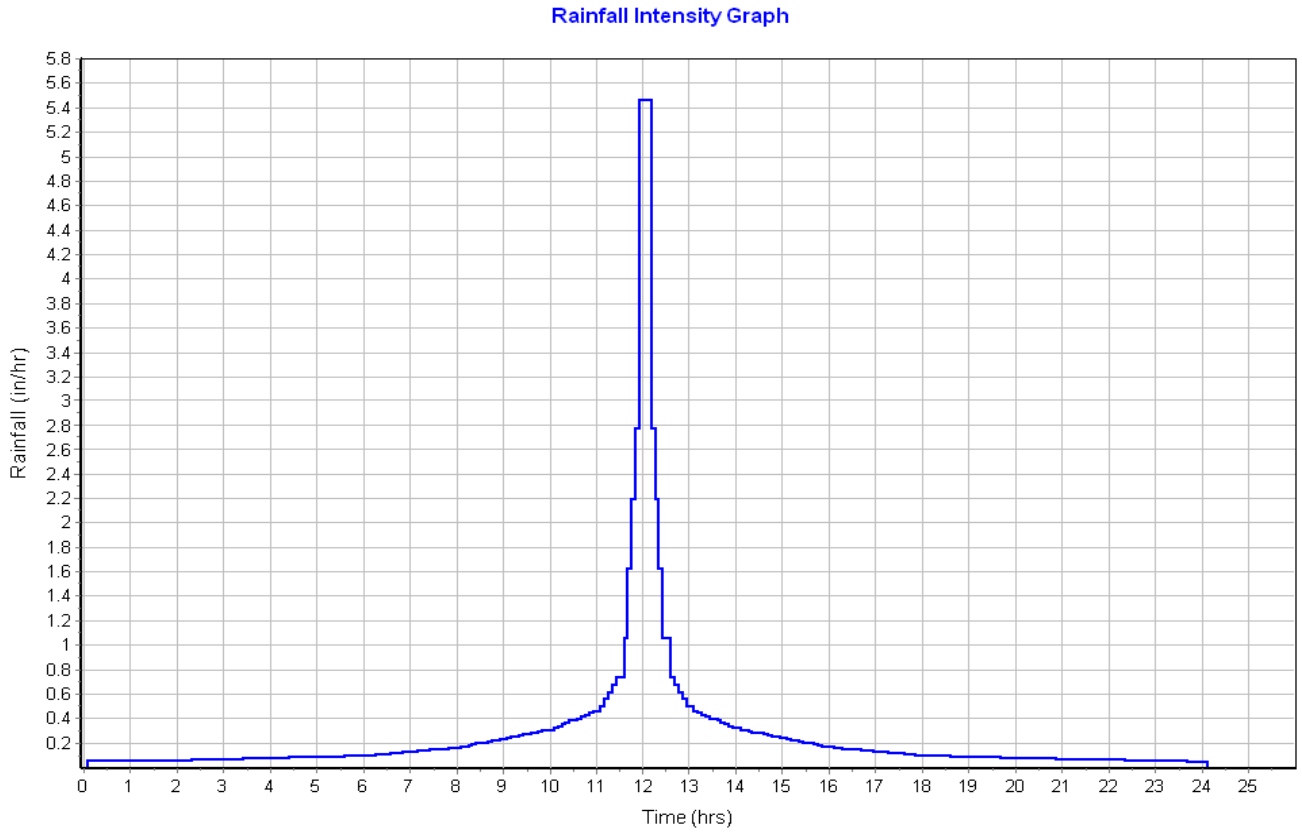
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

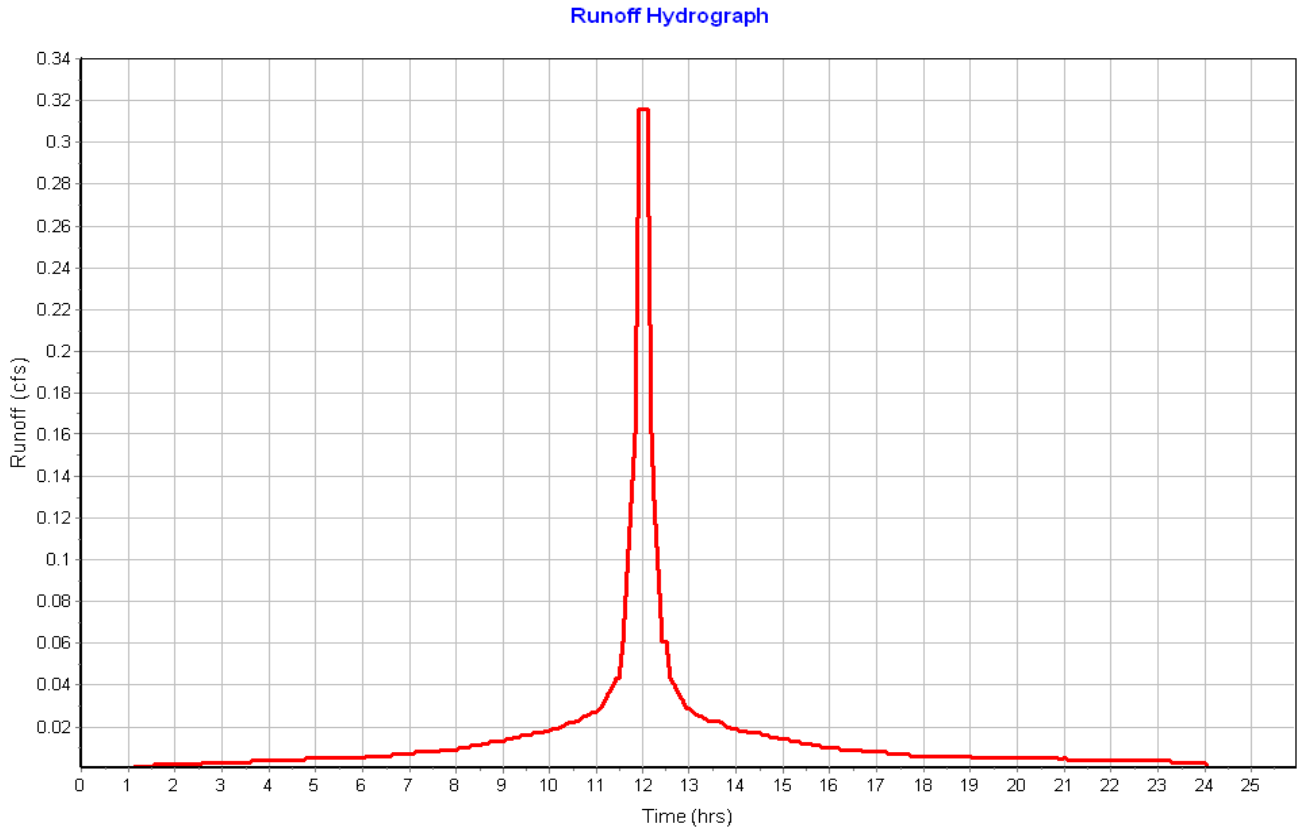
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-15





Subbasin : Roof-16

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

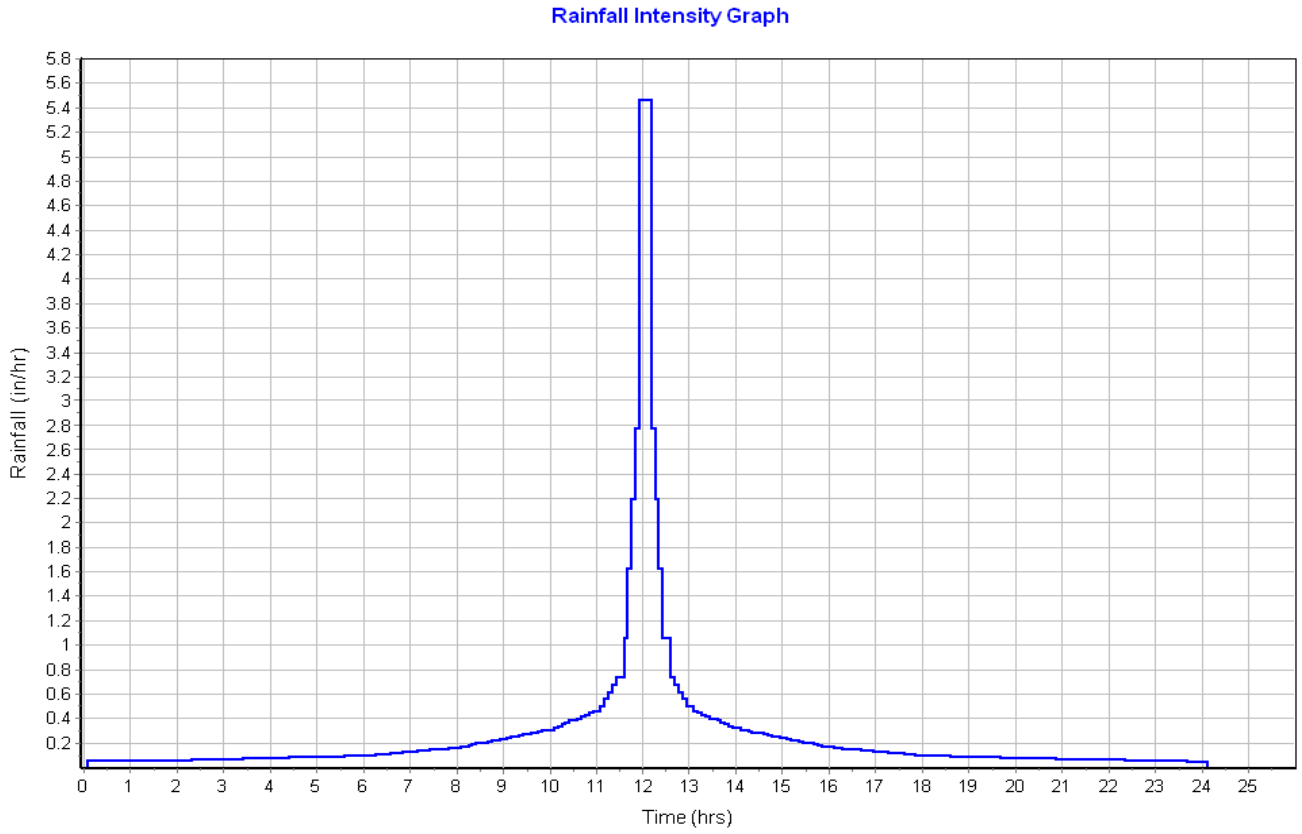
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

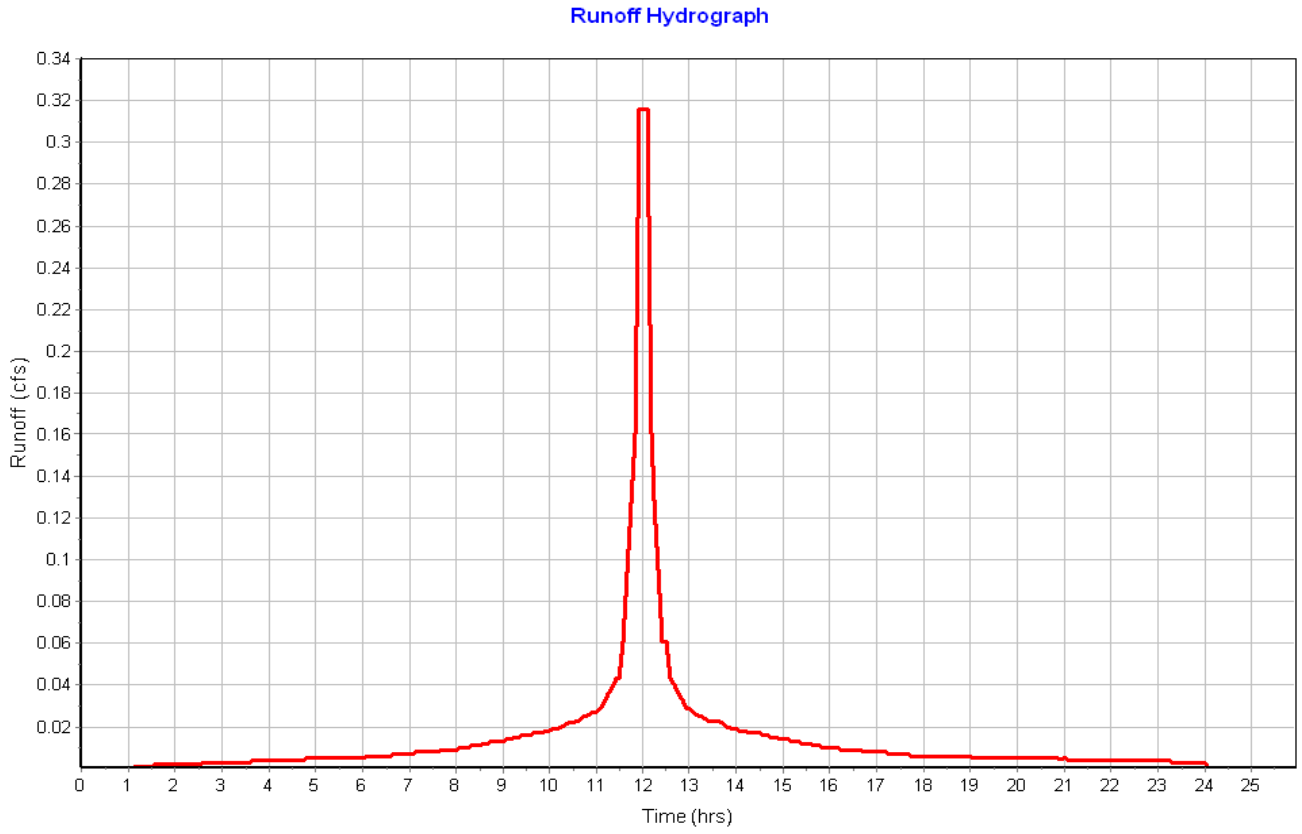
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-16





Subbasin : Roof-17

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

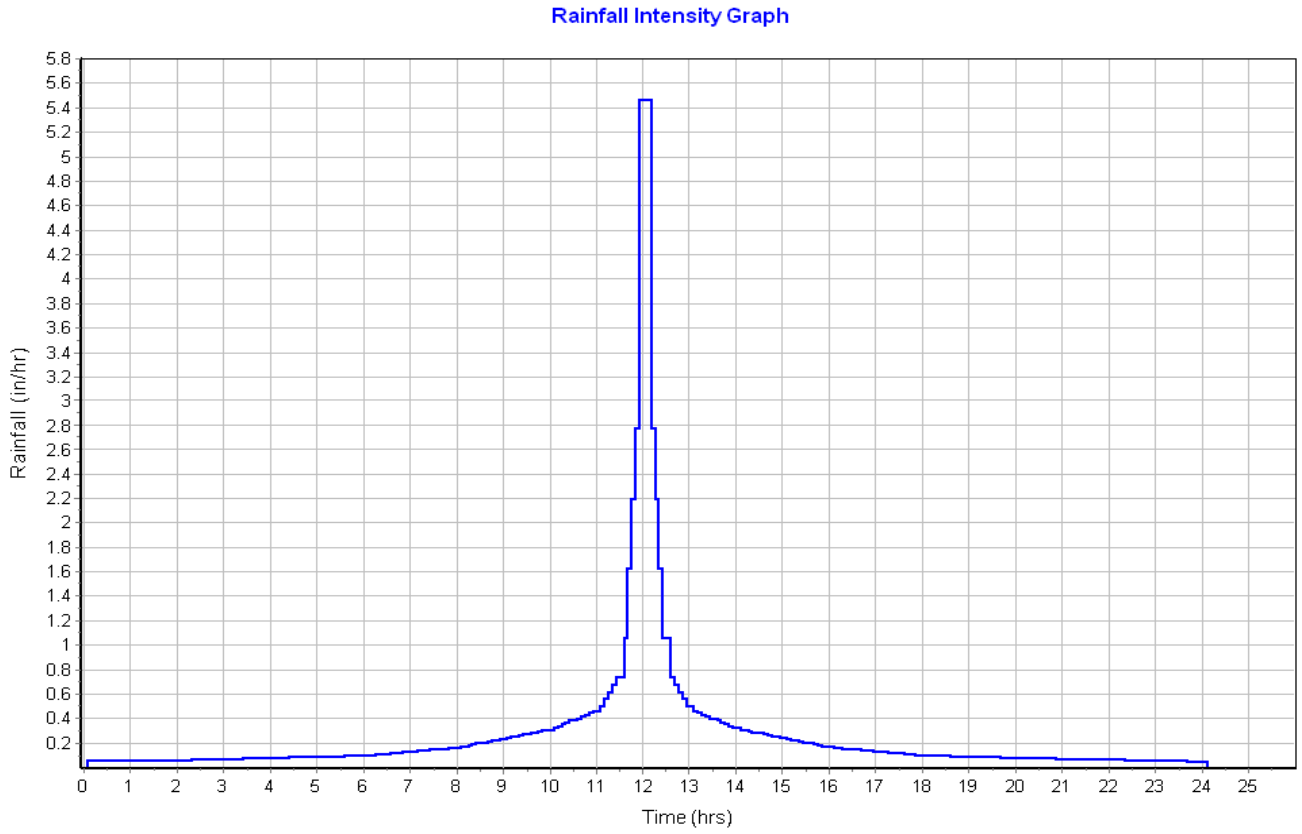
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

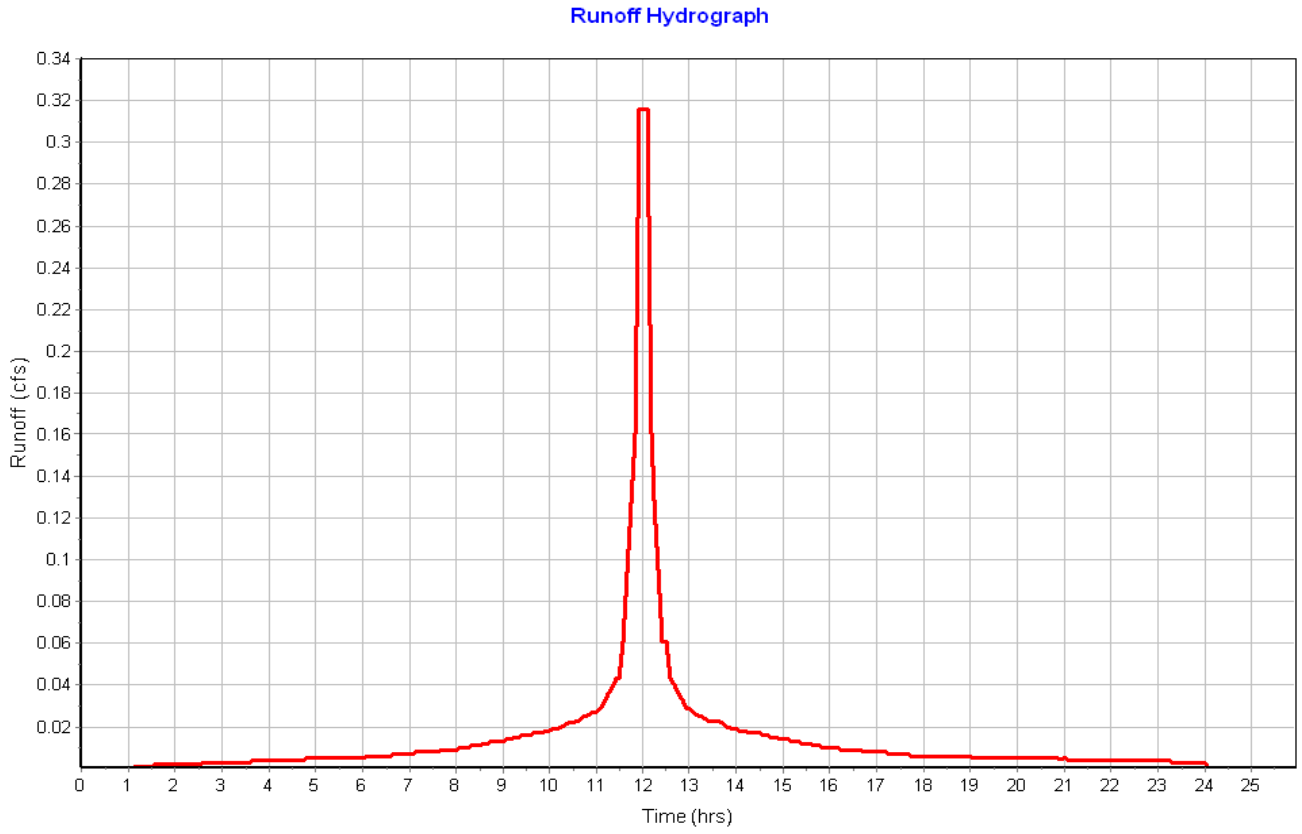
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-17





Subbasin : Roof-18

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

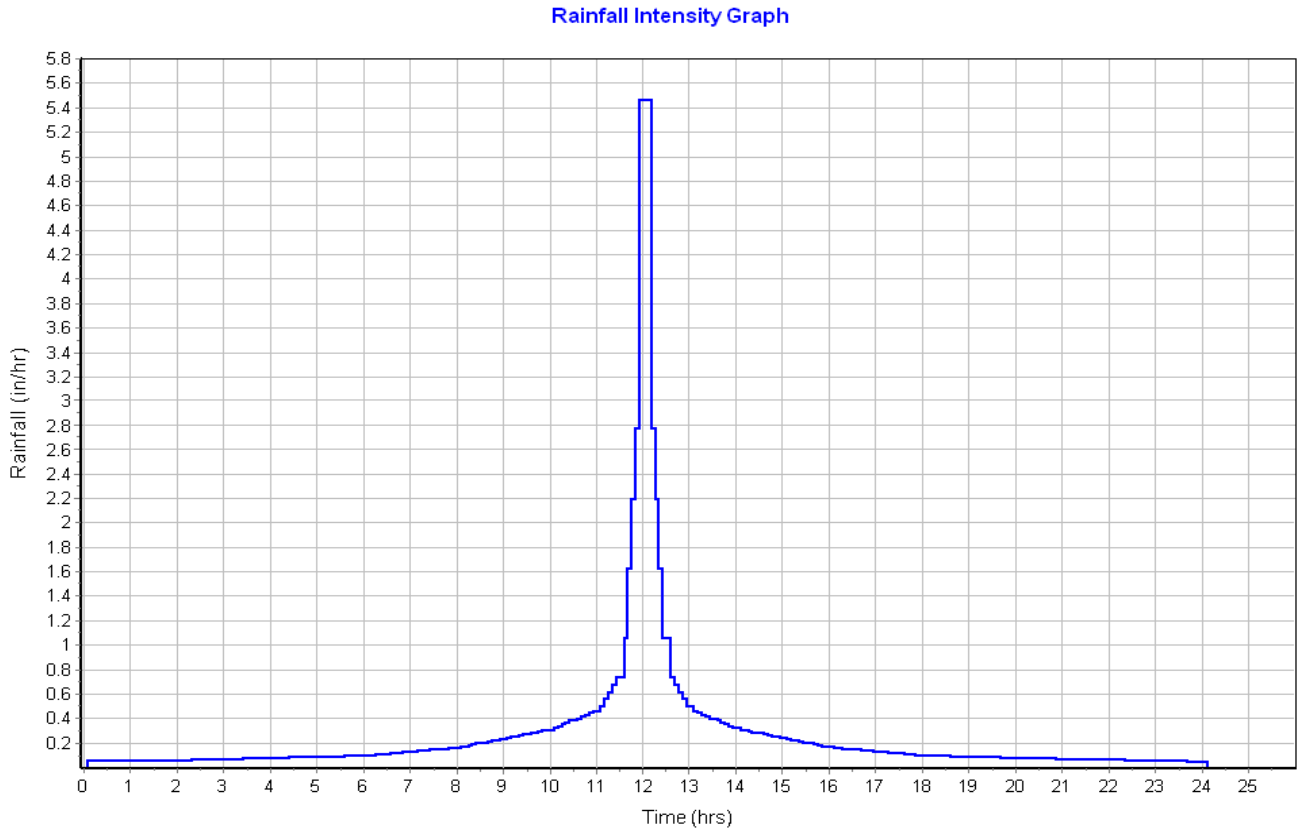
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

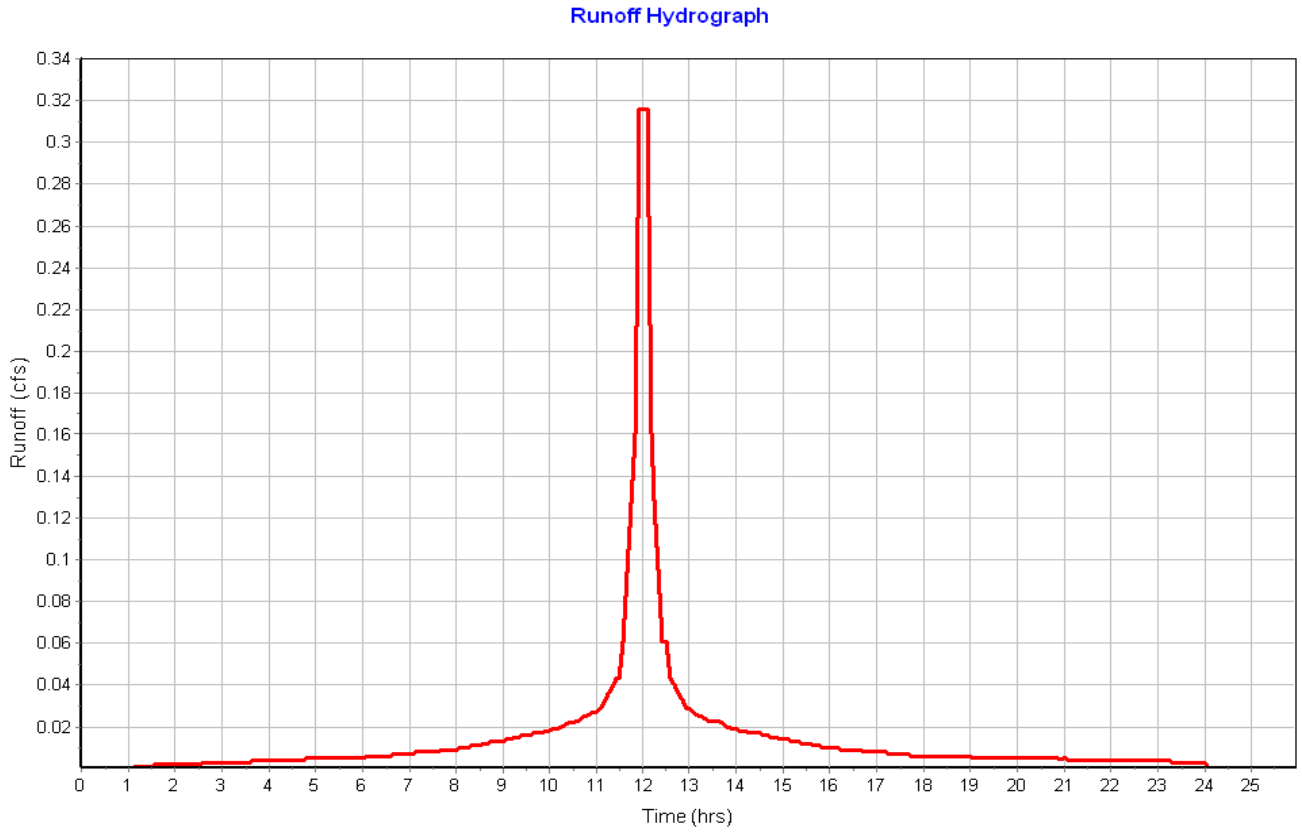
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-18





Subbasin : Roof-19

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

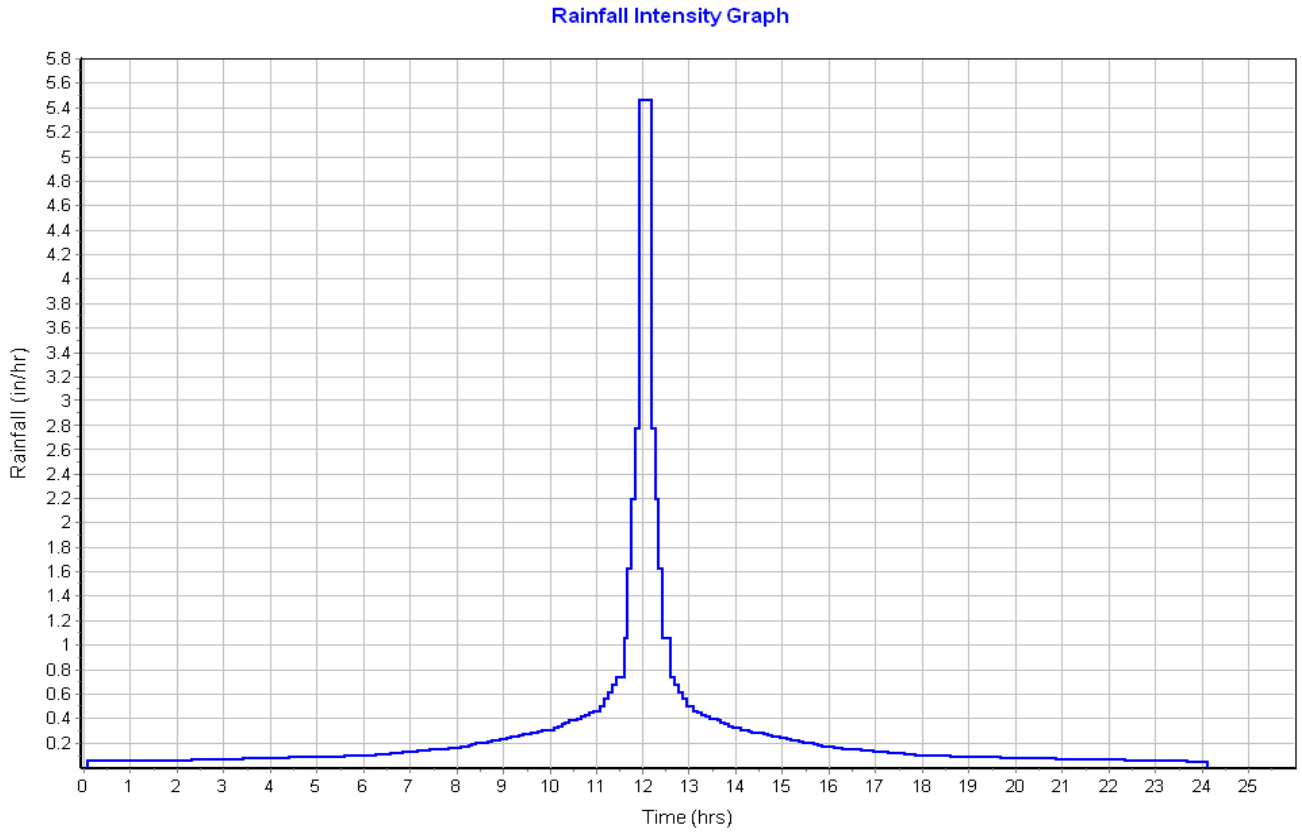
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

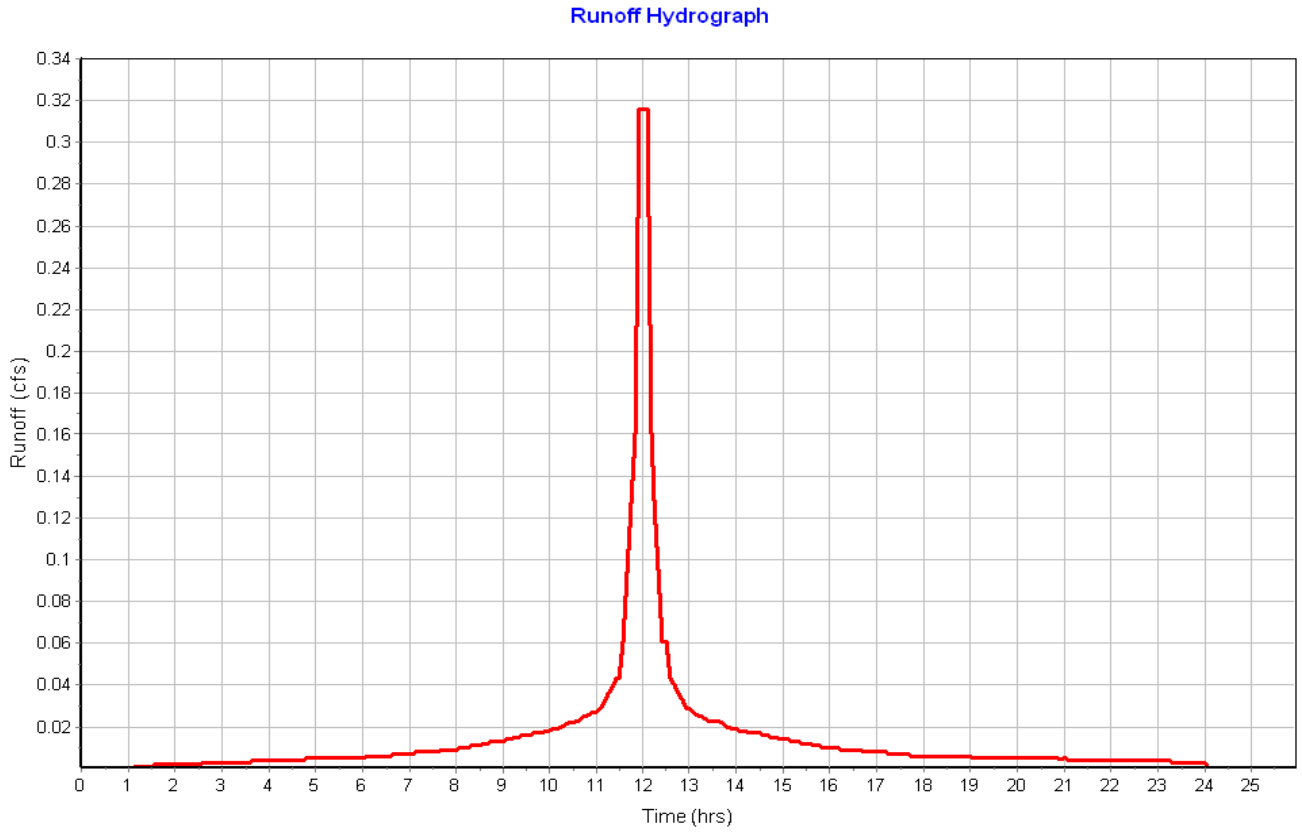
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-19





Subbasin : Roof-20

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

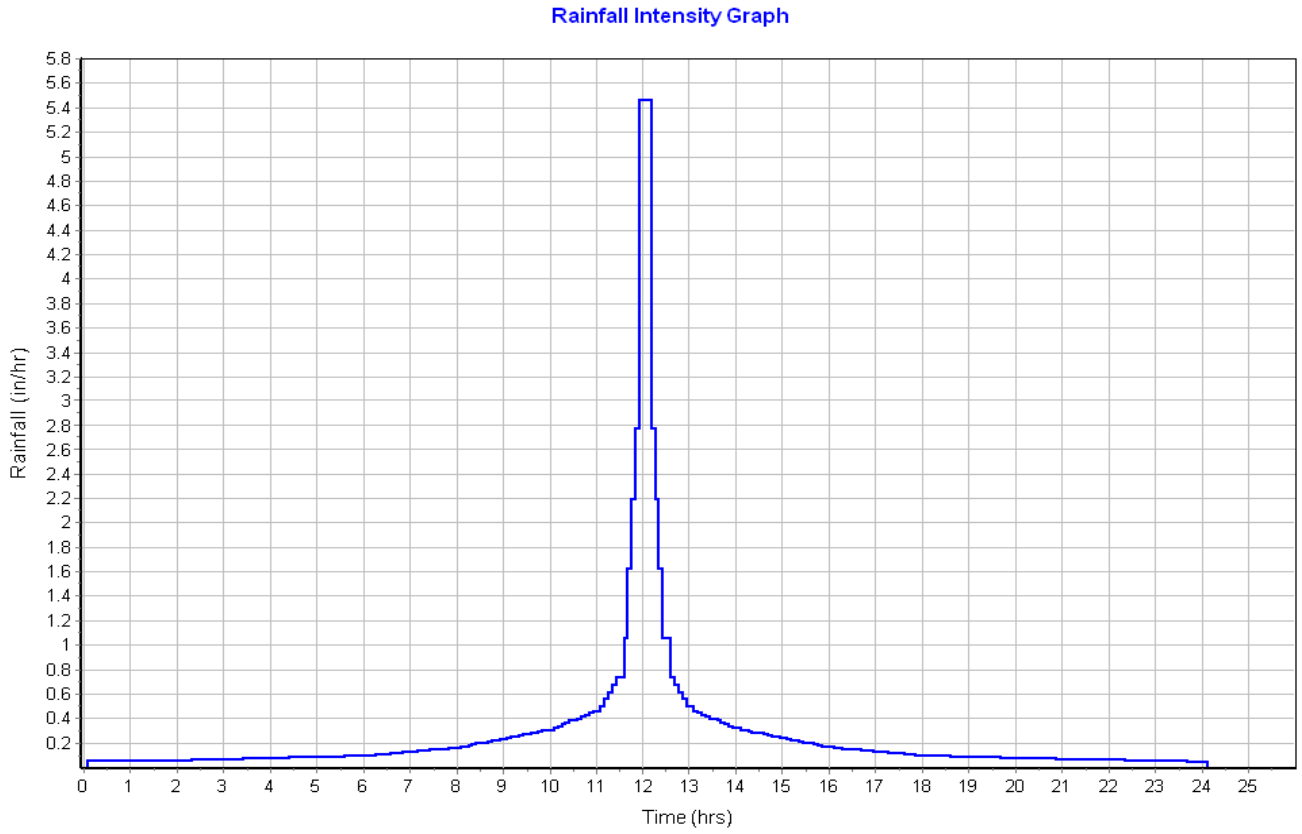
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

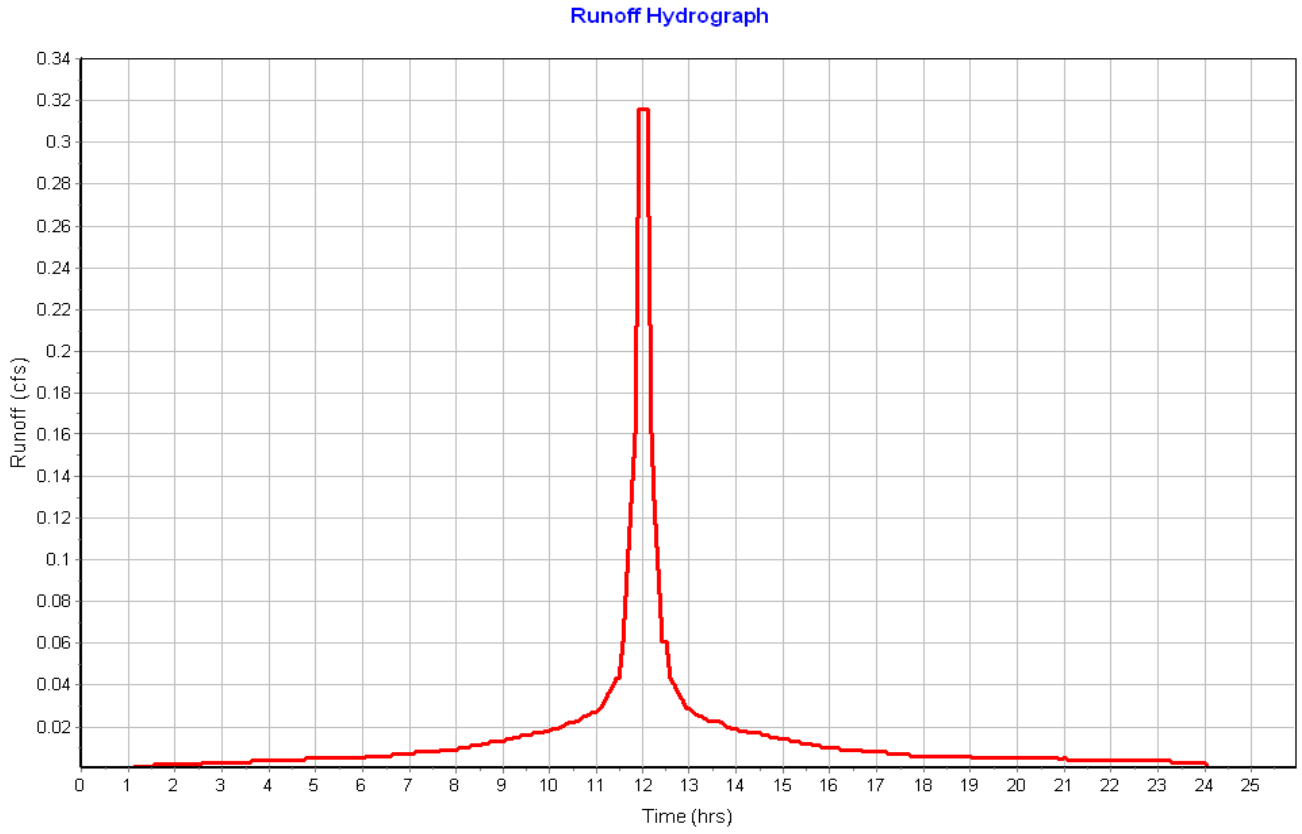
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-20





Subbasin : Roof-21

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

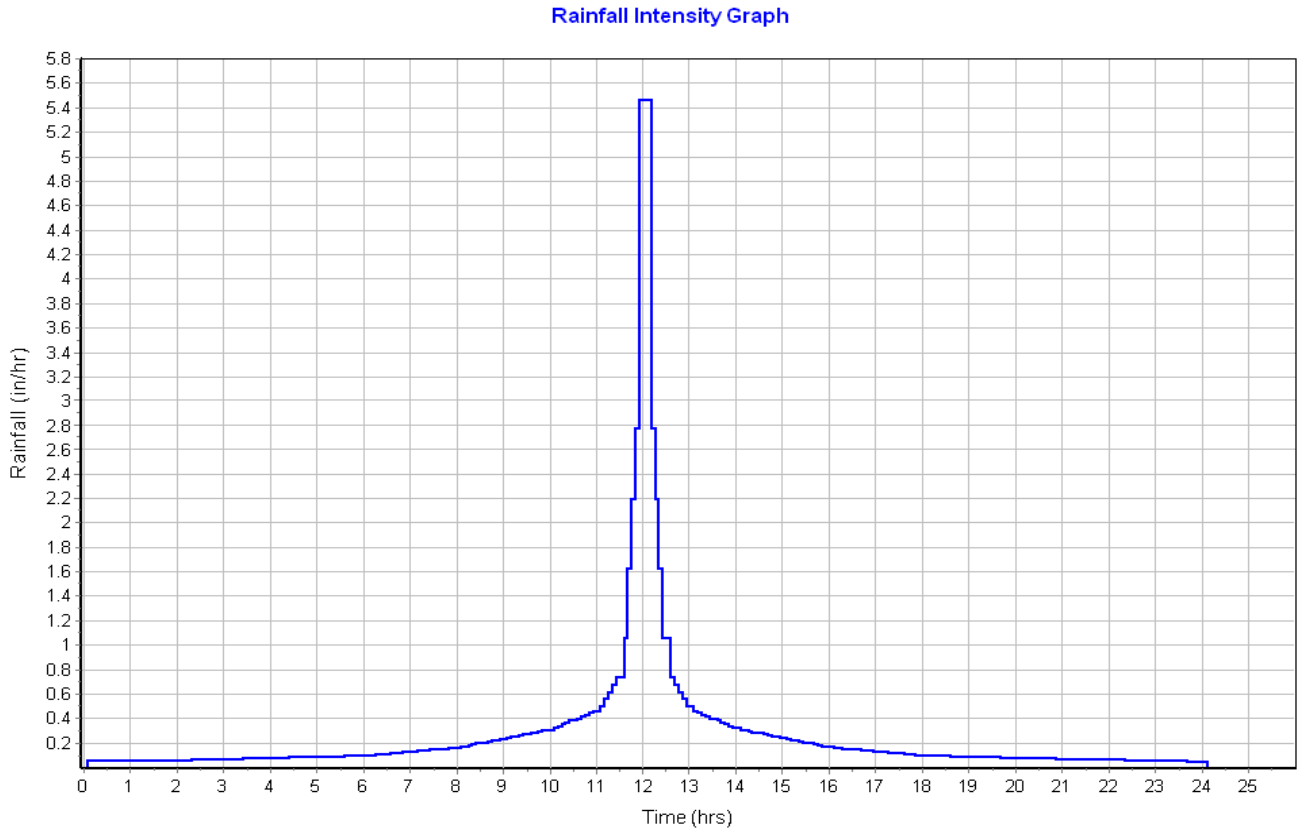
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

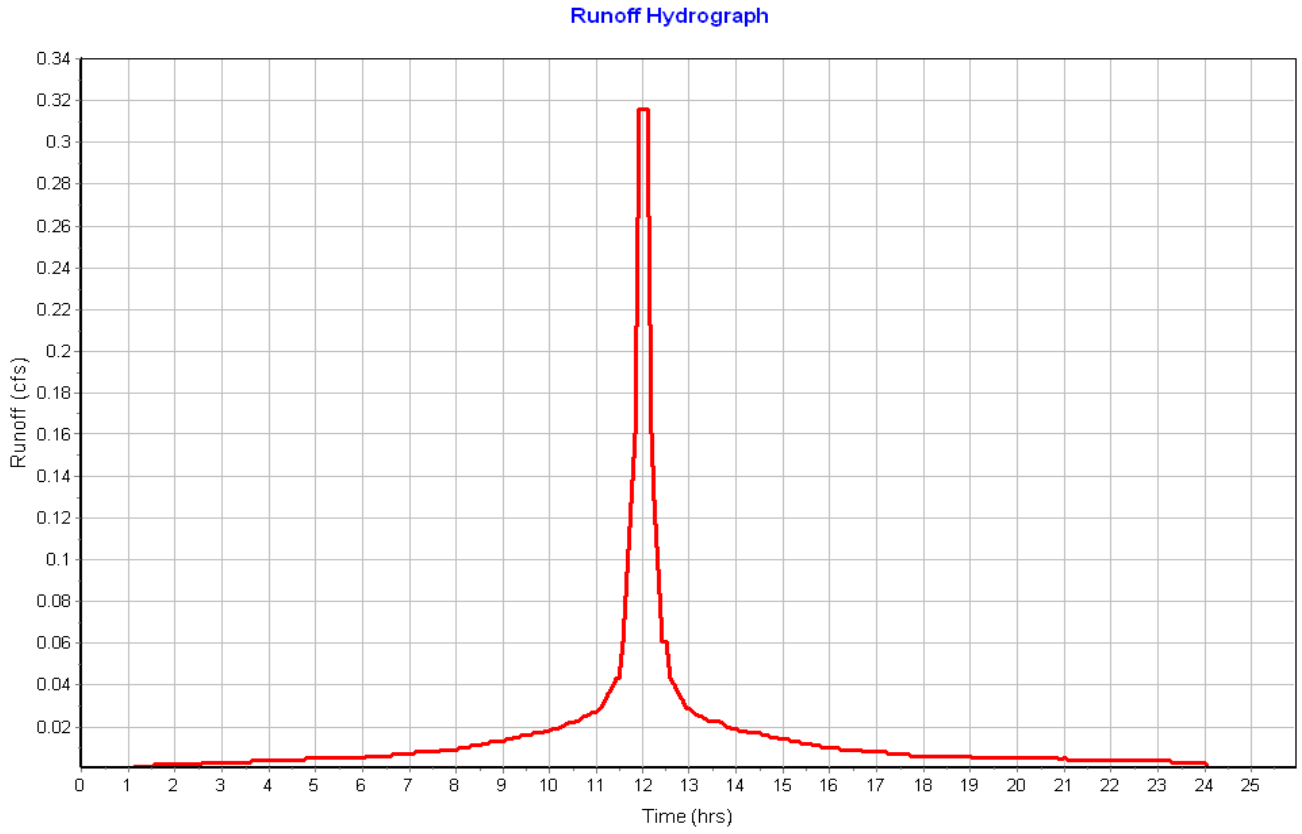
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-21





Subbasin : Roof-22

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

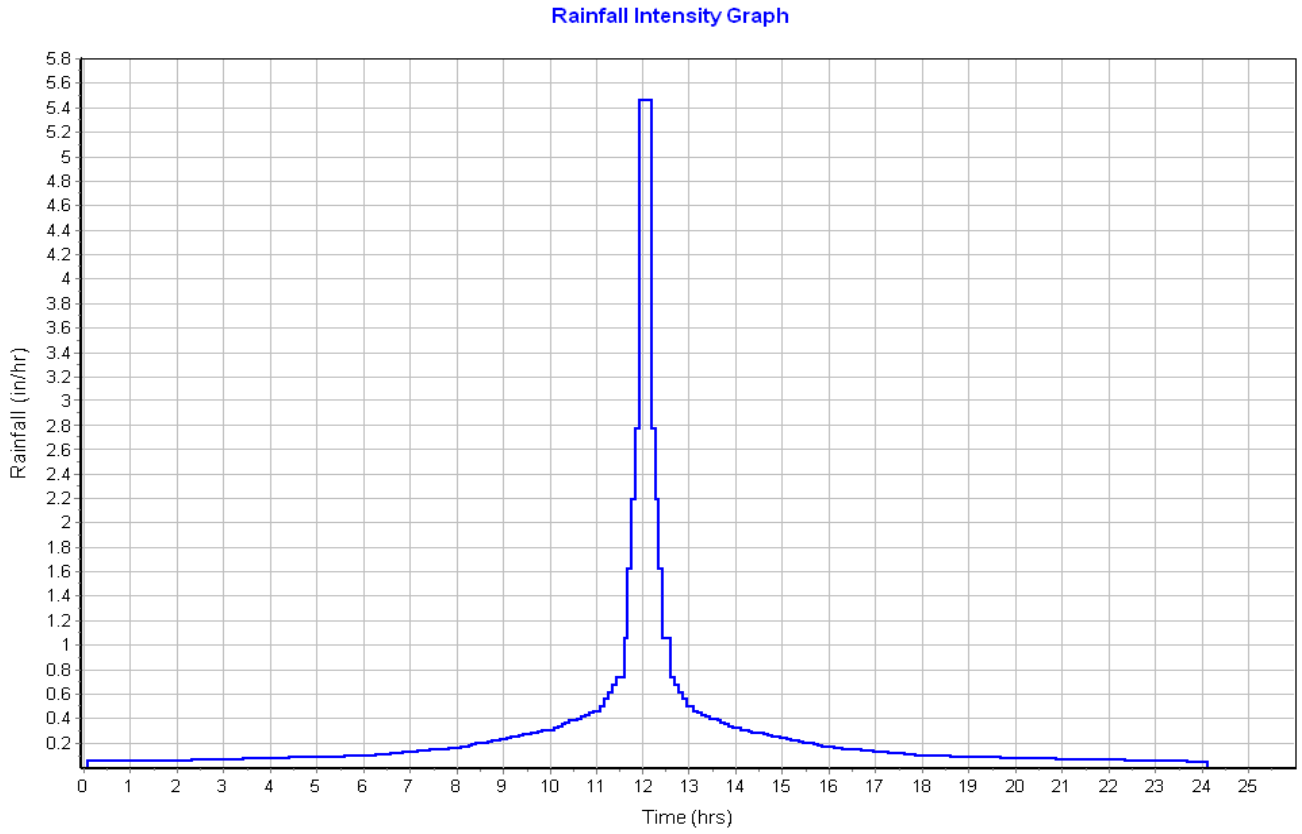
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

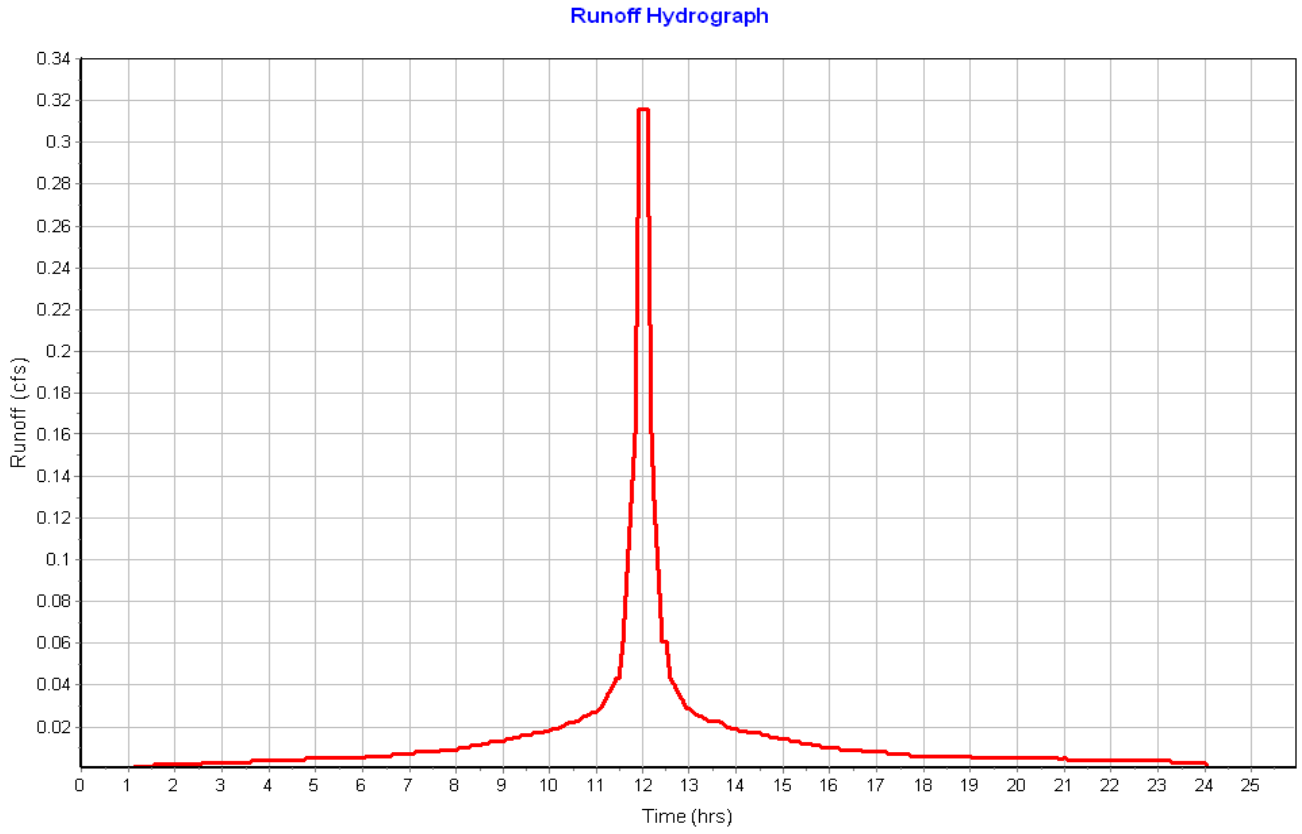
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-22





Subbasin : Roof-23

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

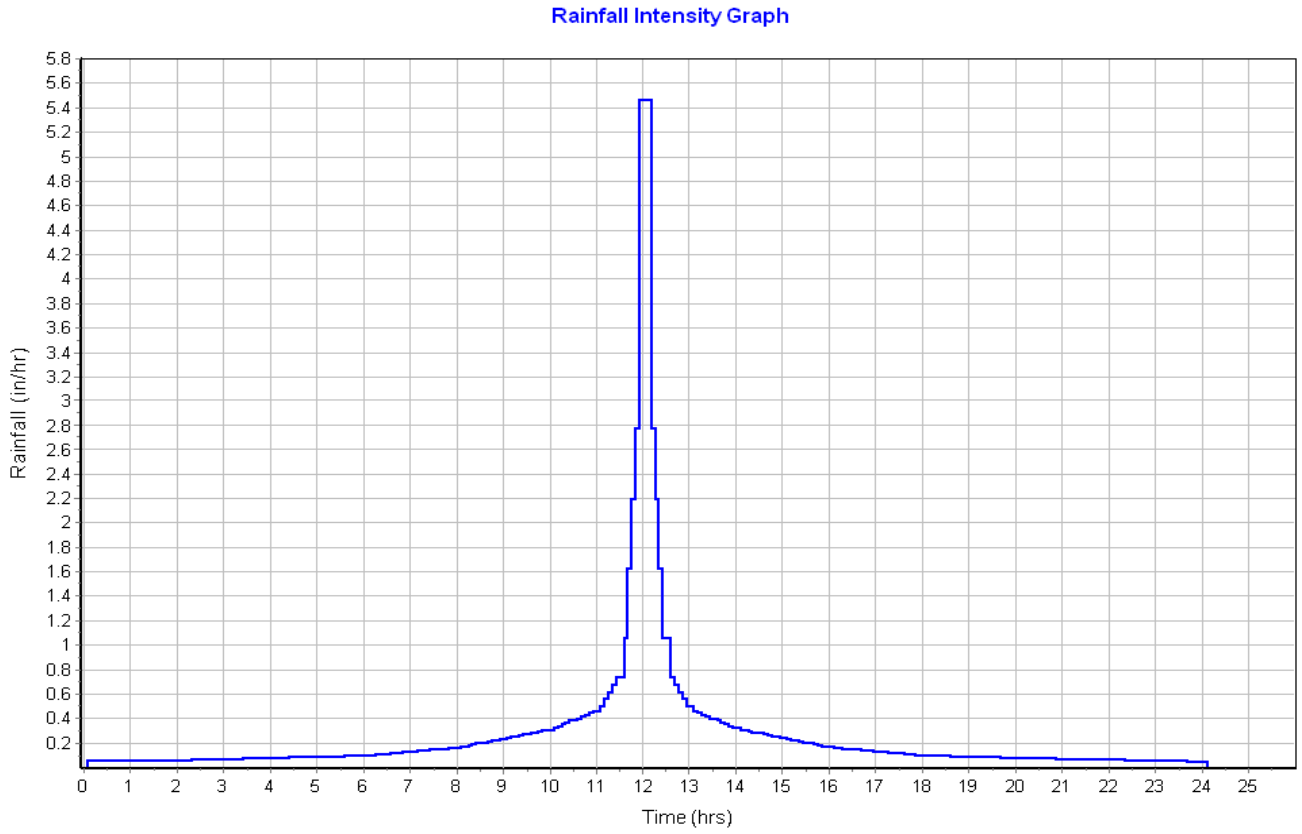
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

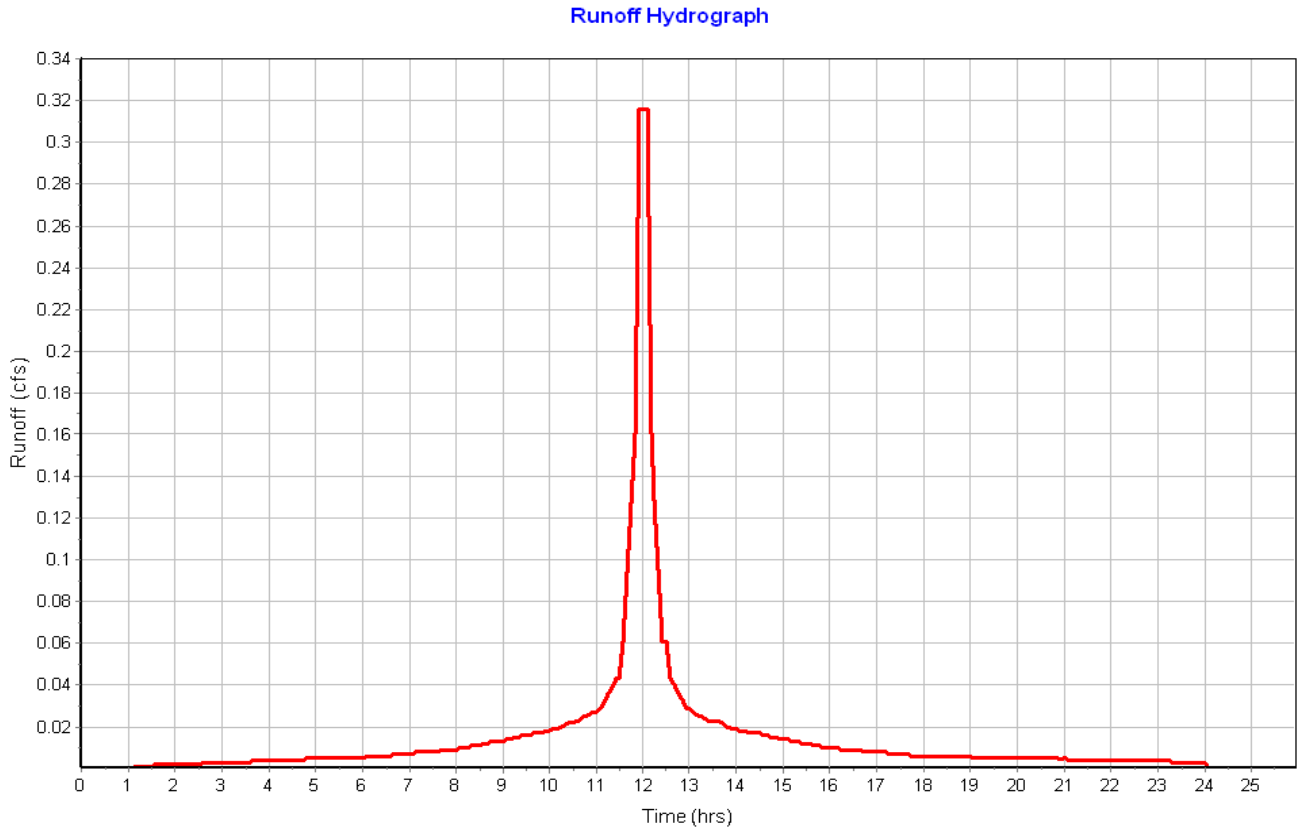
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-23





Subbasin : Roof-24

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

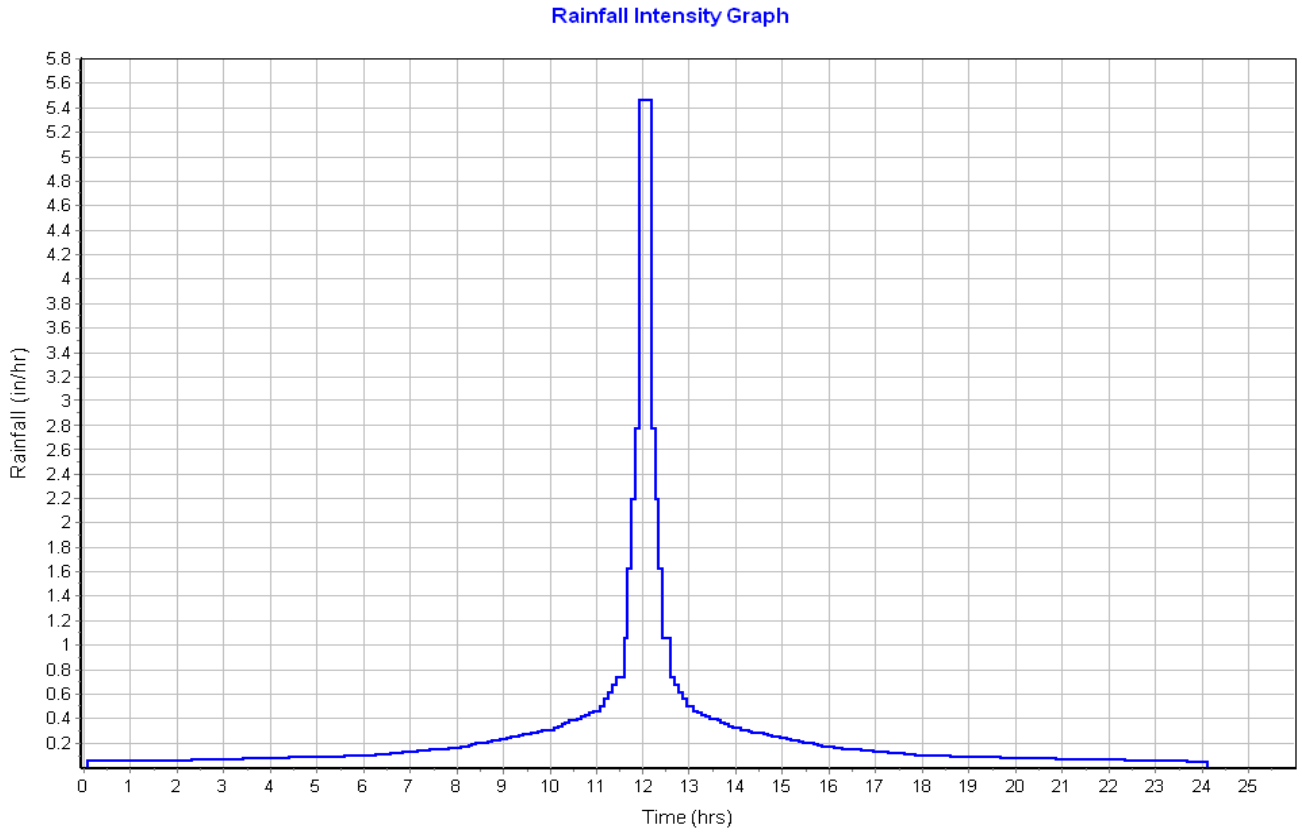
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

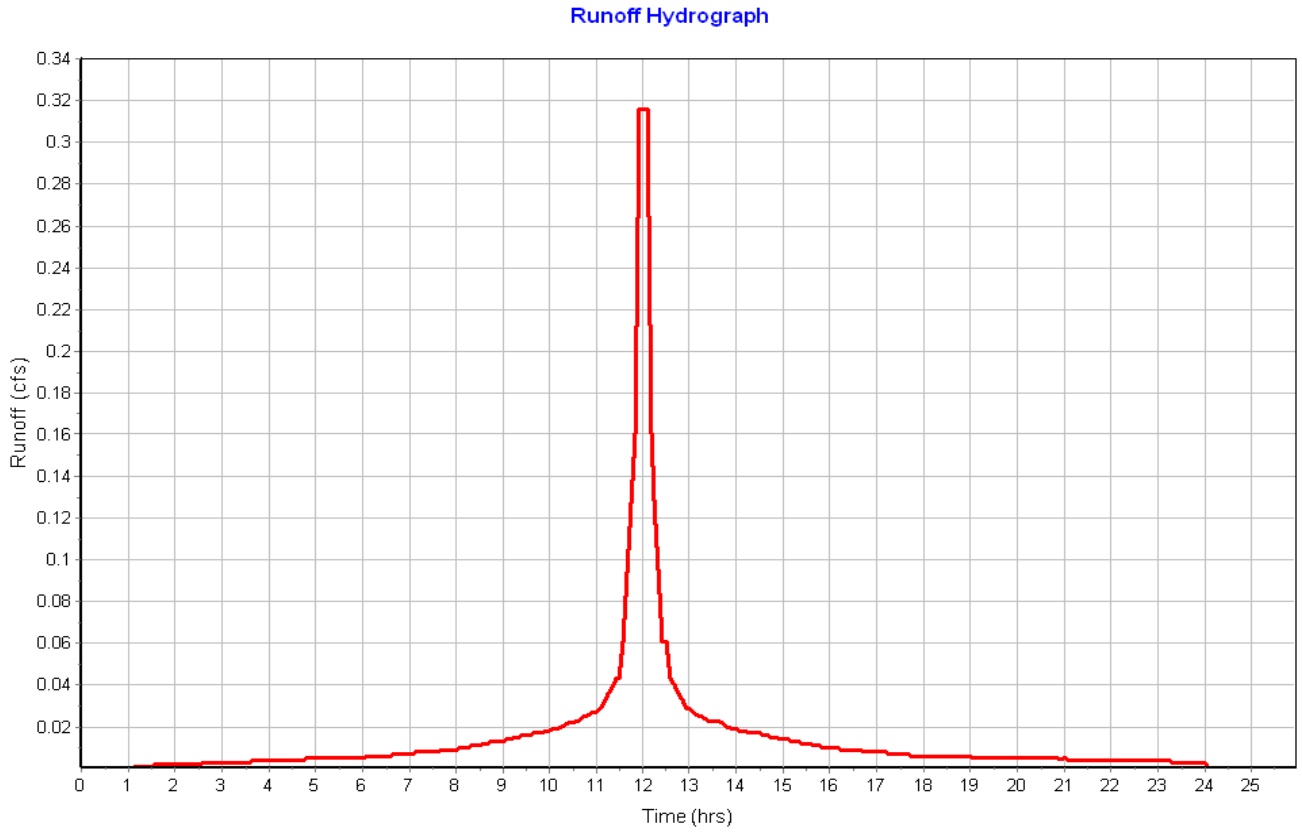
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-24





Subbasin : Roof-25

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

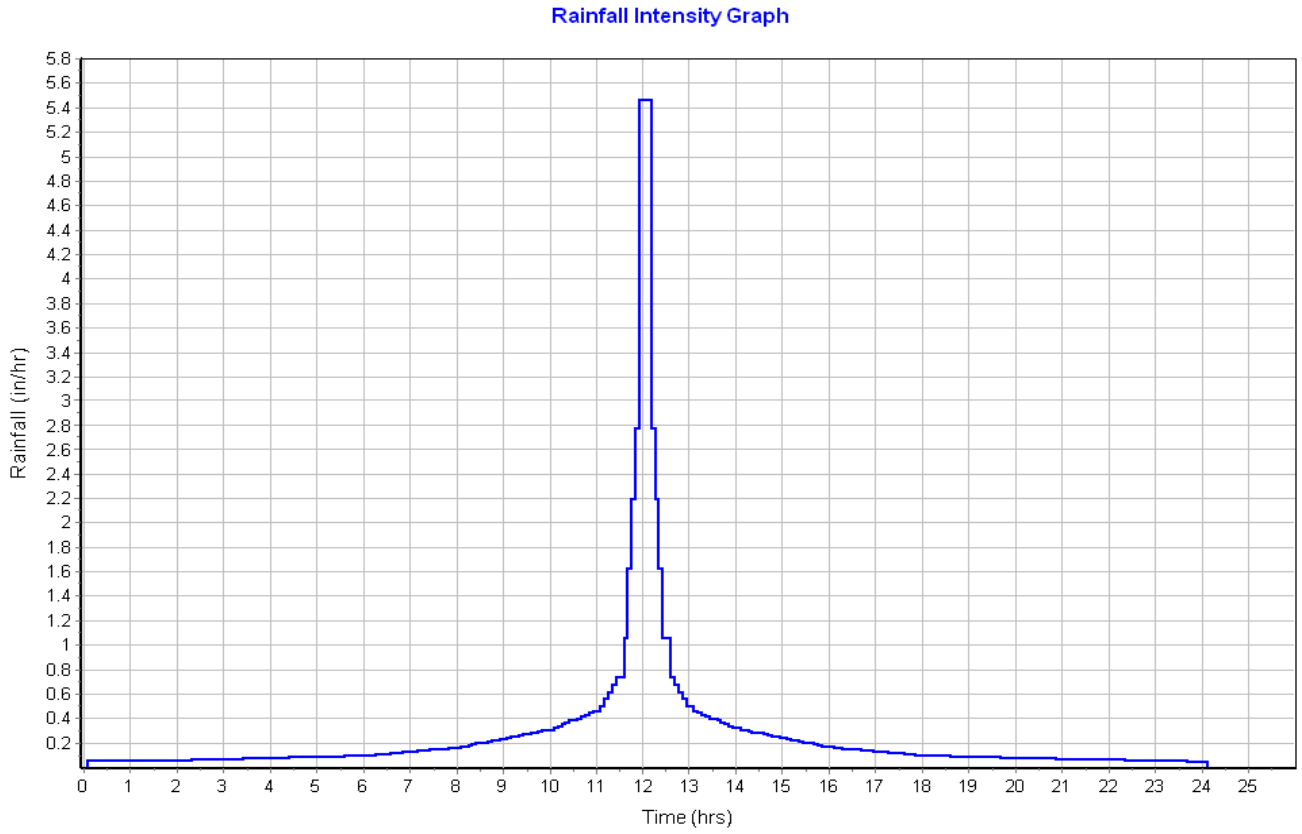
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

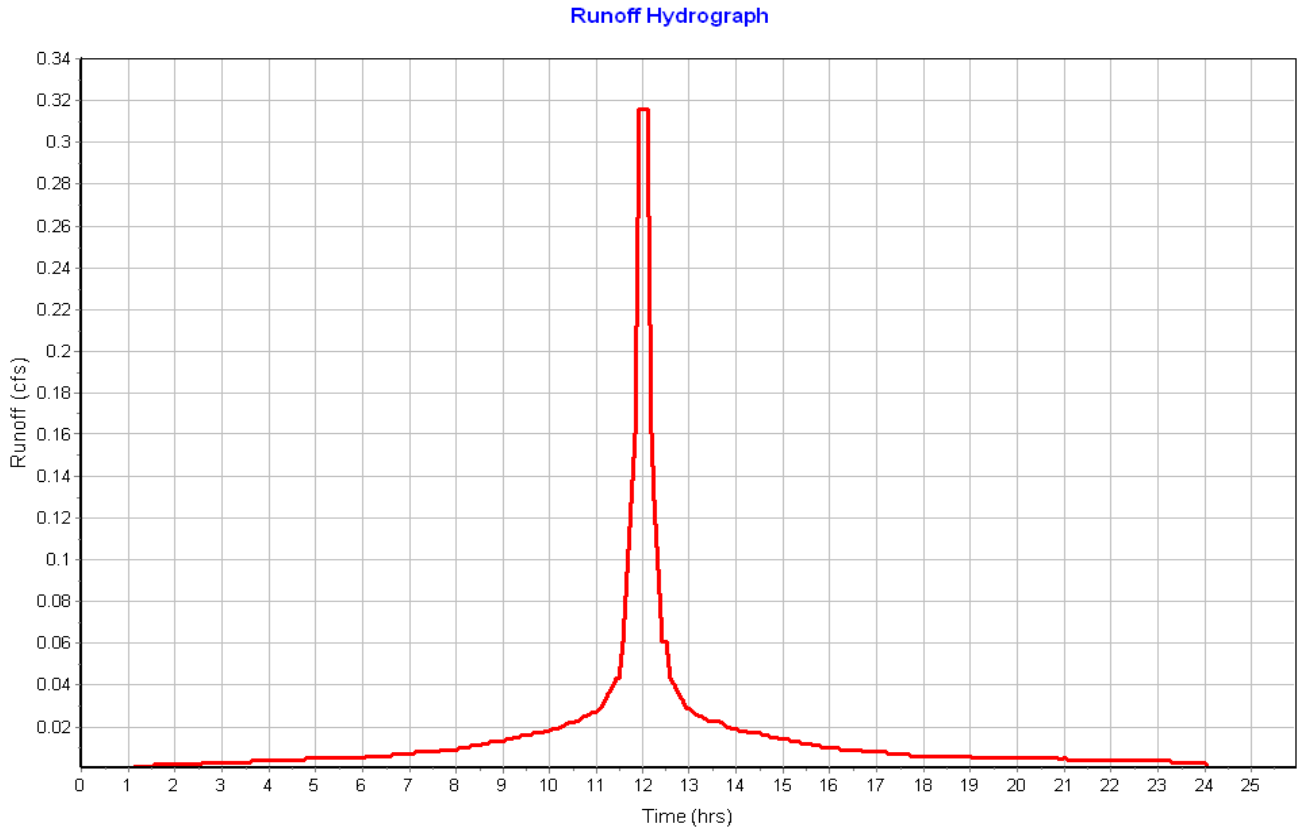
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-25





Subbasin : Roof-26

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

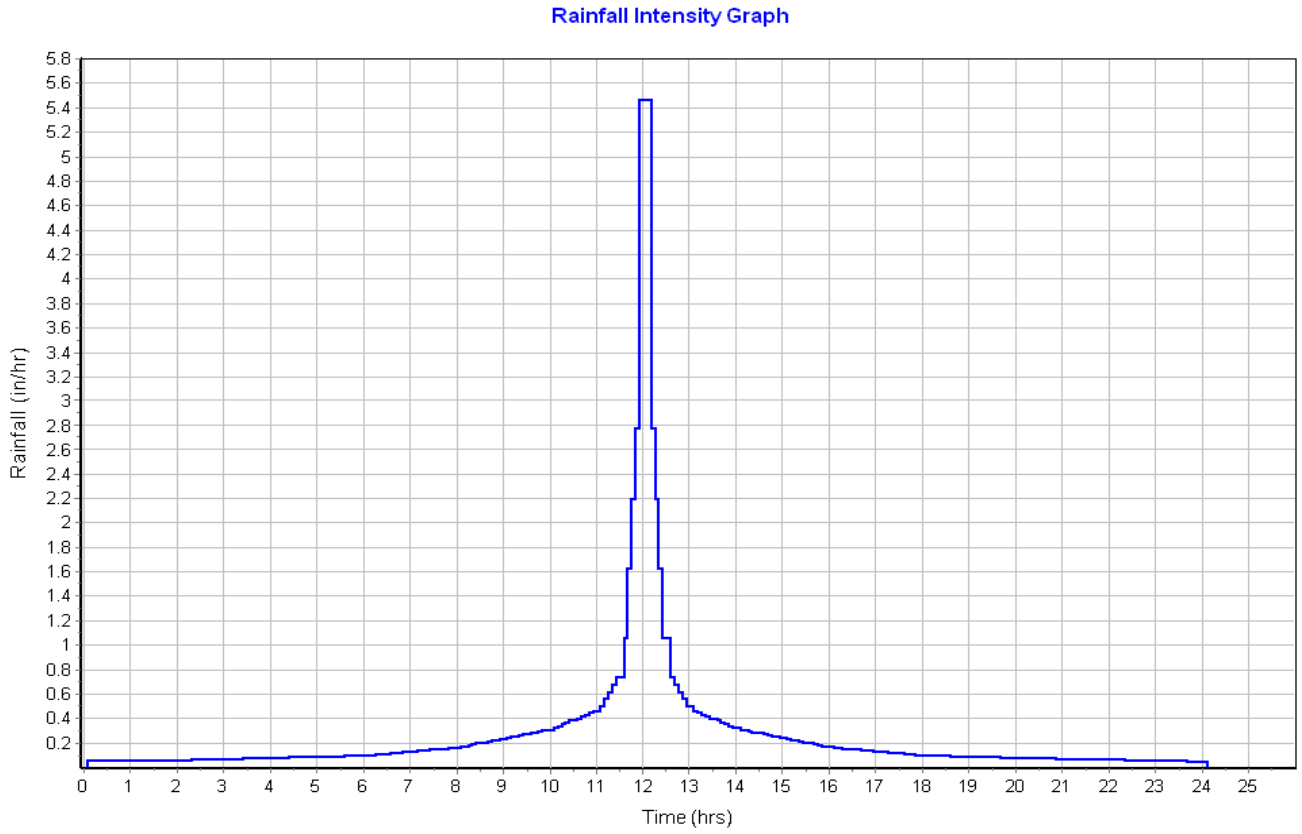
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

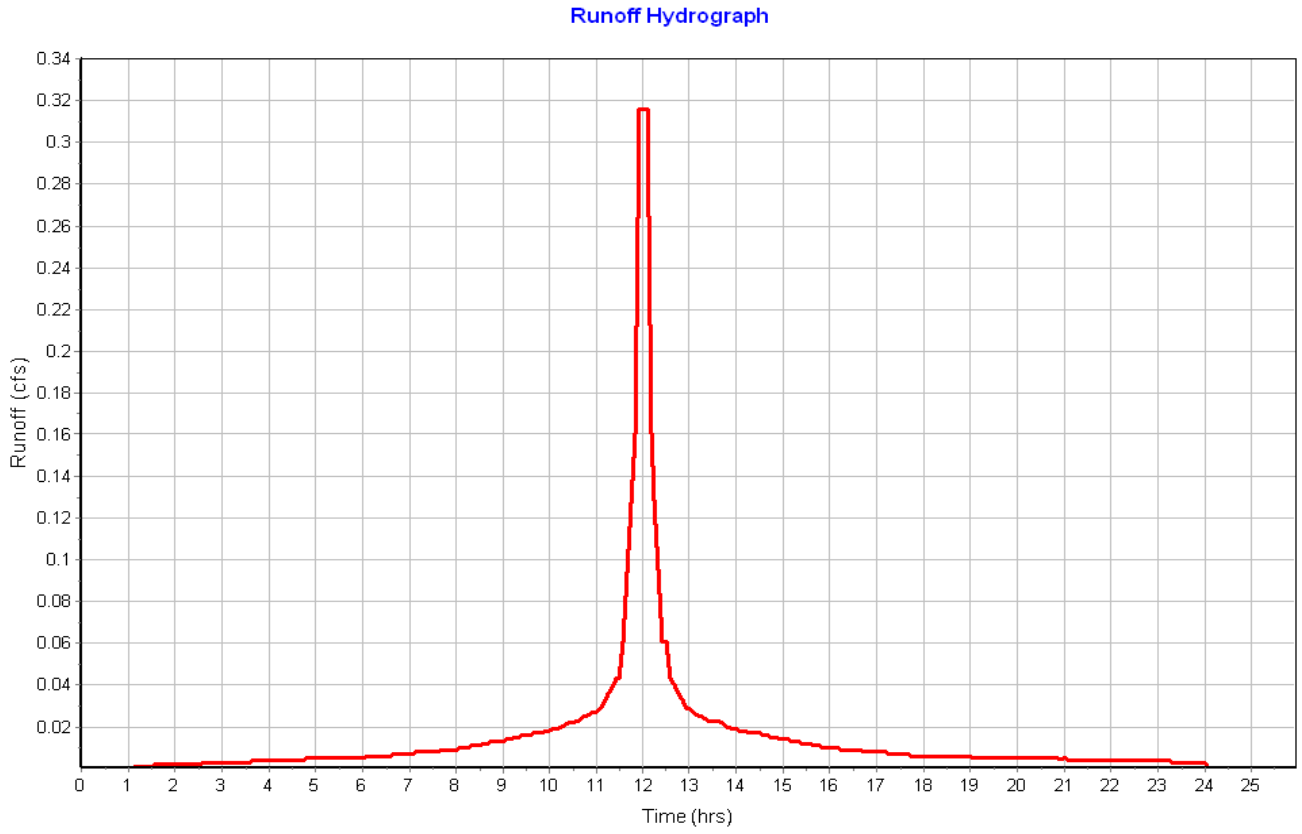
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-26





Subbasin : Sub-01

Input Data

Area (ac) 1.64
Peak Rate Factor 484.00
Weighted Curve Number 73.47
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	0.87	C	73.00
> 75% grass cover, Good	0.78	C	74.00
Composite Area & Weighted CN	1.65		73.47

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	7.1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.16	0.00	0.00
Computed Flow Time (min) :	31.11	0.00	0.00

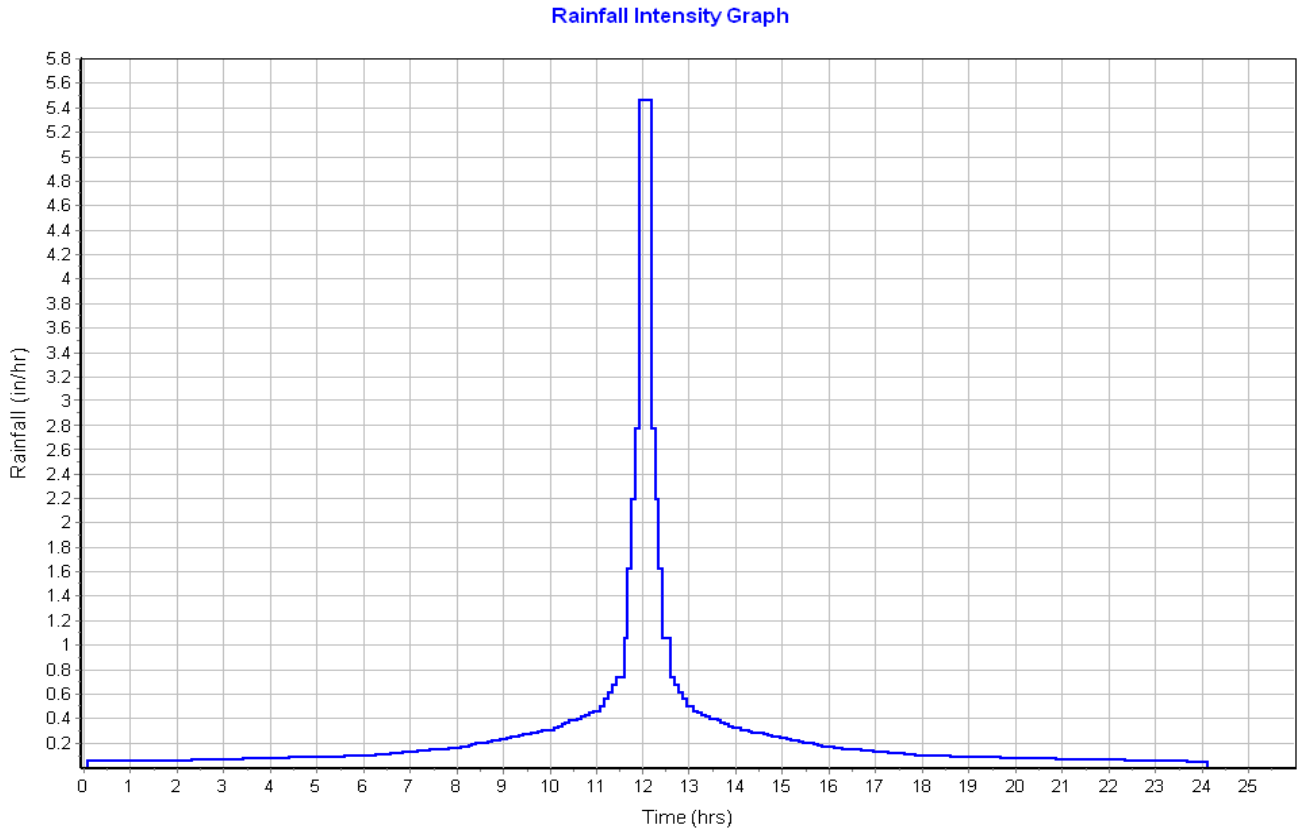
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	65	0.00	0.00
Slope (%) :	7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.32	0.00	0.00
Computed Flow Time (min) :	0.82	0.00	0.00

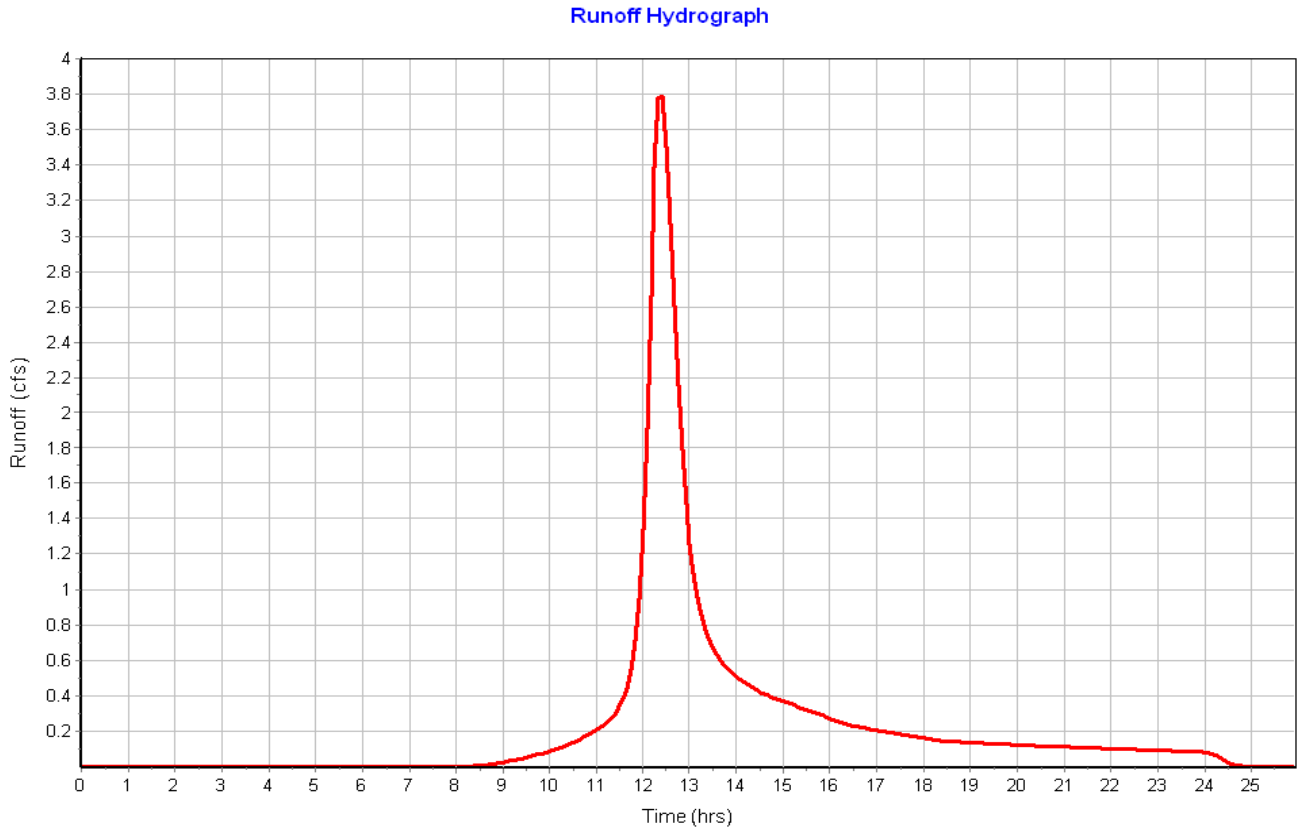
Total TOC (min) 31.93

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.56
Peak Runoff (cfs) 3.82
Weighted Curve Number 73.47
Time of Concentration (days hh:mm:ss) 0 00:31:56

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	2.48
Peak Rate Factor	484.00
Weighted Curve Number	73.09
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	2.25	C	73.00
> 75% grass cover, Good	0.23	C	74.00
Composite Area & Weighted CN	2.48		73.09

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	6.14	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.15	0.00	0.00
Computed Flow Time (min) :	32.97	0.00	0.00

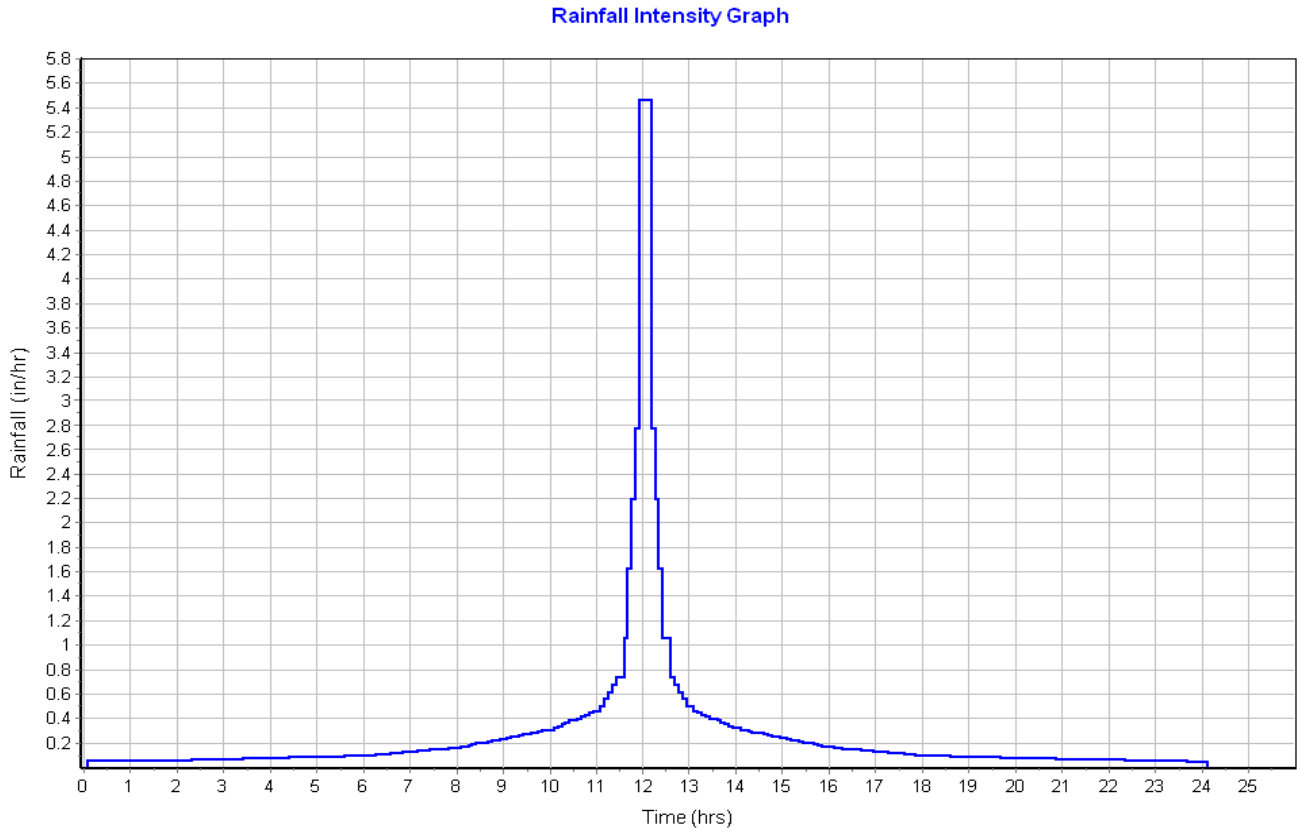
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	677	0.00	0.00
Slope (%) :	6.14	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	9.10	0.00	0.00

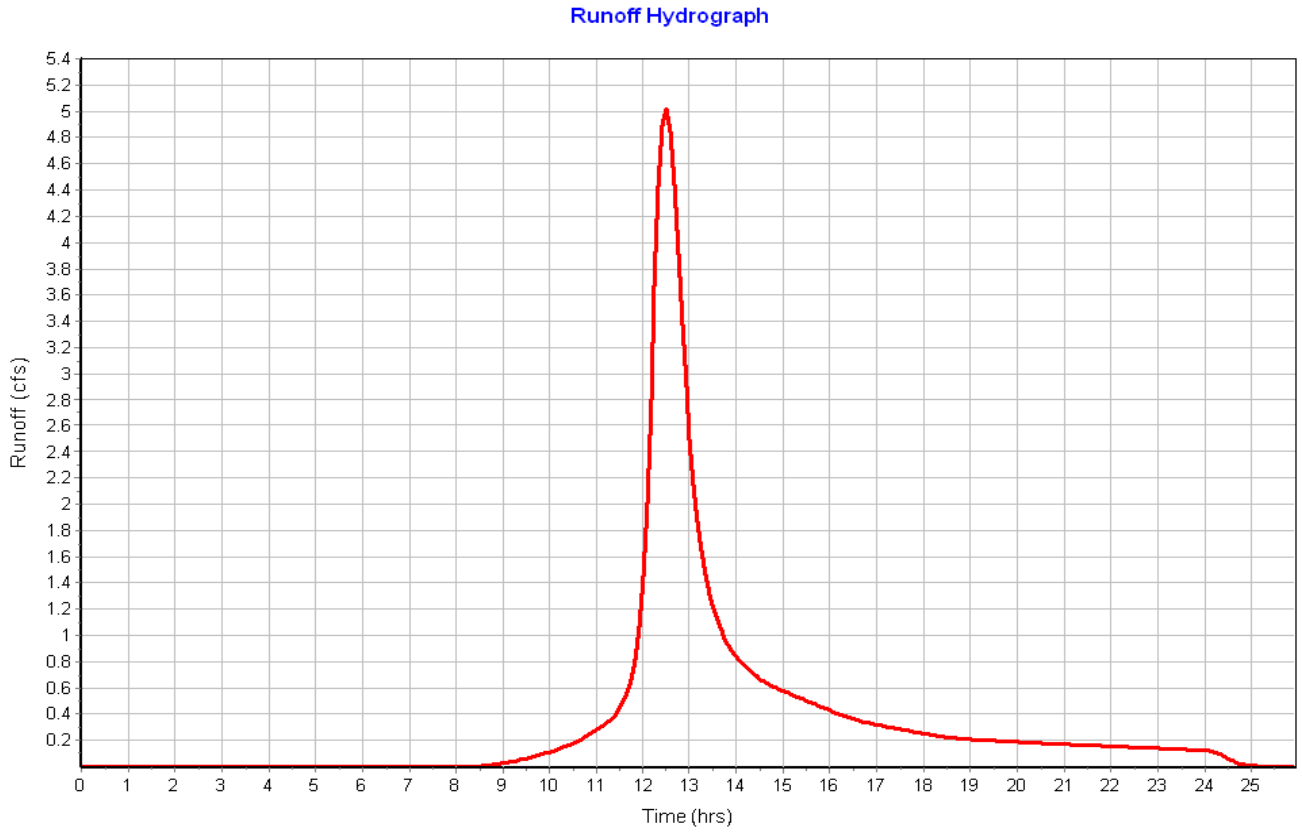
Total TOC (min) 42.07

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	3.52
Peak Runoff (cfs)	5.03
Weighted Curve Number	73.09
Time of Concentration (days hh:mm:ss)	0 00:42:04

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	9.20
Peak Rate Factor	484.00
Weighted Curve Number	73.58
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	5.33	C	74.00
Woods, Fair	3.87	C	73.00
Composite Area & Weighted CN	9.20		73.58

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	35.79	0.00	0.00

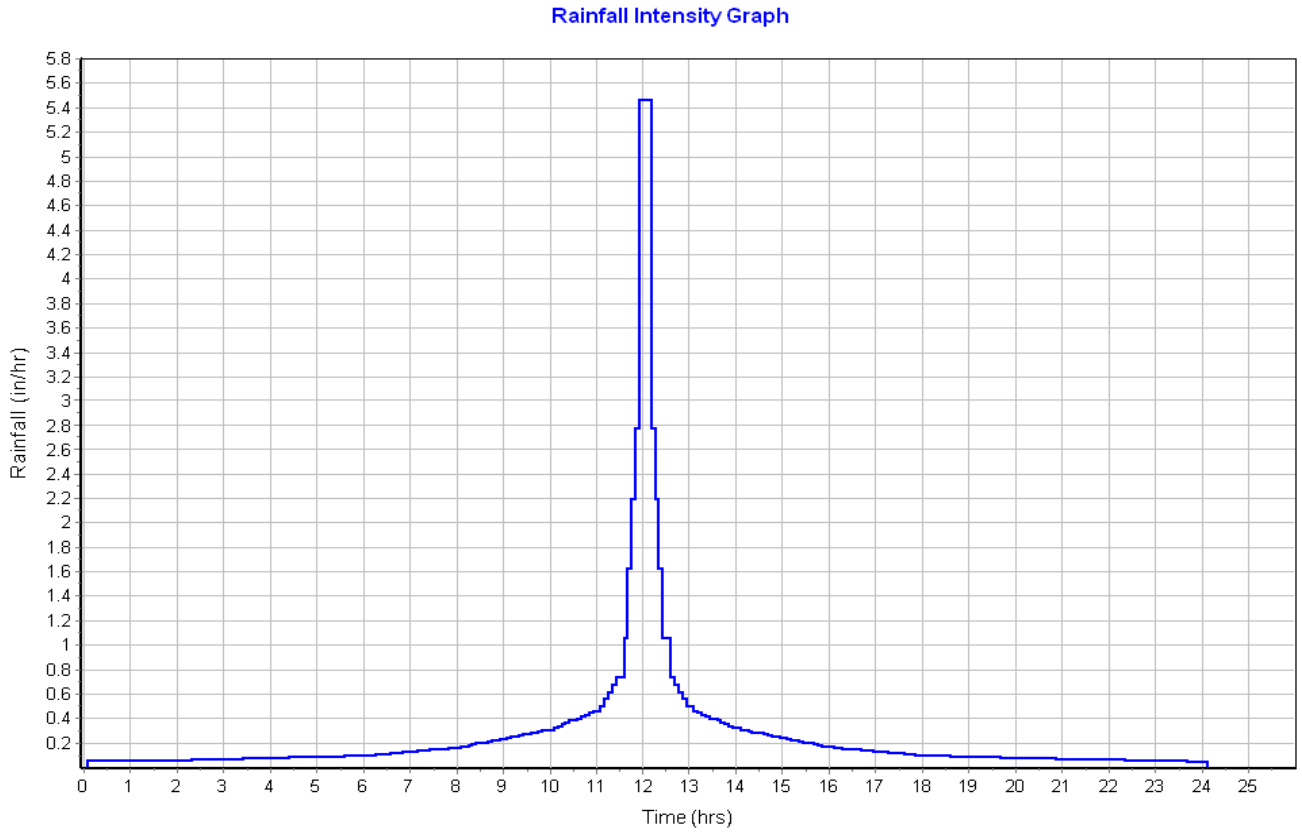
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	680.91	0.00	0.00
Slope (%) :	5	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.12	0.00	0.00
Computed Flow Time (min) :	10.13	0.00	0.00

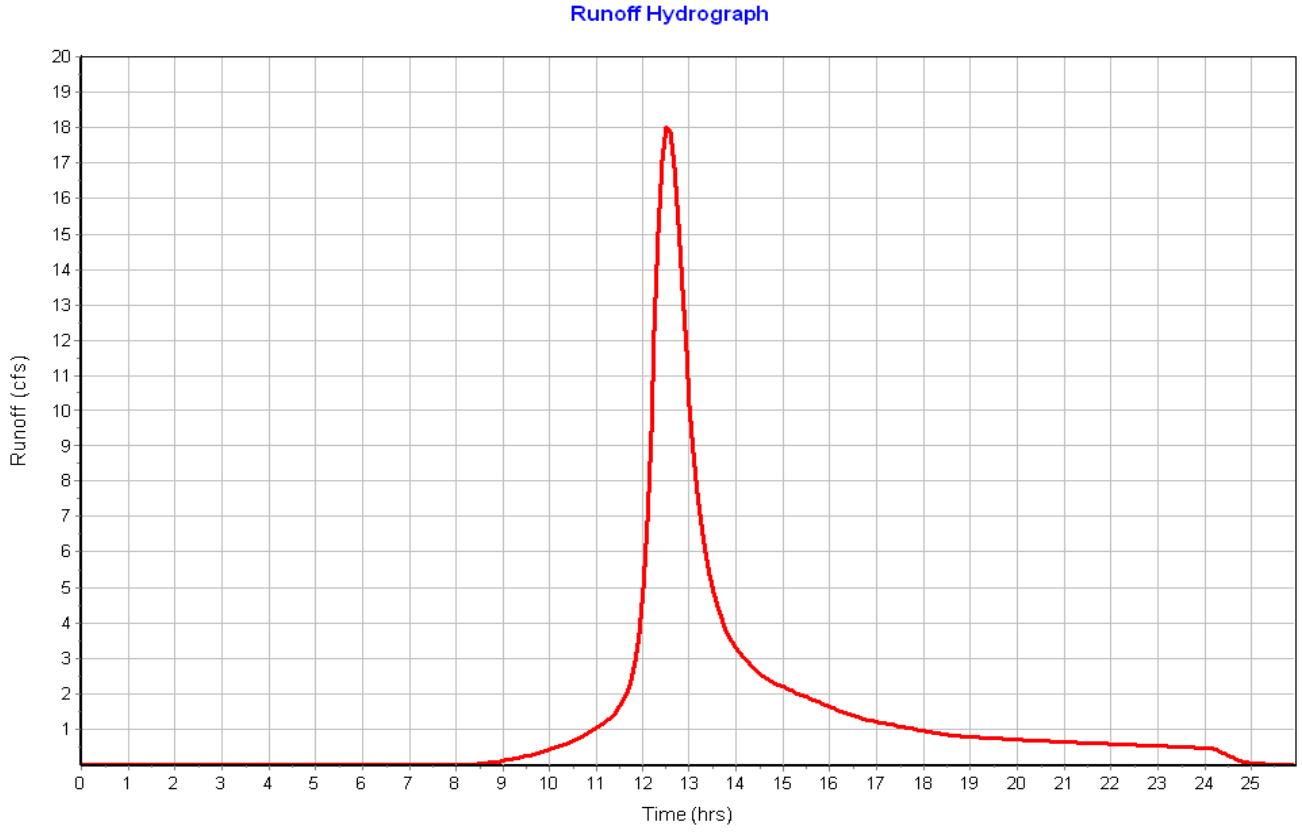
Total TOC (min) 45.92

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	3.57
Peak Runoff (cfs)	18.06
Weighted Curve Number	73.58
Time of Concentration (days hh:mm:ss)	0 00:45:55

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 4.36
Peak Rate Factor 484.00
Weighted Curve Number 73.02
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.29	C	73.00
> 75% grass cover, Good	0.07	C	74.00
Composite Area & Weighted CN	4.36		73.02

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

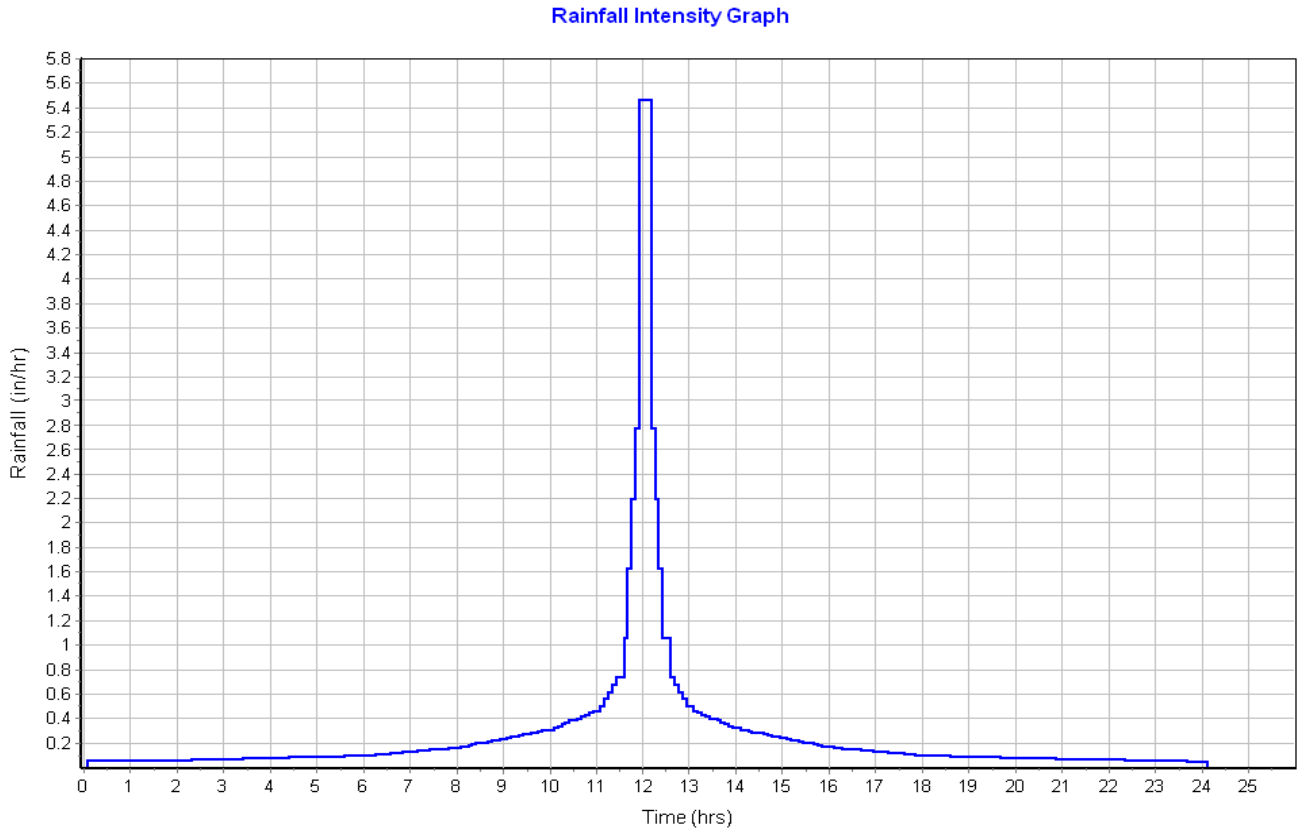
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

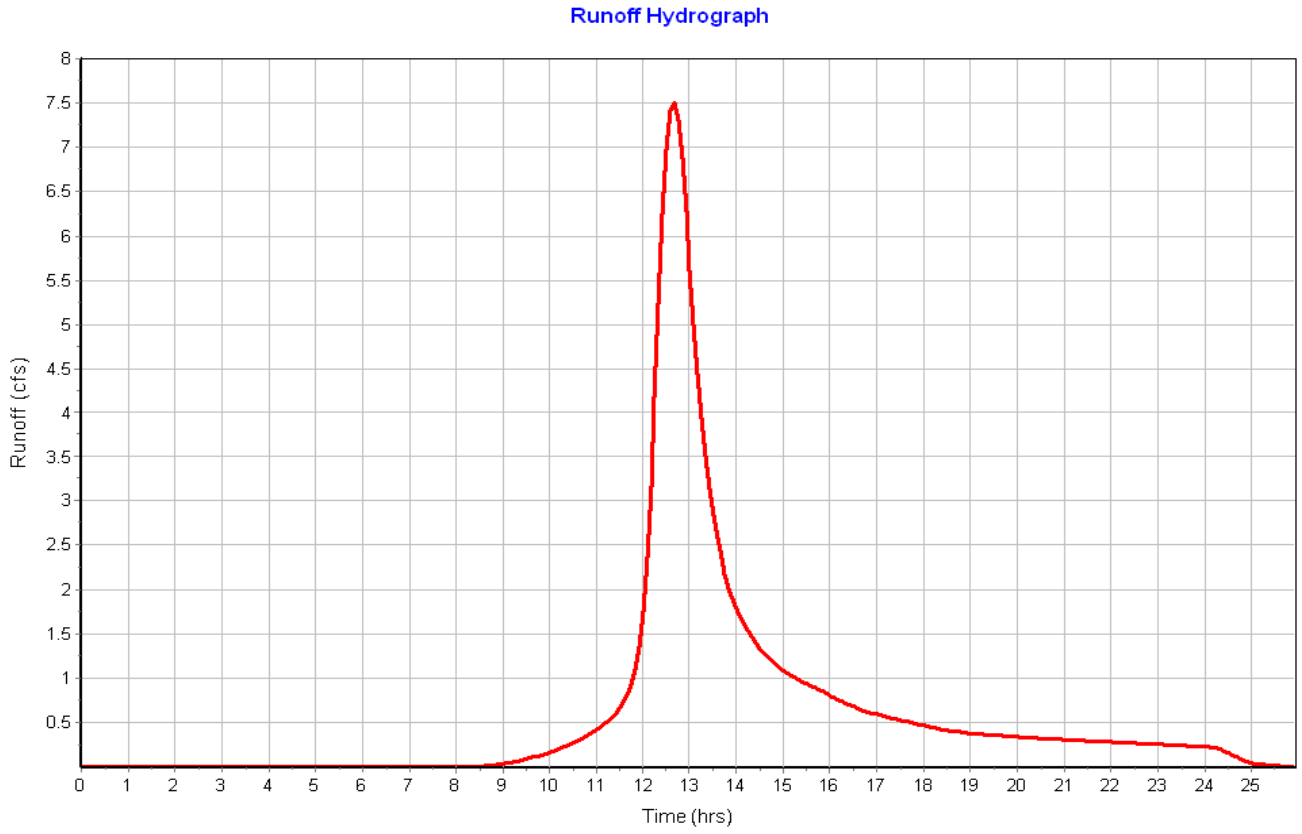
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.51
Peak Runoff (cfs) 7.52
Weighted Curve Number 73.02
Time of Concentration (days hh:mm:ss) 0 00:56:46

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 5.21
Peak Rate Factor 484.00
Weighted Curve Number 73.69
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.10	C	73.00
Paved parking & roofs	0.06	C	98.00
> 75% grass cover, Good	2.04	C	74.00
Composite Area & Weighted CN	5.20		73.69

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

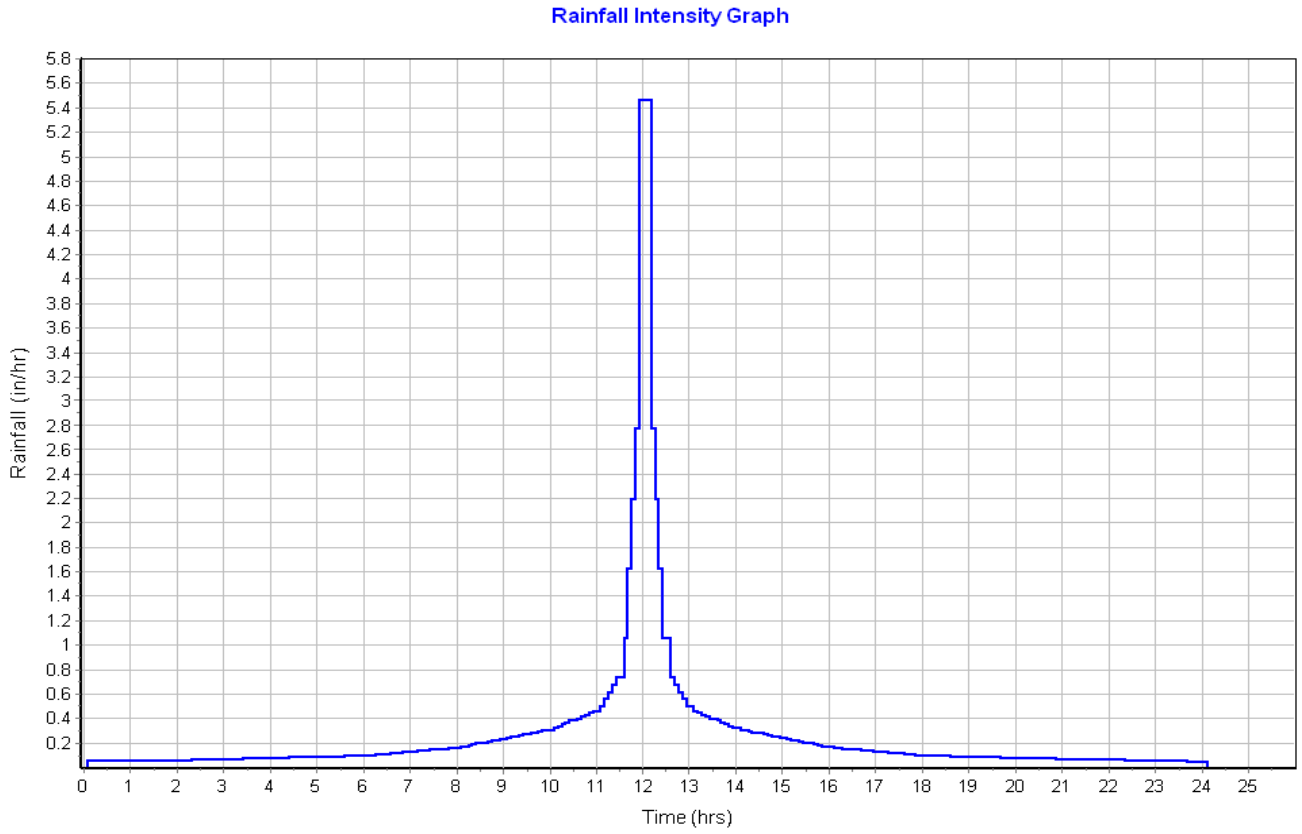
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

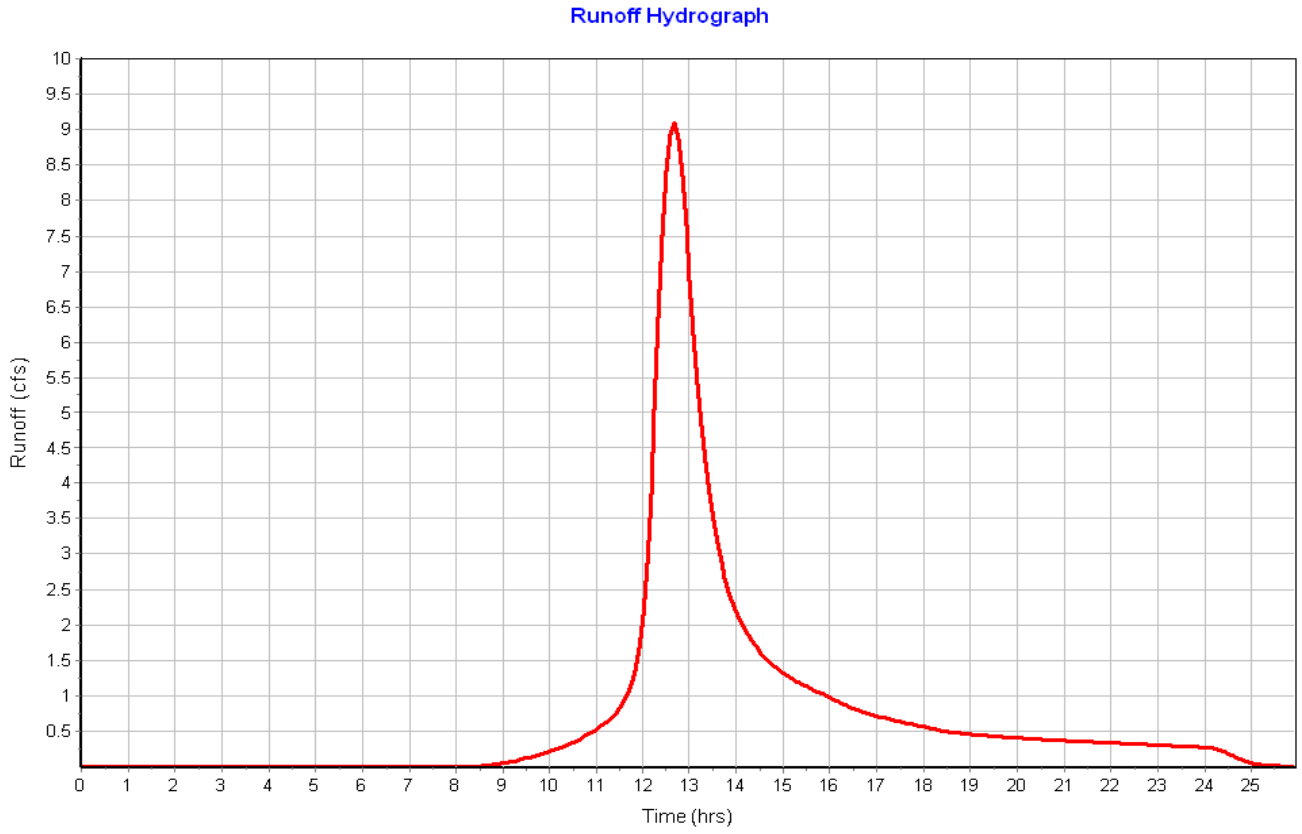
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.58
Peak Runoff (cfs) 9.09
Weighted Curve Number 73.69
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 4.48
Peak Rate Factor 484.00
Weighted Curve Number 73.88
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.81	C	74.00
Woods, Fair	0.34	C	73.00
Brush, Good	0.25	C	65.00
Paved parking & roofs	0.09	C	98.00
Composite Area & Weighted CN	4.49		73.88

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

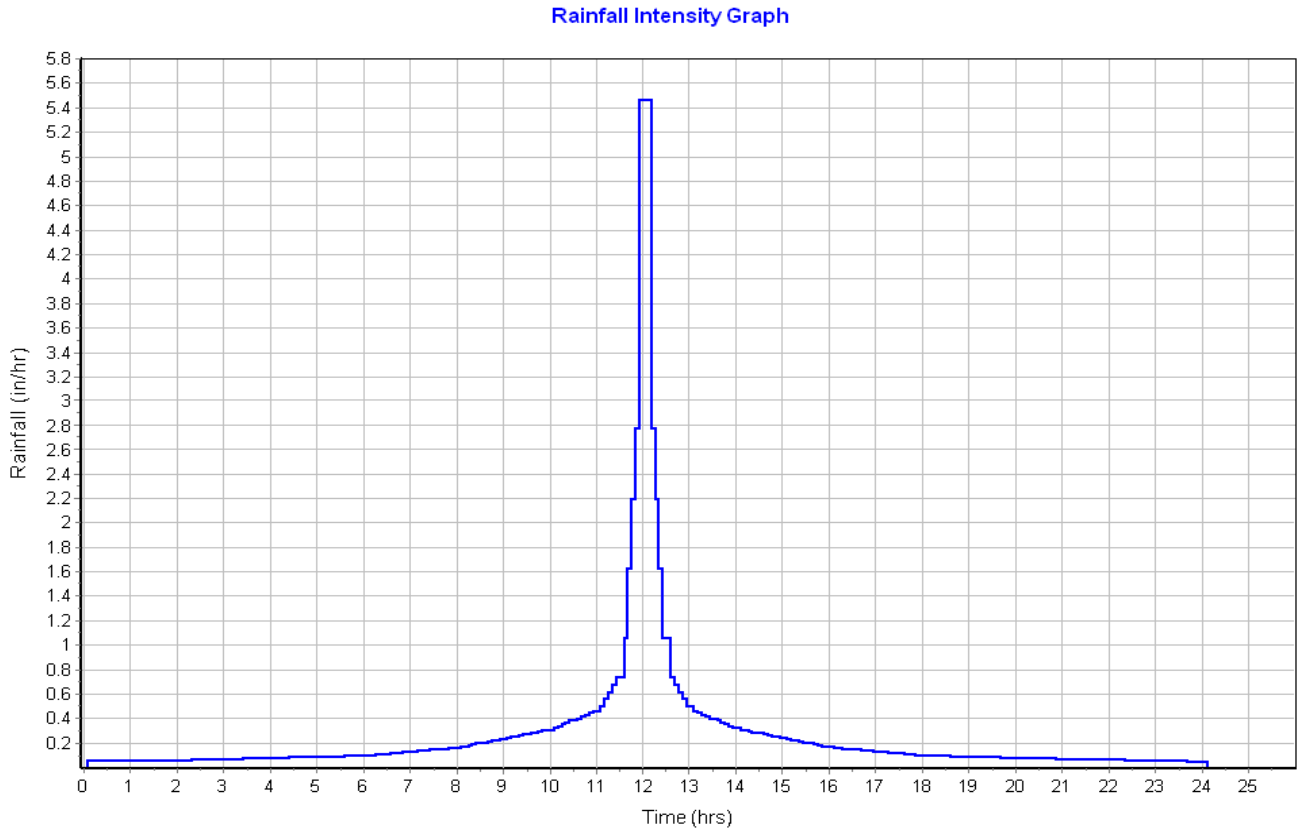
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

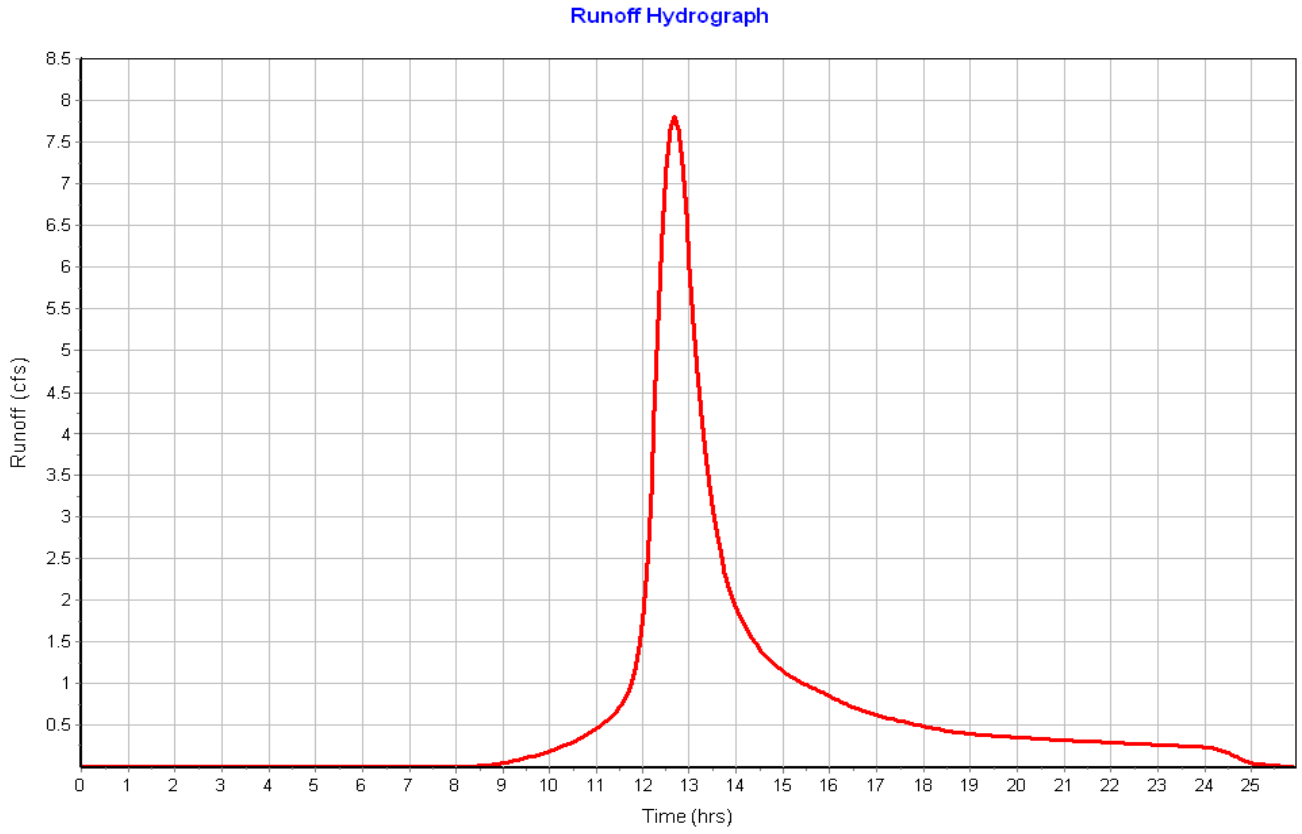
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.60
Peak Runoff (cfs) 7.80
Weighted Curve Number 73.88
Time of Concentration (days hh:mm:ss) 0 00:58:05

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	5.44
Peak Rate Factor	484.00
Weighted Curve Number	73.62
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.36	C	74.00
Woods, Fair	2.08	C	73.00
Composite Area & Weighted CN	5.44		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	4.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	36.69	0.00	0.00

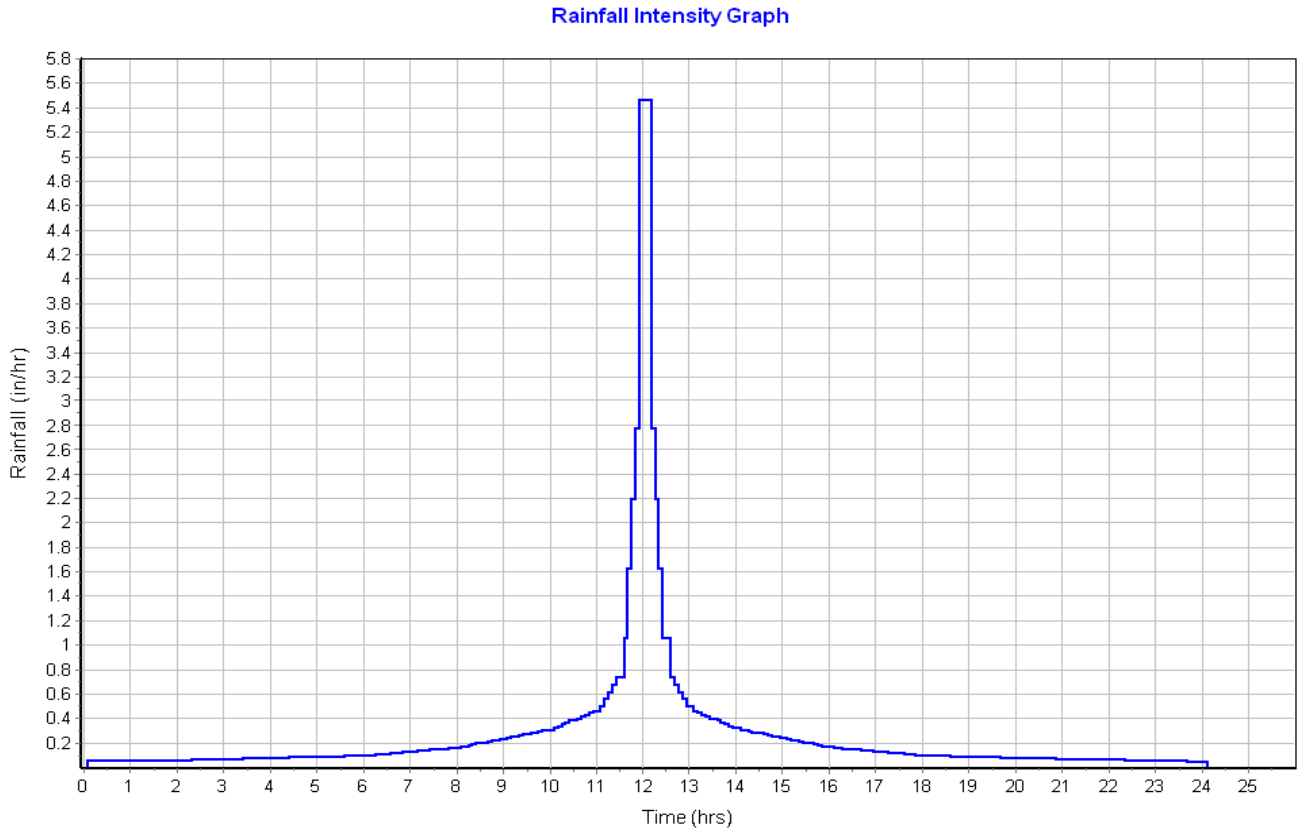
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	682.79	0.00	0.00
Slope (%) :	4.7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	10.54	0.00	0.00

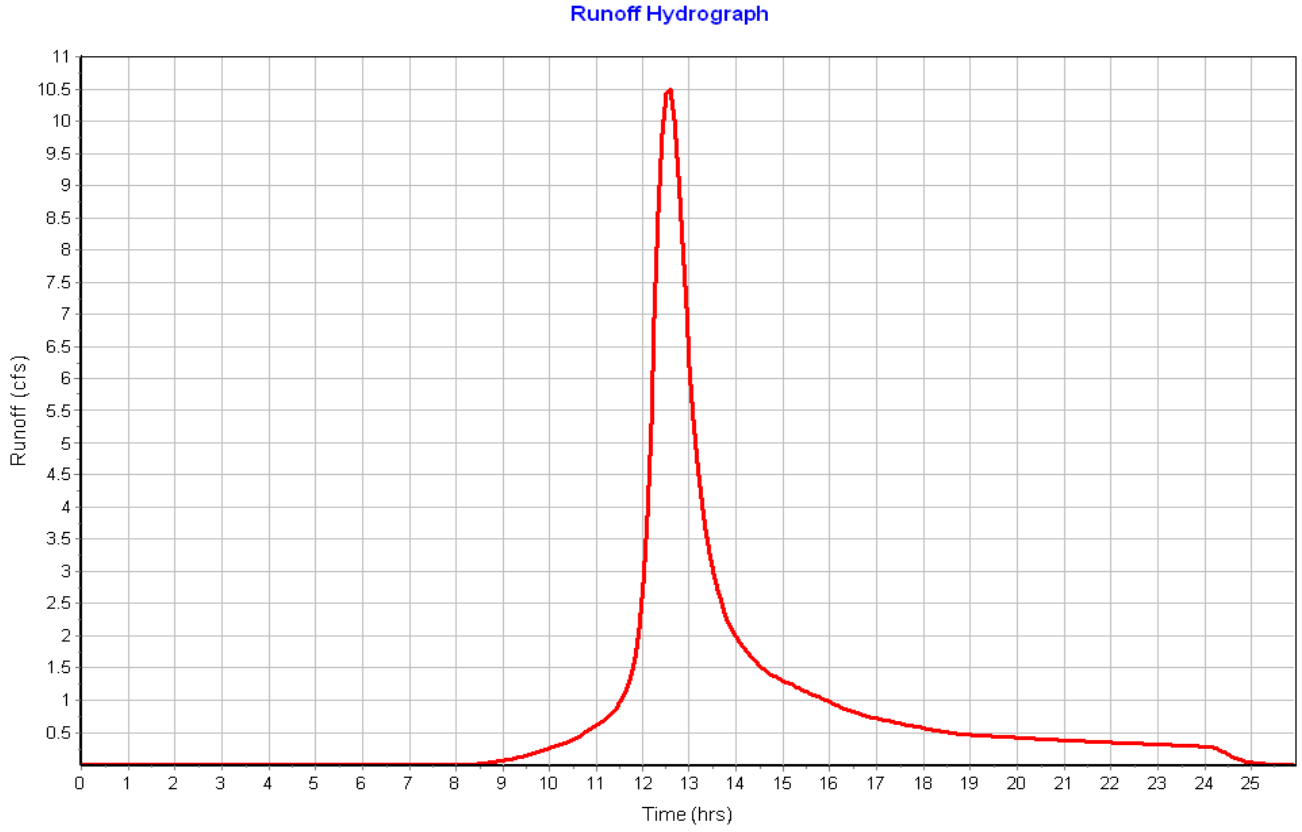
Total TOC (min) 47.22

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	3.57
Peak Runoff (cfs)	10.53
Weighted Curve Number	73.62
Time of Concentration (days hh:mm:ss)	0 00:47:13

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	3.74
Peak Rate Factor	484.00
Weighted Curve Number	73.61
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	2.29	C	74.00
Woods, Fair	1.46	C	73.00
Composite Area & Weighted CN	3.75		73.61

Time of Concentration

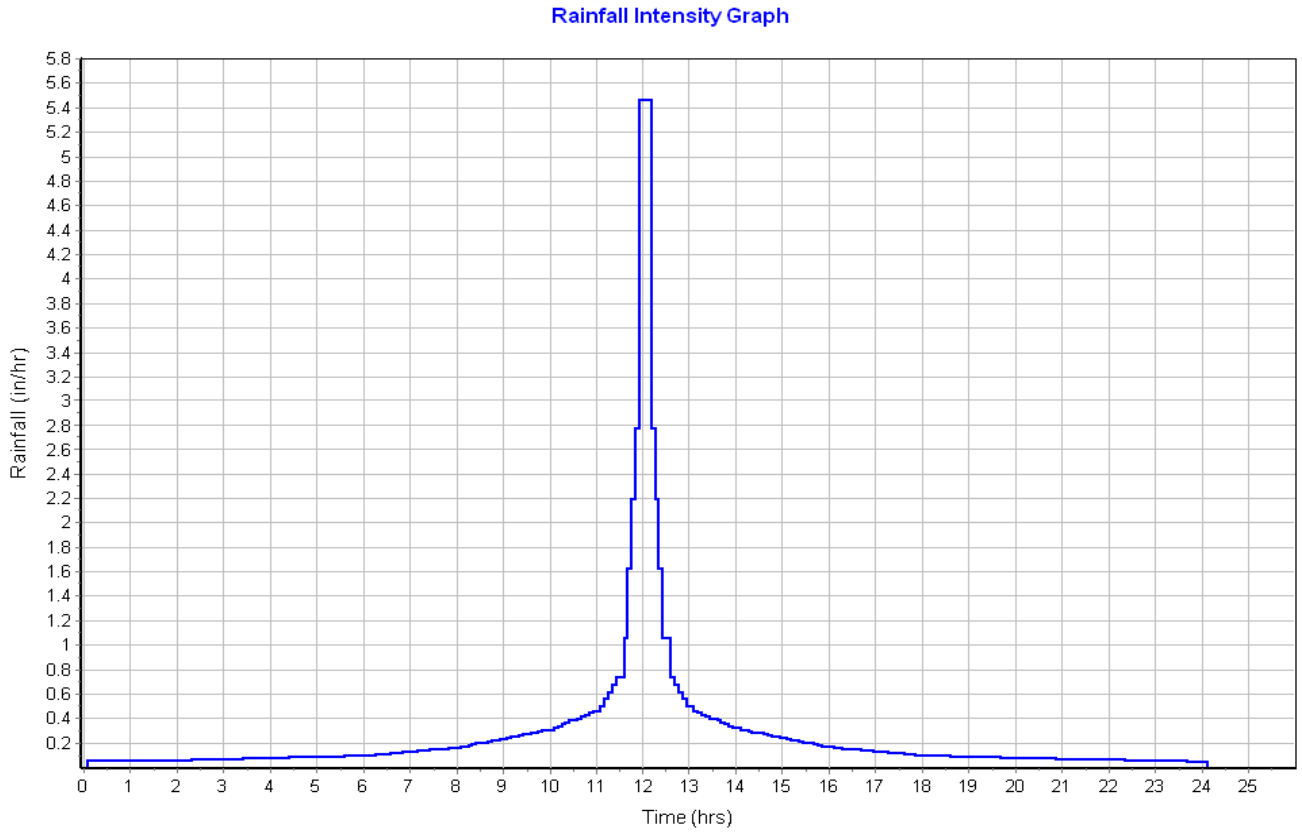
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	1.5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	57.93	0.00	0.00

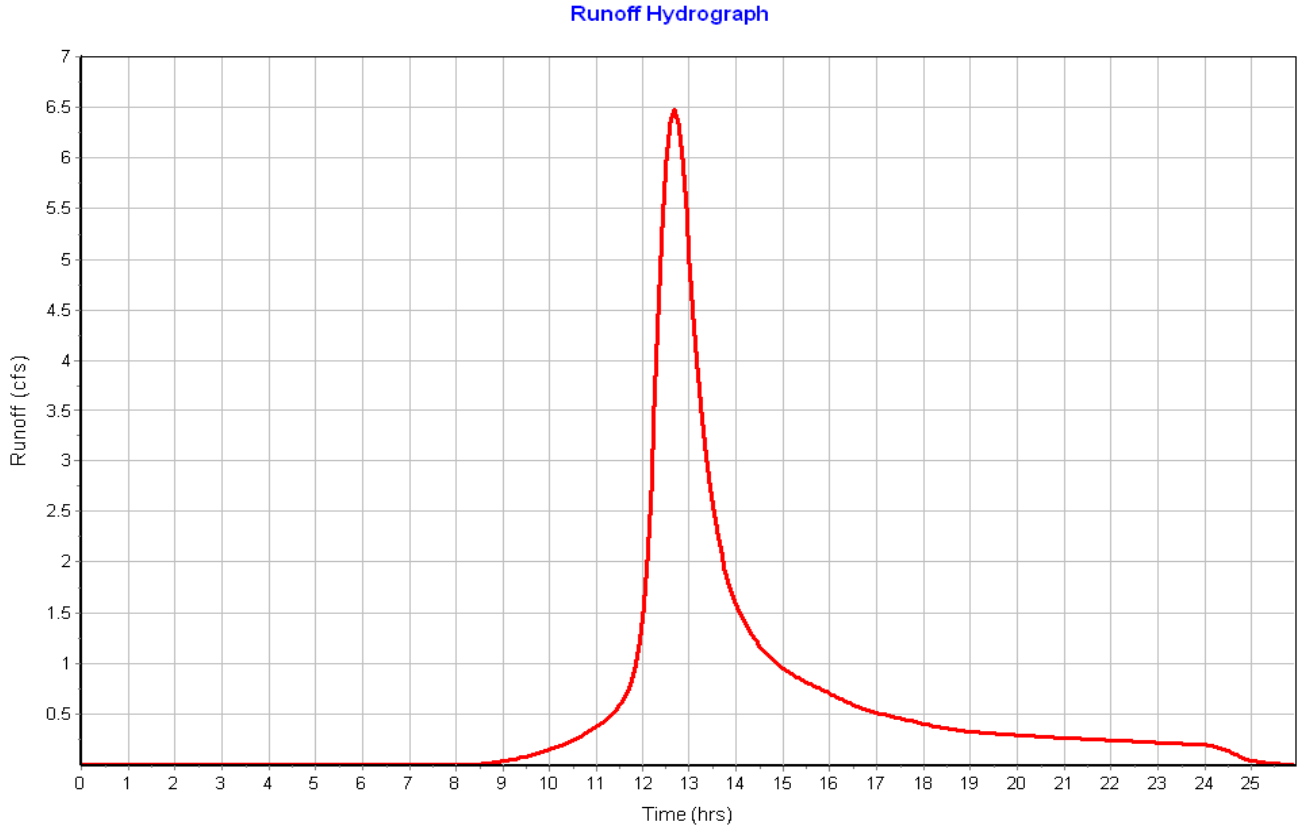
Total TOC (min) 57.93

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	3.57
Peak Runoff (cfs)	6.49
Weighted Curve Number	73.61
Time of Concentration (days hh:mm:ss)	0 00:57:56

Subbasin : Sub-08





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-01	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00
2	DMH-02	231.15	238.00	6.85	0.00	-231.15	0.00	-238.00	0.00	0.00
3	DMH-03	229.00	236.00	7.00	0.00	-229.00	0.00	-236.00	0.00	0.00
4	DMH-04	228.50	237.00	8.50	0.00	-228.50	0.00	-237.00	0.00	0.00
5	DMH-05	228.00	242.00	14.00	0.00	-228.00	0.00	-242.00	0.00	0.00
6	DMH-06	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00
7	DMH-07	223.00	229.75	6.75	0.00	-223.00	0.00	-229.75	0.00	0.00
8	DMH-08	216.50	224.00	7.50	0.00	-216.50	0.00	-224.00	0.00	0.00
9	DMH-09	214.15	222.00	7.85	0.00	-214.15	0.00	-222.00	0.00	0.00
10	DMH-10	216.15	223.00	6.85	0.00	-216.15	0.00	-223.00	0.00	0.00
11	DMH-11	216.00	224.00	8.00	0.00	-216.00	0.00	-224.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	1.09	0.00	245.28	4.28	0.00	1.72	244.92	3.92	0 12:10	0 00:00	0.00	0.00
2	DMH-02	1.09	0.00	235.54	4.39	0.00	2.46	235.06	3.91	0 12:10	0 00:00	0.00	0.00
3	DMH-03	4.13	0.00	233.37	4.37	0.00	2.63	232.60	3.60	0 12:25	0 00:00	0.00	0.00
4	DMH-04	3.86	0.00	232.81	4.31	0.00	4.19	232.08	3.58	0 12:26	0 00:00	0.00	0.00
5	DMH-05	4.96	0.00	229.65	1.65	0.00	12.35	229.20	1.20	0 12:10	0 00:00	0.00	0.00
6	DMH-06	2.07	0.00	245.44	4.44	0.00	1.56	244.95	3.95	0 12:10	0 00:00	0.00	0.00
7	DMH-07	1.79	0.00	227.52	4.52	0.00	2.23	226.97	3.97	0 12:10	0 00:00	0.00	0.00
8	DMH-08	3.16	0.00	221.19	4.69	0.00	2.81	220.51	4.01	0 12:10	0 00:00	0.00	0.00
9	DMH-09	7.53	0.00	219.04	4.89	0.00	2.96	218.09	3.94	0 12:10	0 00:00	0.00	0.00
10	DMH-10	5.92	0.00	220.46	4.31	0.00	2.54	219.77	3.62	0 12:35	0 00:00	0.00	0.00
11	DMH-11	5.31	0.00	219.95	3.95	0.00	4.05	219.08	3.08	0 12:40	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-28	42.00	214.65	4.00	212.00	0.00	2.65	6.3100	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-29	40.00	202.65	4.00	202.00	0.00	0.65	1.6300	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-30	215.00	211.00	1.00	207.00	3.00	4.00	1.8600	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-31	17.51	245.15	4.00	245.00	4.00	0.15	0.8600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
5	Link-32	24.09	245.15	4.00	245.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
6	Link-33	139.54	245.00	4.00	235.15	4.00	9.85	7.0600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-34	76.23	235.15	4.00	233.15	4.15	2.00	2.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
8	Link-35	24.01	233.15	233.15	233.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
9	Link-36	15.56	233.15	233.15	233.00	4.00	0.15	0.9600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
10	Link-37	38.28	234.50	3.35	233.15	4.15	1.35	3.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
11	Link-38	32.64	232.50	3.50	232.00	3.50	0.50	1.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
12	Link-39	18.32	233.15	233.15	233.00	4.50	0.15	0.8200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
13	Link-40	10.99	233.15	233.15	233.00	4.50	0.15	1.3600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
14	Link-41	130.94	232.00	3.50	230.00	2.00	2.00	1.5300	CIRCULAR	18.000	18.000	0.0200	2.0000	0.8000	0.0000	0.00	No	1
15	Link-42	23.74	245.15	4.00	245.00	4.00	0.15	0.6300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
16	Link-43	19.02	245.15	4.00	245.00	4.00	0.15	0.7900	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
17	Link-44	100.67	245.00	4.00	239.15	11.15	5.85	5.8100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
18	Link-45	245.00	229.00	1.00	220.00	1.00	9.00	3.6700	CIRCULAR	18.000	18.000	0.0200	0.0200	0.5000	0.0000	0.00	No	1
19	Link-46	20.06	227.15	4.00	227.00	4.00	0.15	0.7500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
20	Link-47	16.46	227.15	4.00	227.00	4.00	0.15	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
21	Link-48	260.00	227.00	4.00	221.00	4.50	6.00	2.3100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
22	Link-49	12.97	221.15	4.00	221.00	4.50	0.15	1.1600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
23	Link-50	16.41	221.15	4.00	221.00	4.50	0.15	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
24	Link-51	96.22	220.50	4.00	219.15	5.00	1.35	1.4000	CIRCULAR	18.000	18.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
25	Link-52	37.16	220.20	3.05	219.70	3.55	0.50	1.3500	CIRCULAR	24.000	24.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
26	Link-53	16.23	221.15	4.00	220.15	4.00	1.00	6.1600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
27	Link-54	20.81	221.15	4.00	220.15	4.00	1.00	4.8100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
28	Link-55	63.63	219.65	3.50	217.80	3.65	1.85	2.9100	CIRCULAR	18.000	18.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
29	Link-56	130.00	217.75	3.60	217.00	4.00	0.75	0.5800	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
30	Link-62	33.00	215.15	4.00	214.85	1.85	0.30	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
31	Link-63	52.00	215.15	4.00	214.85	1.85	0.30	0.5800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
32	Link-77	67.00	207.65	4.00	207.00	1.00	0.65	0.9700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
33	Link-78	47.00	207.65	4.00	207.00	1.00	0.65	1.3800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
34	Link-80	16.14	220.20	3.05	220.00	4.00	0.20	1.2400	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
35	Link-81	148.58	219.00	3.00	217.00	-0.90	2.00	1.3500	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-28	7.22	0 12:31	17.15	0.42	8.64	0.08	0.72	0.48	0.00		Calculated
2	Link-29	7.05	0 12:49	8.70	0.81	5.06	0.13	1.10	0.74	0.00		Calculated
3	Link-30	7.07	0 12:11	9.31	0.76	5.68	0.63	0.99	0.66	0.00		Calculated
4	Link-31	0.35	0 12:09	2.14	0.16	1.83	0.16	0.29	0.29	0.00		Calculated
5	Link-32	0.74	0 12:09	1.83	0.40	2.34	0.17	0.42	0.42	0.00		Calculated
6	Link-33	1.09	0 12:10	6.15	0.18	4.72	0.49	0.34	0.34	0.00		Calculated
7	Link-34	1.09	0 12:10	3.75	0.29	4.00	0.32	0.38	0.38	0.00		Calculated
8	Link-35	0.13	0 12:25	1.83	0.07	0.82	0.49	0.26	0.26	0.00		Calculated
9	Link-36	0.14	0 12:25	2.27	0.06	0.87	0.30	0.26	0.26	0.00		Calculated
10	Link-37	3.79	0 12:30	12.82	0.30	5.68	0.11	0.60	0.40	0.00		Calculated
11	Link-38	3.86	0 12:25	8.45	0.46	3.78	0.14	0.84	0.56	0.00		Calculated
12	Link-39	0.00	0 00:00	2.10	0.00	0.00		0.00	0.00	0.00		Calculated
13	Link-40	0.01	0 22:24	2.71	0.00	0.85	0.22	0.04	0.04	0.00		Calculated
14	Link-41	3.85	0 12:26	8.44	0.46	4.27	0.51	0.76	0.51	0.00		Calculated
15	Link-42	0.46	0 12:09	1.84	0.25	1.50	0.26	0.41	0.41	0.00		Calculated
16	Link-43	1.61	0 12:08	2.06	0.78	3.02	0.10	0.64	0.64	0.00		Calculated
17	Link-44	2.07	0 12:10	5.58	0.37	6.41	0.26	0.43	0.43	0.00		Calculated
18	Link-45	4.95	0 12:10	13.09	0.38	6.82	0.60	0.64	0.43	0.00		Calculated
19	Link-46	1.23	0 12:09	2.00	0.61	2.64	0.13	0.58	0.58	0.00		Calculated
20	Link-47	0.56	0 12:09	2.21	0.25	1.57	0.17	0.47	0.47	0.00		Calculated
21	Link-48	1.79	0 12:10	3.52	0.51	4.43	0.98	0.51	0.51	0.00		Calculated
22	Link-49	0.74	0 12:09	2.49	0.30	2.49	0.09	0.40	0.40	0.00		Calculated
23	Link-50	0.63	0 12:08	2.21	0.29	2.33	0.12	0.38	0.38	0.00		Calculated
24	Link-51	3.16	0 12:10	8.09	0.39	4.12	0.39	0.67	0.45	0.00		Calculated
25	Link-52	5.31	0 12:40	17.06	0.31	4.23	0.15	0.84	0.42	0.00		Calculated
26	Link-53	1.37	0 12:10	5.75	0.24	5.26	0.05	0.37	0.37	0.00		Calculated
27	Link-54	0.75	0 12:15	5.08	0.15	4.28	0.08	0.28	0.28	0.00		Calculated
28	Link-55	5.92	0 12:35	11.64	0.51	4.90	0.22	0.97	0.65	0.00		Calculated
29	Link-56	7.50	0 12:10	11.17	0.67	4.10	0.53	1.12	0.57	0.00		Calculated
30	Link-62	0.42	0 12:09	2.21	0.19	1.07	0.51	0.85	0.85	0.00		Calculated
31	Link-63	1.23	0 12:09	1.76	0.70	1.67	0.52	0.91	0.91	0.00		Calculated
32	Link-77	1.30	0 12:10	2.28	0.57	3.08	0.36	0.53	0.53	0.00		Calculated
33	Link-78	0.63	0 12:09	2.72	0.23	2.75	0.28	0.33	0.33	0.00		Calculated
34	Link-80	5.31	0 12:40	16.37	0.32	4.18	0.06	0.85	0.42	0.00		Calculated
35	Link-81	5.31	0 12:40	12.65	0.42	3.73	0.66	0.93	0.46	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

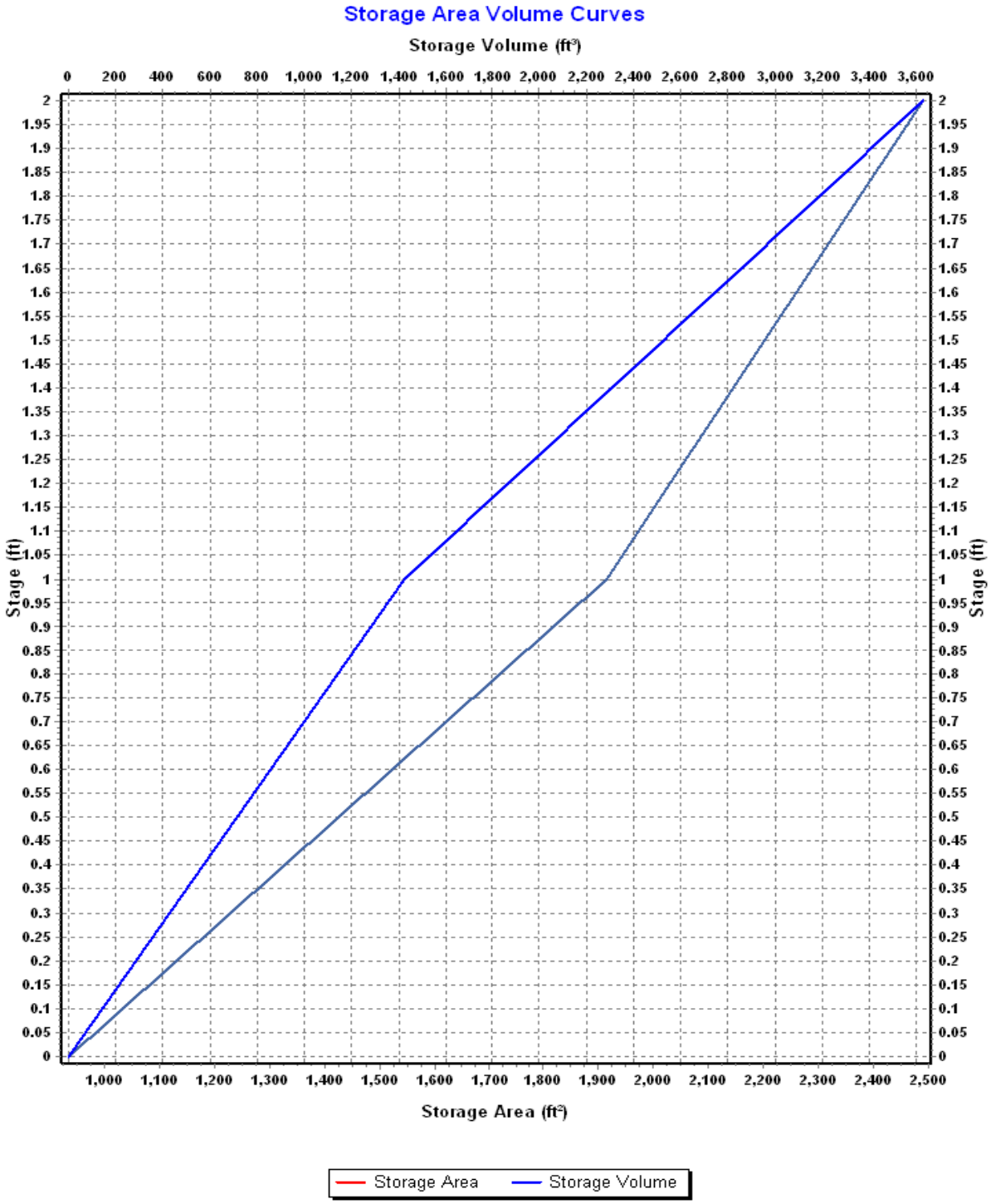
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	935	0.000
1	1914	1424.50
2	2490	3626.50


Storage Area Volume Curves
Storage Volume (ft³)
0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400 2,600 2,800 3,000 3,200 3,400 3,600
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900 2,000 2,100 2,200 2,300 2,400 2,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-02	Trapezoidal	No	217.60	1.60	25.00	0.40	3.33
2	Weir-03	Trapezoidal	No	217.00	1.00	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	9.33
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	9.30
Peak Exfiltration Flow Rate (cfm)	0.87
Max HGL Elevation Attained (ft)	217.69
Max HGL Depth Attained (ft)	1.69
Average HGL Elevation Attained (ft)	217.11
Average HGL Depth Attained (ft)	1.11
Time of Max HGL Occurrence (days hh:mm)	0 12:31
Total Exfiltration Volume (1000-ft³)	0.770
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	217.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

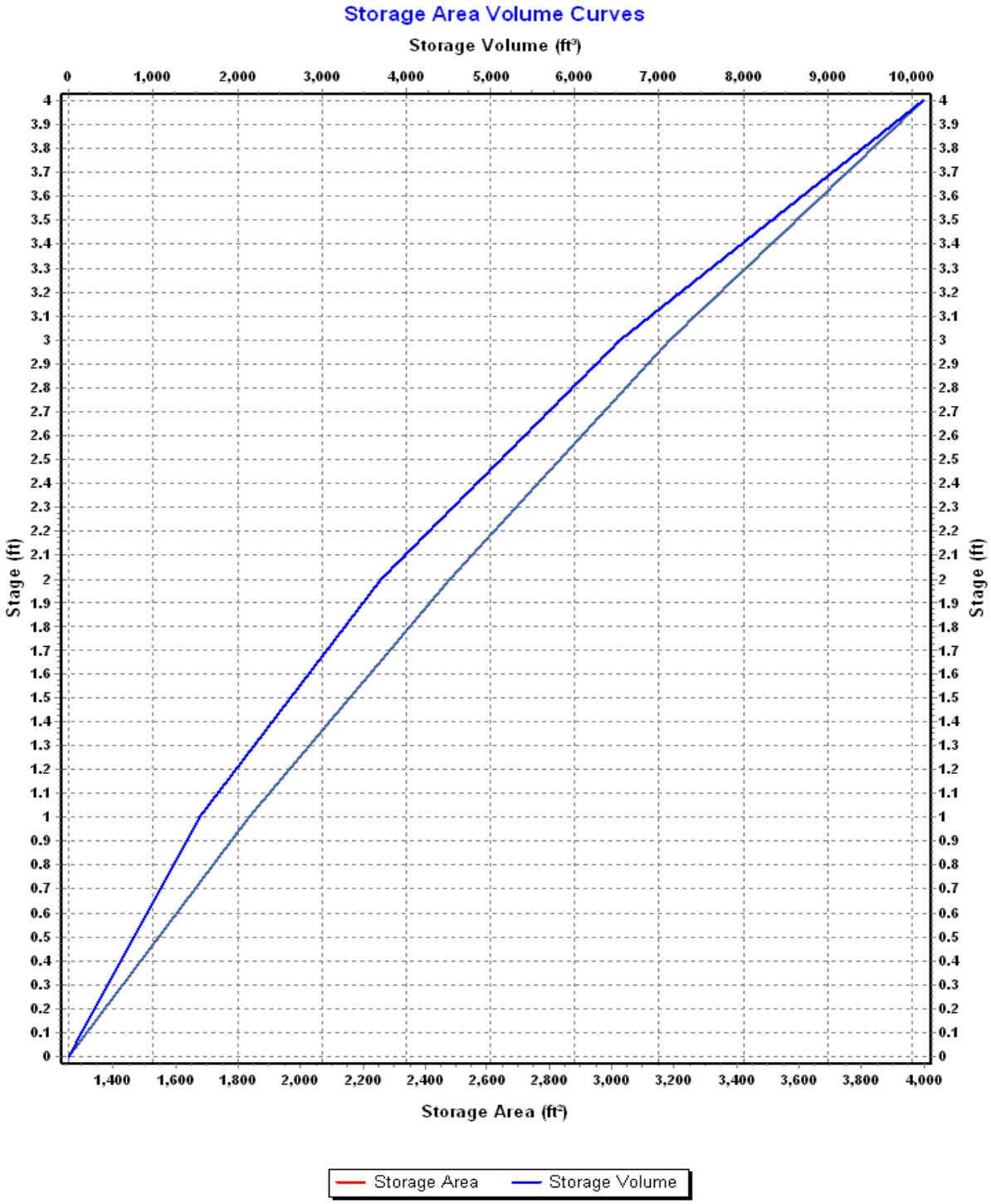
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1257	0.000
1	1833	1545.00
2	2480	3701.50
3	3184	6533.50
4	3997	10124.00


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
Stage (ft)
Stage (ft)
Storage Area (ft²)
1,400
1,600
1,800
2,000
2,200
2,400
2,600
2,800
3,000
3,200
3,400
3,600
3,800
4,000
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice-1	Trapezoidal	No	215.25	2.25	3.00	0.25	3.33
2	Weir-06	Trapezoidal	No	215.75	2.75	20.00	0.25	3.33
3	Weir-07	Trapezoidal	No	215.50	2.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	9.09
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	8.96
Peak Exfiltration Flow Rate (cfm)	1.15
Max HGL Elevation Attained (ft)	215.84
Max HGL Depth Attained (ft)	2.84
Average HGL Elevation Attained (ft)	215.30
Average HGL Depth Attained (ft)	2.3
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	1.183
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	204.00
Max (Rim) Elevation (ft)	206.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-204.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

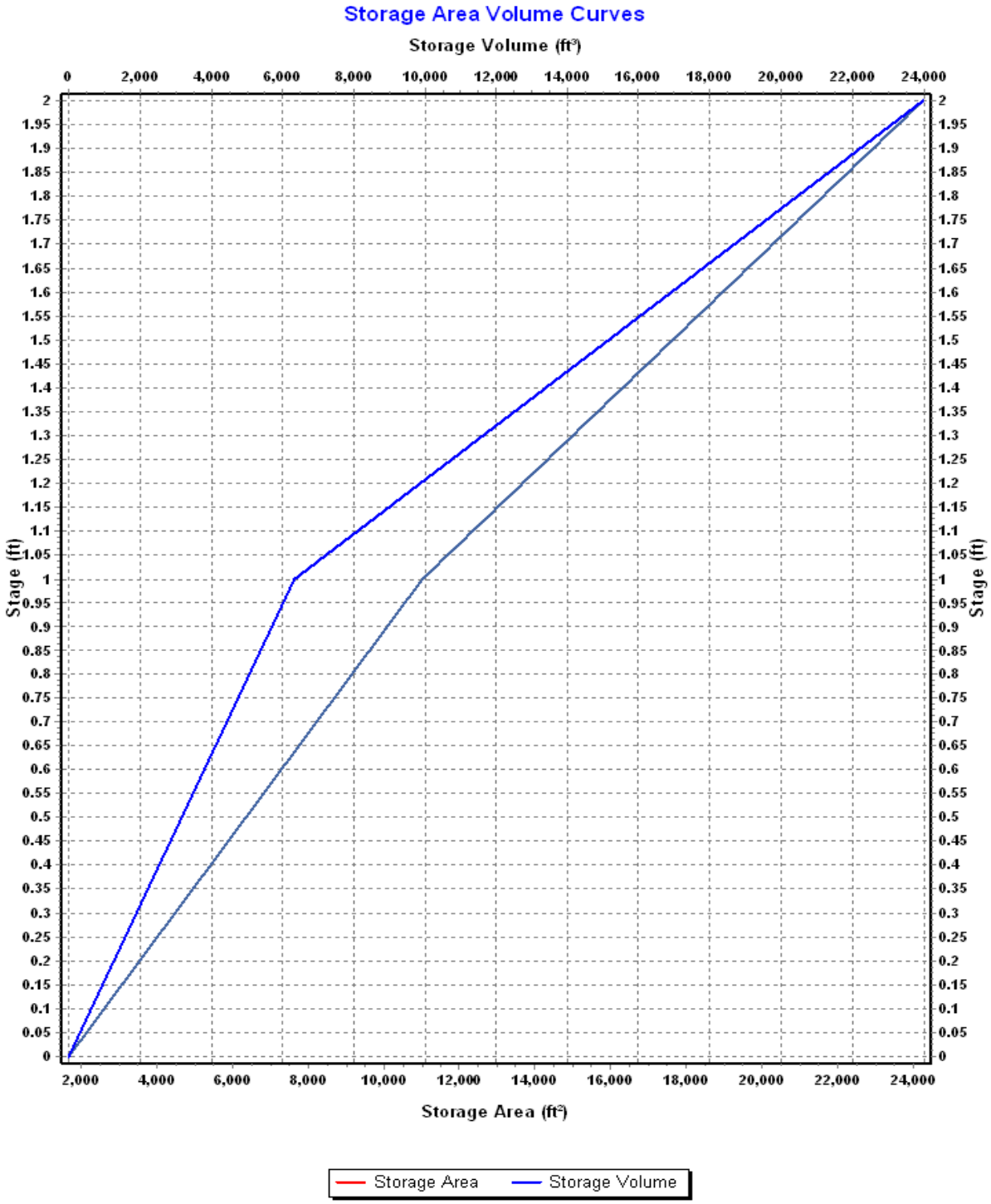
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1665	0.000
1	11026	6345.50
2	24243	23980.00


Storage Area Volume Curves
Storage Volume (ft³)
0 2,000 4,000 6,000 8,000 10,000 12,000 14,000 16,000 18,000 20,000 22,000 24,000
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Storage Area (ft²)
2,000 4,000 6,000 8,000 10,000 12,000 14,000 16,000 18,000 20,000 22,000 24,000
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-09	Trapezoidal	No	205.25	1.25	8.00	0.25	3.33
2	Weir-10	Trapezoidal	No	205.75	1.75	25.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	12.89
Peak Lateral Inflow (cfs)	6.48
Peak Outflow (cfs)	12.36
Peak Exfiltration Flow Rate (cfm)	8.64
Max HGL Elevation Attained (ft)	205.91
Max HGL Depth Attained (ft)	1.91
Average HGL Elevation Attained (ft)	205.32
Average HGL Depth Attained (ft)	1.32
Time of Max HGL Occurrence (days hh:mm)	0 12:48
Total Exfiltration Volume (1000-ft³)	5.856
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-01

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	10.61
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	10.61
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	221.11
Max HGL Depth Attained (ft)	3.96
Average HGL Elevation Attained (ft)	220.27
Average HGL Depth Attained (ft)	3.12
Time of Max HGL Occurrence (days hh:mm)	0 12:40
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	231.15
Max (Rim) Elevation (ft)	238.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-231.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.79
Peak Lateral Inflow (cfs)	3.79
Peak Outflow (cfs)	3.79
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	235.15
Max HGL Depth Attained (ft)	4
Average HGL Elevation Attained (ft)	234.46
Average HGL Depth Attained (ft)	3.31
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.74
Peak Lateral Inflow (cfs)	0.74
Peak Outflow (cfs)	0.74
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.64
Max HGL Depth Attained (ft)	4.49
Average HGL Elevation Attained (ft)	245.19
Average HGL Depth Attained (ft)	4.04
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.35
Peak Lateral Inflow (cfs)	0.35
Peak Outflow (cfs)	0.35
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.45
Max HGL Depth Attained (ft)	4.3
Average HGL Elevation Attained (ft)	245.10
Average HGL Depth Attained (ft)	3.95
Time of Max HGL Occurrence (days hh:mm)	0 12:06
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.41
Peak Lateral Inflow (cfs)	0.39
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	131.14
Max HGL Depth Attained (ft)	131.14
Average HGL Elevation Attained (ft)	90.60
Average HGL Depth Attained (ft)	90.6
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.30
Peak Lateral Inflow (cfs)	0.28
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	99.46
Max HGL Depth Attained (ft)	99.46
Average HGL Elevation Attained (ft)	68.80
Average HGL Depth Attained (ft)	68.8
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.77
Peak Lateral Inflow (cfs)	0.77
Peak Outflow (cfs)	0.01
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	233.20
Max HGL Depth Attained (ft)	233.2
Average HGL Elevation Attained (ft)	163.26
Average HGL Depth Attained (ft)	163.26
Time of Max HGL Occurrence (days hh:mm)	0 22:24
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-08

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.35
Peak Lateral Inflow (cfs)	0.35
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	108.16
Max HGL Depth Attained (ft)	108.16
Average HGL Elevation Attained (ft)	74.44
Average HGL Depth Attained (ft)	74.44
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-09

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.46
Peak Lateral Inflow (cfs)	0.46
Peak Outflow (cfs)	0.46
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.53
Max HGL Depth Attained (ft)	4.38
Average HGL Elevation Attained (ft)	245.13
Average HGL Depth Attained (ft)	3.98
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-10

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.61
Peak Lateral Inflow (cfs)	0.67
Peak Outflow (cfs)	1.61
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.90
Max HGL Depth Attained (ft)	4.75
Average HGL Elevation Attained (ft)	245.24
Average HGL Depth Attained (ft)	4.09
Time of Max HGL Occurrence (days hh:mm)	0 12:08
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-11

Input Data

Invert Elevation (ft)	223.15
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.23
Peak Lateral Inflow (cfs)	0.60
Peak Outflow (cfs)	1.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	227.79
Max HGL Depth Attained (ft)	4.64
Average HGL Elevation Attained (ft)	227.21
Average HGL Depth Attained (ft)	4.06
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-12

Input Data

Invert Elevation (ft)	223.15
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.56
Peak Lateral Inflow (cfs)	0.56
Peak Outflow (cfs)	0.56
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	227.58
Max HGL Depth Attained (ft)	4.43
Average HGL Elevation Attained (ft)	227.15
Average HGL Depth Attained (ft)	4
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-13

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.74
Peak Lateral Inflow (cfs)	0.42
Peak Outflow (cfs)	0.74
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	221.60
Max HGL Depth Attained (ft)	4.45
Average HGL Elevation Attained (ft)	221.14
Average HGL Depth Attained (ft)	3.99
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-14

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.63
Peak Lateral Inflow (cfs)	0.63
Peak Outflow (cfs)	0.63
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	221.57
Max HGL Depth Attained (ft)	4.42
Average HGL Elevation Attained (ft)	221.16
Average HGL Depth Attained (ft)	4.01
Time of Max HGL Occurrence (days hh:mm)	0 12:08
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-15

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.37
Peak Lateral Inflow (cfs)	1.37
Peak Outflow (cfs)	1.37
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	221.55
Max HGL Depth Attained (ft)	4.4
Average HGL Elevation Attained (ft)	221.07
Average HGL Depth Attained (ft)	3.92
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-16

Input Data

Invert Elevation (ft)	217.15
Max (Rim) Elevation (ft)	224.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.75
Peak Lateral Inflow (cfs)	0.75
Peak Outflow (cfs)	0.75
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	221.44
Max HGL Depth Attained (ft)	4.29
Average HGL Elevation Attained (ft)	221.06
Average HGL Depth Attained (ft)	3.91
Time of Max HGL Occurrence (days hh:mm)	0 12:15
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-17

Input Data

Invert Elevation (ft)	211.15
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.23
Peak Lateral Inflow (cfs)	0.60
Peak Outflow (cfs)	1.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	215.99
Max HGL Depth Attained (ft)	4.84
Average HGL Elevation Attained (ft)	215.39
Average HGL Depth Attained (ft)	4.24
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-18

Input Data

Invert Elevation (ft)	211.15
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.42
Peak Lateral Inflow (cfs)	0.42
Peak Outflow (cfs)	0.42
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	215.85
Max HGL Depth Attained (ft)	4.7
Average HGL Elevation Attained (ft)	215.36
Average HGL Depth Attained (ft)	4.21
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-19

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.30
Peak Lateral Inflow (cfs)	1.30
Peak Outflow (cfs)	1.30
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	208.23
Max HGL Depth Attained (ft)	4.58
Average HGL Elevation Attained (ft)	207.72
Average HGL Depth Attained (ft)	4.07
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-20

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.63
Peak Lateral Inflow (cfs)	0.63
Peak Outflow (cfs)	0.63
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.99
Max HGL Depth Attained (ft)	4.34
Average HGL Elevation Attained (ft)	207.64
Average HGL Depth Attained (ft)	3.99
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP01

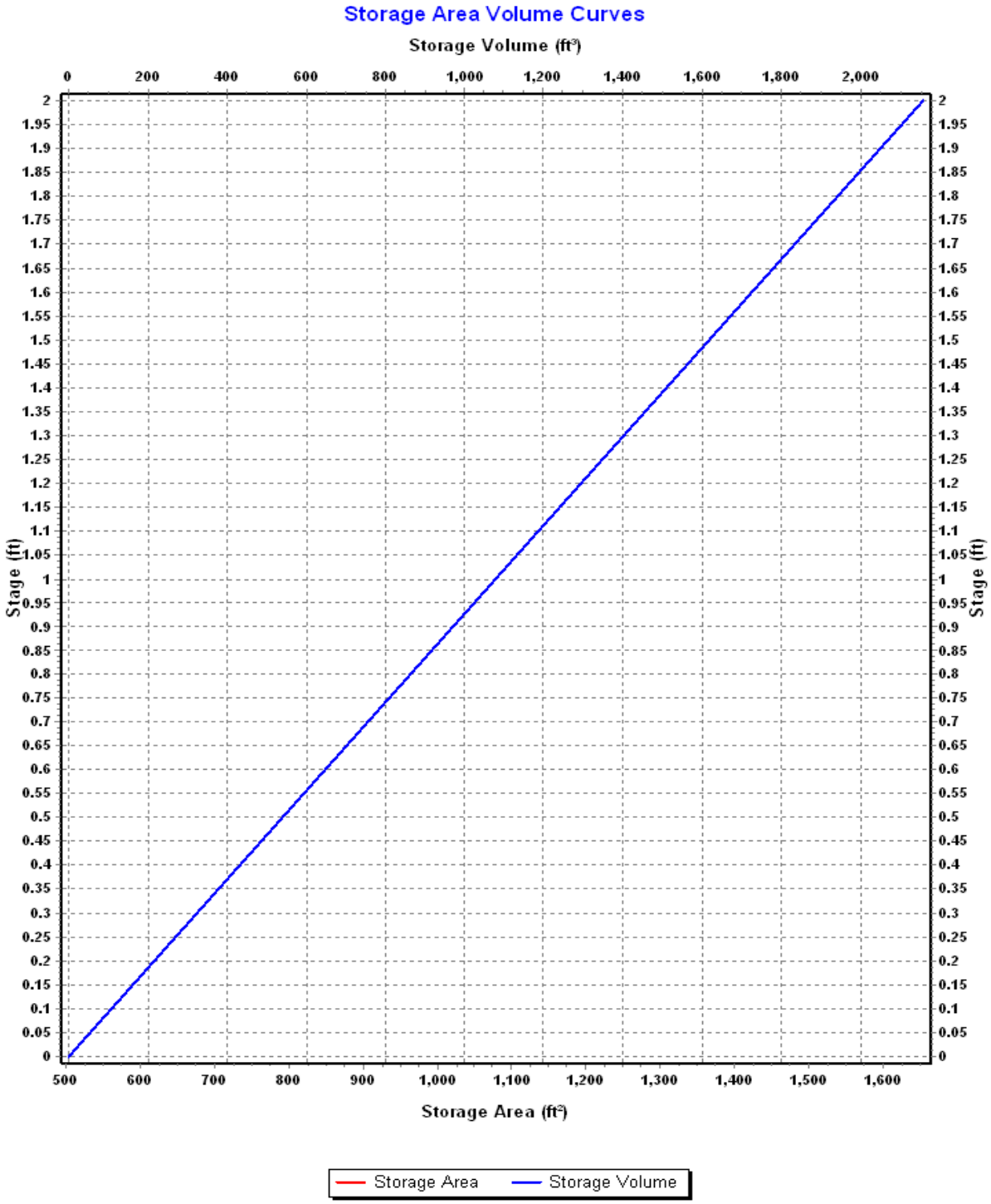
Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	504	0.000
2	1653	2157.00


Storage Area Volume Curves
Storage Volume (ft³)
0
200
400
600
800
1,000
1,200
1,400
1,600
1,800
2,000
Stage (ft)
Stage (ft)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0.55
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
1.05
1.1
1.15
1.2
1.25
1.3
1.35
1.4
1.45
1.5
1.55
1.6
1.65
1.7
1.75
1.8
1.85
1.9
1.95
2
500
600
700
800
900
1,000
1,100
1,200
1,300
1,400
1,500
1,600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Forebay_BMP01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	219.50	0.50	40.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	9.33
Peak Lateral Inflow (cfs)	5.02
Peak Outflow (cfs)	9.33
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	219.67
Max HGL Depth Attained (ft)	0.67
Average HGL Elevation Attained (ft)	219.53
Average HGL Depth Attained (ft)	0.53
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP03

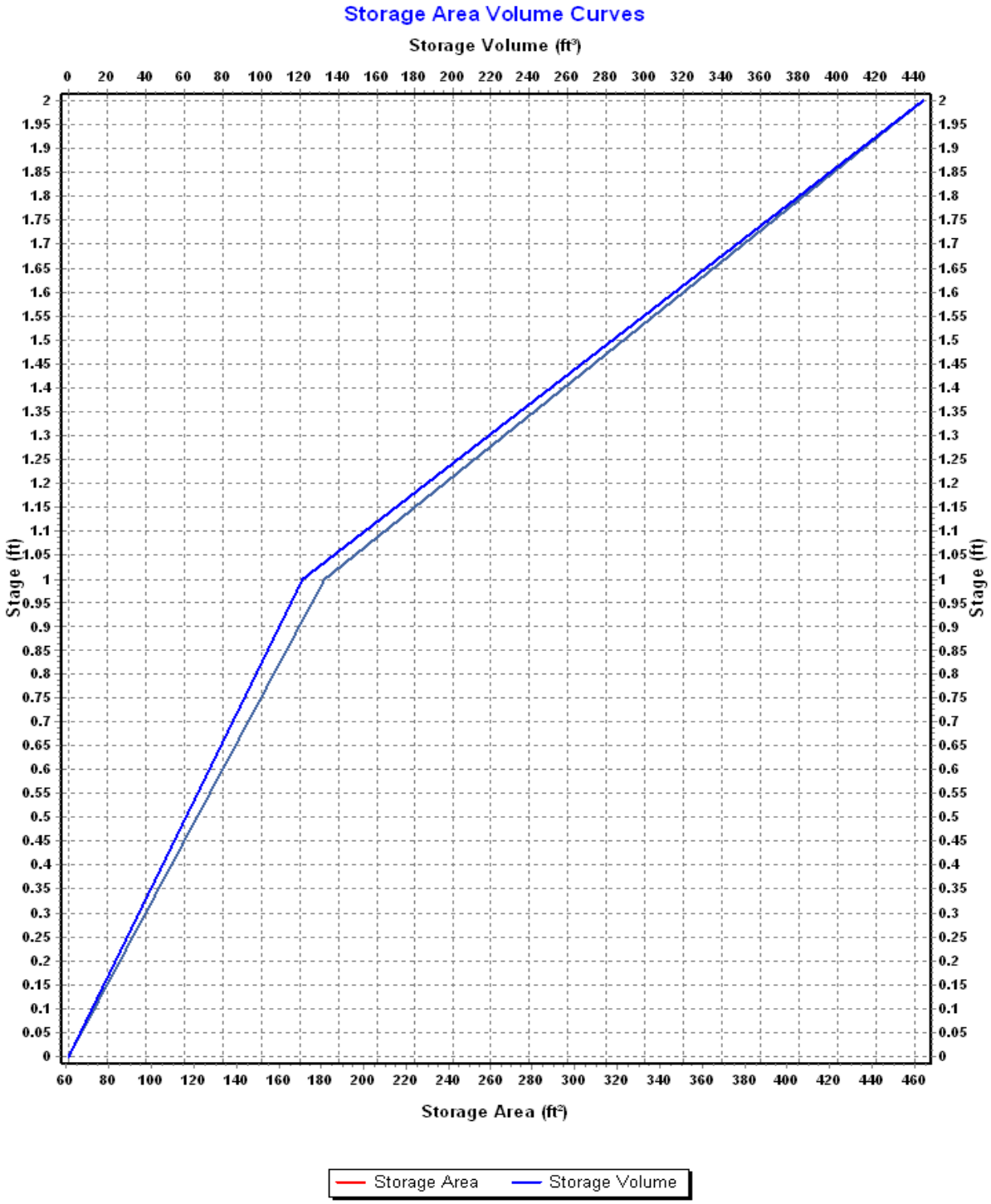
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	61	0.000
1	182	121.50
2	464	444.50


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Forebay_BMP03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	207.00	1.00	50.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	1.93
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.93
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.05
Max HGL Depth Attained (ft)	1.05
Average HGL Elevation Attained (ft)	206.98
Average HGL Depth Attained (ft)	0.98
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	210.65
Max (Rim) Elevation (ft)	217.00
Max (Rim) Offset (ft)	6.35
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-210.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	7.22
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	7.22
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	215.41
Max HGL Depth Attained (ft)	4.76
Average HGL Elevation Attained (ft)	214.62
Average HGL Depth Attained (ft)	3.97
Time of Max HGL Occurrence (days hh:mm)	0 12:31
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	210.00
Max (Rim) Elevation (ft)	215.50
Max (Rim) Offset (ft)	5.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-210.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	7.07
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	7.07
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	212.01
Max HGL Depth Attained (ft)	2.01
Average HGL Elevation Attained (ft)	211.27
Average HGL Depth Attained (ft)	1.27
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	198.65
Max (Rim) Elevation (ft)	205.25
Max (Rim) Offset (ft)	6.60
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-198.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	7.05
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	7.05
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	203.83
Max HGL Depth Attained (ft)	5.18
Average HGL Elevation Attained (ft)	202.32
Average HGL Depth Attained (ft)	3.67
Time of Max HGL Occurrence (days hh:mm)	0 12:48
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber01

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	215.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-19	Trapezoidal	No	214.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	214.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	214.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber02

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-20	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	220.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber03

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-21	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	217.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber04

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-22	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	220.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber05

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	223.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-23	Trapezoidal	No	222.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	222.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	222.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber06

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-24	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber07

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-25	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	233.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber08

Input Data

Invert Elevation (ft)	233.00
Max (Rim) Elevation (ft)	235.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-233.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-27	Trapezoidal	No	234.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	234.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	234.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber09

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-26	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber10

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-44	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	217.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber11

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-43	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	221.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber12

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-42	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	221.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber13

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-28	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber14

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-29	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	233.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber15

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-41	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber16

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-40	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber17

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-39	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber18

Input Data

Invert Elevation (ft)	242.00
Max (Rim) Elevation (ft)	244.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-242.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-30	Trapezoidal	No	243.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	243.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	243.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber19

Input Data

Invert Elevation (ft)	252.00
Max (Rim) Elevation (ft)	254.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-252.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-31	Trapezoidal	No	253.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	253.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	253.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber20

Input Data

Invert Elevation (ft)	269.00
Max (Rim) Elevation (ft)	271.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-269.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-32	Trapezoidal	No	270.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	270.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	270.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber21

Input Data

Invert Elevation (ft)	270.00
Max (Rim) Elevation (ft)	272.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-270.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-33	Trapezoidal	No	271.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	271.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	271.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber22

Input Data

Invert Elevation (ft)	264.00
Max (Rim) Elevation (ft)	266.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-264.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-34	Trapezoidal	No	265.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	265.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	265.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber23

Input Data

Invert Elevation (ft)	250.00
Max (Rim) Elevation (ft)	252.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-250.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-35	Trapezoidal	No	251.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	251.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	251.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber24

Input Data

Invert Elevation (ft)	243.00
Max (Rim) Elevation (ft)	245.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-243.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-36	Trapezoidal	No	244.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	244.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	244.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber25

Input Data

Invert Elevation (ft)	238.00
Max (Rim) Elevation (ft)	240.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-238.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-37	Trapezoidal	No	239.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	239.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	239.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber26

Input Data

Invert Elevation (ft)	230.00
Max (Rim) Elevation (ft)	232.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-230.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-38	Trapezoidal	No	231.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	231.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	231.67
Average HGL Depth Attained (ft)	1.67
Time of Max HGL Occurrence (days hh:mm)	0 12:00
Total Exfiltration Volume (1000-ft³)	0.032
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-01

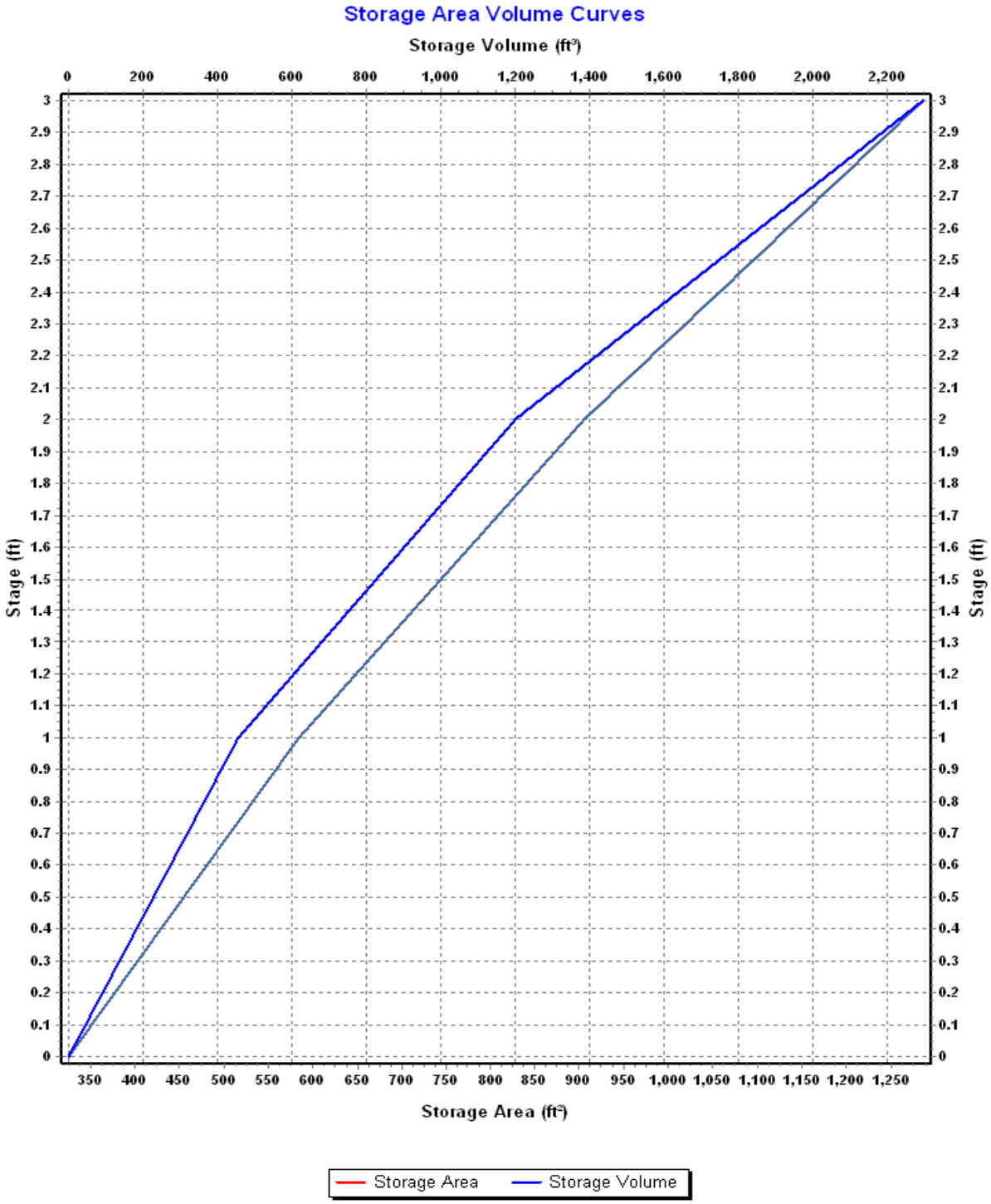
Input Data

Invert Elevation (ft)	222.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-222.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Detention Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	326	0.000
1	584	455.00
2	906	1200.00
3	1286	2296.00


Storage Area Volume Curves
Storage Volume (ft³)
0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000 2,200
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3
Stage (ft)
Storage Area (ft²)
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050 1,100 1,150 1,200 1,250
Storage Area
Storage Volume

Storage Node : Stor-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-17	Trapezoidal	No	224.00	2.00	16.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	10.61
Peak Lateral Inflow (cfs)	10.49
Peak Outflow (cfs)	10.61
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	224.34
Max HGL Depth Attained (ft)	2.34
Average HGL Elevation Attained (ft)	223.95
Average HGL Depth Attained (ft)	1.95
Time of Max HGL Occurrence (days hh:mm)	0 12:40
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Wetland

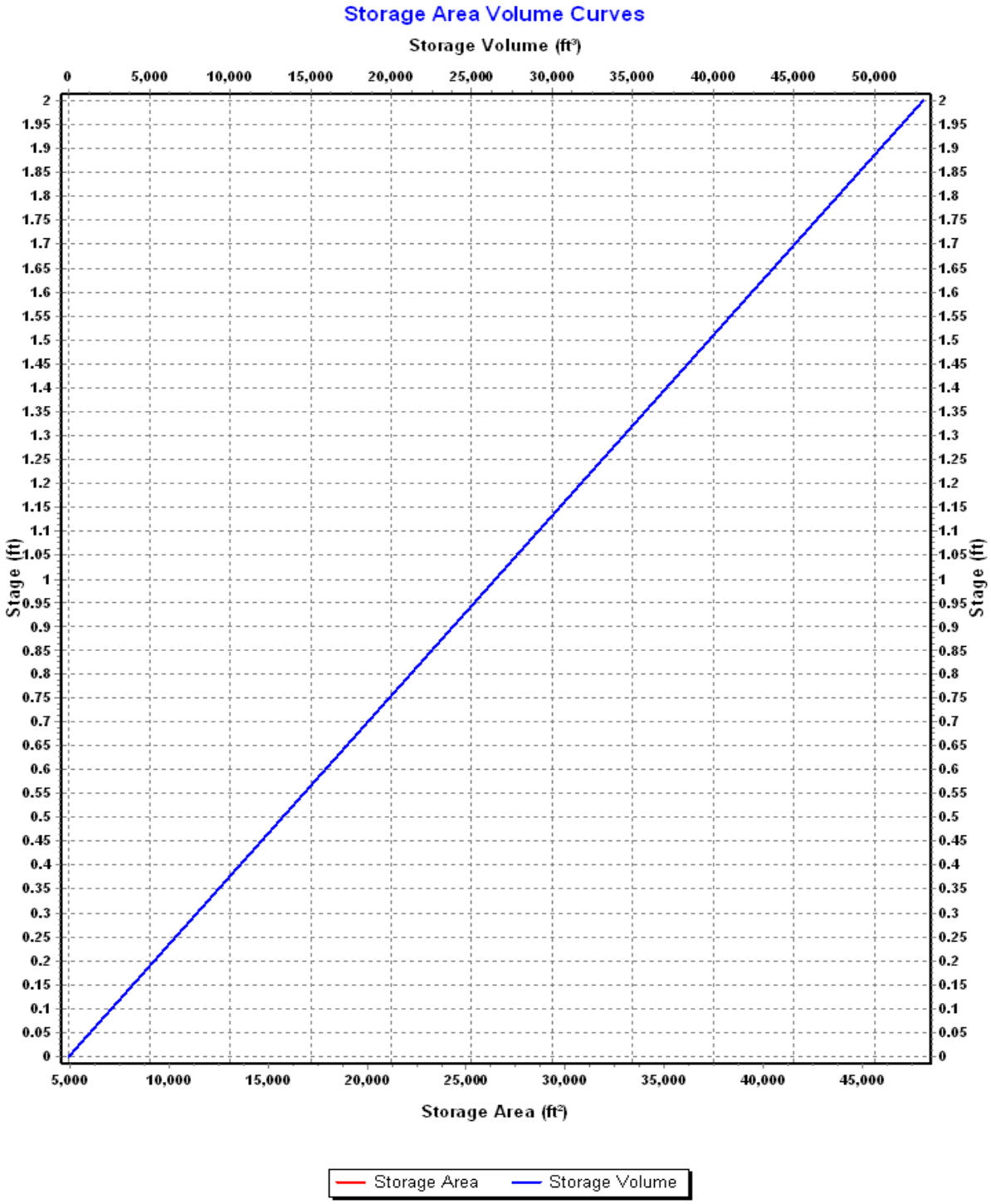
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Wetland (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	17.08
Peak Lateral Inflow (cfs)	16.88
Peak Outflow (cfs)	15.66
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.82
Max HGL Depth Attained (ft)	1.82
Average HGL Elevation Attained (ft)	207.39
Average HGL Depth Attained (ft)	1.39
Time of Max HGL Occurrence (days hh:mm)	0 12:55
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

SSA Model Inputs and Outputs

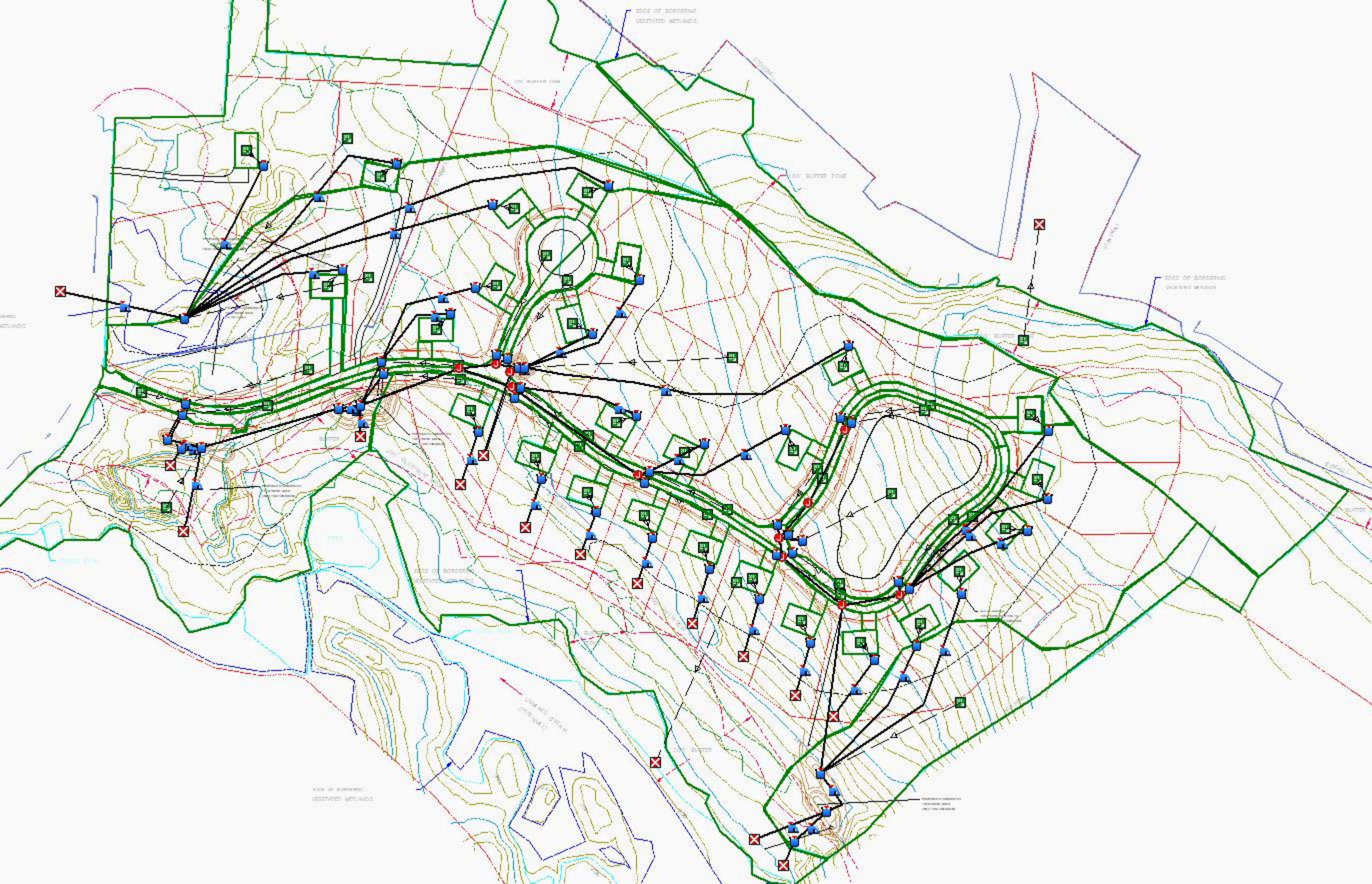
for

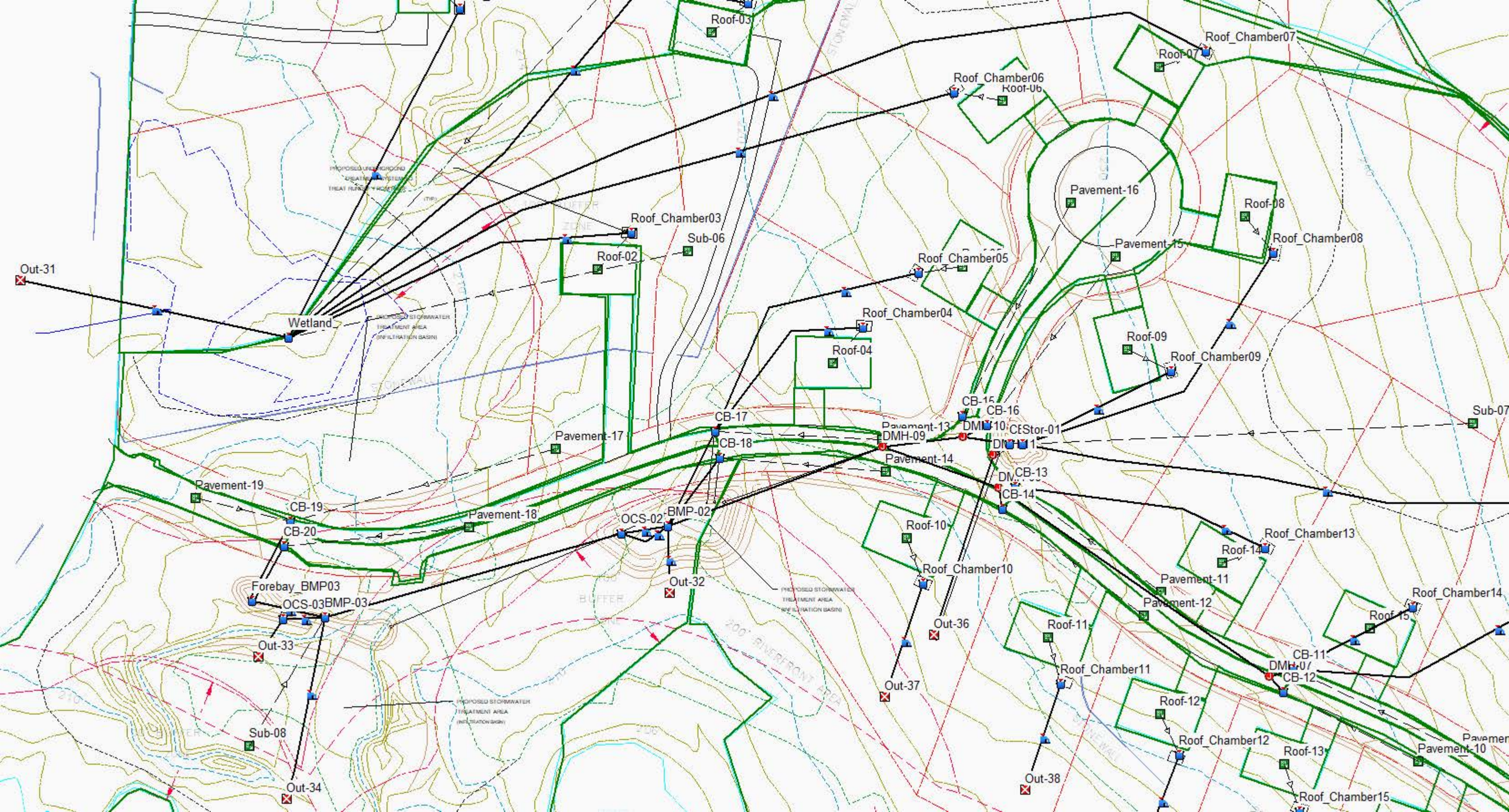
Scenario 1

Proposed Conditions Under Potential Regulations

Output List

- Model Schematic with Labels
- 2-year NOAA Atlas 14
- 2-year NOAA Atlas 14+
- 100-year NOAA Atlas 14
- 100-year NOAA Atlas 14+

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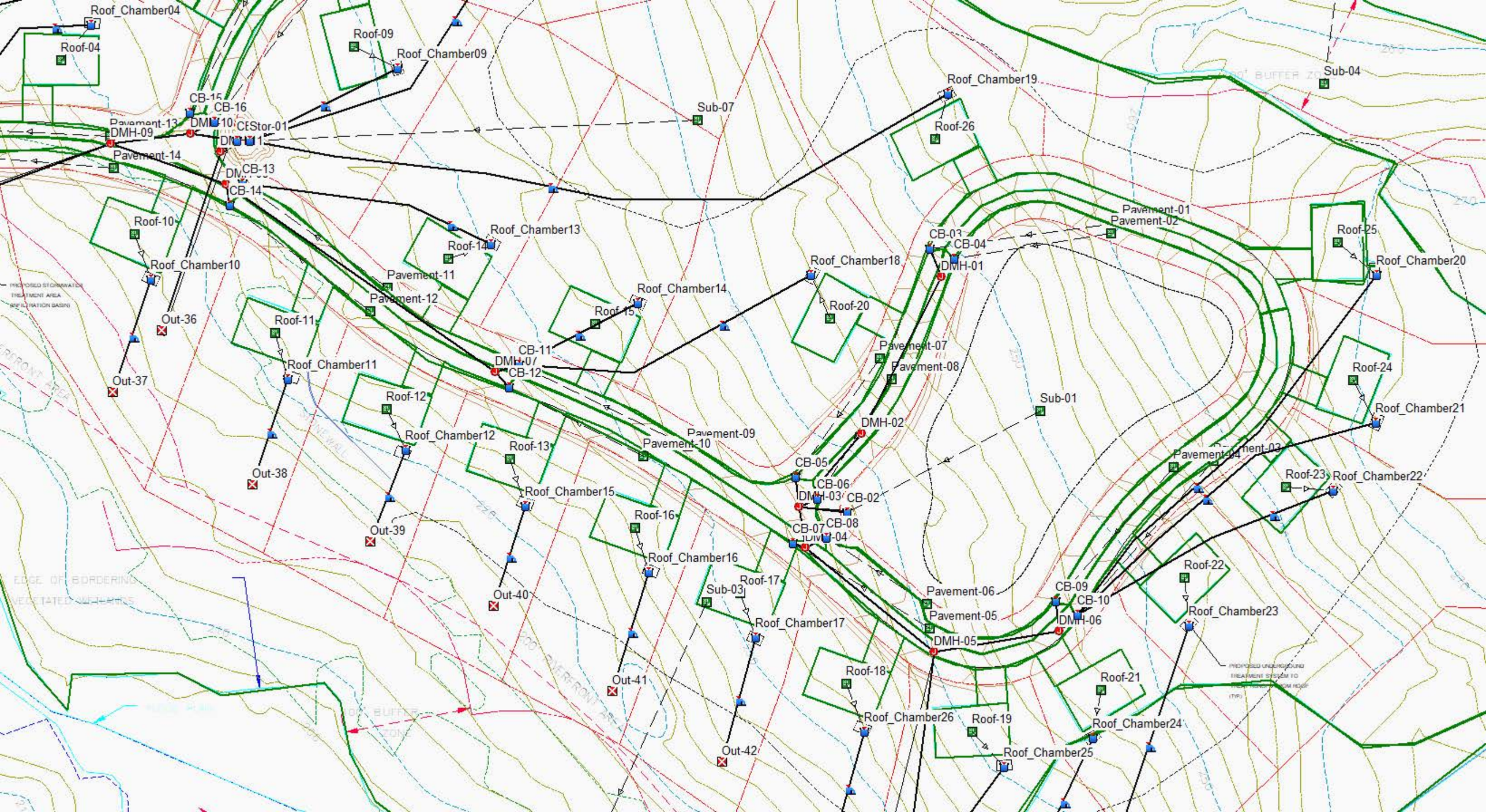
Roof_Chamber07
Roof-07
Roof_Chamber06
Roof-06
Pavement-16
Roof-08
Roof_Chamber08
Pavement-15
Roof_Chamber03
Sub-06
Roof-02
Out-31
Roof_Chamber05
Roof_Chamber04
Roof-04
Roof-09
Roof_Chamber09
Wetland
CB-15
CB-16
Sub-07
CB-17
Pavement-13
DMH-10
CEStor-01
Pavement-17
CB-18
DMH-09
DMH-11
Pavement-14
CB-13
Pavement-19
CB-14
CB-19
Roof_Chamber13
CB-20
Pavement-18
OCS-02
BMP-02
Roof-10
Roof-14
Roof_Chamber10
Pavement-11
Forebay_BMP03
OCS-03
BMP-03
Out-32
Pavement-12
Roof_Chamber14
Roof-15
Out-36
Roof-11
Out-33
CB-11
DMH-07
CB-12
Roof_Chamber11
Out-37
Roof-12
Sub-08
Roof_Chamber12
Roof-13
Pavement-10
Out-34
Out-38
Roof_Chamber15


Roof_Chamber04
Roof-04
Roof-09
Roof_Chamber09
CB-15
CB-16
Pavement-13
DMH-10
CStor-01
DMH-09
DMH-11
Pavement-14
CB-13
CB-14
Sub-07
Roof_Chamber19
Roof-26
Sub-04
Roof-10
Roof_Chamber10
Out-36
Out-37
Roof_Chamber13
Roof-14
Pavement-11
Pavement-12
Roof-11
Roof_Chamber11
Roof-15
Roof_Chamber14
CB-11
DMH-07
CB-12
Roof-12
Roof_Chamber12
Out-38
Out-39
Roof-13
Roof_Chamber15
Out-40
Roof_Chamber18
Roof-20
Pavement-01
Pavement-02
CB-03
CB-04
DMH-01
Roof-25
Roof_Chamber20
Pavement-07
Pavement-08
Roof-24
Roof_Chamber21
Sub-01
DMH-02
Pavement-09
Pavement-10
CB-05
CB-06
DMH-03
CB-02
CB-07
CB-08
DMH-04
Roof-16
Roof_Chamber16
Roof-17
Sub-03
Roof_Chamber17
Out-41
Out-42
Pavement-06
Pavement-05
DMH-05
CB-09
CB-10
DMH-06
Roof-22
Roof_Chamber23
Roof-18
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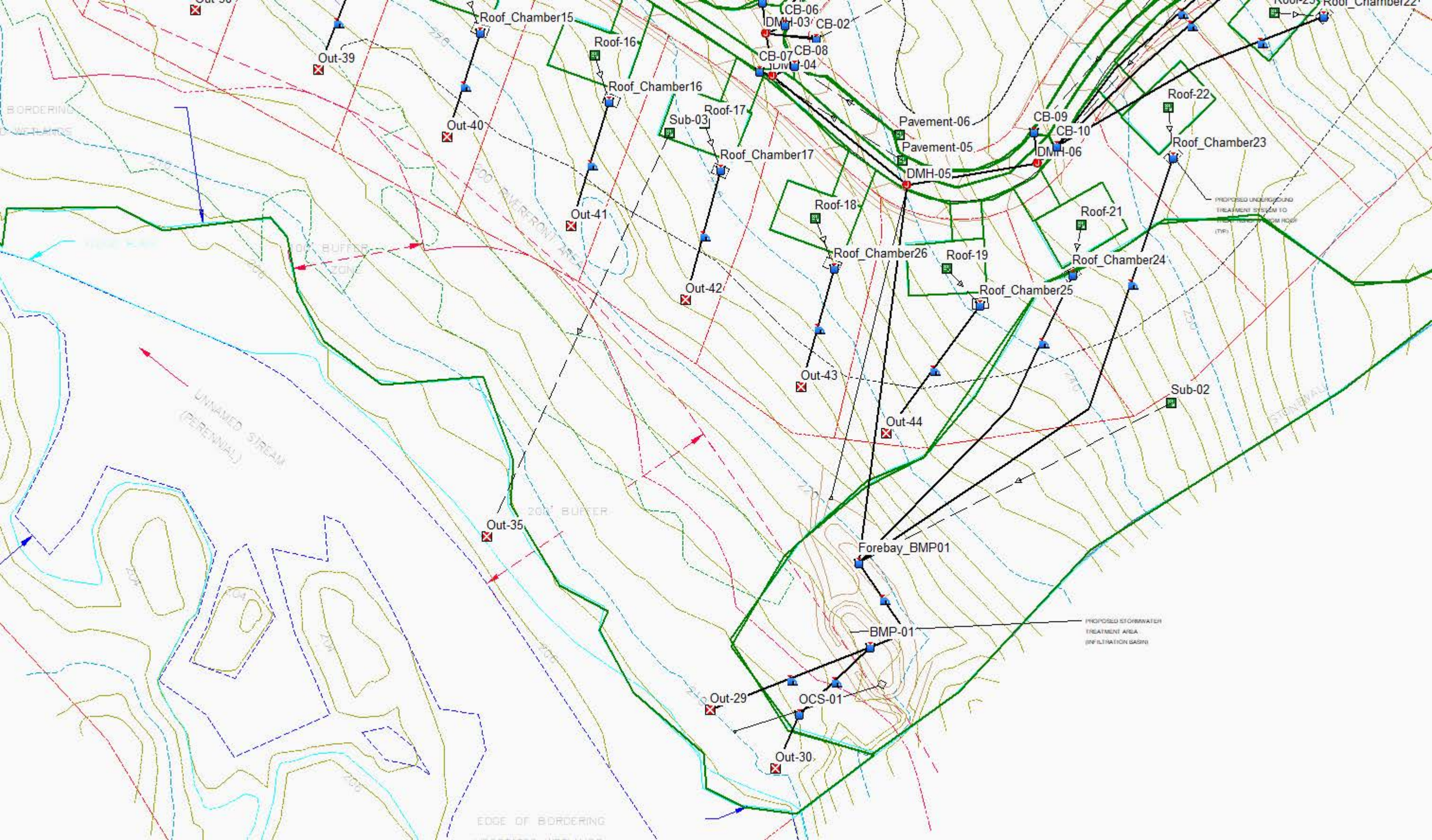
Roof-19
Roof_Chamber25
Roof-21
Roof_Chamber24
Roof-23
Roof_Chamber22


Out-39
Roof_Chamber15
Out-40
Roof-16
Roof_Chamber16
Out-41
Roof-17
Sub-03
Roof_Chamber17
Out-42
Out-35
CB-06
DMH-03
CB-02
CB-07
CB-08
Pavement-06
Pavement-05
DMH-05
Roof-18
Roof_Chamber26
Out-43
Out-44
CB-09
CB-10
DMH-06
Roof-22
Roof_Chamber23
Roof-21
Roof_Chamber24
Roof-19
Roof_Chamber25
Sub-02
Forebay_BMP01
BMP-01
Out-29
OCS-01
Out-30
UNNAMED STREAM
(PERENNIAL)
EDGE OF BORDERING

Project Description

File Name ..... Scenario 1 - Proposed Conditions (Proposed Regulations) (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	50
Nodes	75
Junctions	6
Outfalls	17
Flow Diversions	0
Inlets	0
Storage Nodes	52
Links	70
Channels	0
Pipes	26
Pumps	0
Orifices	4
Weirs	40
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Pavement-01	0.13	484.00	98.00	3.21	2.98	0.40	0.45	0 00:01:36
2	Pavement-02	0.07	484.00	98.00	3.21	2.97	0.19	0.21	0 00:01:20
3	Pavement-03	0.12	484.00	98.00	3.21	2.98	0.37	0.41	0 00:01:27
4	Pavement-04	0.08	484.00	98.00	3.21	2.97	0.24	0.28	0 00:01:22
5	Pavement-05	0.14	484.00	98.00	3.21	2.98	0.43	0.47	0 00:01:16
6	Pavement-06	0.06	484.00	98.00	3.21	2.97	0.19	0.21	0 00:01:04
7	Pavement-07	0.07	484.00	98.00	3.21	2.97	0.22	0.24	0 00:00:58
8	Pavement-08	0.05	484.00	98.00	3.21	2.96	0.16	0.17	0 00:00:58
9	Pavement-09	0.18	484.00	98.00	3.21	2.98	0.55	0.60	0 00:04:04
10	Pavement-10	0.29	484.00	98.00	3.21	2.98	0.87	0.91	0 00:05:53
11	Pavement-13	0.14	484.00	98.00	3.21	2.98	0.41	0.47	0 00:01:25
12	Pavement-15	0.16	484.00	92.42	3.21	2.40	0.38	0.31	0 00:17:09
13	Pavement-16	0.25	484.00	90.40	3.21	2.21	0.55	0.70	0 00:02:12
14	Pavement-17	0.15	484.00	98.00	3.21	2.98	0.45	0.51	0 00:02:49
15	Pavement-18	0.11	484.00	98.00	3.21	2.97	0.33	0.38	0 00:02:22
16	Pavement-19	0.08	484.00	98.00	3.21	2.97	0.24	0.28	0 00:01:06
17	Roof-01	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
18	Roof-02	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
19	Roof-03	0.05	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
20	Roof-04	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
21	Roof-05	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
22	Roof-06	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
23	Roof-07	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
24	Roof-08	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
25	Roof-09	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
26	Roof-10	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
27	Roof-11	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
28	Roof-12	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
29	Roof-13	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
30	Roof-14	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
31	Roof-15	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
32	Roof-16	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
33	Roof-17	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
34	Roof-18	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
35	Roof-19	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
36	Roof-20	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
37	Roof-21	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
38	Roof-22	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
39	Roof-23	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
40	Roof-24	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
41	Roof-25	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
42	Roof-26	0.06	484.00	98.00	3.21	2.97	0.16	0.19	0 00:00:06
43	Sub-01	1.64	484.00	73.47	3.21	1.02	1.67	0.97	0 00:31:55
44	Sub-02	2.48	484.00	73.09	3.21	0.99	2.47	1.23	0 00:42:04
45	Sub-03	9.20	484.00	73.58	3.21	1.02	9.40	4.50	0 00:45:55
46	Sub-04	4.36	484.00	73.02	3.21	0.99	4.32	1.82	0 00:56:46
47	Sub-05	5.21	484.00	73.69	3.21	1.03	5.35	2.26	0 00:57:25
48	Sub-06	4.48	484.00	73.88	3.21	1.04	4.64	1.95	0 00:58:04
49	Sub-07	5.44	484.00	73.62	3.21	1.02	5.56	2.62	0 00:47:13
50	Sub-08	3.74	484.00	73.61	3.21	1.02	3.83	1.60	0 00:57:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	Junction	241.00	247.00	0.00	0.00	0.00	0.65	245.22	0.00	1.78	0 00:00	0.00	0.00
2	DMH-02	Junction	231.15	238.00	0.00	0.00	0.00	0.65	235.44	0.00	2.56	0 00:00	0.00	0.00
3	DMH-03	Junction	229.00	236.00	0.00	0.00	0.00	1.09	232.90	0.00	3.10	0 00:00	0.00	0.00
4	DMH-04	Junction	228.50	237.00	0.00	0.00	0.00	1.09	232.39	0.00	4.61	0 00:00	0.00	0.00
5	DMH-05	Junction	228.00	242.00	0.00	0.00	0.00	2.16	229.41	0.00	12.59	0 00:00	0.00	0.00
6	DMH-06	Junction	241.00	247.00	0.00	0.00	0.00	1.25	245.33	0.00	1.67	0 00:00	0.00	0.00
7	Out-01	Outfall	232.00					1.81	232.00					
8	Out-29	Outfall	210.00					0.00	210.00					
9	Out-30	Outfall	212.00					0.63	212.20					
10	Out-31	Outfall	206.00					0.00	206.00					
11	Out-32	Outfall	212.00					0.00	212.00					
12	Out-33	Outfall	202.00					0.16	202.14					
13	Out-34	Outfall	204.00					0.00	204.00					
14	Out-35	Outfall	204.00					4.49	204.00					
15	Out-37	Outfall	216.00					0.19	216.00					
16	Out-38	Outfall	220.00					0.19	220.00					
17	Out-39	Outfall	220.00					0.19	220.00					
18	Out-40	Outfall	223.00					0.19	223.00					
19	Out-41	Outfall	223.00					0.19	223.00					
20	Out-42	Outfall	228.00					0.19	228.00					
21	Out-43	Outfall	230.00					0.19	230.00					
22	Out-44	Outfall	238.00					0.19	238.00					
23	Out-46	Outfall	219.00					0.03	219.00					
24	BMP-01	Storage Node	215.00	218.00	0.00		0.00	2.84	217.57				0.00	0.00
25	BMP-02	Storage Node	213.00	217.00	0.00		0.00	3.26	216.69				0.00	0.00
26	BMP-03	Storage Node	203.00	206.00	0.00		0.00	4.11	204.30				0.00	0.00
27	BMP-04	Storage Node	222.00	226.00	0.00		0.00	3.28	225.27				0.00	0.00
28	CB-02	Storage Node	231.15	238.00	0.00		1000.00	0.97	234.80				0.00	0.00
29	CB-03	Storage Node	241.15	248.00	0.00		1000.00	0.45	245.52				0.00	0.00
30	CB-04	Storage Node	241.15	248.00	0.00		1000.00	0.21	245.38				0.00	0.00
31	CB-05	Storage Node	0.00	236.00	0.00		1000.00	0.23	56.17				0.00	0.00
32	CB-06	Storage Node	0.00	236.00	0.00		1000.00	0.17	40.60				0.00	0.00
33	CB-07	Storage Node	0.00	236.00	0.00		1000.00	0.47	112.01				0.00	0.00
34	CB-08	Storage Node	0.00	236.00	0.00		1000.00	0.21	50.87				0.00	0.00
35	CB-09	Storage Node	241.15	248.00	0.00		1000.00	0.28	245.43				0.00	0.00
36	CB-10	Storage Node	241.15	248.00	0.00		1000.00	0.98	245.69				0.00	0.00
37	CB-15	Storage Node	221.00	229.00	0.00		1000.00	0.70	226.60				0.00	0.00
38	CB-16	Storage Node	221.00	229.00	0.00		1000.00	0.90	226.42				0.00	0.00
39	CB-17	Storage Node	211.00	220.00	0.00		1000.00	0.85	217.55				0.00	0.00
40	CB-18	Storage Node	211.00	220.00	0.00		1000.00	3.14	217.80				0.00	0.00
41	CB-19	Storage Node	203.65	210.50	0.00		1000.00	0.78	208.07				0.00	0.00
42	CB-20	Storage Node	203.65	210.50	0.00		1000.00	0.38	207.91				0.00	0.00
43	Forebay_BMP01	Storage Node	219.00	220.00	0.00		0.00	2.84	219.58				0.00	0.00
44	Forebay_BMP03	Storage Node	206.00	208.00	0.00		0.00	1.14	207.04				0.00	0.00
45	OCS-01	Storage Node	210.65	217.75	0.00		0.00	0.63	214.85				0.00	0.00
46	OCS-02	Storage Node	209.65	216.50	0.00		0.00	2.56	210.73				0.00	0.00
47	OCS-03	Storage Node	198.65	204.75	0.00		0.00	0.16	202.79				0.00	0.00
48	OCS-05	Storage Node	217.00	225.50	0.00		0.00	3.05	222.06				0.00	0.00
49	Roof_Chamber01	Storage Node	213.00	215.00	0.00		0.00	0.19	214.76				0.00	0.00
50	Roof_Chamber02	Storage Node	219.00	221.00	0.00		0.00	0.19	220.76				0.00	0.00
51	Roof_Chamber03	Storage Node	216.00	218.00	0.00		0.00	0.19	217.76				0.00	0.00
52	Roof_Chamber04	Storage Node	219.00	221.00	0.00		0.00	0.19	220.76				0.00	0.00
53	Roof_Chamber05	Storage Node	221.00	223.00	0.00		0.00	0.19	222.76				0.00	0.00
54	Roof_Chamber06	Storage Node	223.00	225.00	0.00		0.00	0.19	224.76				0.00	0.00
55	Roof_Chamber07	Storage Node	232.00	234.00	0.00		0.00	0.19	233.76				0.00	0.00
56	Roof_Chamber08	Storage Node	233.00	235.00	0.00		0.00	0.19	234.76				0.00	0.00
57	Roof_Chamber09	Storage Node	228.00	230.00	0.00		0.00	0.19	229.76				0.00	0.00
58	Roof_Chamber10	Storage Node	216.00	218.00	0.00		0.00	0.19	217.76				0.00	0.00
59	Roof_Chamber11	Storage Node	220.00	222.00	0.00		0.00	0.19	221.76				0.00	0.00
60	Roof_Chamber12	Storage Node	220.00	222.00	0.00		0.00	0.19	221.76				0.00	0.00
61	Roof_Chamber13	Storage Node	228.00	230.00	0.00		0.00	0.19	229.76				0.00	0.00
62	Roof_Chamber14	Storage Node	232.00	234.00	0.00		0.00	0.19	233.76				0.00	0.00
63	Roof_Chamber15	Storage Node	223.00	225.00	0.00		0.00	0.19	224.76				0.00	0.00
64	Roof_Chamber16	Storage Node	223.00	225.00	0.00		0.00	0.19	224.76				0.00	0.00
65	Roof_Chamber17	Storage Node	228.00	230.00	0.00		0.00	0.19	229.76				0.00	0.00
66	Roof_Chamber18	Storage Node	242.00	244.00	0.00		0.00	0.19	243.76				0.00	0.00
67	Roof_Chamber19	Storage Node	252.00	254.00	0.00		0.00	0.19	253.76				0.00	0.00
68	Roof_Chamber20	Storage Node	269.00	271.00	0.00		0.00	0.19	270.76				0.00	0.00
69	Roof_Chamber21	Storage Node	270.00	272.00	0.00		0.00	0.19	271.76				0.00	0.00
70	Roof_Chamber22	Storage Node	264.00	266.00	0.00		0.00	0.19	265.76				0.00	0.00
71	Roof_Chamber23	Storage Node	250.00	252.00	0.00		0.00	0.19	251.76				0.00	0.00
72	Roof_Chamber24	Storage Node	243.00	245.00	0.00		0.00	0.19	244.76				0.00	0.00
73	Roof_Chamber25	Storage Node	238.00	240.00	0.00		0.00	0.19	239.76				0.00	0.00
74	Roof_Chamber26	Storage Node	230.00	232.00	0.00		0.00	0.19	231.76				0.00	0.00
75	Wetland	Storage Node	206.00	208.00	0.00		0.00	4.30	207.68				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-109	Pipe	CB-15	CB-16	21.15	226.15	226.00	0.7100	12.000	0.0200	0.69	1.95	0.35	2.12	0.43	0.43	0.00	Calculated
2	Link-110	Pipe	CB-16	BMP-04	34.00	226.00	225.75	0.7400	18.000	0.0200	0.89	5.85	0.15	2.48	0.38	0.26	0.00	Calculated
3	Link-114	Pipe	OCS-05	Out-46	102.82	222.00	220.00	1.9500	24.000	0.0200	0.03	20.51	0.00	1.35	0.05	0.03	0.00	Calculated
4	Link-115	Pipe	OCS-05	CB-18	237.93	221.00	217.15	1.6200	12.000	0.0200	3.00	2.95	1.02	4.28	0.87	0.87	0.00	> CAPACITY
5	Link-28	Pipe	OCS-01	Out-30	42.00	214.65	212.00	6.3100	18.000	0.0200	0.63	17.15	0.04	4.53	0.20	0.13	0.00	Calculated
6	Link-29	Pipe	OCS-03	Out-33	40.00	202.65	202.00	1.6300	18.000	0.0200	0.16	8.70	0.02	1.85	0.14	0.10	0.00	Calculated
7	Link-30	Pipe	OCS-02	BMP-03	215.00	210.15	207.00	1.4700	18.000	0.0200	2.56	8.26	0.31	4.07	0.58	0.39	0.00	Calculated
8	Link-31	Pipe	CB-04	DMH-01	17.51	245.15	245.00	0.8600	12.000	0.0200	0.21	2.14	0.10	1.61	0.22	0.22	0.00	Calculated
9	Link-32	Pipe	CB-03	DMH-01	24.09	245.15	245.00	0.6200	12.000	0.0200	0.44	1.83	0.24	2.03	0.32	0.32	0.00	Calculated
10	Link-33	Pipe	DMH-01	DMH-02	139.54	245.00	235.15	7.0600	12.000	0.0200	0.65	6.15	0.11	4.15	0.25	0.25	0.00	Calculated
11	Link-34	Pipe	DMH-02	DMH-03	76.23	235.15	233.15	2.6200	12.000	0.0200	0.64	3.75	0.17	3.48	0.28	0.28	0.00	Calculated
12	Link-35	Pipe	CB-05	DMH-03	24.01	233.15	233.00	0.6200	12.000	0.0200	0.00	1.83	0.00	0.00	0.00	0.00	0.00	Calculated
13	Link-36	Pipe	CB-06	DMH-03	15.56	233.15	233.00	0.9600	12.000	0.0200	0.00	2.27	0.00	0.00	0.00	0.00	0.00	Calculated
14	Link-37	Pipe	CB-02	DMH-03	38.28	234.50	233.15	3.5300	18.000	0.0200	0.97	12.82	0.08	4.06	0.29	0.19	0.00	Calculated
15	Link-38	Pipe	DMH-03	DMH-04	32.64	232.50	232.00	1.5300	18.000	0.0200	1.09	8.45	0.13	2.94	0.39	0.26	0.00	Calculated
16	Link-39	Pipe	CB-08	DMH-04	18.32	233.15	233.00	0.8200	12.000	0.0200	0.00	2.10	0.00	0.00	0.00	0.00	0.00	Calculated
17	Link-40	Pipe	CB-07	DMH-04	10.99	233.15	233.00	1.3600	12.000	0.0200	0.00	2.71	0.00	0.00	0.00	0.00	0.00	Calculated
18	Link-41	Pipe	DMH-04	DMH-05	130.94	232.00	230.00	1.5300	18.000	0.0200	1.09	8.44	0.13	3.14	0.38	0.25	0.00	Calculated
19	Link-42	Pipe	CB-09	DMH-06	23.74	245.15	245.00	0.6300	12.000	0.0200	0.27	1.84	0.15	1.37	0.30	0.30	0.00	Calculated
20	Link-43	Pipe	CB-10	DMH-06	19.02	245.15	245.00	0.7900	12.000	0.0200	0.97	2.06	0.47	2.62	0.48	0.48	0.00	Calculated
21	Link-44	Pipe	DMH-06	DMH-05	100.67	245.00	239.15	5.8100	12.000	0.0200	1.24	5.58	0.22	5.61	0.32	0.32	0.00	Calculated
22	Link-45	Pipe	DMH-05	Forebay_BMP01	245.00	229.00	220.00	3.6700	18.000	0.0200	2.13	13.09	0.16	5.42	0.40	0.27	0.00	Calculated
23	Link-62	Pipe	CB-18	BMP-02	33.00	217.15	216.75	1.2100	24.000	0.0200	3.14	16.19	0.19	3.75	0.62	0.31	0.00	Calculated
24	Link-63	Pipe	CB-17	BMP-02	52.00	217.15	216.75	0.7700	18.000	0.0200	0.84	5.99	0.14	2.48	0.37	0.25	0.00	Calculated
25	Link-77	Pipe	CB-19	Forebay_BMP03	67.00	207.65	207.00	0.9700	12.000	0.0200	0.77	2.28	0.34	2.68	0.39	0.39	0.00	Calculated
26	Link-78	Pipe	CB-20	Forebay_BMP03	47.00	207.65	207.00	1.3800	12.000	0.0200	0.38	2.72	0.14	2.39	0.25	0.25	0.00	Calculated
27	Orifice-02	Orifice	BMP-04	OCS-05		222.00	217.00		3.000		0.35							
28	Orifice-03	Orifice	BMP-01	OCS-01		215.00	210.65		3.000		0.27							
29	Orifice-04	Orifice	BMP-02	OCS-02		213.00	209.65		3.000		0.39							
30	Orifice-05	Orifice	BMP-03	OCS-03		203.00	198.65		3.000		0.16							
31	Orifice2	Weir	BMP-04	OCS-05		222.00	217.00				2.36							
32	Orifice3	Weir	BMP-01	OCS-01		215.00	210.65				0.04							
33	Orifice4	Weir	BMP-01	OCS-01		215.00	210.65				0.32							
34	OrificeforOCS	Weir	BMP-04	OCS-05		222.00	217.00				0.33							
35	Weir-01	Weir	Forebay_BMP01	BMP-01		219.00	215.00				2.84							
36	Weir-02	Weir	BMP-01	Out-29		215.00	210.00				0.00							
37	Weir-03	Weir	BMP-01	OCS-01		215.00	210.65				0.00							
38	Weir-04	Weir	Wetland	Out-31		206.00	206.00				0.00							
39	Weir-06	Weir	BMP-02	Out-32		213.00	212.00				0.00							
40	Weir-07	Weir	BMP-02	OCS-02		213.00	209.65				2.17							
41	Weir-09	Weir	BMP-03	OCS-03		203.00	198.65				0.00							
42	Weir-10	Weir	BMP-03	Out-34		203.00	204.00				0.00							
43	Weir-16	Weir	Forebay_BMP03	BMP-03		206.00	203.00				1.14							
44	Weir-17	Weir	BMP-04	OCS-05		222.00	217.00				0.00							
45	Weir-19	Weir	Roof_Chamber01	Wetland		213.00	206.00				0.19							
46	Weir-20	Weir	Roof_Chamber02	Wetland		219.00	206.00				0.19							
47	Weir-21	Weir	Roof_Chamber03	Wetland		216.00	206.00				0.19							
48	Weir-22	Weir	Roof_Chamber04	CB-17		219.00	211.00				0.19							
49	Weir-23	Weir	Roof_Chamber05	CB-17		221.00	211.00				0.19							
50	Weir-24	Weir	Roof_Chamber06	Wetland		223.00	206.00				0.19							
51	Weir-25	Weir	Roof_Chamber07	Wetland		232.00	206.00				0.19							
52	Weir-26	Weir	Roof_Chamber09	BMP-04		228.00	222.00				0.19							
53	Weir-27	Weir	Roof_Chamber08	BMP-04		233.00	222.00				0.19							
54	Weir-31	Weir	Roof_Chamber19	BMP-04		252.00	222.00				0.19							
55	Weir-32	Weir	Roof_Chamber20	CB-10		269.00	241.15				0.19							
56	Weir-33	Weir	Roof_Chamber21	CB-10		270.00	241.15				0.19							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
57	Weir-34	Weir	Roof_Chamber22	CB-10		264.00	241.15				0.19							
58	Weir-35	Weir	Roof_Chamber23	Forebay_BMP01		250.00	219.00				0.19							
59	Weir-36	Weir	Roof_Chamber24	Forebay_BMP01		243.00	219.00				0.19							
60	Weir-37	Weir	Roof_Chamber25	Out-44		238.00	238.00				0.19							
61	Weir-38	Weir	Roof_Chamber26	Out-43		230.00	230.00				0.19							
62	Weir-39	Weir	Roof_Chamber17	Out-42		228.00	228.00				0.19							
63	Weir-40	Weir	Roof_Chamber16	Out-41		223.00	223.00				0.19							
64	Weir-41	Weir	Roof_Chamber15	Out-40		223.00	223.00				0.19							
65	Weir-42	Weir	Roof_Chamber12	Out-39		220.00	220.00				0.19							
66	Weir-43	Weir	Roof_Chamber11	Out-38		220.00	220.00				0.19							
67	Weir-44	Weir	Roof_Chamber10	Out-37		216.00	216.00				0.19							
68	Weir-45	Weir	Roof_Chamber18	BMP-04		242.00	222.00				0.19							
69	Weir-46	Weir	Roof_Chamber14	BMP-04		232.00	222.00				0.19							
70	Weir-47	Weir	Roof_Chamber13	BMP-04		228.00	222.00				0.19							

Subbasin Hydrology

Subbasin : Pavement-01

Input Data

Area (ac) 0.13
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.13	C	98.00
Composite Area & Weighted CN	0.13		98.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	40	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	0.54	0.00	0.00

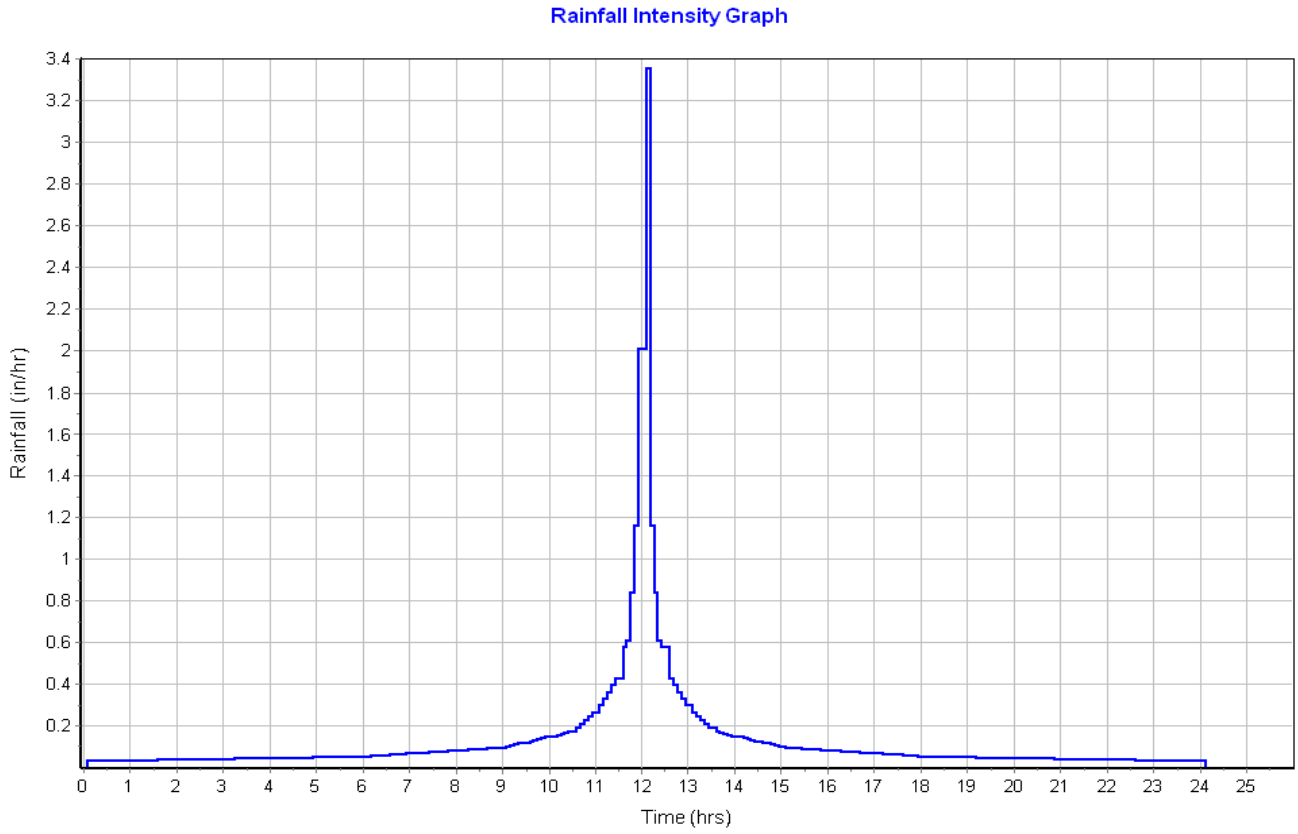
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

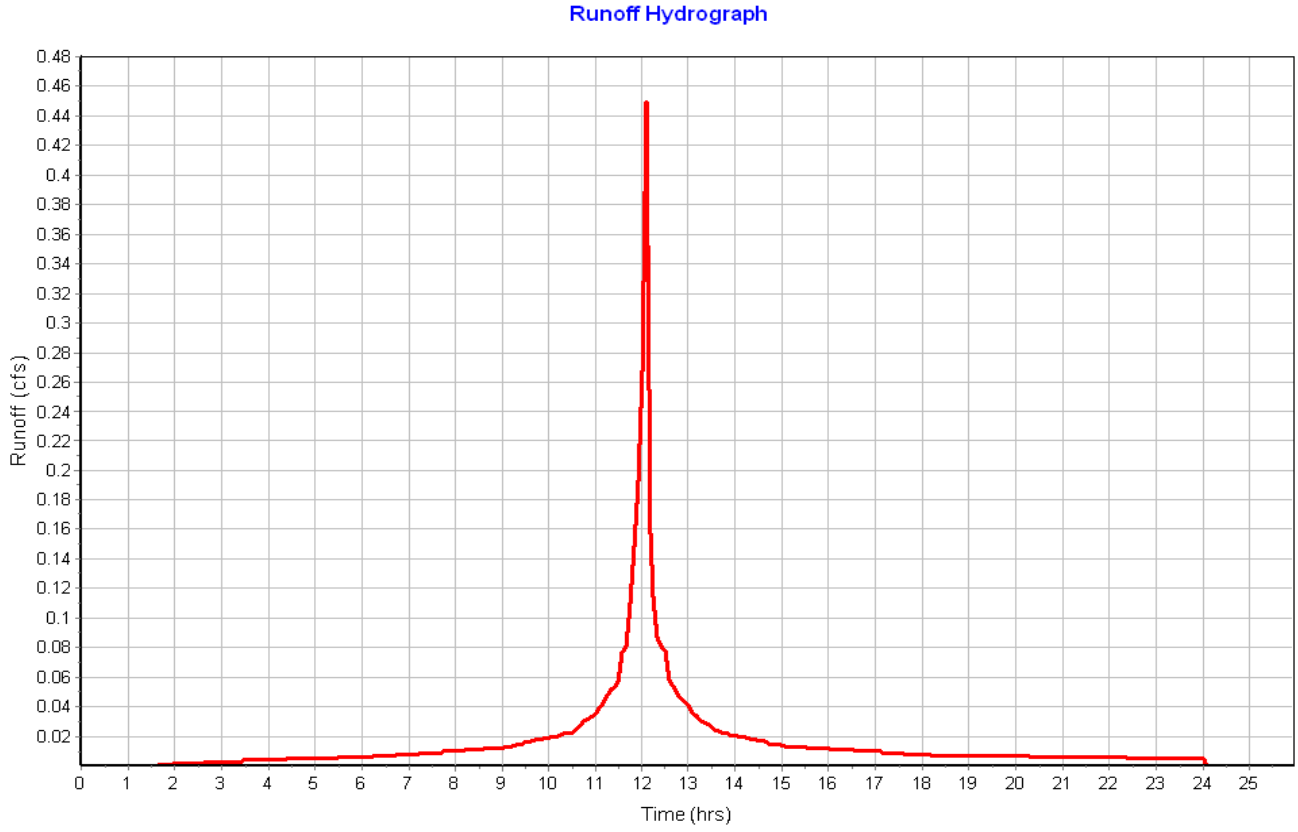
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.98
Peak Runoff (cfs)	0.45
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Pavement-01





Subbasin : Pavement-02

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.17	0.00	0.00
Computed Flow Time (min) :	0.43	0.00	0.00

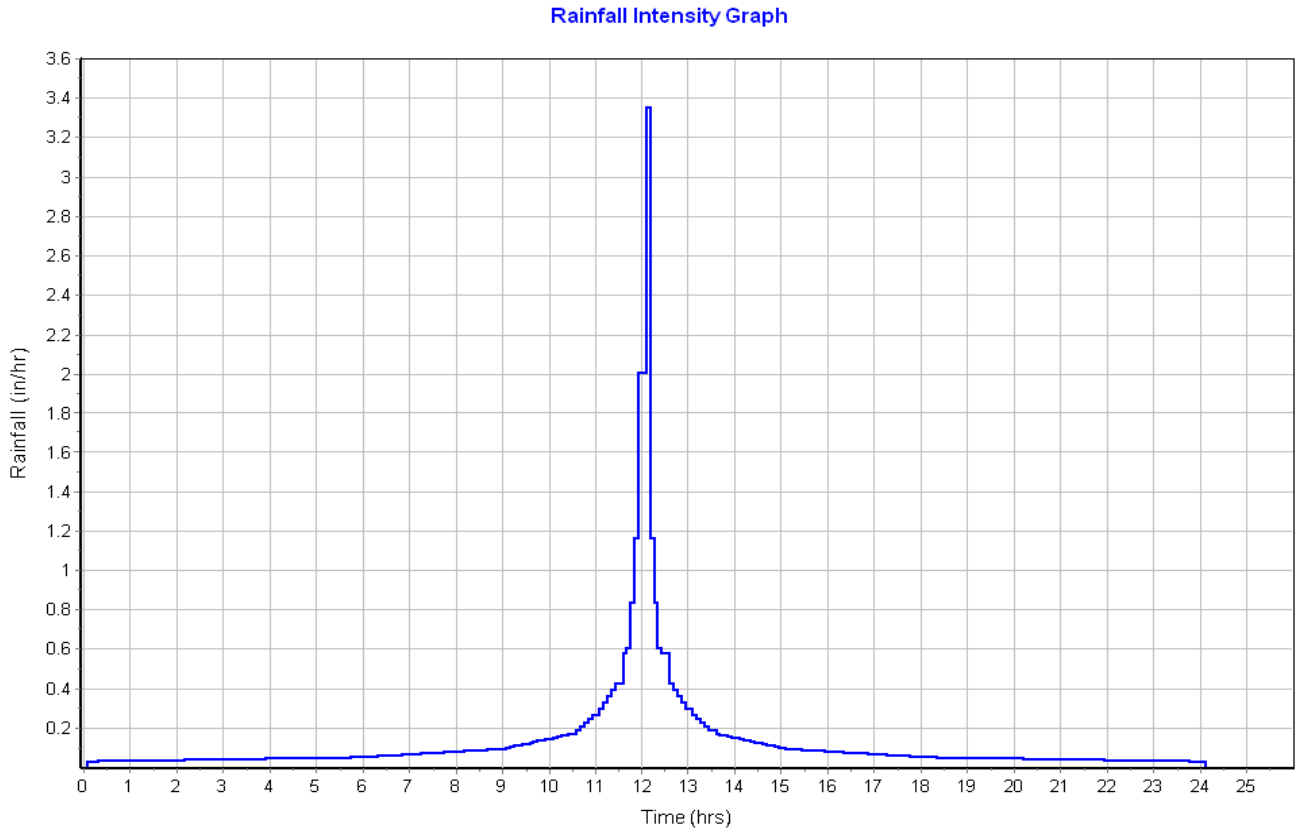
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.82	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

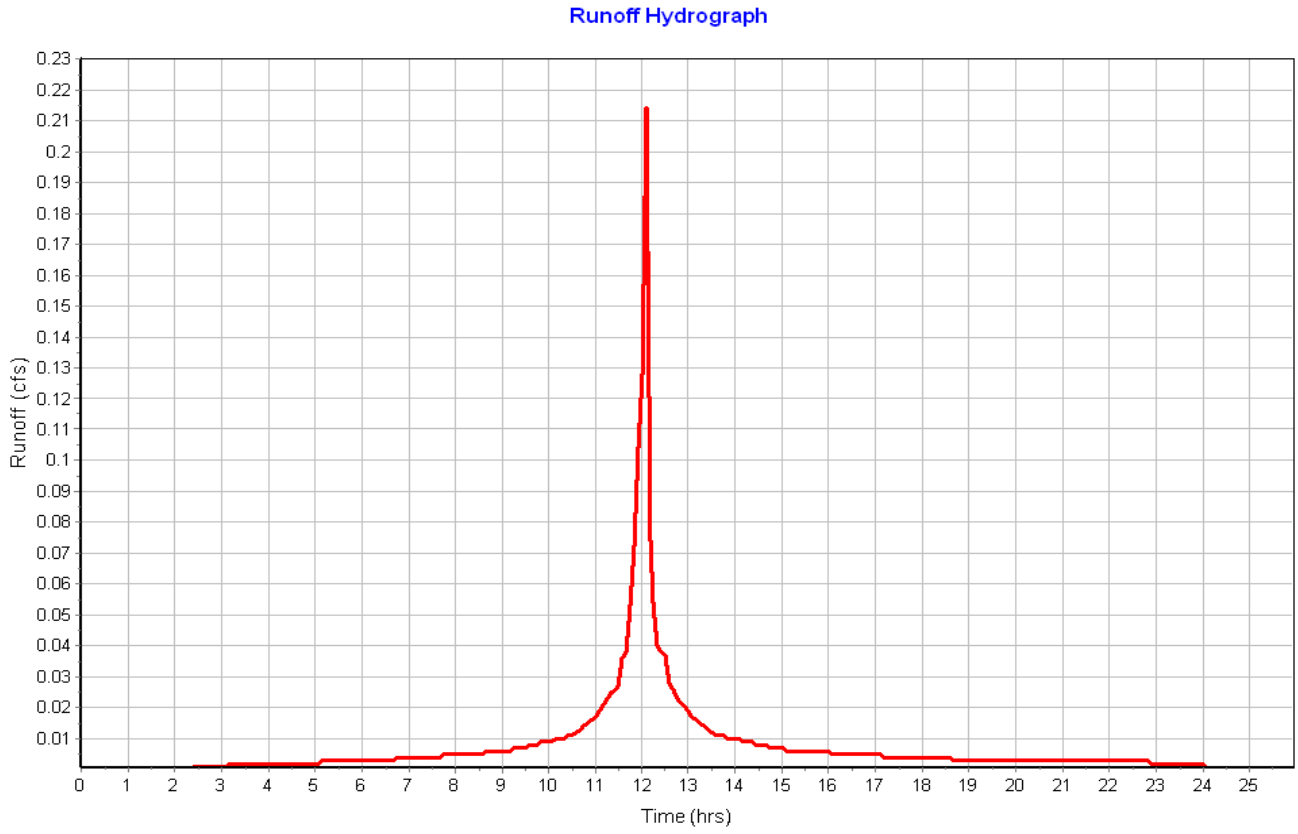
Total TOC (min) 1.34

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.21
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:20

Subbasin : Pavement-02





Subbasin : Pavement-03

Input Data

Area (ac)	0.12
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
Composite Area & Weighted CN	0.12		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	41.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.25	0.00	0.00
Computed Flow Time (min) :	0.56	0.00	0.00

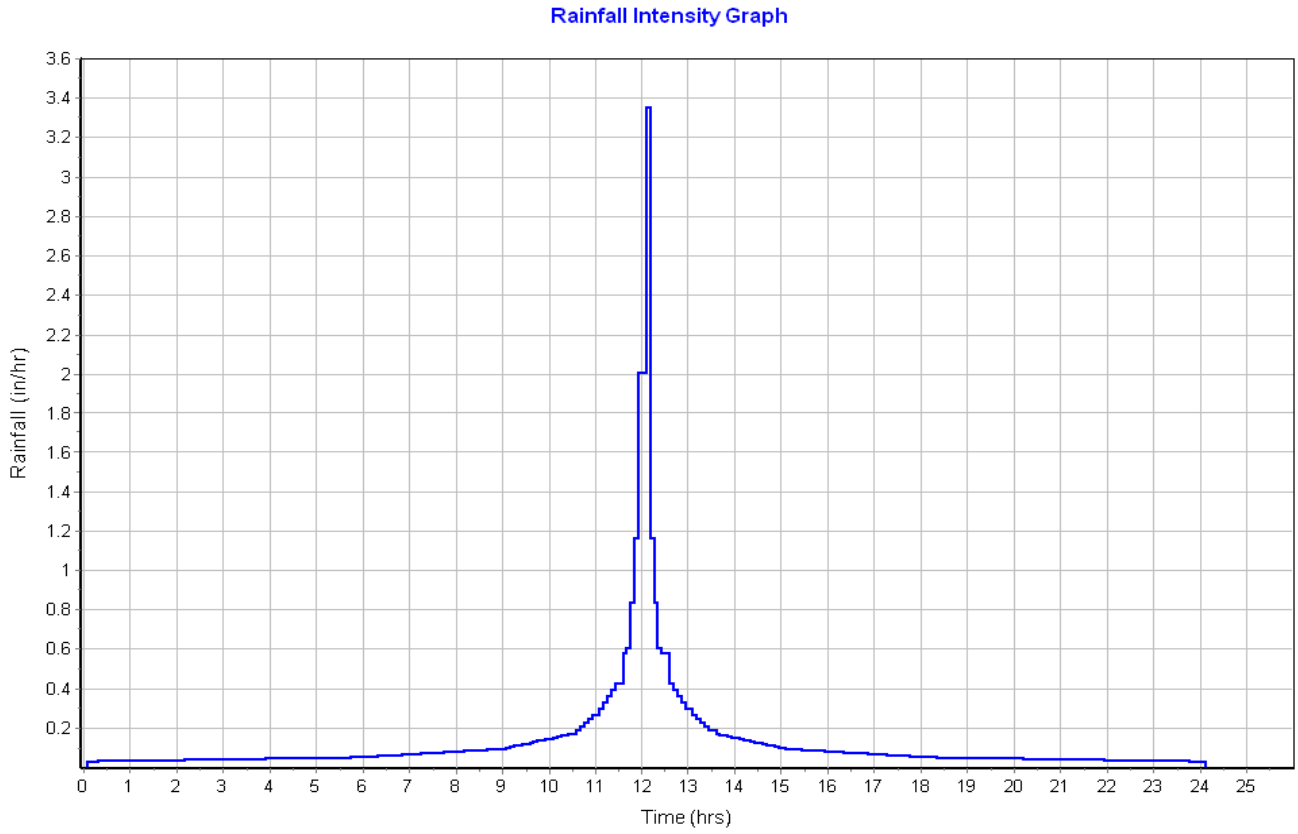
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	266.17	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

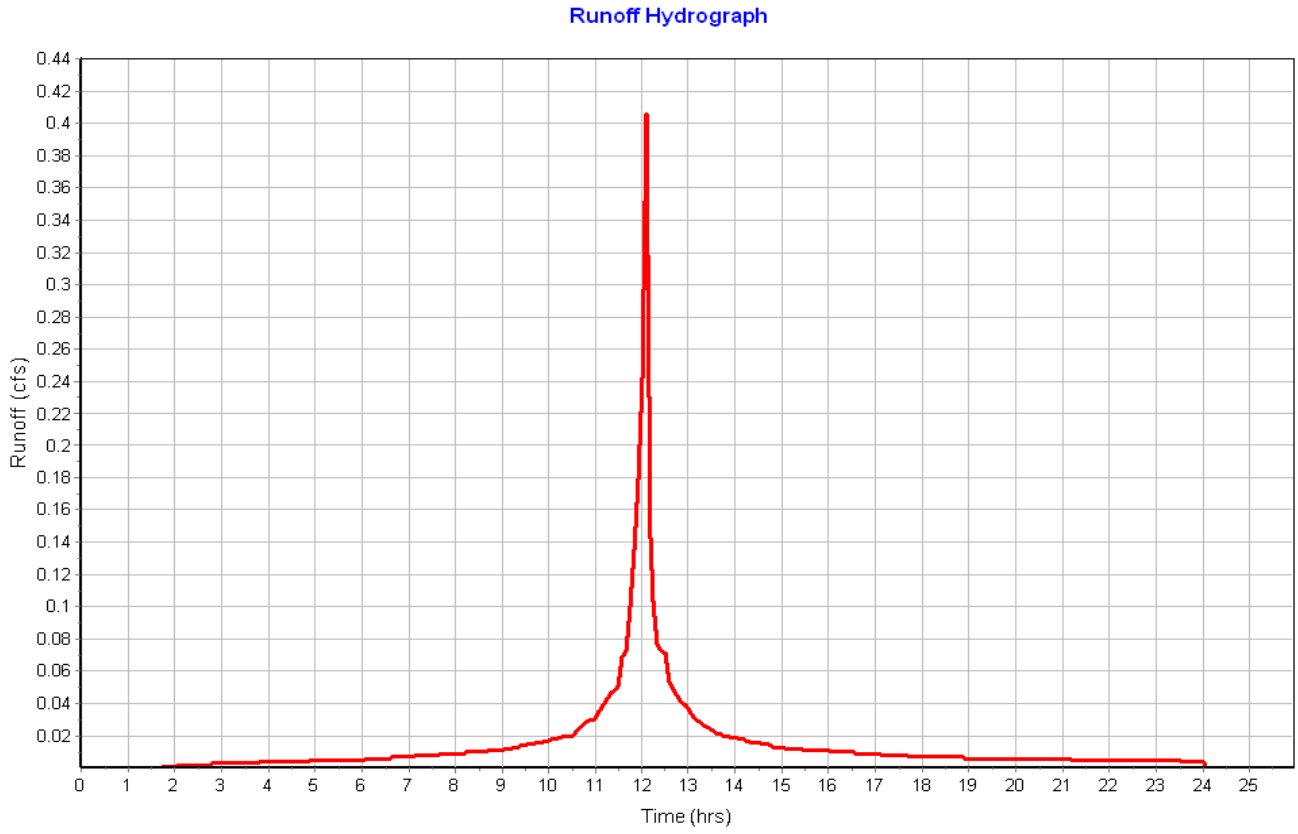
Total TOC (min) 1.45

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.98
Peak Runoff (cfs)	0.41
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:27

Subbasin : Pavement-03





Subbasin : Pavement-04

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	36.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.22	0.00	0.00
Computed Flow Time (min) :	0.50	0.00	0.00

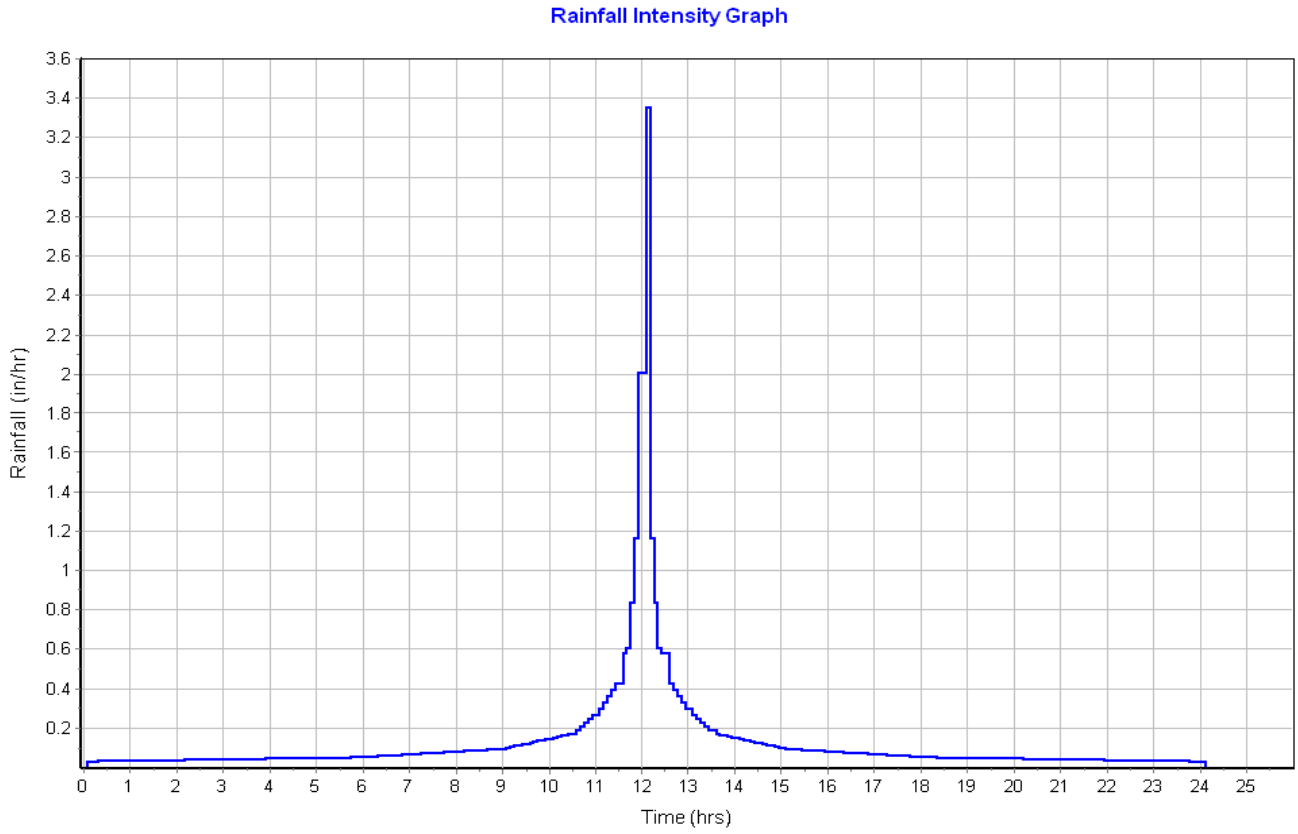
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.91	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

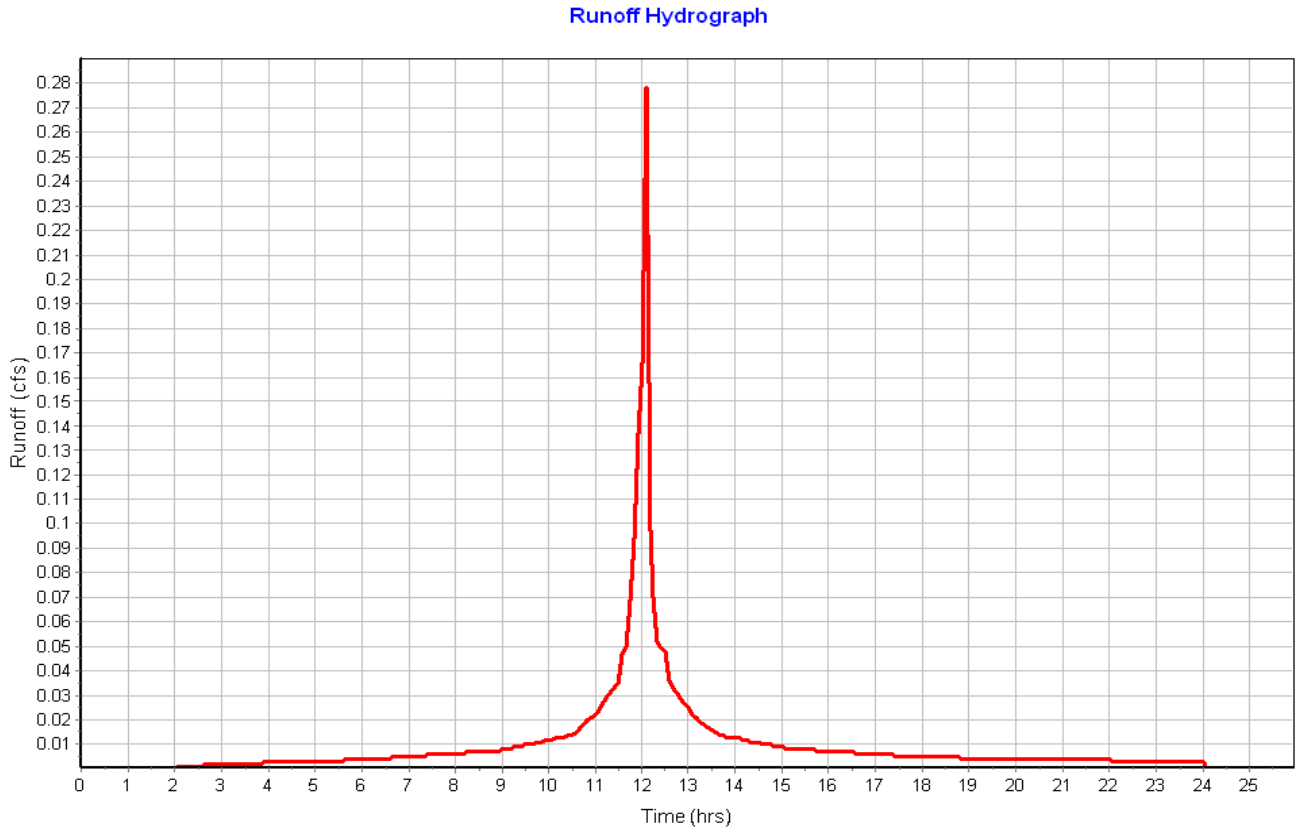
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.28
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Pavement-04





Subbasin : Pavement-05

Input Data

Area (ac) 0.14
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.14	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

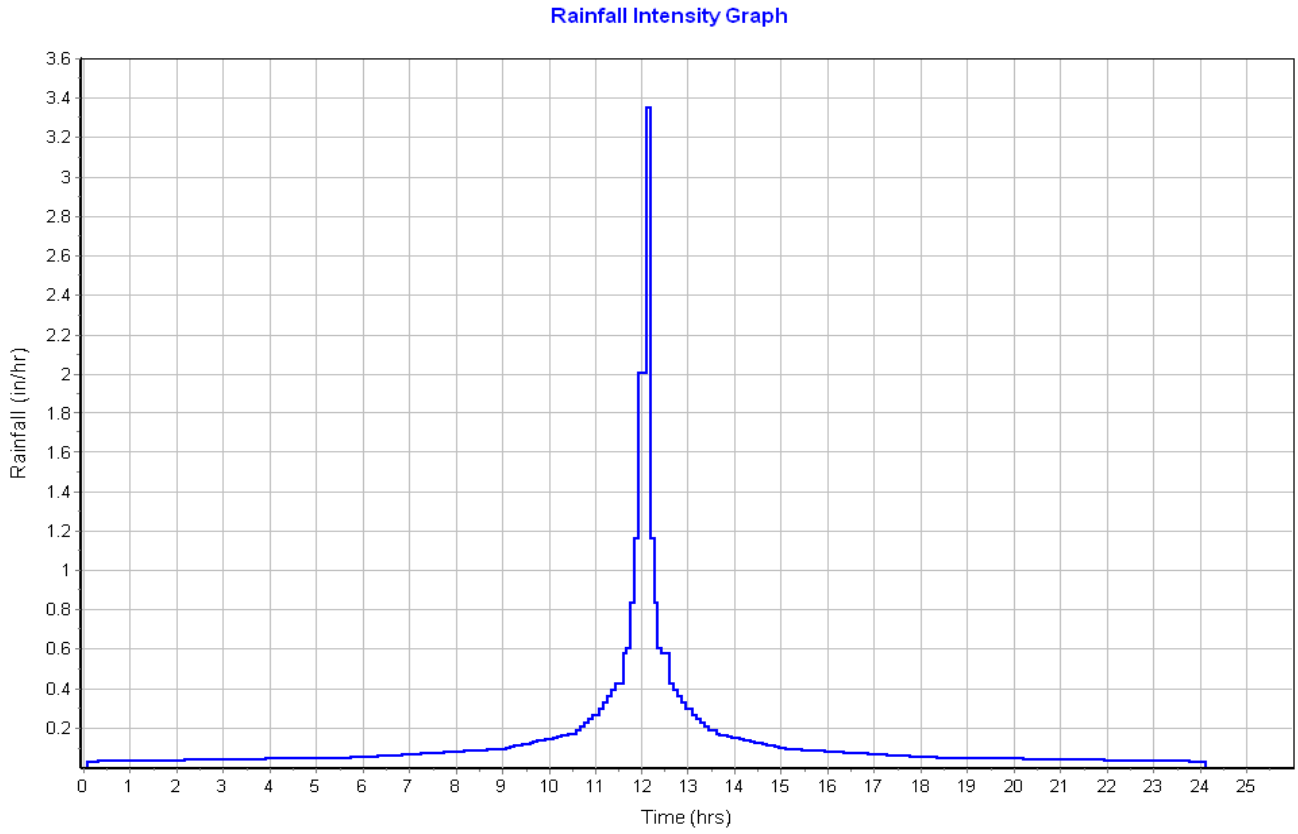
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	272.65	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

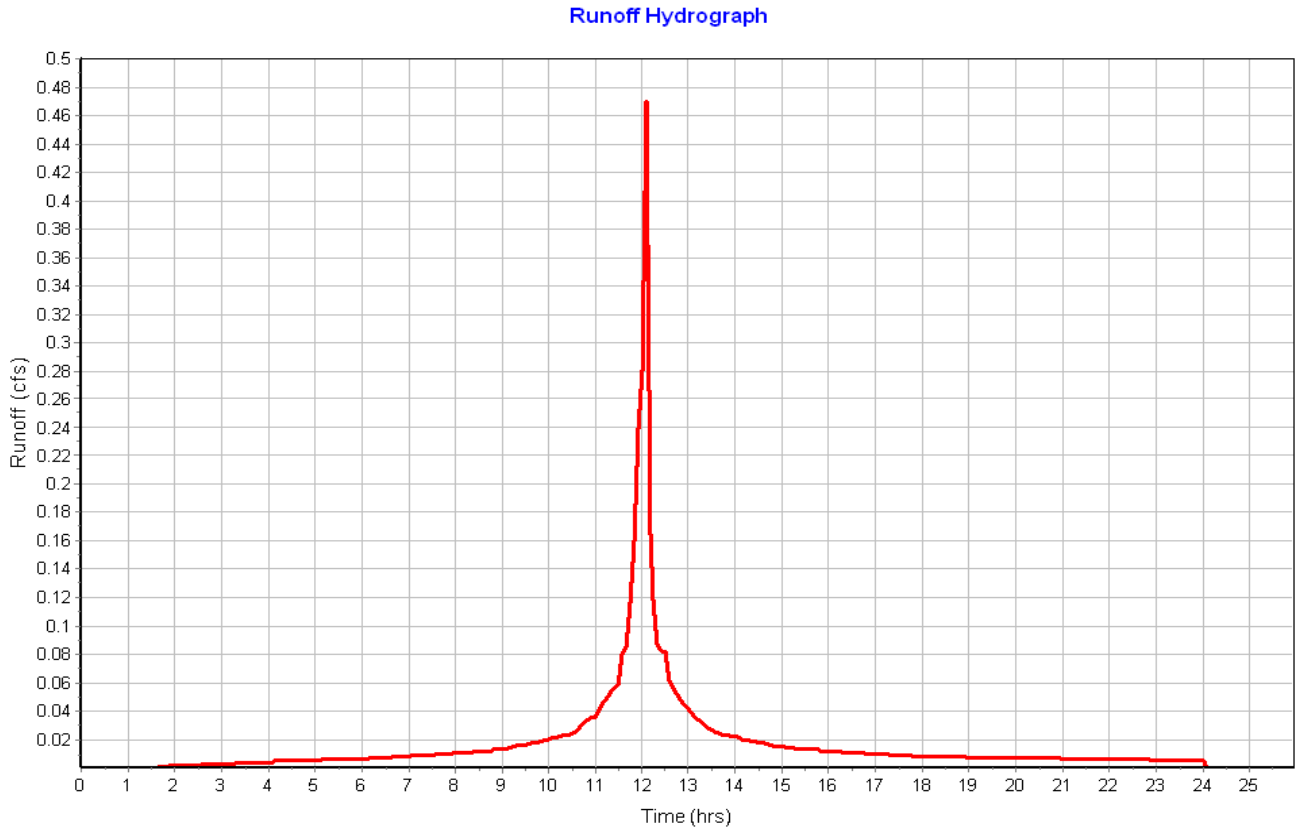
Total TOC (min) 1.27

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.98
Peak Runoff (cfs) 0.47
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:16

Subbasin : Pavement-05





Subbasin : Pavement-06

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.22	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

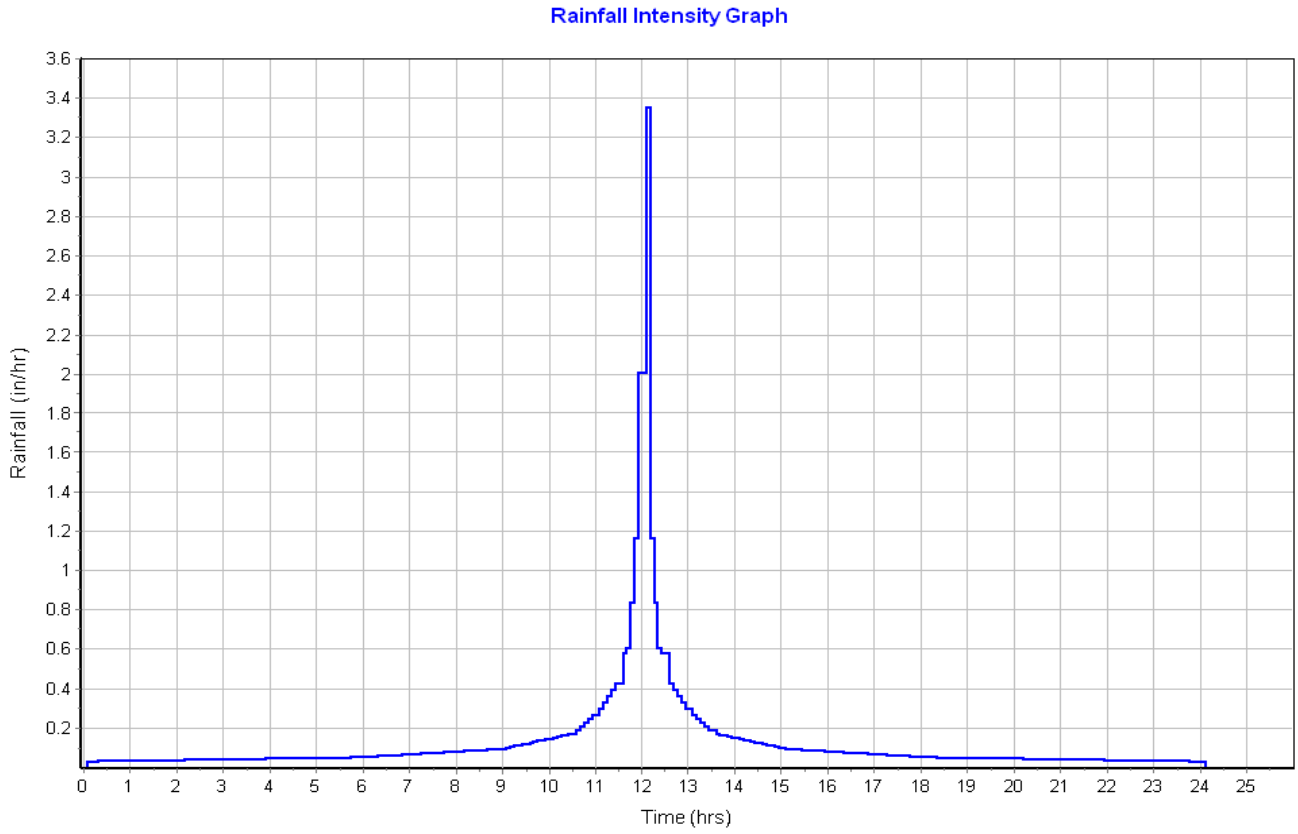
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	220.27	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	0.86	0.00	0.00

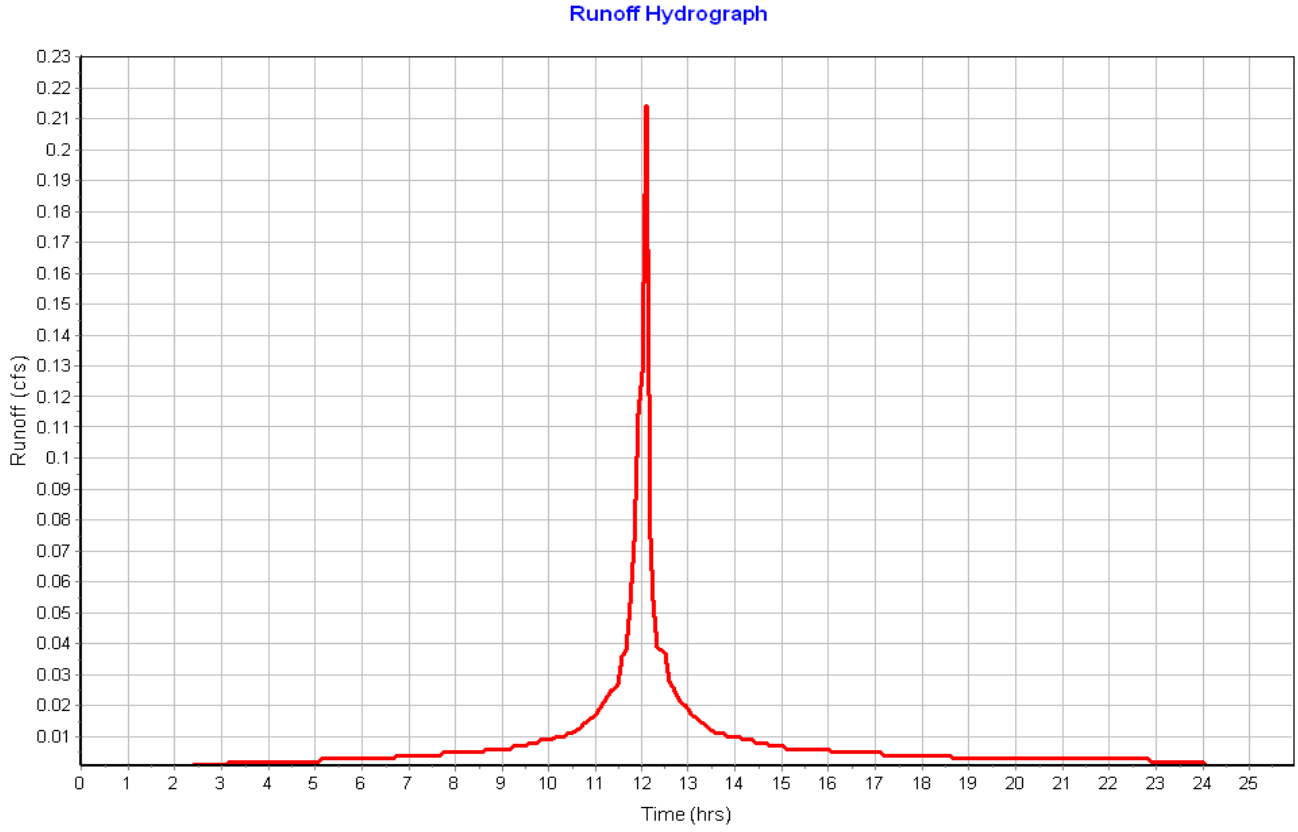
Total TOC (min) 1.07

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.21
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:04

Subbasin : Pavement-06





Subbasin : Pavement-07

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.65	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.01	0.00	0.00
Computed Flow Time (min) :	0.24	0.00	0.00

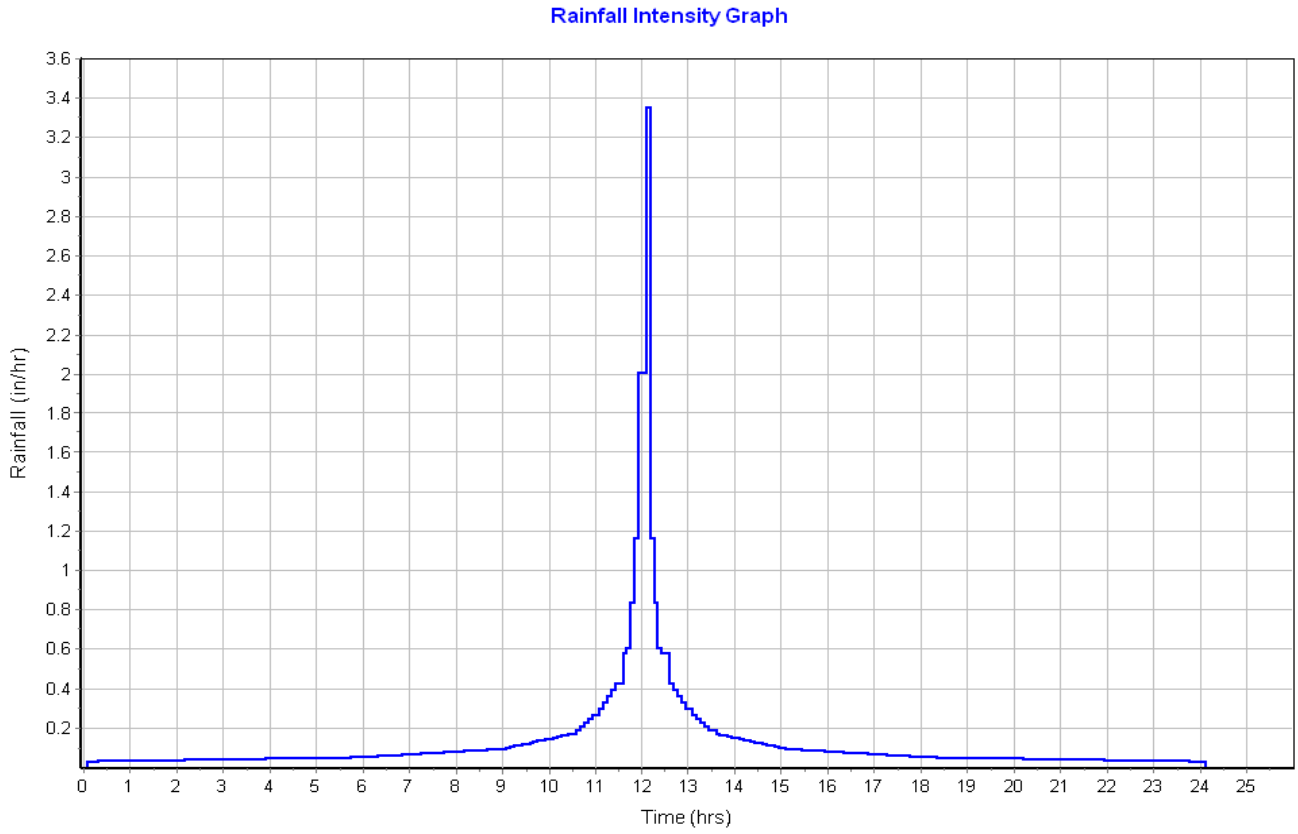
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	211.90	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

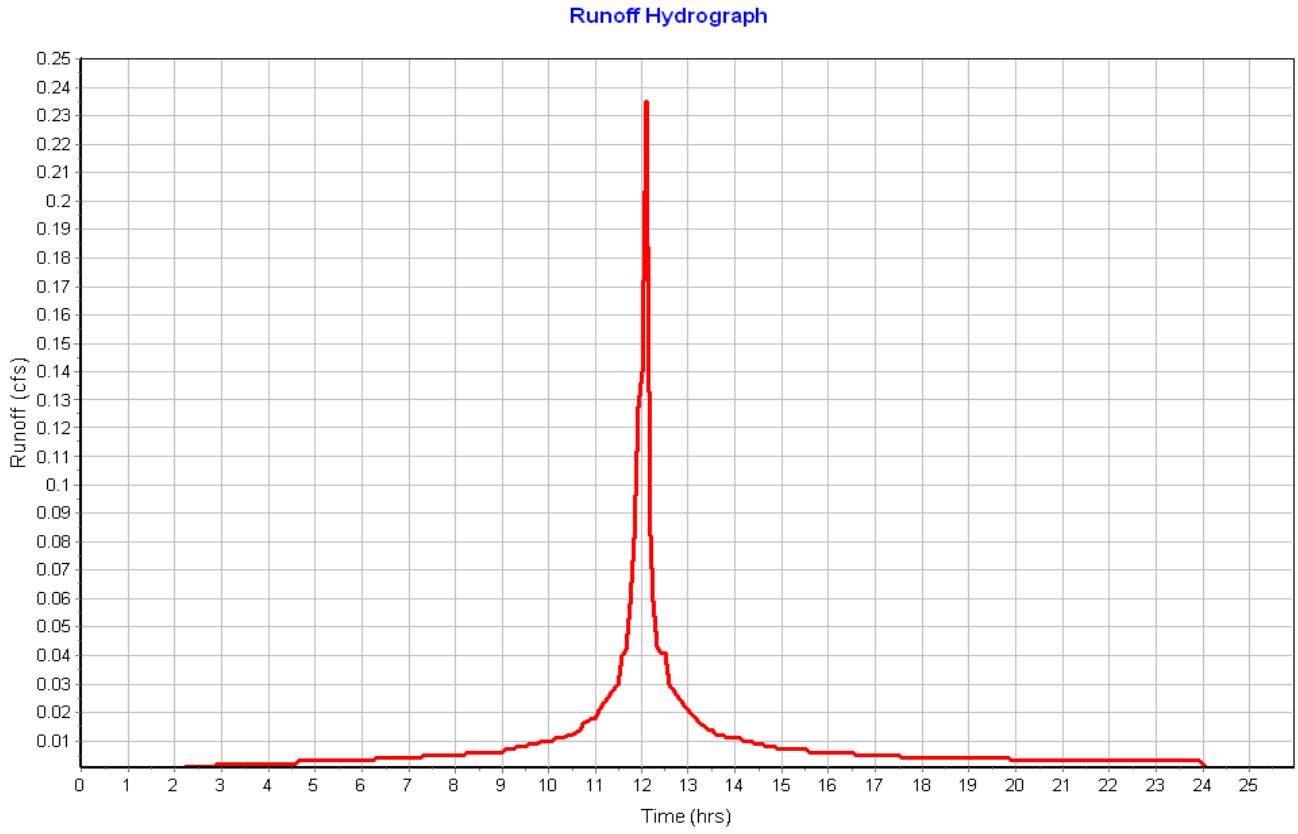
Total TOC (min) 0.97

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.24
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:58

Subbasin : Pavement-07





Subbasin : Pavement-08

Input Data

Area (ac) 0.05
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.97	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

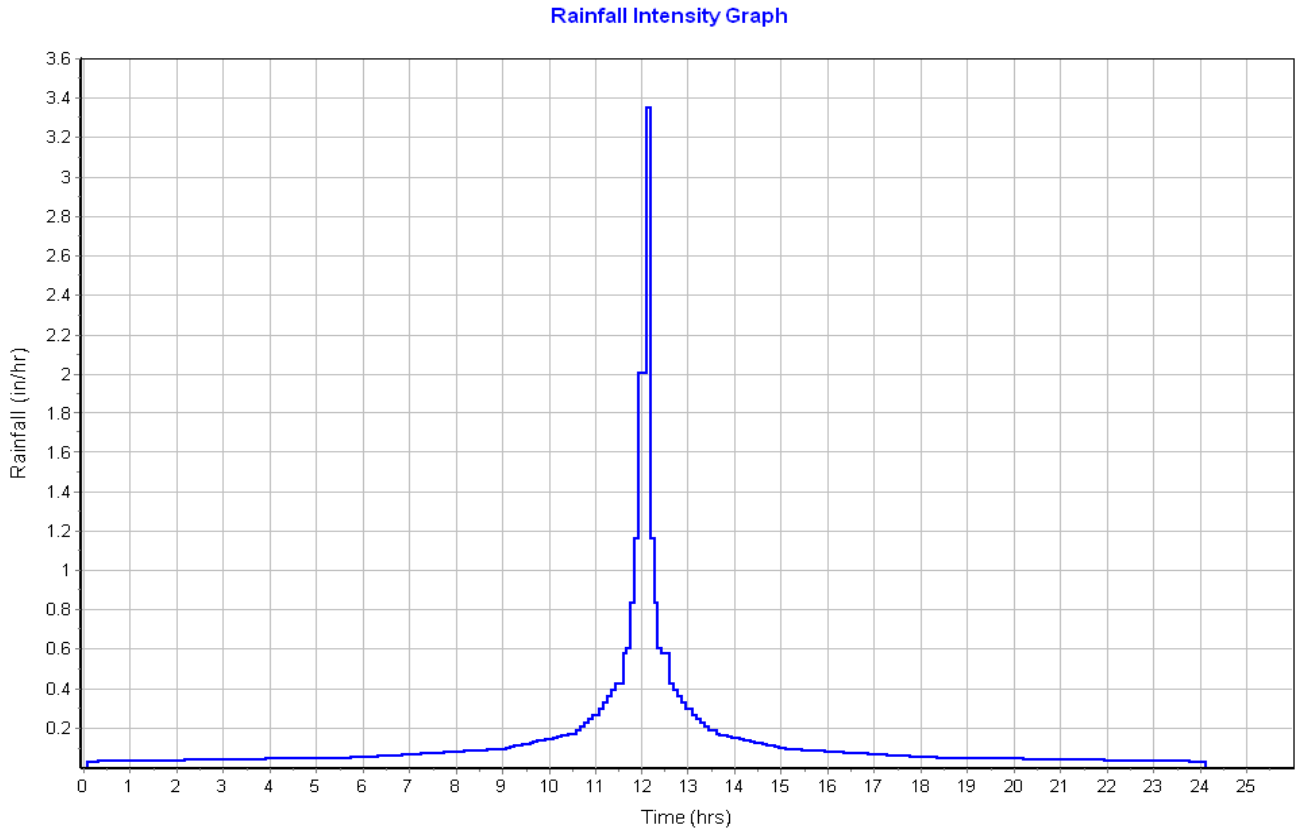
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	226.53	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.78	0.00	0.00

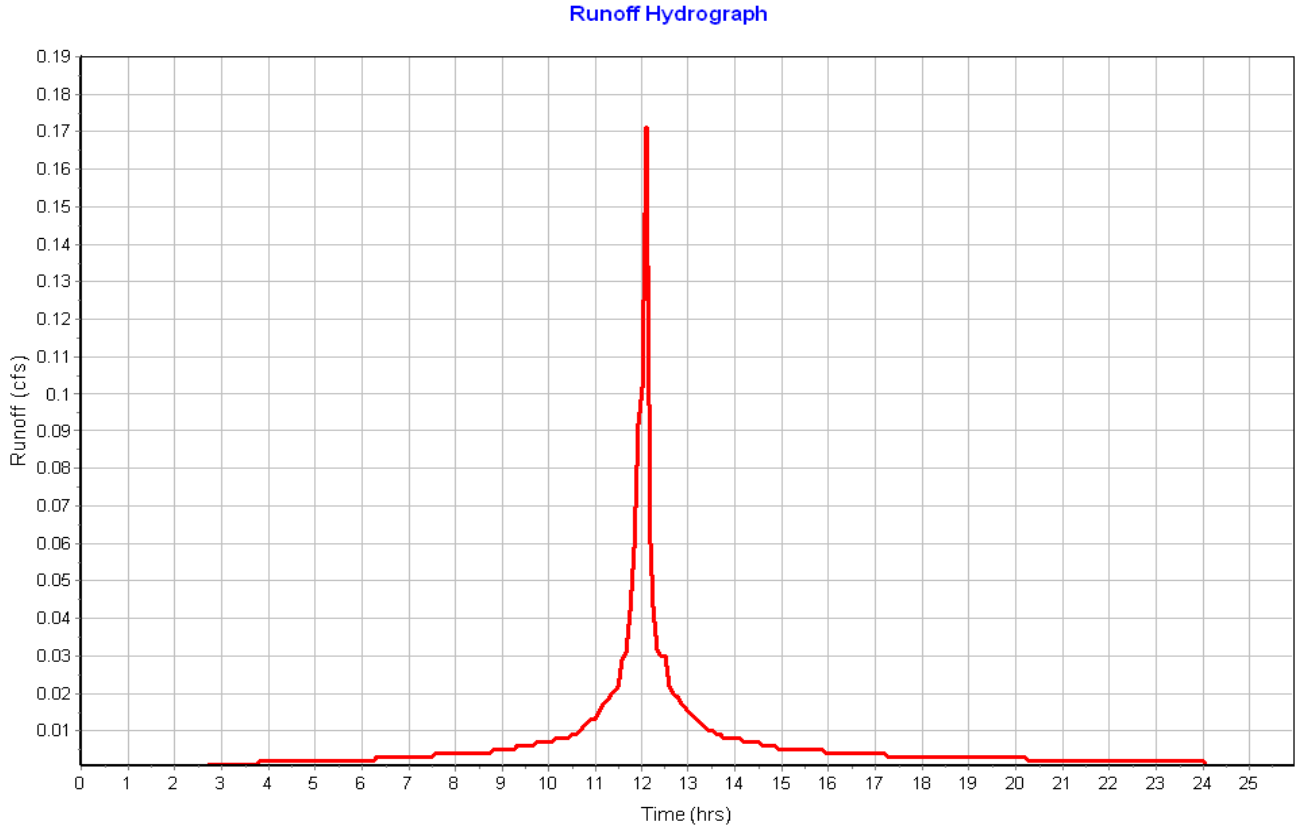
Total TOC (min) 0.98

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.96
Peak Runoff (cfs) 0.17
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:59

Subbasin : Pavement-08





Subbasin : Pavement-09

Input Data

Area (ac) 0.18
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.18	C	98.00
Composite Area & Weighted CN	0.18		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	82.18	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.54	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

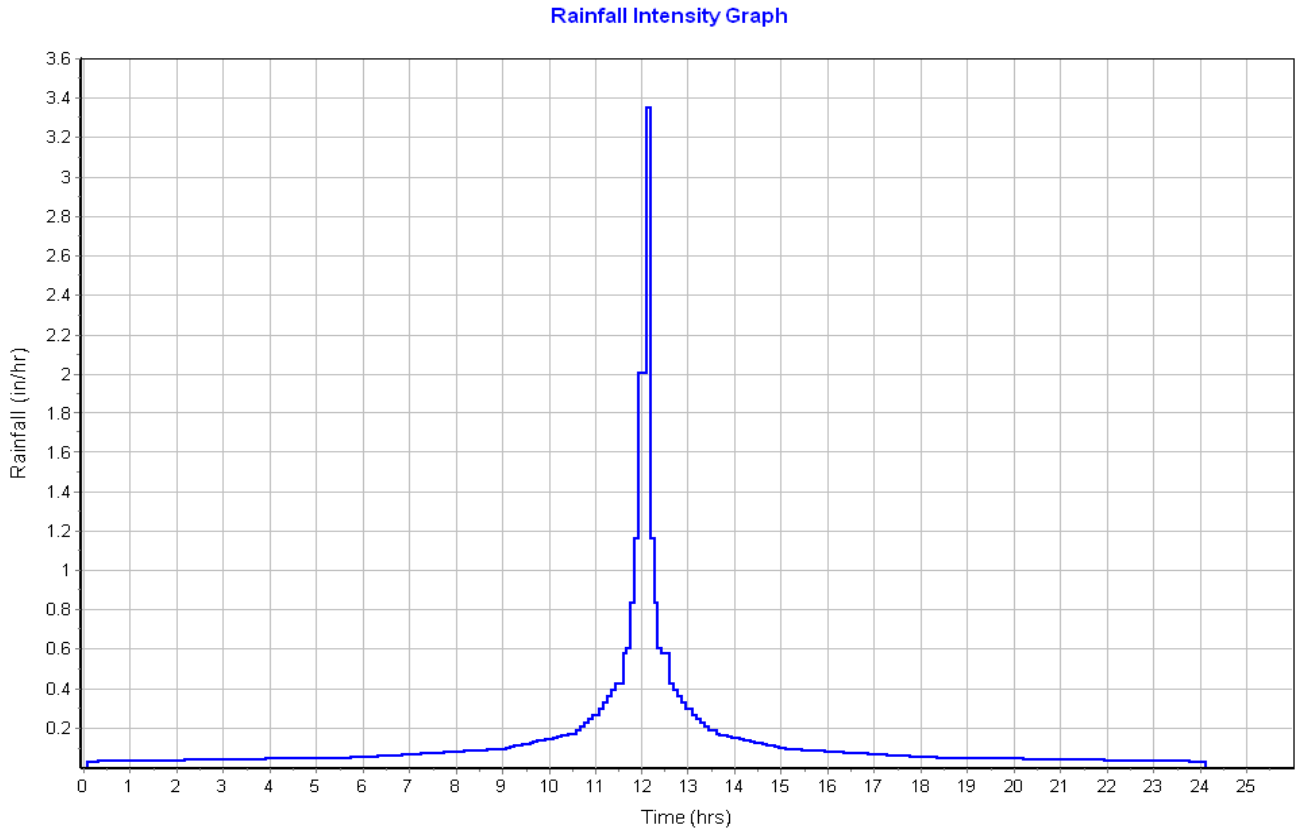
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	449.39	0.00	0.00
Slope (%) :	2.45	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.35	0.00	0.00
Computed Flow Time (min) :	3.19	0.00	0.00

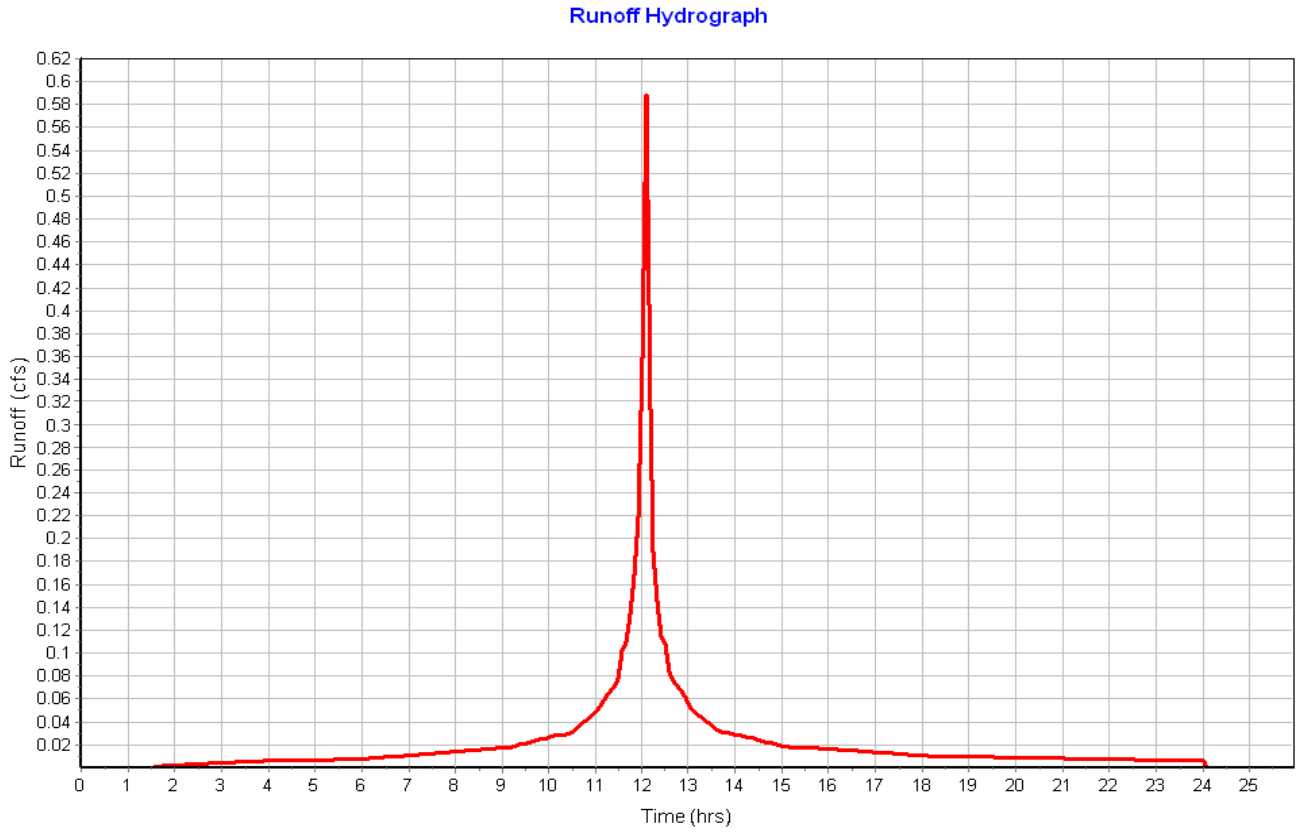
Total TOC (min) 4.08

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.98
Peak Runoff (cfs) 0.60
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:04:05

Subbasin : Pavement-09





Subbasin : Pavement-10

Input Data

Area (ac) 0.29
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.29	C	98.00
Composite Area & Weighted CN	0.29		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	23.24	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.11	0.00	0.00
Computed Flow Time (min) :	0.35	0.00	0.00

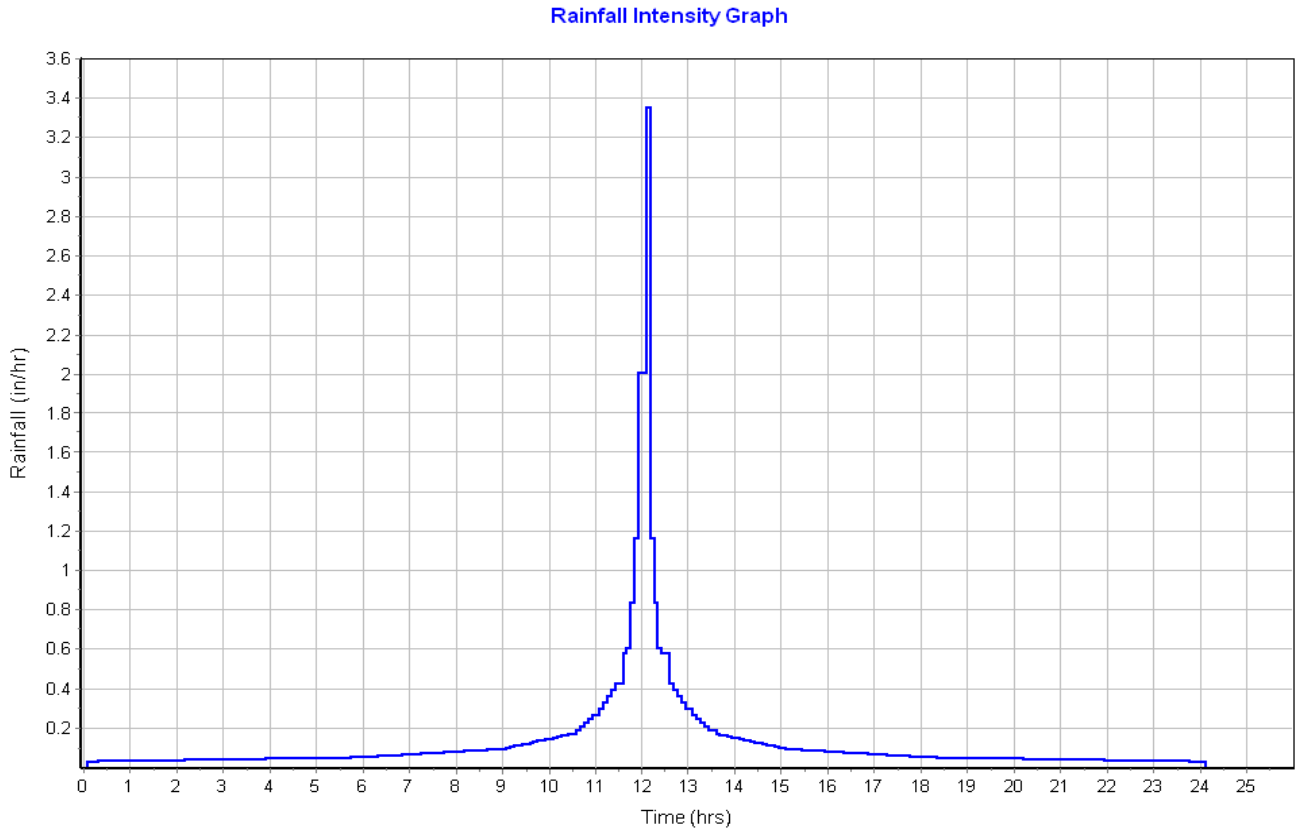
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	754.46	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.27	0.00	0.00
Computed Flow Time (min) :	5.54	0.00	0.00

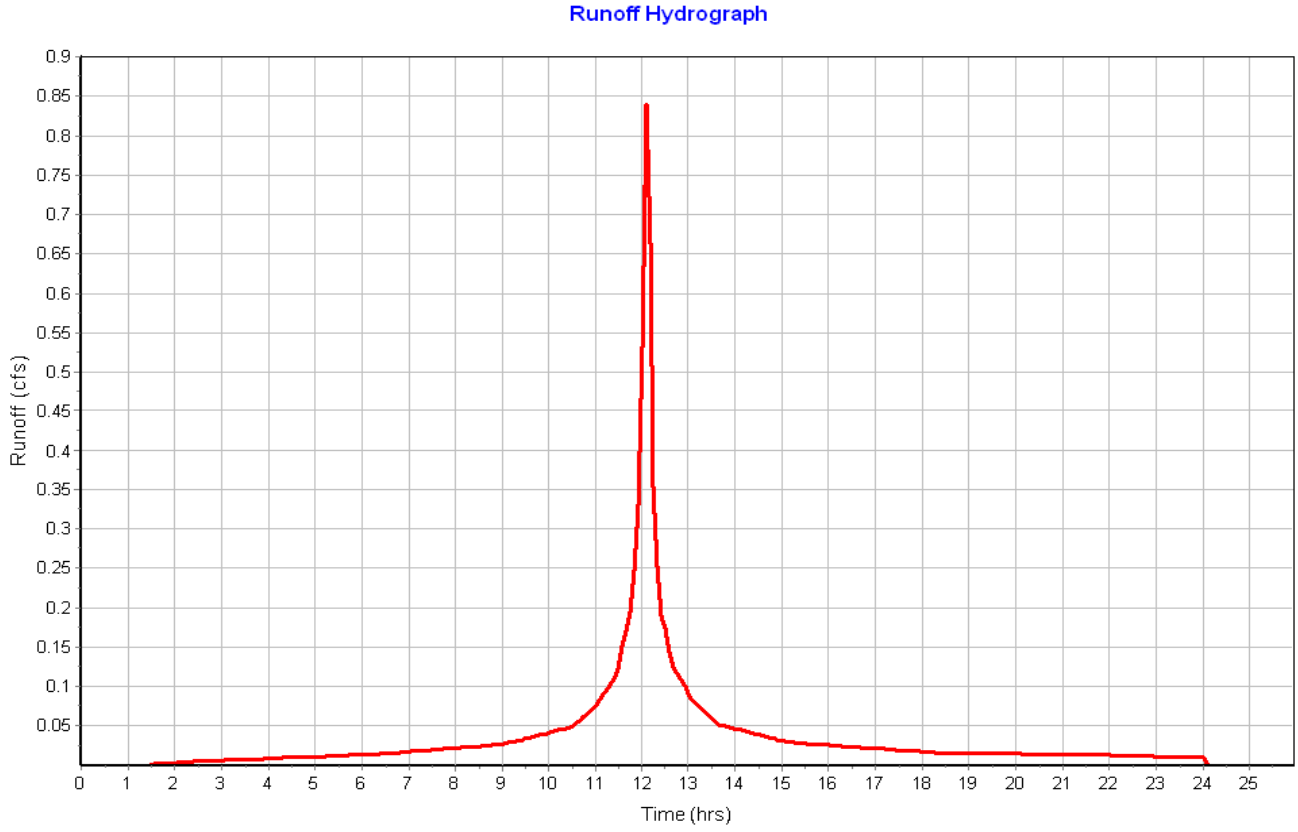
Total TOC (min) 5.89

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.98
Peak Runoff (cfs) 0.91
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:05:53

Subbasin : Pavement-10





Subbasin : Pavement-13

Input Data

Area (ac) 0.14
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	17.45	0.00	0.00
Slope (%) :	1.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.30	0.00	0.00

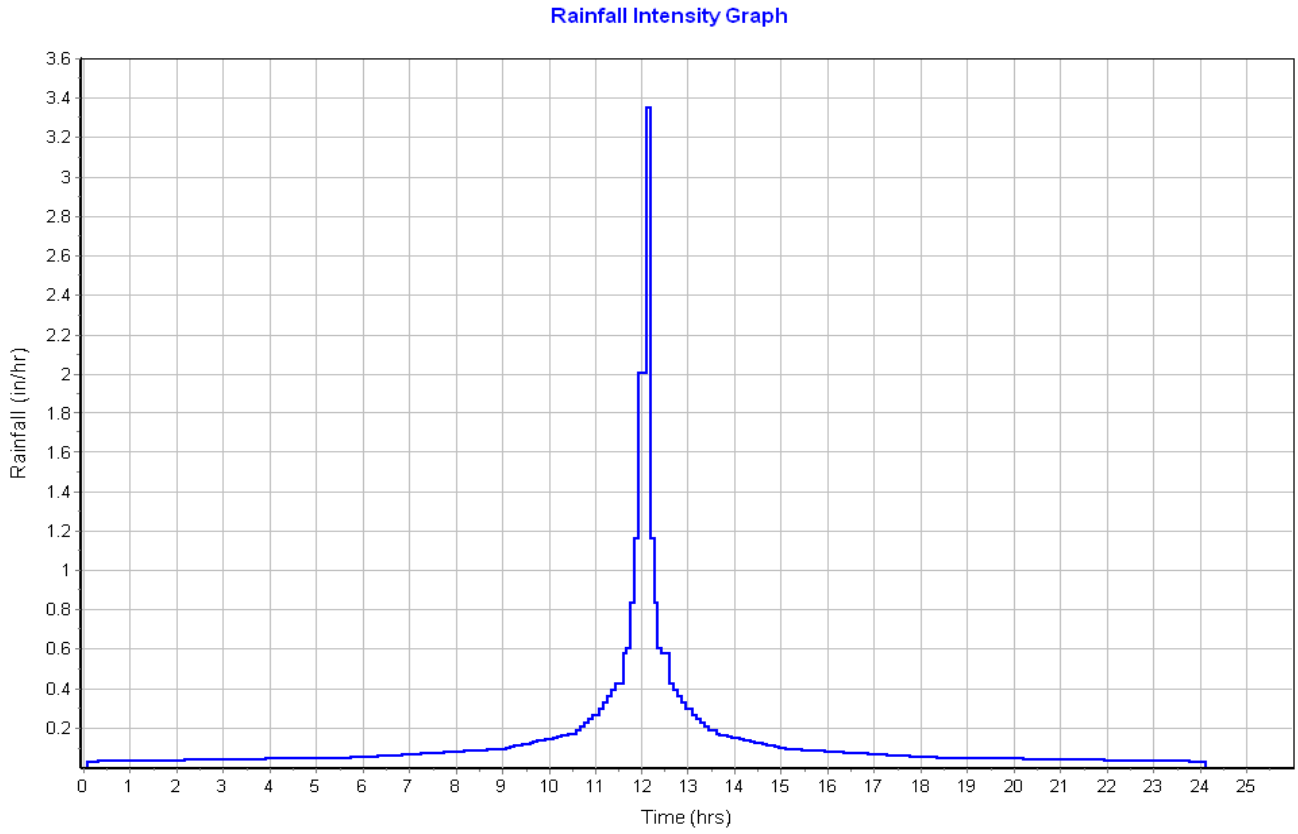
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	238.58	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.13	0.00	0.00

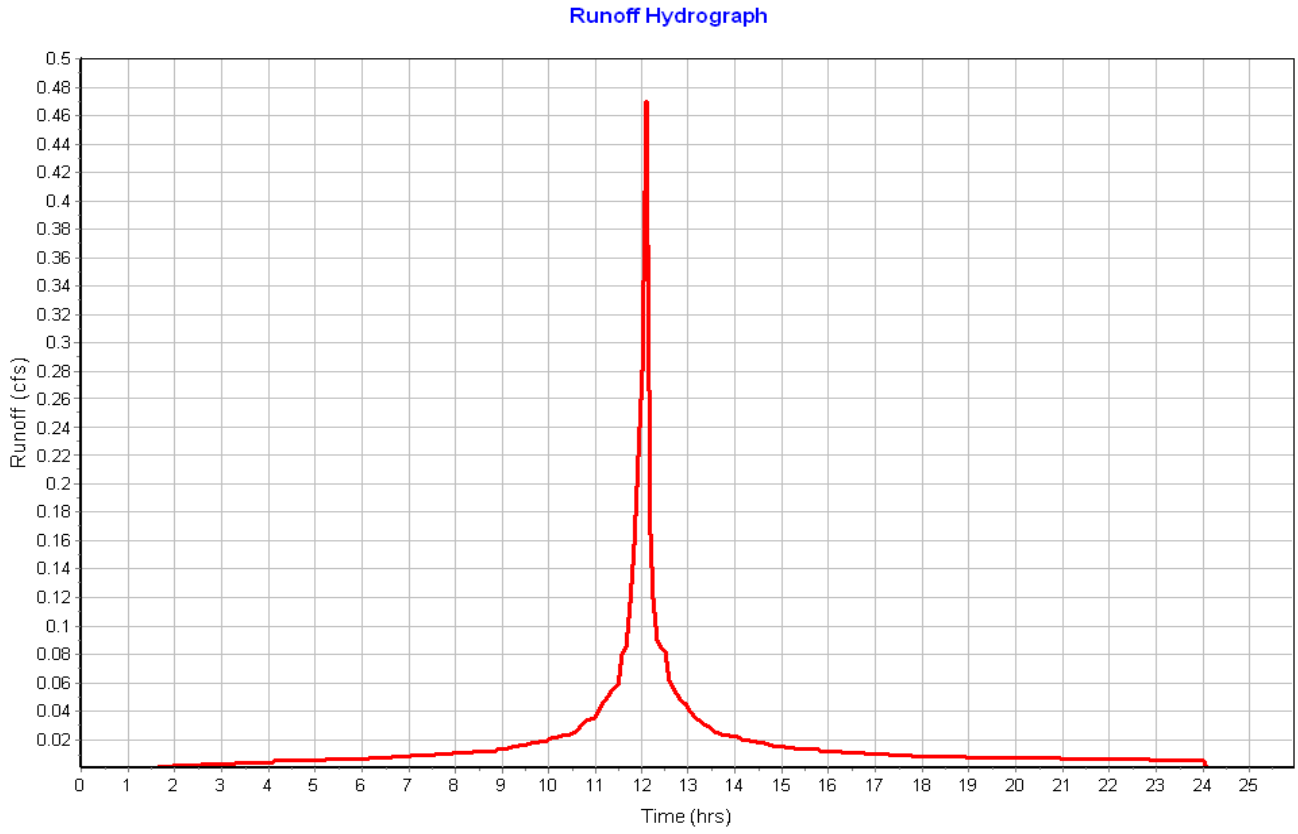
Total TOC (min) 1.43

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.98
Peak Runoff (cfs) 0.47
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:26

Subbasin : Pavement-13





Subbasin : Pavement-15

Input Data

Area (ac)	0.16
Peak Rate Factor	484.00
Weighted Curve Number	92.42
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.16		92.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	.4	.01
Flow Length (ft) :	22.40	76.05	35.47
Slope (%) :	2	2.63	2
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	1.10	0.08	1.21
Computed Flow Time (min) :	0.34	15.44	0.49

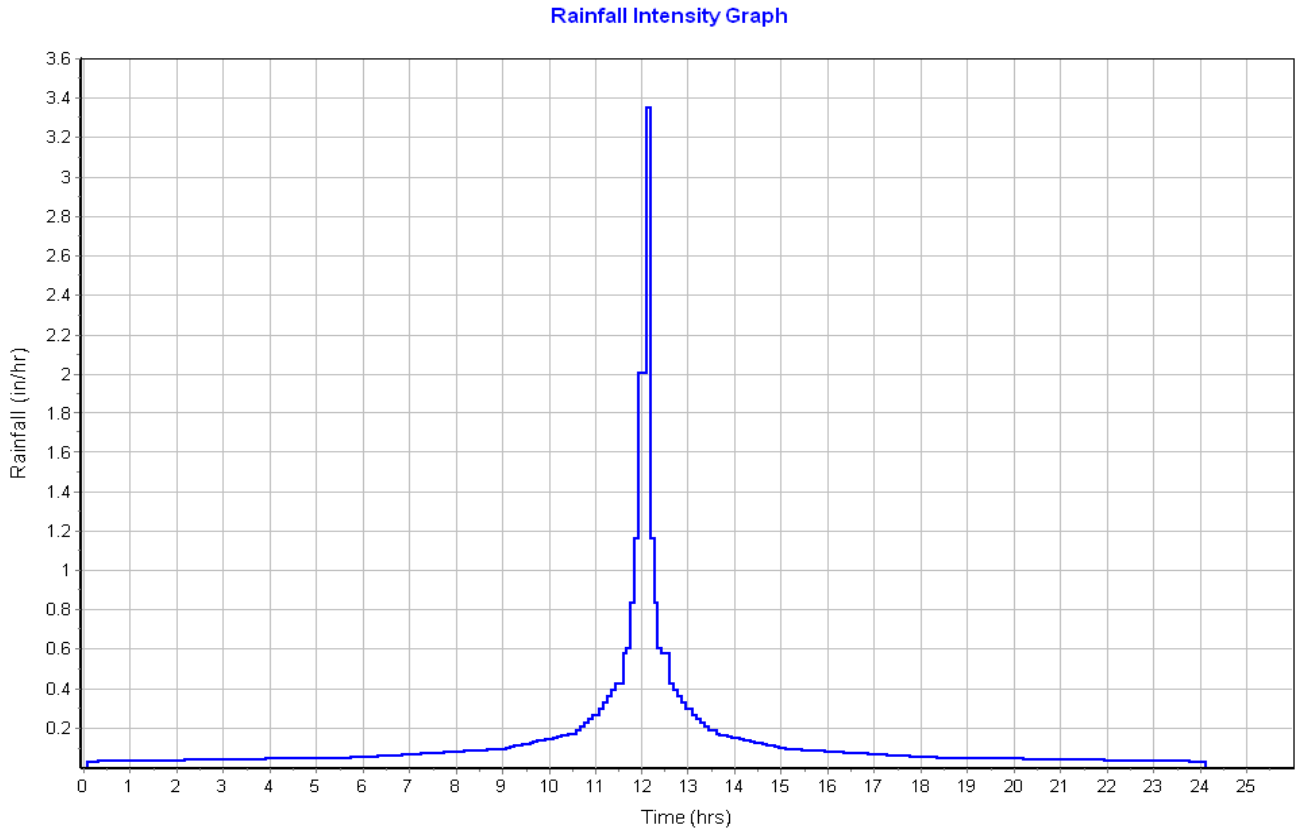
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	231.04	0.00	0.00
Slope (%) :	4.5	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.31	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

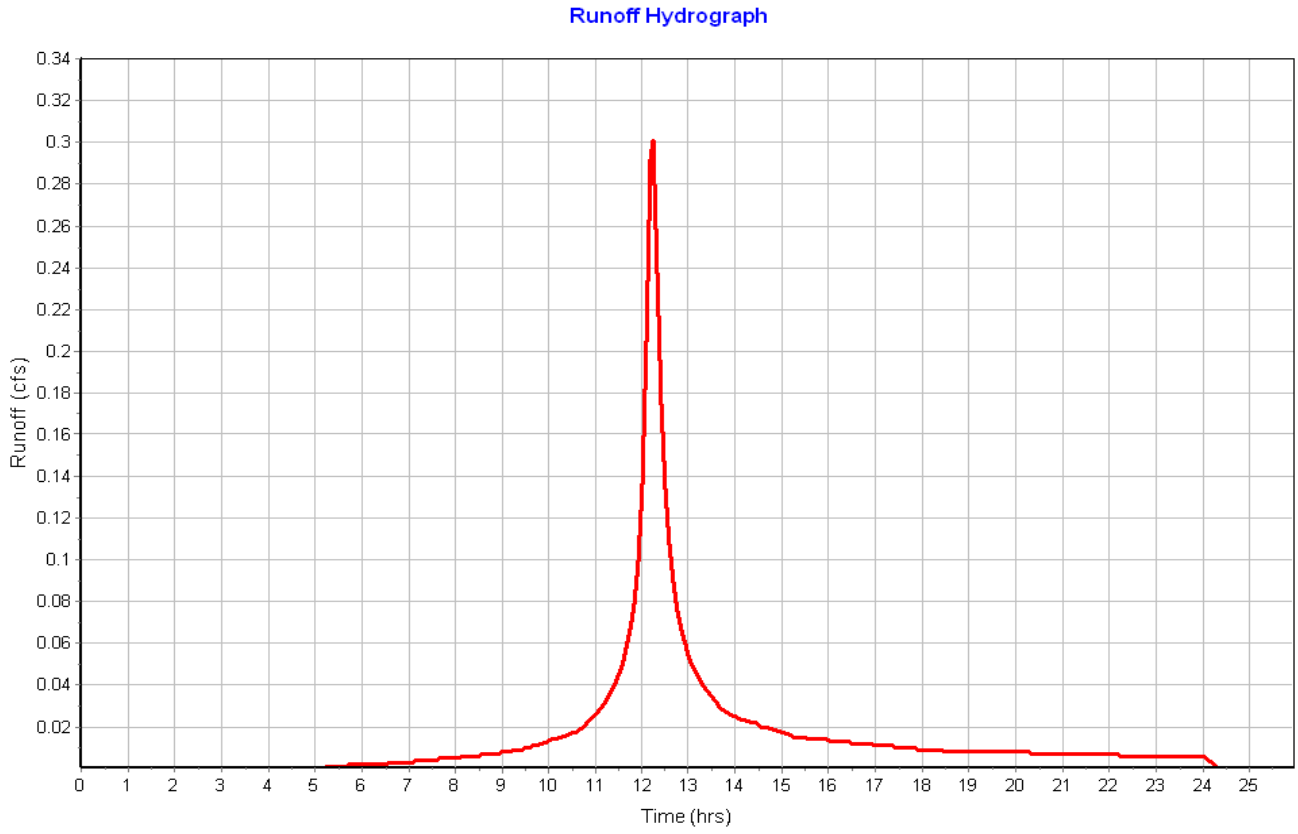
Total TOC (min) 17.16

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.40
Peak Runoff (cfs)	0.31
Weighted Curve Number	92.42
Time of Concentration (days hh:mm:ss)	0 00:17:10

Subbasin : Pavement-15





Subbasin : Pavement-16

Input Data

Area (ac)	0.25
Peak Rate Factor	484.00
Weighted Curve Number	90.40
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.17	C	98.00
> 75% grass cover, Good	0.08	C	74.00
Composite Area & Weighted CN	0.25		90.40

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	74.01	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.40	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

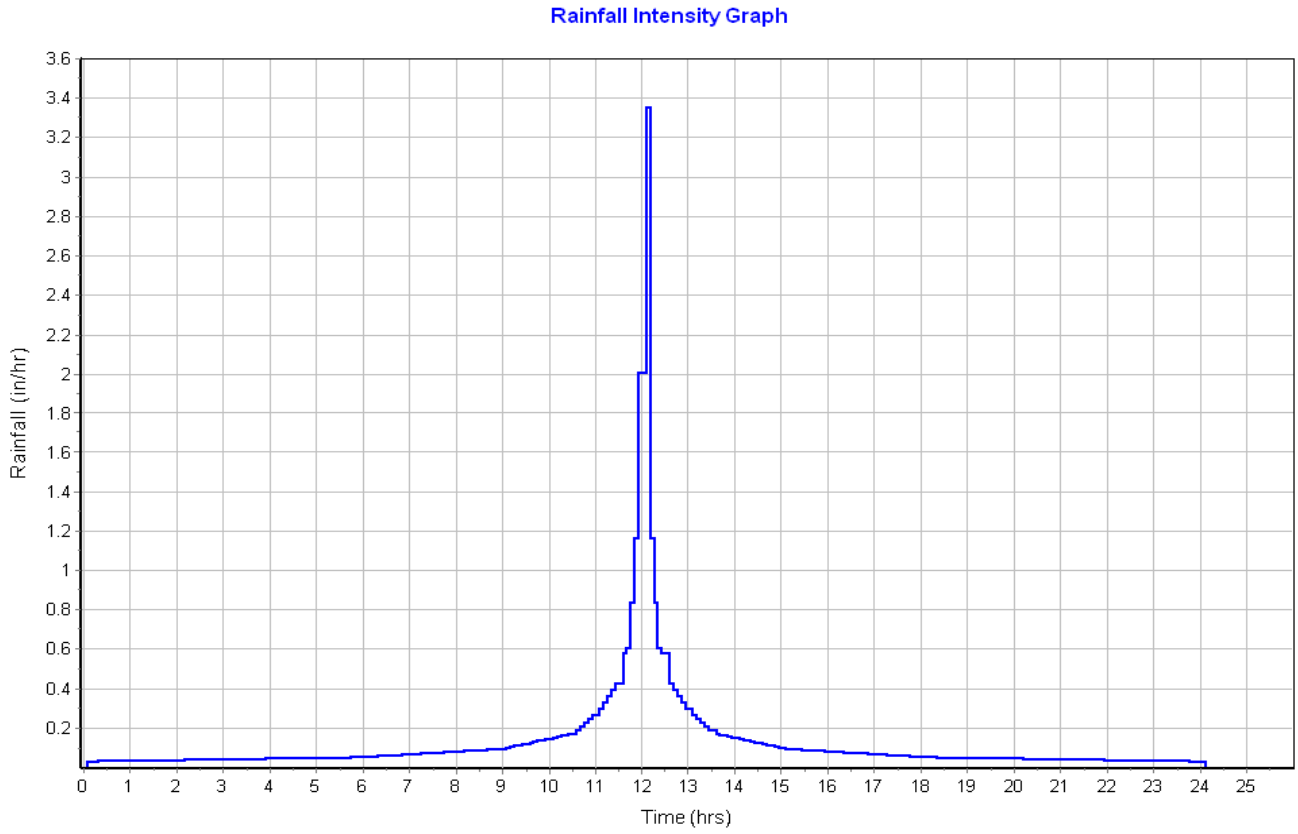
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	278.80	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.32	0.00	0.00

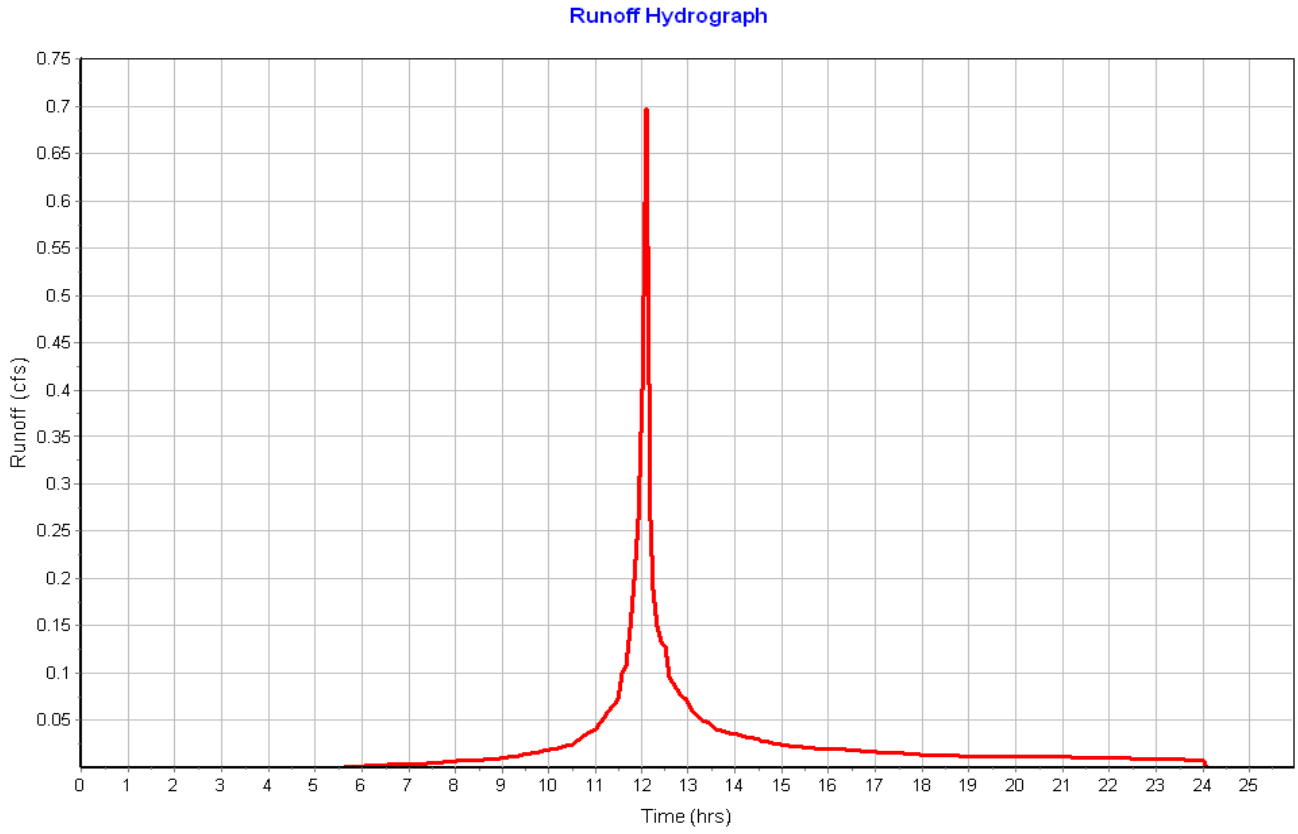
Total TOC (min) 2.20

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.21
Peak Runoff (cfs)	0.70
Weighted Curve Number	90.40
Time of Concentration (days hh:mm:ss)	0 00:02:12

Subbasin : Pavement-16





Subbasin : Pavement-17

Input Data

Area (ac) 0.15
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.15	C	98.00
Composite Area & Weighted CN	0.15		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	135.74	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.58	0.00	0.00
Computed Flow Time (min) :	1.43	0.00	0.00

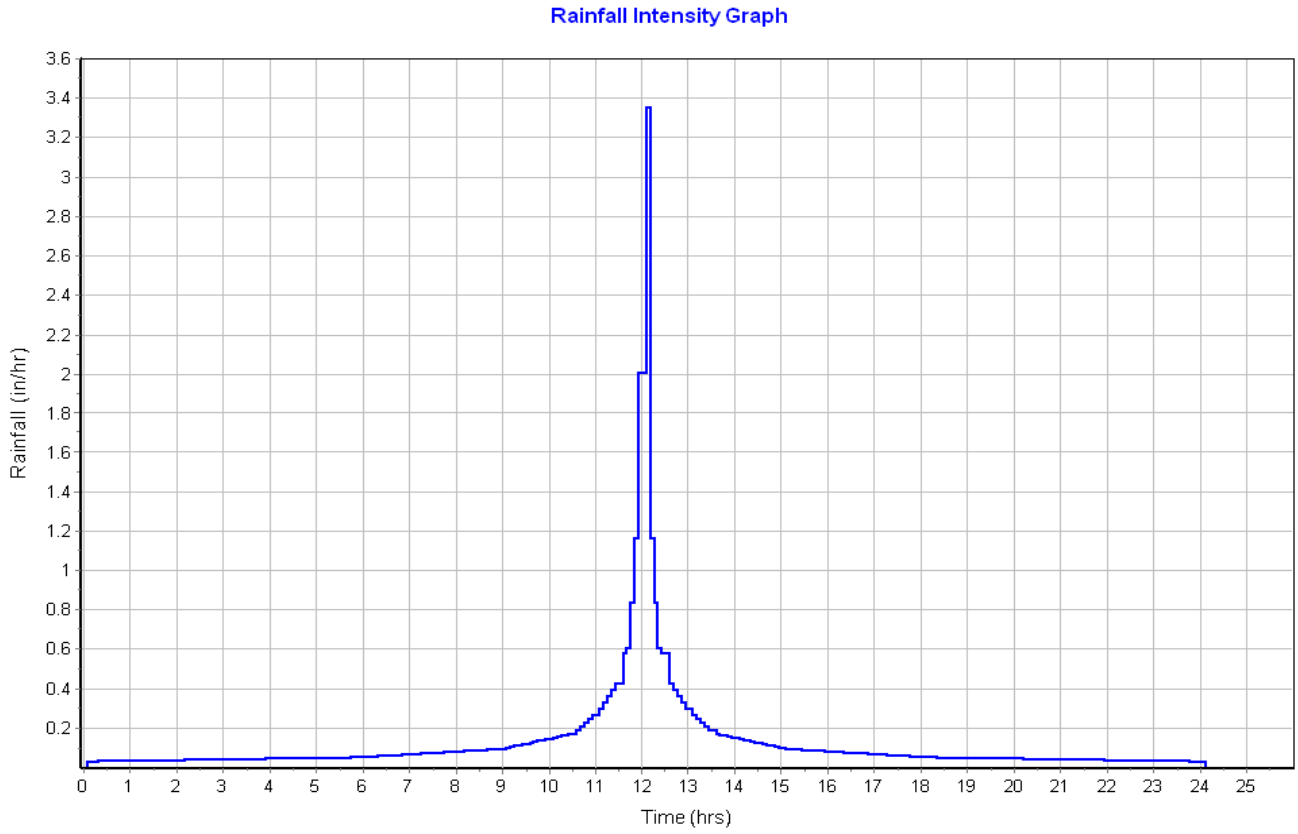
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	257.69	0.00	0.00
Slope (%) :	2.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.10	0.00	0.00
Computed Flow Time (min) :	1.39	0.00	0.00

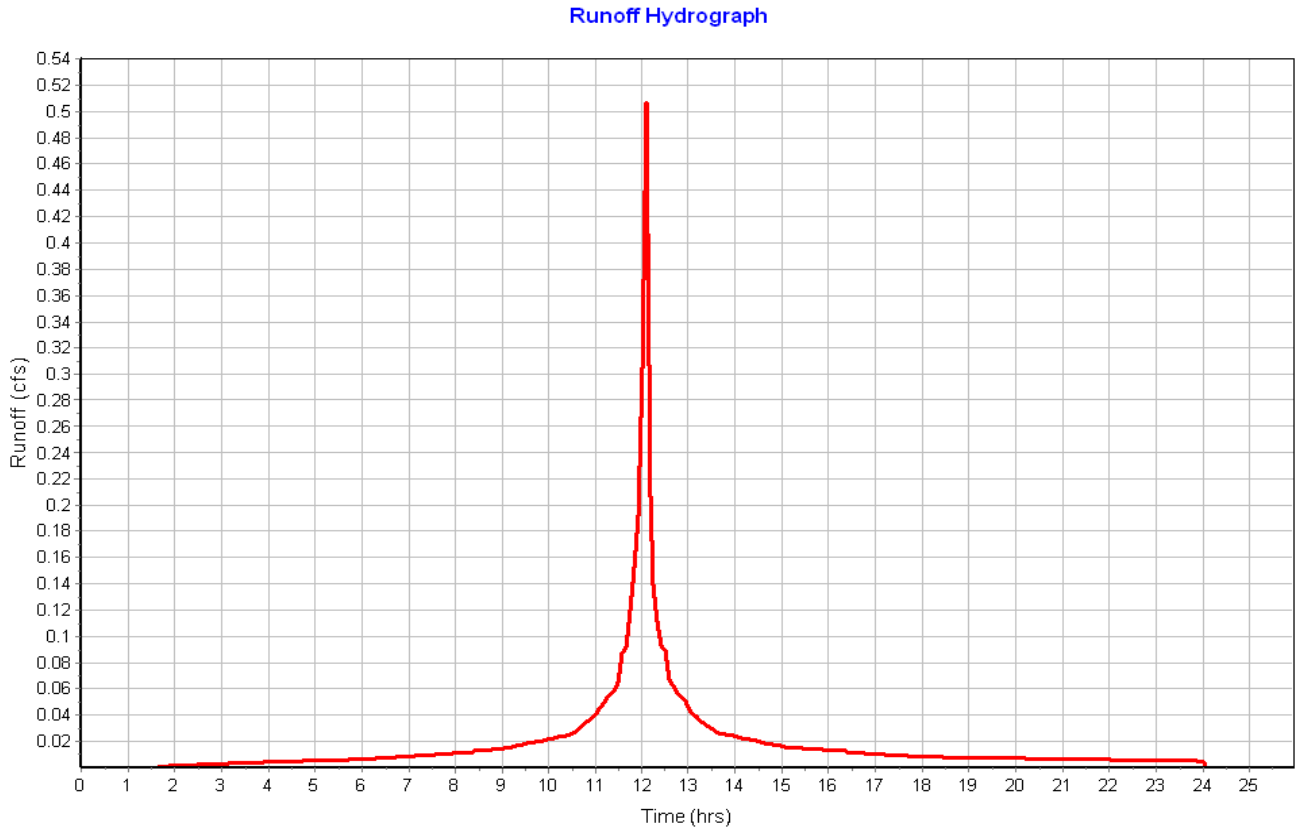
Total TOC (min) 2.82

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.98
Peak Runoff (cfs) 0.51
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:49

Subbasin : Pavement-17





Subbasin : Pavement-18

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.62	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

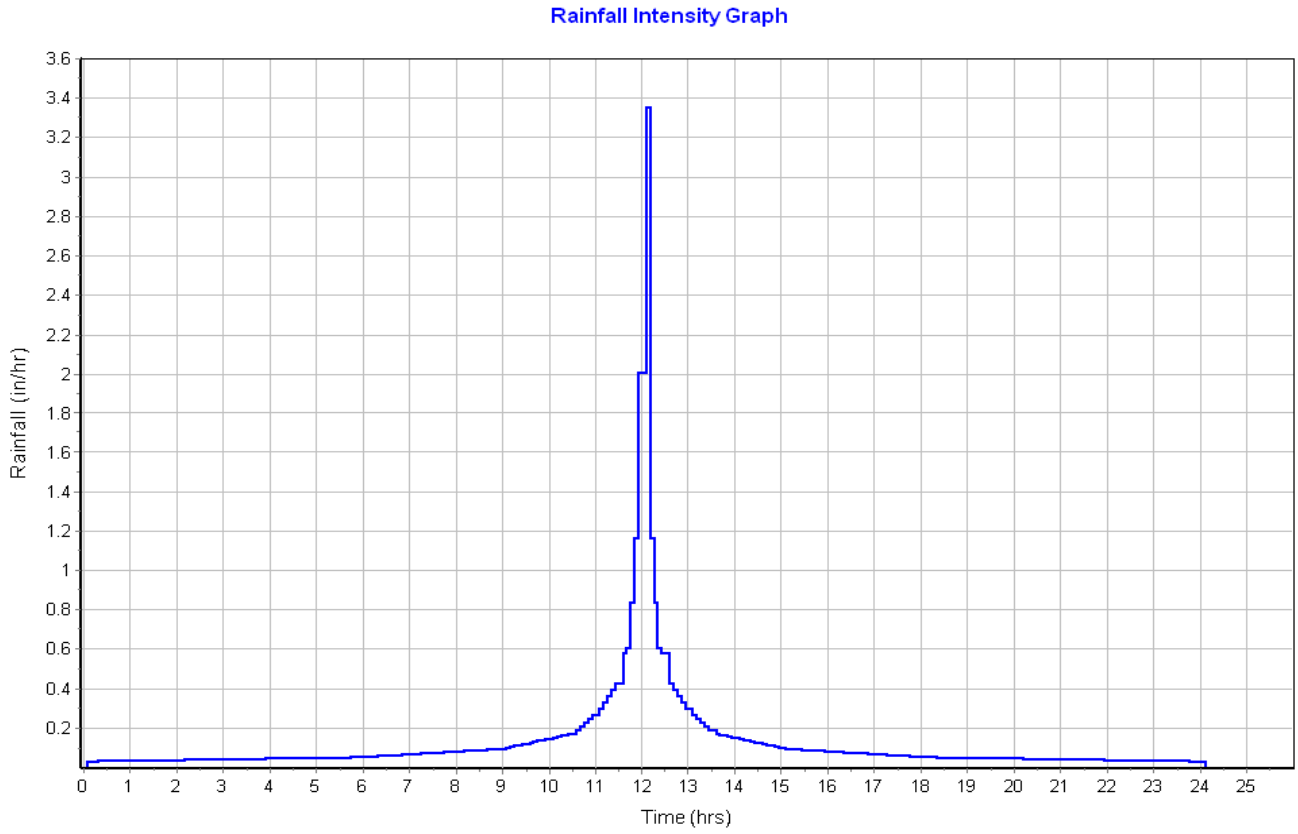
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	382.38	0.00	0.00
Slope (%) :	2.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.95	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

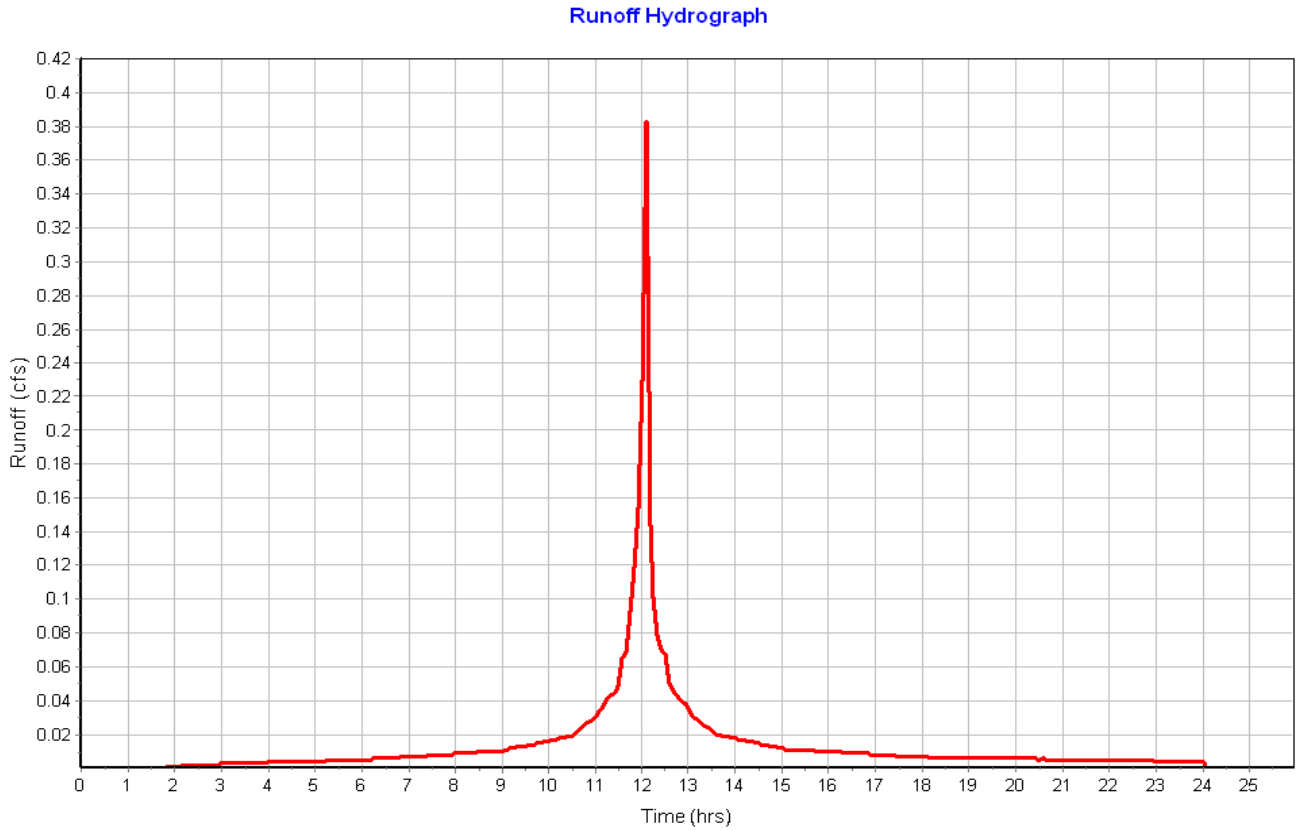
Total TOC (min) 2.37

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.38
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:22

Subbasin : Pavement-18





Subbasin : Pavement-19

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	27.28	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.15	0.00	0.00
Computed Flow Time (min) :	0.40	0.00	0.00

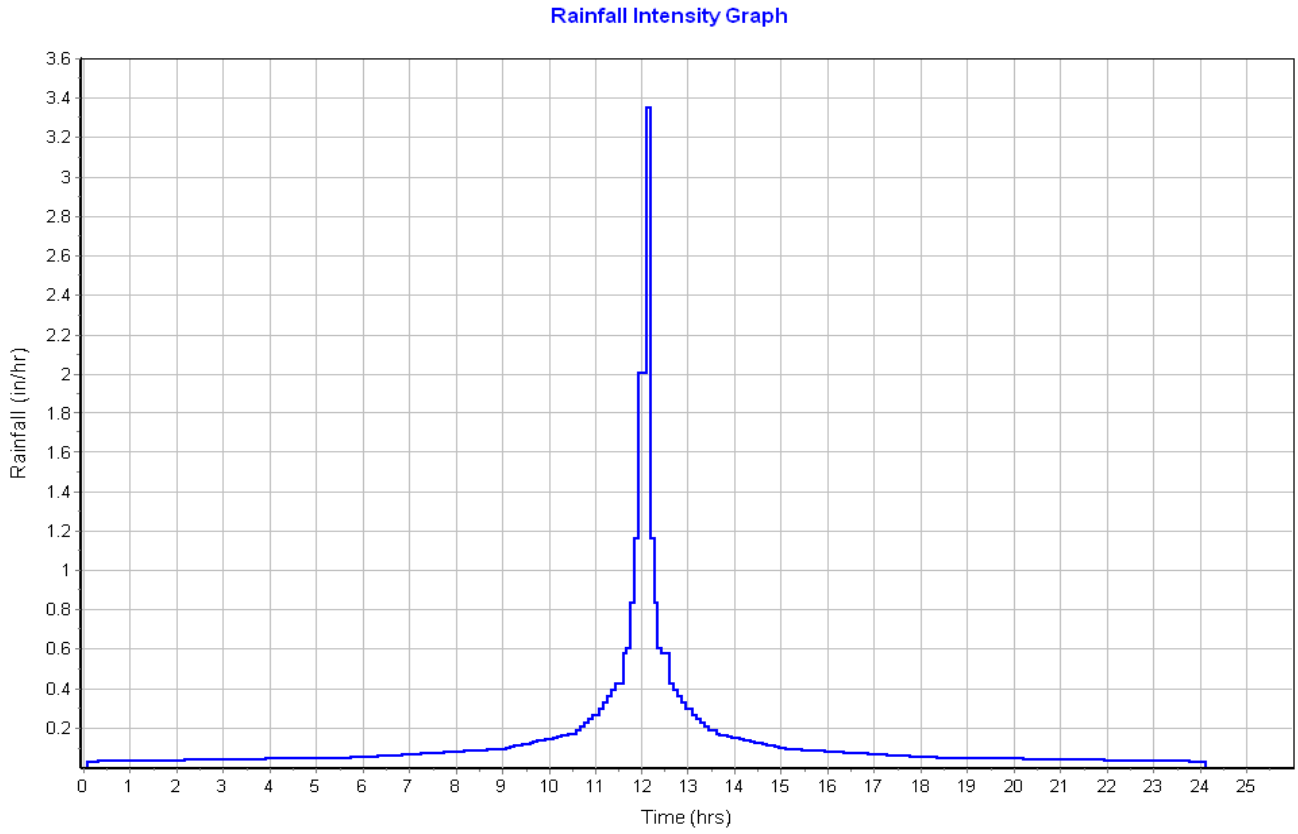
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	112.86	0.00	0.00
Slope (%) :	1.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.65	0.00	0.00
Computed Flow Time (min) :	0.71	0.00	0.00

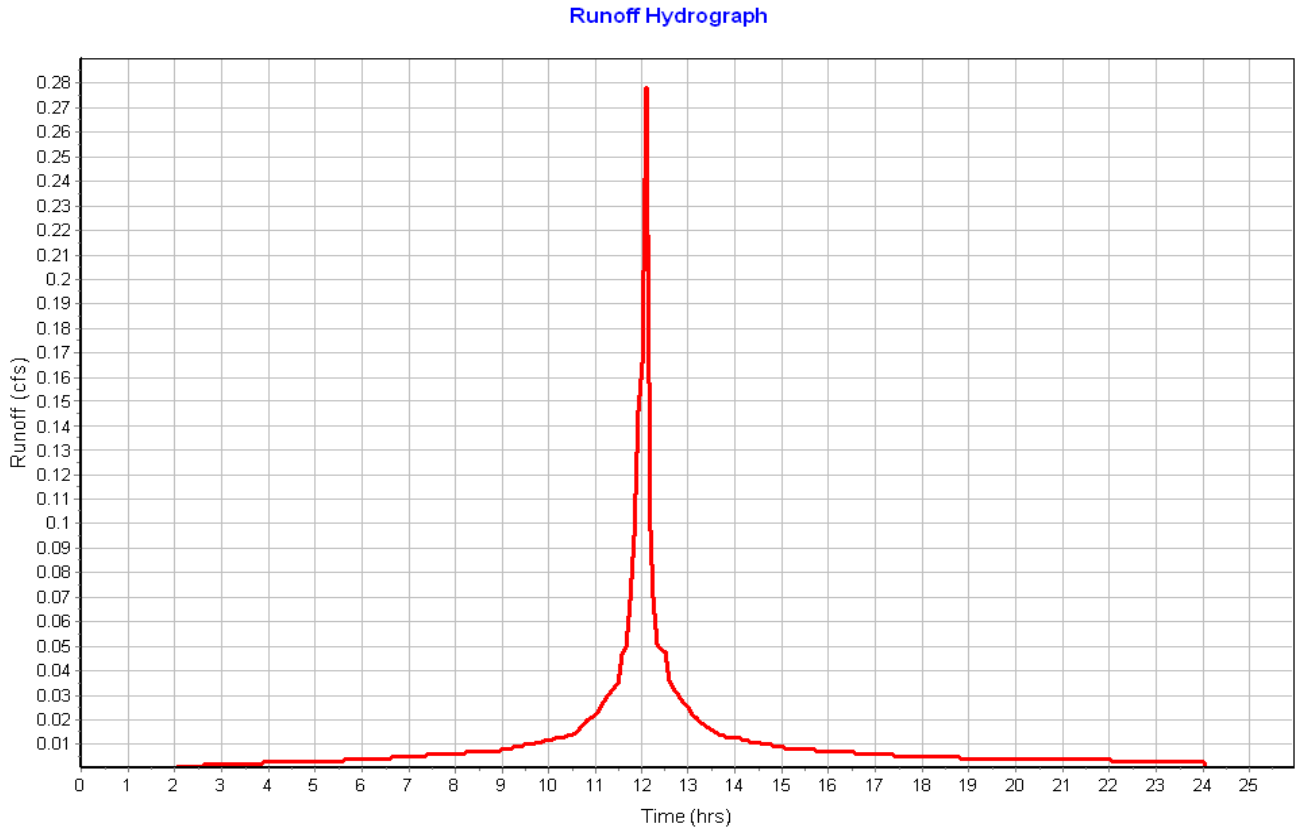
Total TOC (min) 1.11

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.28
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:07

Subbasin : Pavement-19





Subbasin : Roof-01

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

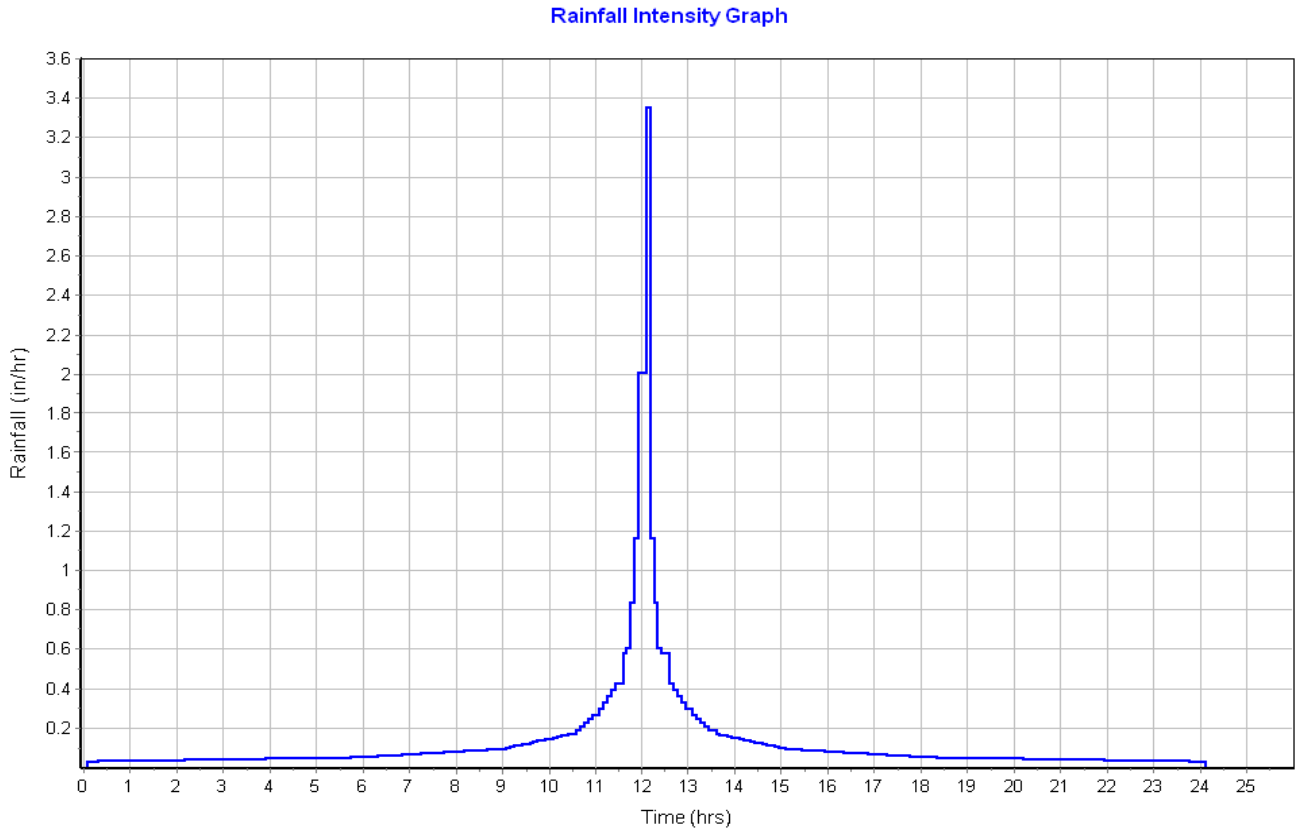
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

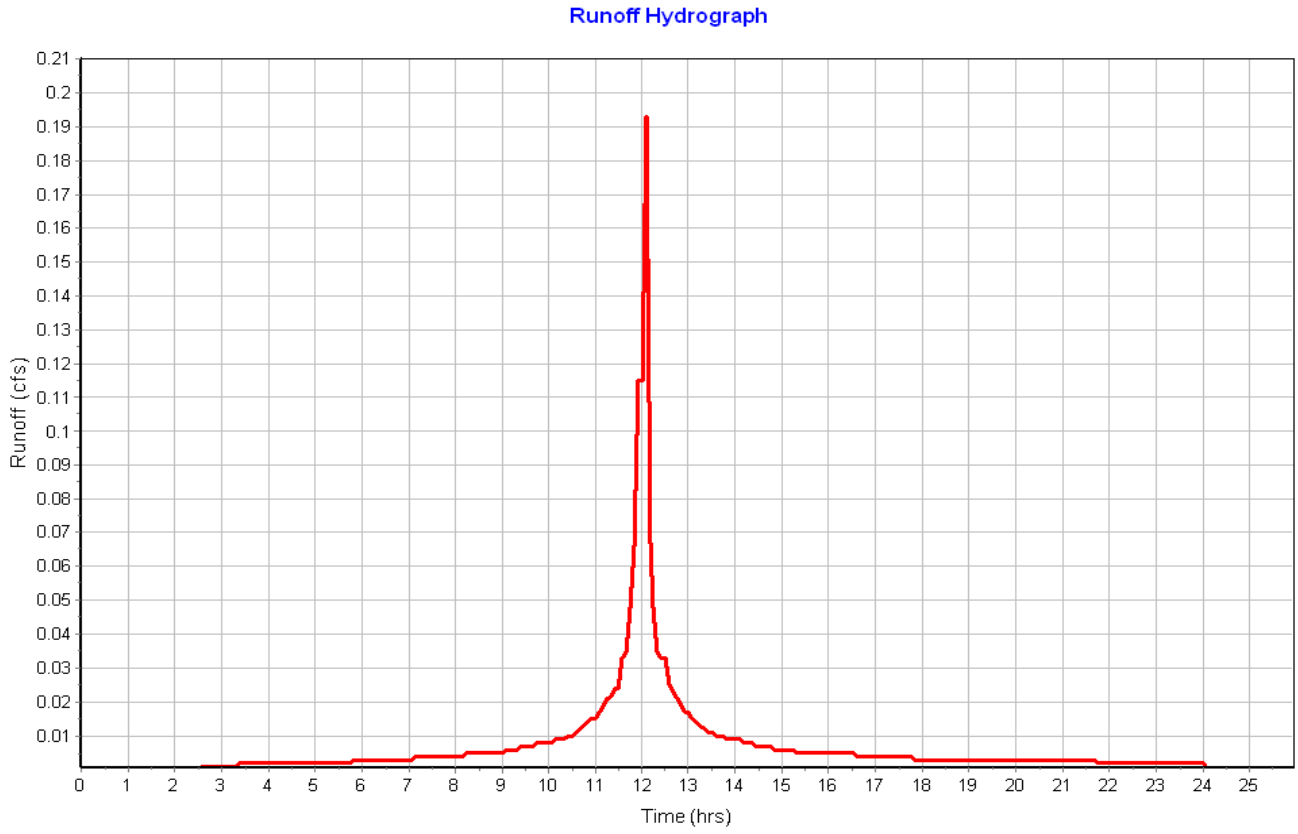
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-01





Subbasin : Roof-02

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

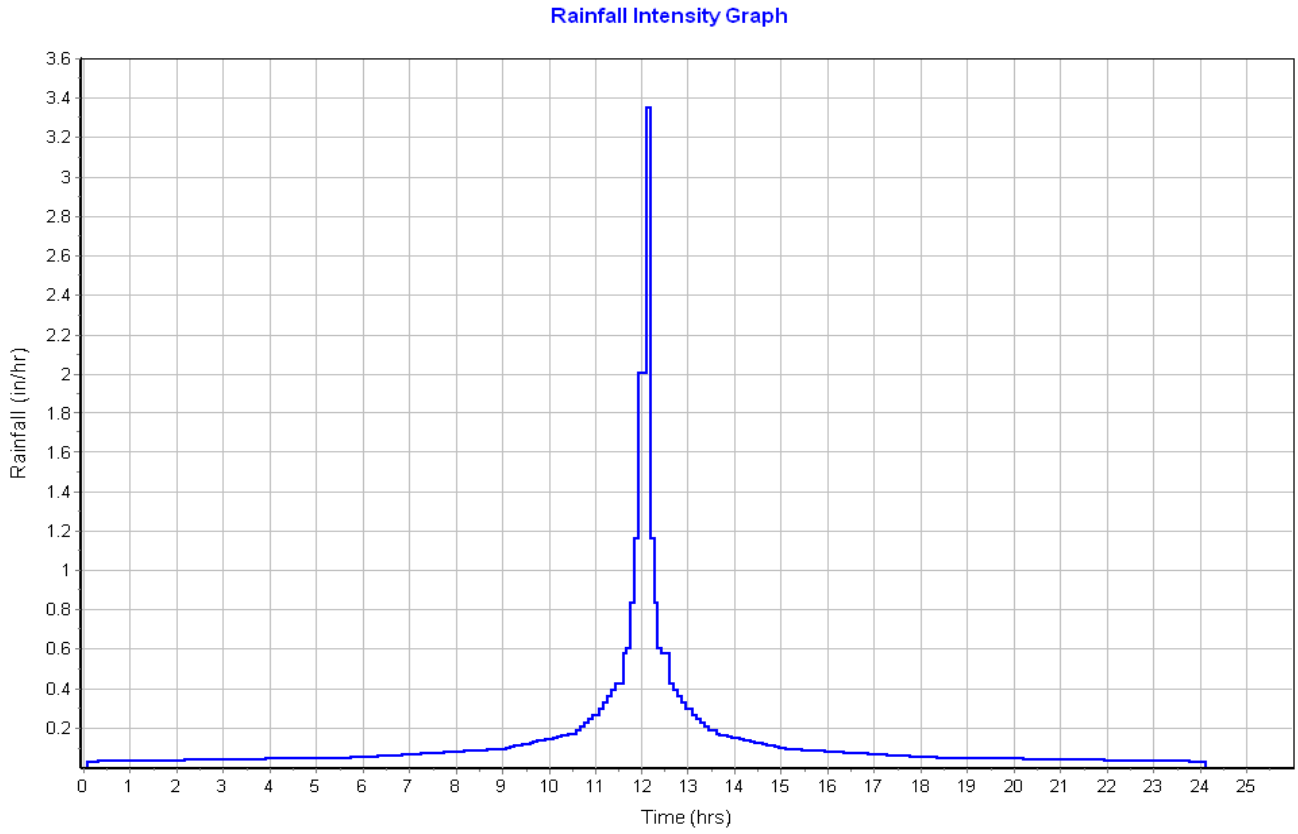
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

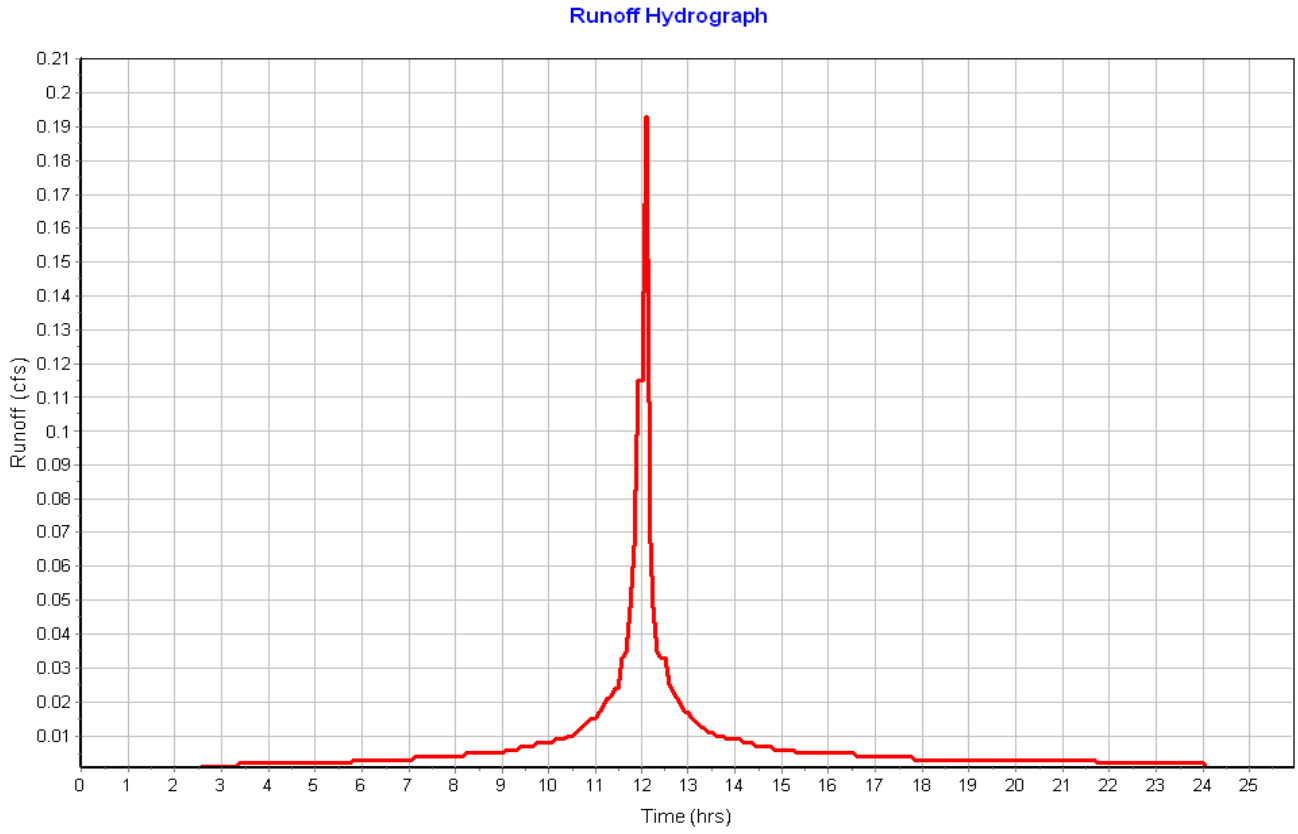
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.19
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-02





Subbasin : Roof-03

Input Data

Area (ac) 0.05
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

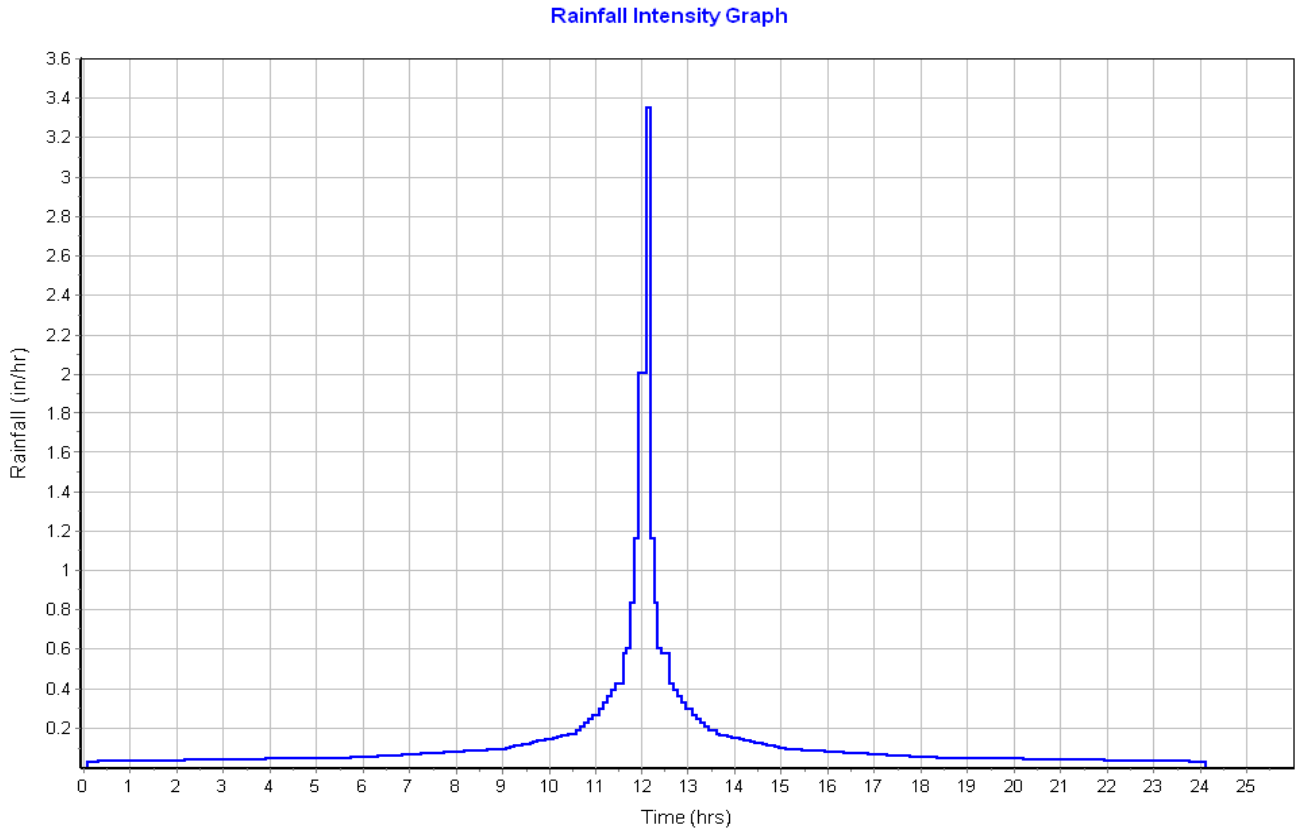
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

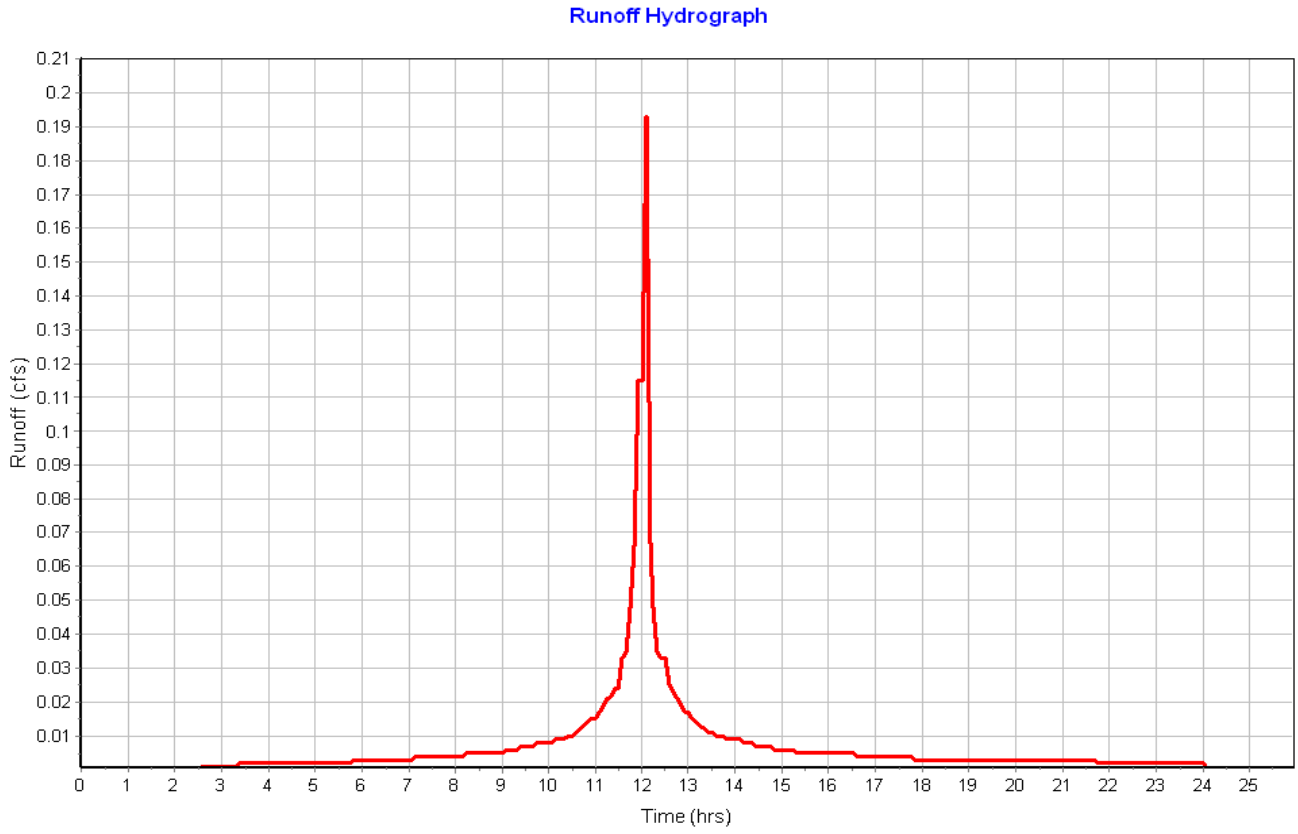
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.19
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-03





Subbasin : Roof-04

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

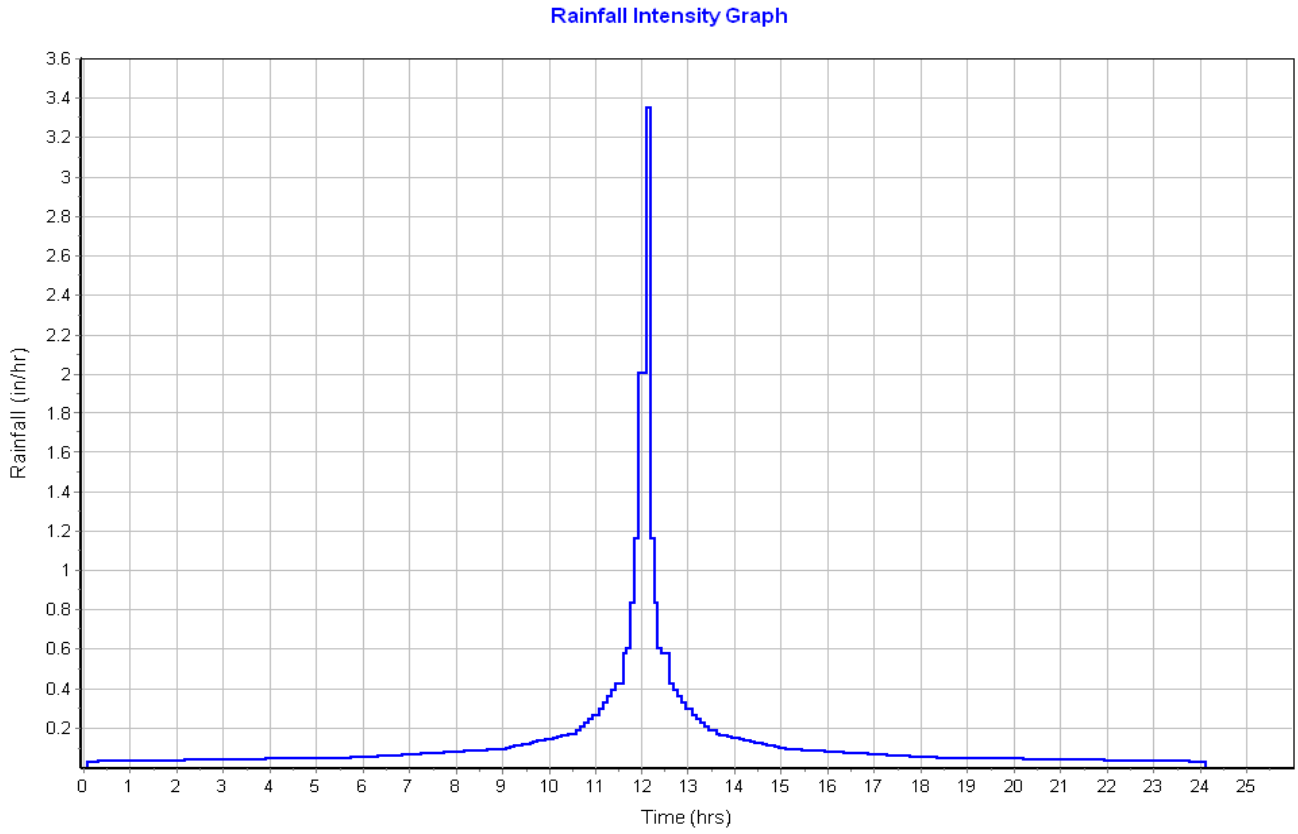
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

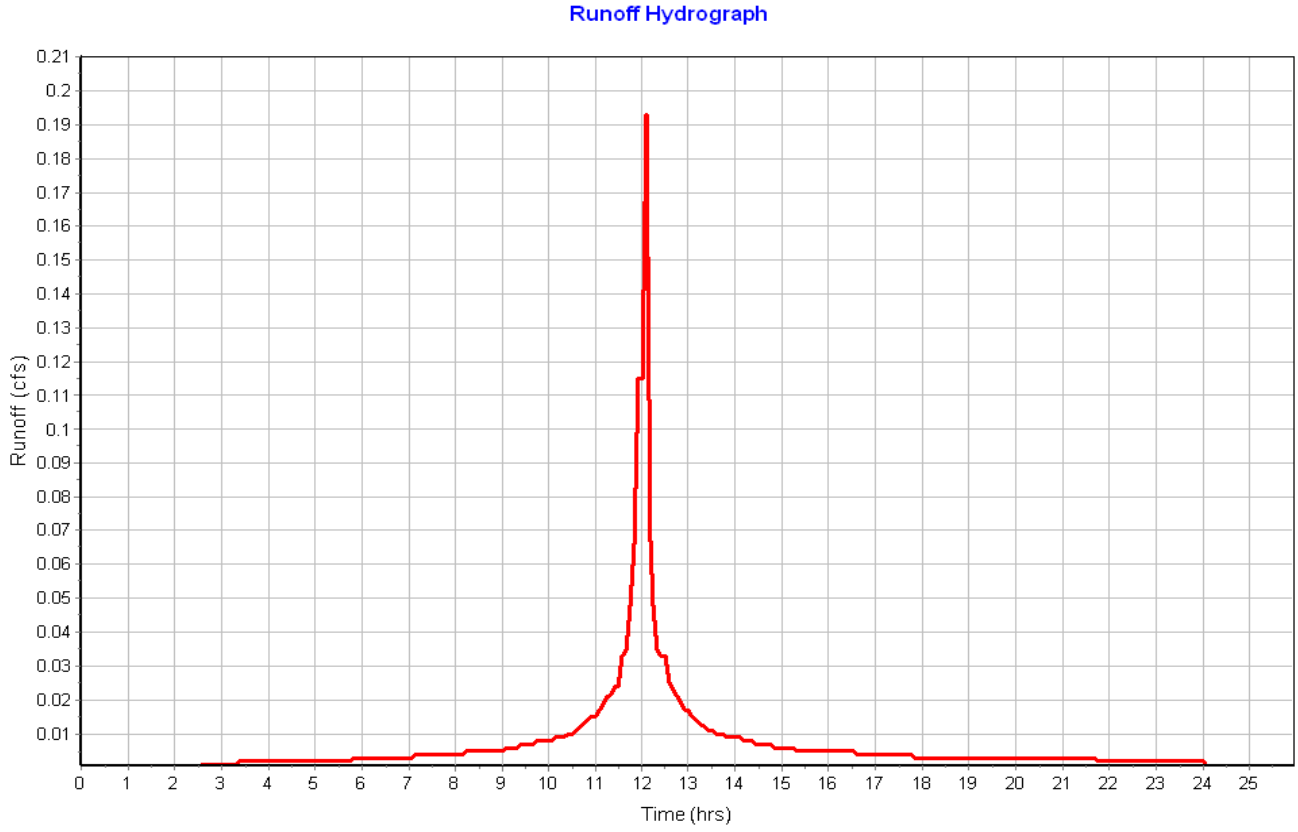
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-04





Subbasin : Roof-05

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

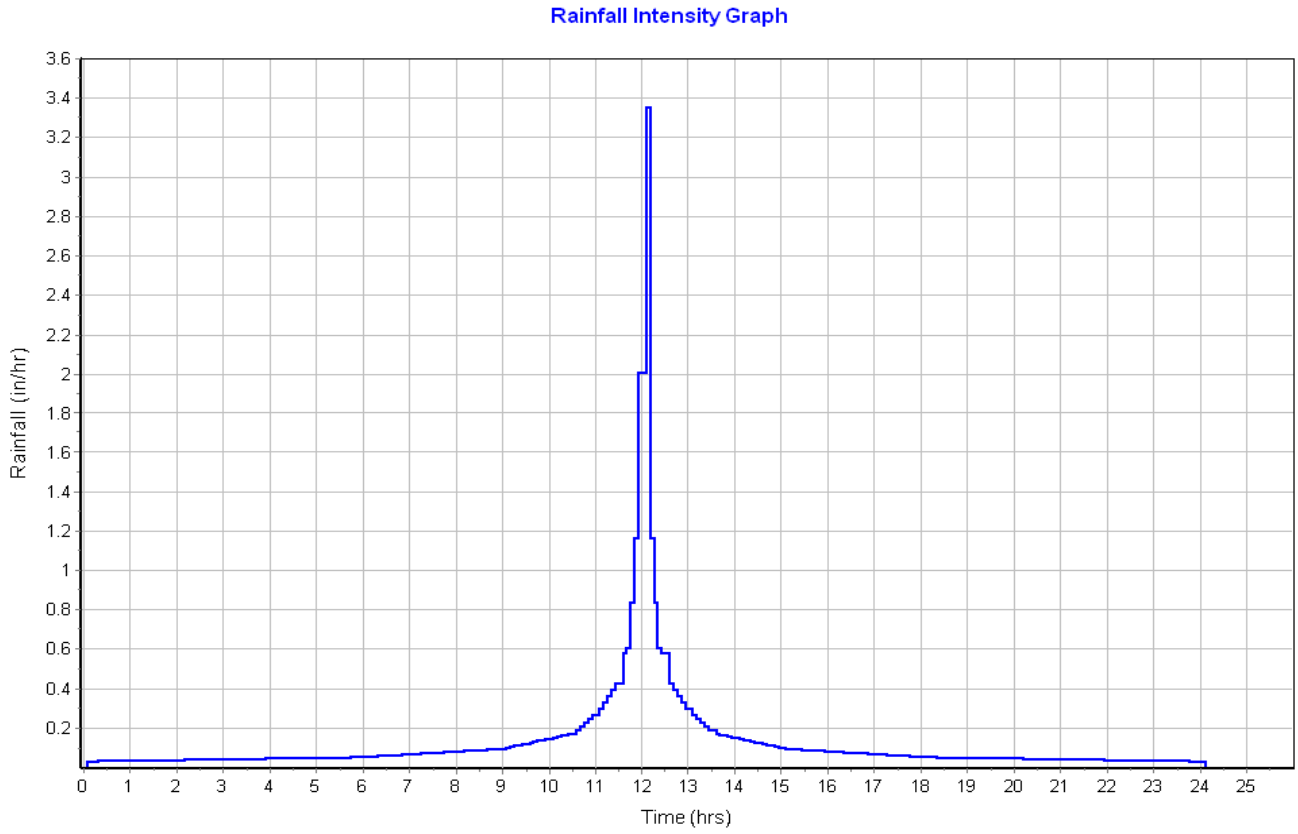
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

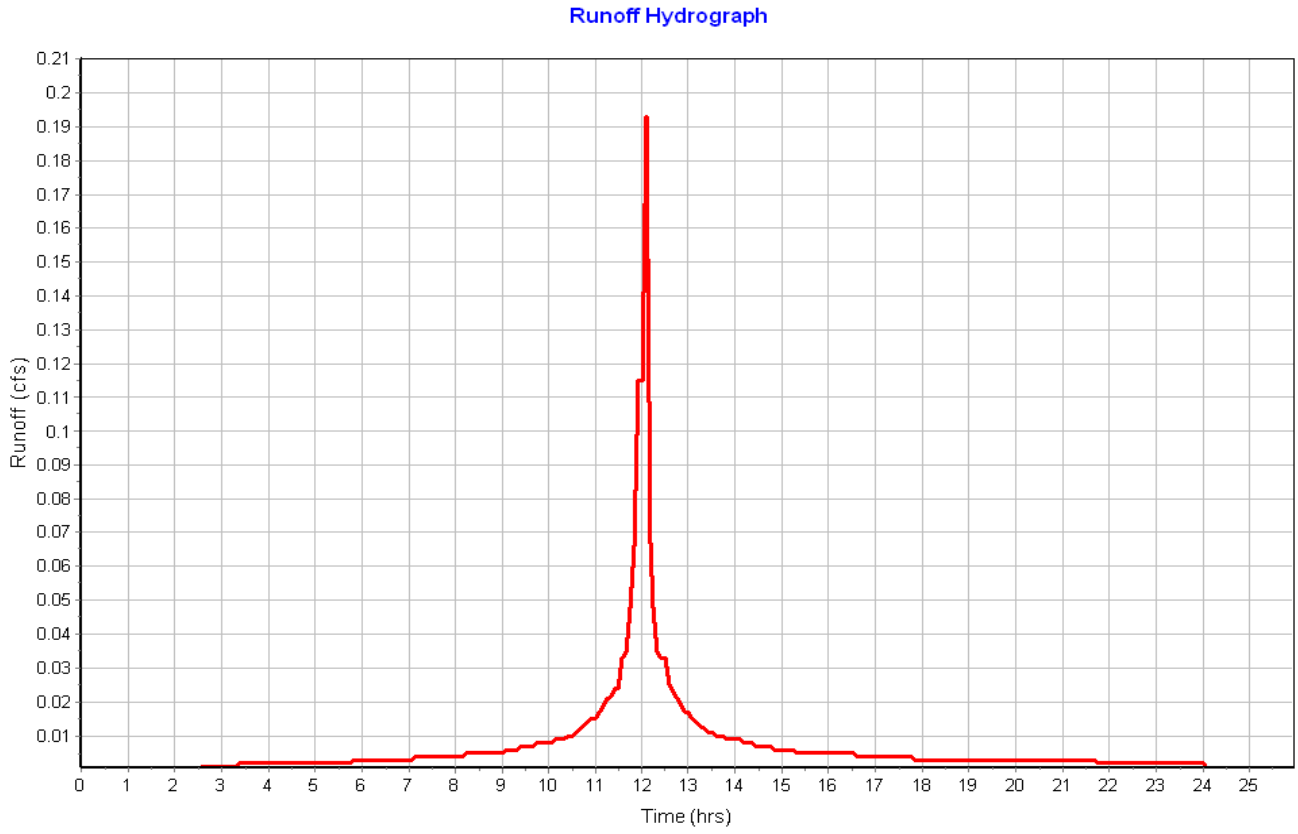
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-05





Subbasin : Roof-06

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

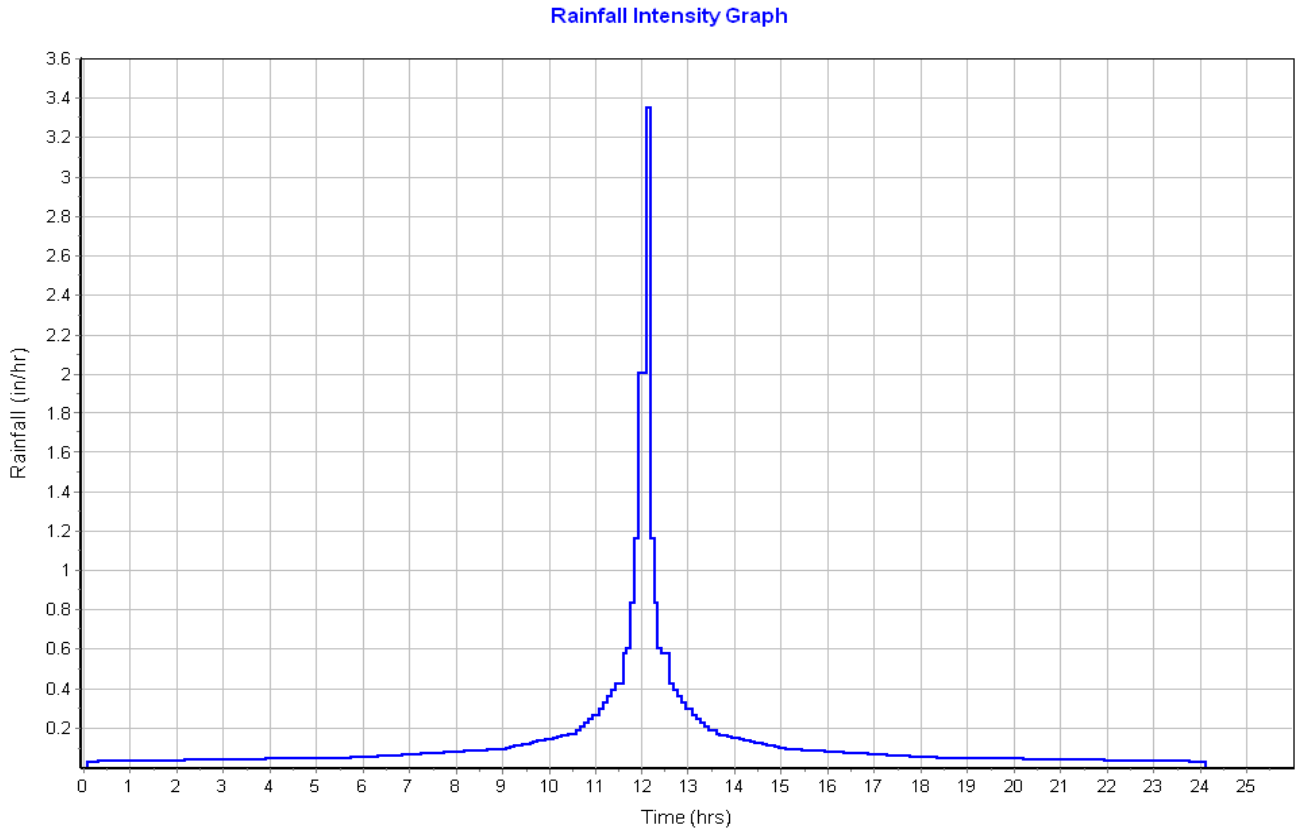
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

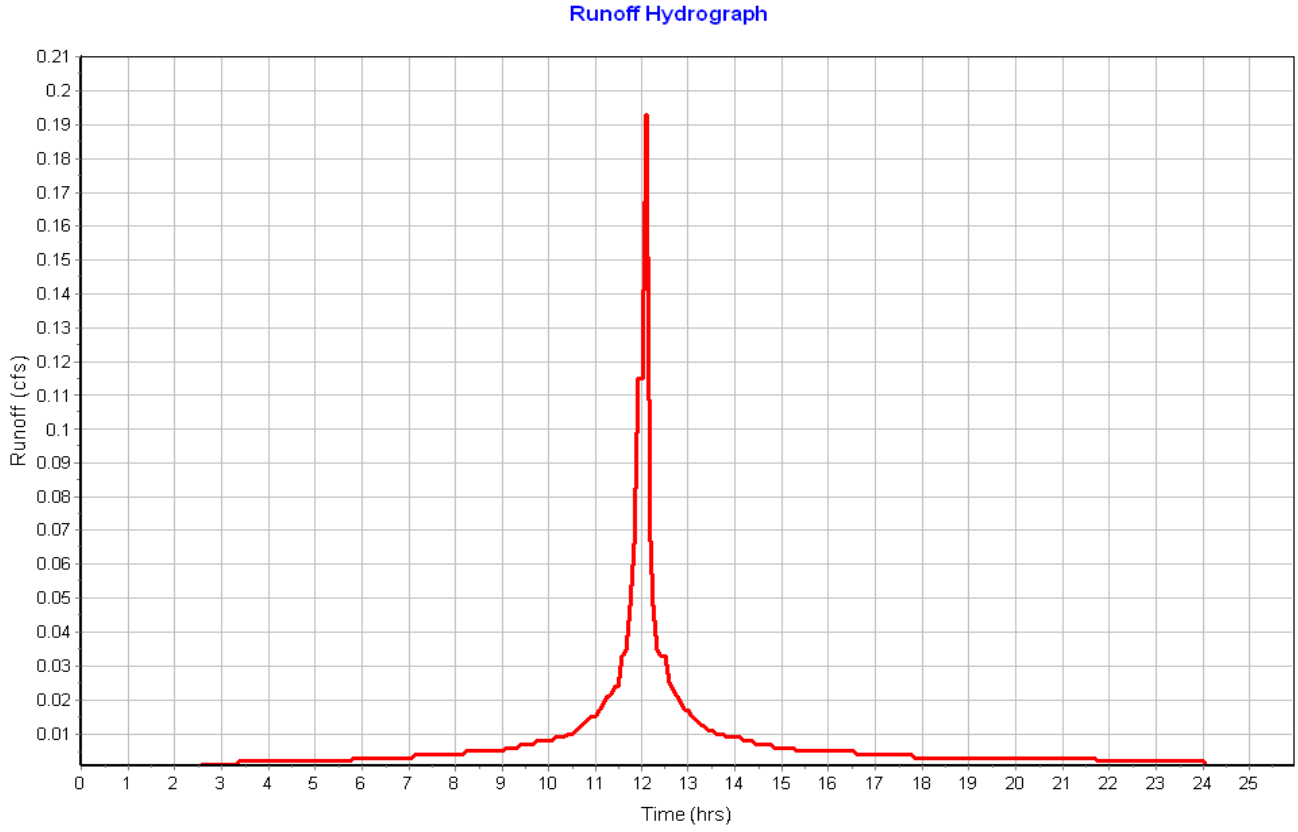
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-06





Subbasin : Roof-07

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

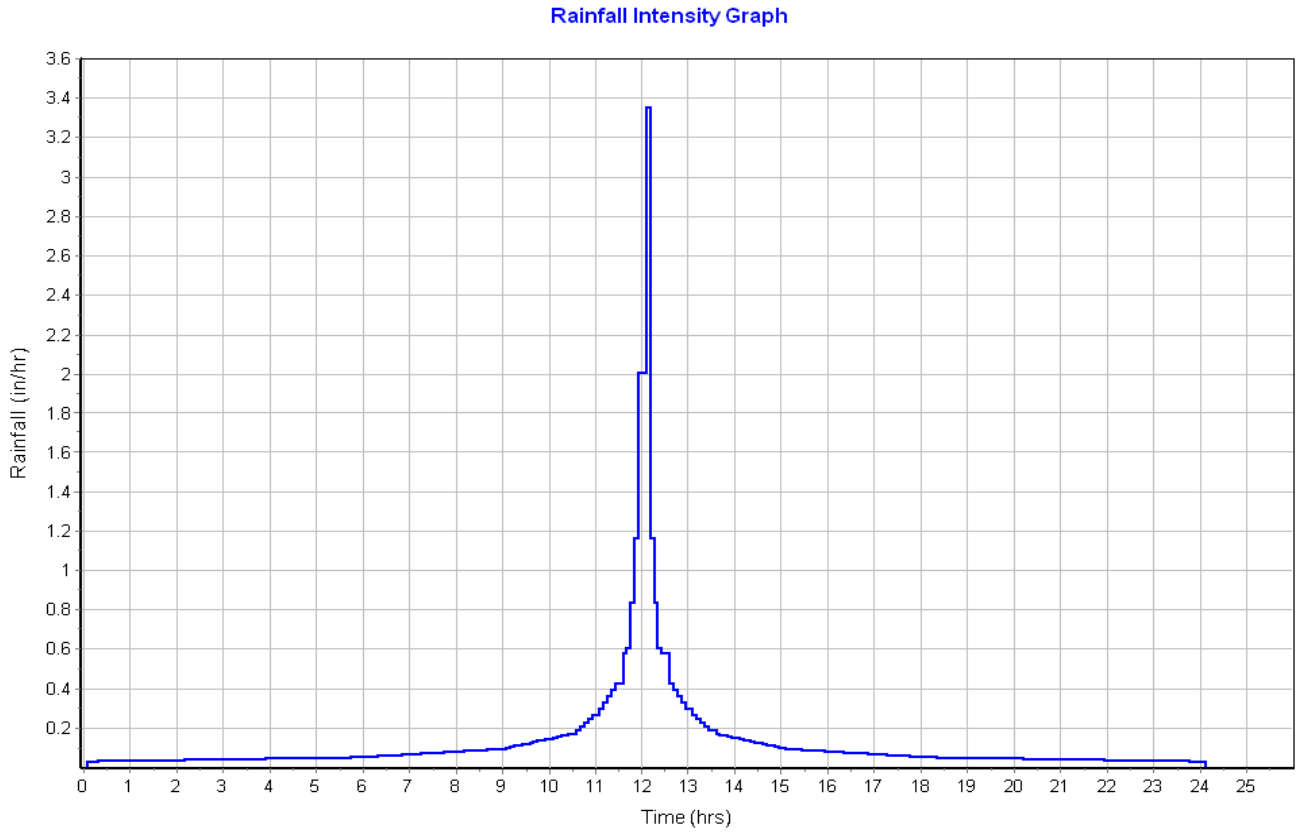
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

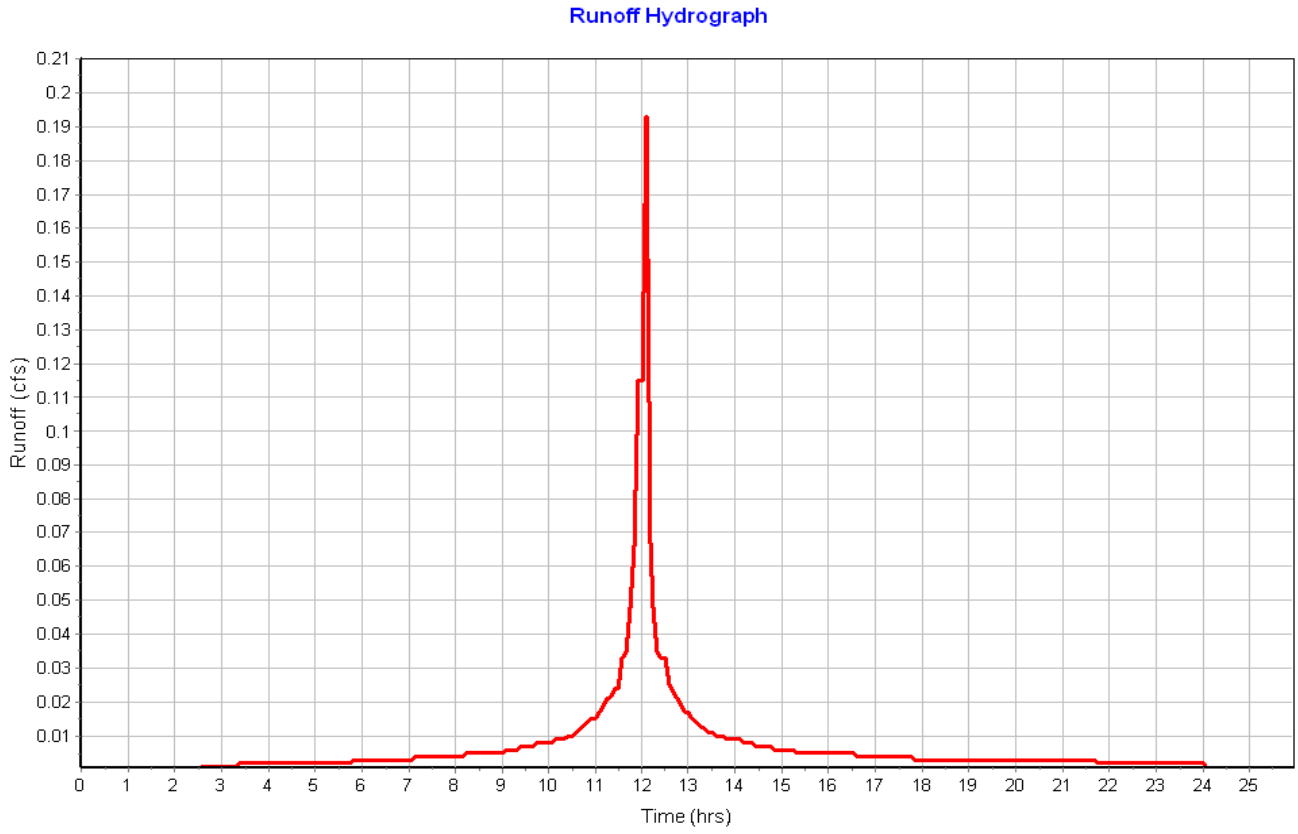
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-07





Subbasin : Roof-08

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

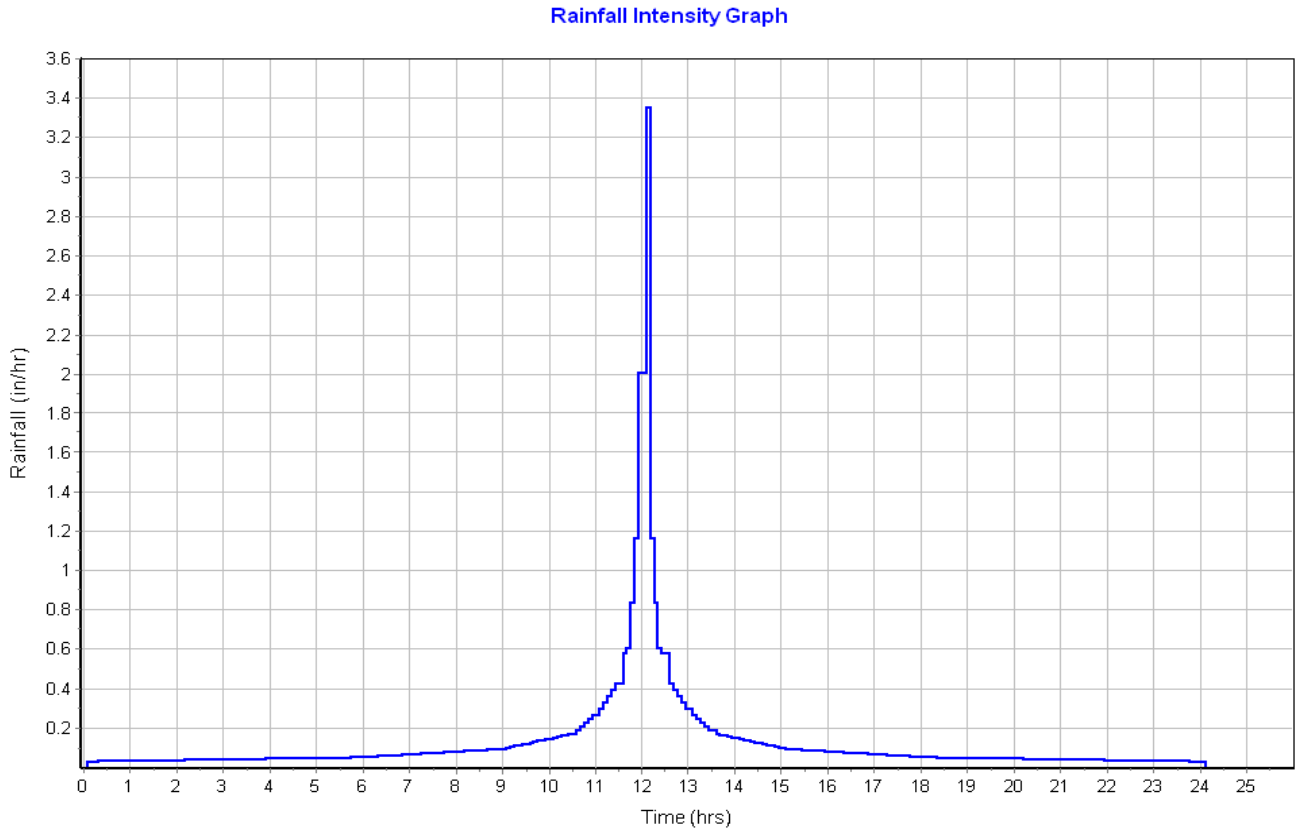
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

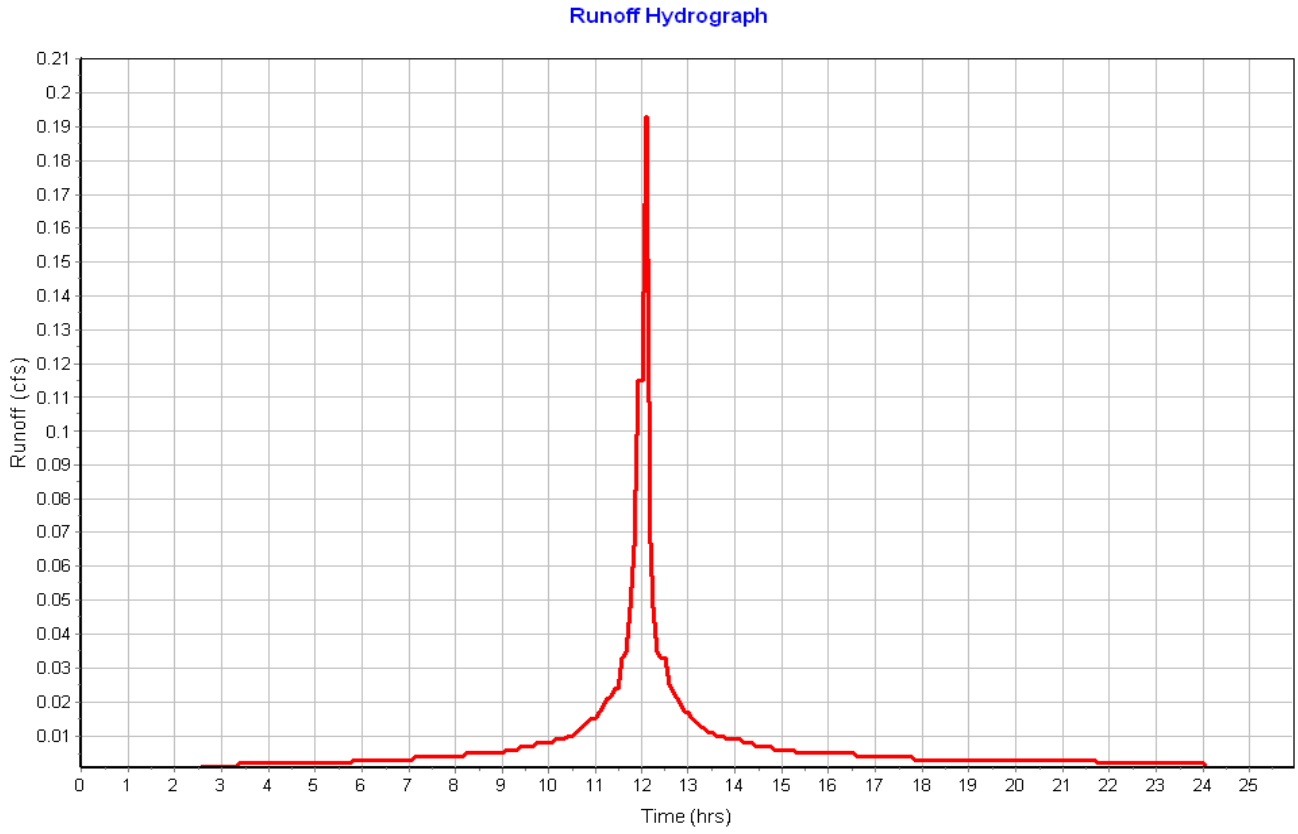
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-08





Subbasin : Roof-09

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

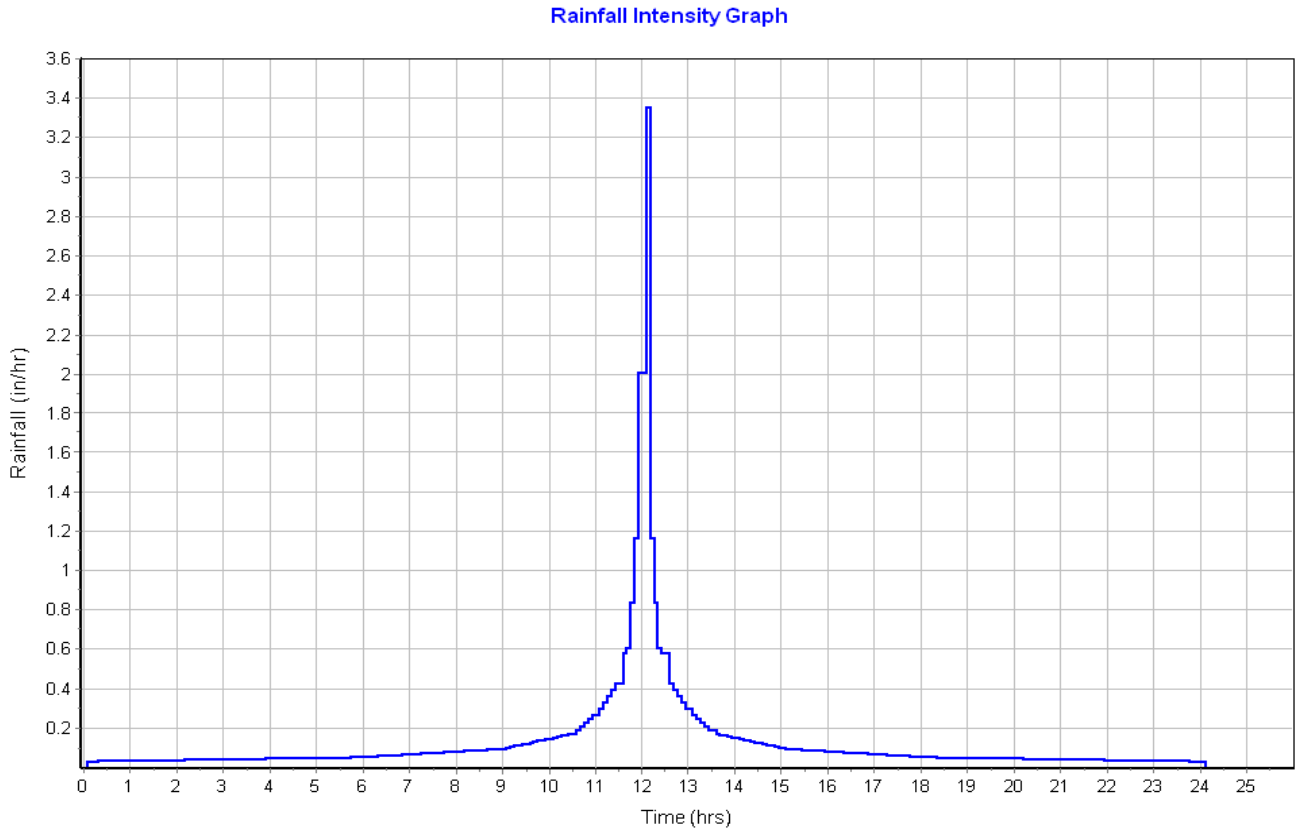
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

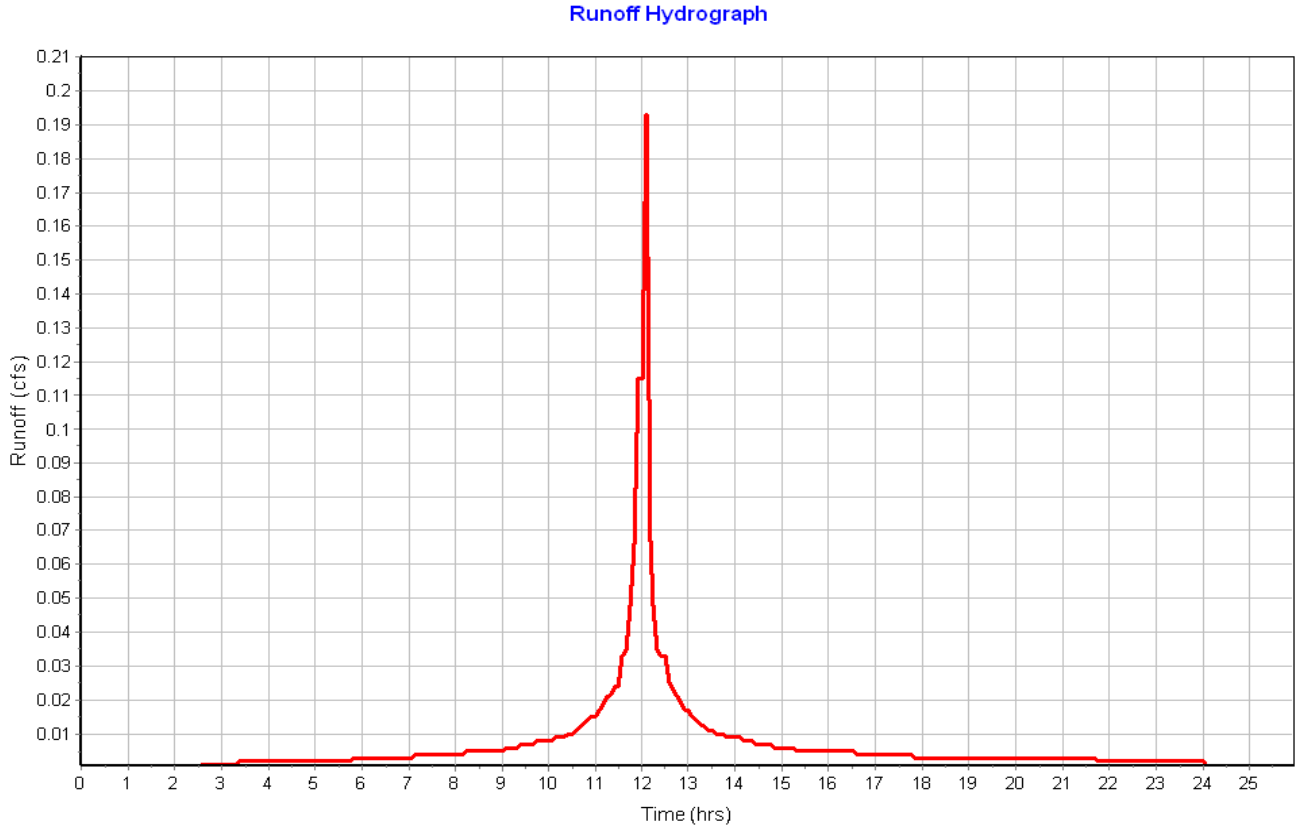
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.19
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-09





Subbasin : Roof-10

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

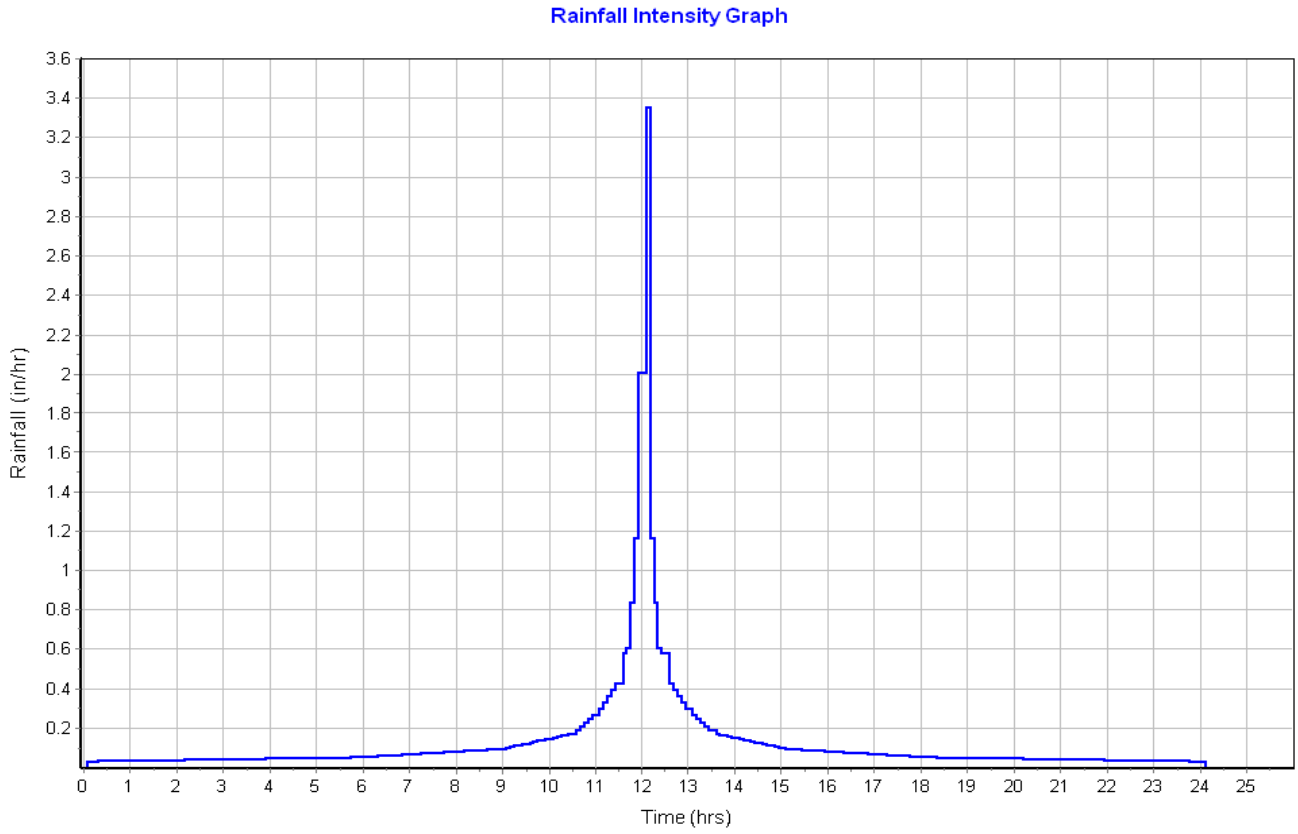
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

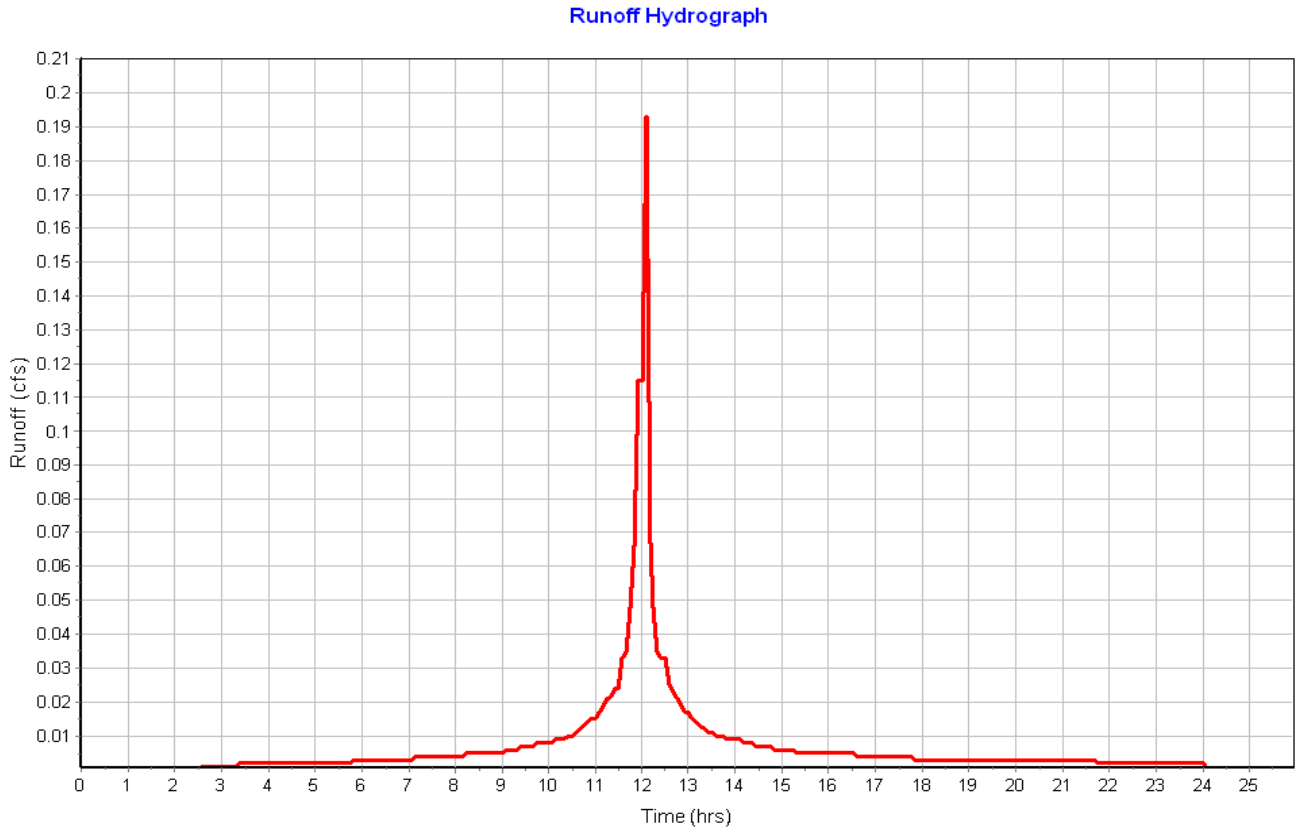
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-10





Subbasin : Roof-11

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

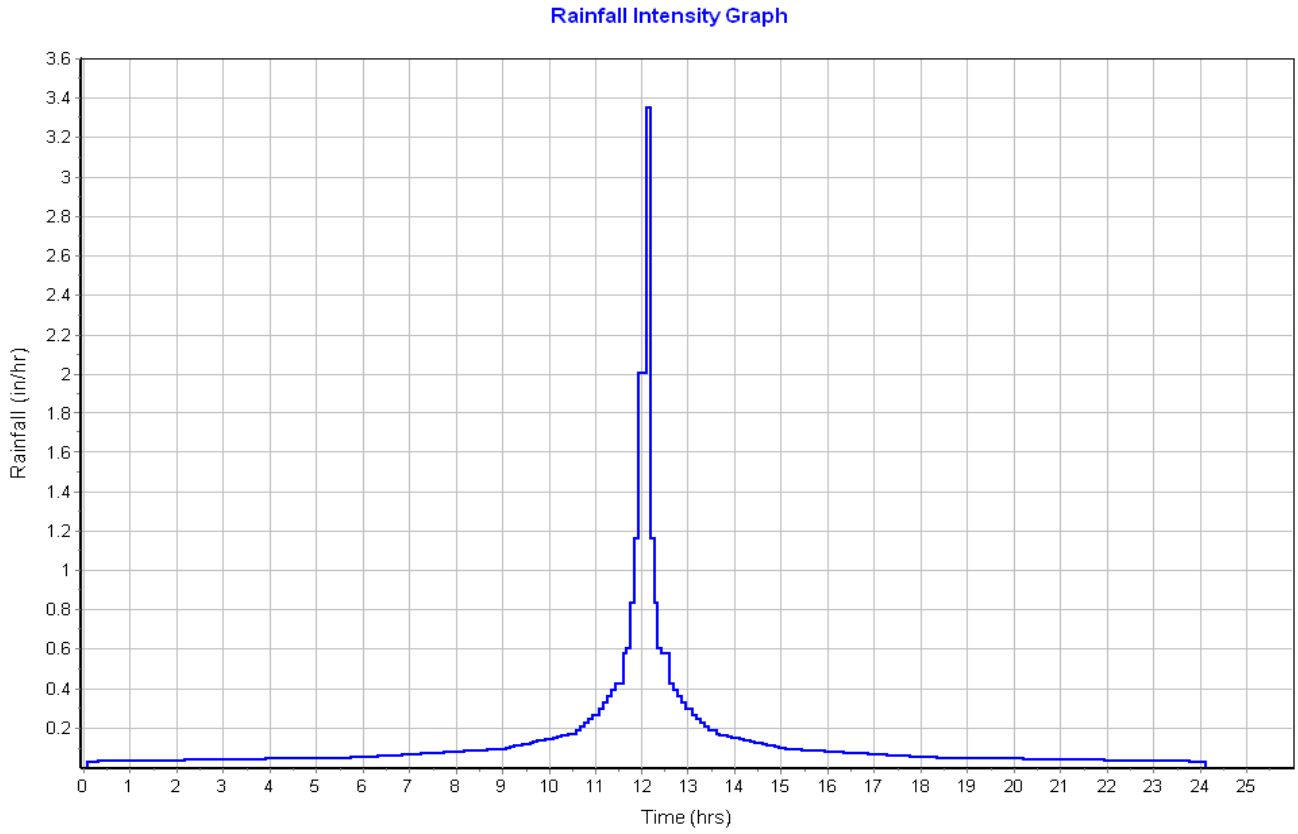
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

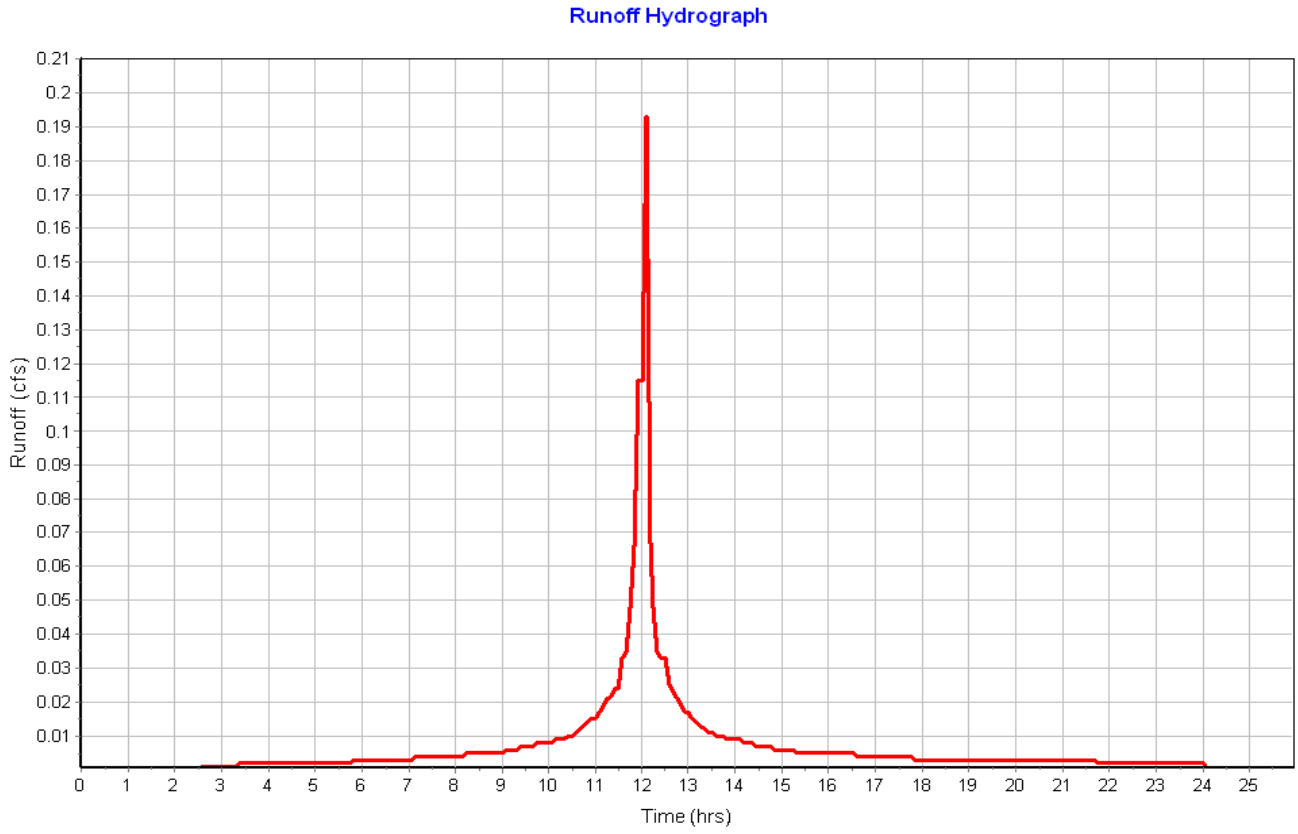
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-11





Subbasin : Roof-12

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

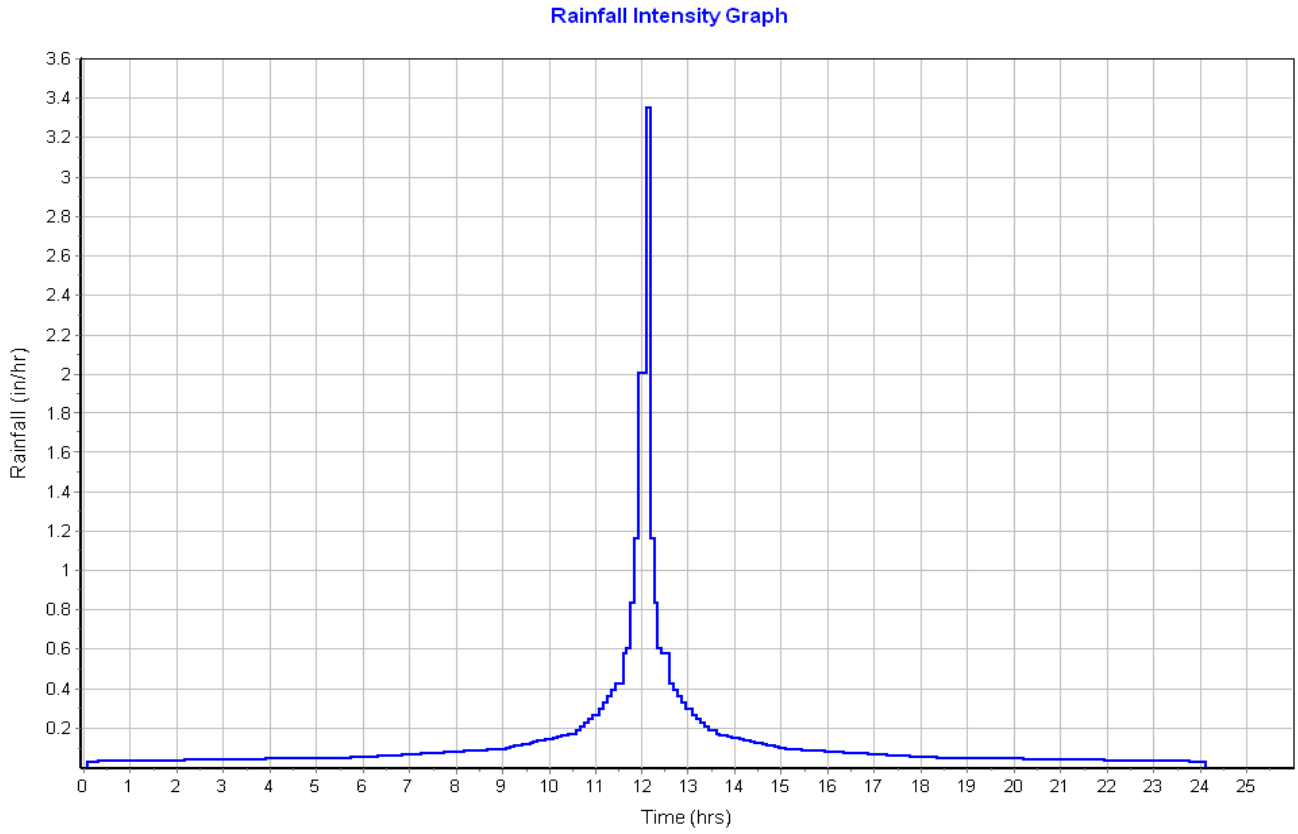
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

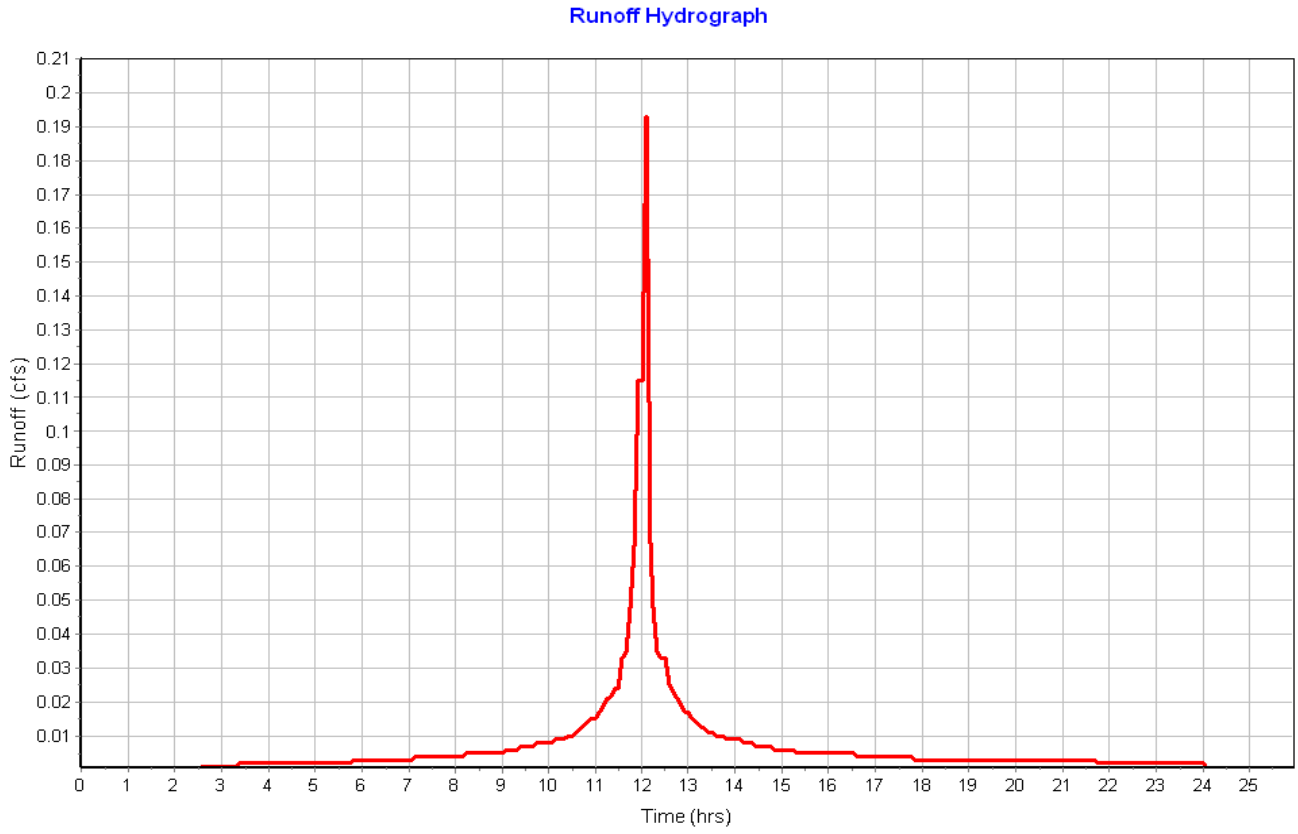
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-12





Subbasin : Roof-13

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

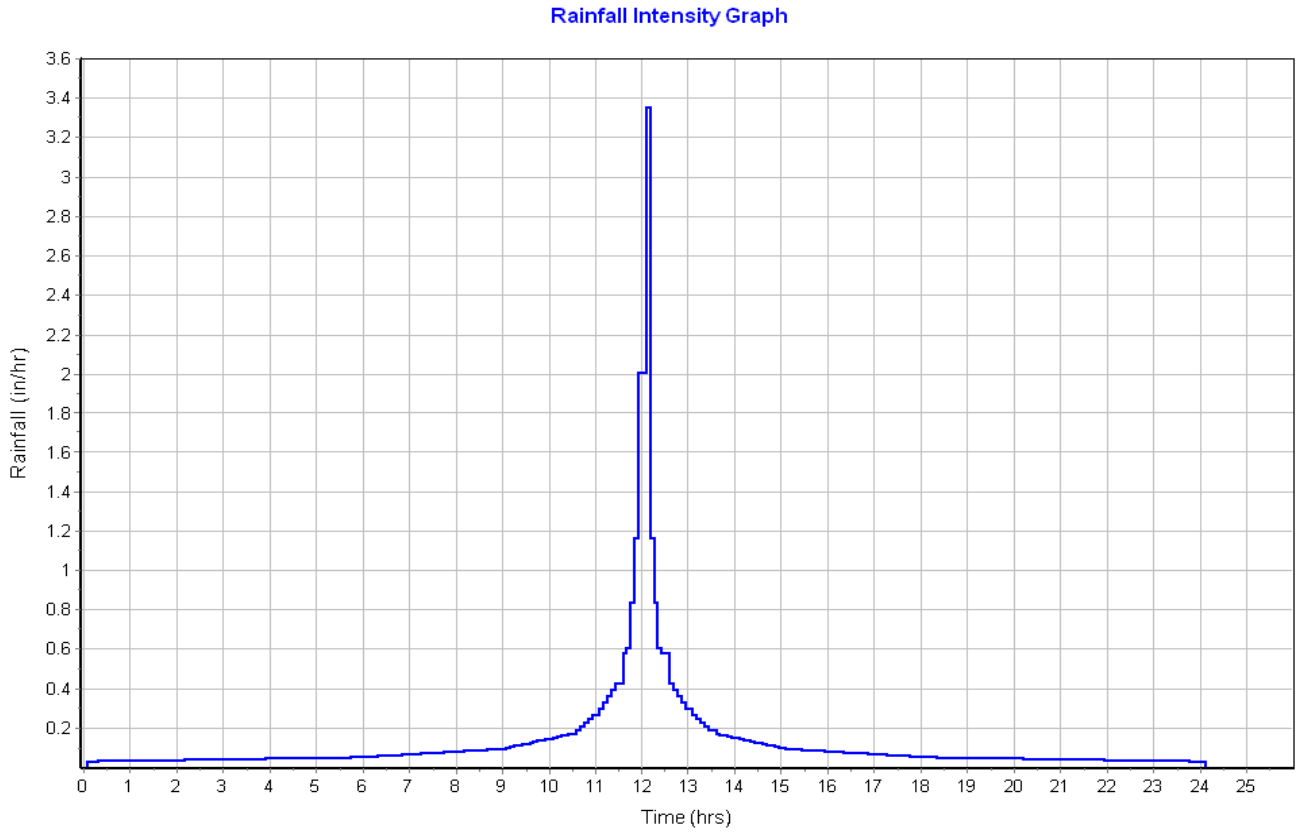
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

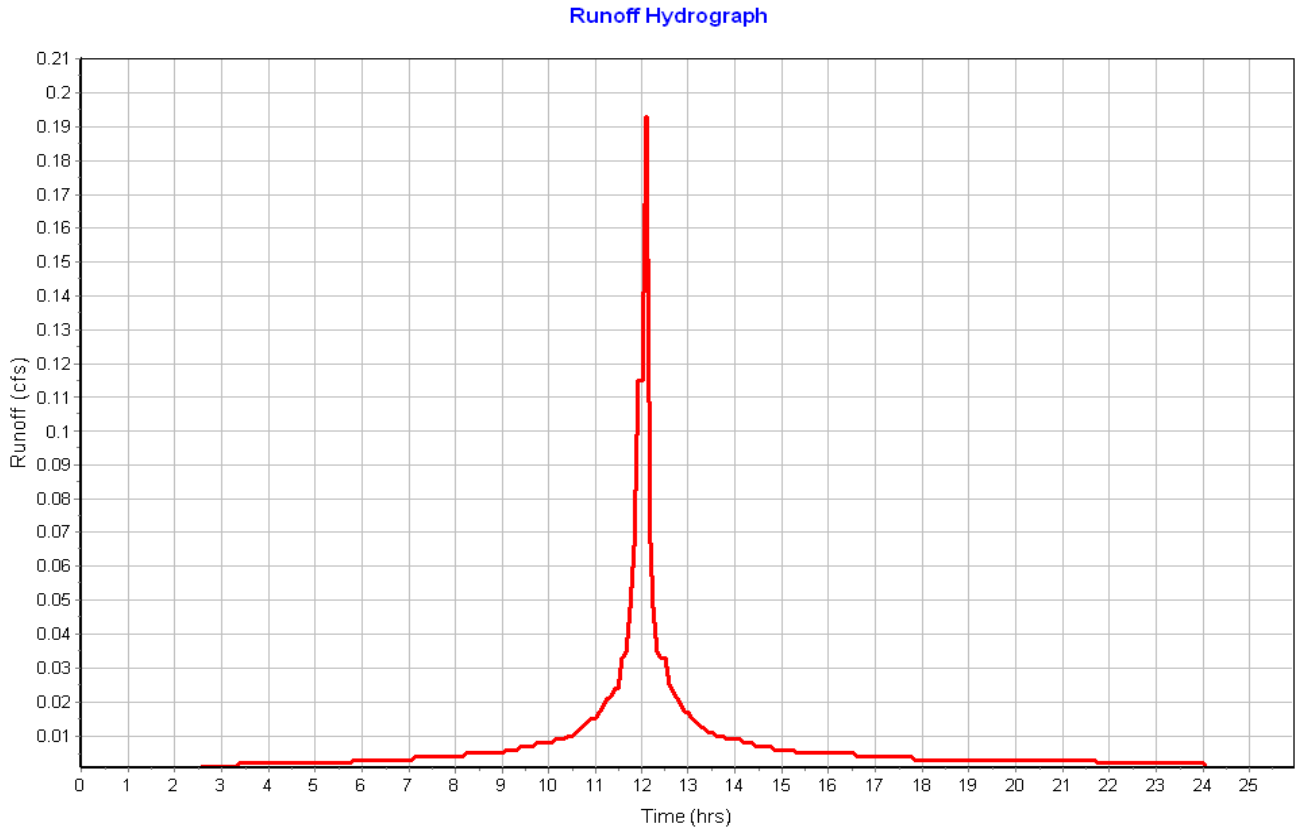
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-13





Subbasin : Roof-14

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

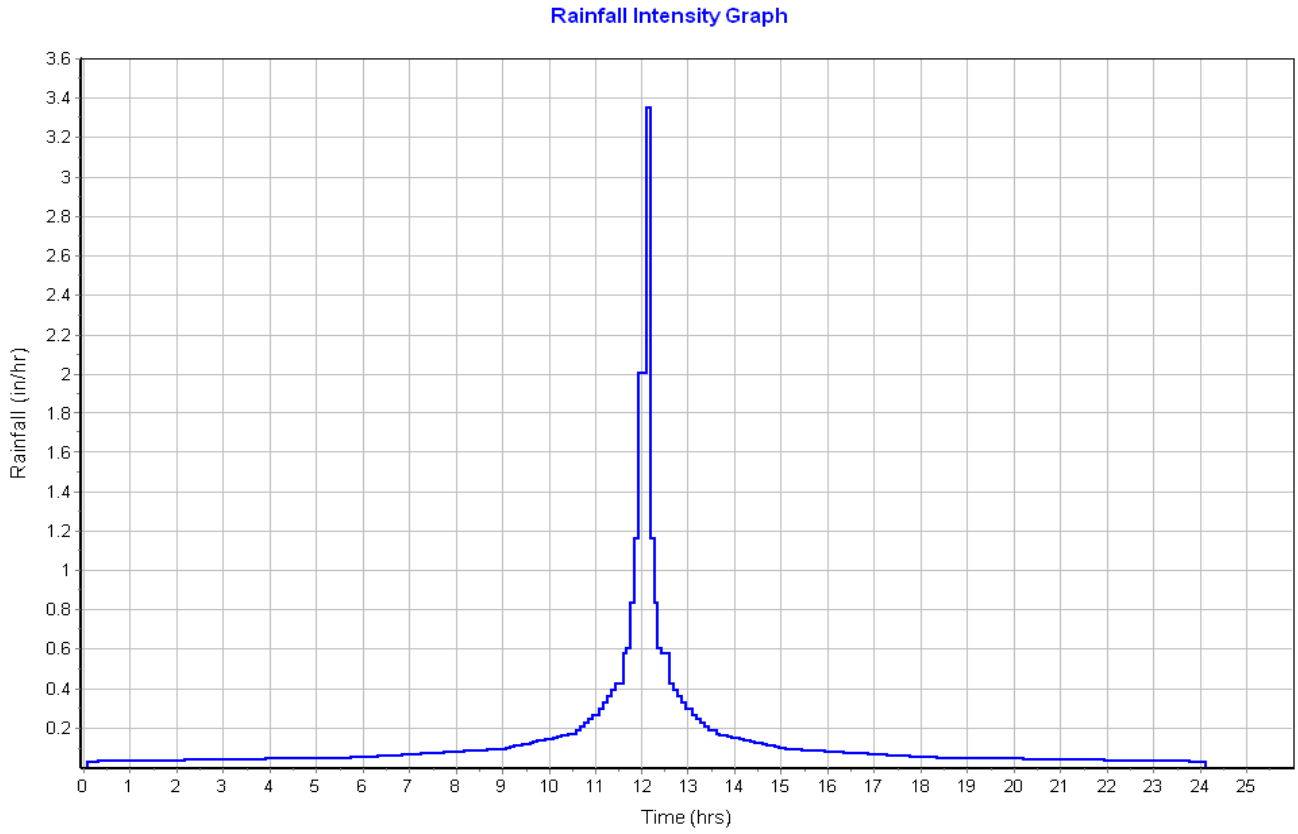
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

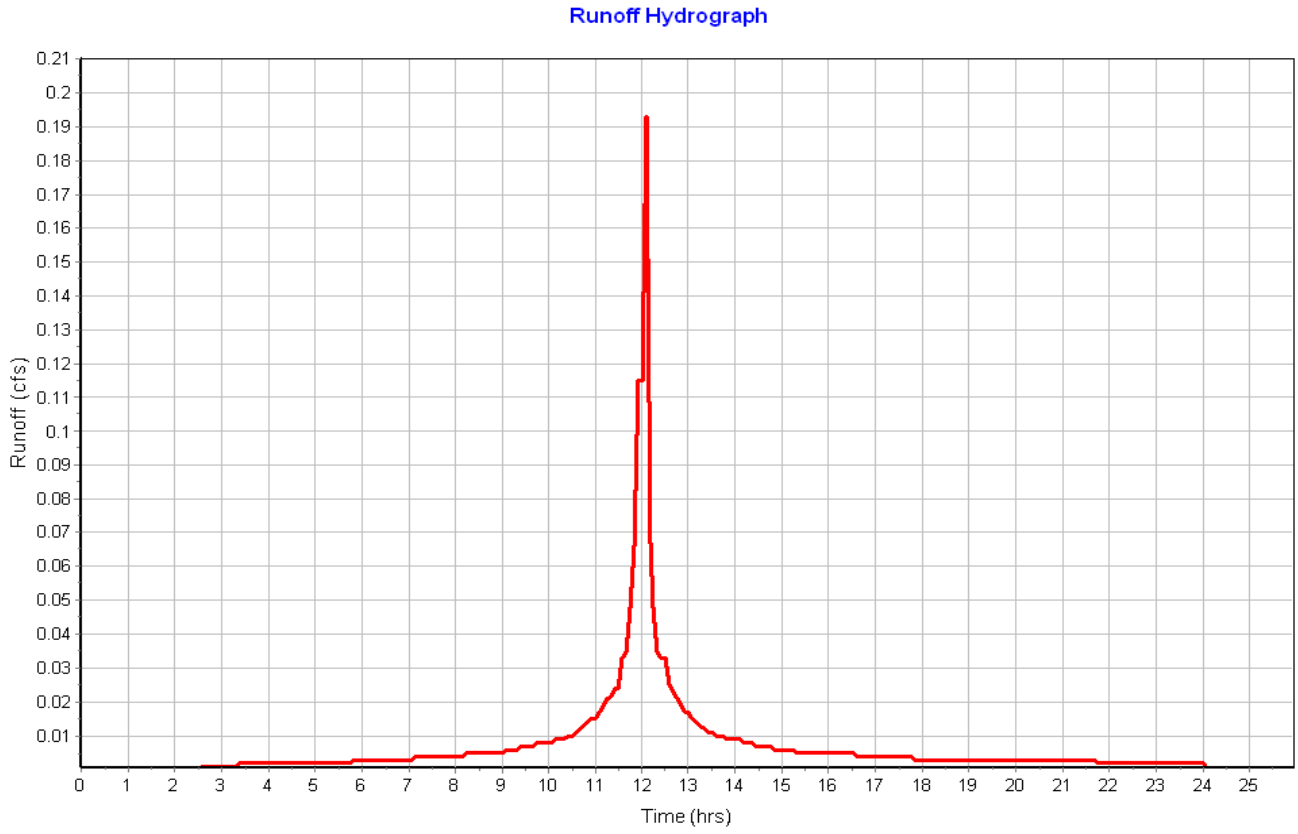
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-14





Subbasin : Roof-15

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

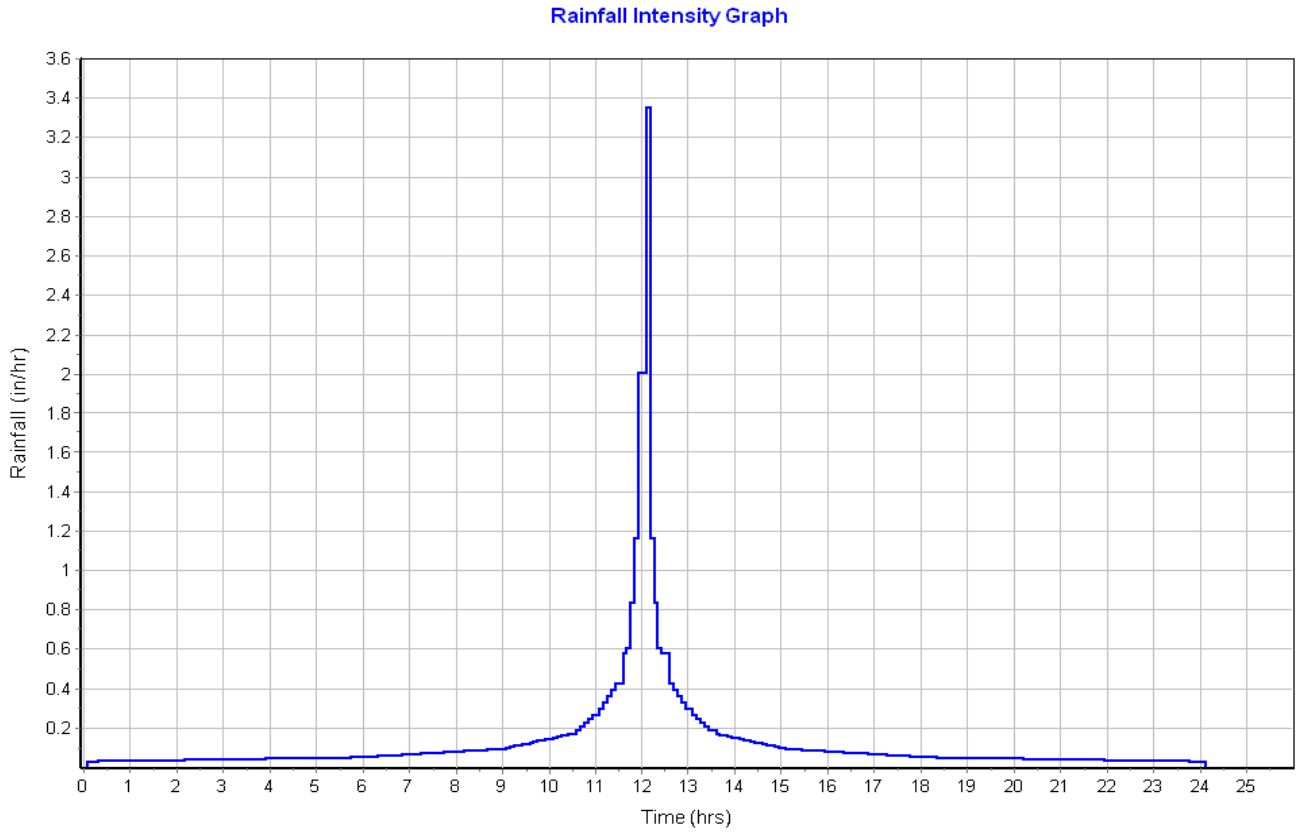
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

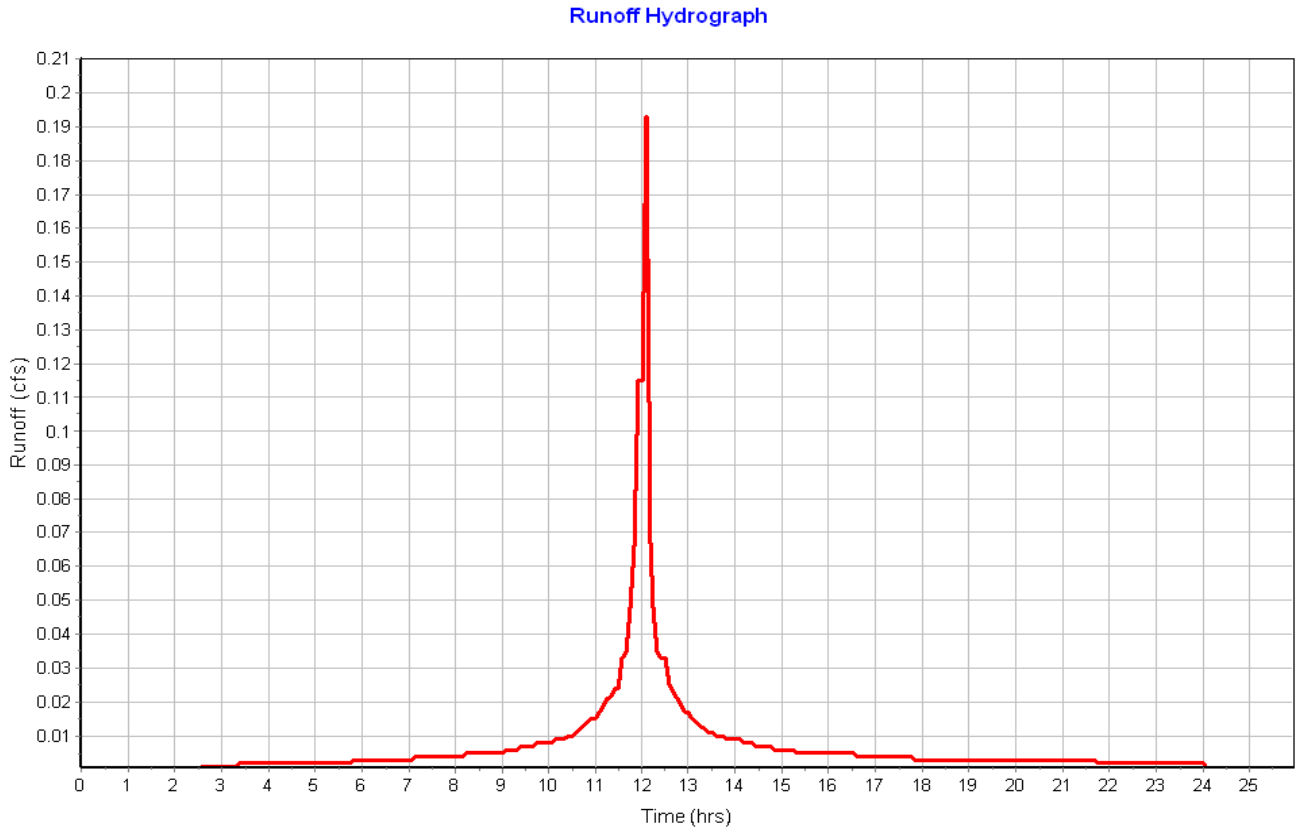
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-15





Subbasin : Roof-16

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

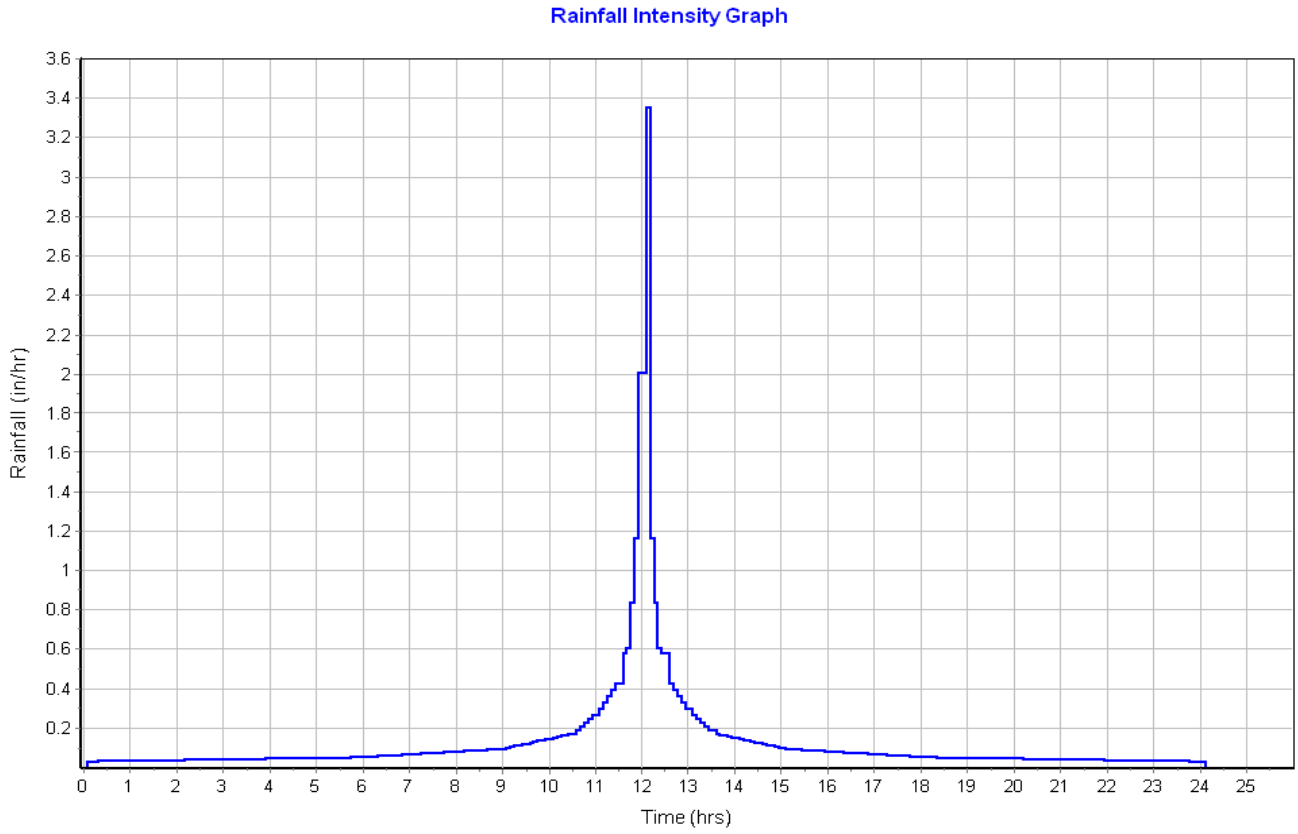
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

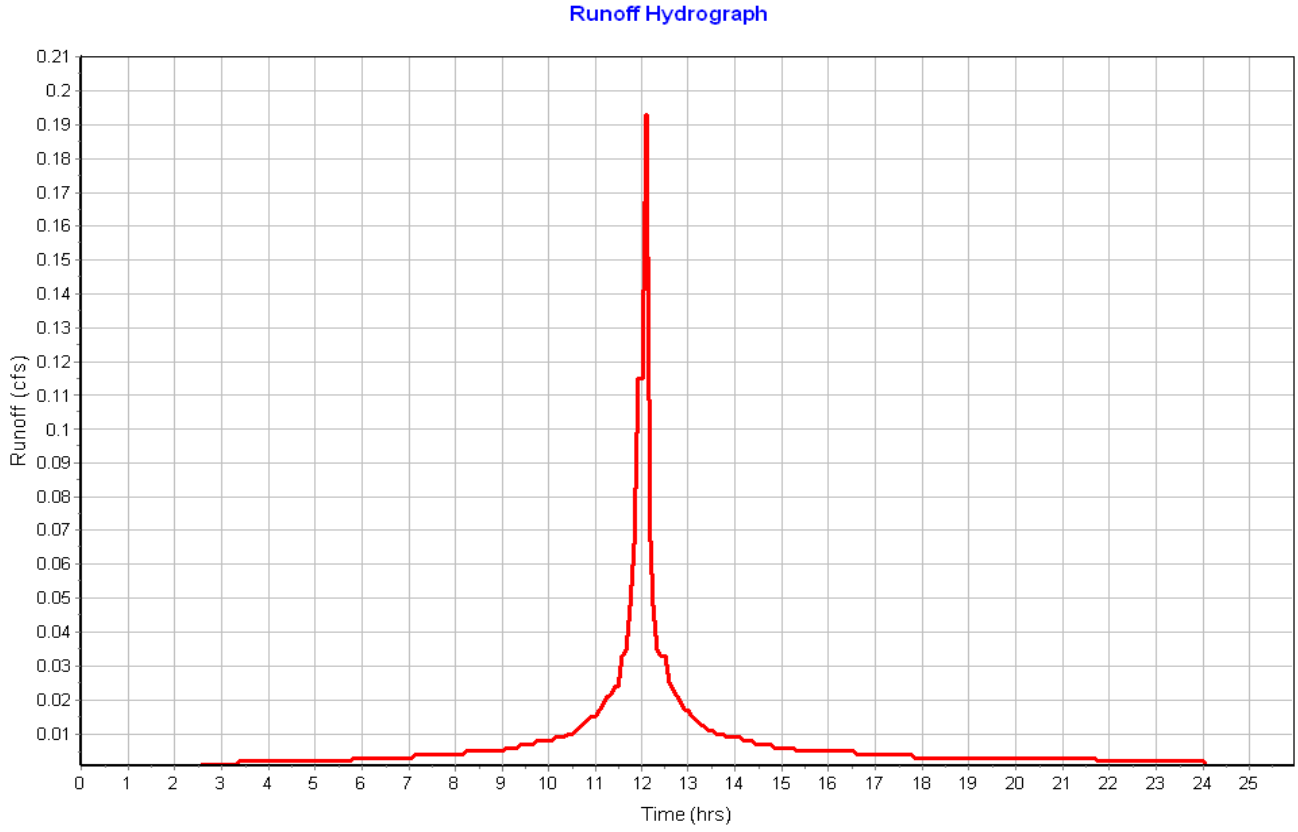
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-16





Subbasin : Roof-17

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

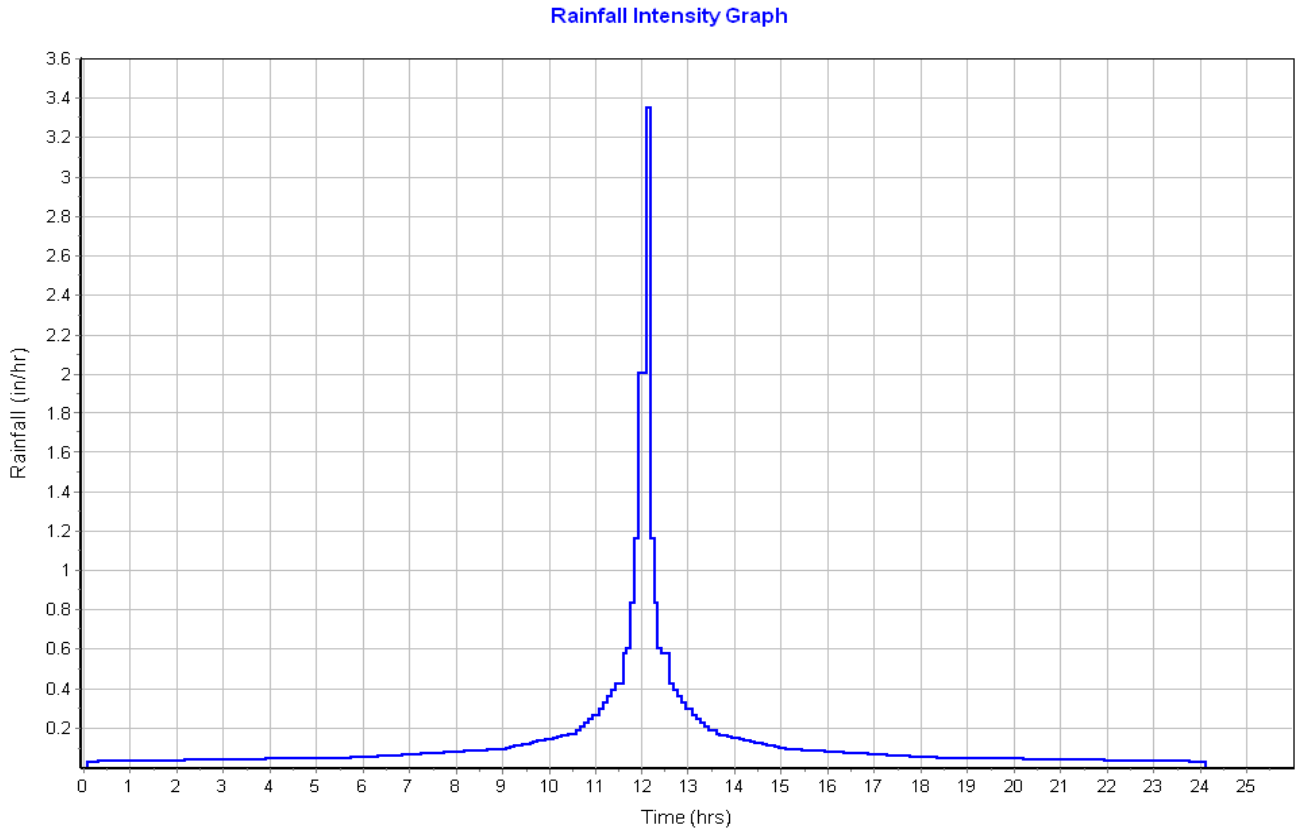
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

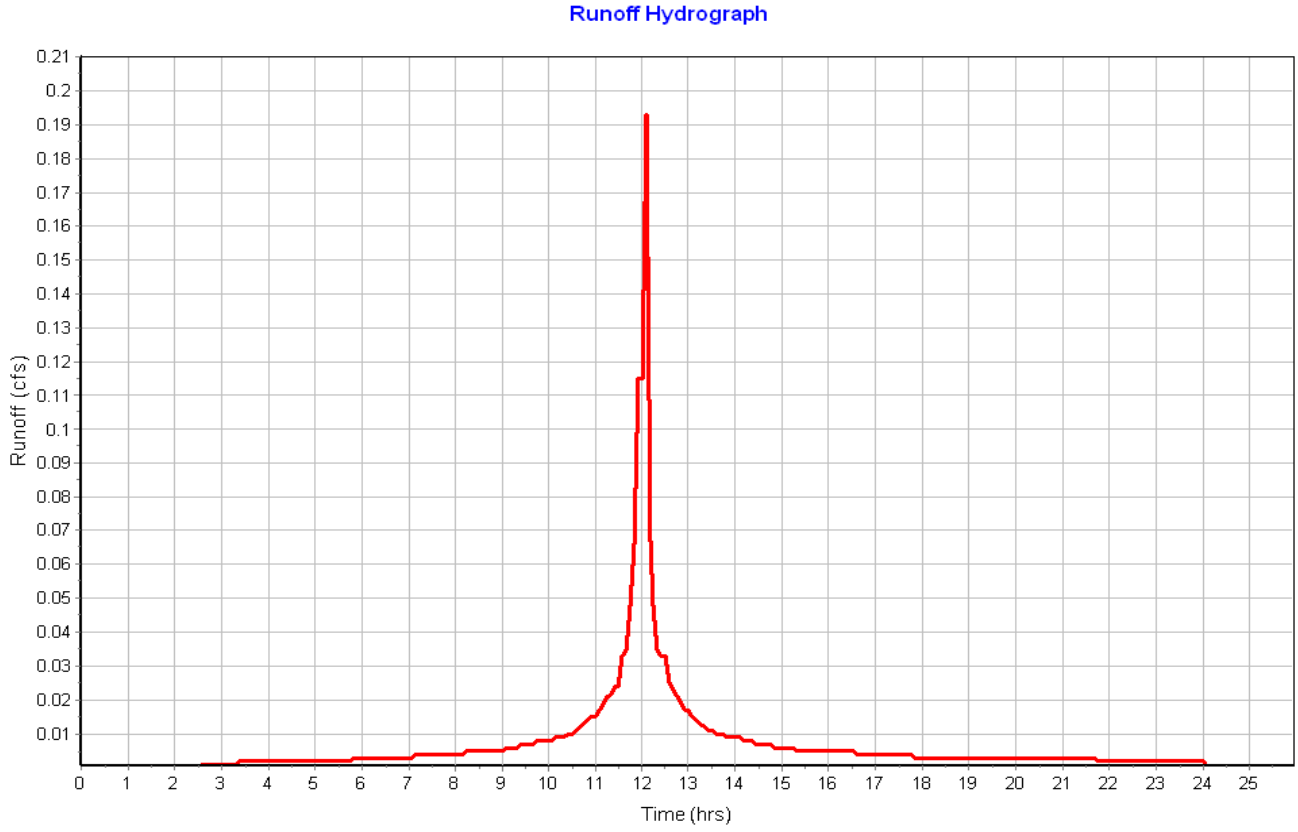
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-17





Subbasin : Roof-18

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

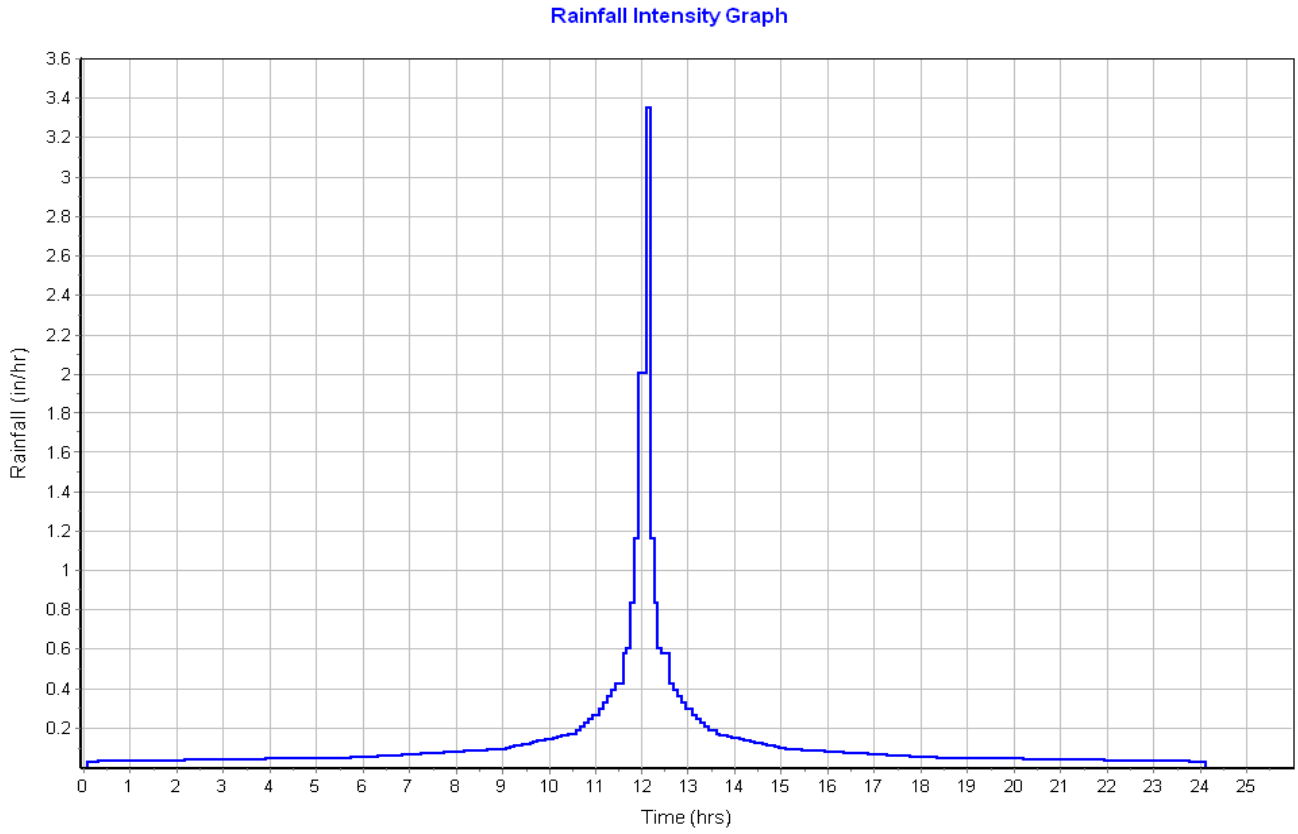
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

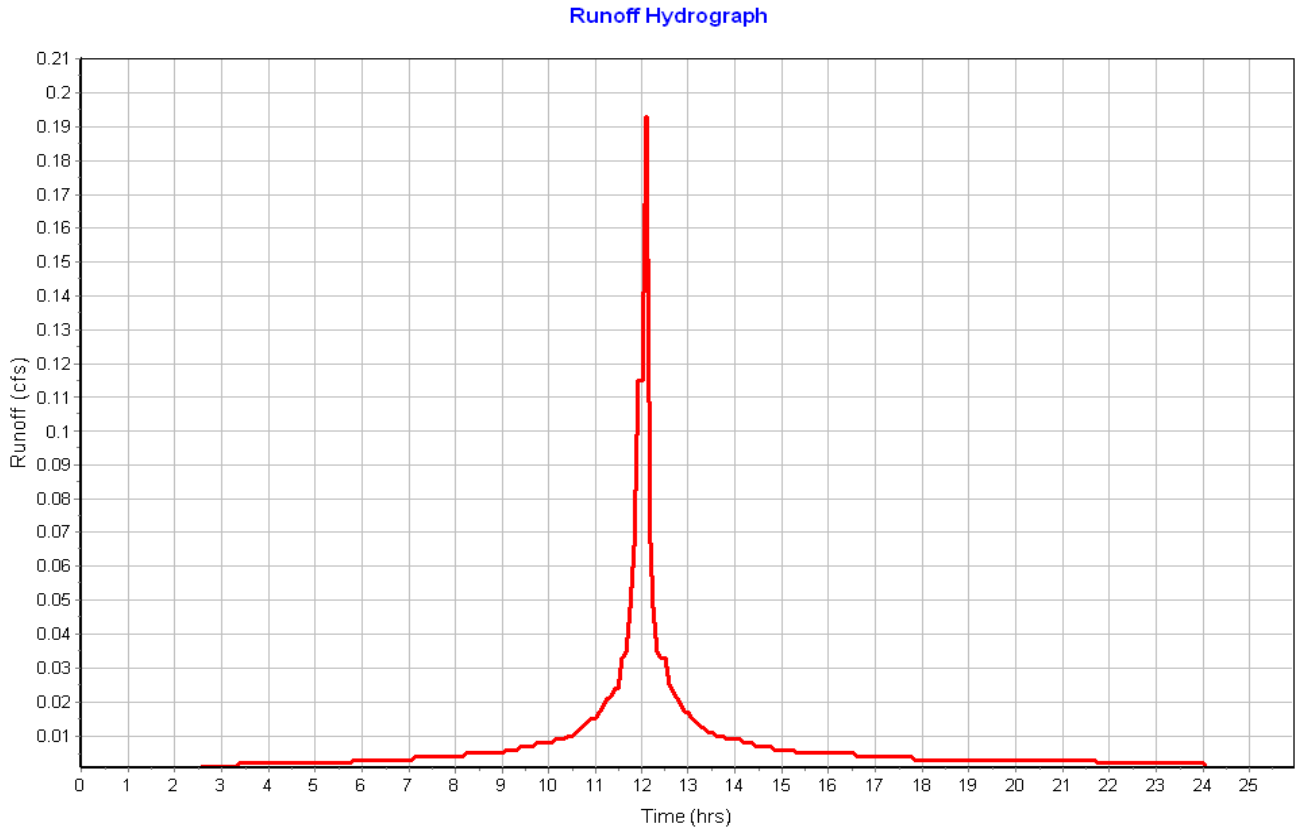
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.19
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-18





Subbasin : Roof-19

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

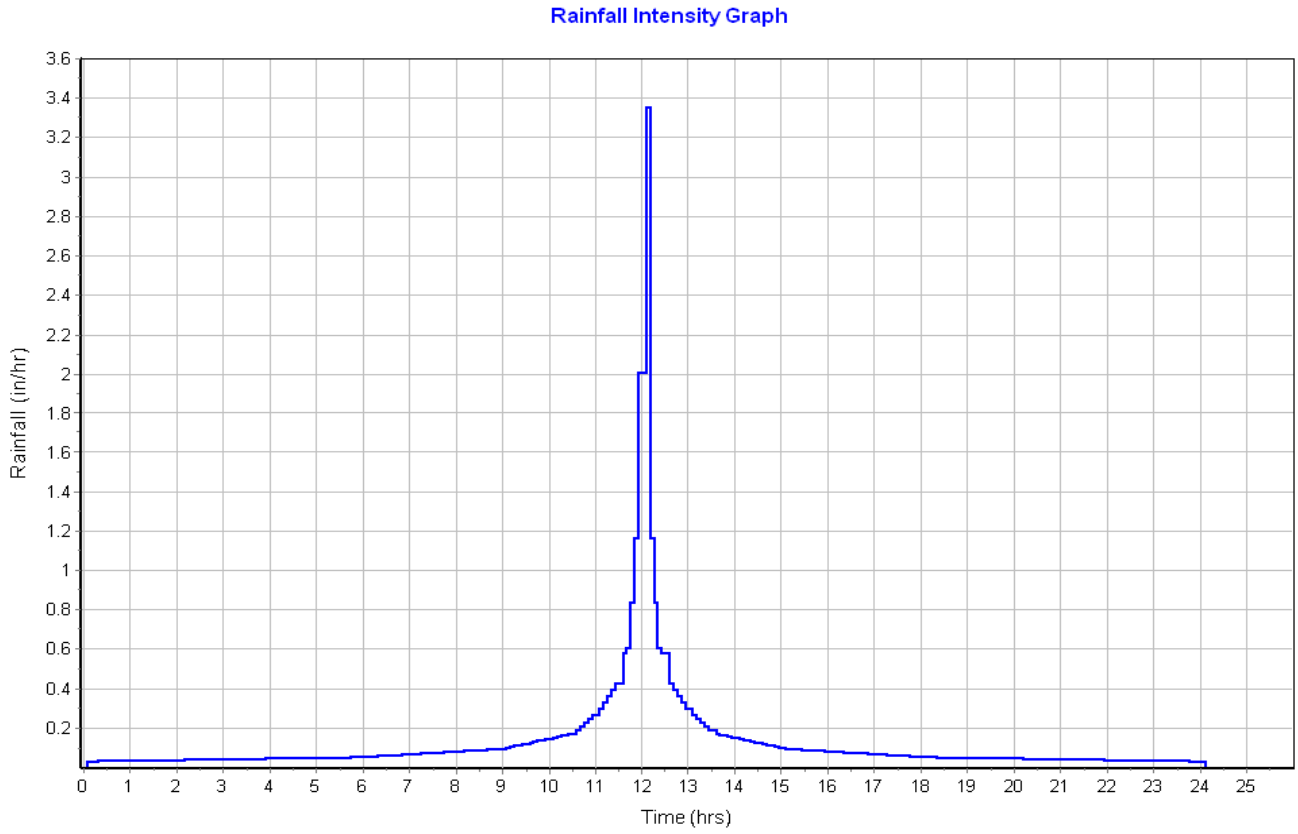
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

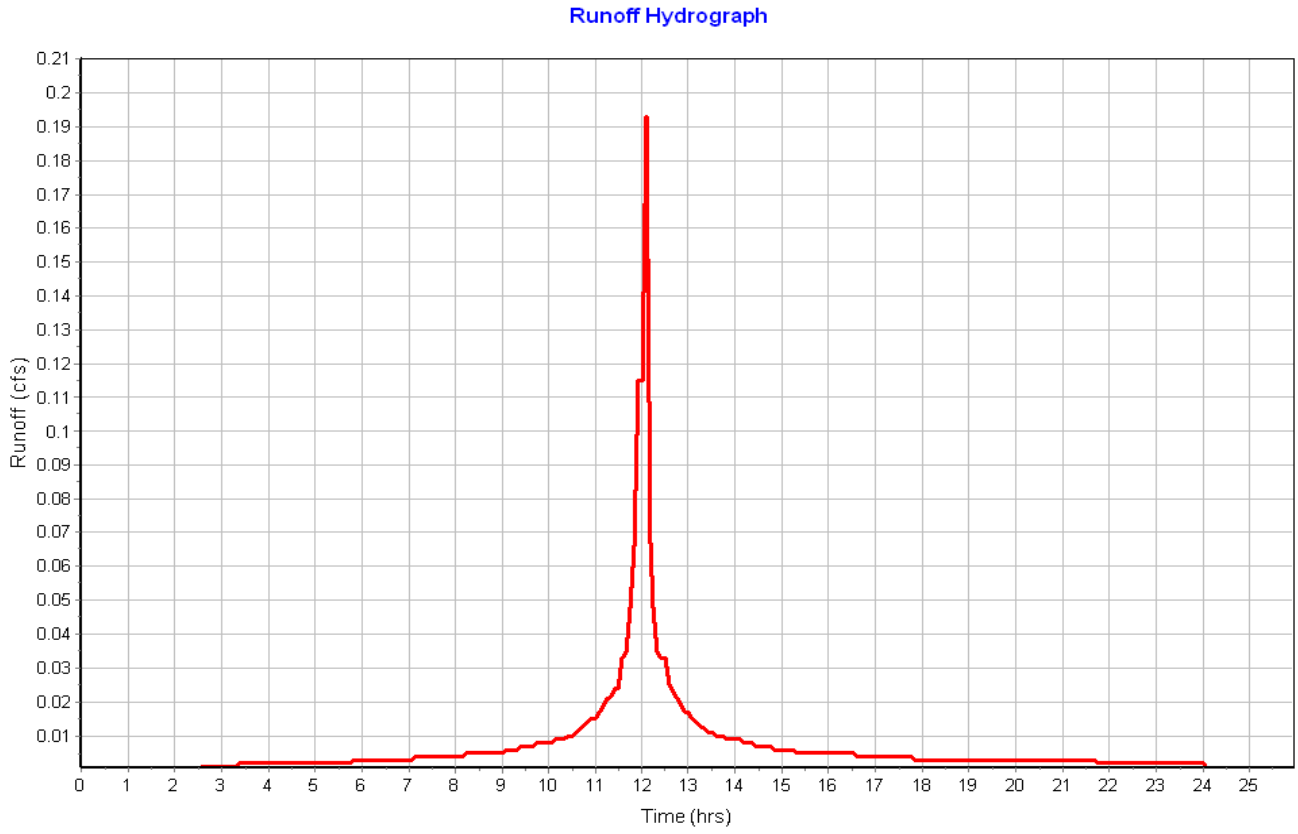
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.19
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-19





Subbasin : Roof-20

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

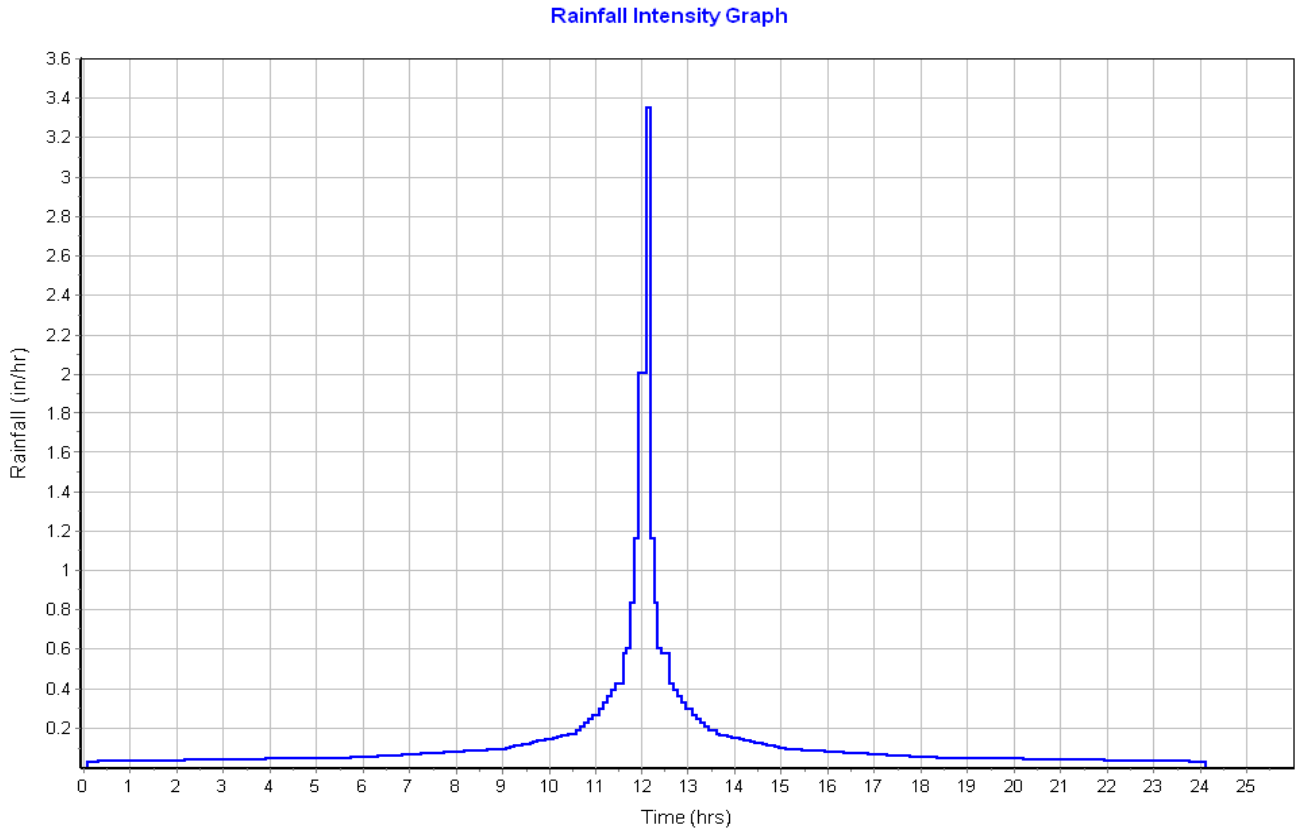
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

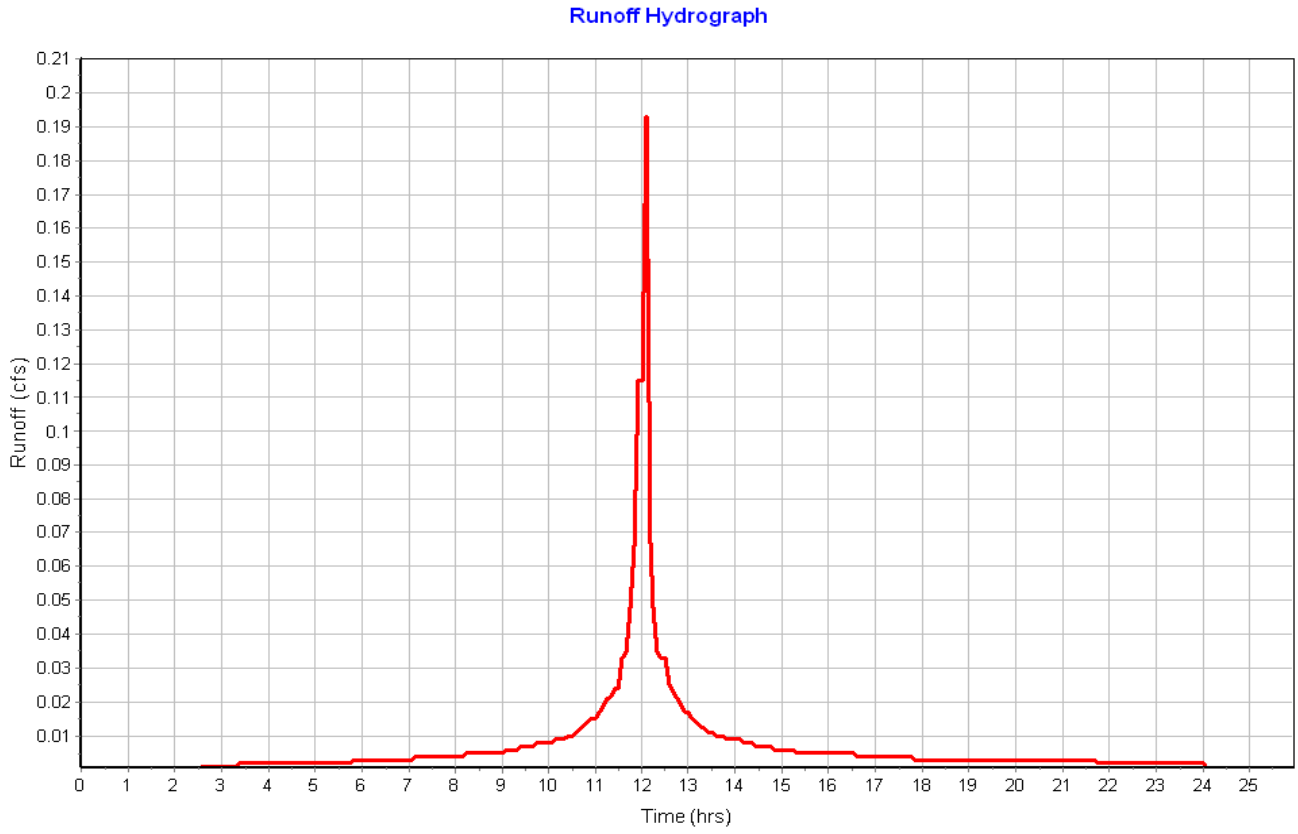
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-20





Subbasin : Roof-21

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

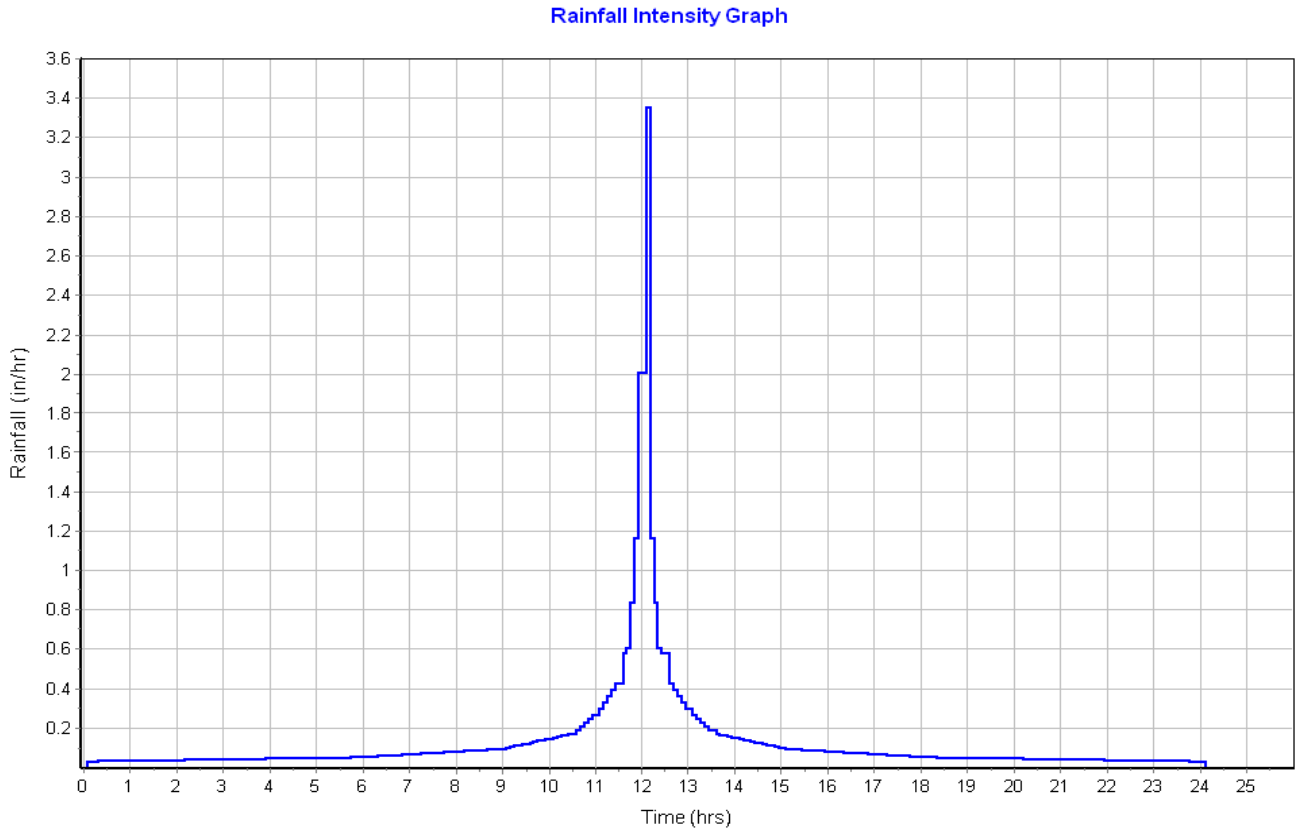
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

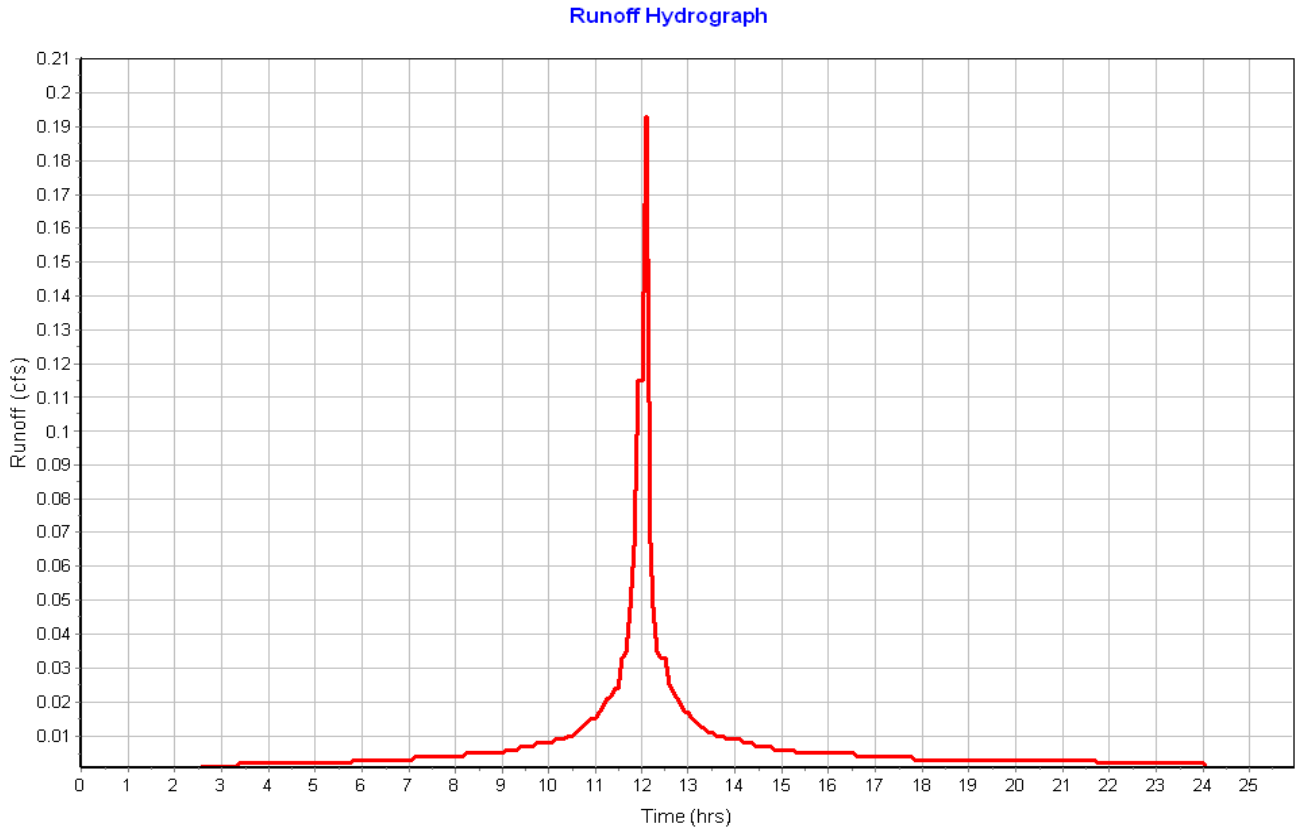
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-21





Subbasin : Roof-22

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

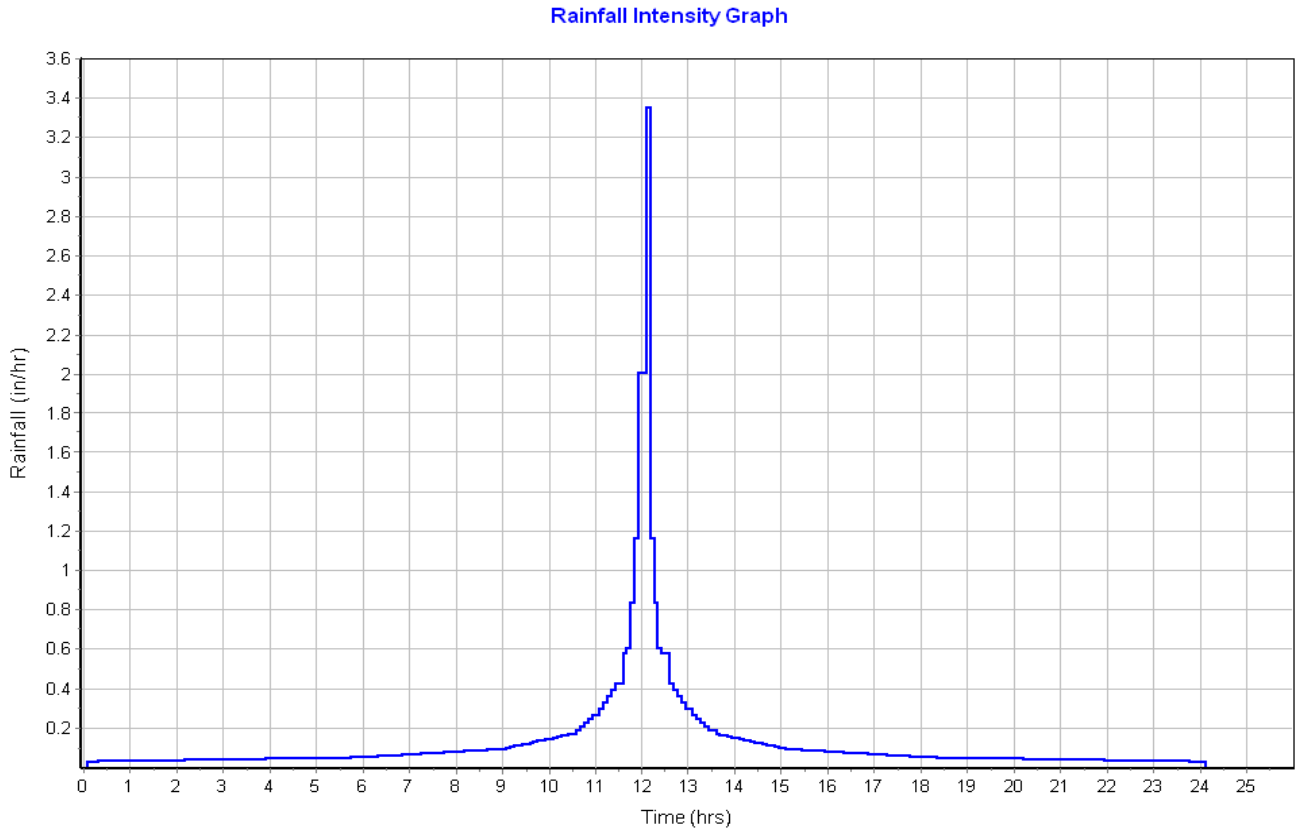
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

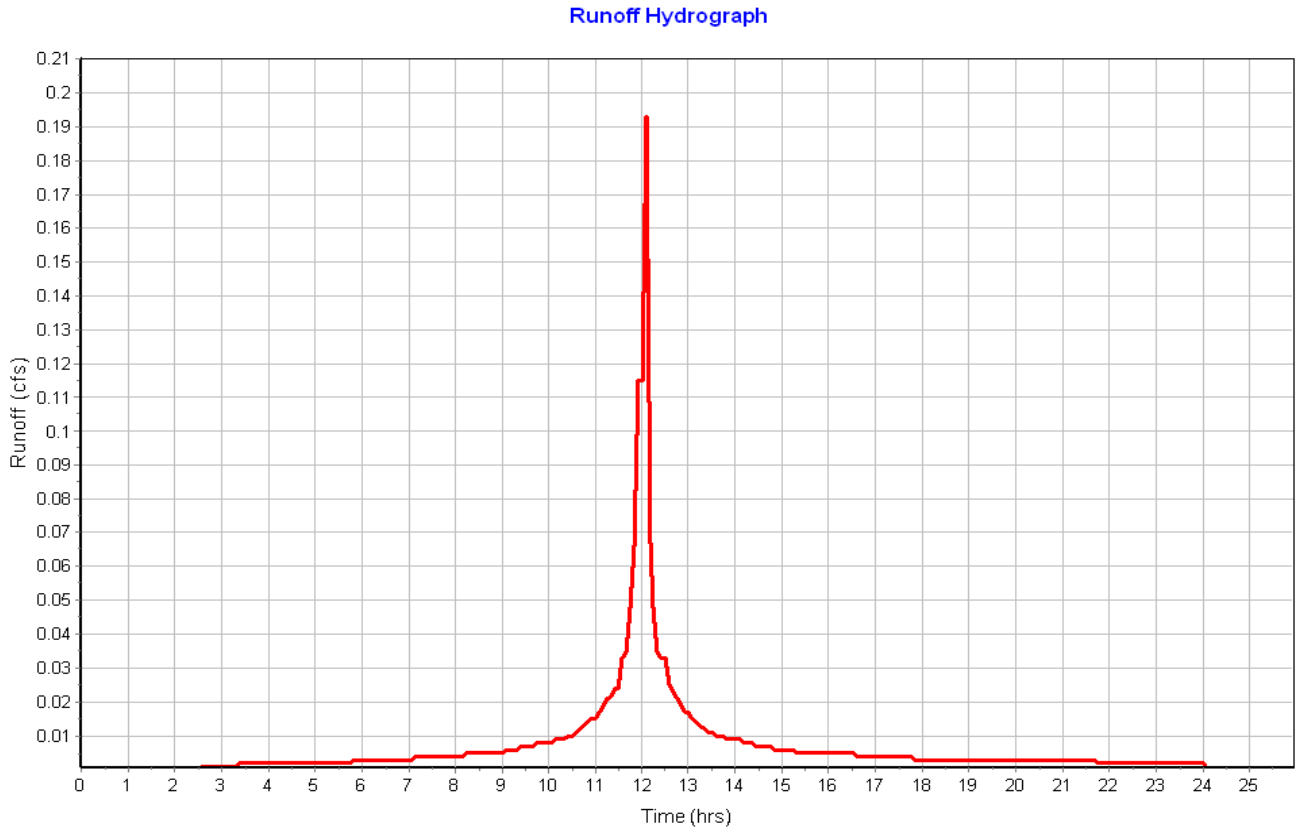
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-22





Subbasin : Roof-23

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

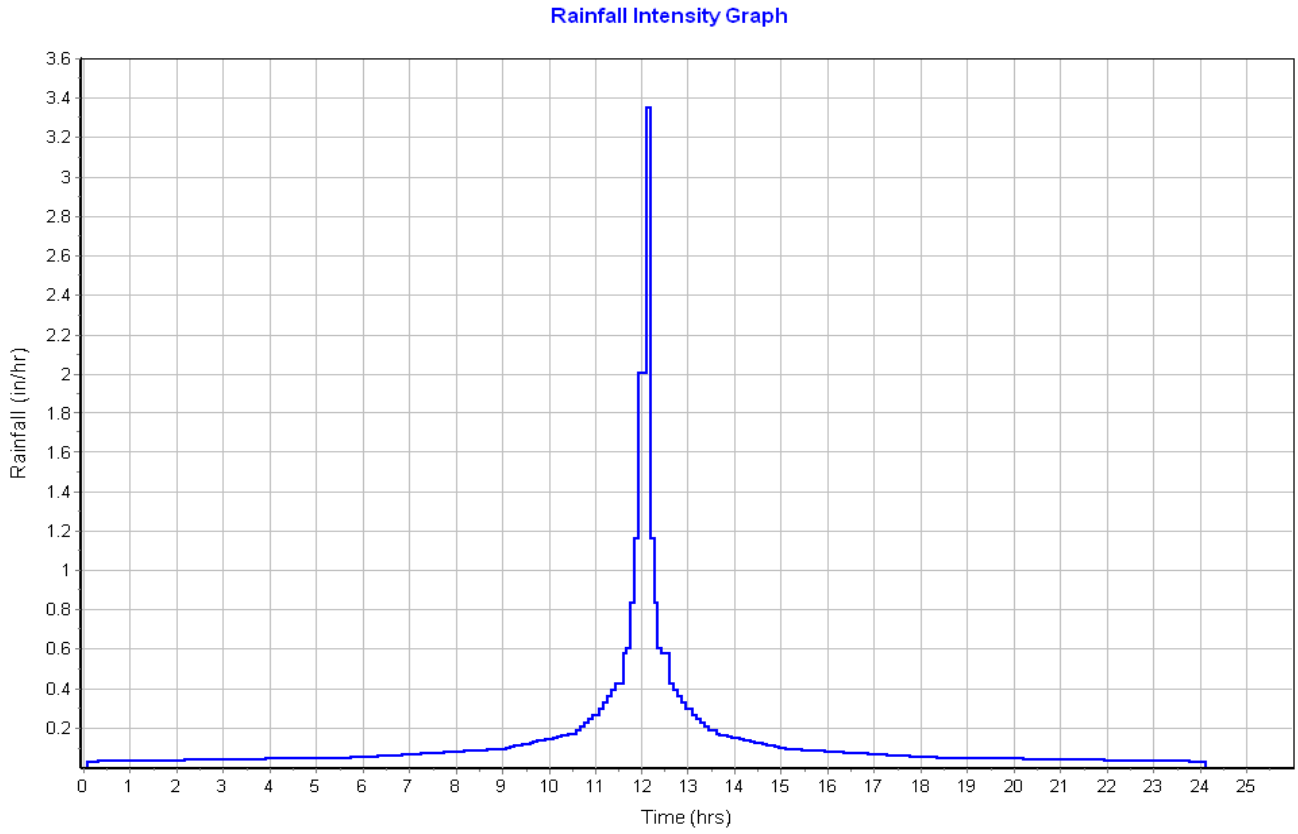
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

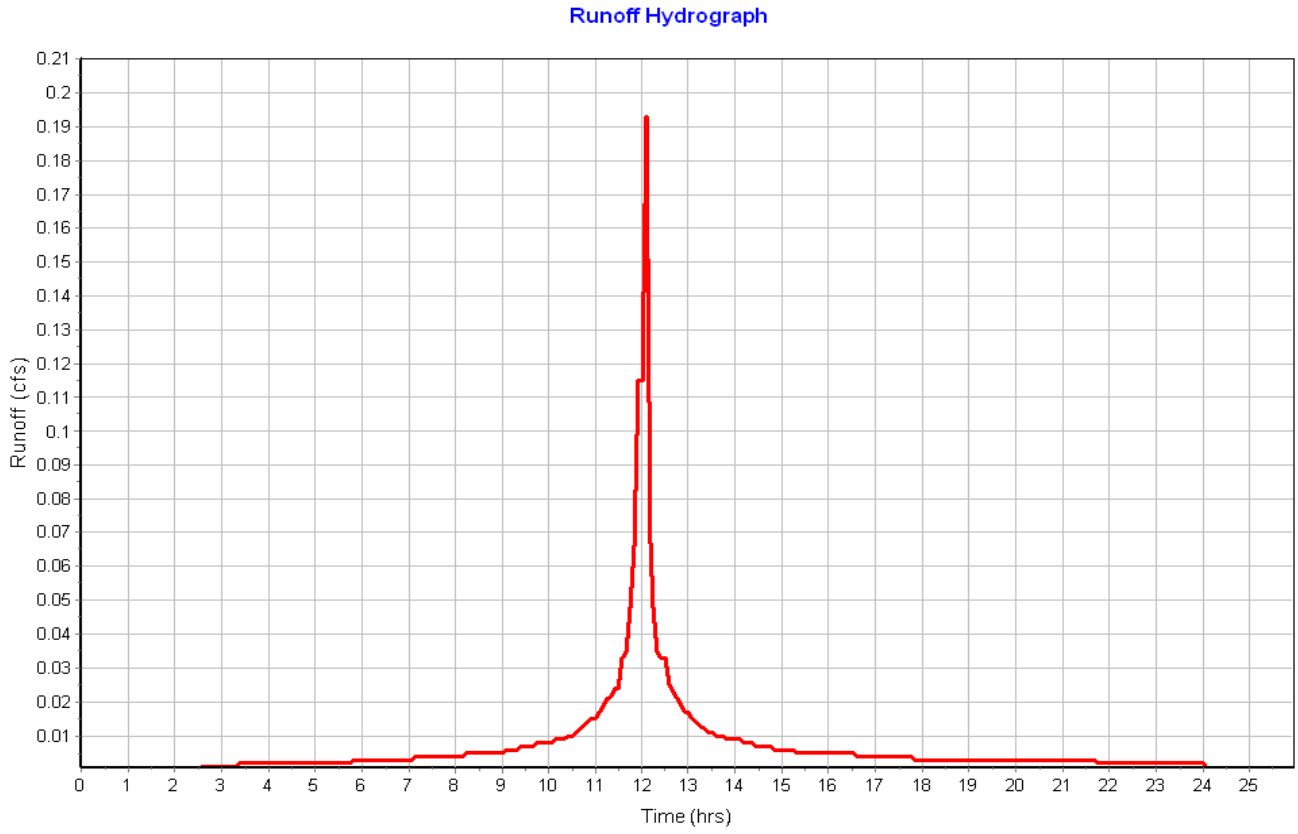
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-23





Subbasin : Roof-24

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

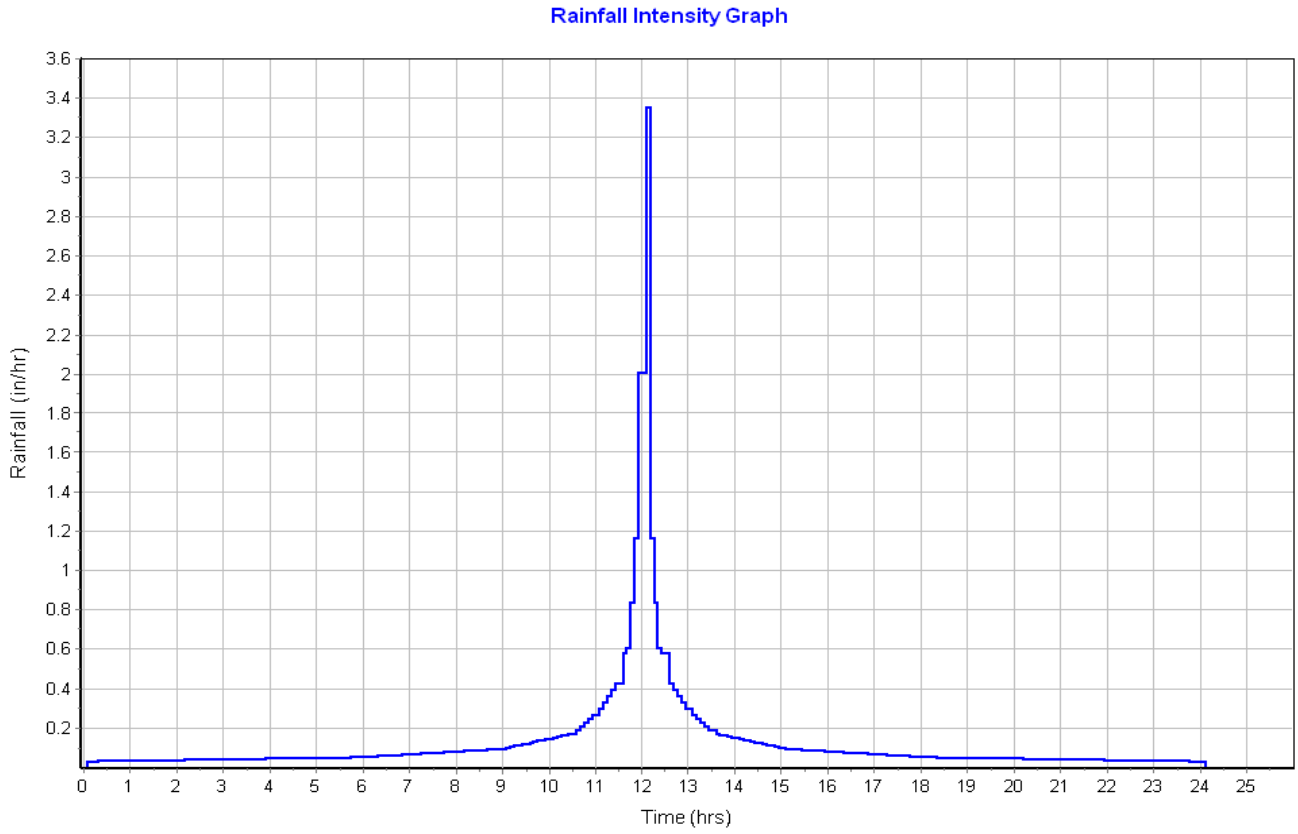
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

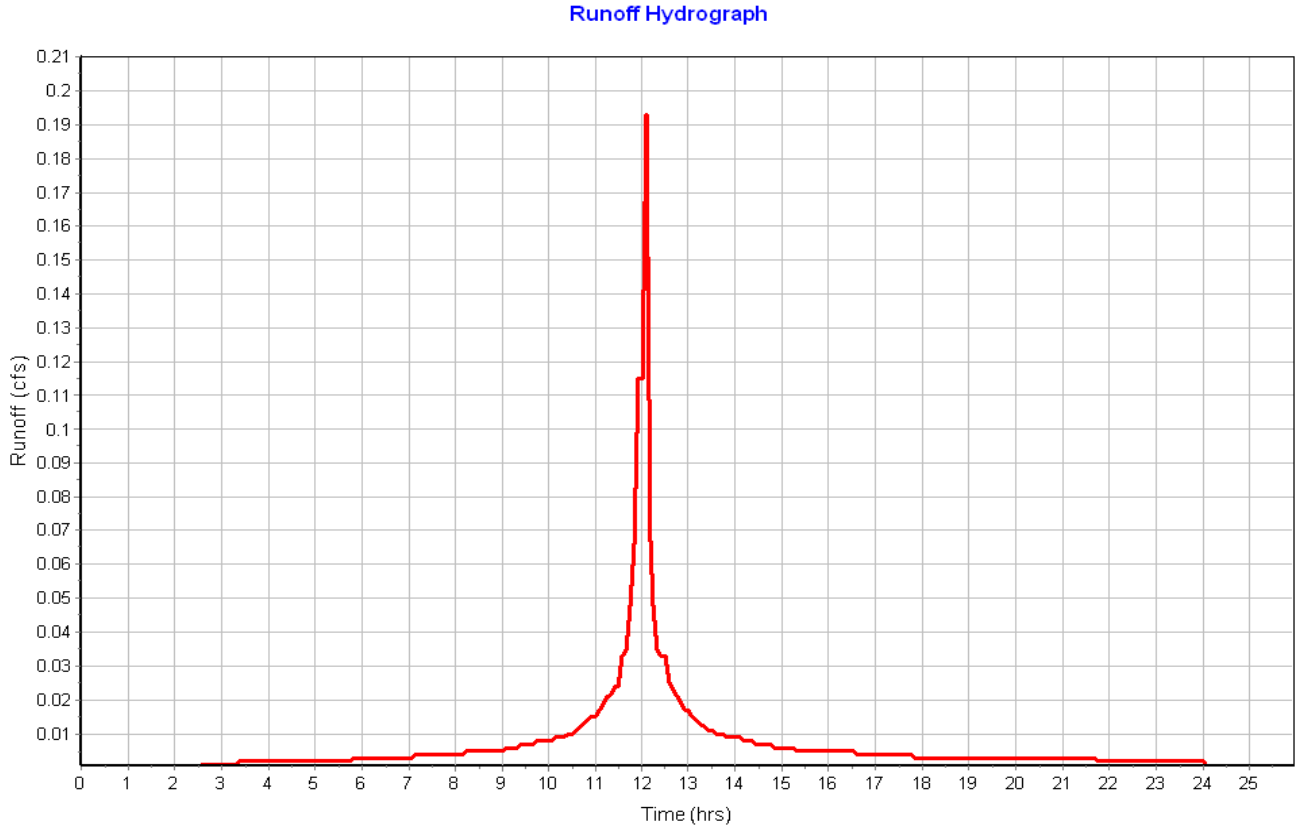
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.19
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-24





Subbasin : Roof-25

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

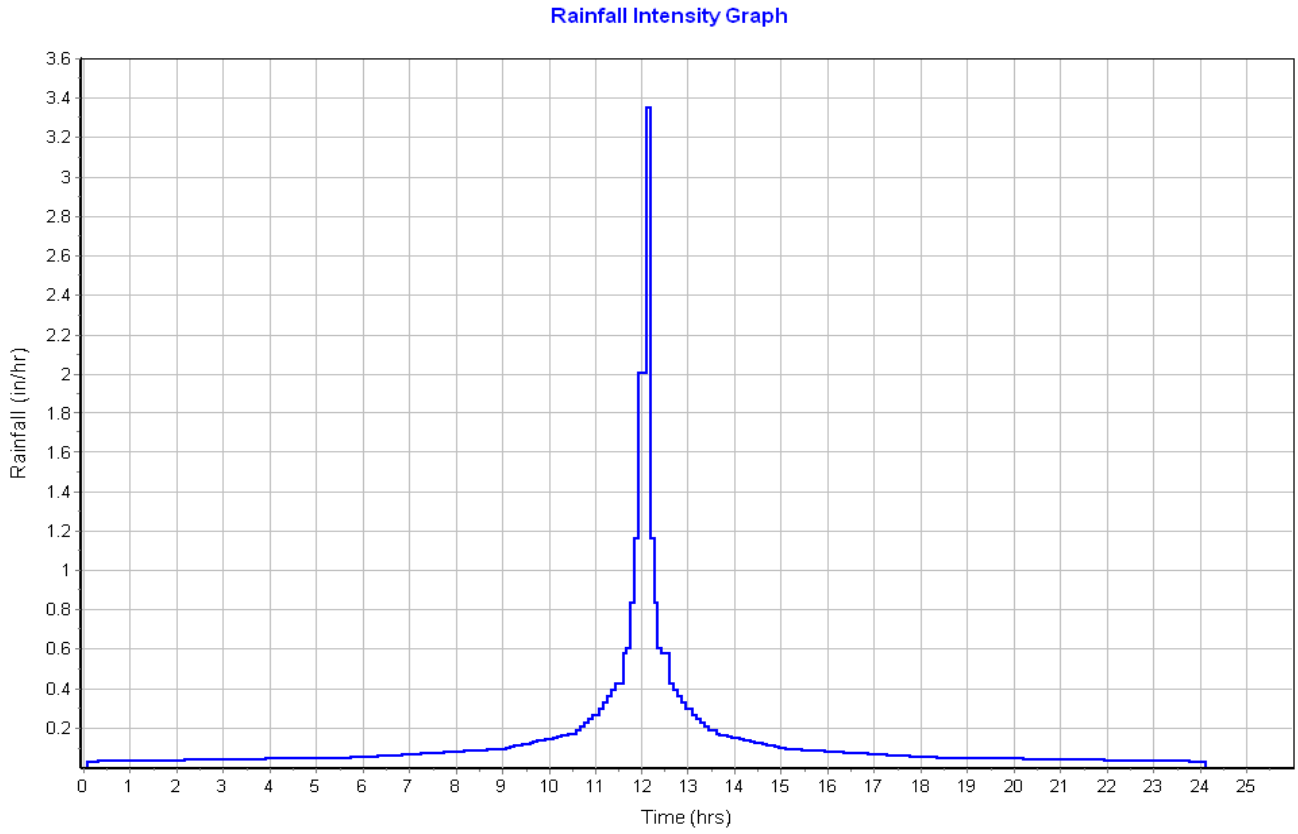
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

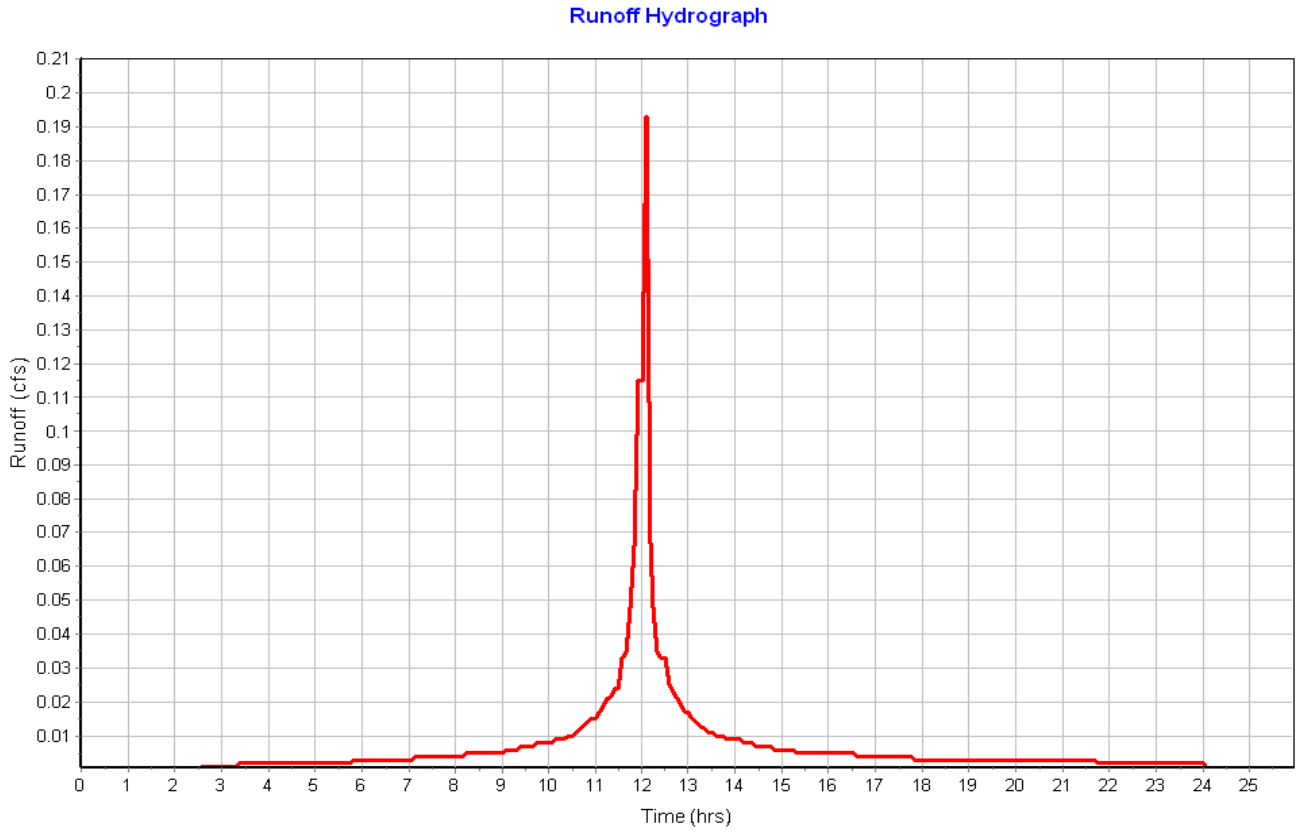
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.19
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-25





Subbasin : Roof-26

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

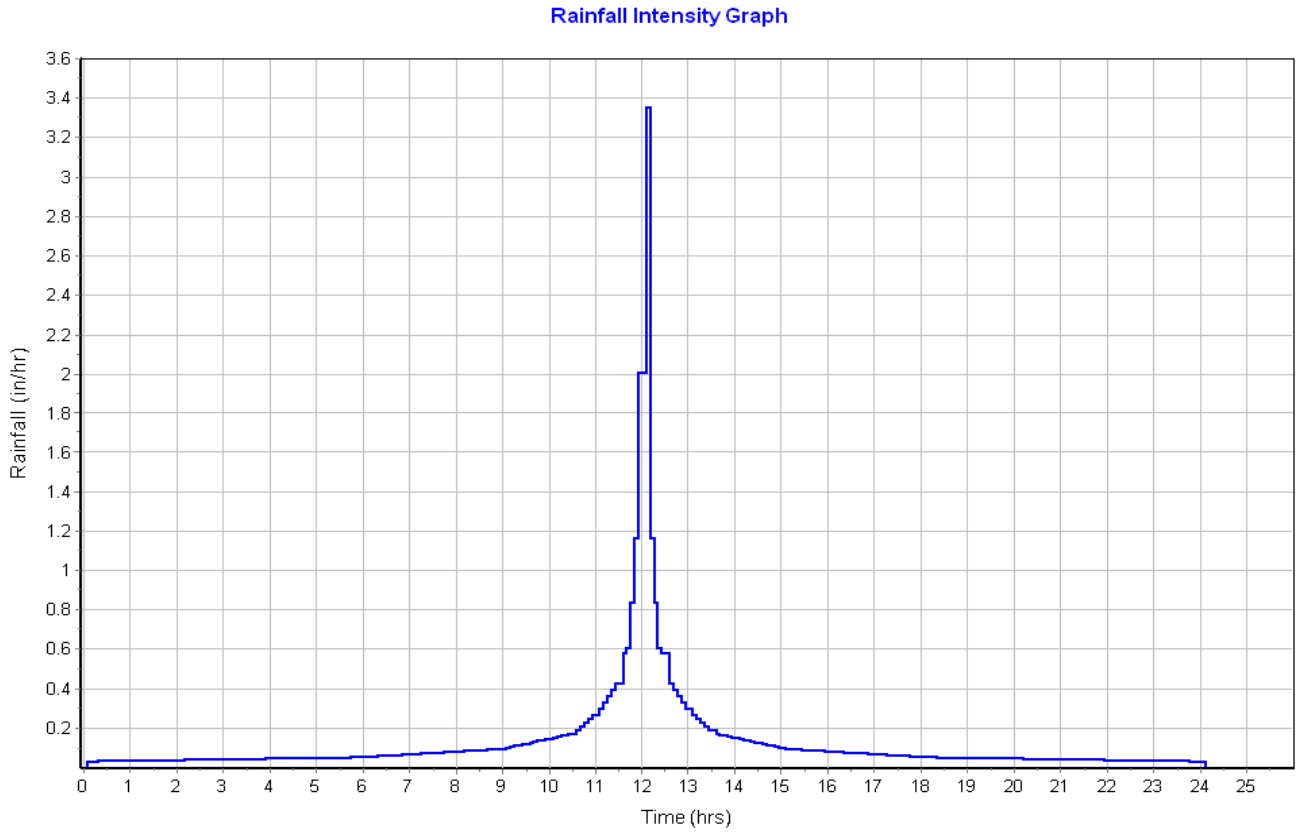
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

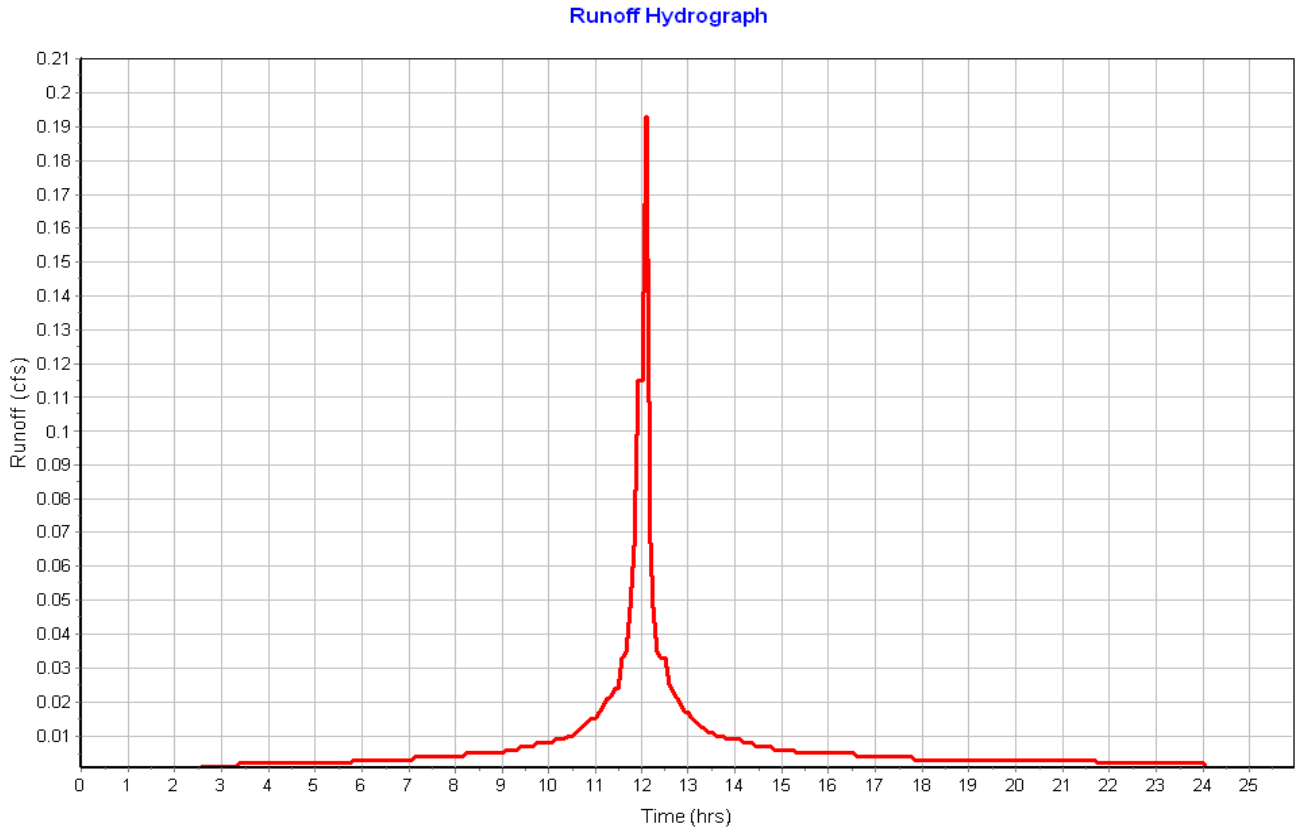
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-26





Subbasin : Sub-01

Input Data

Area (ac)	1.64
Peak Rate Factor	484.00
Weighted Curve Number	73.47
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	0.87	C	73.00
> 75% grass cover, Good	0.78	C	74.00
Composite Area & Weighted CN	1.65		73.47

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	7.1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.16	0.00	0.00
Computed Flow Time (min) :	31.11	0.00	0.00

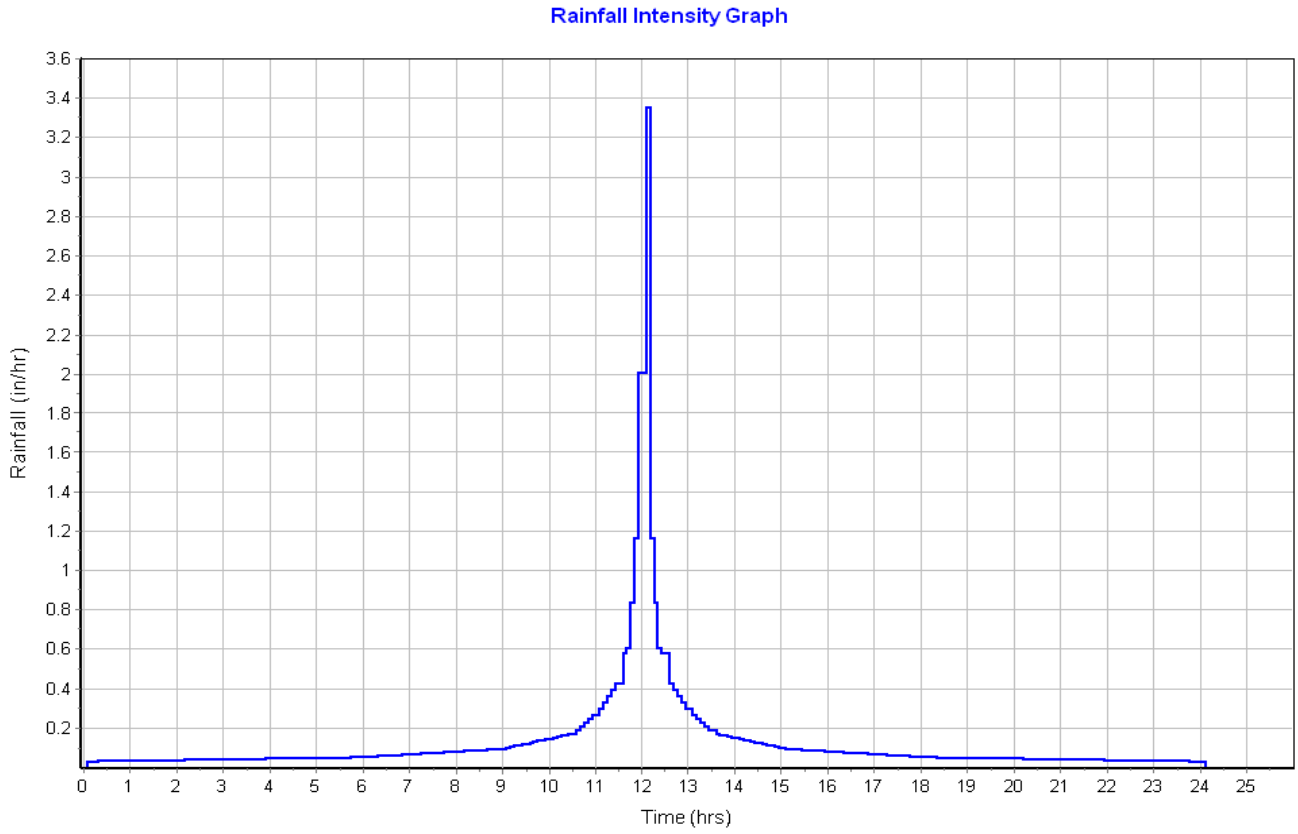
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	65	0.00	0.00
Slope (%) :	7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.32	0.00	0.00
Computed Flow Time (min) :	0.82	0.00	0.00

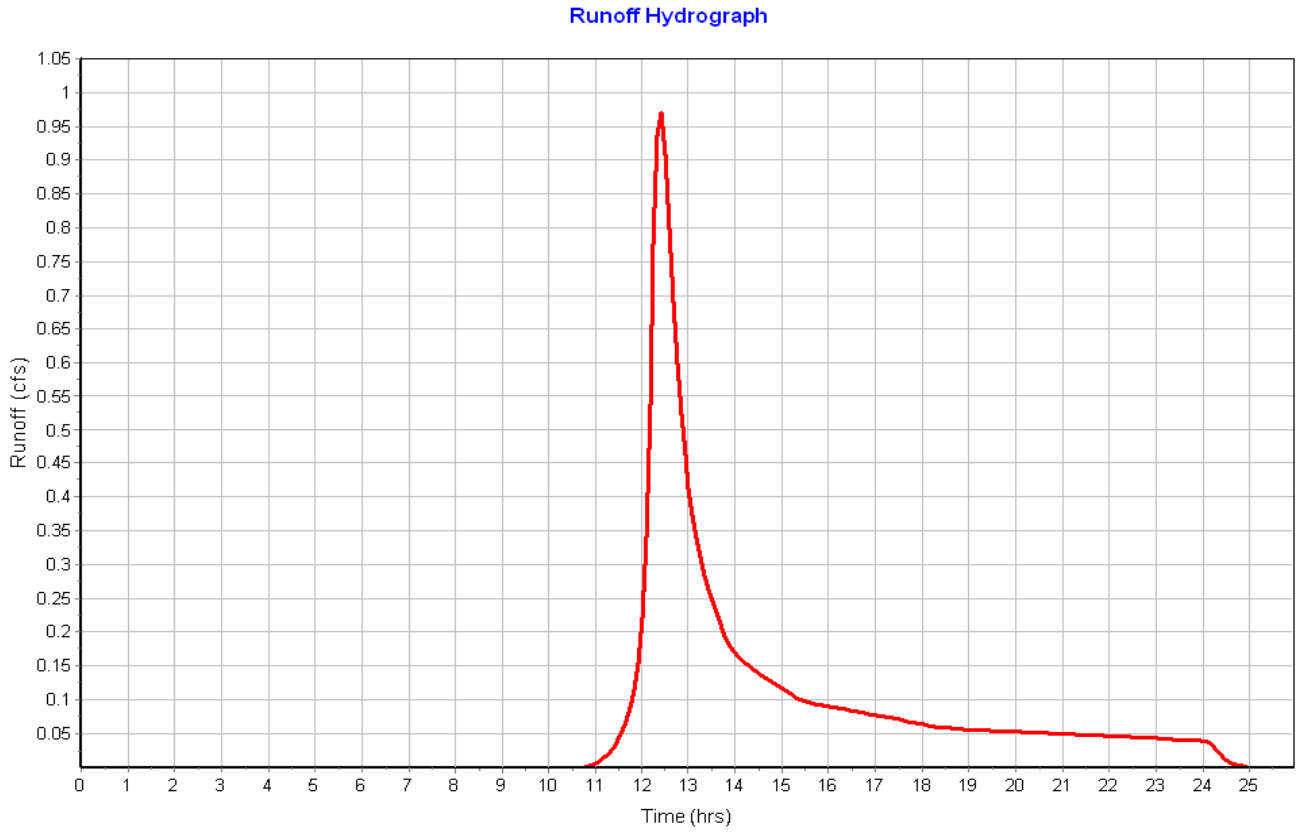
Total TOC (min) 31.93

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.02
Peak Runoff (cfs)	0.97
Weighted Curve Number	73.47
Time of Concentration (days hh:mm:ss)	0 00:31:56

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	2.48
Peak Rate Factor	484.00
Weighted Curve Number	73.09
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	2.25	C	73.00
> 75% grass cover, Good	0.23	C	74.00
Composite Area & Weighted CN	2.48		73.09

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	6.14	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.15	0.00	0.00
Computed Flow Time (min) :	32.97	0.00	0.00

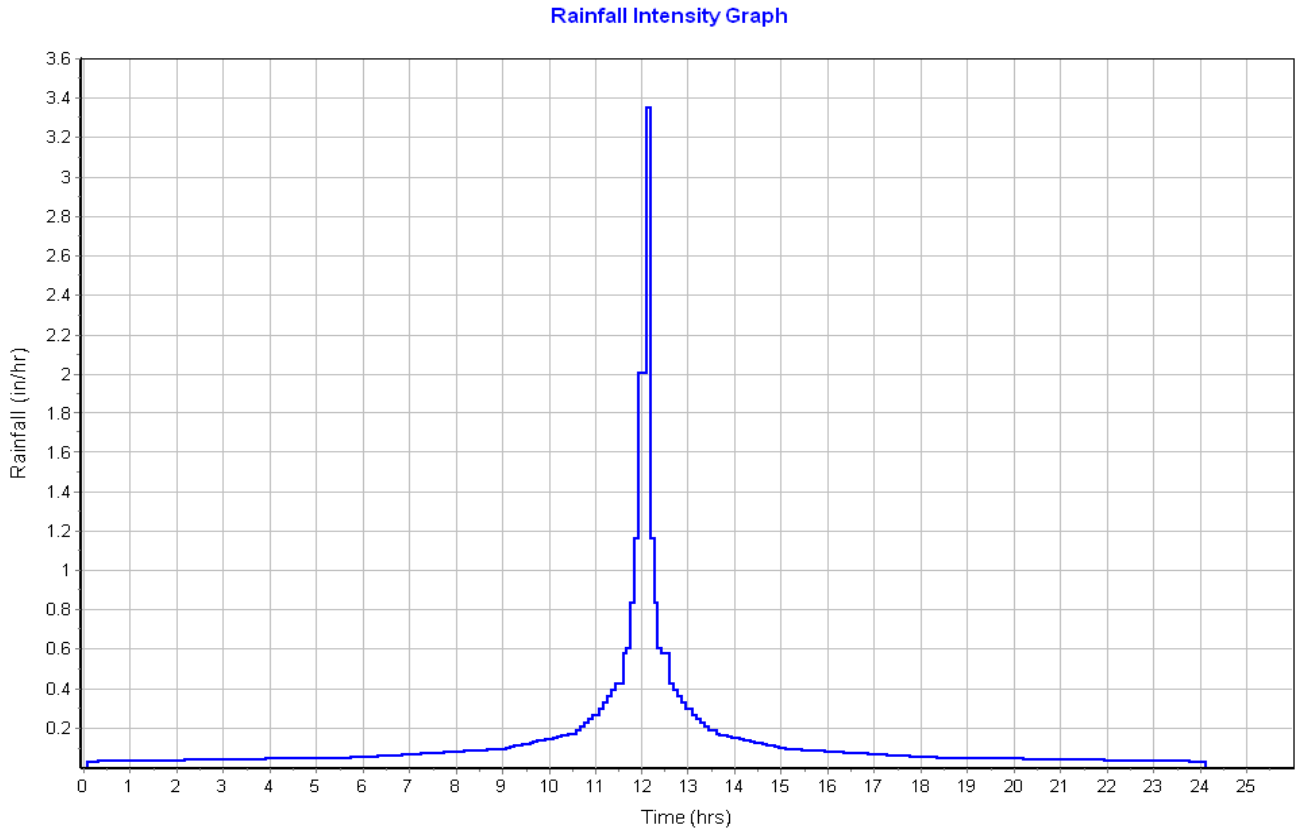
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	677	0.00	0.00
Slope (%) :	6.14	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	9.10	0.00	0.00

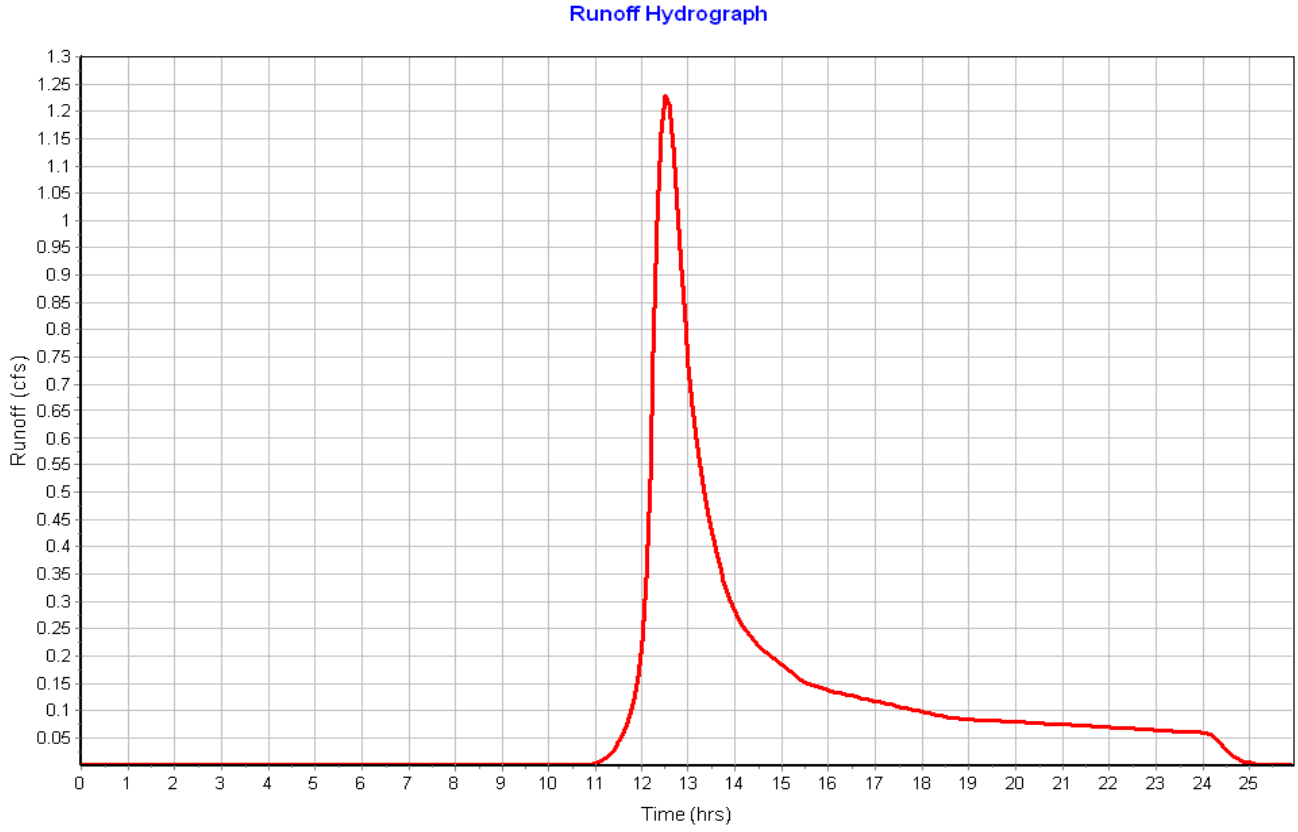
Total TOC (min) 42.07

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	0.99
Peak Runoff (cfs)	1.23
Weighted Curve Number	73.09
Time of Concentration (days hh:mm:ss)	0 00:42:04

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	9.20
Peak Rate Factor	484.00
Weighted Curve Number	73.58
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	5.33	C	74.00
Woods, Fair	3.87	C	73.00
Composite Area & Weighted CN	9.20		73.58

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	35.79	0.00	0.00

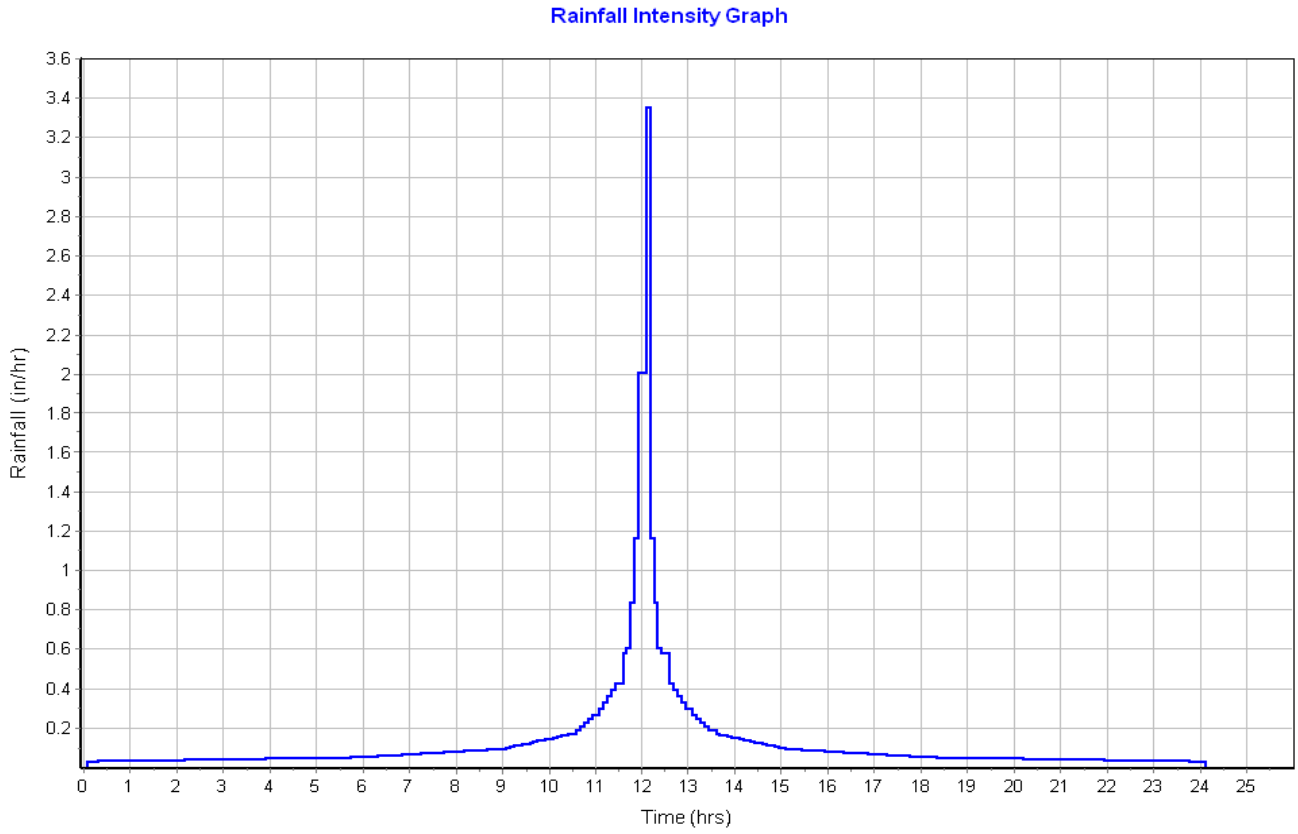
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	680.91	0.00	0.00
Slope (%) :	5	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.12	0.00	0.00
Computed Flow Time (min) :	10.13	0.00	0.00

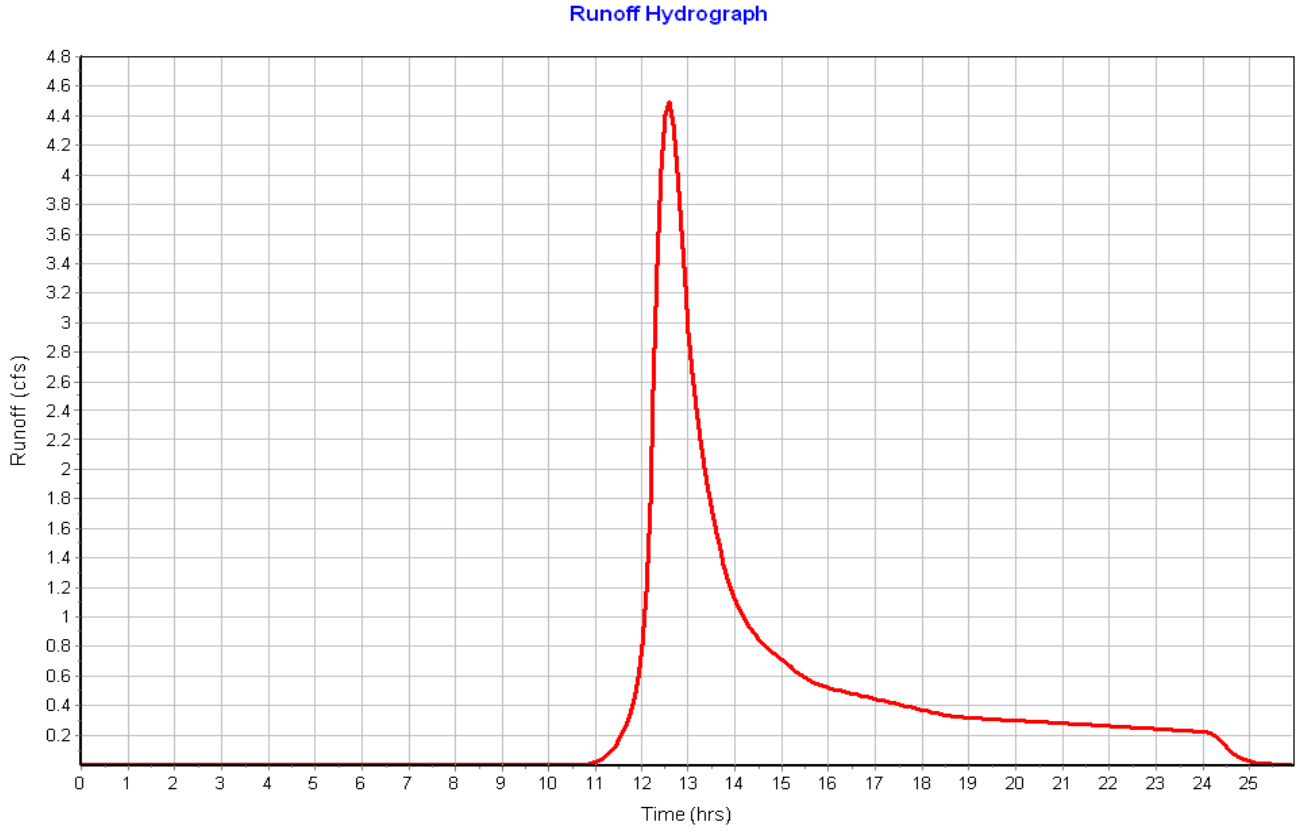
Total TOC (min) 45.92

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.02
Peak Runoff (cfs)	4.50
Weighted Curve Number	73.58
Time of Concentration (days hh:mm:ss)	0 00:45:55

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	4.36
Peak Rate Factor	484.00
Weighted Curve Number	73.02
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.29	C	73.00
> 75% grass cover, Good	0.07	C	74.00
Composite Area & Weighted CN	4.36		73.02

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

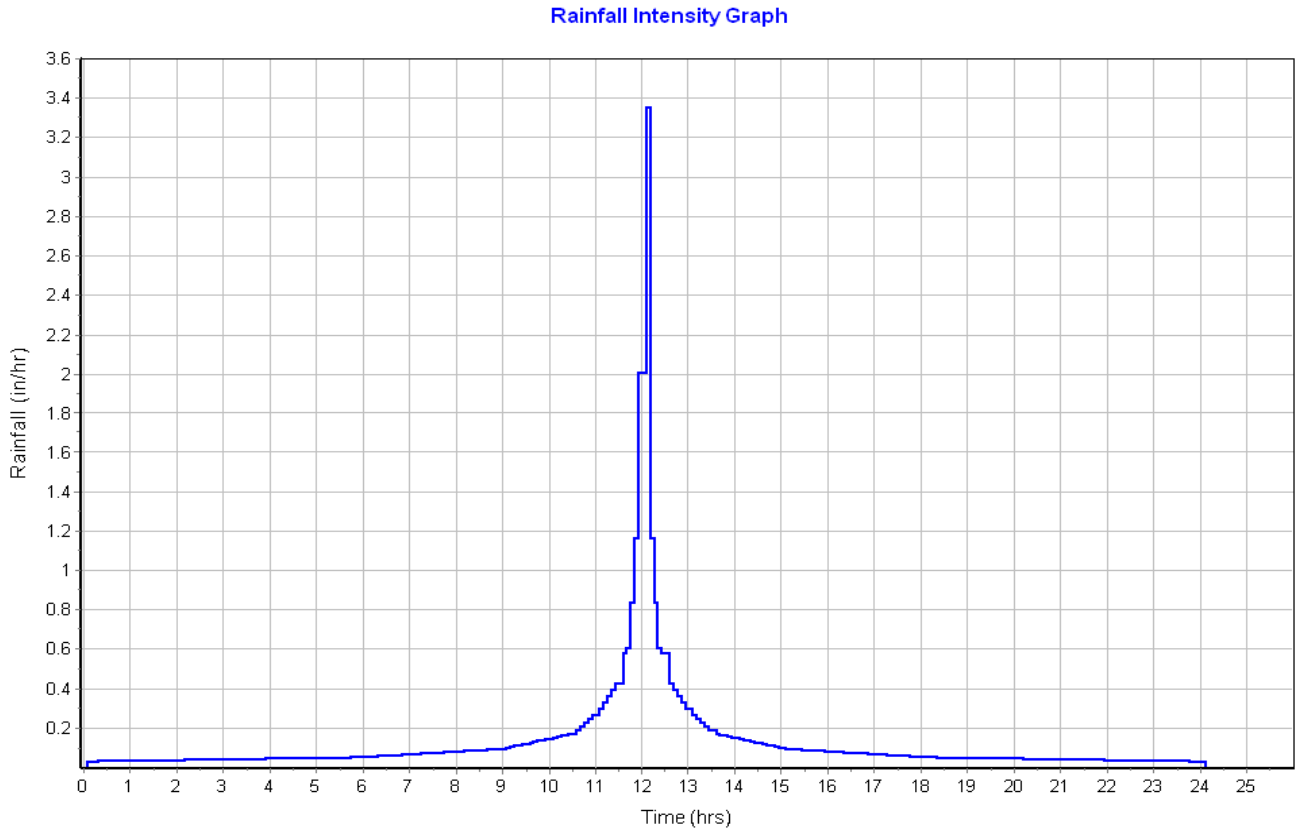
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

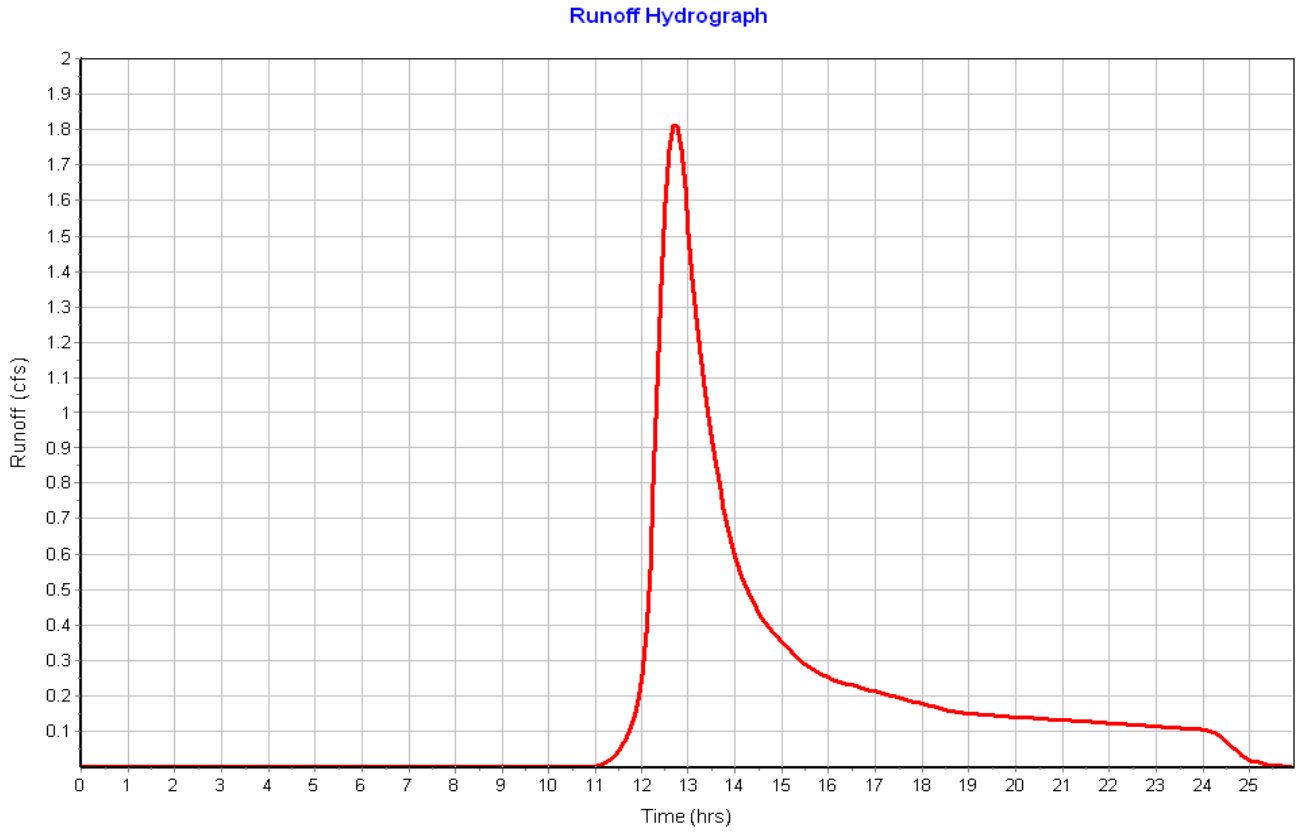
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	0.99
Peak Runoff (cfs)	1.82
Weighted Curve Number	73.02
Time of Concentration (days hh:mm:ss)	0 00:56:46

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 5.21
Peak Rate Factor 484.00
Weighted Curve Number 73.69
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.10	C	73.00
Paved parking & roofs	0.06	C	98.00
> 75% grass cover, Good	2.04	C	74.00
Composite Area & Weighted CN	5.20		73.69

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

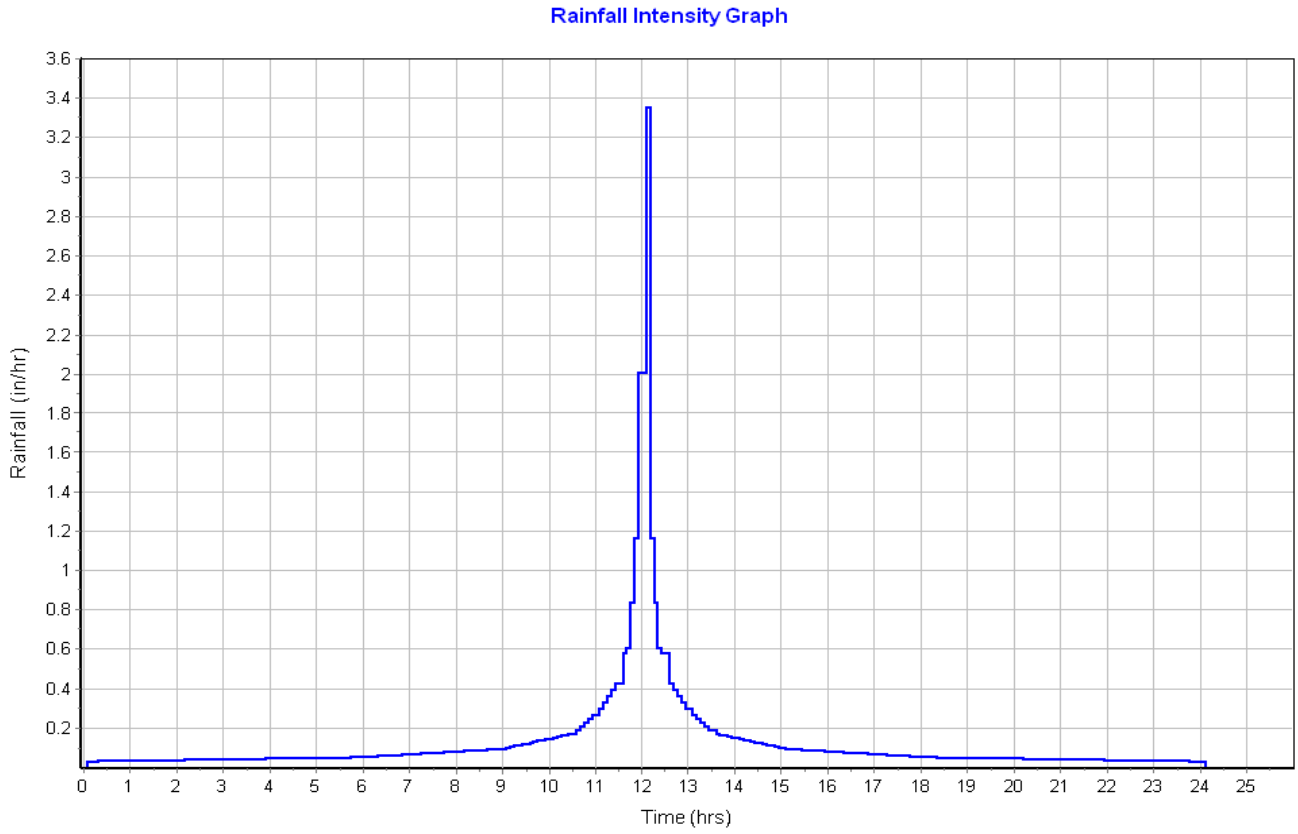
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

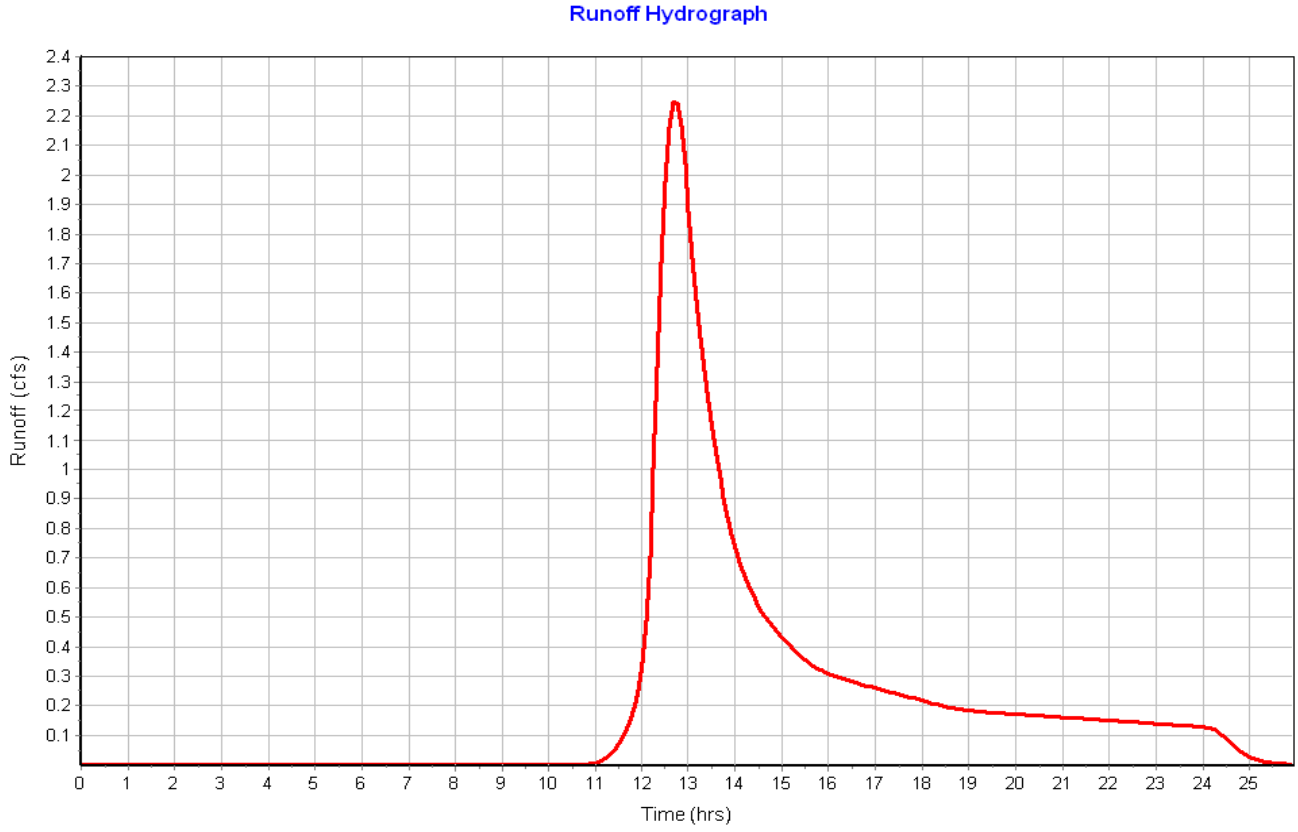
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 1.03
Peak Runoff (cfs) 2.26
Weighted Curve Number 73.69
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 4.48
Peak Rate Factor 484.00
Weighted Curve Number 73.88
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.81	C	74.00
Woods, Fair	0.34	C	73.00
Brush, Good	0.25	C	65.00
Paved parking & roofs	0.09	C	98.00
Composite Area & Weighted CN	4.49		73.88

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

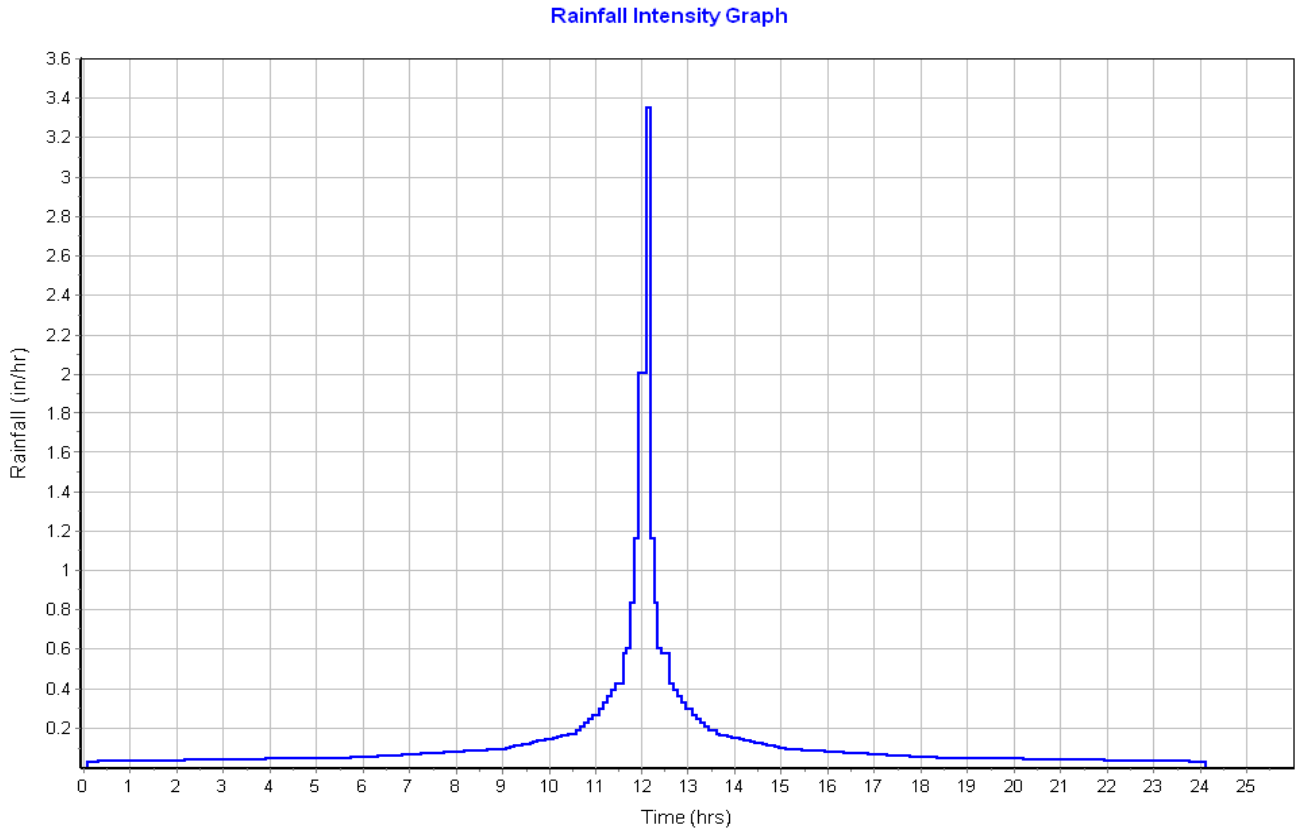
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

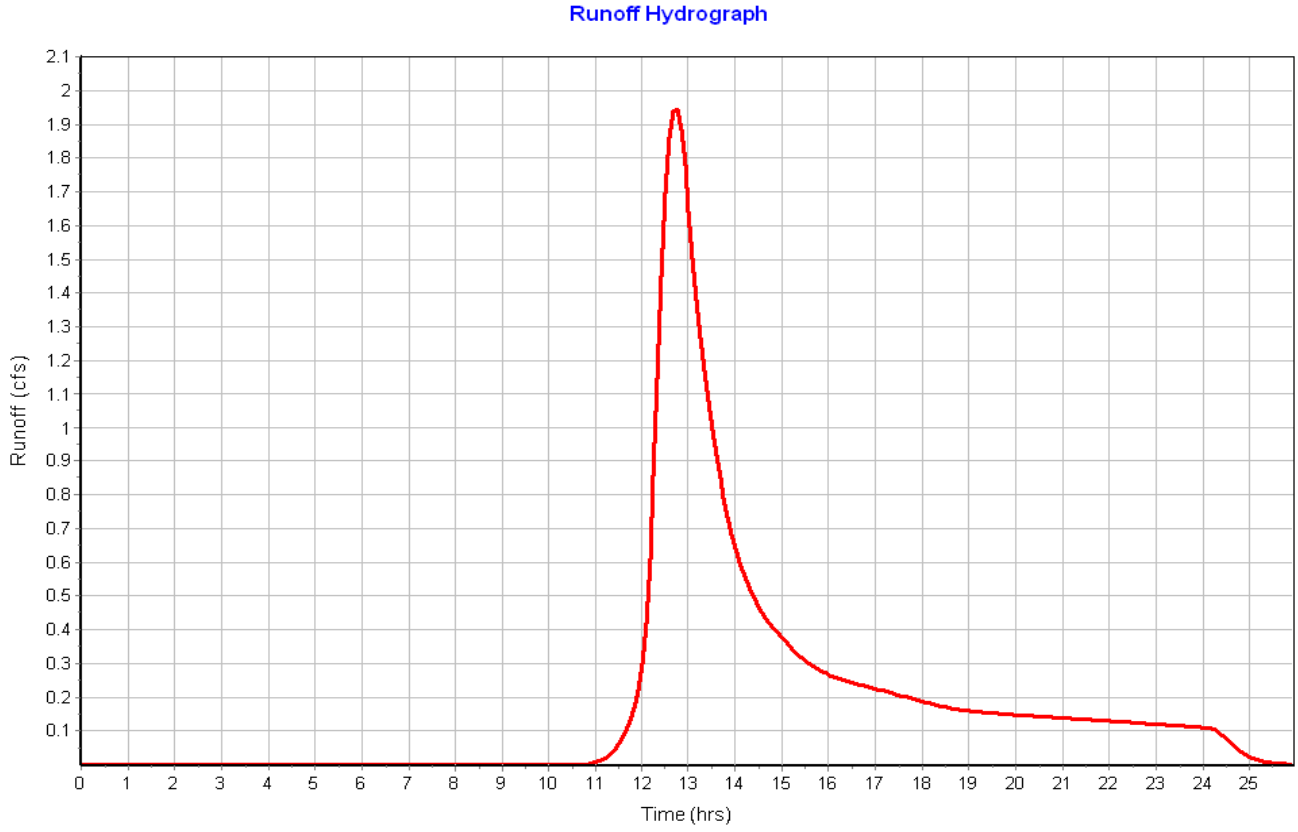
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 1.04
Peak Runoff (cfs) 1.95
Weighted Curve Number 73.88
Time of Concentration (days hh:mm:ss) 0 00:58:05

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	5.44
Peak Rate Factor	484.00
Weighted Curve Number	73.62
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.36	C	74.00
Woods, Fair	2.08	C	73.00
Composite Area & Weighted CN	5.44		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	4.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	36.69	0.00	0.00

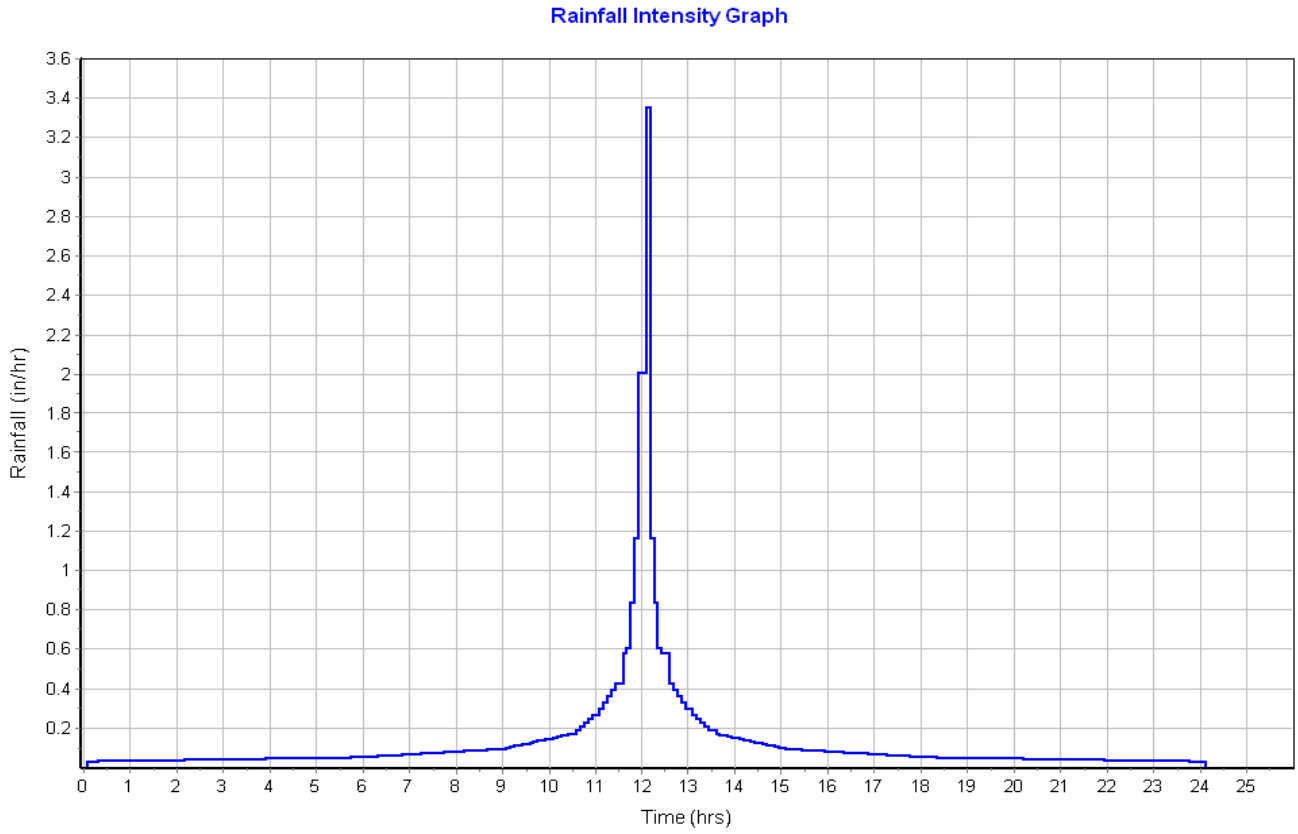
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	682.79	0.00	0.00
Slope (%) :	4.7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	10.54	0.00	0.00

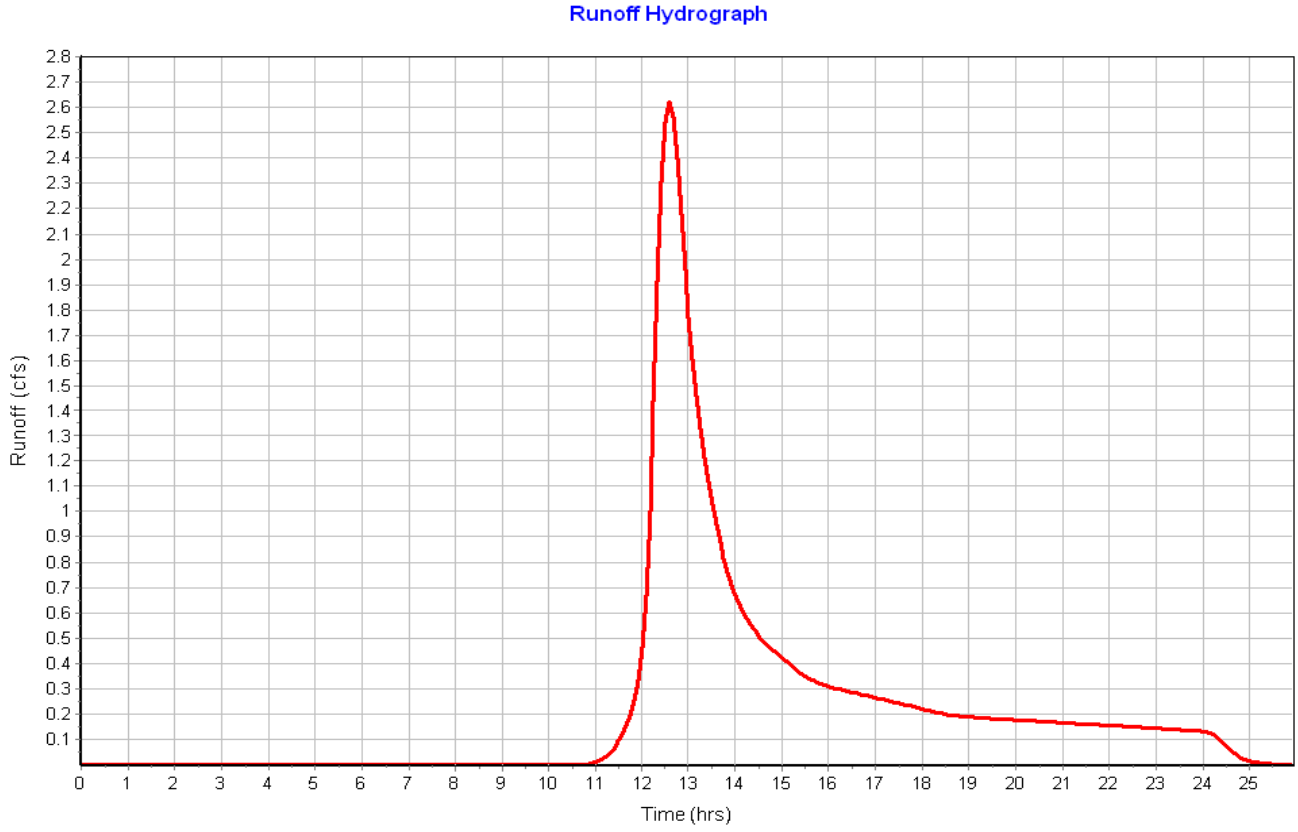
Total TOC (min) 47.22

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.02
Peak Runoff (cfs)	2.62
Weighted Curve Number	73.62
Time of Concentration (days hh:mm:ss)	0 00:47:13

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	3.74
Peak Rate Factor	484.00
Weighted Curve Number	73.61
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	2.29	C	74.00
Woods, Fair	1.46	C	73.00
Composite Area & Weighted CN	3.75		73.61

Time of Concentration

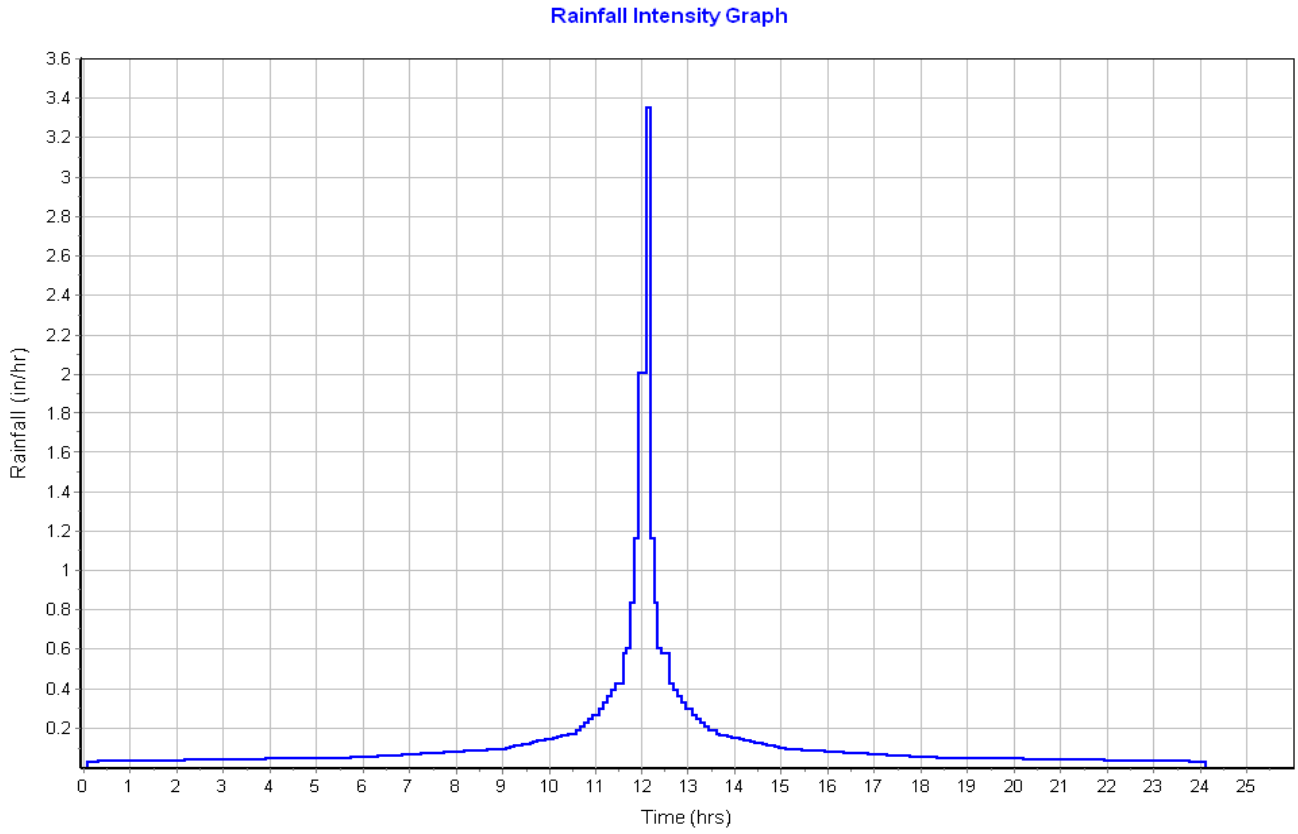
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	1.5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	57.93	0.00	0.00

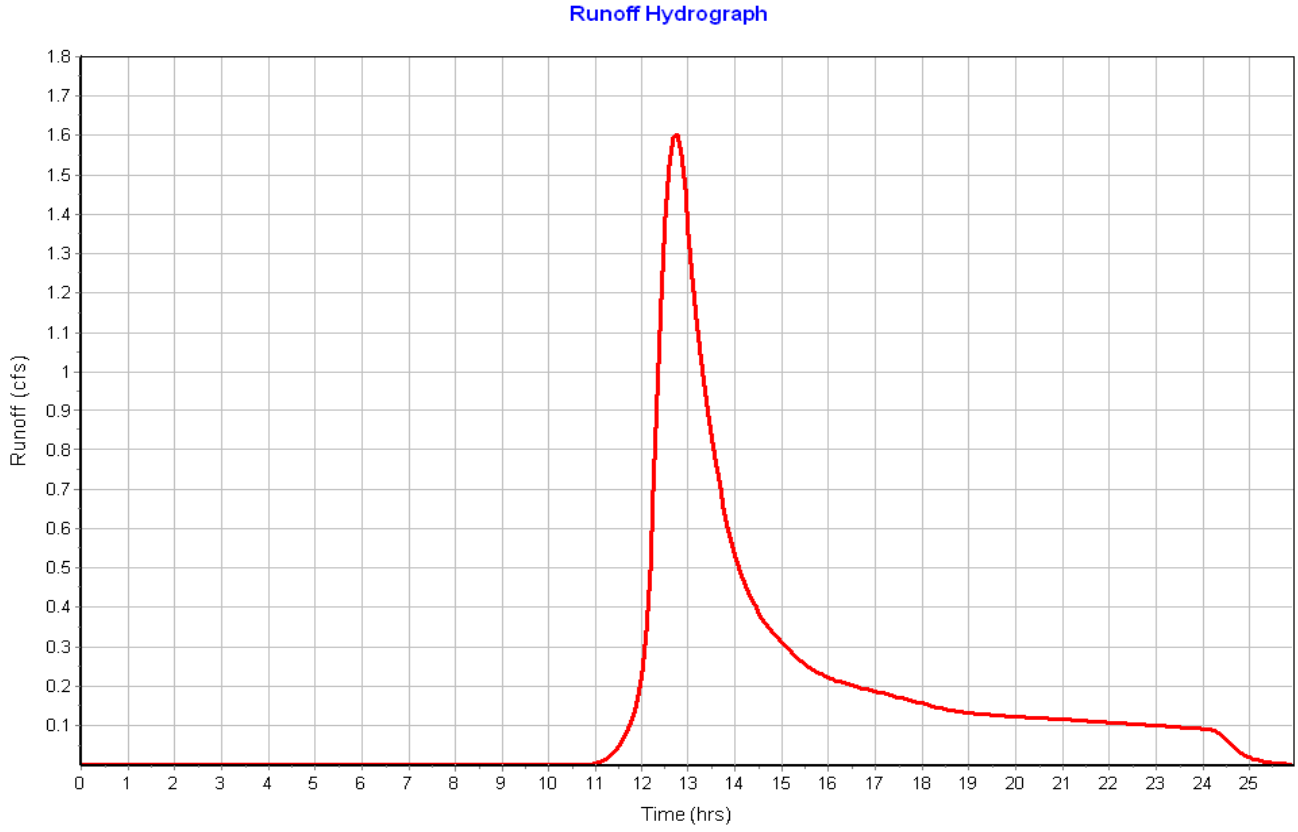
Total TOC (min) 57.93

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.02
Peak Runoff (cfs)	1.60
Weighted Curve Number	73.61
Time of Concentration (days hh:mm:ss)	0 00:57:56

Subbasin : Sub-08





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-01	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00
2	DMH-02	231.15	238.00	6.85	0.00	-231.15	0.00	-238.00	0.00	0.00
3	DMH-03	229.00	236.00	7.00	0.00	-229.00	0.00	-236.00	0.00	0.00
4	DMH-04	228.50	237.00	8.50	0.00	-228.50	0.00	-237.00	0.00	0.00
5	DMH-05	228.00	242.00	14.00	0.00	-228.00	0.00	-242.00	0.00	0.00
6	DMH-06	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	0.65	0.00	245.22	4.22	0.00	1.78	244.47	3.47	0 12:10	0 00:00	0.00	0.00
2	DMH-02	0.65	0.00	235.44	4.29	0.00	2.56	234.52	3.37	0 12:10	0 00:00	0.00	0.00
3	DMH-03	1.09	0.00	232.90	3.90	0.00	3.10	231.97	2.97	0 12:30	0 00:00	0.00	0.00
4	DMH-04	1.09	0.00	232.39	3.89	0.00	4.61	231.43	2.93	0 12:30	0 00:00	0.00	0.00
5	DMH-05	2.16	0.00	229.41	1.41	0.00	12.59	228.97	0.97	0 12:11	0 00:00	0.00	0.00
6	DMH-06	1.25	0.00	245.33	4.33	0.00	1.67	244.48	3.48	0 12:10	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-109	21.15	226.15	5.15	226.00	5.00	0.15	0.7100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-110	34.00	226.00	5.00	225.75	3.75	0.25	0.7400	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-114	102.82	222.00	5.00	220.00	1.00	2.00	1.9500	CIRCULAR	24.000	24.000	0.0200	0.5000	0.5000	0.0000	0.00	No	1
4	Link-115	237.93	221.00	4.00	217.15	6.15	3.85	1.6200	CIRCULAR	12.000	12.000	0.0200	0.5000	0.5000	0.0000	0.00	No	1
5	Link-28	42.00	214.65	4.00	212.00	0.00	2.65	6.3100	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-29	40.00	202.65	4.00	202.00	0.00	0.65	1.6300	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-30	215.00	210.15	0.50	207.00	4.00	3.15	1.4700	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-31	17.51	245.15	4.00	245.00	4.00	0.15	0.8600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
9	Link-32	24.09	245.15	4.00	245.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
10	Link-33	139.54	245.00	4.00	235.15	4.00	9.85	7.0600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-34	76.23	235.15	4.00	233.15	4.15	2.00	2.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
12	Link-35	24.01	233.15	233.15	233.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
13	Link-36	15.56	233.15	233.15	233.00	4.00	0.15	0.9600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
14	Link-37	38.28	234.50	3.35	233.15	4.15	1.35	3.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
15	Link-38	32.64	232.50	3.50	232.00	3.50	0.50	1.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
16	Link-39	18.32	233.15	233.15	233.00	4.50	0.15	0.8200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
17	Link-40	10.99	233.15	233.15	233.00	4.50	0.15	1.3600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
18	Link-41	130.94	232.00	3.50	230.00	2.00	2.00	1.5300	CIRCULAR	18.000	18.000	0.0200	2.0000	0.8000	0.0000	0.00	No	1
19	Link-42	23.74	245.15	4.00	245.00	4.00	0.15	0.6300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
20	Link-43	19.02	245.15	4.00	245.00	4.00	0.15	0.7900	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
21	Link-44	100.67	245.00	4.00	239.15	11.15	5.85	5.8100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
22	Link-45	245.00	229.00	1.00	220.00	1.00	9.00	3.6700	CIRCULAR	18.000	18.000	0.0200	0.0200	0.5000	0.0000	0.00	No	1
23	Link-62	33.00	217.15	6.15	216.75	3.75	0.40	1.2100	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
24	Link-63	52.00	217.15	6.15	216.75	3.75	0.40	0.7700	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
25	Link-77	67.00	207.65	4.00	207.00	1.00	0.65	0.9700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
26	Link-78	47.00	207.65	4.00	207.00	1.00	0.65	1.3800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-109	0.69	0 12:10	1.95	0.35	2.12	0.17	0.43	0.43	0.00		Calculated
2	Link-110	0.89	0 12:10	5.85	0.15	2.48	0.23	0.38	0.26	0.00		Calculated
3	Link-114	0.03	0 12:44	20.51	0.00	1.35	1.27	0.05	0.03	0.00		Calculated
4	Link-115	3.00	0 12:39	2.95	1.02	4.28	0.93	0.87	0.87	0.00		> CAPACITY
5	Link-28	0.63	0 13:50	17.15	0.04	4.53	0.15	0.20	0.13	0.00		Calculated
6	Link-29	0.16	1 01:18	8.70	0.02	1.85	0.36	0.14	0.10	0.00		Calculated
7	Link-30	2.56	0 13:01	8.26	0.31	4.07	0.88	0.58	0.39	0.00		Calculated
8	Link-31	0.21	0 12:10	2.14	0.10	1.61	0.18	0.22	0.22	0.00		Calculated
9	Link-32	0.44	0 12:10	1.83	0.24	2.03	0.20	0.32	0.32	0.00		Calculated
10	Link-33	0.65	0 12:10	6.15	0.11	4.15	0.56	0.25	0.25	0.00		Calculated
11	Link-34	0.64	0 12:10	3.75	0.17	3.48	0.37	0.28	0.28	0.00		Calculated
12	Link-35	0.00	0 00:00	1.83	0.00	0.00		0.00	0.00	0.00		Calculated
13	Link-36	0.00	0 00:00	2.27	0.00	0.00		0.00	0.00	0.00		Calculated
14	Link-37	0.97	0 12:30	12.82	0.08	4.06	0.16	0.29	0.19	0.00		Calculated
15	Link-38	1.09	0 12:30	8.45	0.13	2.94	0.19	0.39	0.26	0.00		Calculated
16	Link-39	0.00	0 00:00	2.10	0.00	0.00		0.00	0.00	0.00		Calculated
17	Link-40	0.00	0 00:00	2.71	0.00	0.00		0.00	0.00	0.00		Calculated
18	Link-41	1.09	0 12:30	8.44	0.13	3.14	0.70	0.38	0.25	0.00		Calculated
19	Link-42	0.27	0 12:10	1.84	0.15	1.37	0.29	0.30	0.30	0.00		Calculated
20	Link-43	0.97	0 12:10	2.06	0.47	2.62	0.12	0.48	0.48	0.00		Calculated
21	Link-44	1.24	0 12:10	5.58	0.22	5.61	0.30	0.32	0.32	0.00		Calculated
22	Link-45	2.13	0 12:11	13.09	0.16	5.42	0.75	0.40	0.27	0.00		Calculated
23	Link-62	3.14	0 12:39	16.19	0.19	3.75	0.15	0.62	0.31	0.00		Calculated
24	Link-63	0.84	0 12:10	5.99	0.14	2.48	0.35	0.37	0.25	0.00		Calculated
25	Link-77	0.77	0 12:10	2.28	0.34	2.68	0.42	0.39	0.39	0.00		Calculated
26	Link-78	0.38	0 12:10	2.72	0.14	2.39	0.33	0.25	0.25	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 215.00
Max (Rim) Elevation (ft) 218.00
Max (Rim) Offset (ft) 3.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -215.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

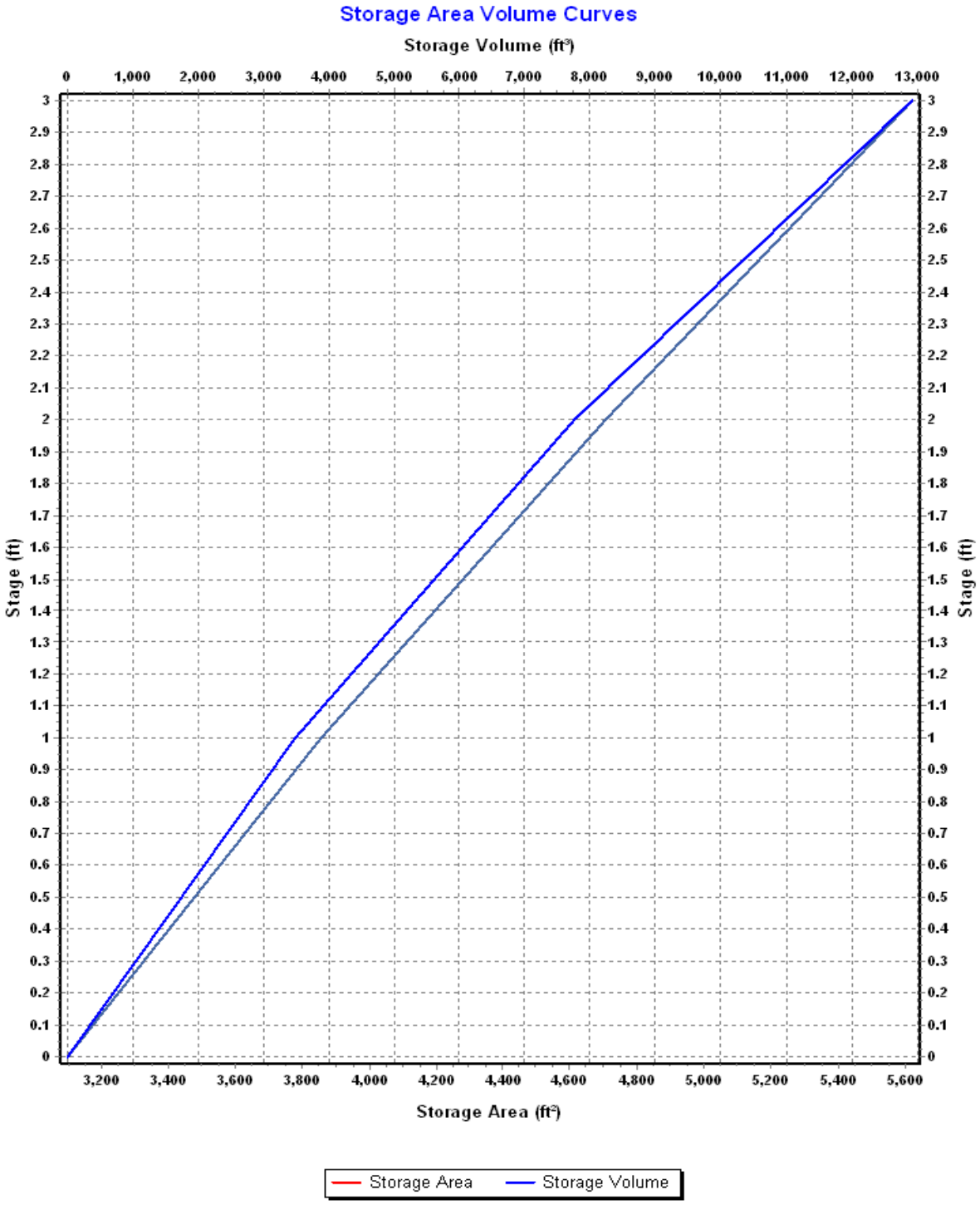
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	3100	0.000
1	3855	3477.50
2	4709	7759.50
3	5621	12924.50


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
13,000
Stage (ft)
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3,200
3,400
3,600
3,800
4,000
4,200
4,400
4,600
4,800
5,000
5,200
5,400
5,600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice3	Side Flow	No	217.50	2.50	5.00	0.25	0.61
2	Orifice4	Trapezoidal	No	217.50	2.50	5.00	0.25	3.33
3	Weir-02	Trapezoidal	No	217.80	2.80	30.00	0.20	3.33
4	Weir-03	Trapezoidal	No	217.75	2.75	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-03	Side	CIRCULAR	No	3.00			216.20	0.61

Output Summary Results

Peak Inflow (cfs)	2.84
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.63
Peak Exfiltration Flow Rate (cfm)	1.96
Max HGL Elevation Attained (ft)	217.57
Max HGL Depth Attained (ft)	2.57
Average HGL Elevation Attained (ft)	216.36
Average HGL Depth Attained (ft)	1.36
Time of Max HGL Occurrence (days hh:mm)	0 13:50
Total Exfiltration Volume (1000-ft³)	1.638
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	217.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

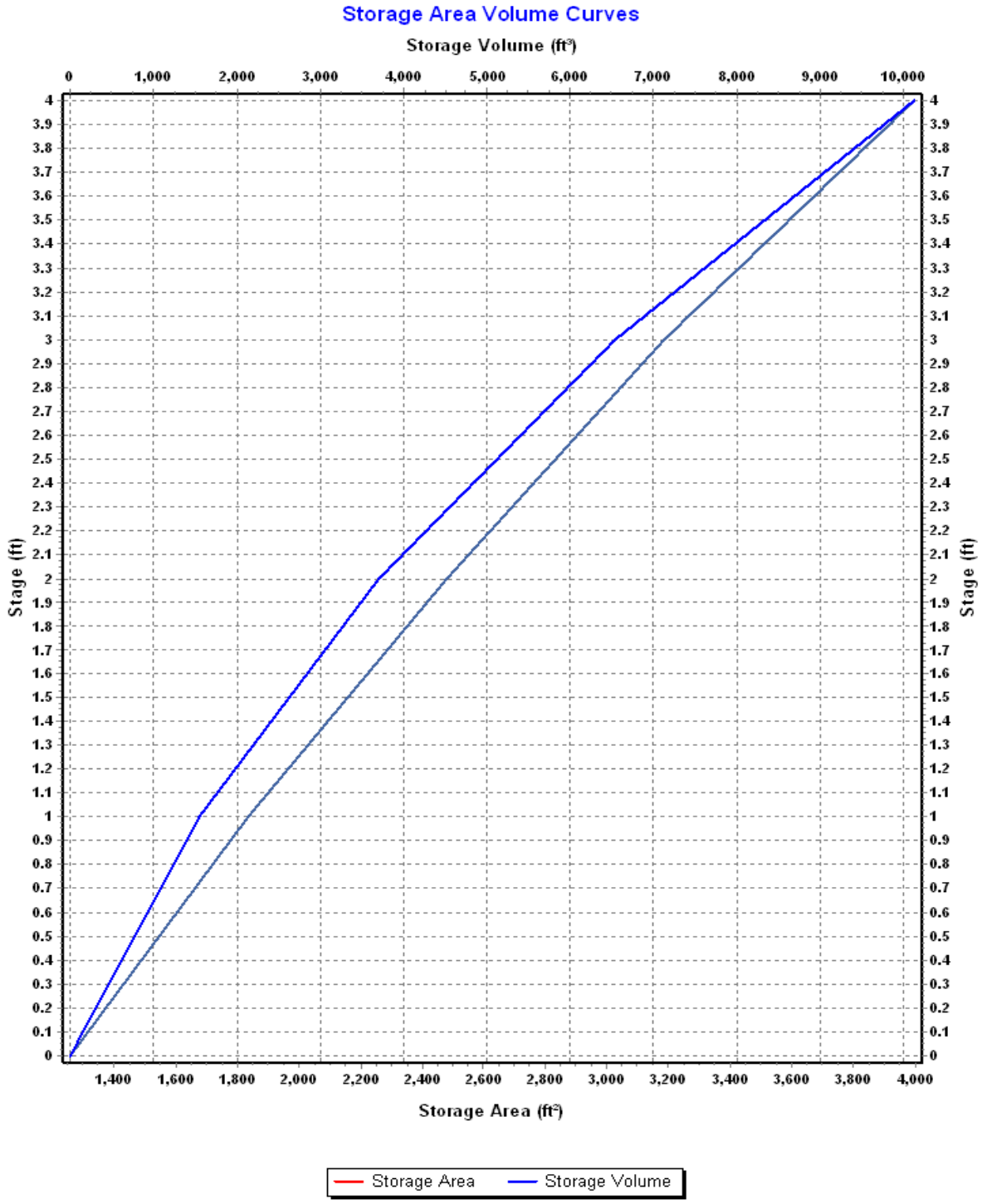
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1257	0.000
1	1833	1545.00
2	2480	3701.50
3	3184	6533.50
4	3997	10124.00


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
Stage (ft)
Storage Area (ft²)
1,400
1,600
1,800
2,000
2,200
2,400
2,600
2,800
3,000
3,200
3,400
3,600
3,800
4,000
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-06	Trapezoidal	No	216.90	3.90	20.00	0.10	3.33
2	Weir-07	Trapezoidal	No	216.50	3.50	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-04	Side	CIRCULAR	No	3.00			214.00	0.61

Output Summary Results

Peak Inflow (cfs)	3.26
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	2.56
Peak Exfiltration Flow Rate (cfm)	1.40
Max HGL Elevation Attained (ft)	216.69
Max HGL Depth Attained (ft)	3.69
Average HGL Elevation Attained (ft)	215.12
Average HGL Depth Attained (ft)	2.12
Time of Max HGL Occurrence (days hh:mm)	0 13:00
Total Exfiltration Volume (1000-ft³)	1.291
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	203.00
Max (Rim) Elevation (ft)	206.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

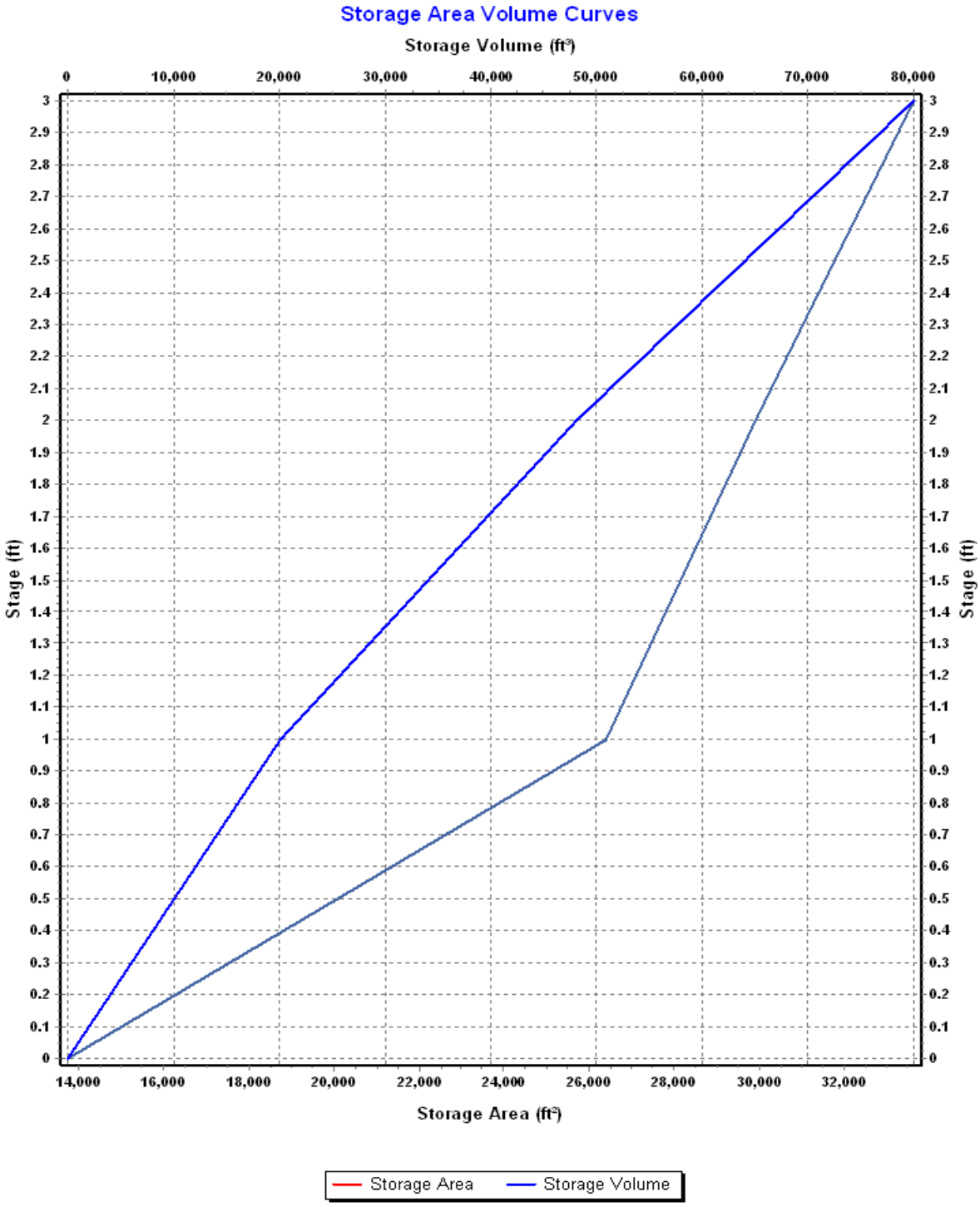
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	13751	0.000
1	26384	20067.50
2	29915	48217.00
3	33625	79987.00


Storage Area Volume Curves
Storage Volume (ft³)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Stage (ft)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
2.9
3
14,000
16,000
18,000
20,000
22,000
24,000
26,000
28,000
30,000
32,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-09	Trapezoidal	No	204.75	1.75	8.00	0.25	3.33
2	Weir-10	Trapezoidal	No	205.00	2.00	30.00	0.20	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-05	Side	CIRCULAR	No	3.00			203.75	0.61

Output Summary Results

Peak Inflow (cfs)	4.11
Peak Lateral Inflow (cfs)	1.60
Peak Outflow (cfs)	0.16
Peak Exfiltration Flow Rate (cfm)	10.30
Max HGL Elevation Attained (ft)	204.30
Max HGL Depth Attained (ft)	1.3
Average HGL Elevation Attained (ft)	203.47
Average HGL Depth Attained (ft)	0.47
Time of Max HGL Occurrence (days hh:mm)	1 01:17
Total Exfiltration Volume (1000-ft³)	9.009
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

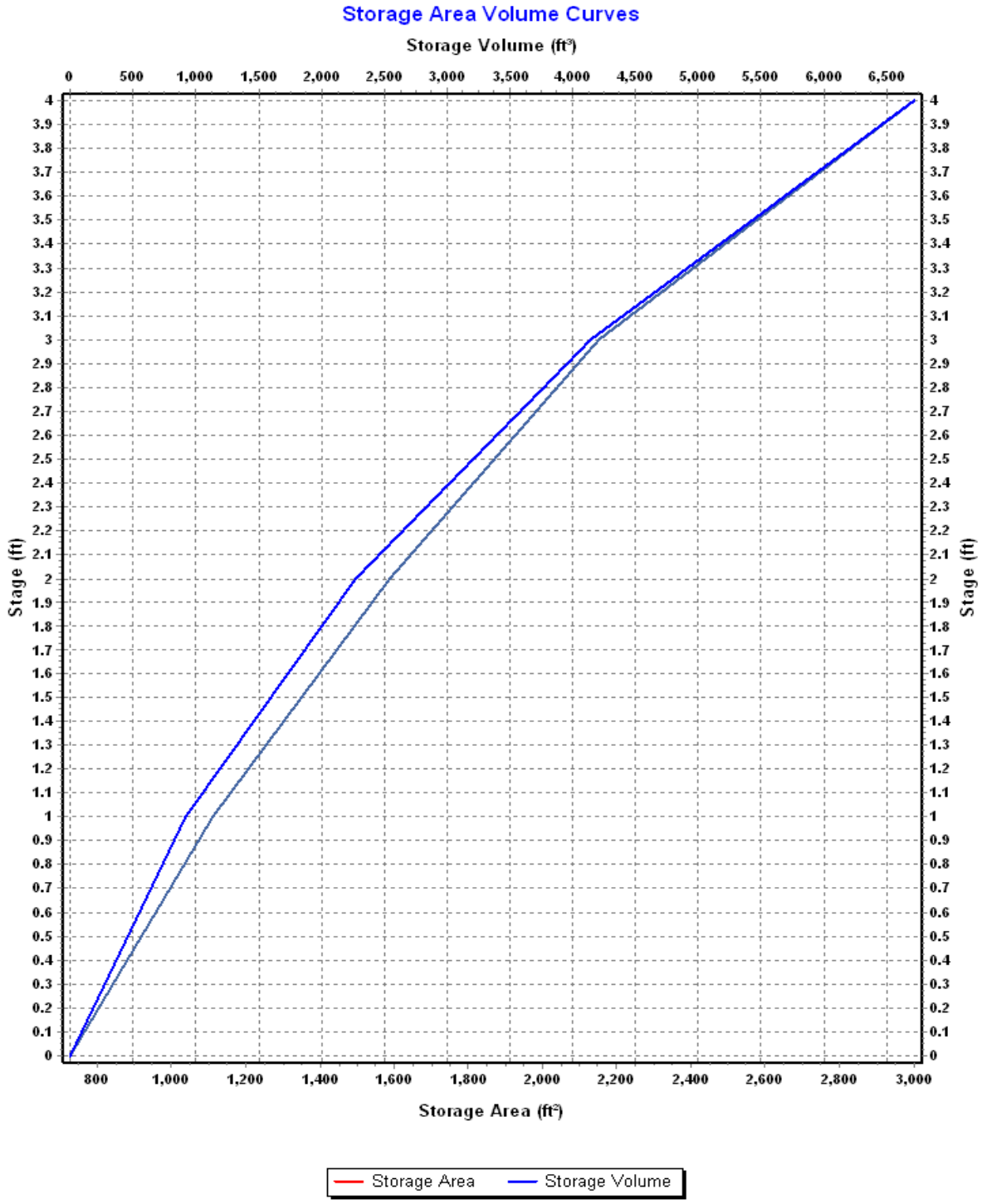
Input Data

Invert Elevation (ft)	222.00
Max (Rim) Elevation (ft)	226.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-222.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	728	0.000
1	1112	920.00
2	1589	2270.50
3	2153	4141.50
4	3001	6718.50


Storage Area Volume Curves
Storage Volume (ft³)
0 500 1,000 1,500 2,000 2,500 3,000 3,500 4,000 4,500 5,000 5,500 6,000 6,500
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4
800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400 2,600 2,800 3,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice2	Trapezoidal	No	225.00	3.00	5.00	0.25	3.33
2	OrificeforOCS	Side Flow	No	225.00	3.00	5.00	0.25	0.61
3	Weir-17	Trapezoidal	No	225.50	3.50	20.00	0.50	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-02	Side	CIRCULAR	No	3.00			223.00	0.61

Output Summary Results

Peak Inflow (cfs)	3.28
Peak Lateral Inflow (cfs)	2.71
Peak Outflow (cfs)	3.05
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	225.27
Max HGL Depth Attained (ft)	3.27
Average HGL Elevation Attained (ft)	224.07
Average HGL Depth Attained (ft)	2.07
Time of Max HGL Occurrence (days hh:mm)	0 12:40
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	231.15
Max (Rim) Elevation (ft)	238.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-231.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.97
Peak Lateral Inflow (cfs)	0.97
Peak Outflow (cfs)	0.97
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	234.80
Max HGL Depth Attained (ft)	3.65
Average HGL Elevation Attained (ft)	233.74
Average HGL Depth Attained (ft)	2.59
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.45
Peak Lateral Inflow (cfs)	0.45
Peak Outflow (cfs)	0.44
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.52
Max HGL Depth Attained (ft)	4.37
Average HGL Elevation Attained (ft)	244.89
Average HGL Depth Attained (ft)	3.74
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.38
Max HGL Depth Attained (ft)	4.23
Average HGL Elevation Attained (ft)	244.70
Average HGL Depth Attained (ft)	3.55
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	56.17
Max HGL Depth Attained (ft)	56.17
Average HGL Elevation Attained (ft)	30.81
Average HGL Depth Attained (ft)	30.81
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.17
Peak Lateral Inflow (cfs)	0.17
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	40.60
Max HGL Depth Attained (ft)	40.6
Average HGL Elevation Attained (ft)	22.24
Average HGL Depth Attained (ft)	22.24
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.47
Peak Lateral Inflow (cfs)	0.47
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.01
Max HGL Depth Attained (ft)	112.01
Average HGL Elevation Attained (ft)	61.58
Average HGL Depth Attained (ft)	61.58
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-08

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	50.87
Max HGL Depth Attained (ft)	50.87
Average HGL Elevation Attained (ft)	27.93
Average HGL Depth Attained (ft)	27.93
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-09

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.28
Peak Lateral Inflow (cfs)	0.28
Peak Outflow (cfs)	0.27
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.43
Max HGL Depth Attained (ft)	4.28
Average HGL Elevation Attained (ft)	244.77
Average HGL Depth Attained (ft)	3.62
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-10

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.98
Peak Lateral Inflow (cfs)	0.41
Peak Outflow (cfs)	0.97
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.69
Max HGL Depth Attained (ft)	4.54
Average HGL Elevation Attained (ft)	244.90
Average HGL Depth Attained (ft)	3.75
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-15

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	229.00
Max (Rim) Offset (ft)	8.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.70
Peak Lateral Inflow (cfs)	0.70
Peak Outflow (cfs)	0.69
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	226.60
Max HGL Depth Attained (ft)	5.6
Average HGL Elevation Attained (ft)	225.36
Average HGL Depth Attained (ft)	4.36
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-16

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	229.00
Max (Rim) Offset (ft)	8.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.90
Peak Lateral Inflow (cfs)	0.30
Peak Outflow (cfs)	0.89
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	226.42
Max HGL Depth Attained (ft)	5.42
Average HGL Elevation Attained (ft)	225.26
Average HGL Depth Attained (ft)	4.26
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-17

Input Data

Invert Elevation (ft)	211.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	9.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.85
Peak Lateral Inflow (cfs)	0.47
Peak Outflow (cfs)	0.84
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	217.55
Max HGL Depth Attained (ft)	6.55
Average HGL Elevation Attained (ft)	216.61
Average HGL Depth Attained (ft)	5.61
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-18

Input Data

Invert Elevation (ft)	211.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	9.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.14
Peak Lateral Inflow (cfs)	0.84
Peak Outflow (cfs)	3.14
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	217.80
Max HGL Depth Attained (ft)	6.8
Average HGL Elevation Attained (ft)	216.93
Average HGL Depth Attained (ft)	5.93
Time of Max HGL Occurrence (days hh:mm)	0 12:38
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-19

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.78
Peak Lateral Inflow (cfs)	0.78
Peak Outflow (cfs)	0.77
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	208.07
Max HGL Depth Attained (ft)	4.42
Average HGL Elevation Attained (ft)	207.46
Average HGL Depth Attained (ft)	3.81
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-20

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.38
Peak Lateral Inflow (cfs)	0.38
Peak Outflow (cfs)	0.38
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.91
Max HGL Depth Attained (ft)	4.26
Average HGL Elevation Attained (ft)	207.33
Average HGL Depth Attained (ft)	3.68
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP01

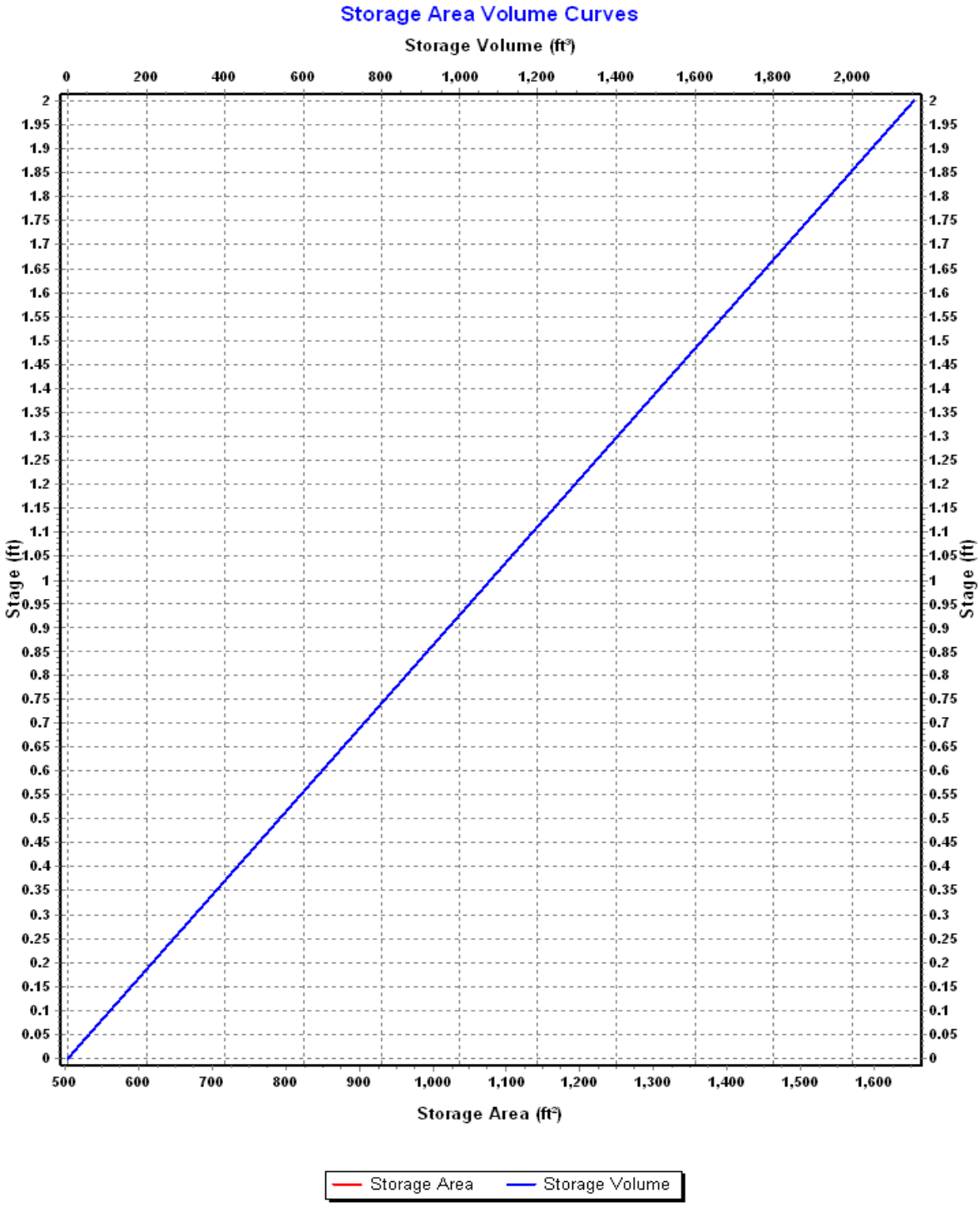
Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	504	0.000
2	1653	2157.00


Storage Area Volume Curves
Storage Volume (ft³)
0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Storage Area (ft²)
500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600
Storage Area
Storage Volume

Storage Node : Forebay_BMP01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	219.50	0.50	40.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	2.84
Peak Lateral Inflow (cfs)	1.23
Peak Outflow (cfs)	2.84
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	219.58
Max HGL Depth Attained (ft)	0.58
Average HGL Elevation Attained (ft)	219.42
Average HGL Depth Attained (ft)	0.42
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP03

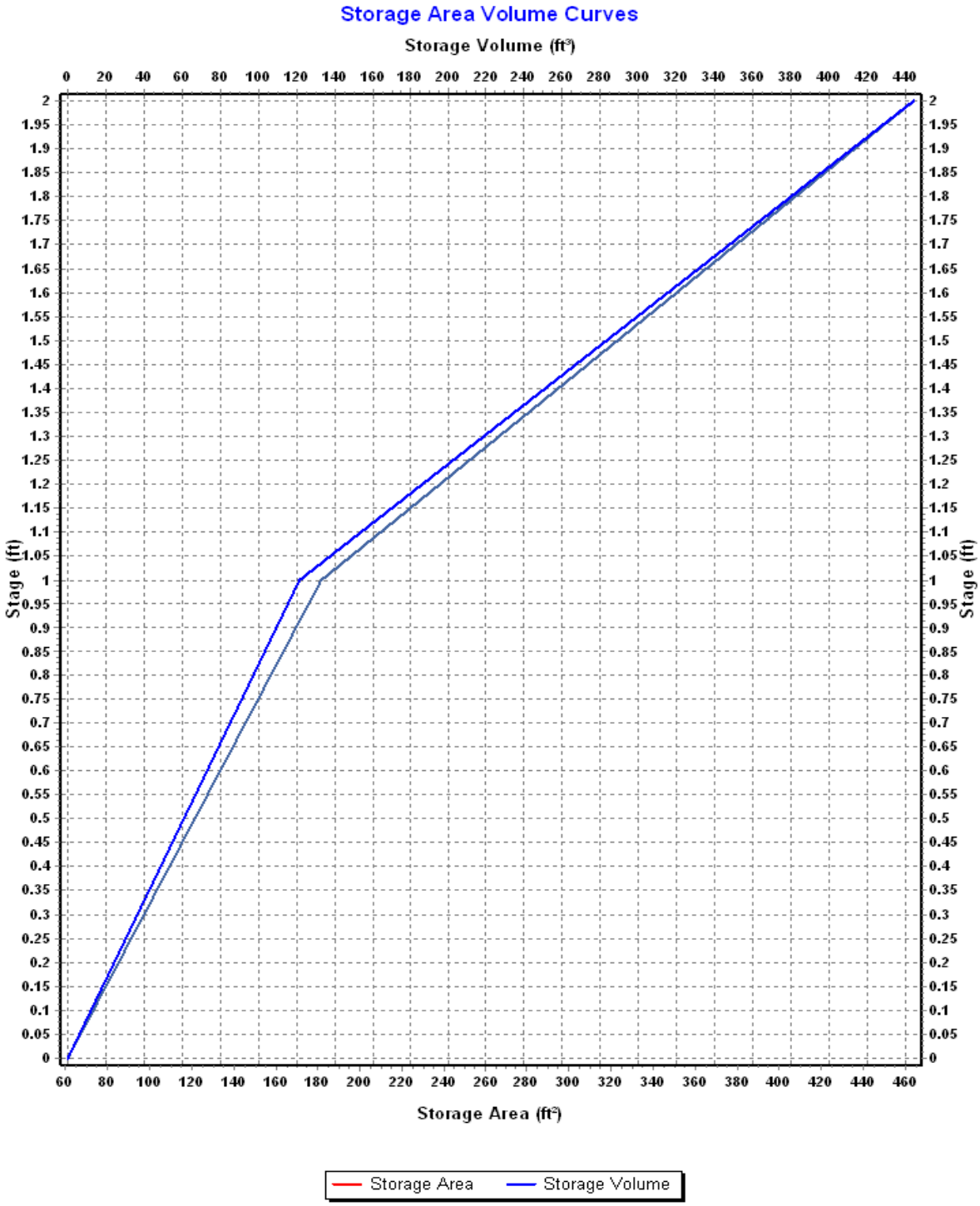
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	61	0.000
1	182	121.50
2	464	444.50


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Forebay_BMP03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	207.00	1.00	50.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	1.14
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.14
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.04
Max HGL Depth Attained (ft)	1.04
Average HGL Elevation Attained (ft)	206.88
Average HGL Depth Attained (ft)	0.88
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	210.65
Max (Rim) Elevation (ft)	217.75
Max (Rim) Offset (ft)	7.10
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-210.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.63
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.63
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	214.85
Max HGL Depth Attained (ft)	4.2
Average HGL Elevation Attained (ft)	212.86
Average HGL Depth Attained (ft)	2.21
Time of Max HGL Occurrence (days hh:mm)	0 13:50
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	209.65
Max (Rim) Elevation (ft)	216.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-209.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.56
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	2.56
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	210.73
Max HGL Depth Attained (ft)	1.08
Average HGL Elevation Attained (ft)	210.15
Average HGL Depth Attained (ft)	0.5
Time of Max HGL Occurrence (days hh:mm)	0 13:01
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	198.65
Max (Rim) Elevation (ft)	204.75
Max (Rim) Offset (ft)	6.10
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-198.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.16
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.16
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	202.79
Max HGL Depth Attained (ft)	4.14
Average HGL Elevation Attained (ft)	199.73
Average HGL Depth Attained (ft)	1.08
Time of Max HGL Occurrence (days hh:mm)	1 01:18
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	217.00
Max (Rim) Elevation (ft)	225.50
Max (Rim) Offset (ft)	8.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.05
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	3.01
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	222.06
Max HGL Depth Attained (ft)	5.06
Average HGL Elevation Attained (ft)	220.17
Average HGL Depth Attained (ft)	3.17
Time of Max HGL Occurrence (days hh:mm)	0 12:44
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber01

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	215.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-19	Trapezoidal	No	214.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	214.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	214.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber02

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-20	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	220.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber03

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-21	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	217.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber04

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-22	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	220.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber05

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	223.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-23	Trapezoidal	No	222.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	222.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	222.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber06

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-24	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber07

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-25	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	233.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber08

Input Data

Invert Elevation (ft)	233.00
Max (Rim) Elevation (ft)	235.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-233.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-27	Trapezoidal	No	234.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	234.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	234.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber09

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-26	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber10

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-44	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	217.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber11

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-43	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	221.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber12

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-42	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	221.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber13

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-47	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber14

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-46	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	233.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber15

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-41	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber16

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-40	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber17

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-39	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber18

Input Data

Invert Elevation (ft)	242.00
Max (Rim) Elevation (ft)	244.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-242.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-45	Trapezoidal	No	243.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	243.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	243.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber19

Input Data

Invert Elevation (ft)	252.00
Max (Rim) Elevation (ft)	254.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-252.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-31	Trapezoidal	No	253.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	253.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	253.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber20

Input Data

Invert Elevation (ft)	269.00
Max (Rim) Elevation (ft)	271.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-269.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-32	Trapezoidal	No	270.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	270.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	270.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber21

Input Data

Invert Elevation (ft)	270.00
Max (Rim) Elevation (ft)	272.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-270.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-33	Trapezoidal	No	271.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	271.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	271.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber22

Input Data

Invert Elevation (ft)	264.00
Max (Rim) Elevation (ft)	266.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-264.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-34	Trapezoidal	No	265.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	265.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	265.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber23

Input Data

Invert Elevation (ft)	250.00
Max (Rim) Elevation (ft)	252.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-250.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-35	Trapezoidal	No	251.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	251.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	251.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber24

Input Data

Invert Elevation (ft)	243.00
Max (Rim) Elevation (ft)	245.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-243.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-36	Trapezoidal	No	244.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	244.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	244.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber25

Input Data

Invert Elevation (ft)	238.00
Max (Rim) Elevation (ft)	240.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-238.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-37	Trapezoidal	No	239.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	239.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	239.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber26

Input Data

Invert Elevation (ft)	230.00
Max (Rim) Elevation (ft)	232.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-230.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-38	Trapezoidal	No	231.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	231.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	231.45
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Wetland

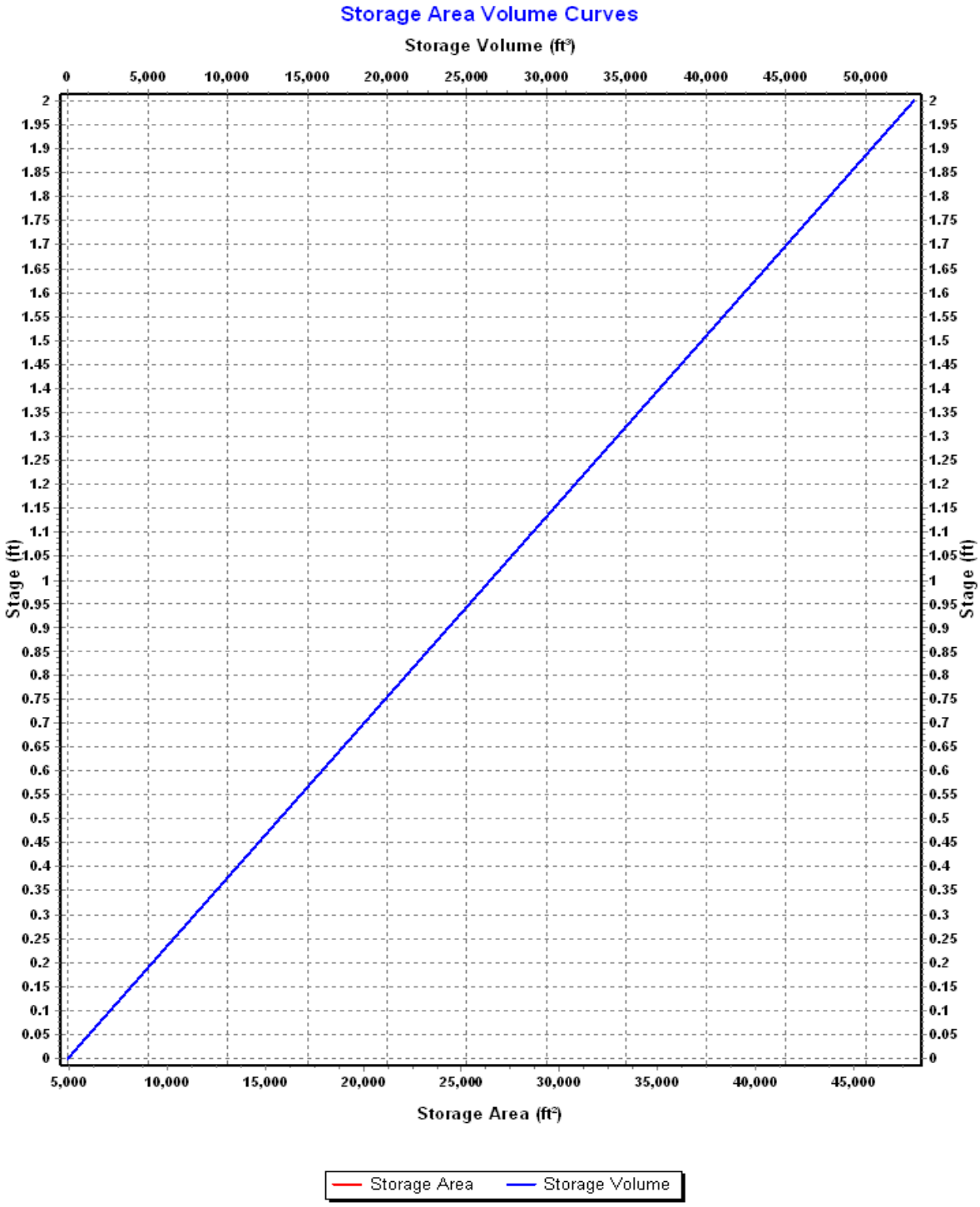
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Wetland (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	4.30
Peak Lateral Inflow (cfs)	4.19
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.68
Max HGL Depth Attained (ft)	1.68
Average HGL Elevation Attained (ft)	206.70
Average HGL Depth Attained (ft)	0.7
Time of Max HGL Occurrence (days hh:mm)	1 02:00
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 1 - Proposed Conditions (Proposed Regulations) (2).SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	50
Nodes	75
Junctions	6
Outfalls	17
Flow Diversions	0
Inlets	0
Storage Nodes	52
Links	70
Channels	0
Pipes	26
Pumps	0
Orifices	4
Weirs	40
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Pavement-01	0.13	484.00	98.00	3.50	3.27	0.43	0.49	0 00:01:36
2	Pavement-02	0.07	484.00	98.00	3.50	3.26	0.21	0.23	0 00:01:20
3	Pavement-03	0.12	484.00	98.00	3.50	3.26	0.40	0.44	0 00:01:27
4	Pavement-04	0.08	484.00	98.00	3.50	3.26	0.26	0.30	0 00:01:22
5	Pavement-05	0.14	484.00	98.00	3.50	3.27	0.47	0.51	0 00:01:16
6	Pavement-06	0.06	484.00	98.00	3.50	3.26	0.21	0.23	0 00:01:04
7	Pavement-07	0.07	484.00	98.00	3.50	3.26	0.24	0.26	0 00:00:58
8	Pavement-08	0.05	484.00	98.00	3.50	3.25	0.17	0.19	0 00:00:58
9	Pavement-09	0.18	484.00	98.00	3.50	3.27	0.60	0.66	0 00:04:04
10	Pavement-10	0.29	484.00	98.00	3.50	3.27	0.96	0.99	0 00:05:53
11	Pavement-13	0.14	484.00	98.00	3.50	3.27	0.45	0.51	0 00:01:25
12	Pavement-15	0.16	484.00	92.42	3.50	2.67	0.43	0.35	0 00:17:09
13	Pavement-16	0.25	484.00	90.40	3.50	2.48	0.61	0.79	0 00:02:12
14	Pavement-17	0.15	484.00	98.00	3.50	3.27	0.49	0.56	0 00:02:49
15	Pavement-18	0.11	484.00	98.00	3.50	3.26	0.37	0.42	0 00:02:22
16	Pavement-19	0.08	484.00	98.00	3.50	3.26	0.26	0.30	0 00:01:06
17	Roof-01	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
18	Roof-02	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
19	Roof-03	0.05	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
20	Roof-04	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
21	Roof-05	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
22	Roof-06	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
23	Roof-07	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
24	Roof-08	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
25	Roof-09	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
26	Roof-10	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
27	Roof-11	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
28	Roof-12	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
29	Roof-13	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
30	Roof-14	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
31	Roof-15	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
32	Roof-16	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
33	Roof-17	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
34	Roof-18	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
35	Roof-19	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
36	Roof-20	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
37	Roof-21	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
38	Roof-22	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
39	Roof-23	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
40	Roof-24	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
41	Roof-25	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
42	Roof-26	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:00:06
43	Sub-01	1.64	484.00	73.47	3.50	1.21	1.98	1.18	0 00:31:55
44	Sub-02	2.48	484.00	73.09	3.50	1.19	2.94	1.50	0 00:42:04
45	Sub-03	9.20	484.00	73.58	3.50	1.21	11.17	5.45	0 00:45:55
46	Sub-04	4.36	484.00	73.02	3.50	1.18	5.15	2.21	0 00:56:46
47	Sub-05	5.21	484.00	73.69	3.50	1.22	6.36	2.73	0 00:57:25
48	Sub-06	4.48	484.00	73.88	3.50	1.23	5.52	2.36	0 00:58:04
49	Sub-07	5.44	484.00	73.62	3.50	1.22	6.62	3.18	0 00:47:13
50	Sub-08	3.74	484.00	73.61	3.50	1.22	4.55	1.95	0 00:57:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	Junction	241.00	247.00	0.00	0.00	0.00	0.71	245.23	0.00	1.77	0 00:00	0.00	0.00
2	DMH-02	Junction	231.15	238.00	0.00	0.00	0.00	0.71	235.45	0.00	2.55	0 00:00	0.00	0.00
3	DMH-03	Junction	229.00	236.00	0.00	0.00	0.00	1.30	232.94	0.00	3.06	0 00:00	0.00	0.00
4	DMH-04	Junction	228.50	237.00	0.00	0.00	0.00	1.30	232.43	0.00	4.57	0 00:00	0.00	0.00
5	DMH-05	Junction	228.00	242.00	0.00	0.00	0.00	2.42	229.44	0.00	12.56	0 00:00	0.00	0.00
6	DMH-06	Junction	241.00	247.00	0.00	0.00	0.00	1.36	245.34	0.00	1.66	0 00:00	0.00	0.00
7	Out-01	Outfall	232.00					2.21	232.00					
8	Out-29	Outfall	210.00					0.00	210.00					
9	Out-30	Outfall	212.00					1.27	212.28					
10	Out-31	Outfall	206.00					0.34	206.00					
11	Out-32	Outfall	212.00					0.00	212.00					
12	Out-33	Outfall	202.00					0.19	202.16					
13	Out-34	Outfall	204.00					0.00	204.00					
14	Out-35	Outfall	204.00					5.42	204.00					
15	Out-37	Outfall	216.00					0.21	216.00					
16	Out-38	Outfall	220.00					0.21	220.00					
17	Out-39	Outfall	220.00					0.21	220.00					
18	Out-40	Outfall	223.00					0.21	223.00					
19	Out-41	Outfall	223.00					0.21	223.00					
20	Out-42	Outfall	228.00					0.21	228.00					
21	Out-43	Outfall	230.00					0.21	230.00					
22	Out-44	Outfall	238.00					0.21	238.00					
23	Out-46	Outfall	219.00					0.56	219.00					
24	BMP-01	Storage Node	215.00	218.00	0.00		0.00	3.24	217.64				0.00	0.00
25	BMP-02	Storage Node	213.00	217.00	0.00		0.00	3.40	216.72				0.00	0.00
26	BMP-03	Storage Node	203.00	206.00	0.00		0.00	5.15	204.48				0.00	0.00
27	BMP-04	Storage Node	222.00	226.00	0.00		0.00	3.75	225.34				0.00	0.00
28	CB-02	Storage Node	231.15	238.00	0.00		1000.00	1.17	234.83				0.00	0.00
29	CB-03	Storage Node	241.15	248.00	0.00		1000.00	0.49	245.53				0.00	0.00
30	CB-04	Storage Node	241.15	248.00	0.00		1000.00	0.23	245.39				0.00	0.00
31	CB-05	Storage Node	0.00	236.00	0.00		1000.00	0.26	61.52				0.00	0.00
32	CB-06	Storage Node	0.00	236.00	0.00		1000.00	0.19	44.54				0.00	0.00
33	CB-07	Storage Node	0.00	236.00	0.00		1000.00	0.51	122.84				0.00	0.00
34	CB-08	Storage Node	0.00	236.00	0.00		1000.00	0.23	56.01				0.00	0.00
35	CB-09	Storage Node	241.15	248.00	0.00		1000.00	0.30	245.44				0.00	0.00
36	CB-10	Storage Node	241.15	248.00	0.00		1000.00	1.07	245.72				0.00	0.00
37	CB-15	Storage Node	221.00	229.00	0.00		1000.00	0.78	226.63				0.00	0.00
38	CB-16	Storage Node	221.00	229.00	0.00		1000.00	1.00	226.44				0.00	0.00
39	CB-17	Storage Node	211.00	220.00	0.00		1000.00	0.93	217.57				0.00	0.00
40	CB-18	Storage Node	211.00	220.00	0.00		1000.00	3.23	217.81				0.00	0.00
41	CB-19	Storage Node	203.65	210.50	0.00		1000.00	0.86	208.09				0.00	0.00
42	CB-20	Storage Node	203.65	210.50	0.00		1000.00	0.42	207.92				0.00	0.00
43	Forebay_BMP01	Storage Node	219.00	220.00	0.00		0.00	3.25	219.58				0.00	0.00
44	Forebay_BMP03	Storage Node	206.00	208.00	0.00		0.00	1.25	207.04				0.00	0.00
45	OCS-01	Storage Node	210.65	217.75	0.00		0.00	1.27	214.94				0.00	0.00
46	OCS-02	Storage Node	209.65	216.50	0.00		0.00	3.18	210.81				0.00	0.00
47	OCS-03	Storage Node	198.65	204.75	0.00		0.00	0.19	202.80				0.00	0.00
48	OCS-05	Storage Node	217.00	225.50	0.00		0.00	3.62	222.23				0.00	0.00
49	Roof_Chamber01	Storage Node	213.00	215.00	0.00		0.00	0.21	214.76				0.00	0.00
50	Roof_Chamber02	Storage Node	219.00	221.00	0.00		0.00	0.21	220.76				0.00	0.00
51	Roof_Chamber03	Storage Node	216.00	218.00	0.00		0.00	0.21	217.76				0.00	0.00
52	Roof_Chamber04	Storage Node	219.00	221.00	0.00		0.00	0.21	220.76				0.00	0.00
53	Roof_Chamber05	Storage Node	221.00	223.00	0.00		0.00	0.21	222.76				0.00	0.00
54	Roof_Chamber06	Storage Node	223.00	225.00	0.00		0.00	0.21	224.76				0.00	0.00
55	Roof_Chamber07	Storage Node	232.00	234.00	0.00		0.00	0.21	233.76				0.00	0.00
56	Roof_Chamber08	Storage Node	233.00	235.00	0.00		0.00	0.21	234.76				0.00	0.00
57	Roof_Chamber09	Storage Node	228.00	230.00	0.00		0.00	0.21	229.76				0.00	0.00
58	Roof_Chamber10	Storage Node	216.00	218.00	0.00		0.00	0.21	217.76				0.00	0.00
59	Roof_Chamber11	Storage Node	220.00	222.00	0.00		0.00	0.21	221.76				0.00	0.00
60	Roof_Chamber12	Storage Node	220.00	222.00	0.00		0.00	0.21	221.76				0.00	0.00
61	Roof_Chamber13	Storage Node	228.00	230.00	0.00		0.00	0.21	229.76				0.00	0.00
62	Roof_Chamber14	Storage Node	232.00	234.00	0.00		0.00	0.21	233.76				0.00	0.00
63	Roof_Chamber15	Storage Node	223.00	225.00	0.00		0.00	0.21	224.76				0.00	0.00
64	Roof_Chamber16	Storage Node	223.00	225.00	0.00		0.00	0.21	224.76				0.00	0.00
65	Roof_Chamber17	Storage Node	228.00	230.00	0.00		0.00	0.21	229.76				0.00	0.00
66	Roof_Chamber18	Storage Node	242.00	244.00	0.00		0.00	0.21	243.76				0.00	0.00
67	Roof_Chamber19	Storage Node	252.00	254.00	0.00		0.00	0.21	253.76				0.00	0.00
68	Roof_Chamber20	Storage Node	269.00	271.00	0.00		0.00	0.21	270.76				0.00	0.00
69	Roof_Chamber21	Storage Node	270.00	272.00	0.00		0.00	0.21	271.76				0.00	0.00
70	Roof_Chamber22	Storage Node	264.00	266.00	0.00		0.00	0.21	265.76				0.00	0.00
71	Roof_Chamber23	Storage Node	250.00	252.00	0.00		0.00	0.21	251.76				0.00	0.00
72	Roof_Chamber24	Storage Node	243.00	245.00	0.00		0.00	0.21	244.76				0.00	0.00
73	Roof_Chamber25	Storage Node	238.00	240.00	0.00		0.00	0.21	239.76				0.00	0.00
74	Roof_Chamber26	Storage Node	230.00	232.00	0.00		0.00	0.21	231.76				0.00	0.00
75	Wetland	Storage Node	206.00	208.00	0.00		0.00	5.19	207.76				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-109	Pipe	CB-15	CB-16	21.15	226.15	226.00	0.7100	12.000	0.0200	0.77	1.95	0.40	2.19	0.46	0.46	0.00	Calculated
2	Link-110	Pipe	CB-16	BMP-04	34.00	226.00	225.75	0.7400	18.000	0.0200	0.99	5.85	0.17	2.56	0.40	0.27	0.00	Calculated
3	Link-114	Pipe	OCS-05	Out-46	102.82	222.00	220.00	1.9500	24.000	0.0200	0.56	20.51	0.03	2.81	0.23	0.11	0.00	Calculated
4	Link-115	Pipe	OCS-05	CB-18	237.93	221.00	217.15	1.6200	12.000	0.0200	3.05	2.95	1.04	4.28	0.87	0.87	0.00	> CAPACITY
5	Link-28	Pipe	OCS-01	Out-30	42.00	214.65	212.00	6.3100	18.000	0.0200	1.27	17.15	0.07	5.53	0.28	0.19	0.00	Calculated
6	Link-29	Pipe	OCS-03	Out-33	40.00	202.65	202.00	1.6300	18.000	0.0200	0.19	8.70	0.02	1.93	0.16	0.10	0.00	Calculated
7	Link-30	Pipe	OCS-02	BMP-03	215.00	210.15	207.00	1.4700	18.000	0.0200	3.18	8.26	0.39	4.31	0.65	0.44	0.00	Calculated
8	Link-31	Pipe	CB-04	DMH-01	17.51	245.15	245.00	0.8600	12.000	0.0200	0.23	2.14	0.11	1.65	0.23	0.23	0.00	Calculated
9	Link-32	Pipe	CB-03	DMH-01	24.09	245.15	245.00	0.6200	12.000	0.0200	0.48	1.83	0.26	2.08	0.34	0.34	0.00	Calculated
10	Link-33	Pipe	DMH-01	DMH-02	139.54	245.00	235.15	7.0600	12.000	0.0200	0.71	6.15	0.12	4.25	0.26	0.27	0.00	Calculated
11	Link-34	Pipe	DMH-02	DMH-03	76.23	235.15	233.15	2.6200	12.000	0.0200	0.70	3.75	0.19	3.56	0.29	0.30	0.00	Calculated
12	Link-35	Pipe	CB-05	DMH-03	24.01	233.15	233.00	0.6200	12.000	0.0200	0.00	1.83	0.00	0.00	0.00	0.00	0.00	Calculated
13	Link-36	Pipe	CB-06	DMH-03	15.56	233.15	233.00	0.9600	12.000	0.0200	0.00	2.27	0.00	0.00	0.00	0.00	0.00	Calculated
14	Link-37	Pipe	CB-02	DMH-03	38.28	234.50	233.15	3.5300	18.000	0.0200	1.17	12.82	0.09	4.27	0.32	0.21	0.00	Calculated
15	Link-38	Pipe	DMH-03	DMH-04	32.64	232.50	232.00	1.5300	18.000	0.0200	1.30	8.45	0.15	3.06	0.43	0.29	0.00	Calculated
16	Link-39	Pipe	CB-08	DMH-04	18.32	233.15	233.00	0.8200	12.000	0.0200	0.00	2.10	0.00	0.00	0.00	0.00	0.00	Calculated
17	Link-40	Pipe	CB-07	DMH-04	10.99	233.15	233.00	1.3600	12.000	0.0200	0.00	2.71	0.00	0.00	0.00	0.00	0.00	Calculated
18	Link-41	Pipe	DMH-04	DMH-05	130.94	232.00	230.00	1.5300	18.000	0.0200	1.30	8.44	0.15	3.29	0.41	0.28	0.00	Calculated
19	Link-42	Pipe	CB-09	DMH-06	23.74	245.15	245.00	0.6300	12.000	0.0200	0.30	1.84	0.16	1.40	0.32	0.32	0.00	Calculated
20	Link-43	Pipe	CB-10	DMH-06	19.02	245.15	245.00	0.7900	12.000	0.0200	1.06	2.06	0.52	2.68	0.50	0.50	0.00	Calculated
21	Link-44	Pipe	DMH-06	DMH-05	100.67	245.00	239.15	5.8100	12.000	0.0200	1.35	5.58	0.24	5.74	0.34	0.34	0.00	Calculated
22	Link-45	Pipe	DMH-05	Forebay_BMP01	245.00	229.00	220.00	3.6700	18.000	0.0200	2.39	13.09	0.18	5.60	0.42	0.29	0.00	Calculated
23	Link-62	Pipe	CB-18	BMP-02	33.00	217.15	216.75	1.2100	24.000	0.0200	3.23	16.19	0.20	3.78	0.63	0.32	0.00	Calculated
24	Link-63	Pipe	CB-17	BMP-02	52.00	217.15	216.75	0.7700	18.000	0.0200	0.92	5.99	0.15	2.53	0.39	0.26	0.00	Calculated
25	Link-77	Pipe	CB-19	Forebay_BMP03	67.00	207.65	207.00	0.9700	12.000	0.0200	0.84	2.28	0.37	2.75	0.41	0.41	0.00	Calculated
26	Link-78	Pipe	CB-20	Forebay_BMP03	47.00	207.65	207.00	1.3800	12.000	0.0200	0.41	2.72	0.15	2.45	0.27	0.27	0.00	Calculated
27	Orifice-02	Orifice	BMP-04	OCS-05		222.00	217.00		3.000		0.36							
28	Orifice-03	Orifice	BMP-01	OCS-01		215.00	210.65		3.000		0.28							
29	Orifice-04	Orifice	BMP-02	OCS-02		213.00	209.65		3.000		0.39							
30	Orifice-05	Orifice	BMP-03	OCS-03		203.00	198.65		3.000		0.19							
31	Orifice2	Weir	BMP-04	OCS-05		222.00	217.00				2.86							
32	Orifice3	Weir	BMP-01	OCS-01		215.00	210.65				0.11							
33	Orifice4	Weir	BMP-01	OCS-01		215.00	210.65				0.88							
34	OrificeforOCS	Weir	BMP-04	OCS-05		222.00	217.00				0.40							
35	Weir-01	Weir	Forebay_BMP01	BMP-01		219.00	215.00				3.24							
36	Weir-02	Weir	BMP-01	Out-29		215.00	210.00				0.00							
37	Weir-03	Weir	BMP-01	OCS-01		215.00	210.65				0.00							
38	Weir-04	Weir	Wetland	Out-31		206.00	206.00				0.34							
39	Weir-06	Weir	BMP-02	Out-32		213.00	212.00				0.00							
40	Weir-07	Weir	BMP-02	OCS-02		213.00	209.65				2.79							
41	Weir-09	Weir	BMP-03	OCS-03		203.00	198.65				0.00							
42	Weir-10	Weir	BMP-03	Out-34		203.00	204.00				0.00							
43	Weir-16	Weir	Forebay_BMP03	BMP-03		206.00	203.00				1.25							
44	Weir-17	Weir	BMP-04	OCS-05		222.00	217.00				0.00							
45	Weir-19	Weir	Roof_Chamber01	Wetland		213.00	206.00				0.21							
46	Weir-20	Weir	Roof_Chamber02	Wetland		219.00	206.00				0.21							
47	Weir-21	Weir	Roof_Chamber03	Wetland		216.00	206.00				0.21							
48	Weir-22	Weir	Roof_Chamber04	CB-17		219.00	211.00				0.21							
49	Weir-23	Weir	Roof_Chamber05	CB-17		221.00	211.00				0.21							
50	Weir-24	Weir	Roof_Chamber06	Wetland		223.00	206.00				0.21							
51	Weir-25	Weir	Roof_Chamber07	Wetland		232.00	206.00				0.21							
52	Weir-26	Weir	Roof_Chamber09	BMP-04		228.00	222.00				0.21							
53	Weir-27	Weir	Roof_Chamber08	BMP-04		233.00	222.00				0.21							
54	Weir-31	Weir	Roof_Chamber19	BMP-04		252.00	222.00				0.21							
55	Weir-32	Weir	Roof_Chamber20	CB-10		269.00	241.15				0.21							
56	Weir-33	Weir	Roof_Chamber21	CB-10		270.00	241.15				0.21							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
57	Weir-34	Weir	Roof_Chamber22	CB-10		264.00	241.15				0.21							
58	Weir-35	Weir	Roof_Chamber23	Forebay_BMP01		250.00	219.00				0.21							
59	Weir-36	Weir	Roof_Chamber24	Forebay_BMP01		243.00	219.00				0.21							
60	Weir-37	Weir	Roof_Chamber25	Out-44		238.00	238.00				0.21							
61	Weir-38	Weir	Roof_Chamber26	Out-43		230.00	230.00				0.21							
62	Weir-39	Weir	Roof_Chamber17	Out-42		228.00	228.00				0.21							
63	Weir-40	Weir	Roof_Chamber16	Out-41		223.00	223.00				0.21							
64	Weir-41	Weir	Roof_Chamber15	Out-40		223.00	223.00				0.21							
65	Weir-42	Weir	Roof_Chamber12	Out-39		220.00	220.00				0.21							
66	Weir-43	Weir	Roof_Chamber11	Out-38		220.00	220.00				0.21							
67	Weir-44	Weir	Roof_Chamber10	Out-37		216.00	216.00				0.21							
68	Weir-45	Weir	Roof_Chamber18	BMP-04		242.00	222.00				0.21							
69	Weir-46	Weir	Roof_Chamber14	BMP-04		232.00	222.00				0.21							
70	Weir-47	Weir	Roof_Chamber13	BMP-04		228.00	222.00				0.21							

Subbasin Hydrology

Subbasin : Pavement-01

Input Data

Area (ac) 0.13
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.13	C	98.00
Composite Area & Weighted CN	0.13		98.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	40	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	0.54	0.00	0.00

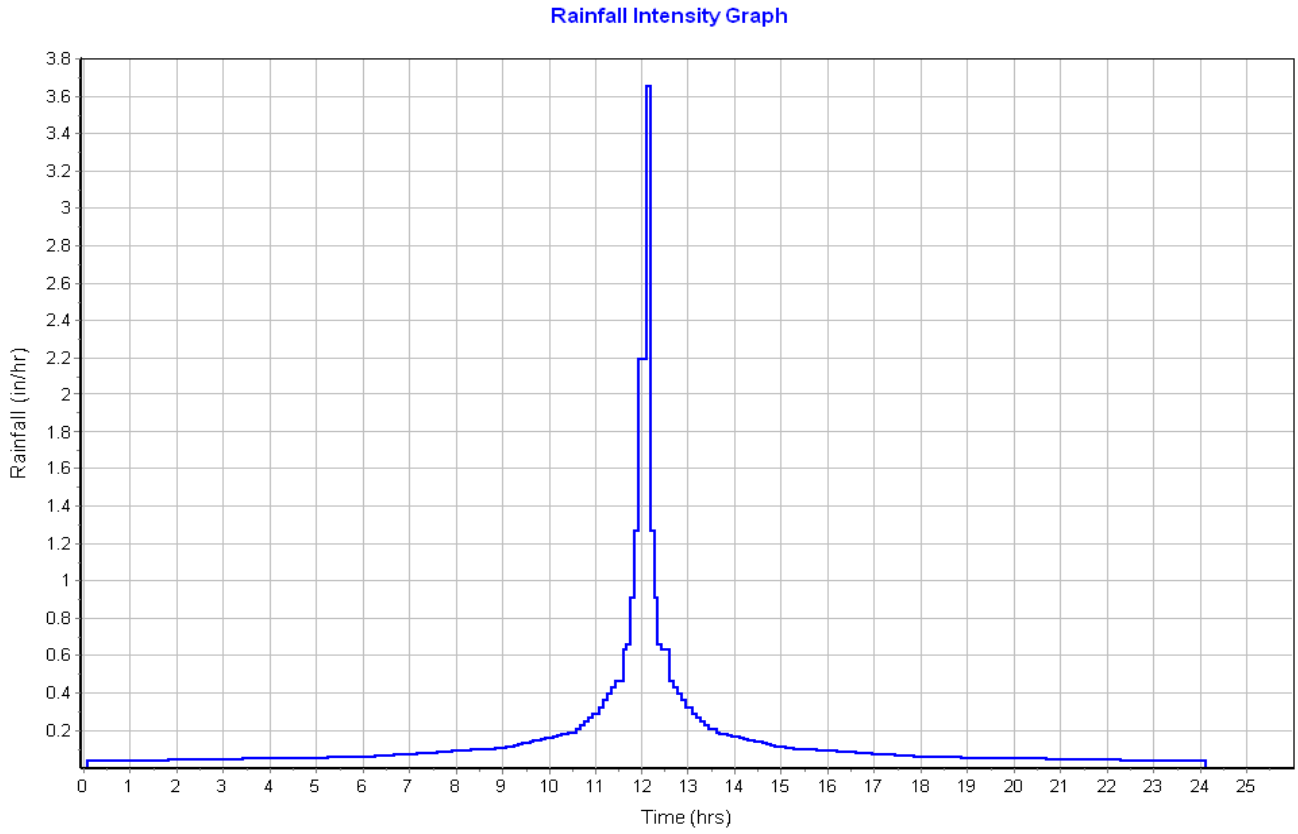
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

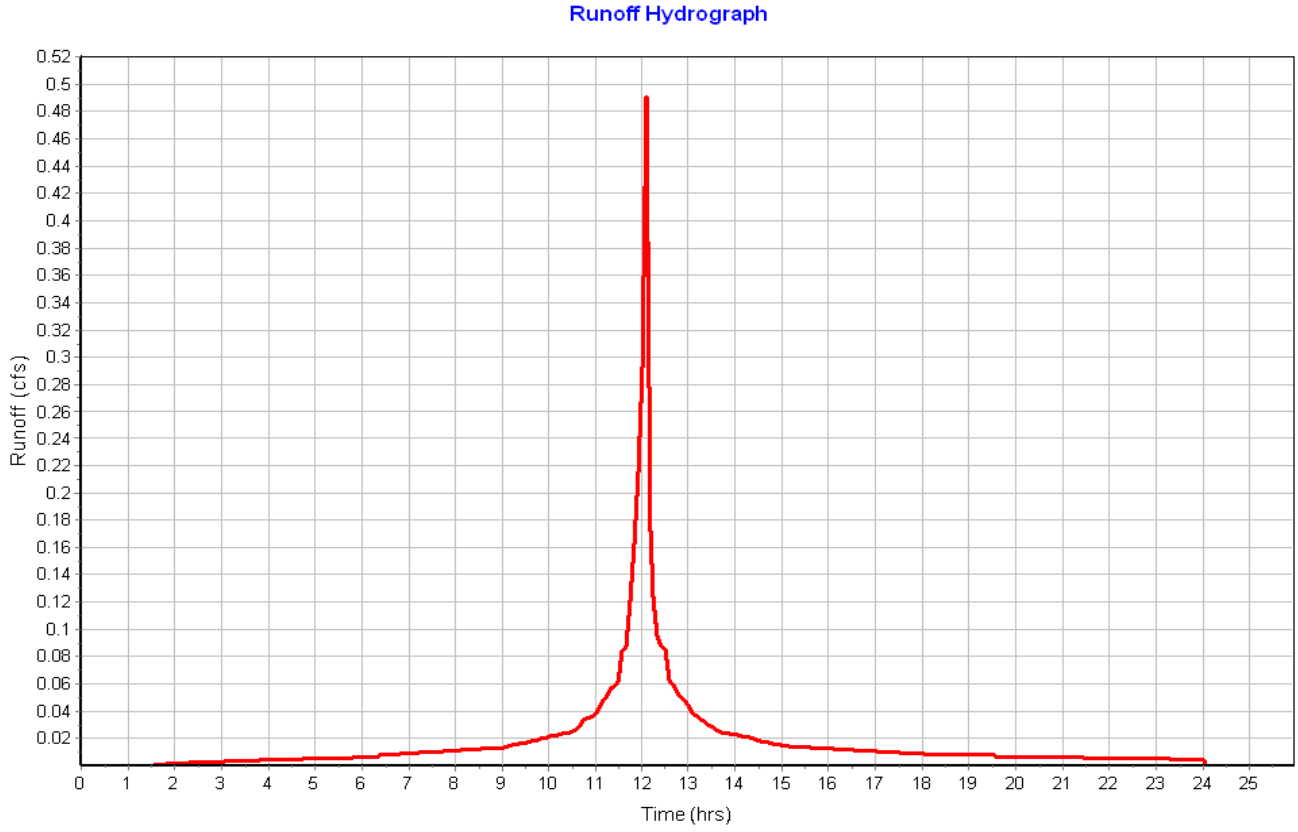
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.27
Peak Runoff (cfs)	0.49
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Pavement-01





Subbasin : Pavement-02

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.17	0.00	0.00
Computed Flow Time (min) :	0.43	0.00	0.00

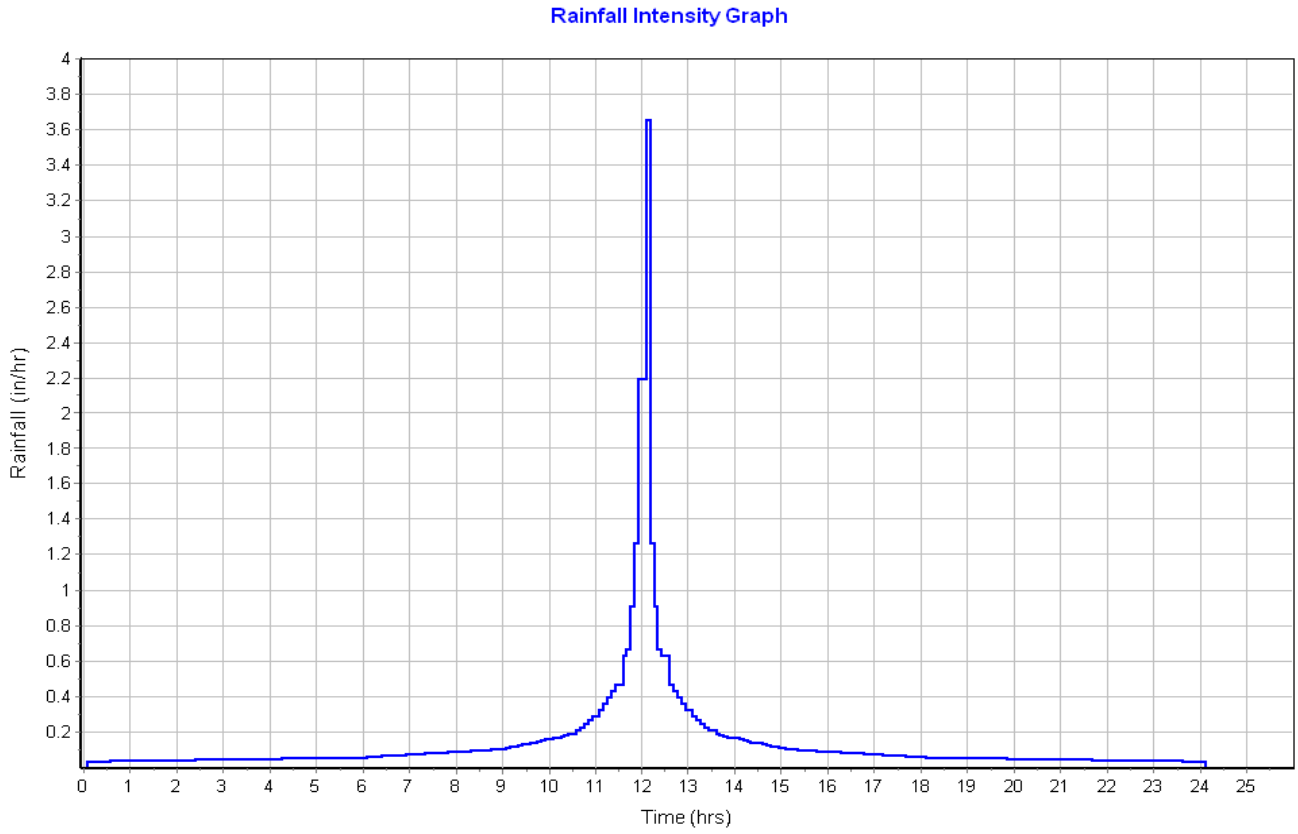
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.82	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

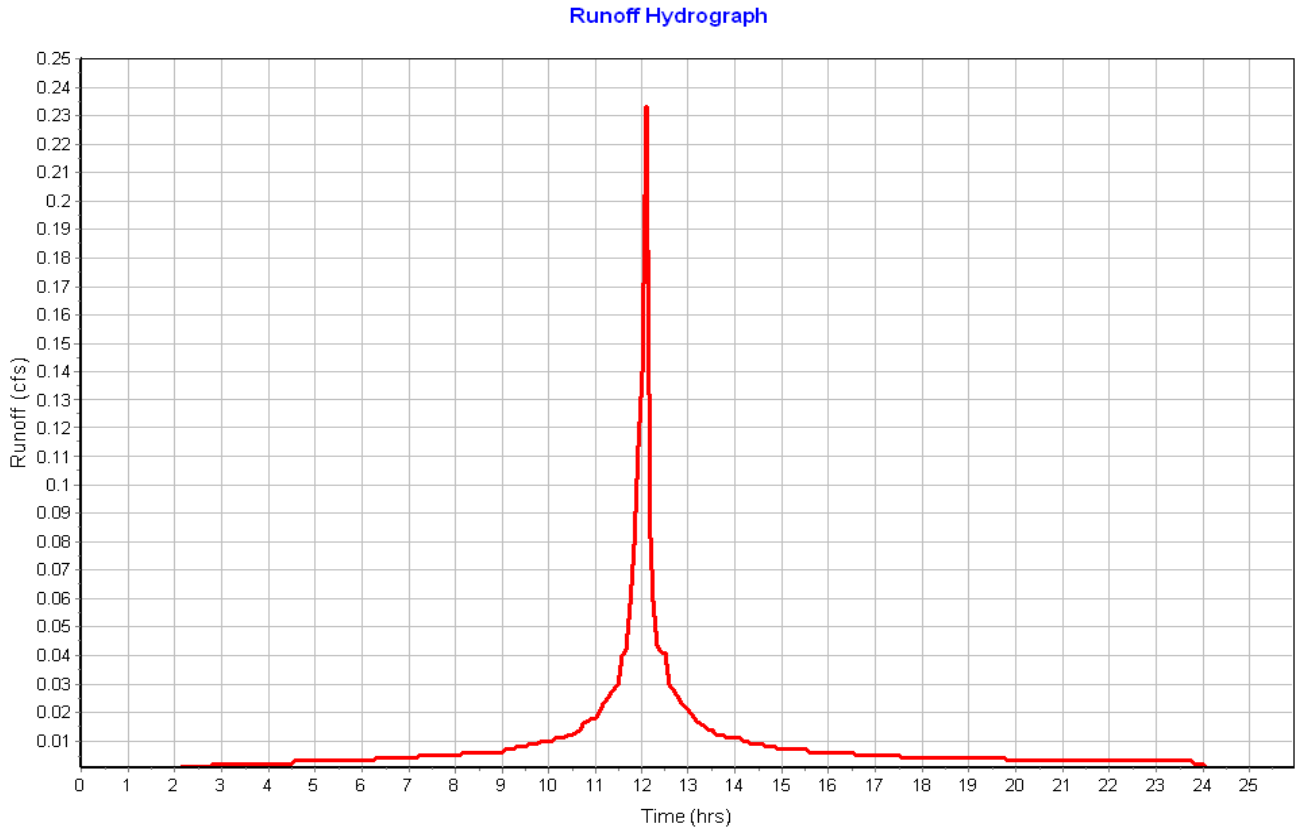
Total TOC (min) 1.34

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.23
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:20

Subbasin : Pavement-02





Subbasin : Pavement-03

Input Data

Area (ac)	0.12
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
Composite Area & Weighted CN	0.12		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	41.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.25	0.00	0.00
Computed Flow Time (min) :	0.56	0.00	0.00

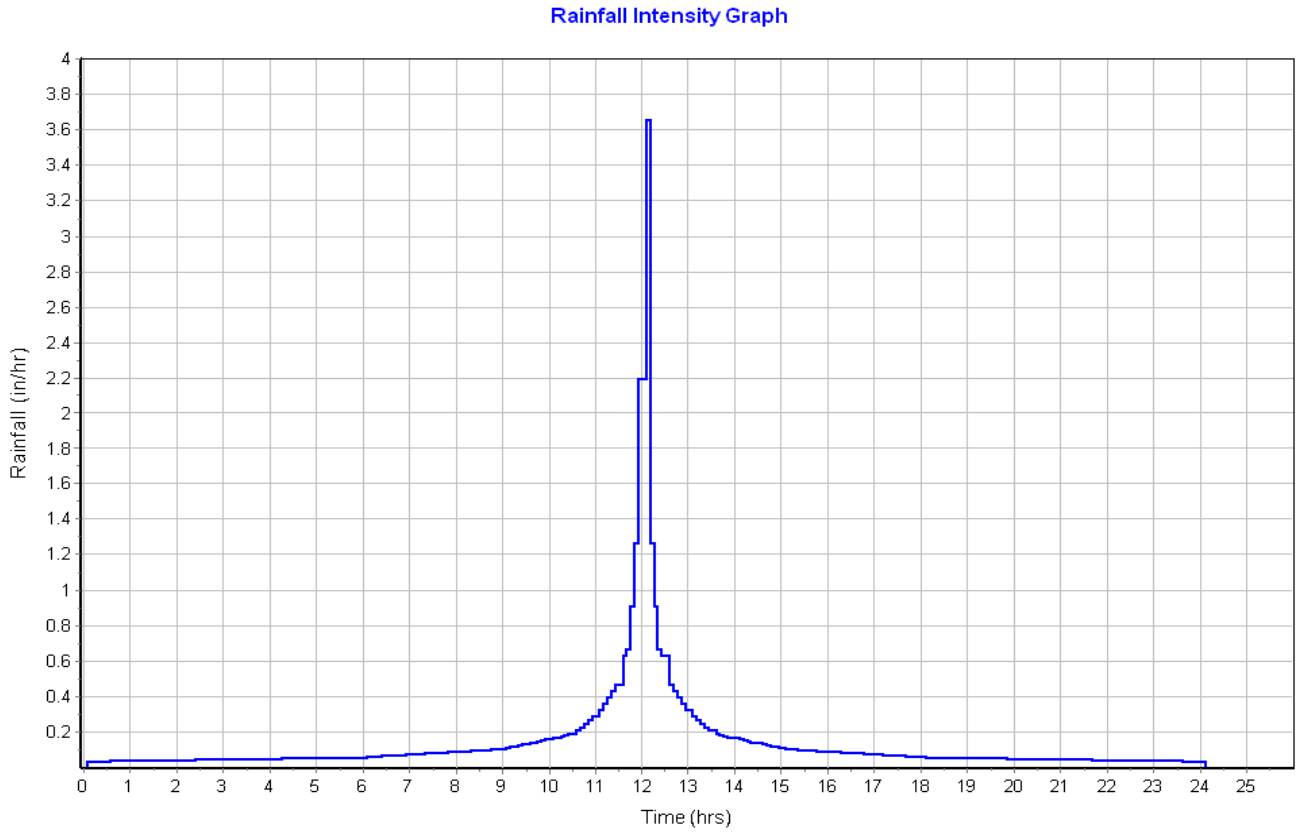
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	266.17	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

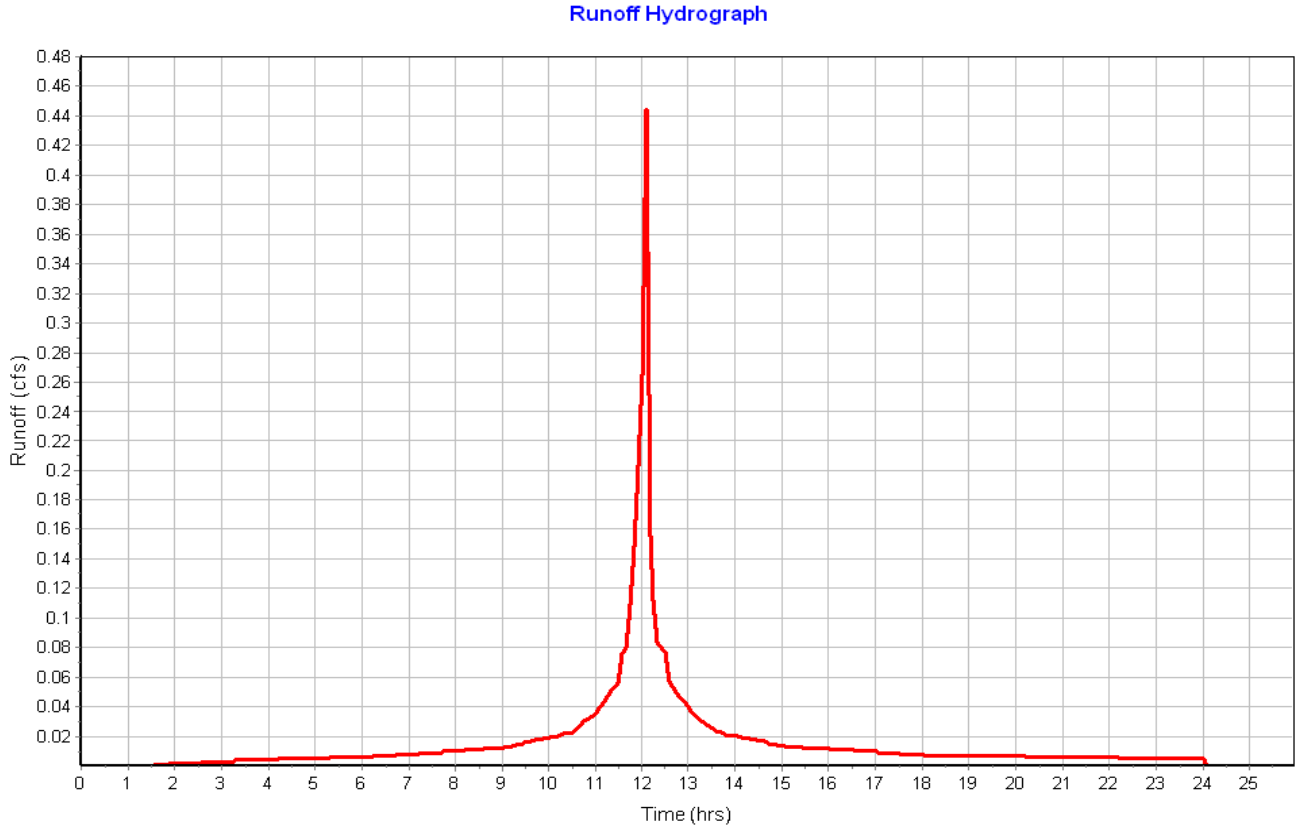
Total TOC (min) 1.45

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.44
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:27

Subbasin : Pavement-03





Subbasin : Pavement-04

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	36.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.22	0.00	0.00
Computed Flow Time (min) :	0.50	0.00	0.00

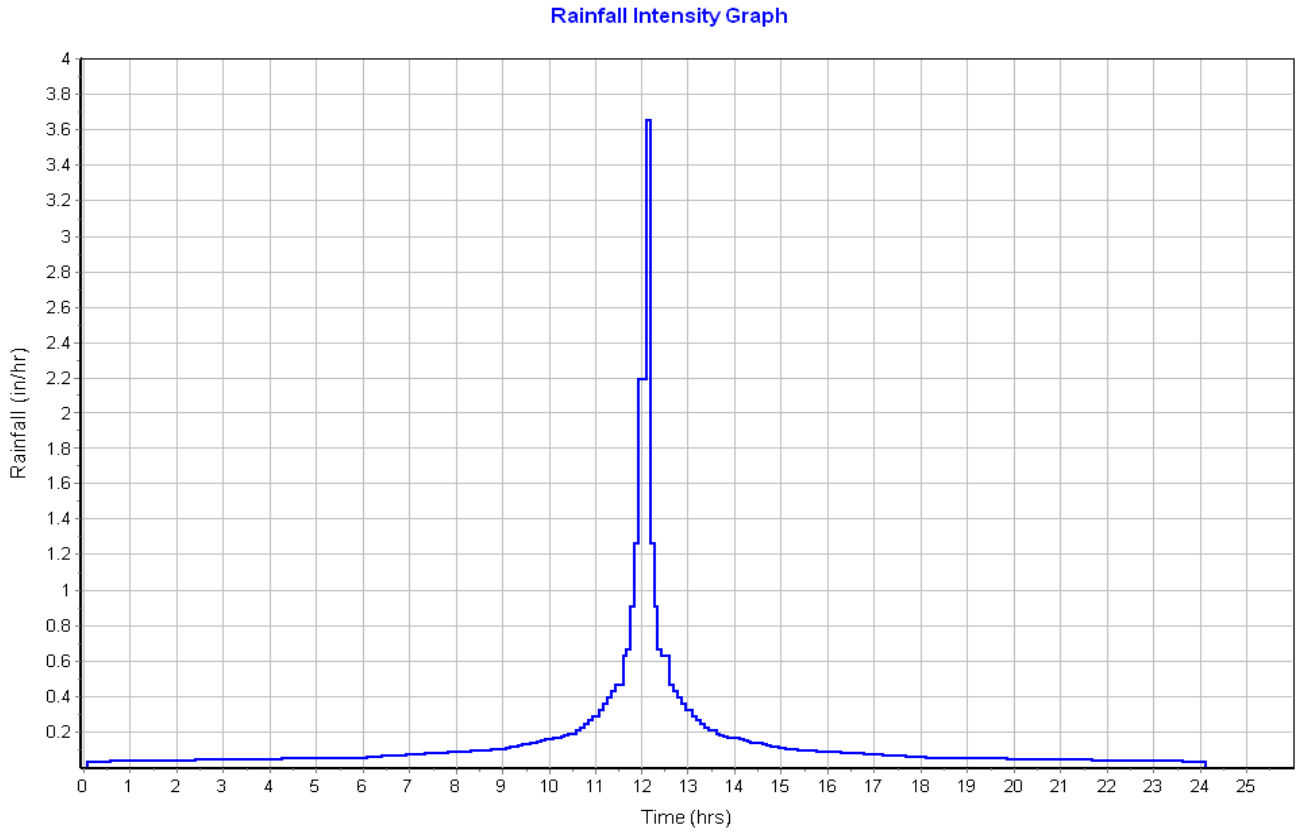
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.91	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

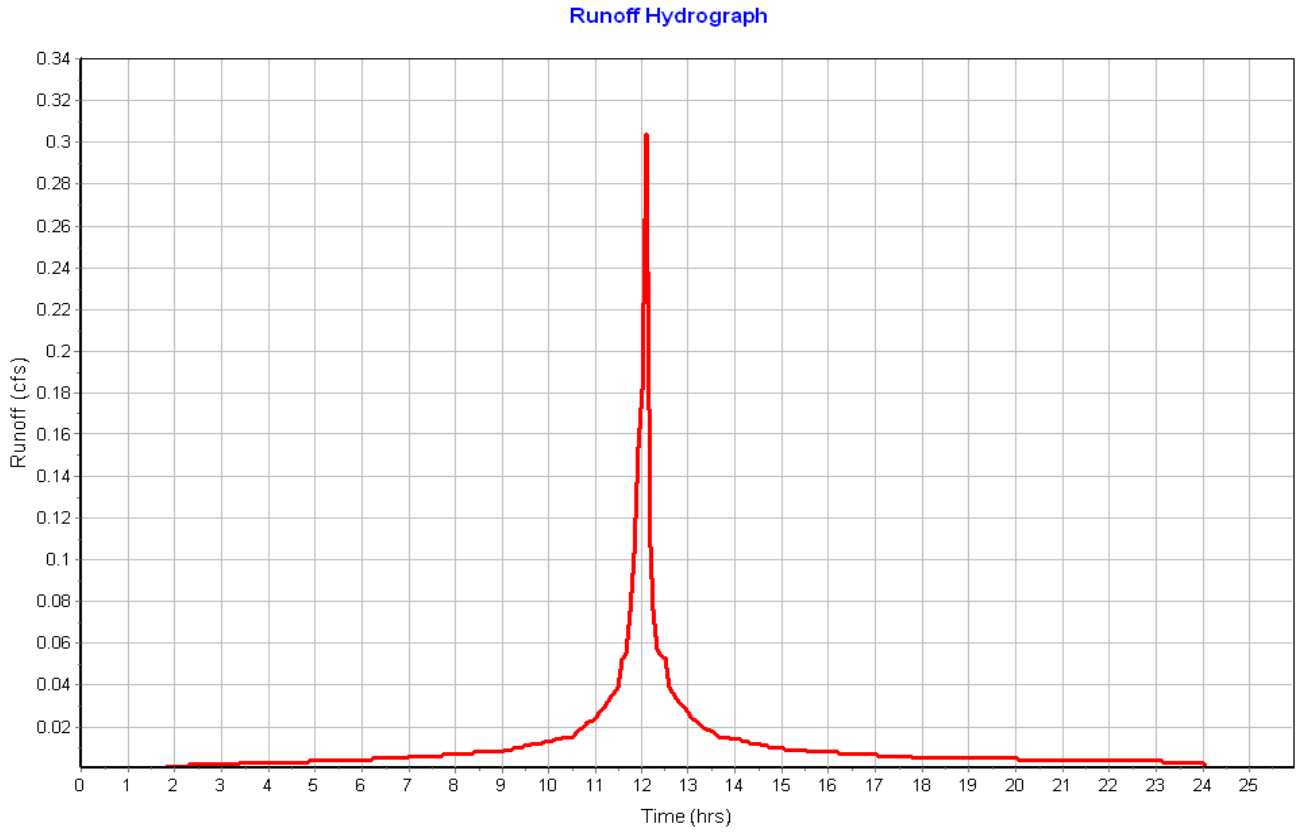
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.30
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:23

Subbasin : Pavement-04





Subbasin : Pavement-05

Input Data

Area (ac) 0.14
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.14	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

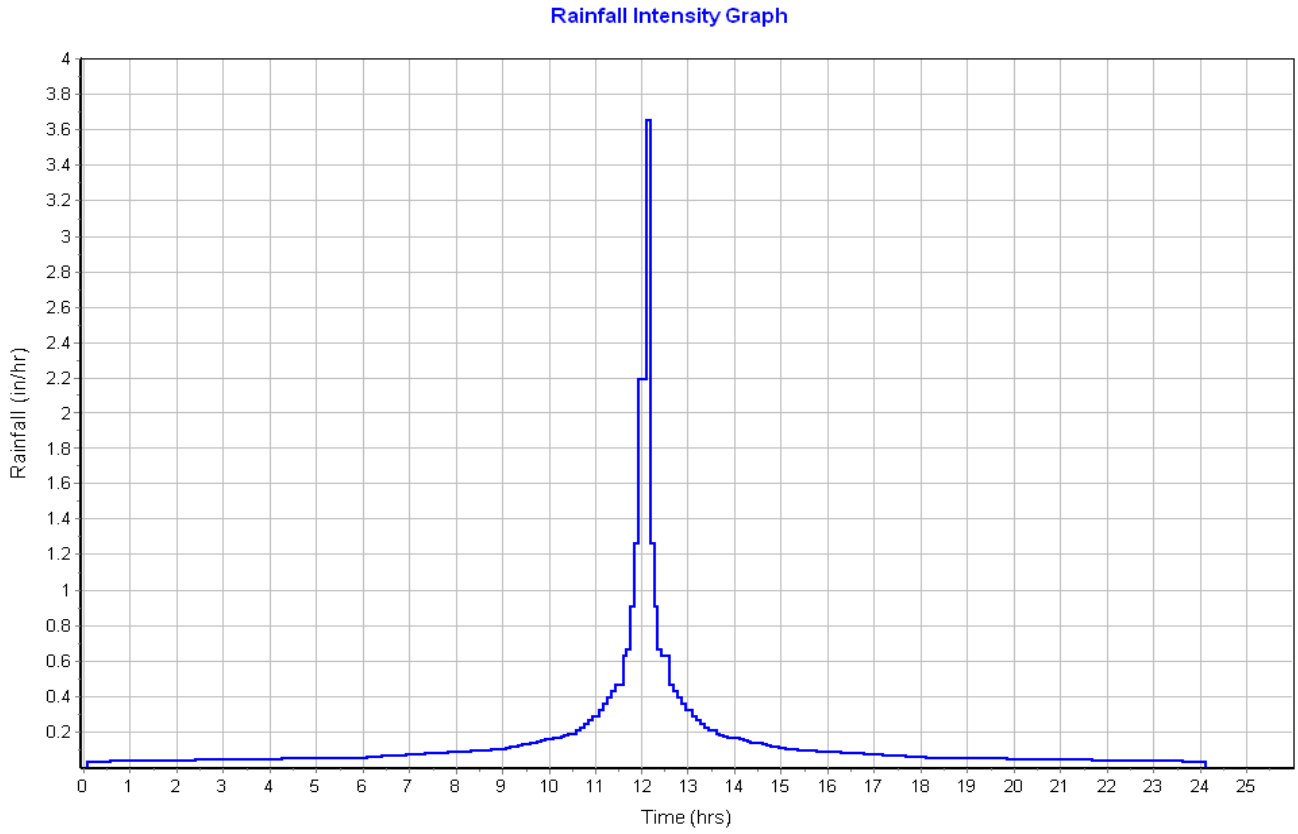
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	272.65	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

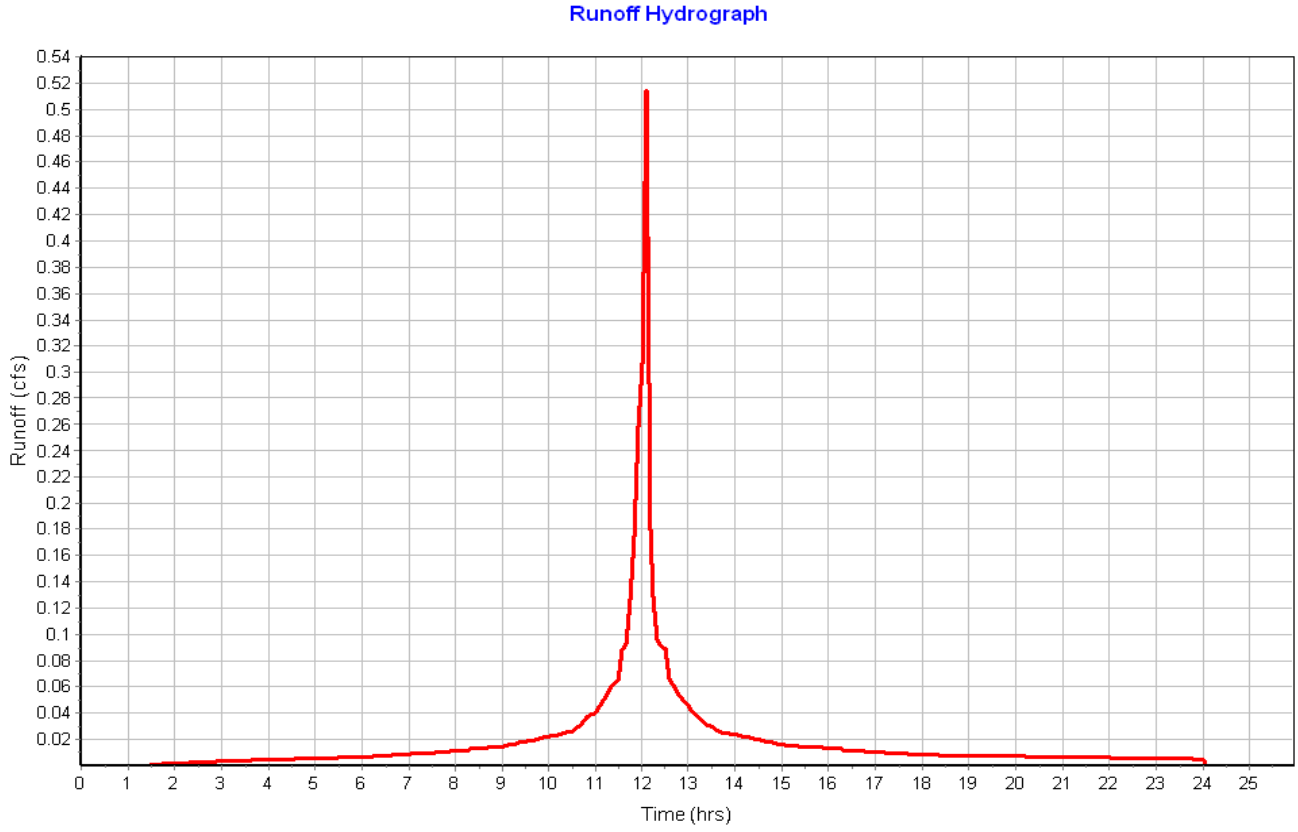
Total TOC (min) 1.27

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.27
Peak Runoff (cfs) 0.51
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:16

Subbasin : Pavement-05





Subbasin : Pavement-06

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.22	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

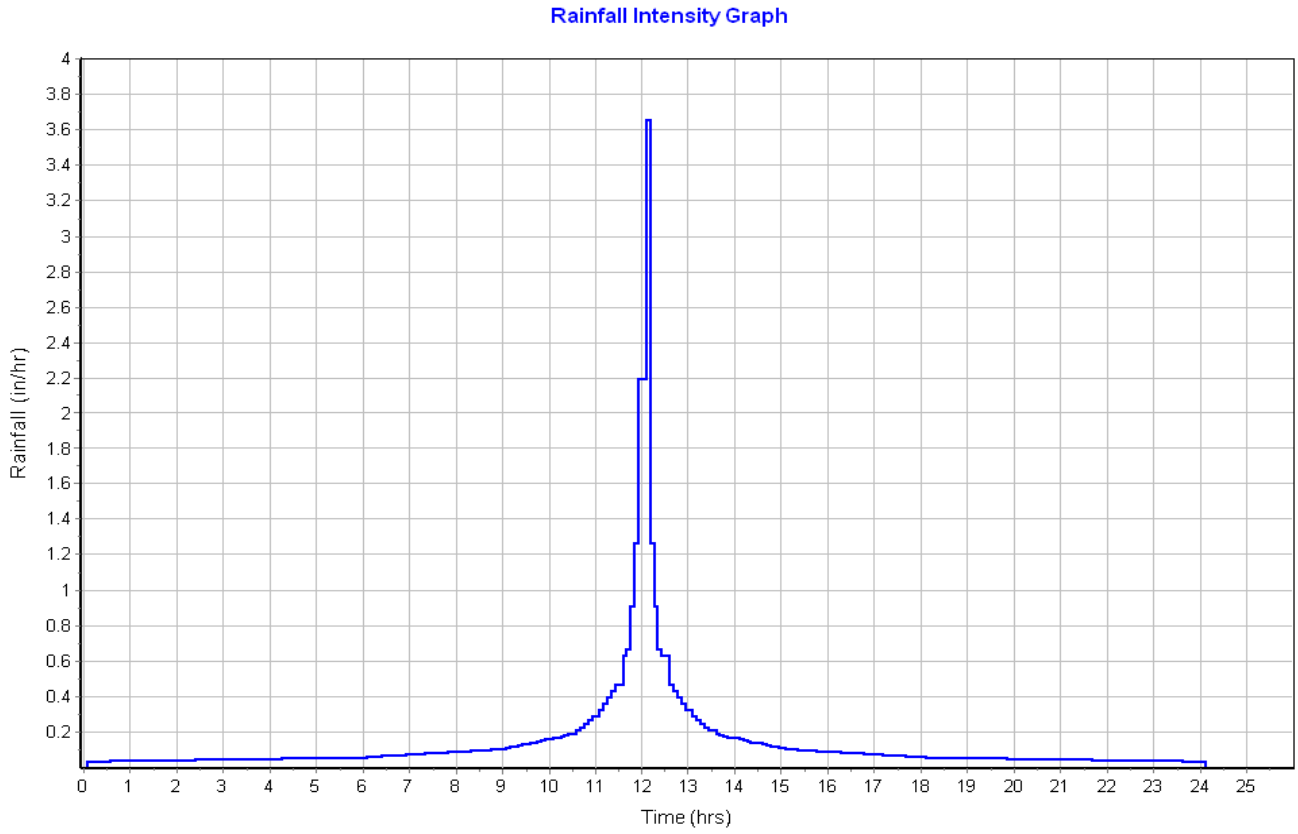
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	220.27	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	0.86	0.00	0.00

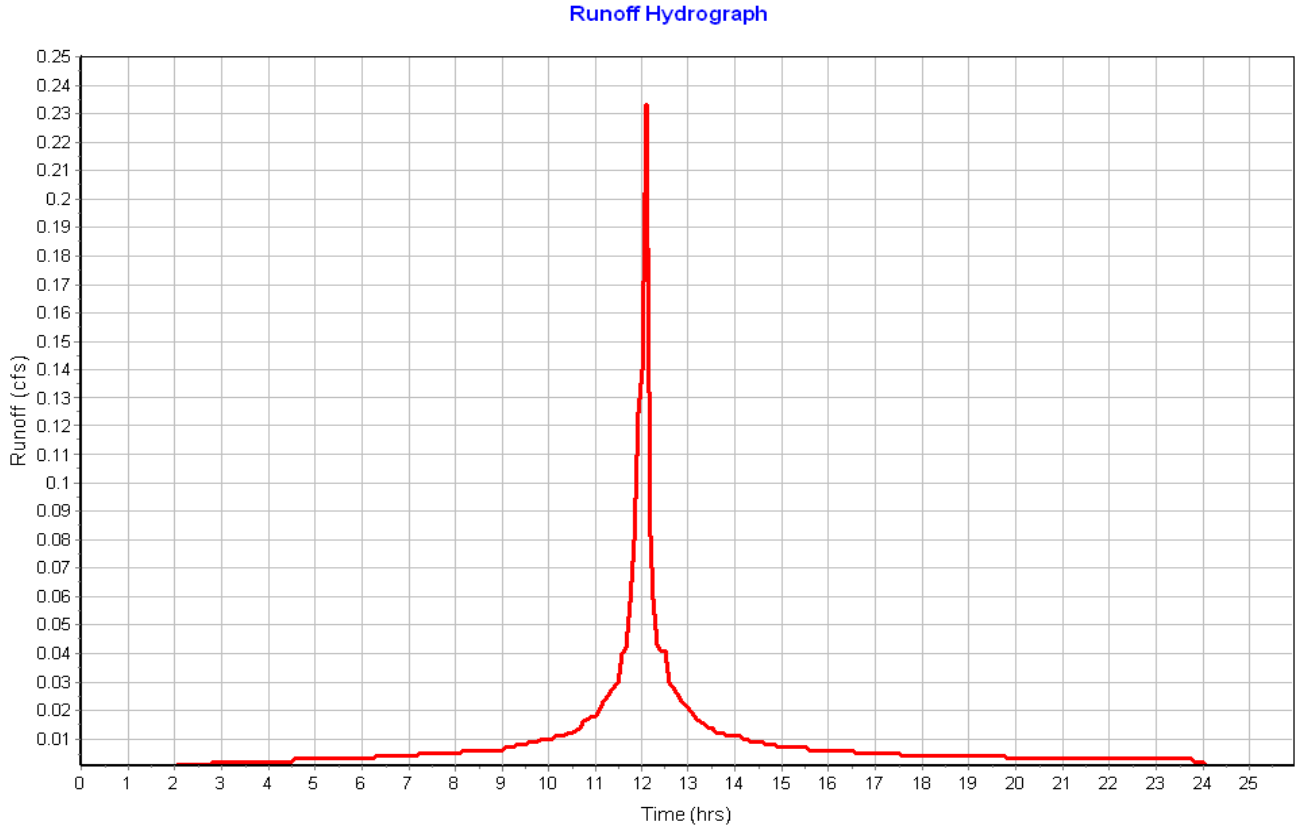
Total TOC (min) 1.07

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.23
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:04

Subbasin : Pavement-06





Subbasin : Pavement-07

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.65	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.01	0.00	0.00
Computed Flow Time (min) :	0.24	0.00	0.00

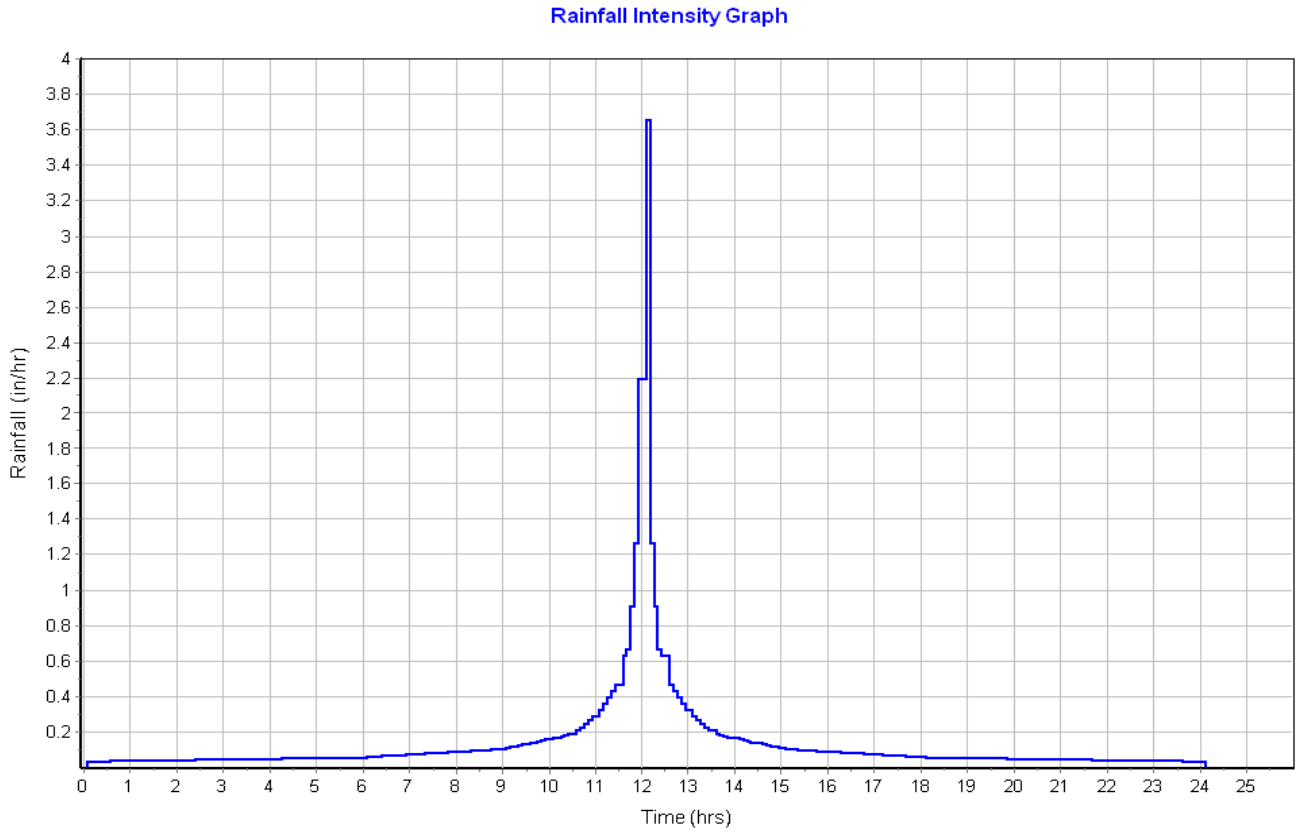
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	211.90	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

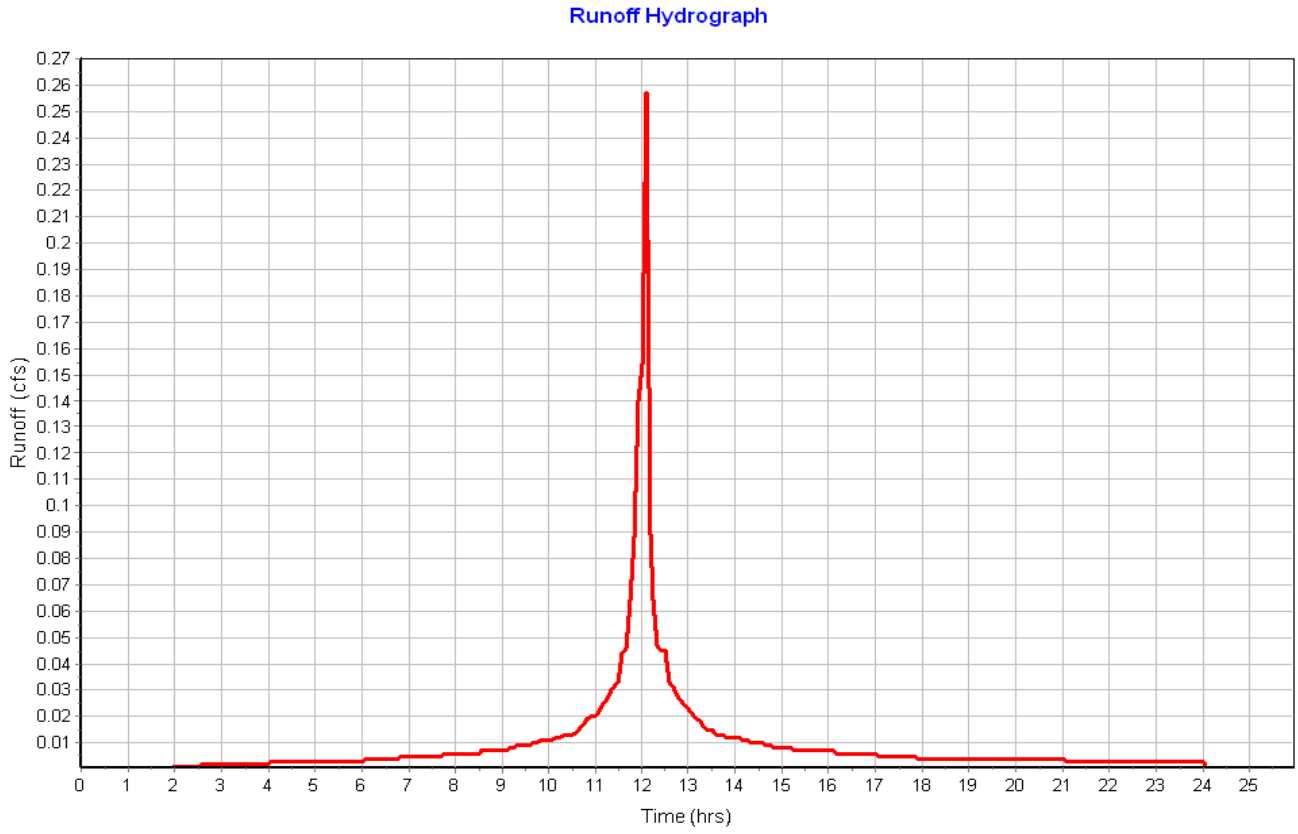
Total TOC (min) 0.97

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.26
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:58

Subbasin : Pavement-07





Subbasin : Pavement-08

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.97	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

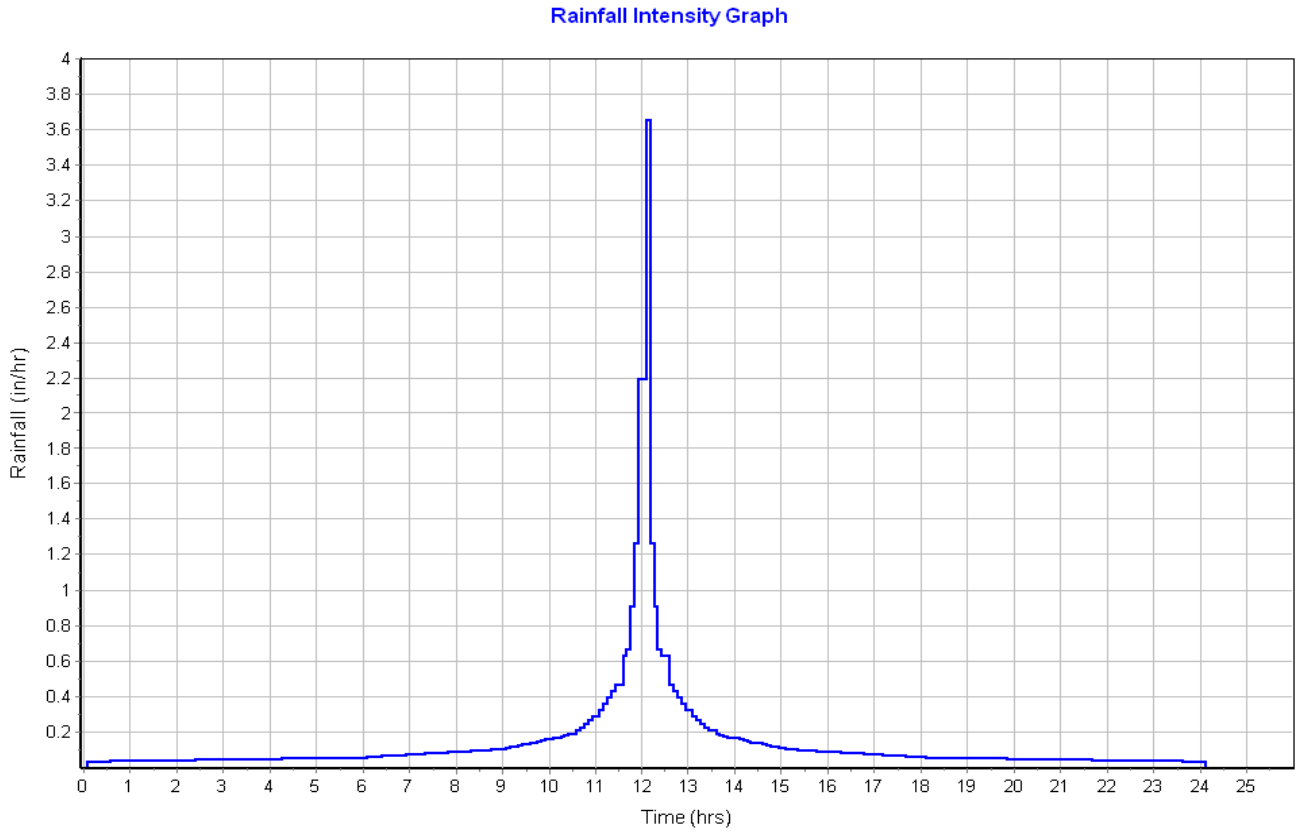
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	226.53	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.78	0.00	0.00

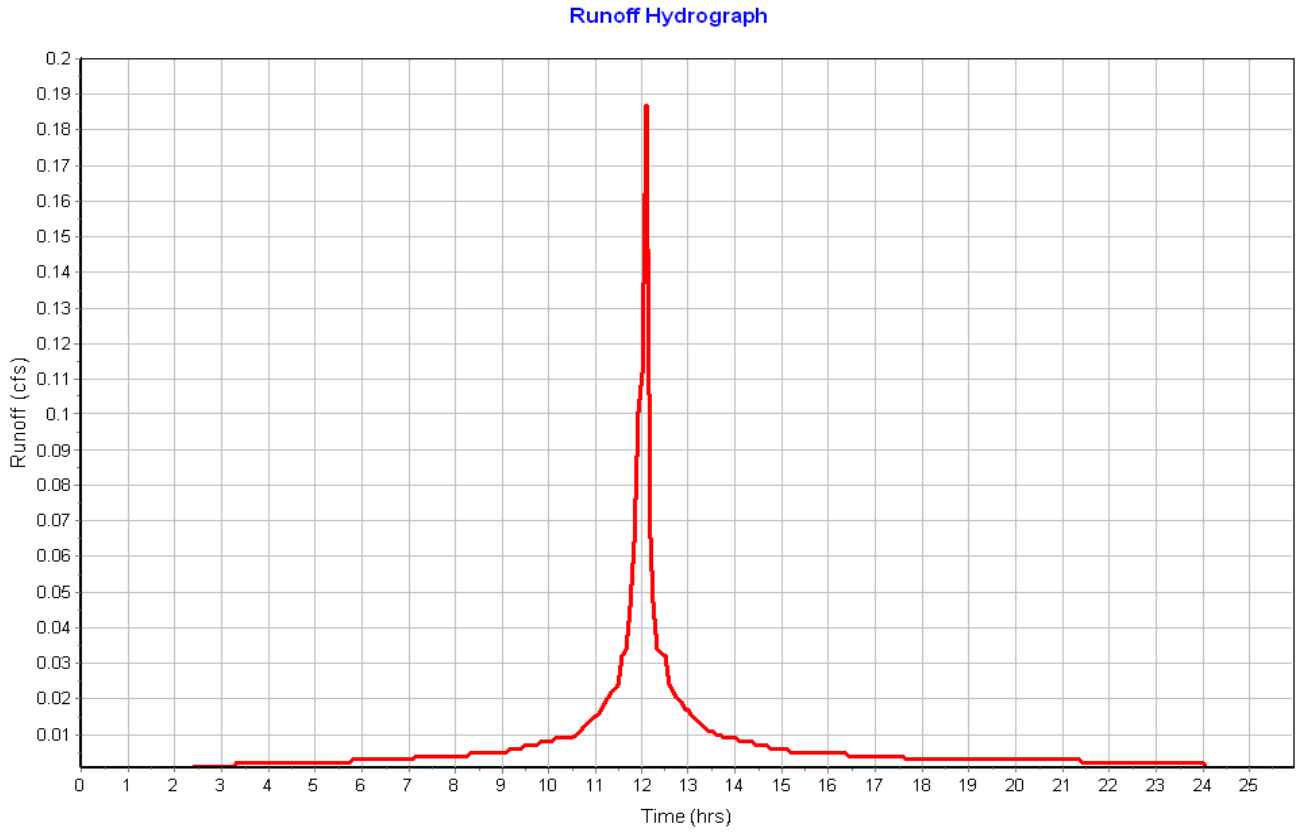
Total TOC (min) 0.98

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.25
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:59

Subbasin : Pavement-08





Subbasin : Pavement-09

Input Data

Area (ac)	0.18
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.18	C	98.00
Composite Area & Weighted CN	0.18		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	82.18	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.54	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

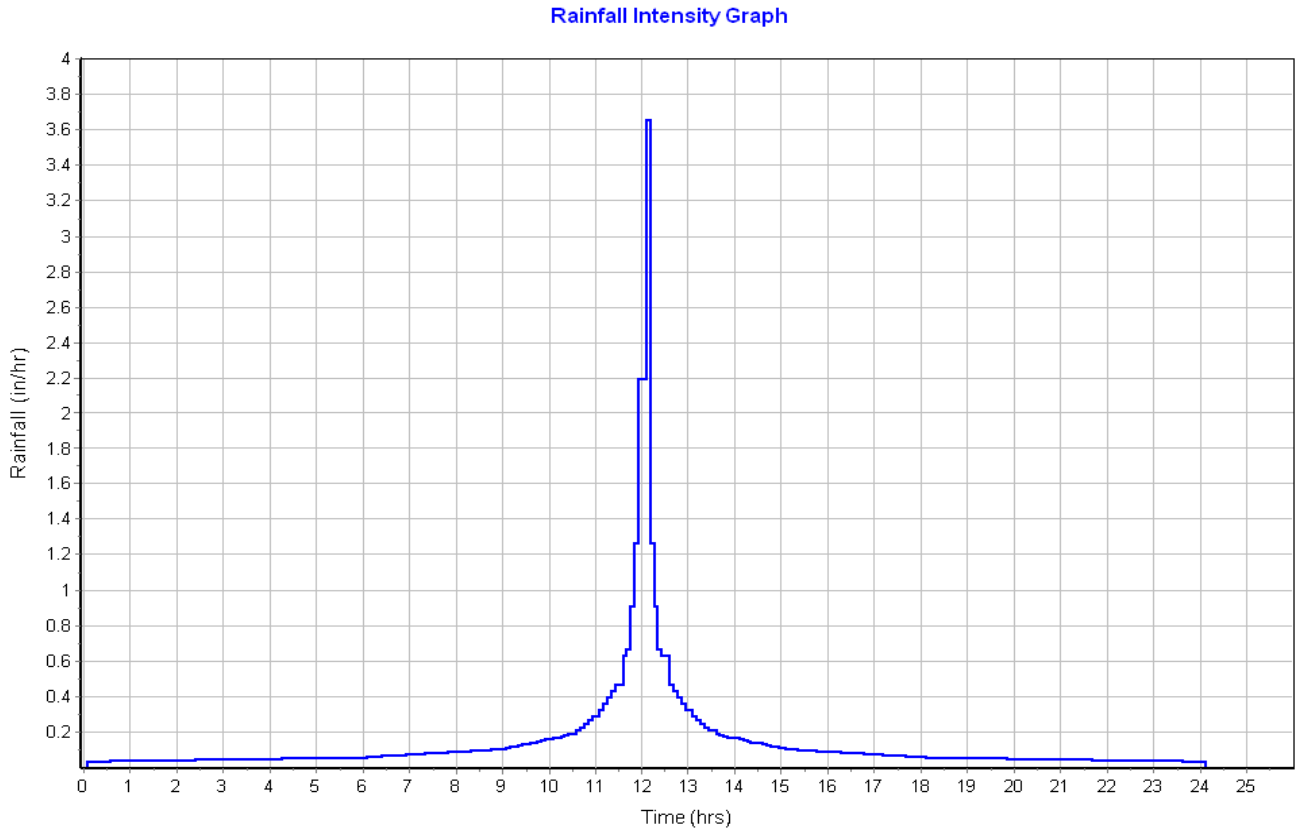
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	449.39	0.00	0.00
Slope (%) :	2.45	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.35	0.00	0.00
Computed Flow Time (min) :	3.19	0.00	0.00

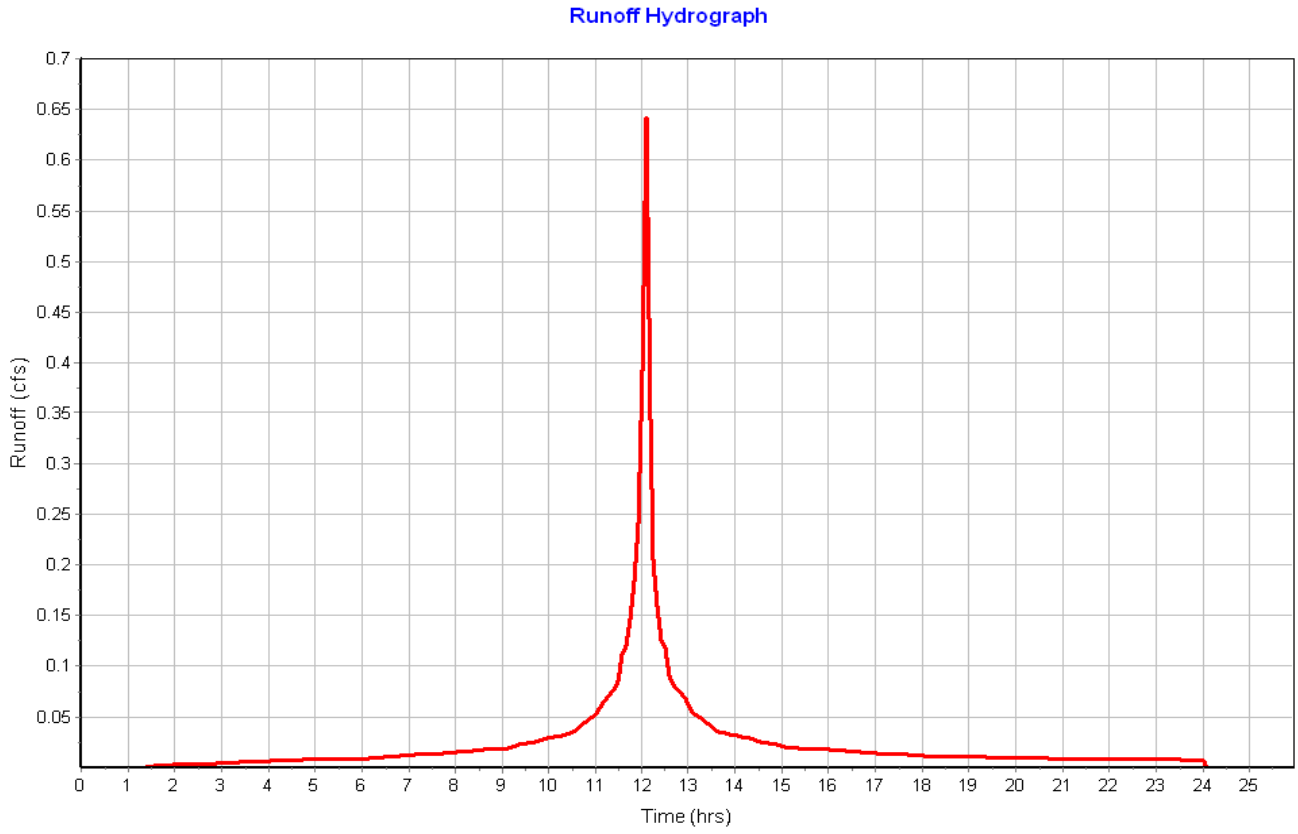
Total TOC (min) 4.08

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.27
Peak Runoff (cfs)	0.66
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:04:05

Subbasin : Pavement-09





Subbasin : Pavement-10

Input Data

Area (ac)	0.29
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.29	C	98.00
Composite Area & Weighted CN	0.29		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	23.24	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.11	0.00	0.00
Computed Flow Time (min) :	0.35	0.00	0.00

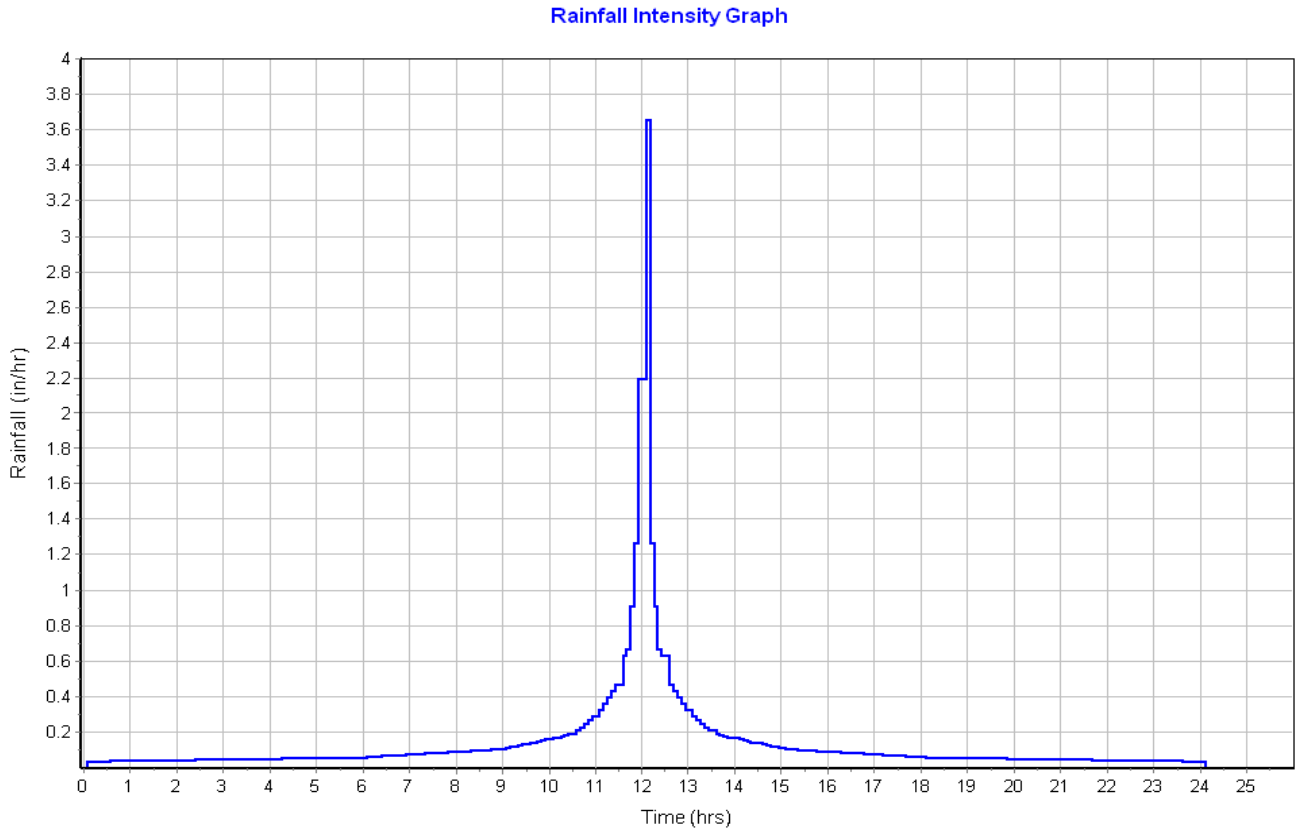
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	754.46	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.27	0.00	0.00
Computed Flow Time (min) :	5.54	0.00	0.00

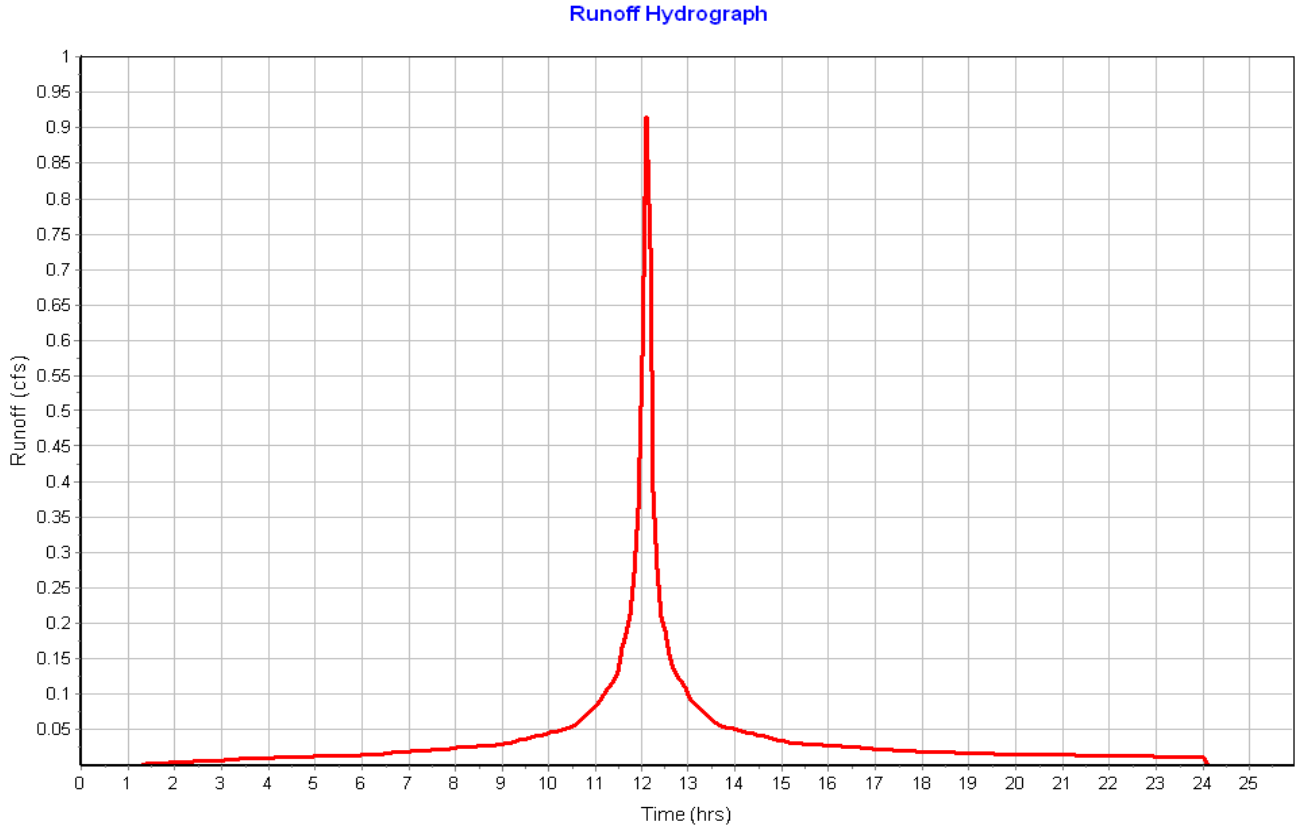
Total TOC (min) 5.89

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.27
Peak Runoff (cfs)	0.99
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:05:53

Subbasin : Pavement-10





Subbasin : Pavement-13

Input Data

Area (ac) 0.14
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	17.45	0.00	0.00
Slope (%) :	1.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.30	0.00	0.00

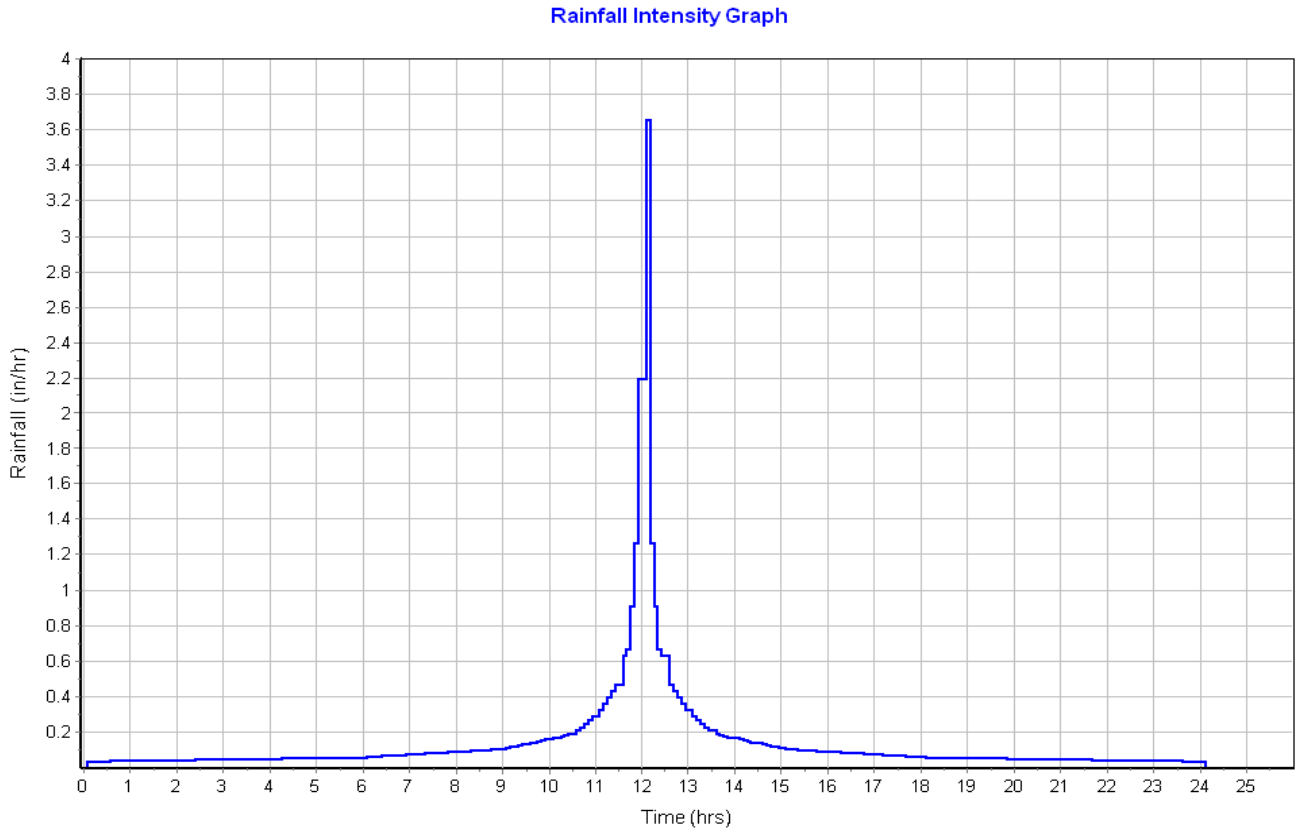
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	238.58	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.13	0.00	0.00

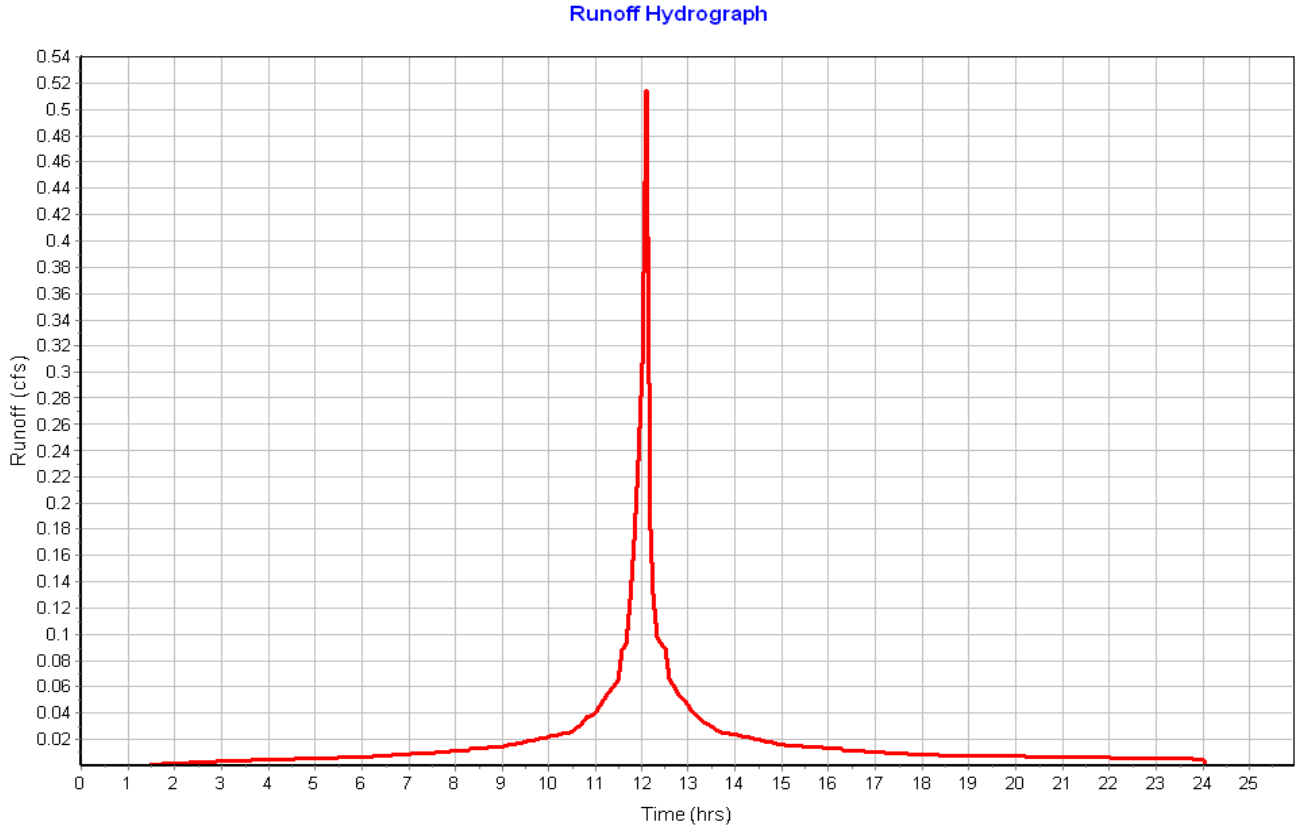
Total TOC (min) 1.43

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.27
Peak Runoff (cfs) 0.51
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:26

Subbasin : Pavement-13





Subbasin : Pavement-15

Input Data

Area (ac)	0.16
Peak Rate Factor	484.00
Weighted Curve Number	92.42
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.16		92.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	.4	.01
Flow Length (ft) :	22.40	76.05	35.47
Slope (%) :	2	2.63	2
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	1.10	0.08	1.21
Computed Flow Time (min) :	0.34	15.44	0.49

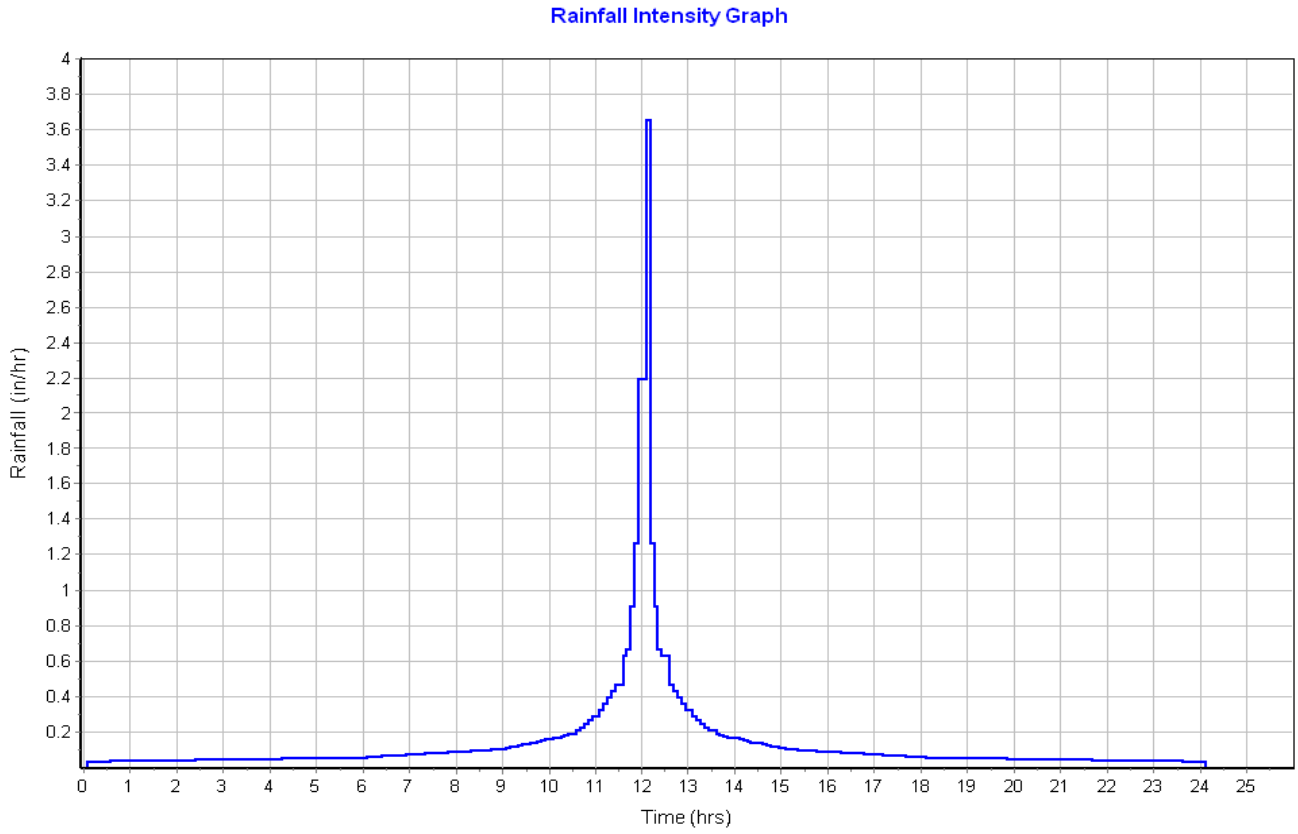
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	231.04	0.00	0.00
Slope (%) :	4.5	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.31	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

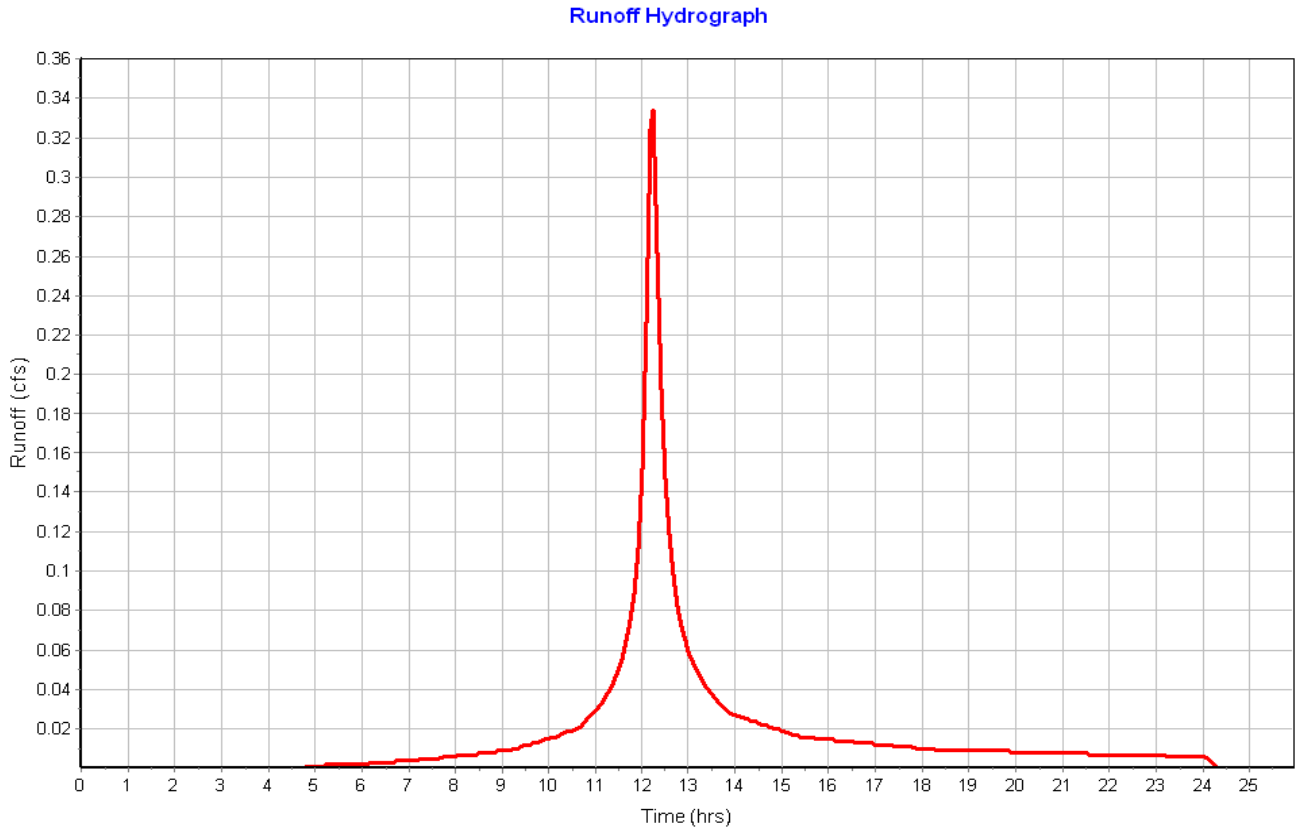
Total TOC (min) 17.16

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	2.67
Peak Runoff (cfs)	0.35
Weighted Curve Number	92.42
Time of Concentration (days hh:mm:ss)	0 00:17:10

Subbasin : Pavement-15





Subbasin : Pavement-16

Input Data

Area (ac)	0.25
Peak Rate Factor	484.00
Weighted Curve Number	90.40
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.17	C	98.00
> 75% grass cover, Good	0.08	C	74.00
Composite Area & Weighted CN	0.25		90.40

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	74.01	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.40	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

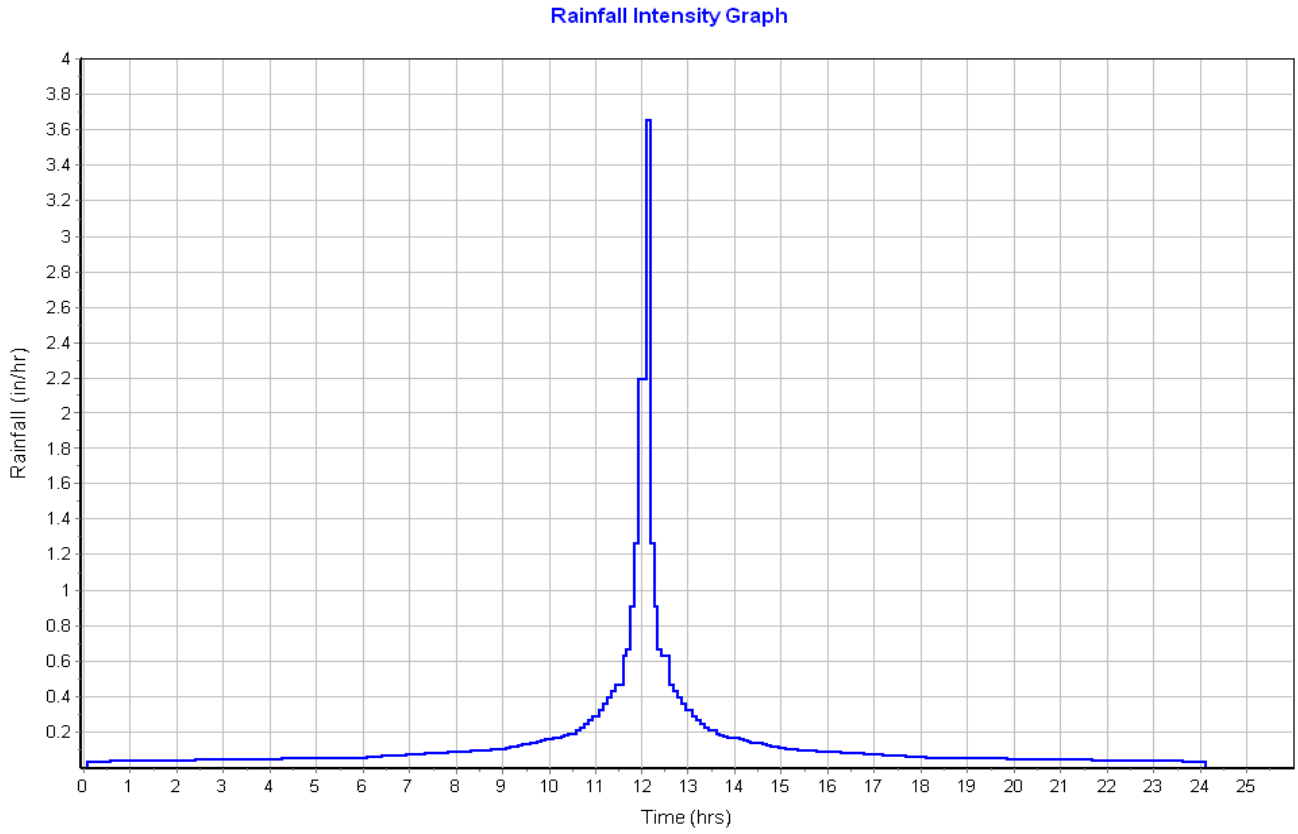
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	278.80	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.32	0.00	0.00

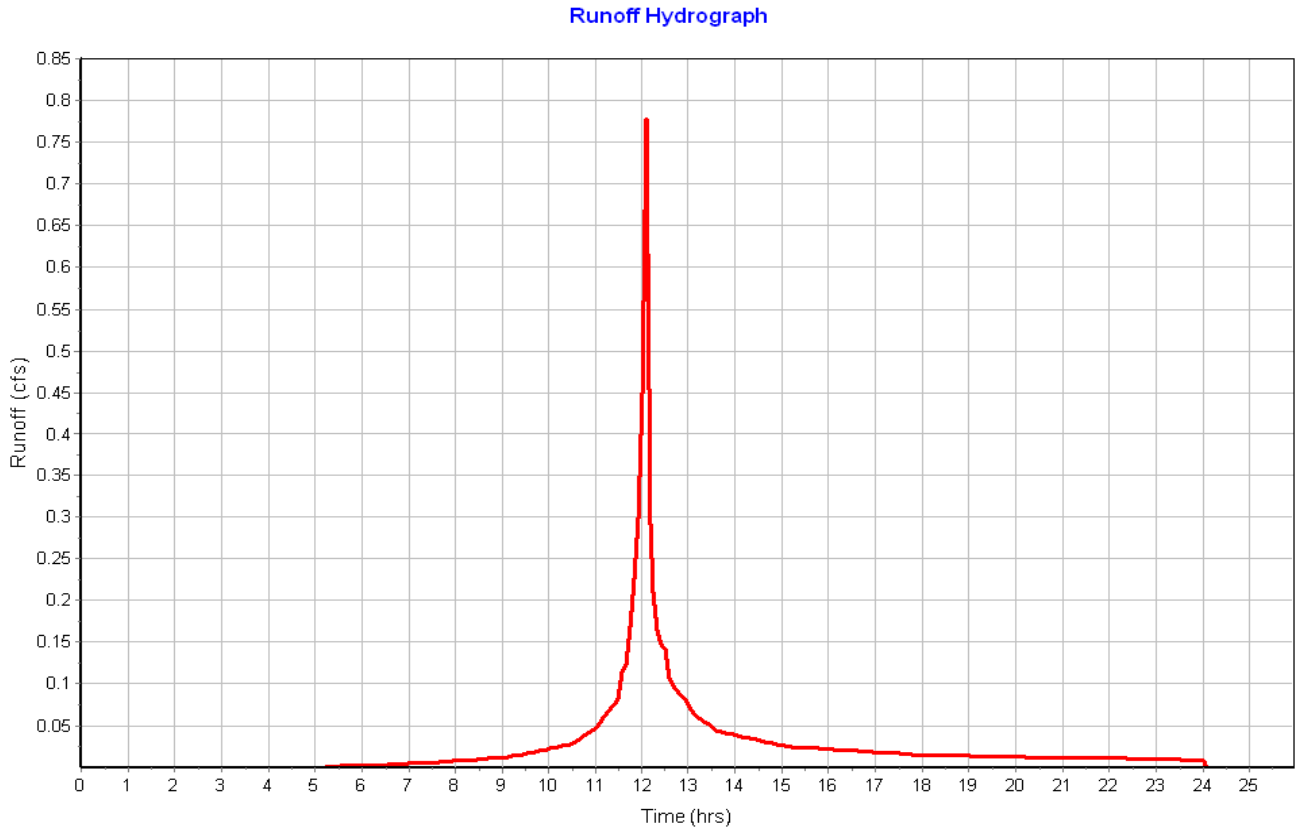
Total TOC (min) 2.20

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	2.48
Peak Runoff (cfs)	0.79
Weighted Curve Number	90.40
Time of Concentration (days hh:mm:ss)	0 00:02:12

Subbasin : Pavement-16





Subbasin : Pavement-17

Input Data

Area (ac)	0.15
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.15	C	98.00
Composite Area & Weighted CN	0.15		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	135.74	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.58	0.00	0.00
Computed Flow Time (min) :	1.43	0.00	0.00

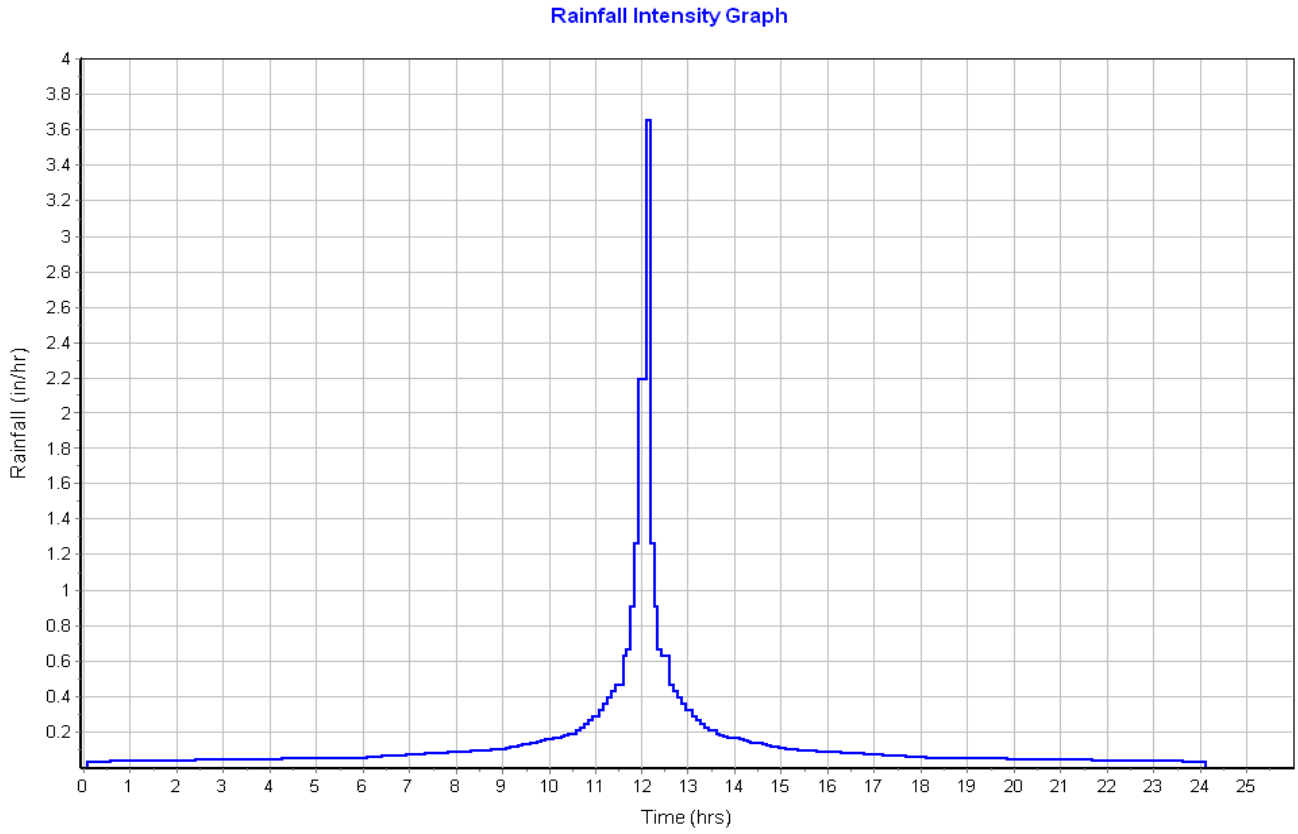
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	257.69	0.00	0.00
Slope (%) :	2.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.10	0.00	0.00
Computed Flow Time (min) :	1.39	0.00	0.00

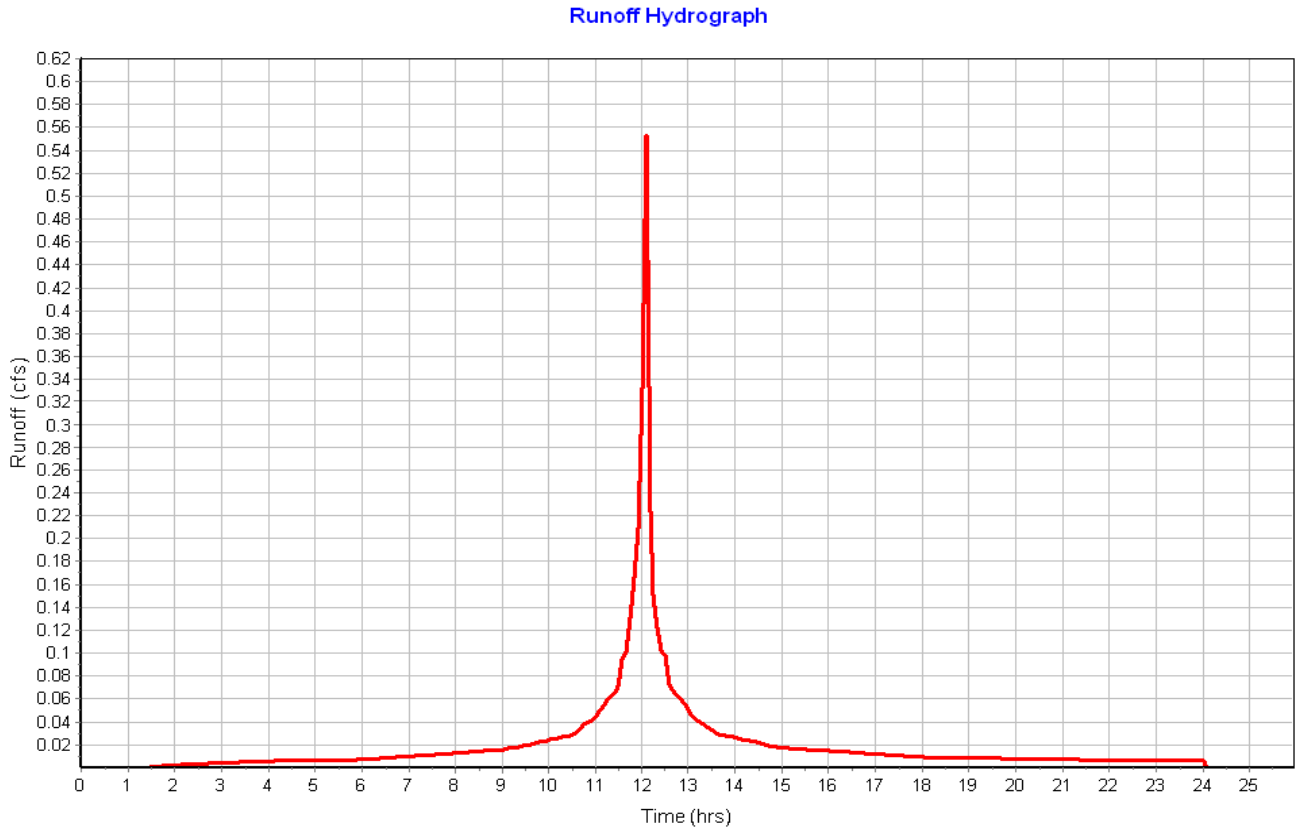
Total TOC (min) 2.82

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.27
Peak Runoff (cfs)	0.56
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:49

Subbasin : Pavement-17





Subbasin : Pavement-18

Input Data

Area (ac)	0.11
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.62	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

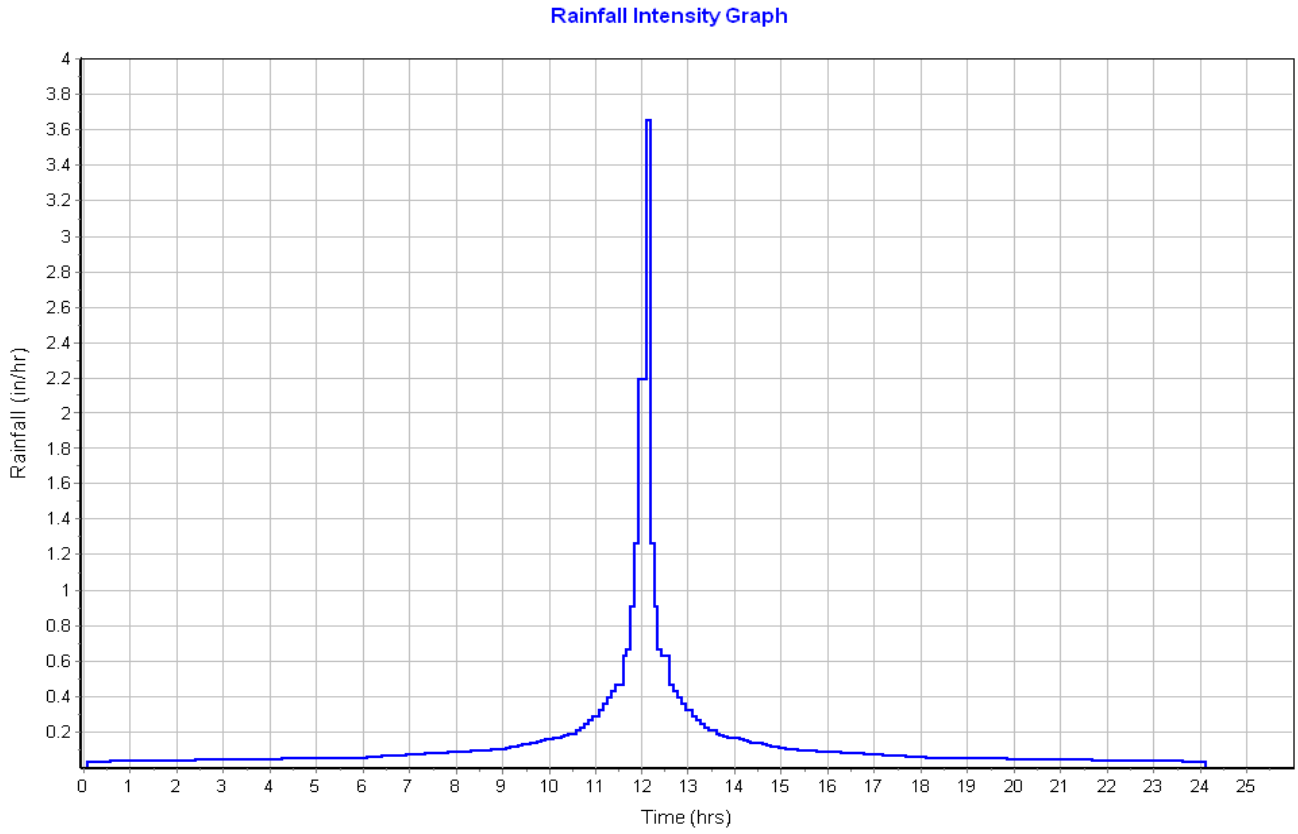
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	382.38	0.00	0.00
Slope (%) :	2.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.95	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

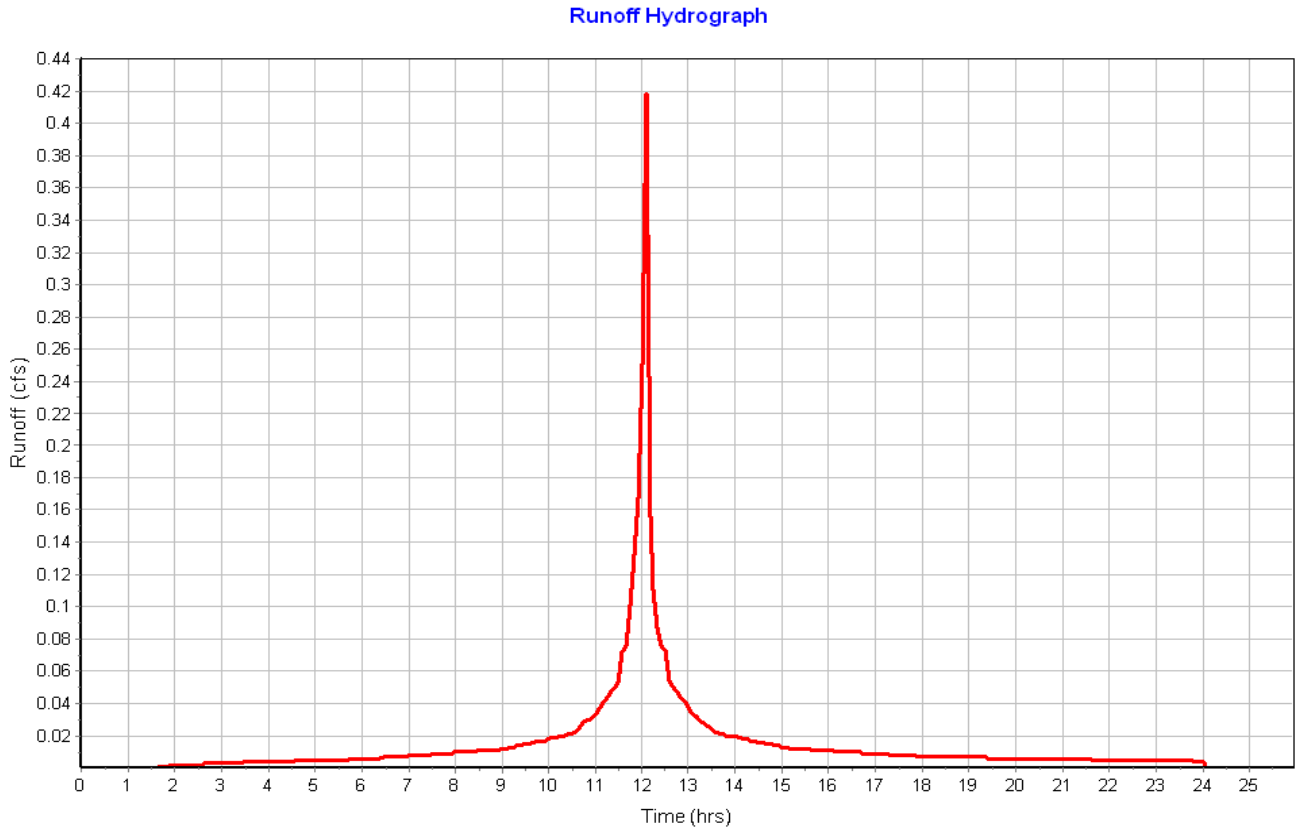
Total TOC (min) 2.37

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.42
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:22

Subbasin : Pavement-18





Subbasin : Pavement-19

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	27.28	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.15	0.00	0.00
Computed Flow Time (min) :	0.40	0.00	0.00

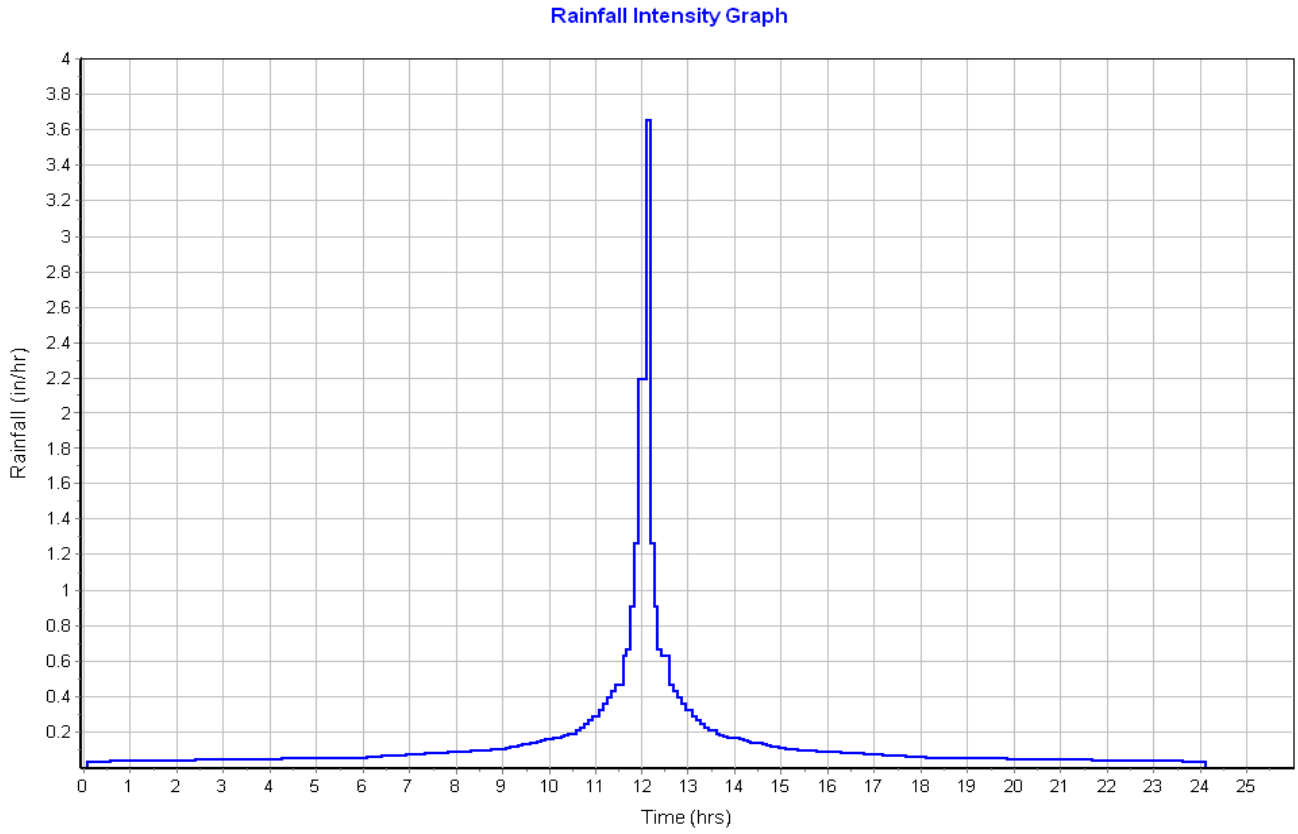
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	112.86	0.00	0.00
Slope (%) :	1.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.65	0.00	0.00
Computed Flow Time (min) :	0.71	0.00	0.00

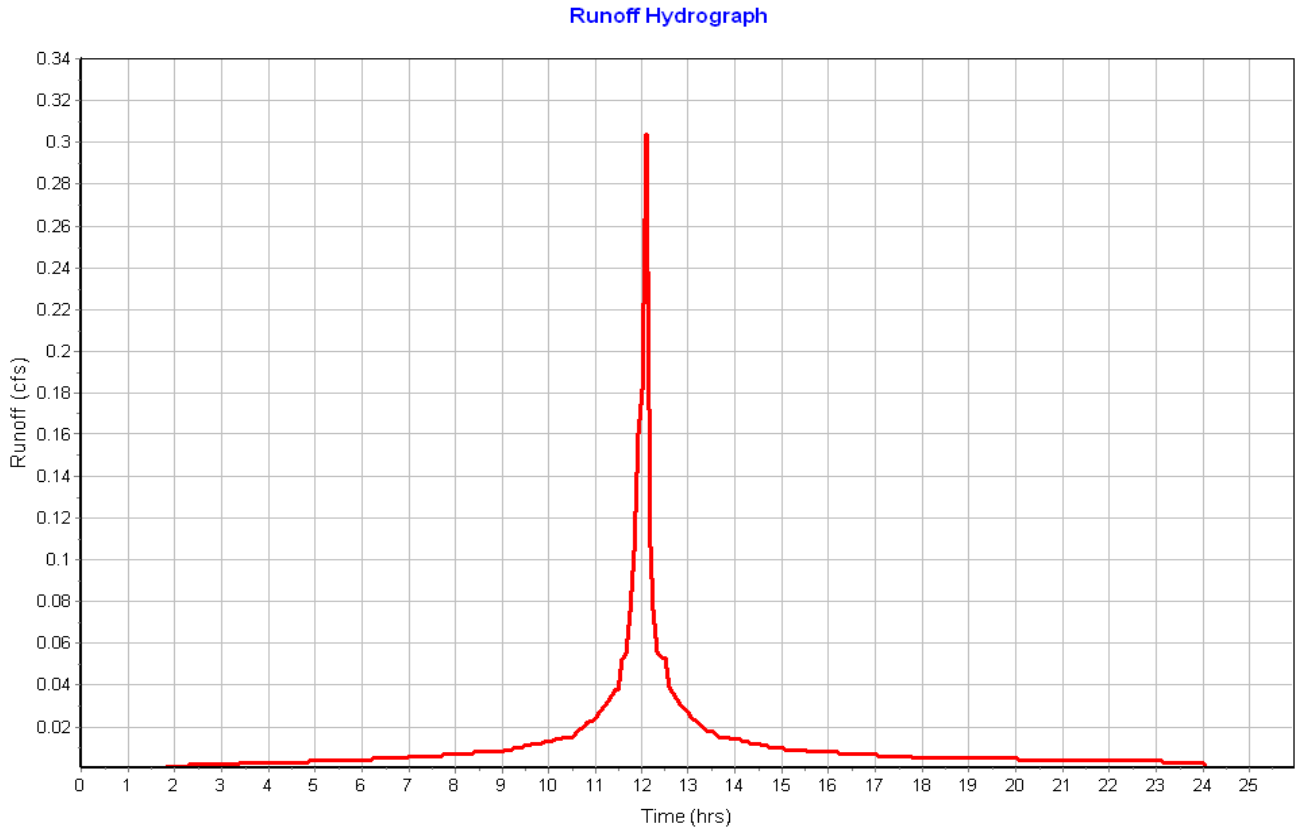
Total TOC (min) 1.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.30
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:07

Subbasin : Pavement-19





Subbasin : Roof-01

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

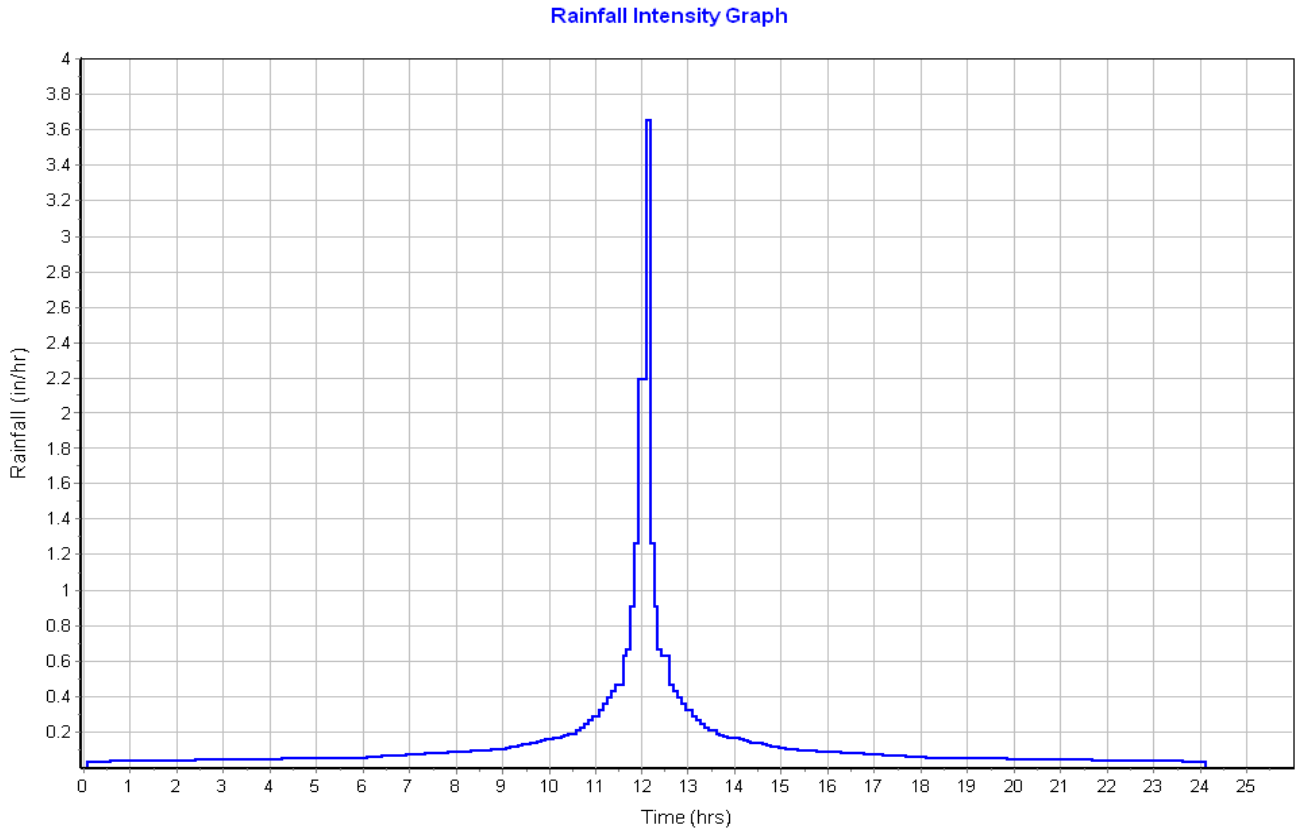
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

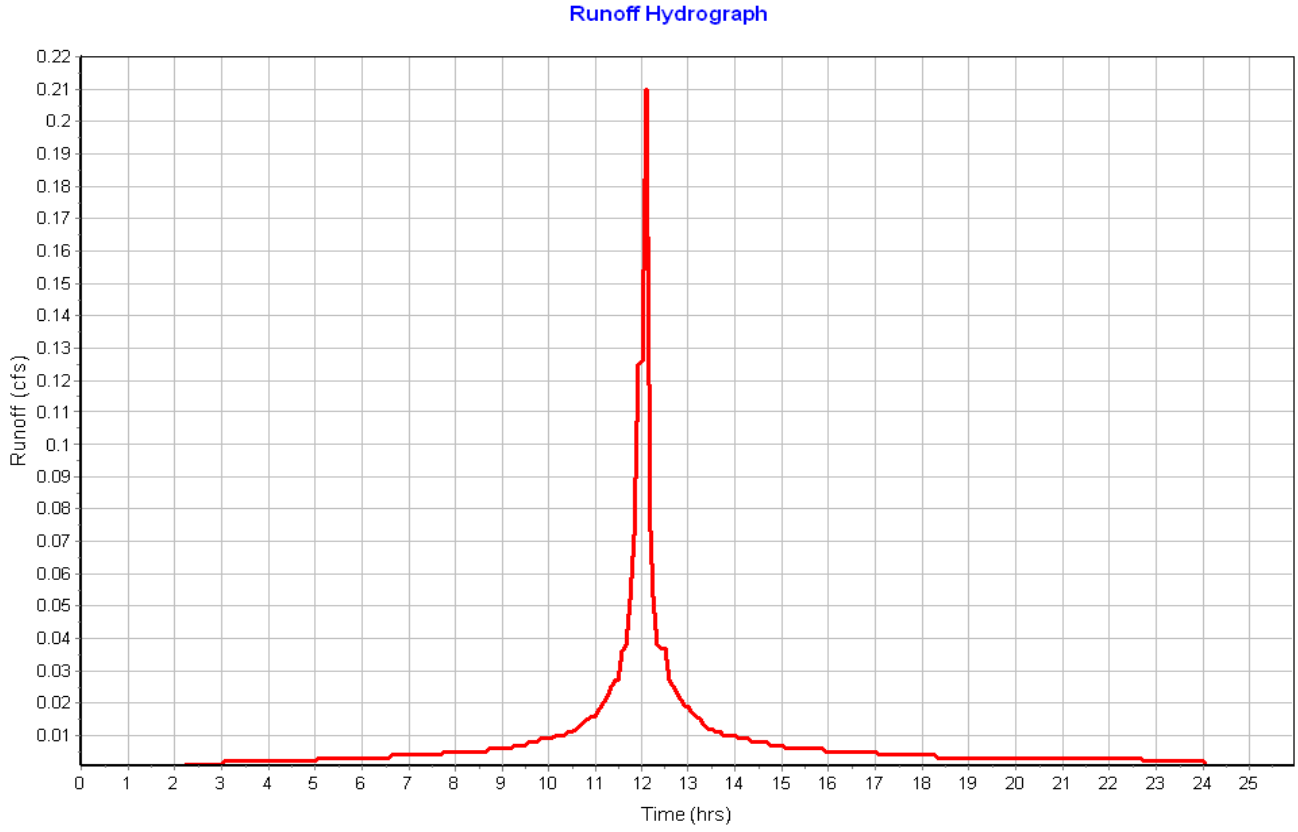
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-01





Subbasin : Roof-02

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

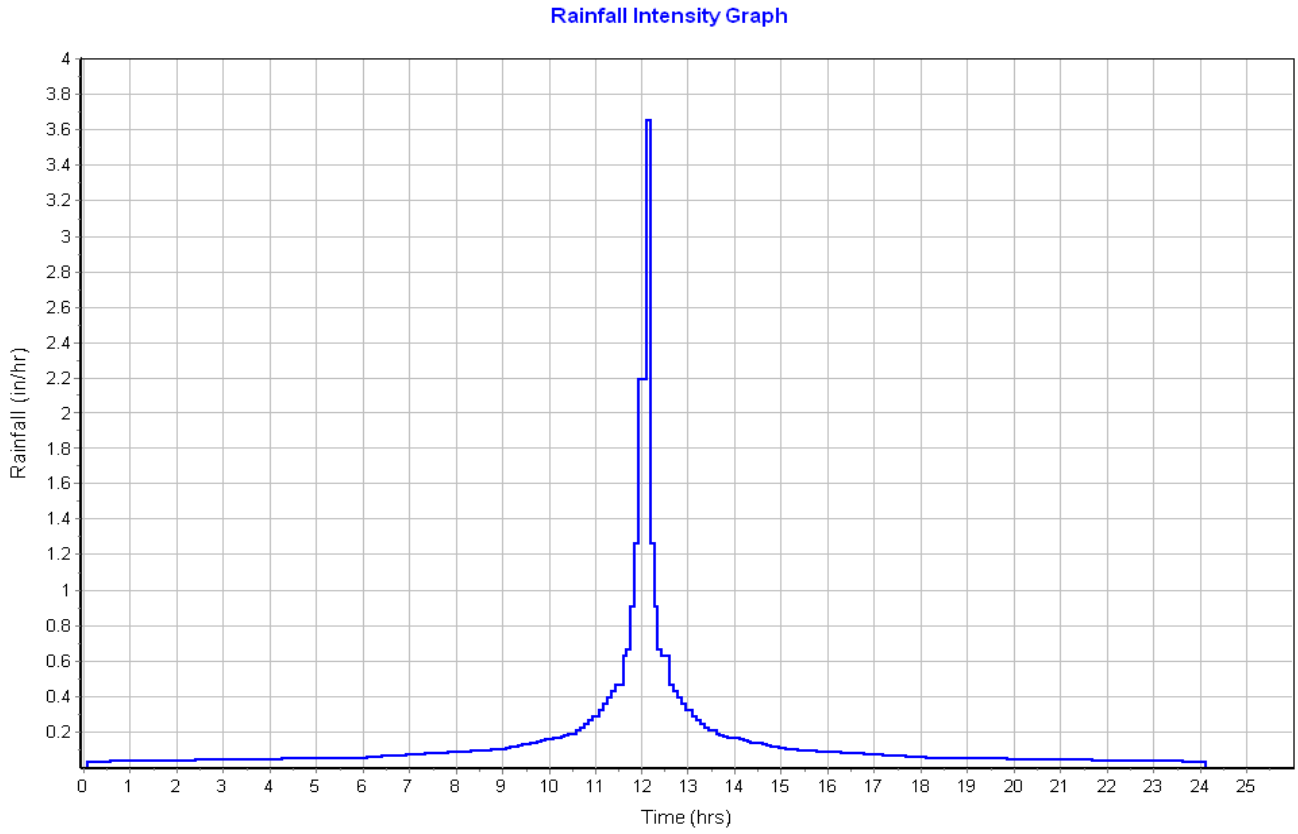
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

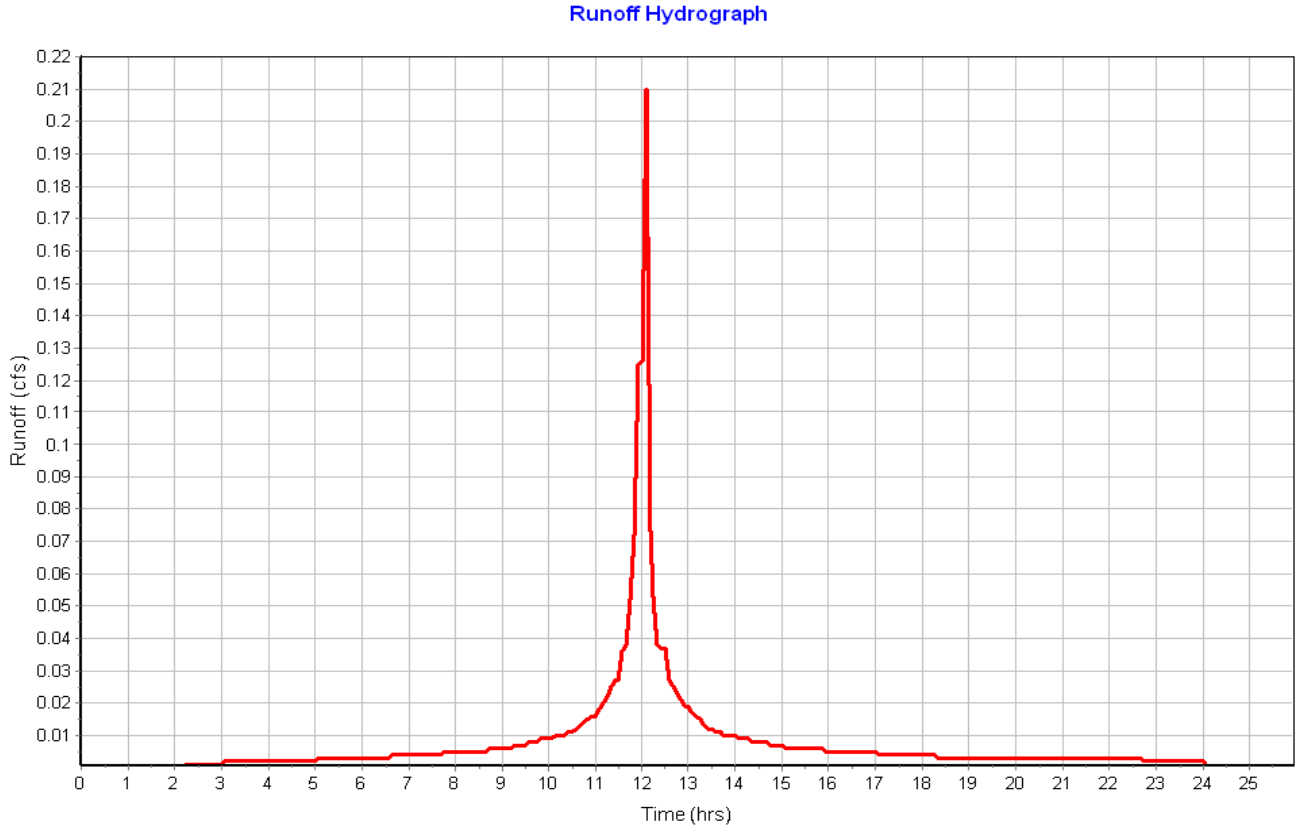
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-02





Subbasin : Roof-03

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

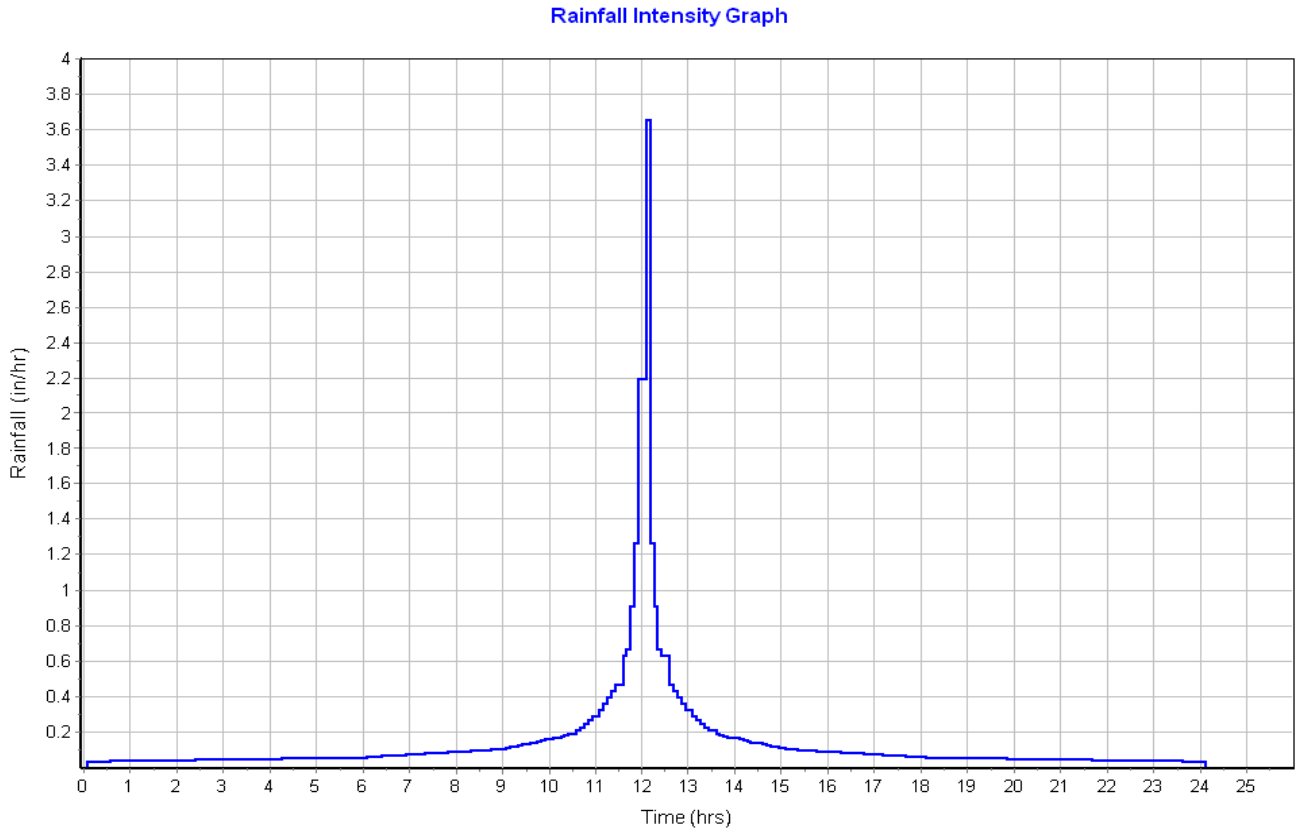
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

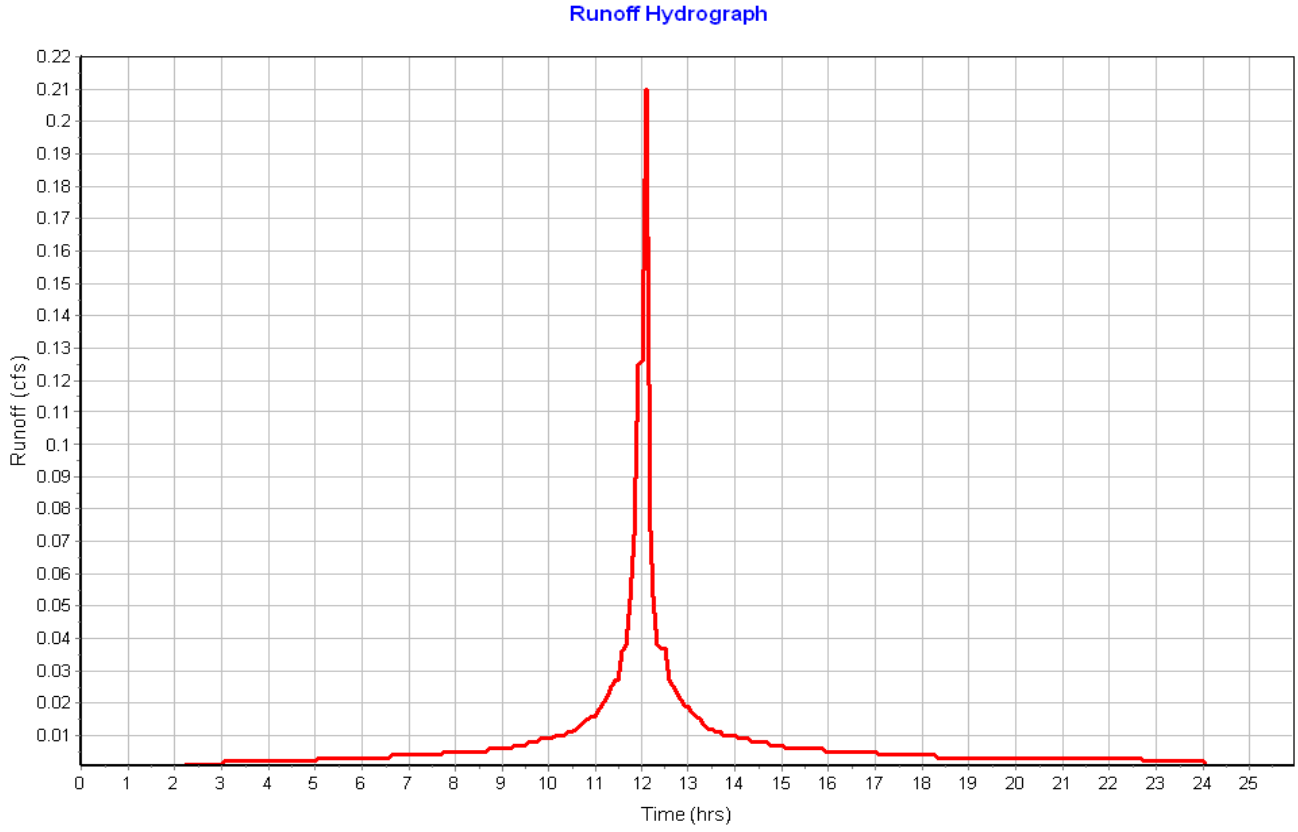
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-03





Subbasin : Roof-04

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

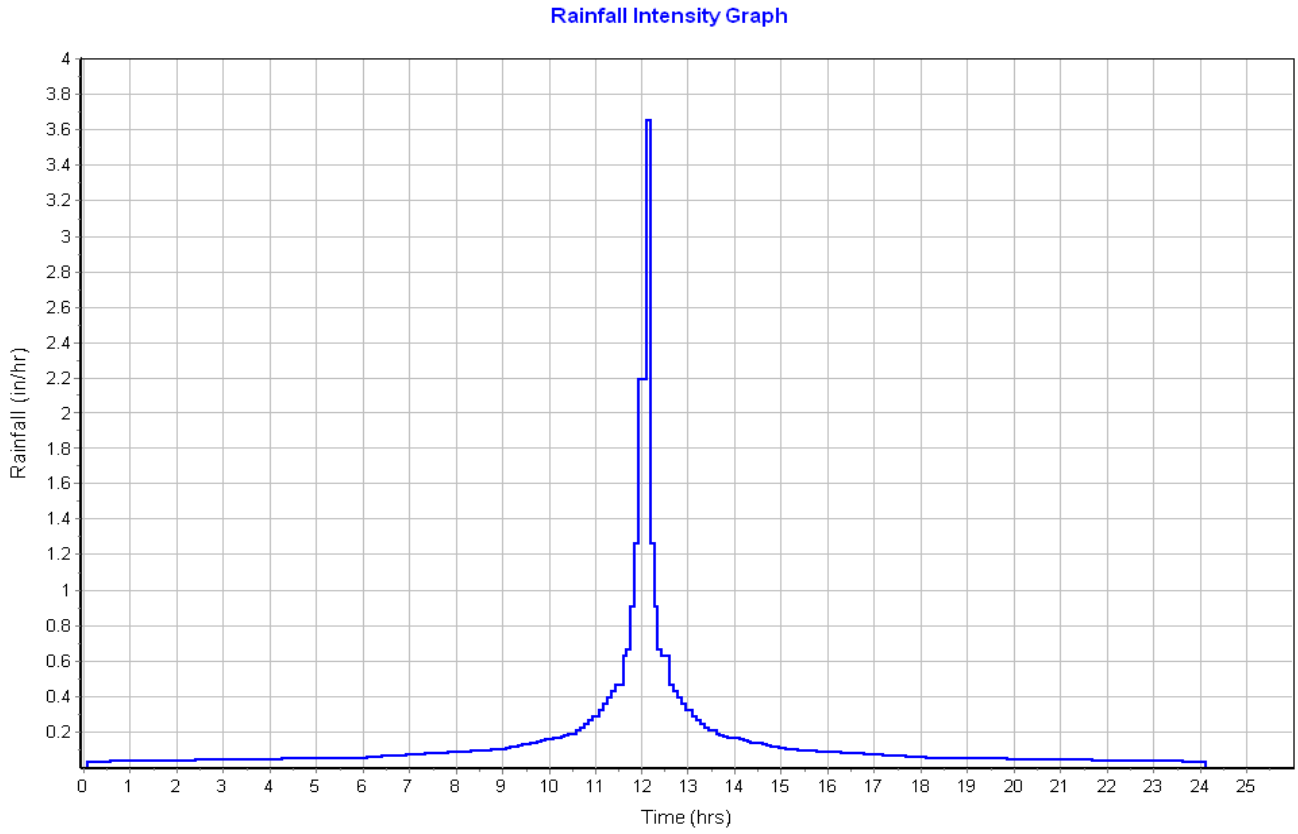
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

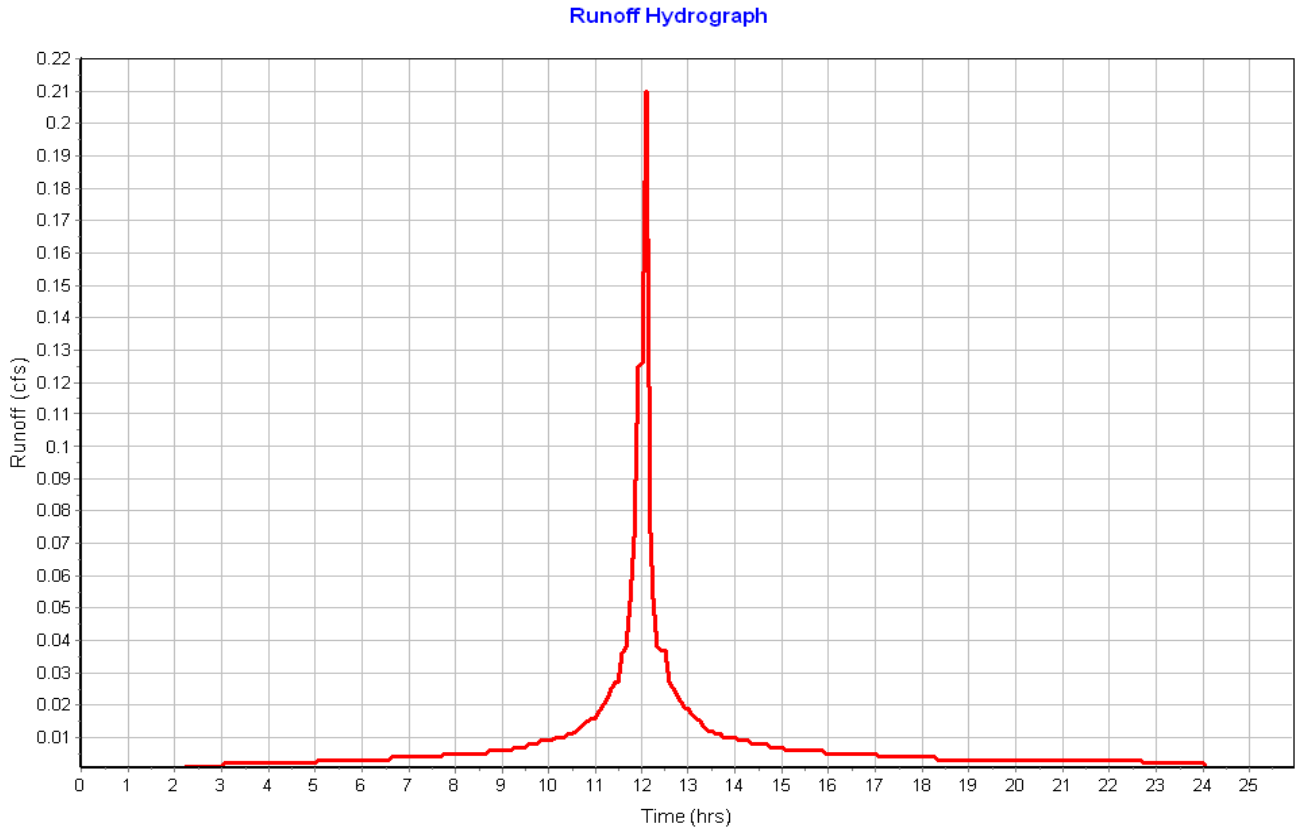
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-04





Subbasin : Roof-05

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

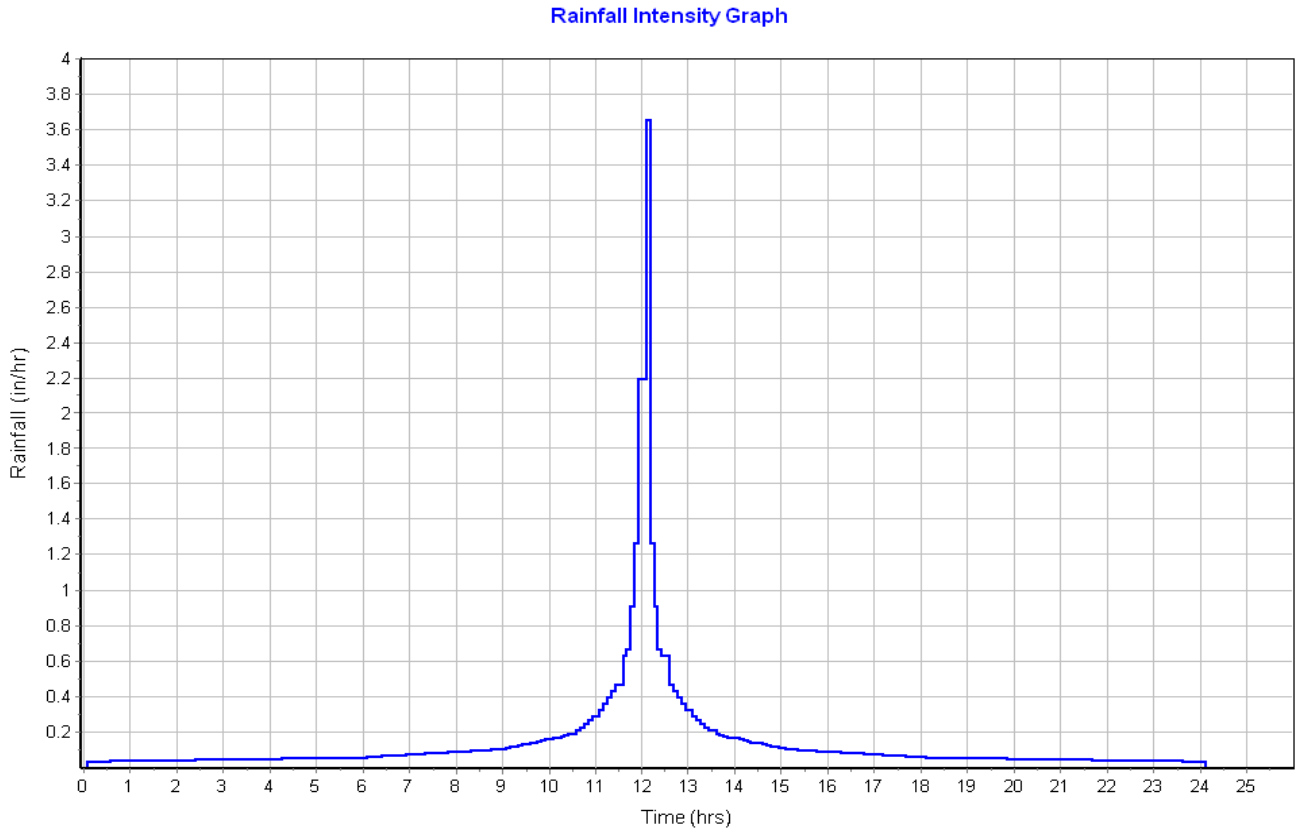
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

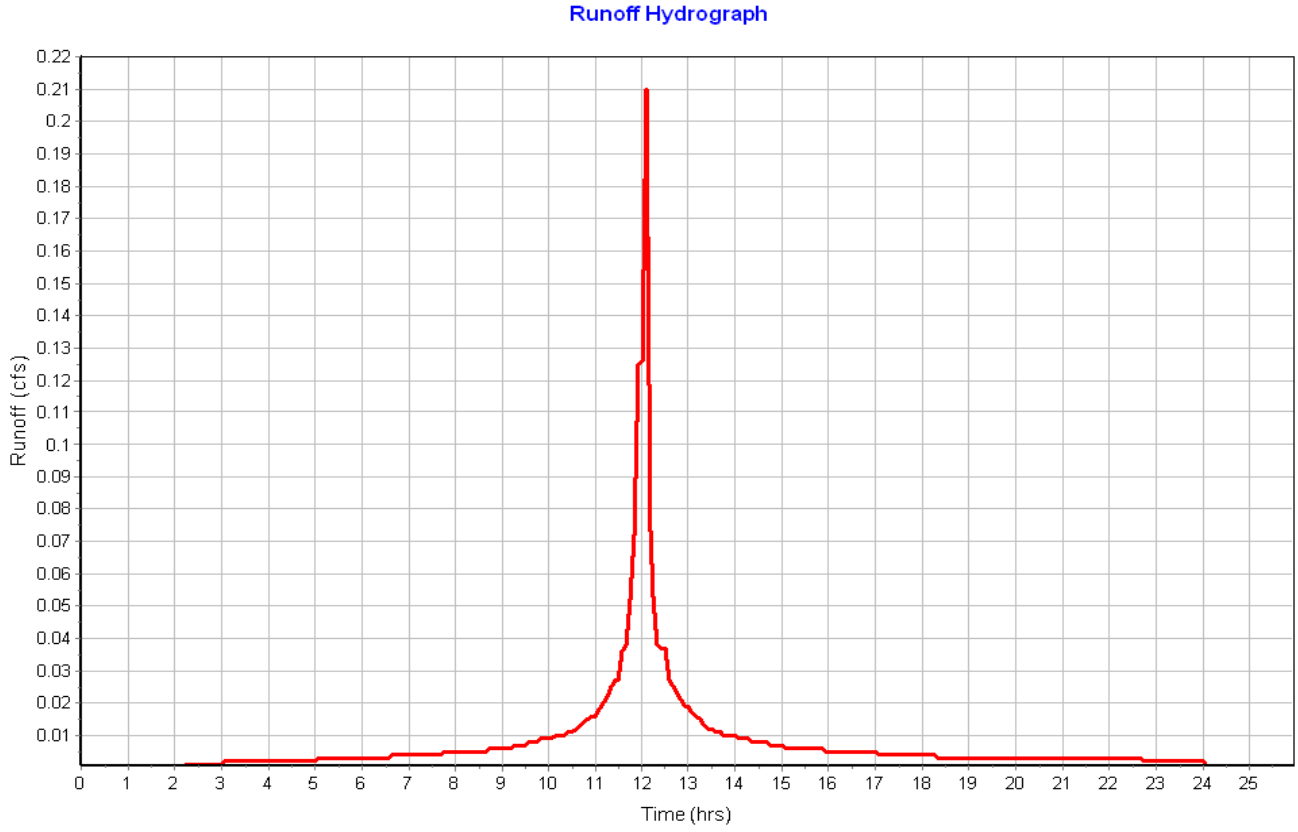
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-05





Subbasin : Roof-06

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

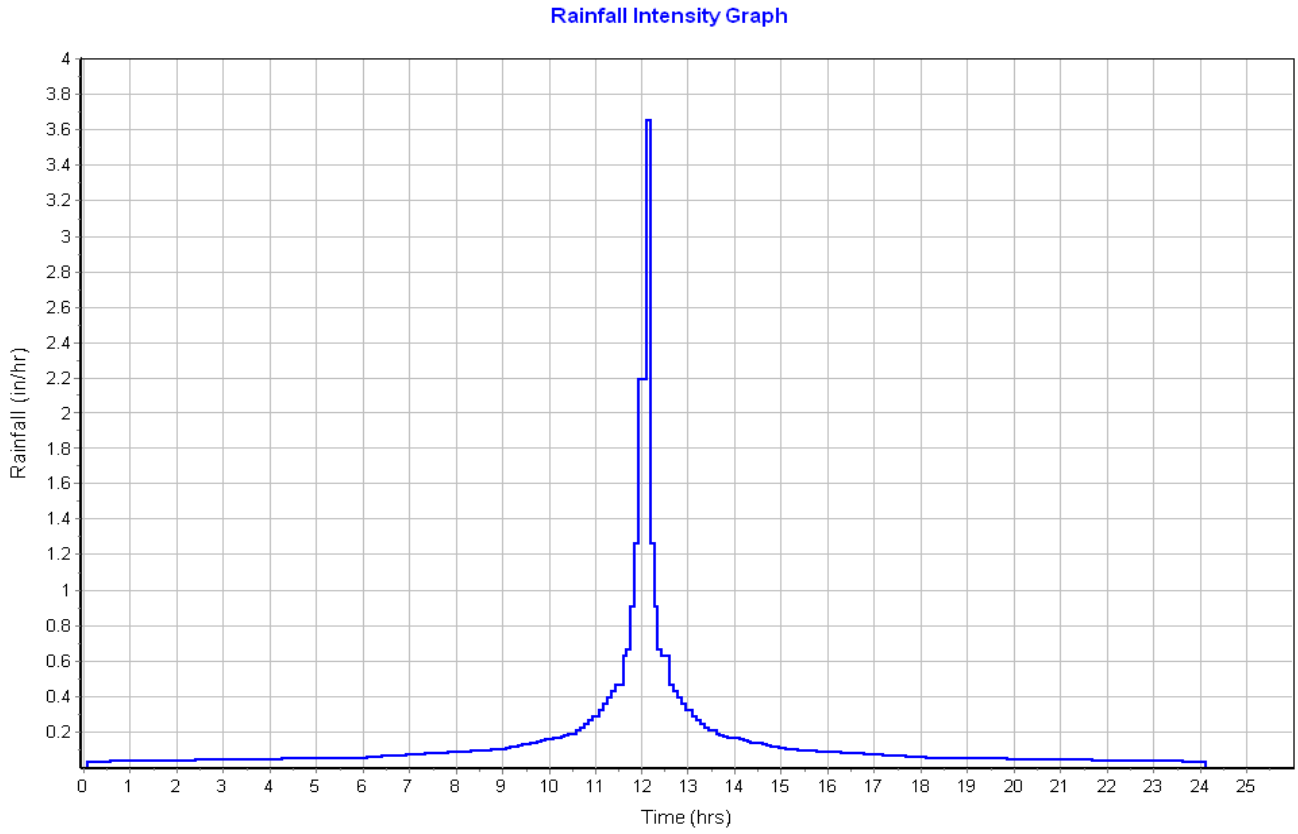
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

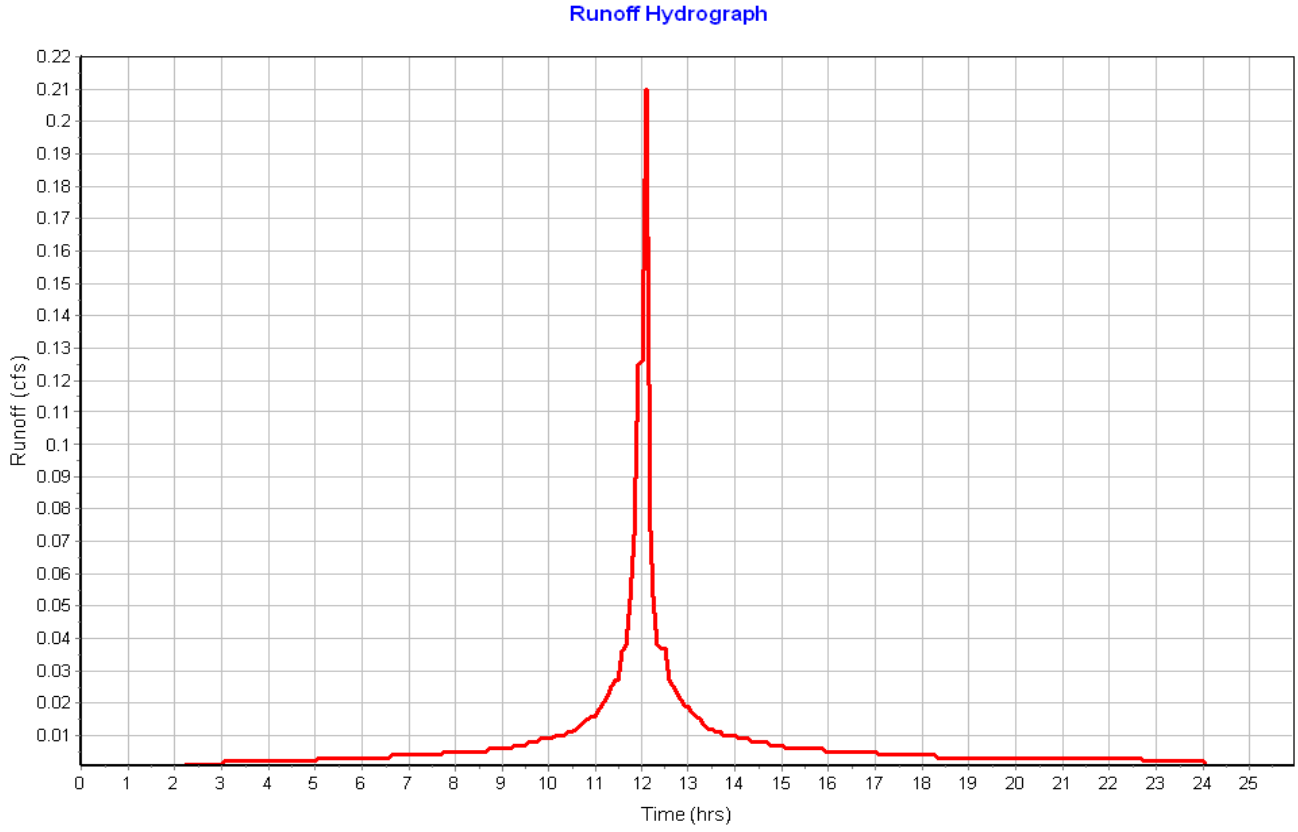
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-06





Subbasin : Roof-07

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

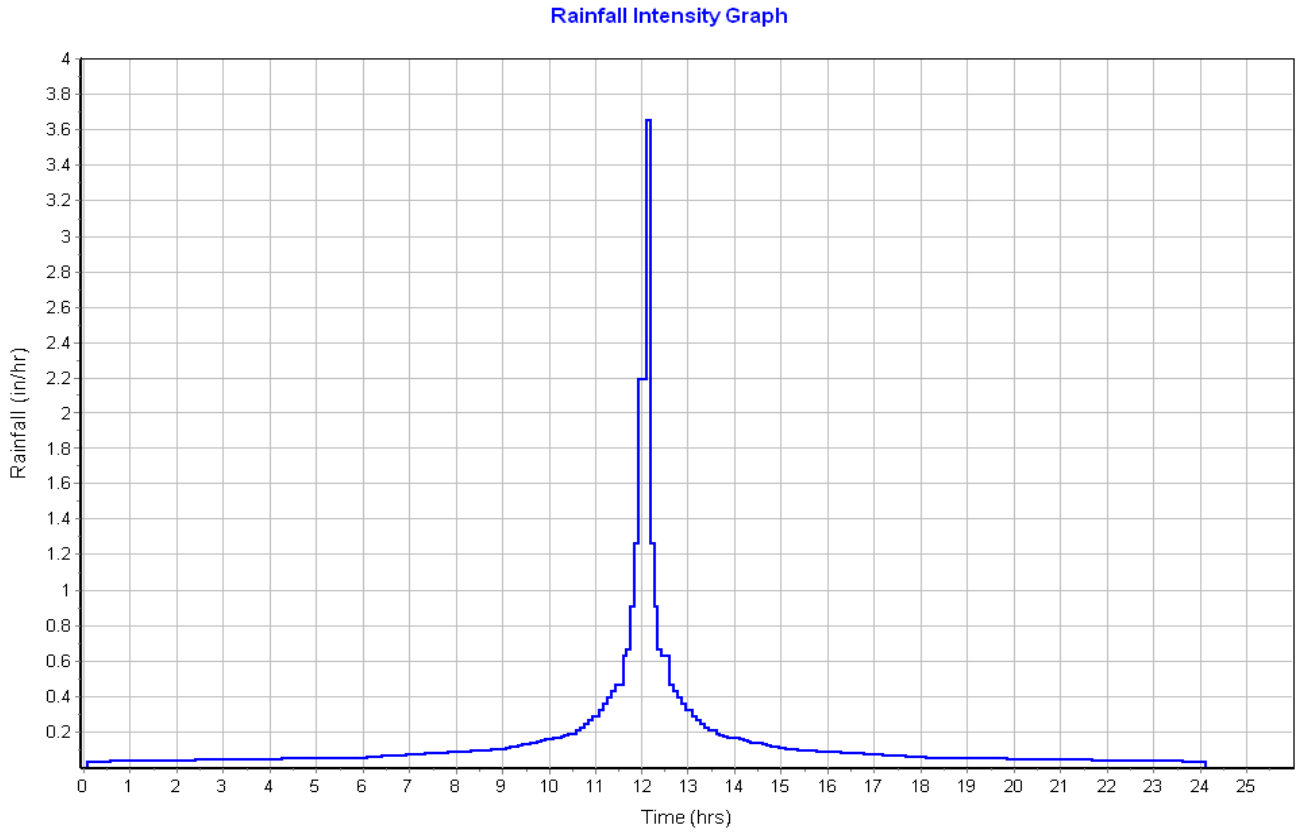
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

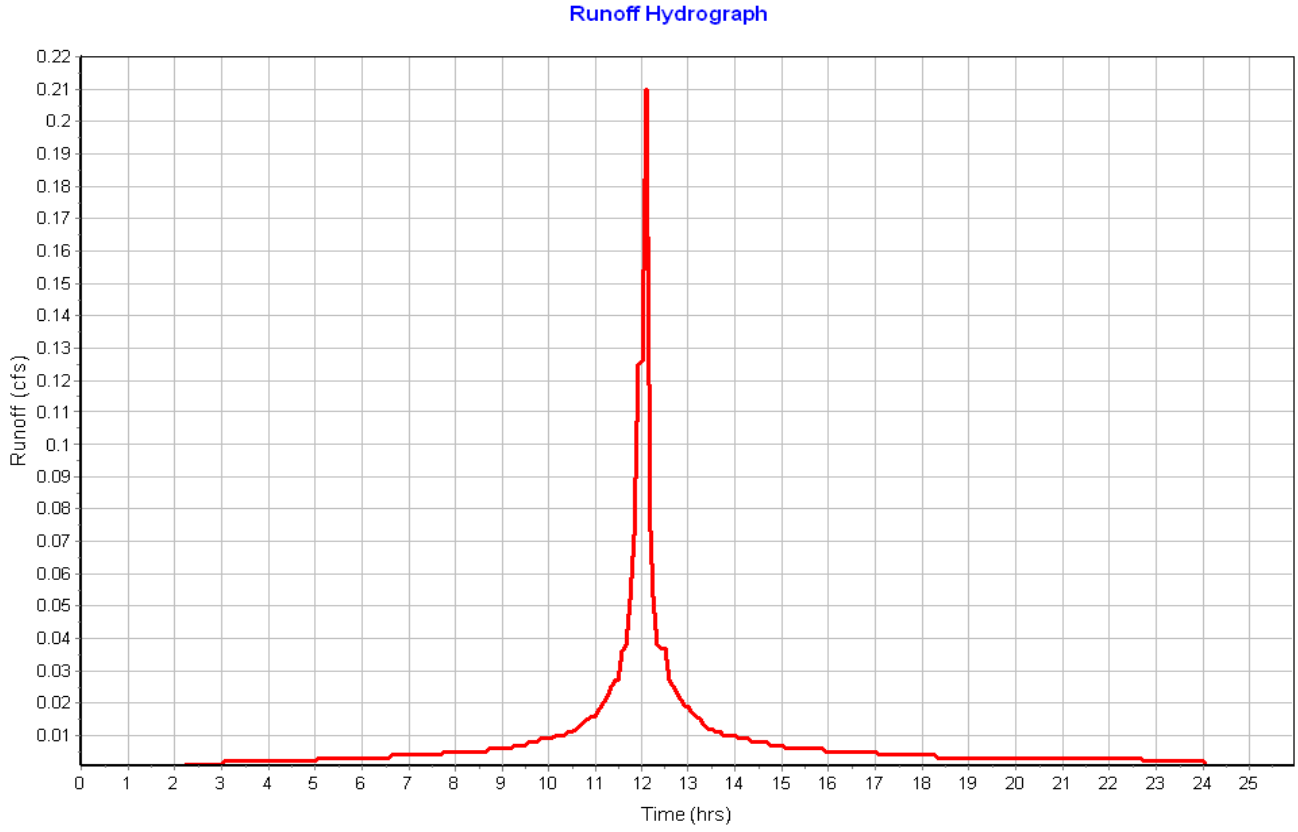
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-07





Subbasin : Roof-08

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

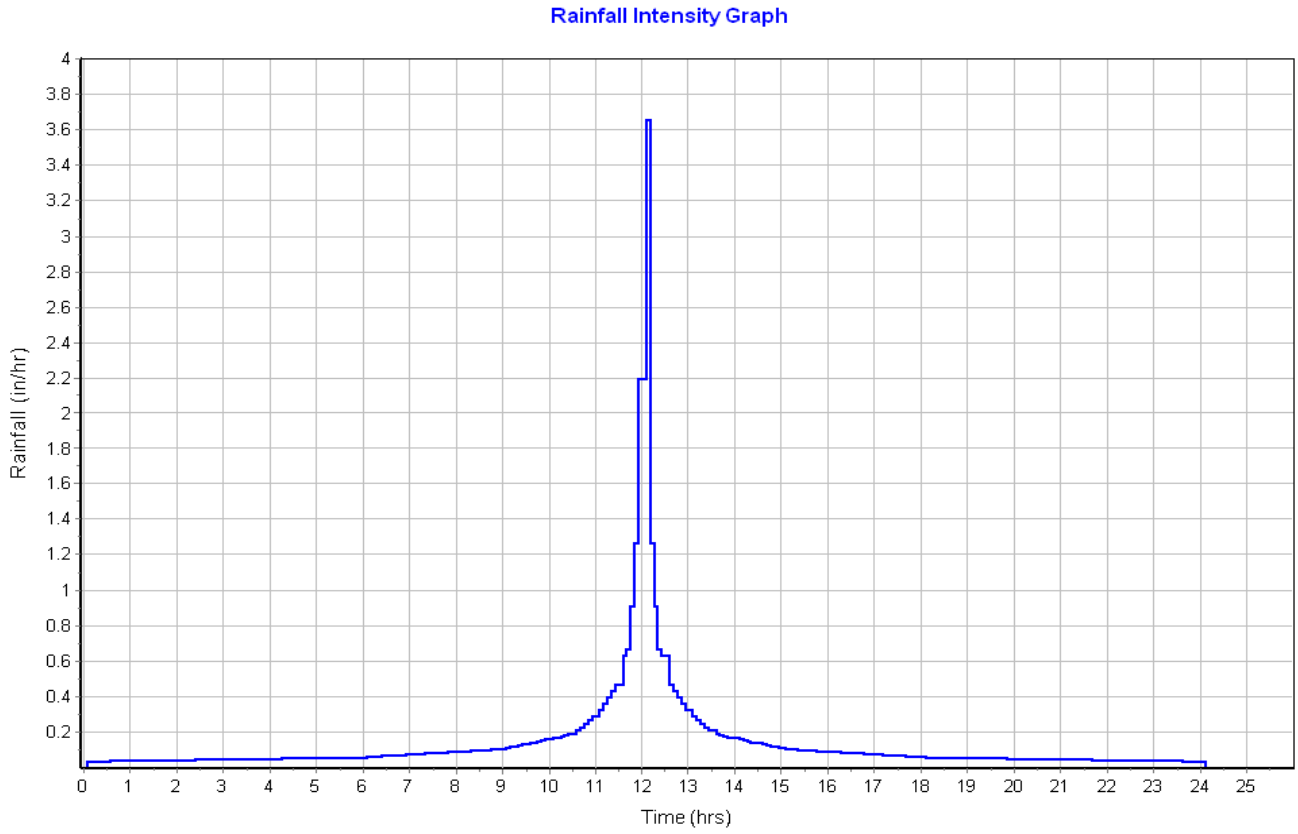
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

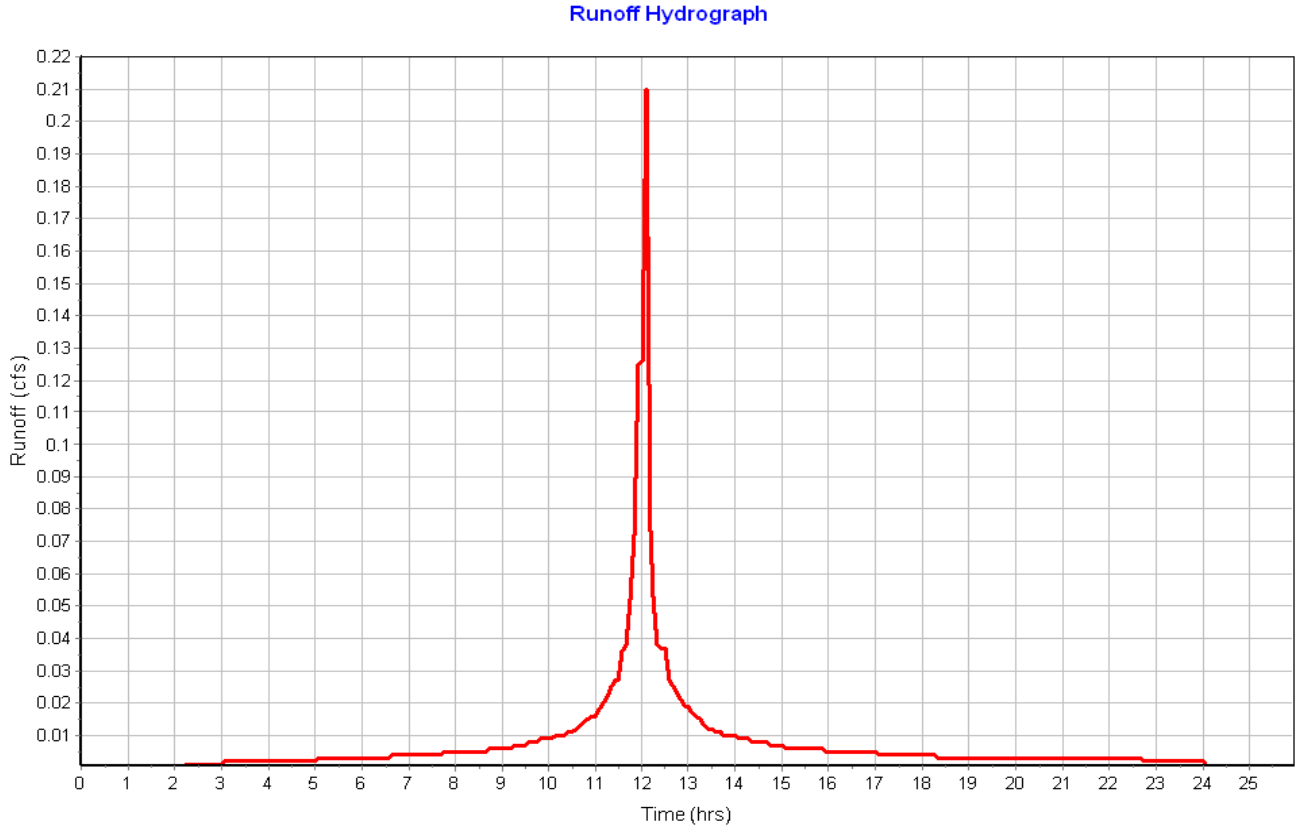
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-08





Subbasin : Roof-09

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

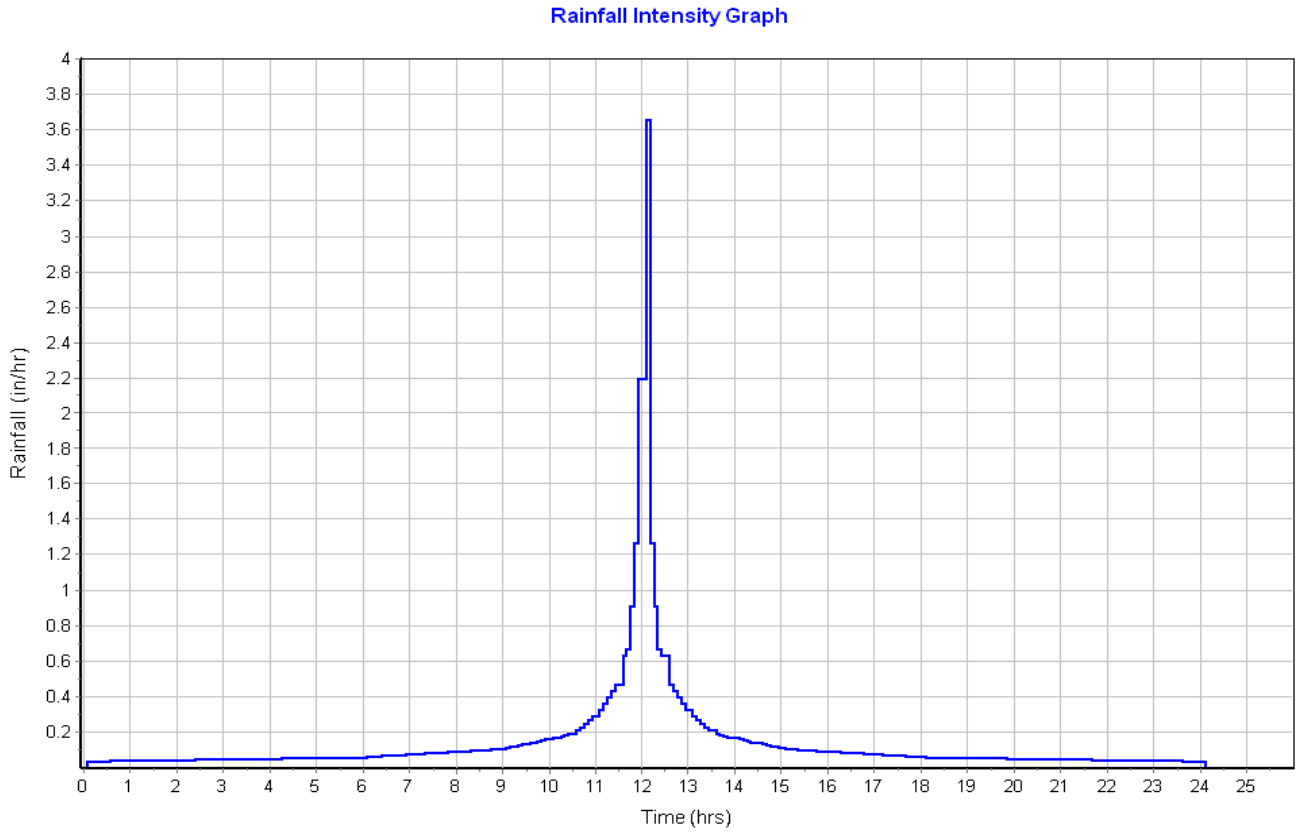
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

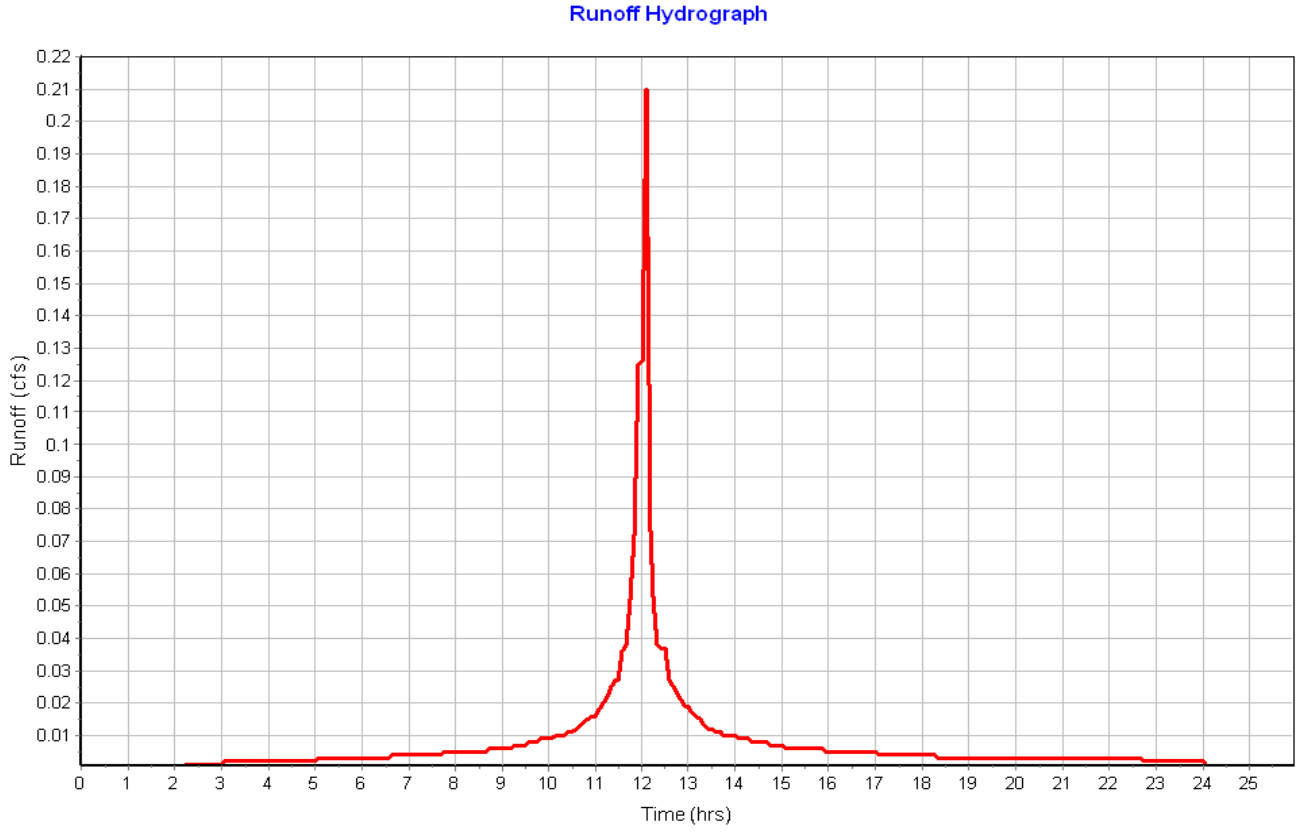
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-09





Subbasin : Roof-10

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

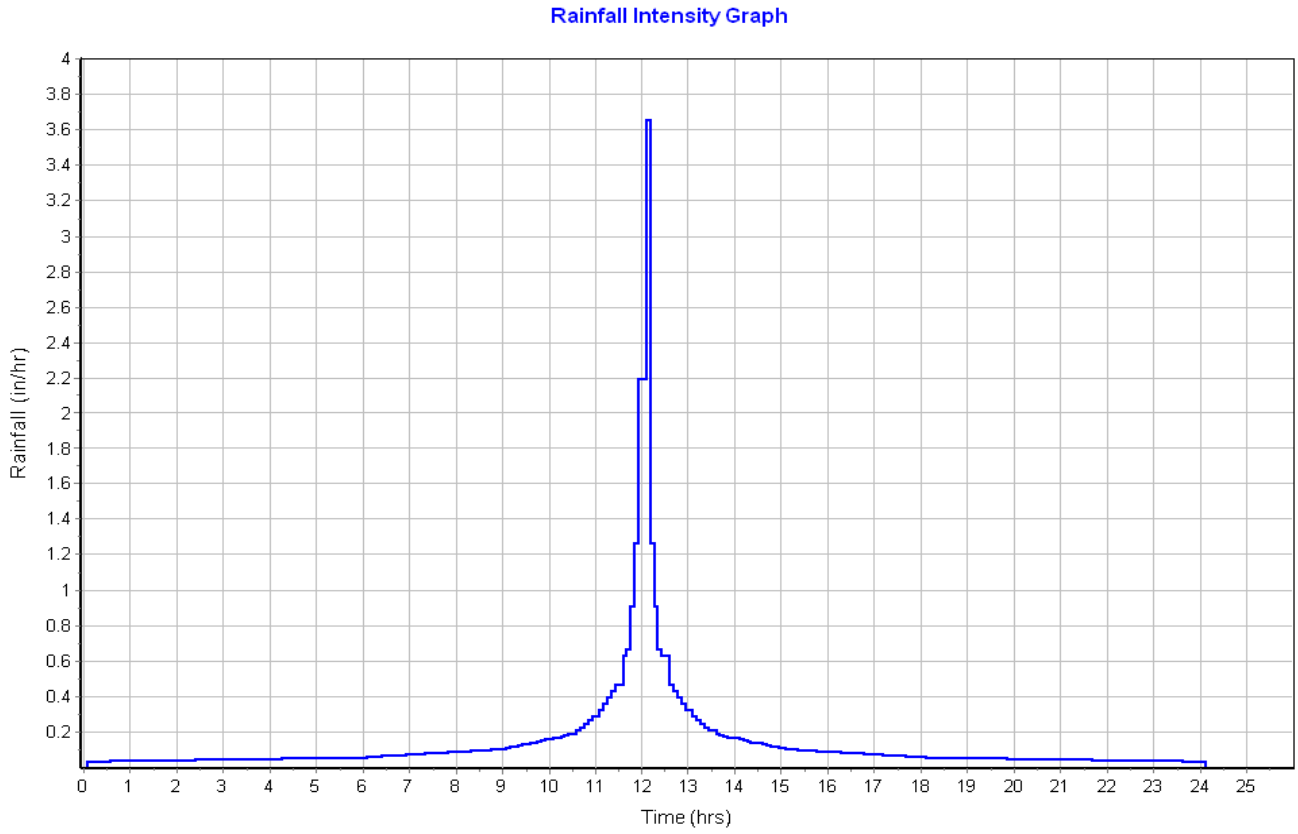
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

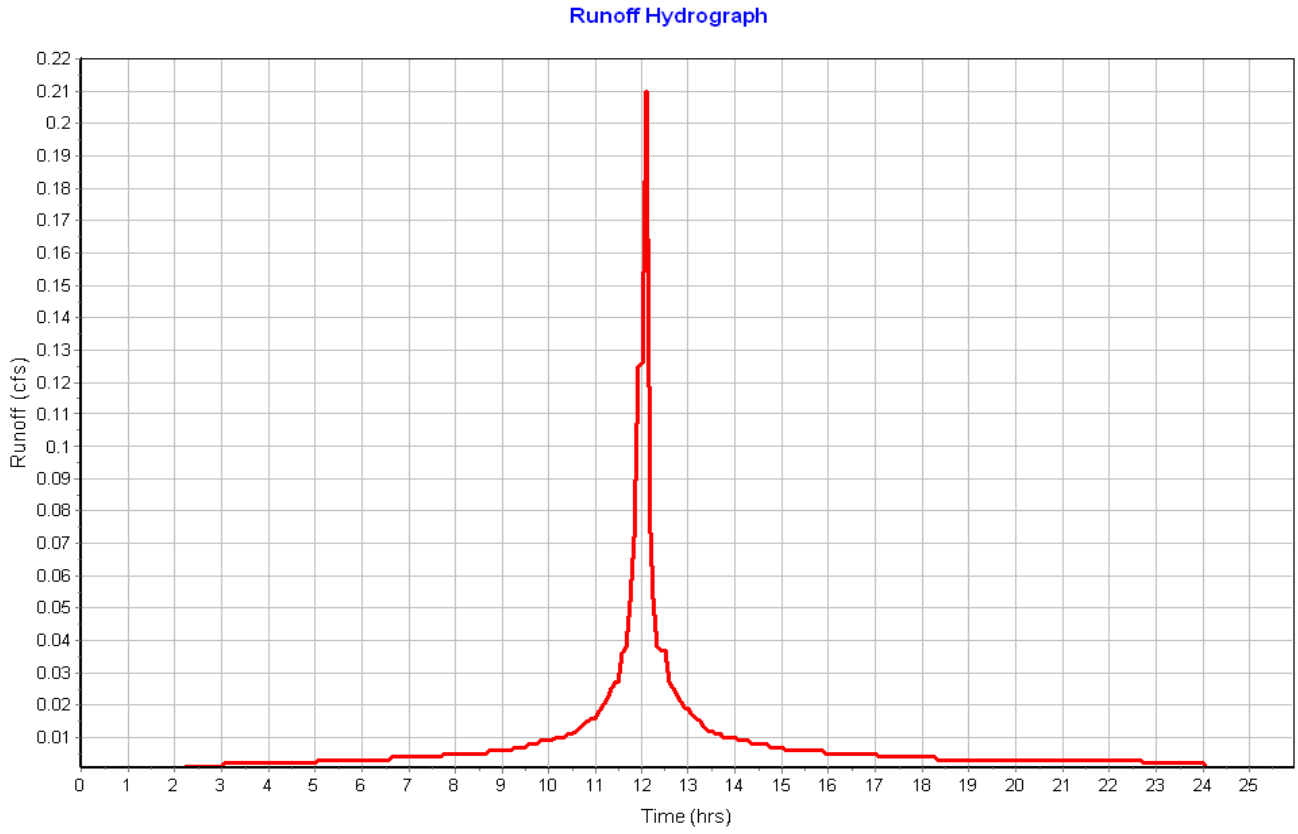
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-10





Subbasin : Roof-11

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

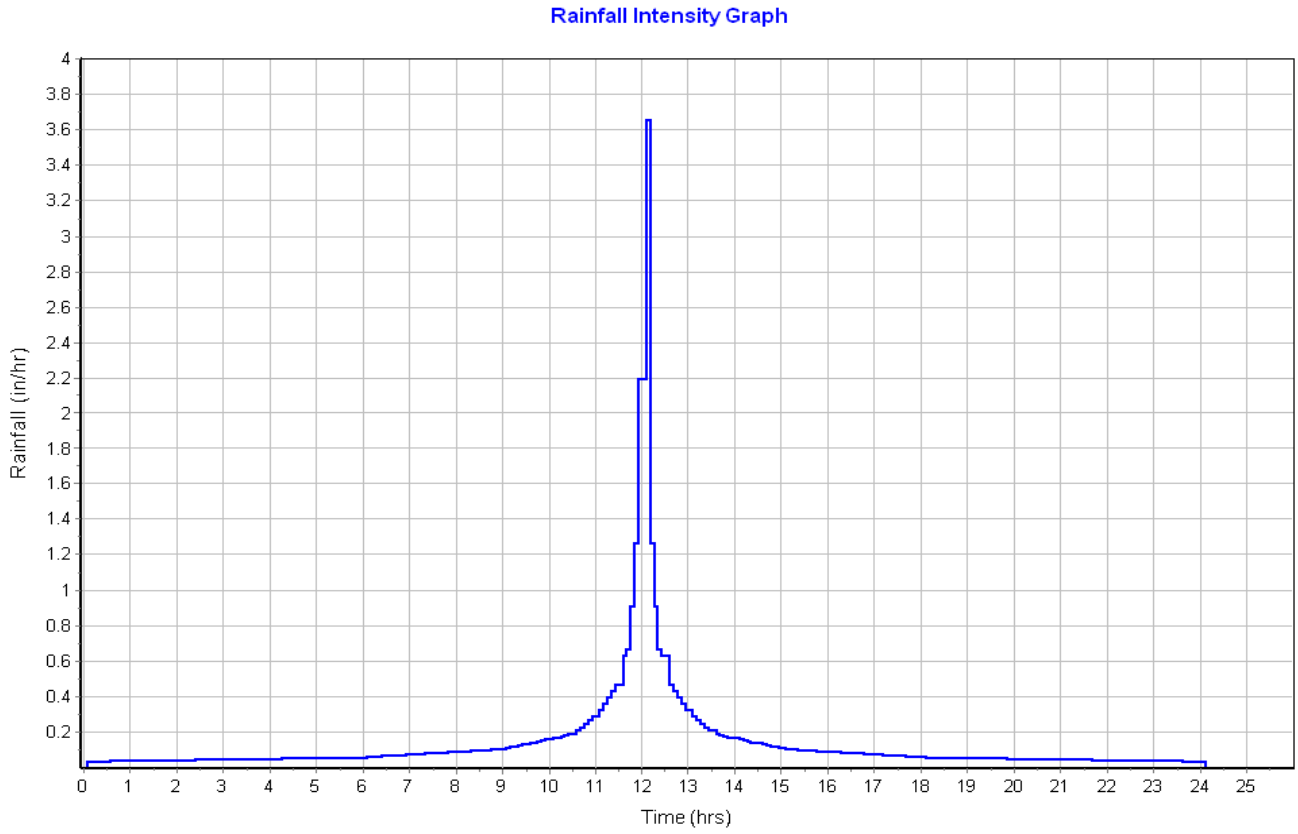
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

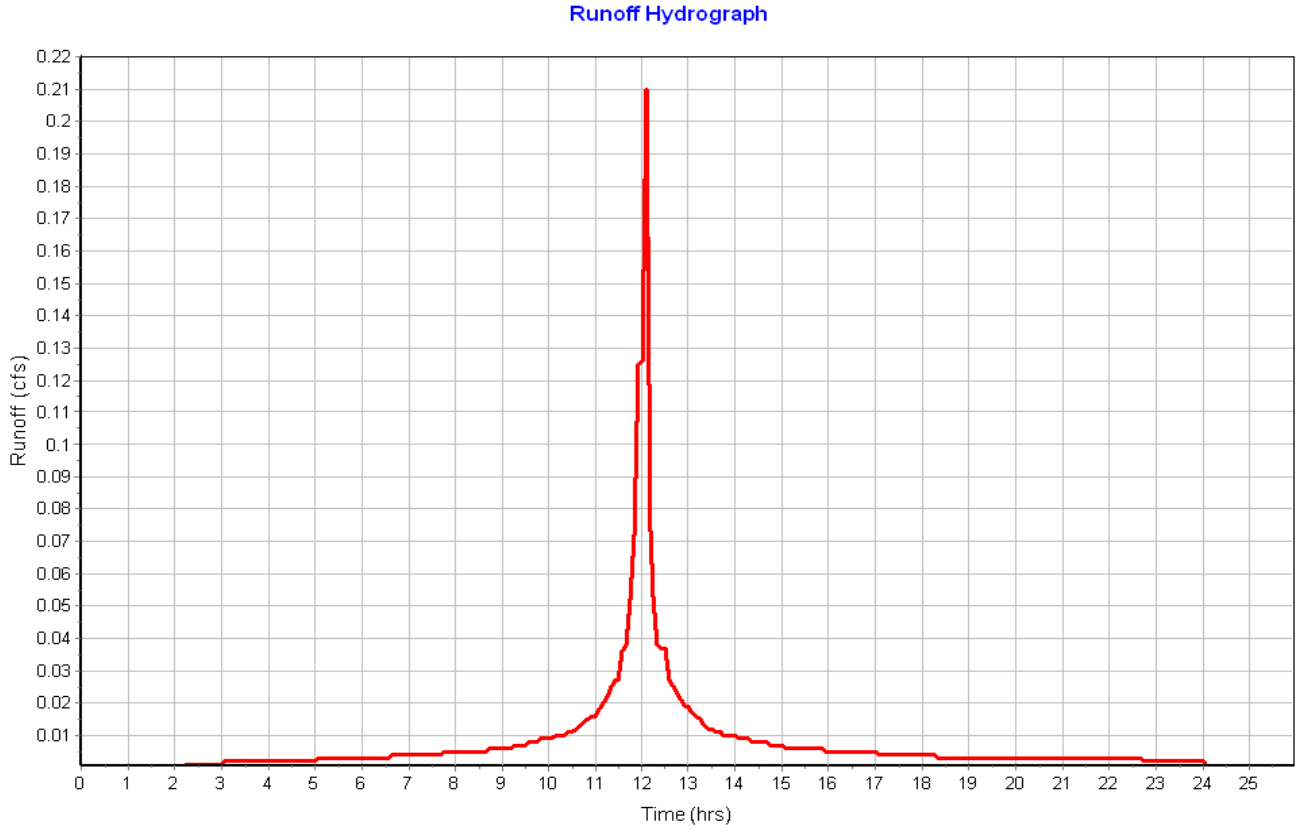
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-11





Subbasin : Roof-12

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

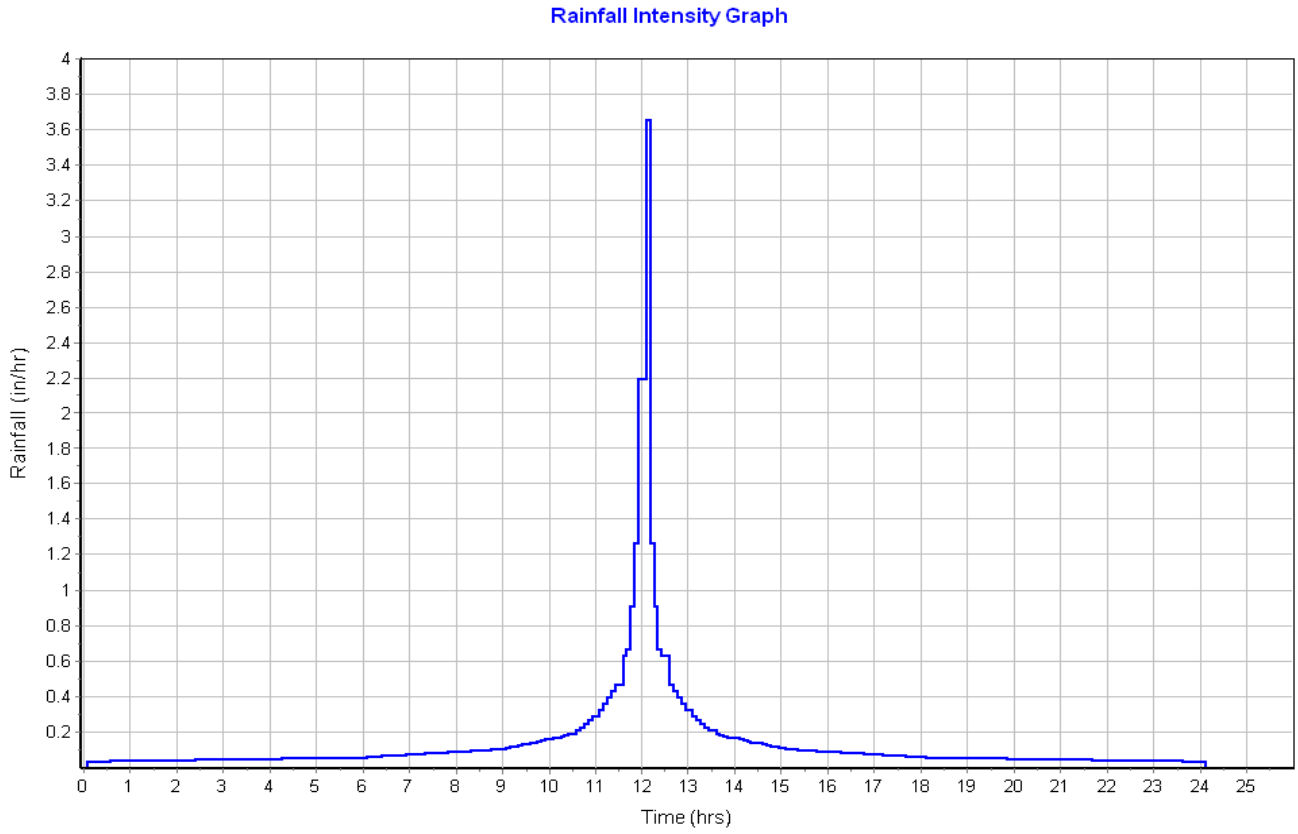
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

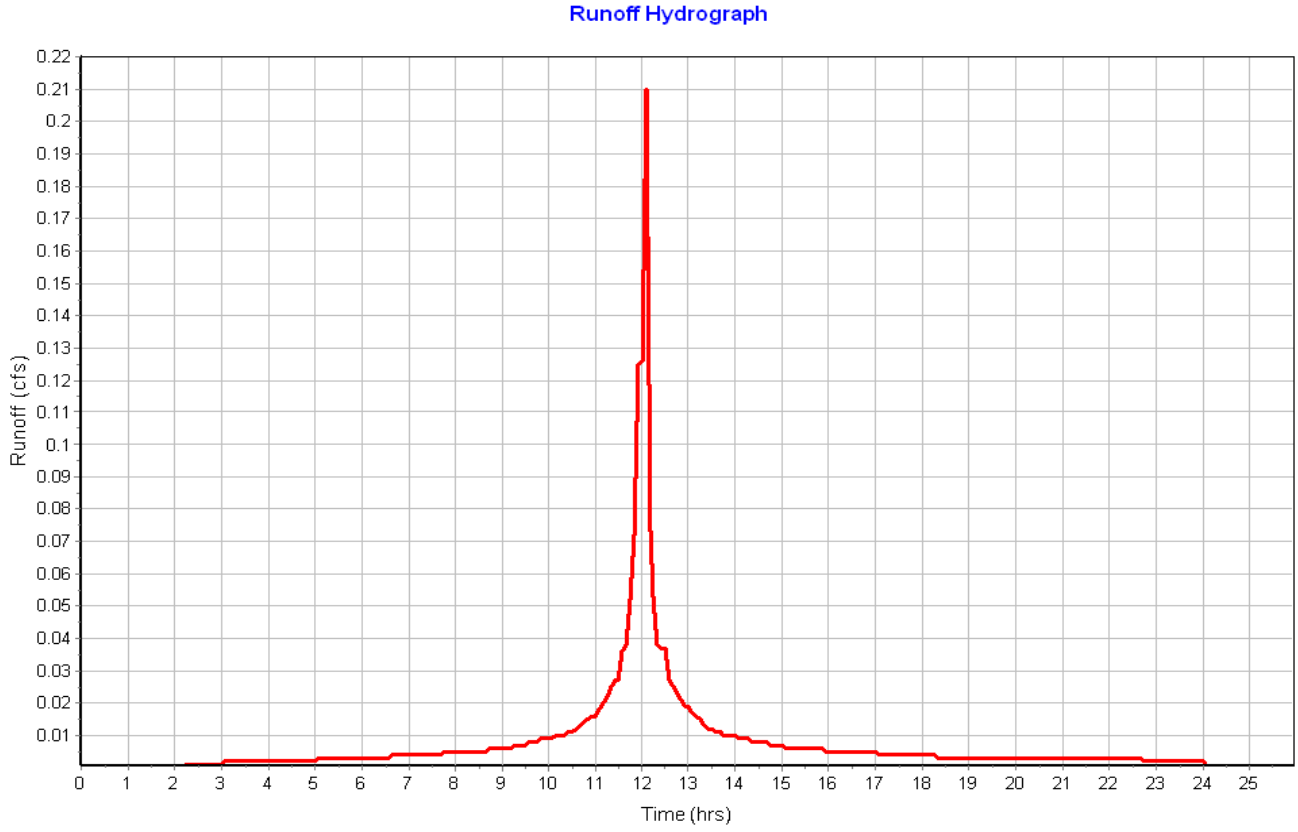
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-12





Subbasin : Roof-13

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

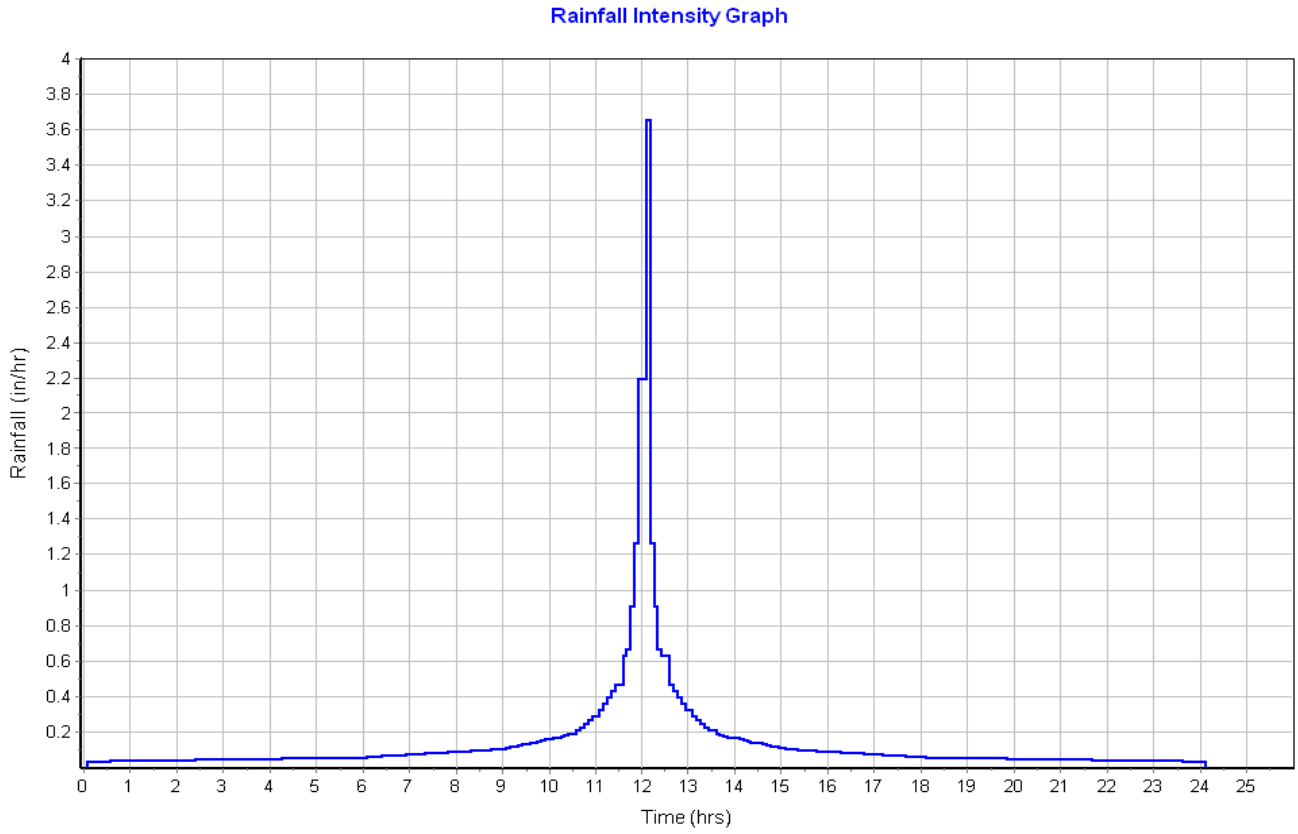
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

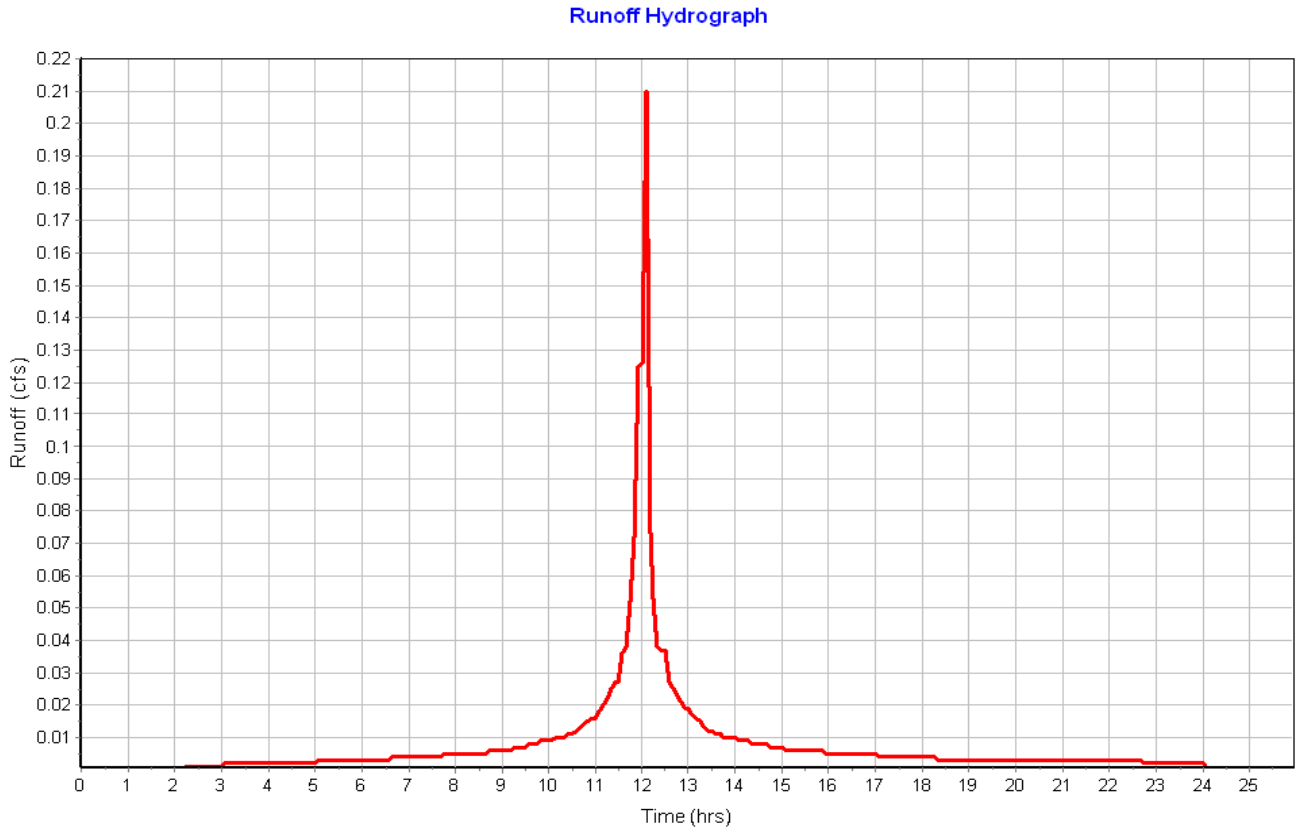
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-13





Subbasin : Roof-14

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

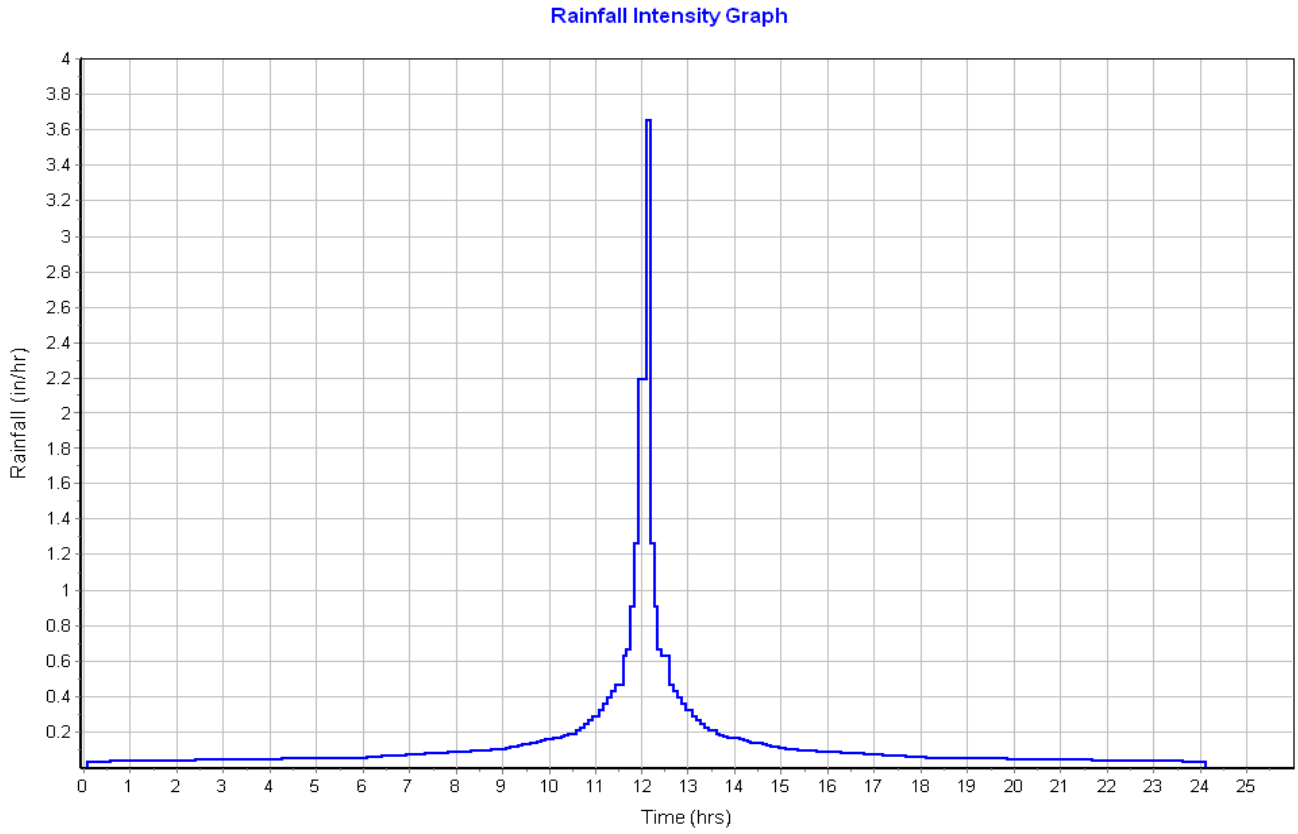
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

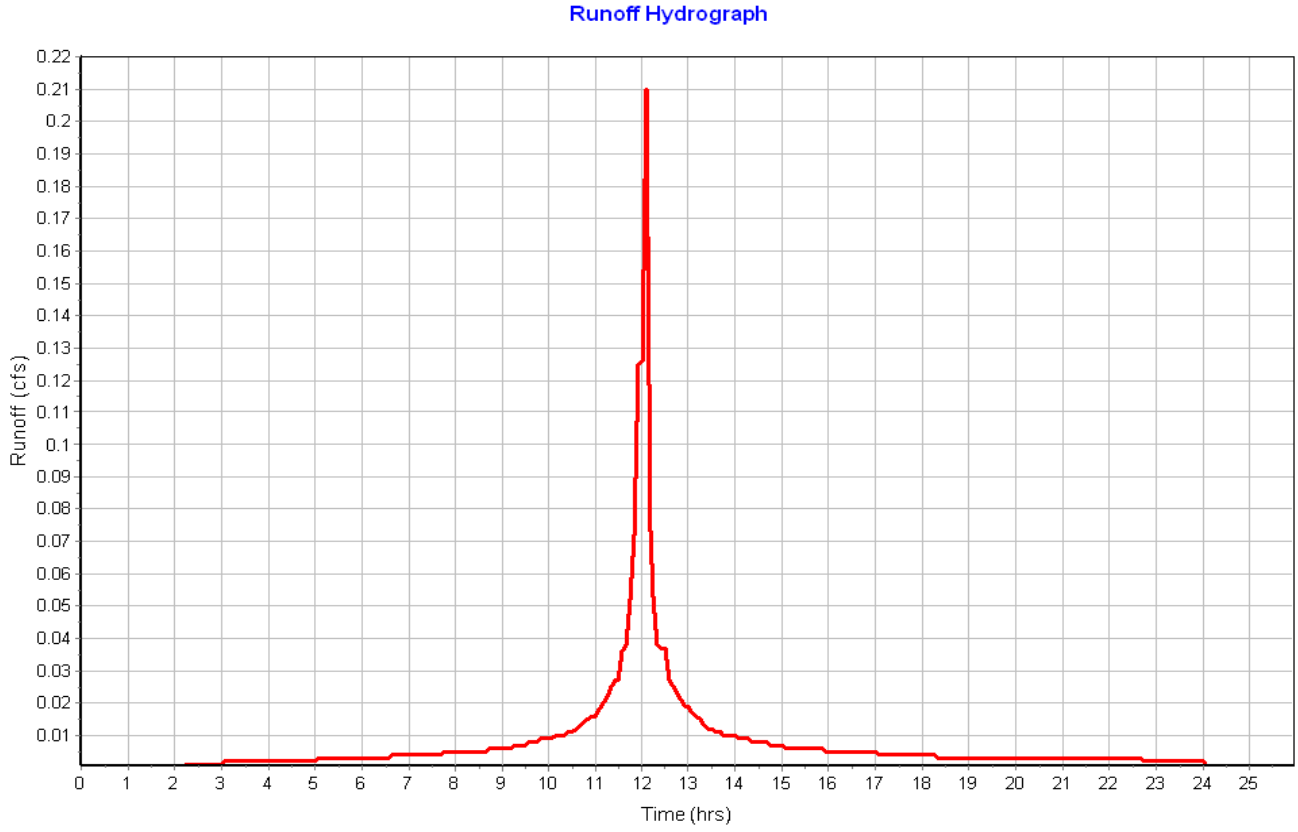
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-14





Subbasin : Roof-15

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

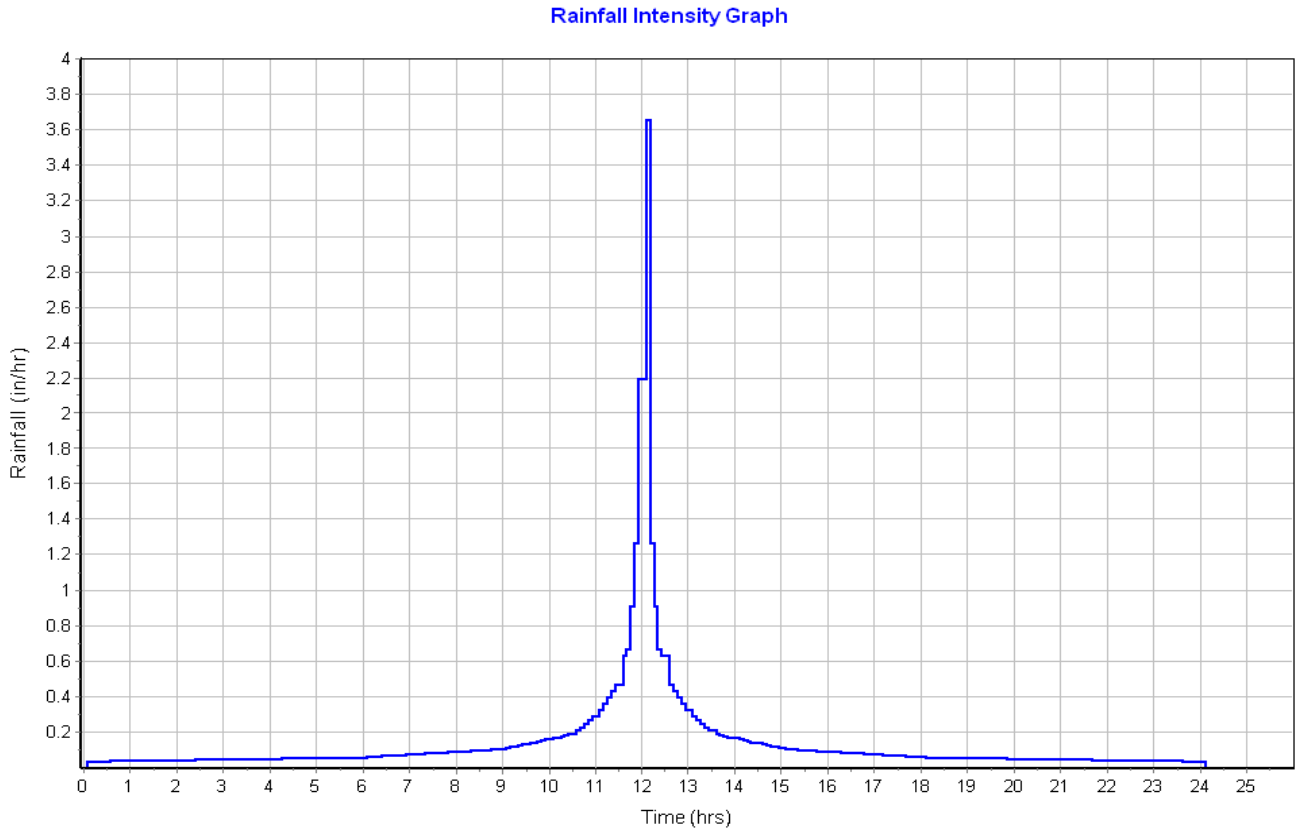
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

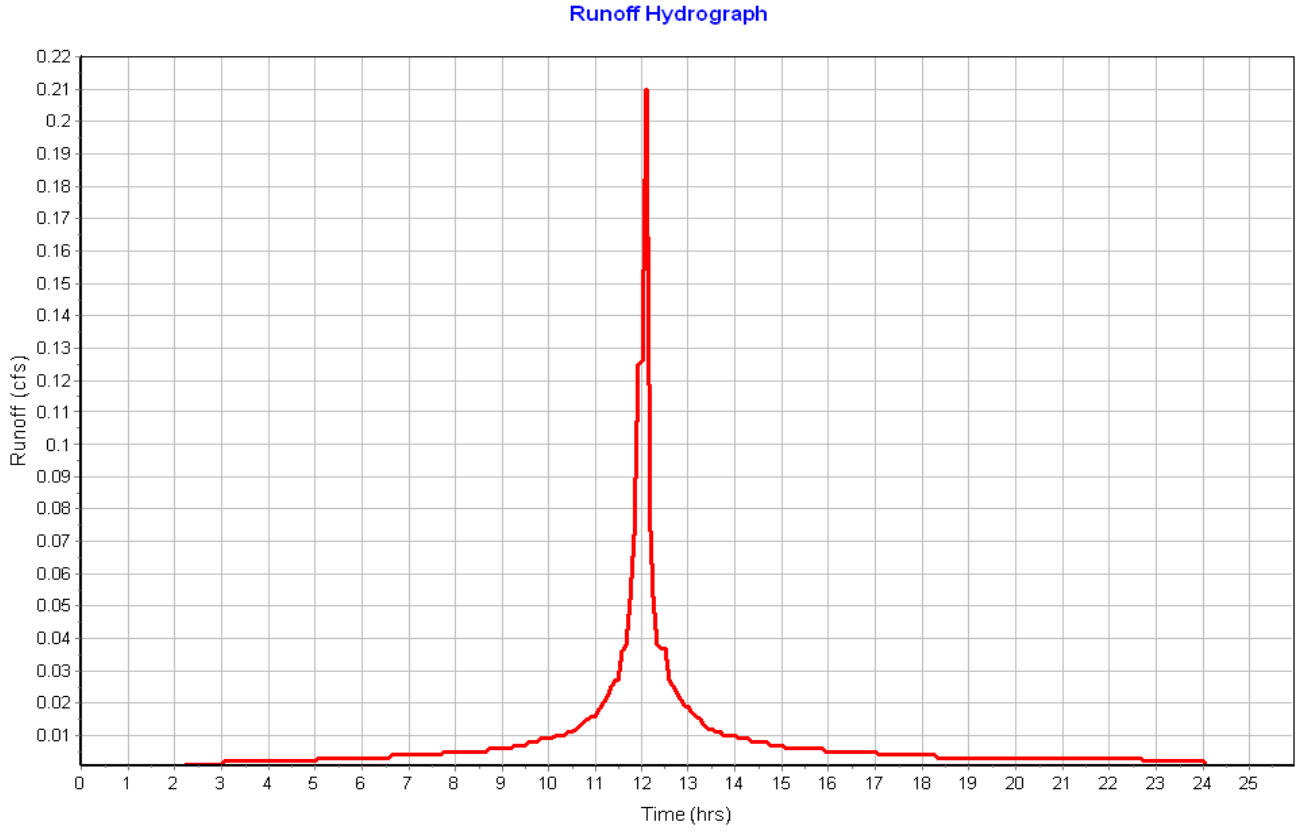
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-15





Subbasin : Roof-16

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

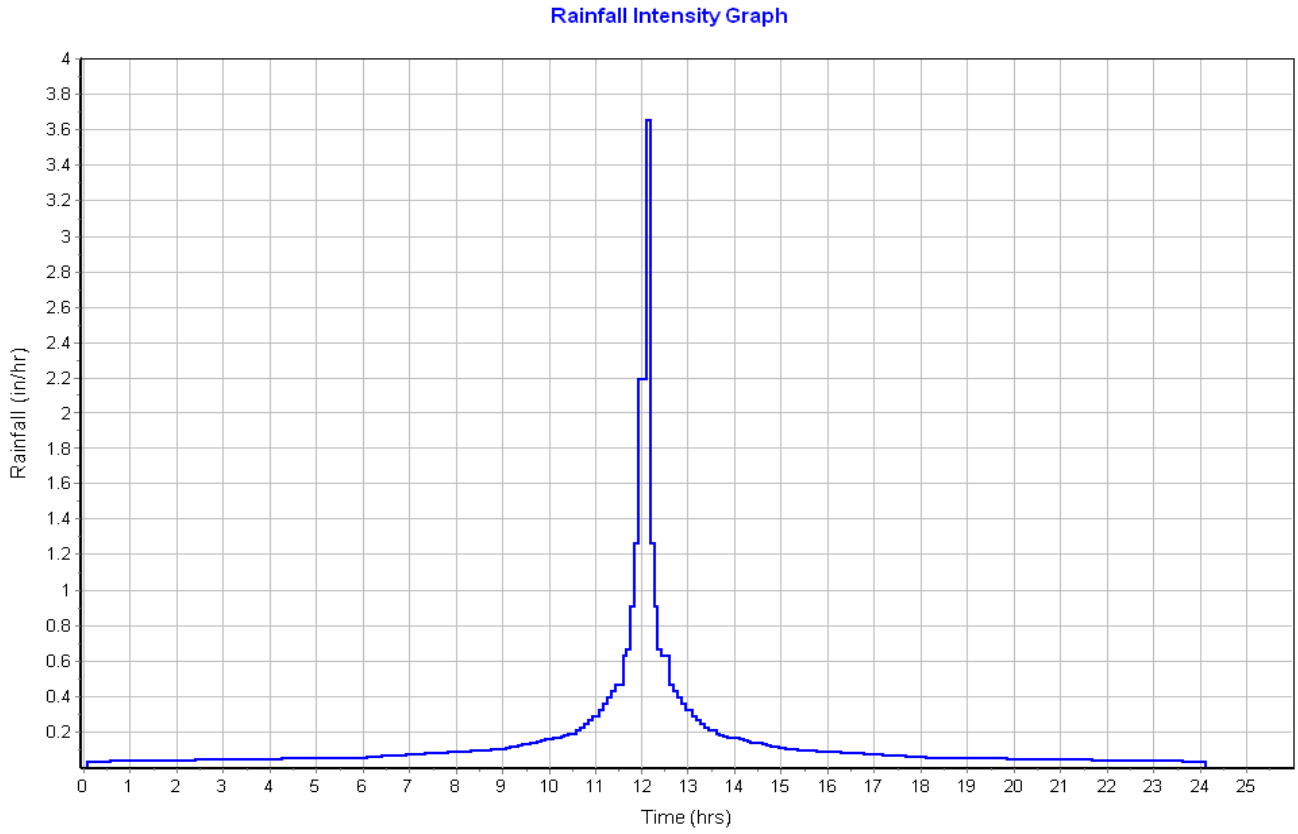
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

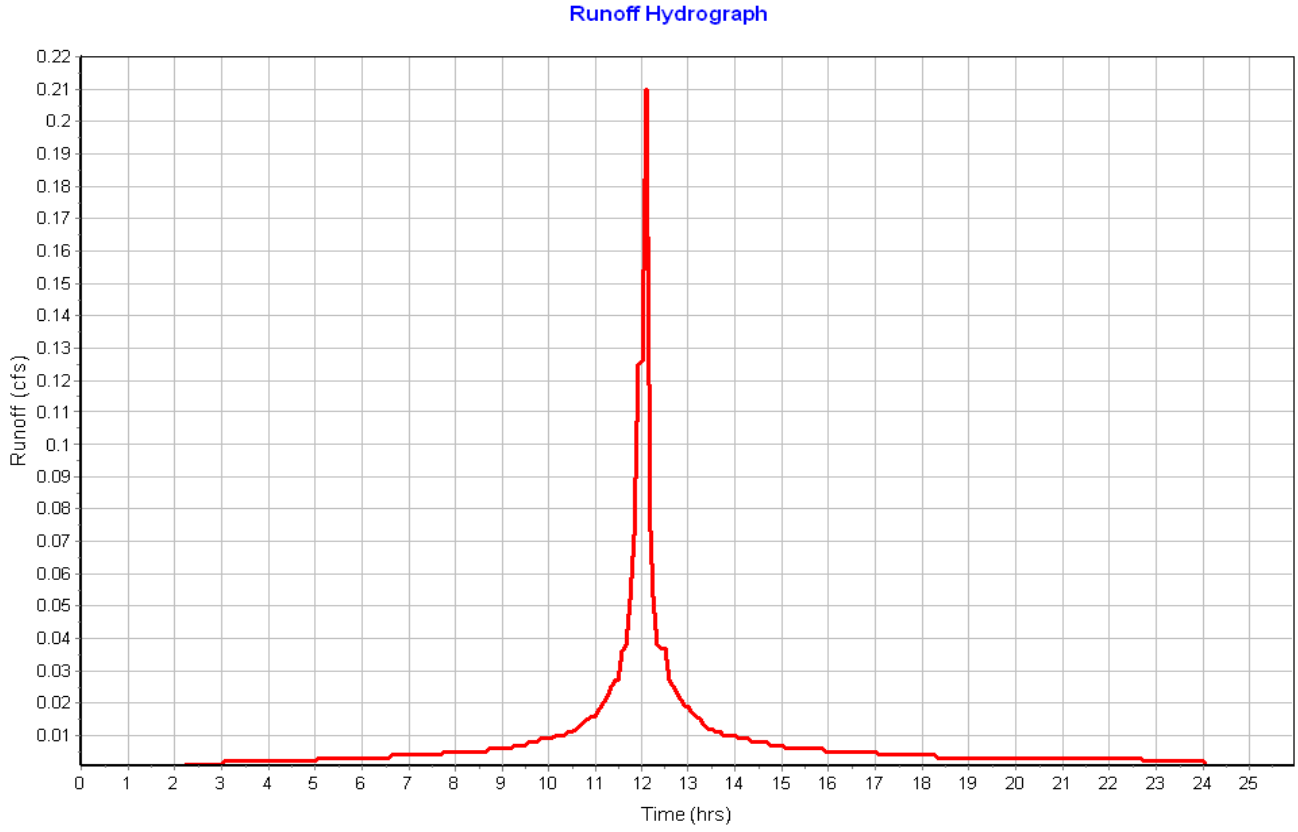
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-16





Subbasin : Roof-17

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

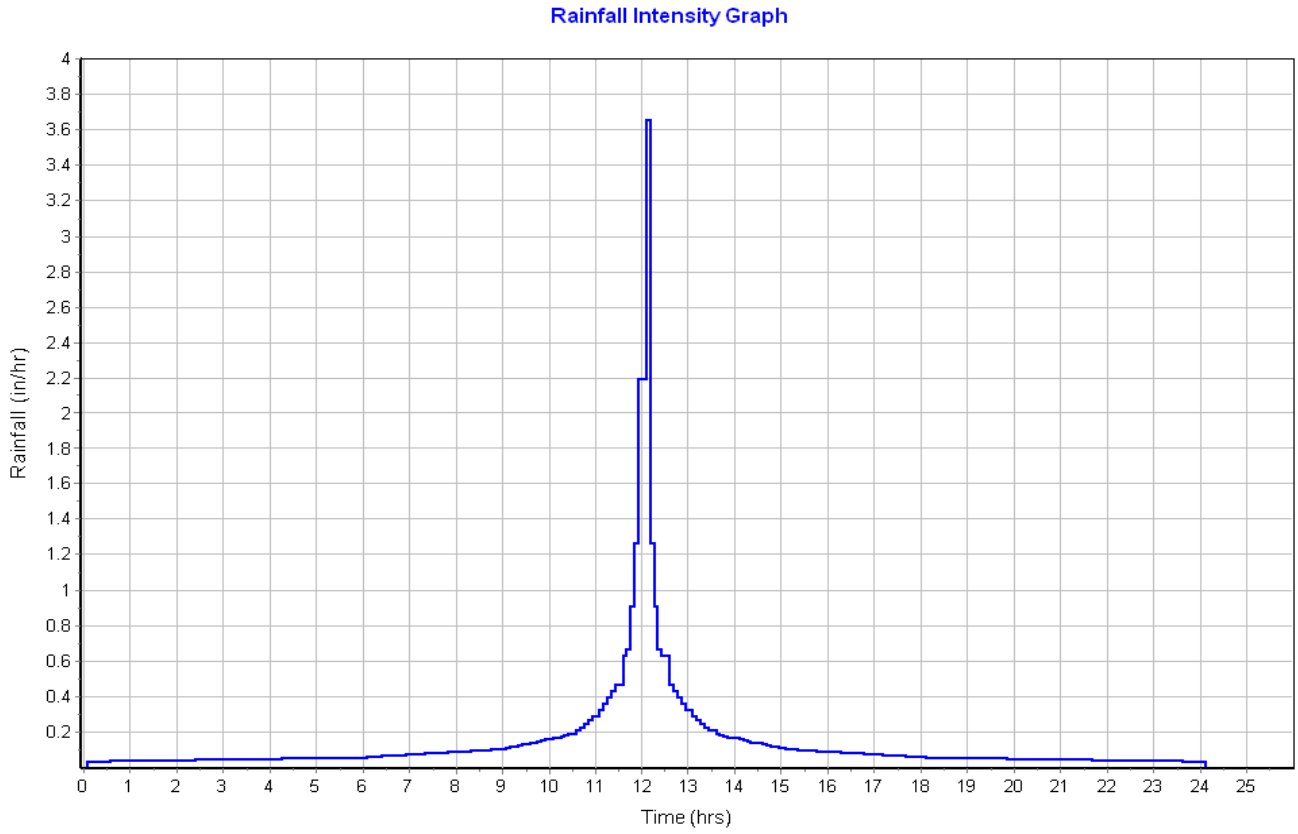
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

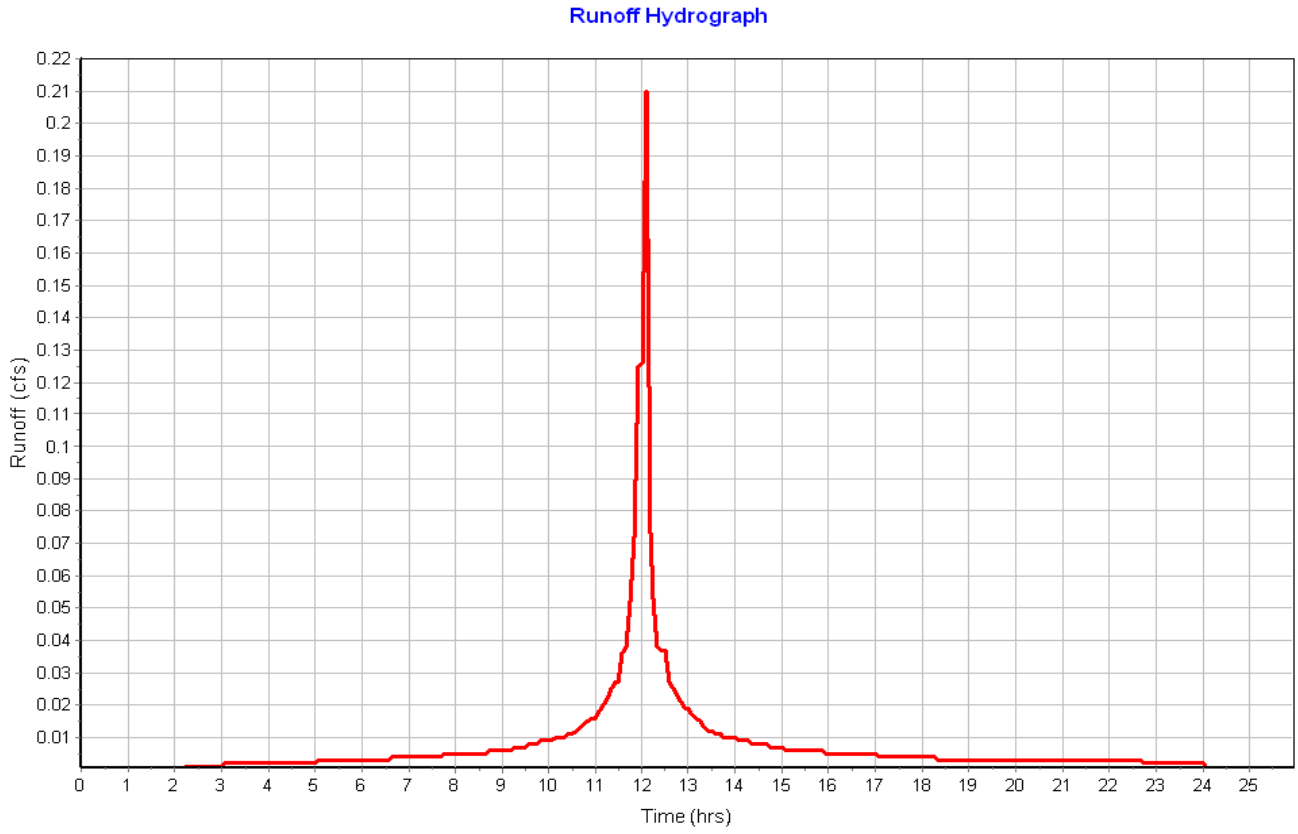
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.21
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-17





Subbasin : Roof-18

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

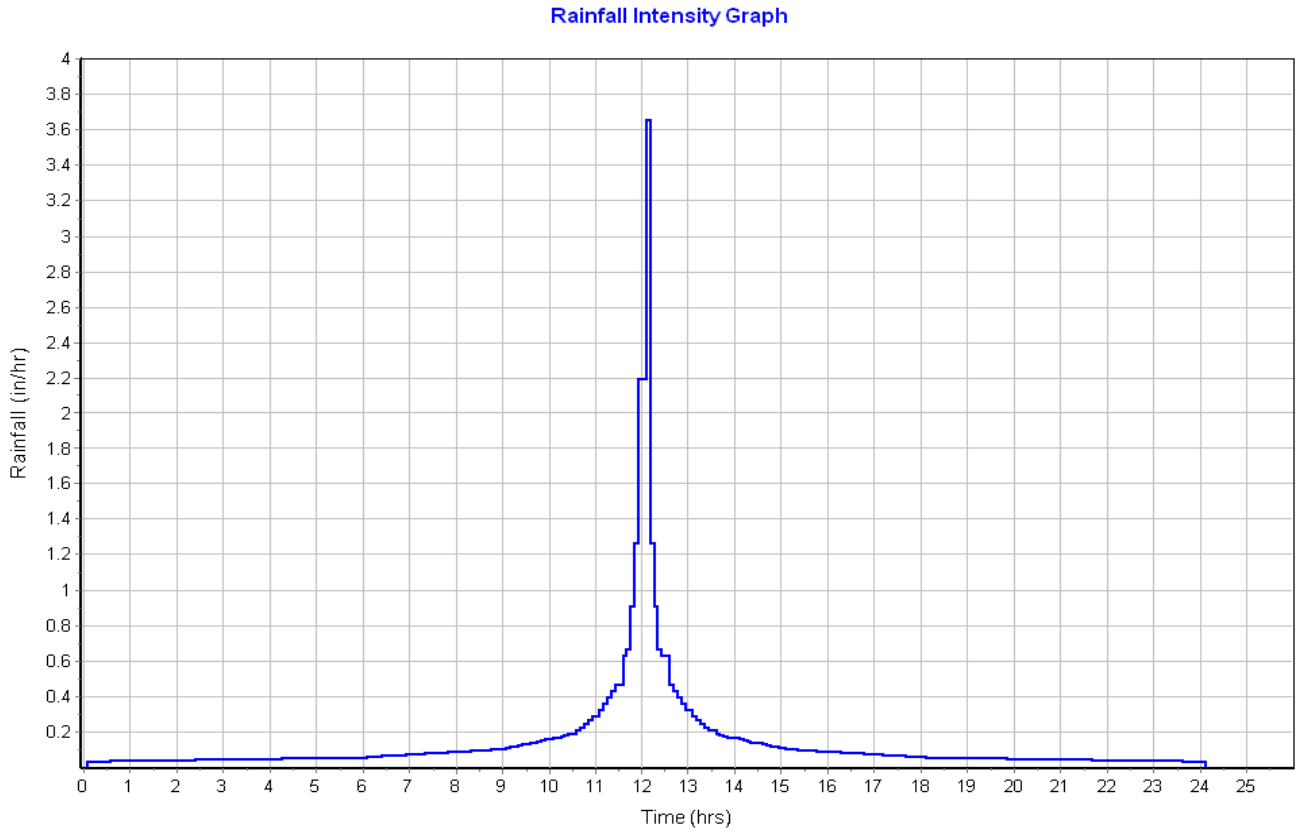
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

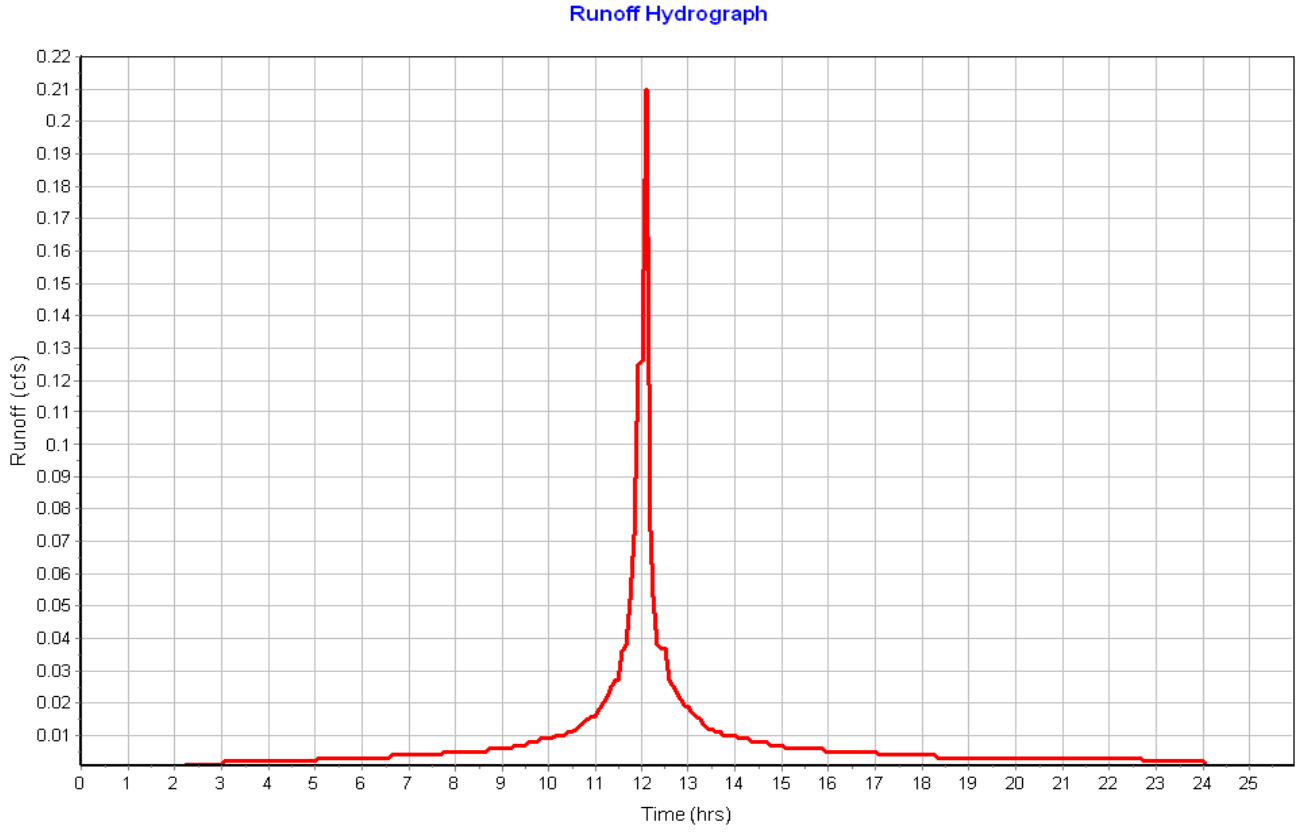
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-18





Subbasin : Roof-19

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

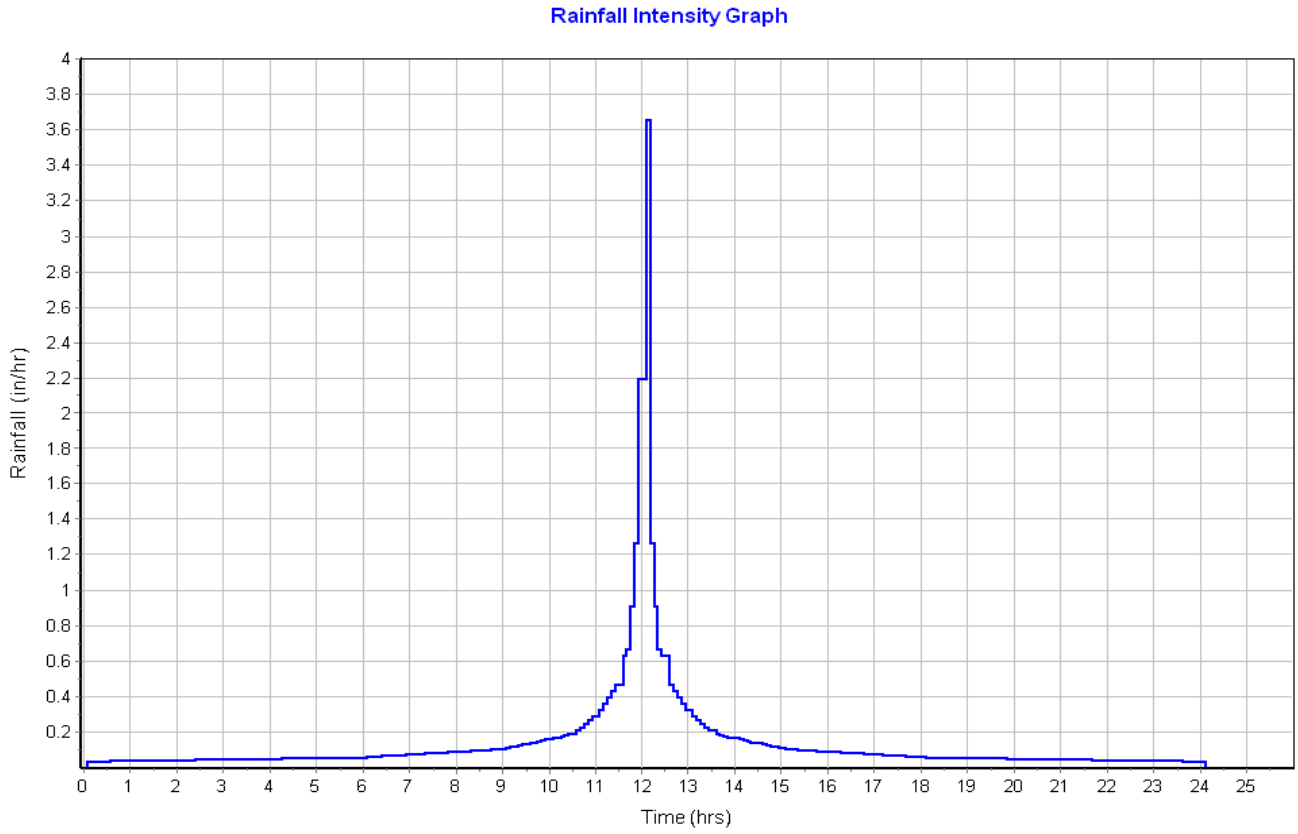
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

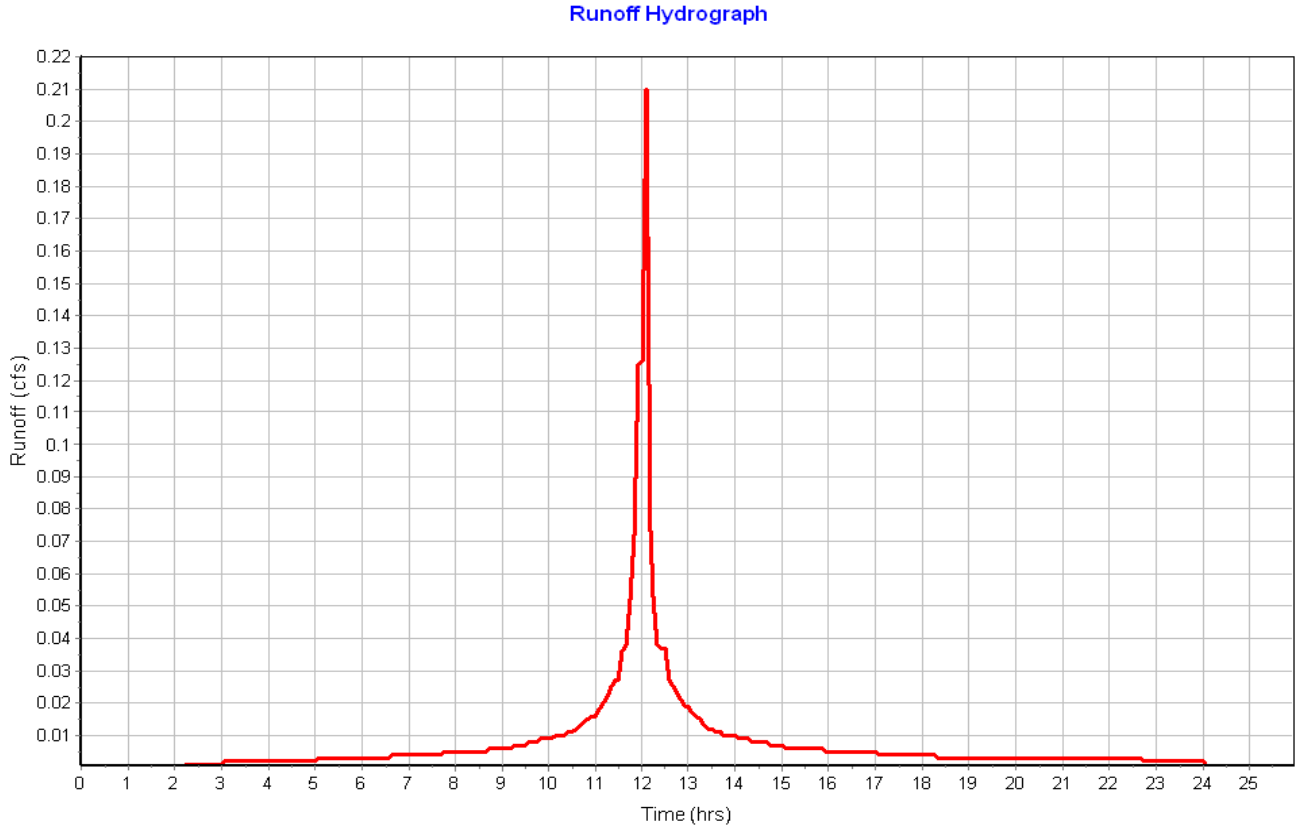
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-19





Subbasin : Roof-20

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

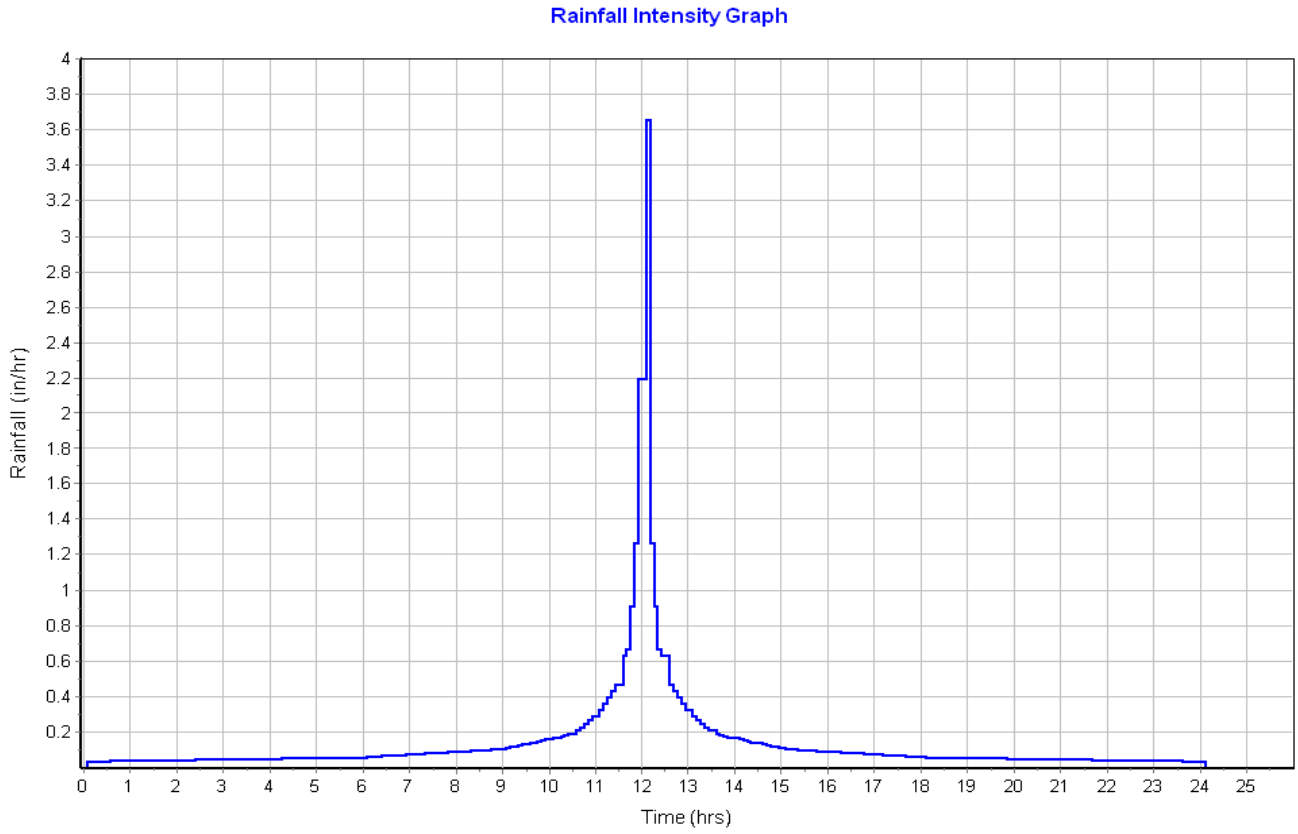
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

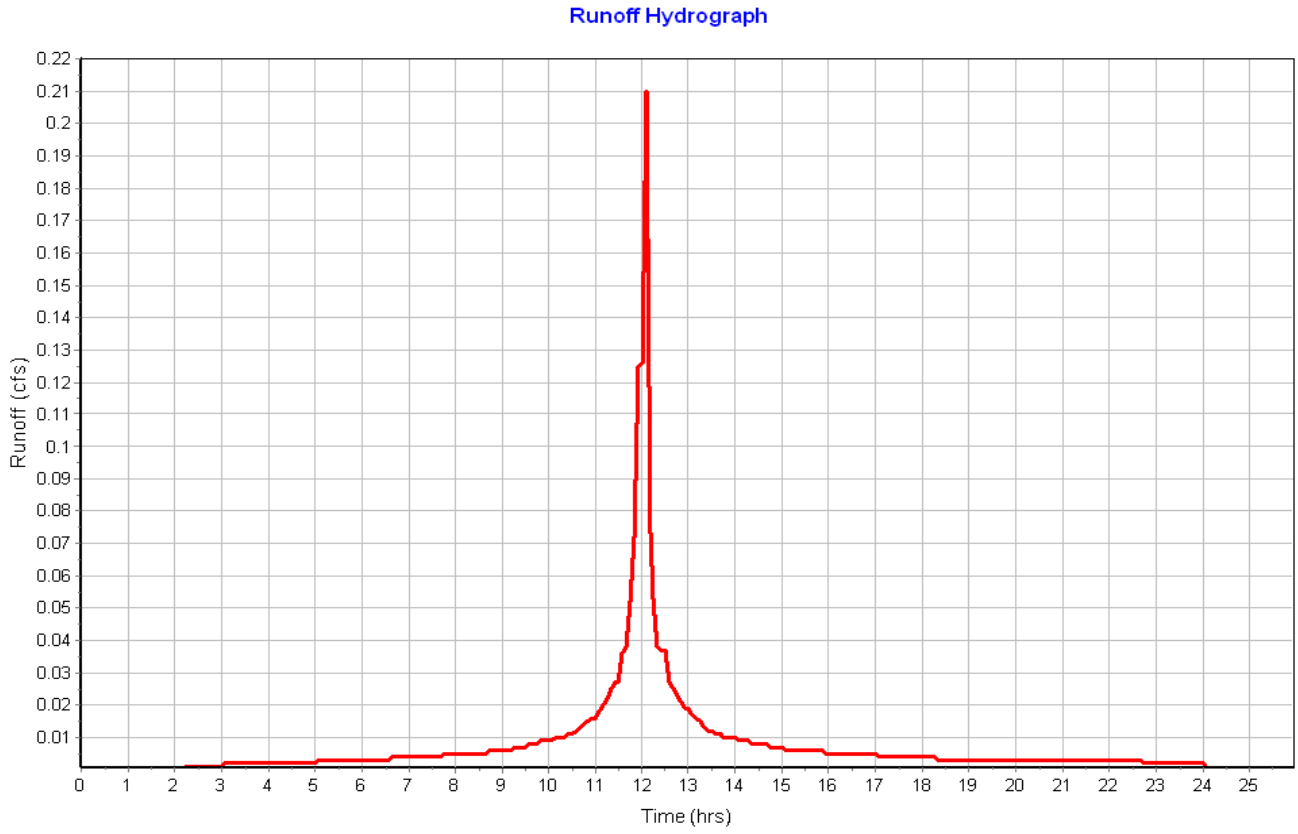
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-20





Subbasin : Roof-21

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

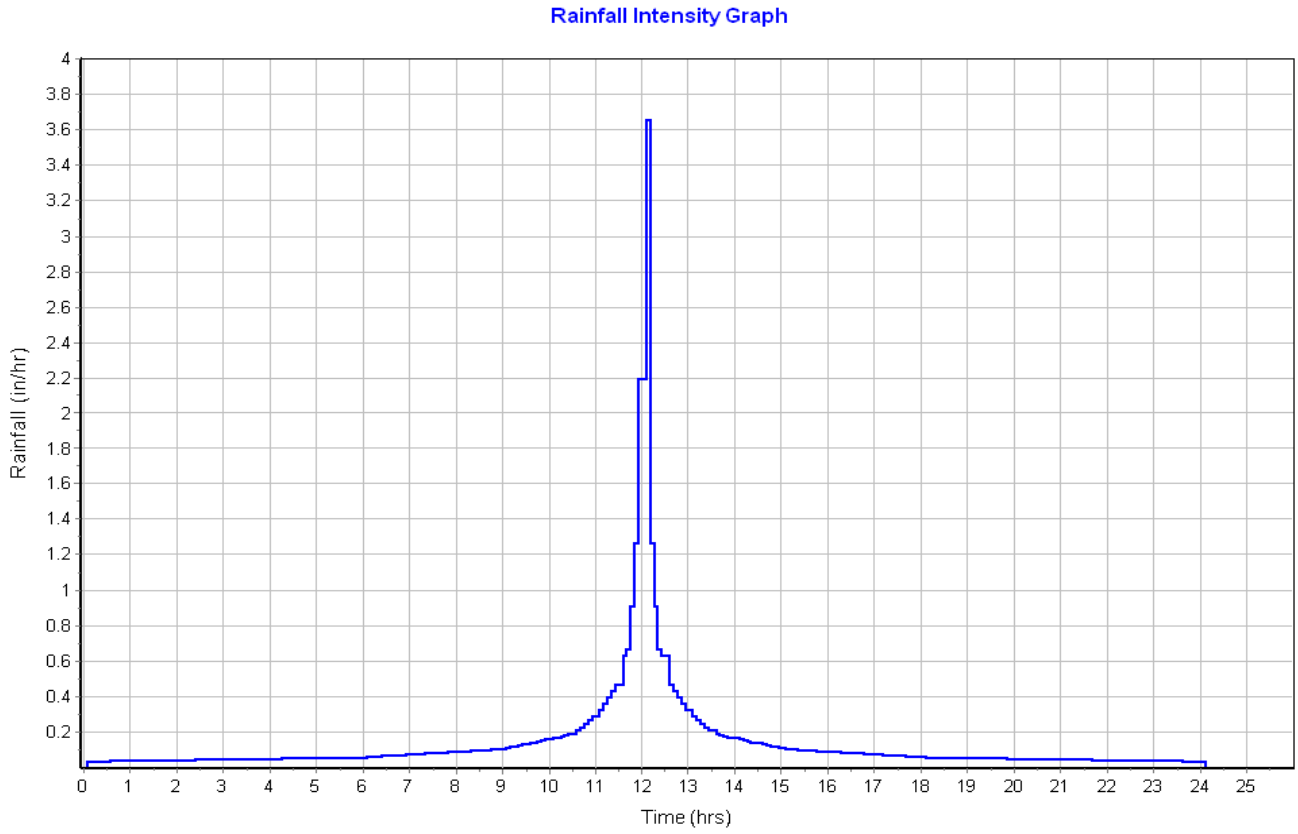
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

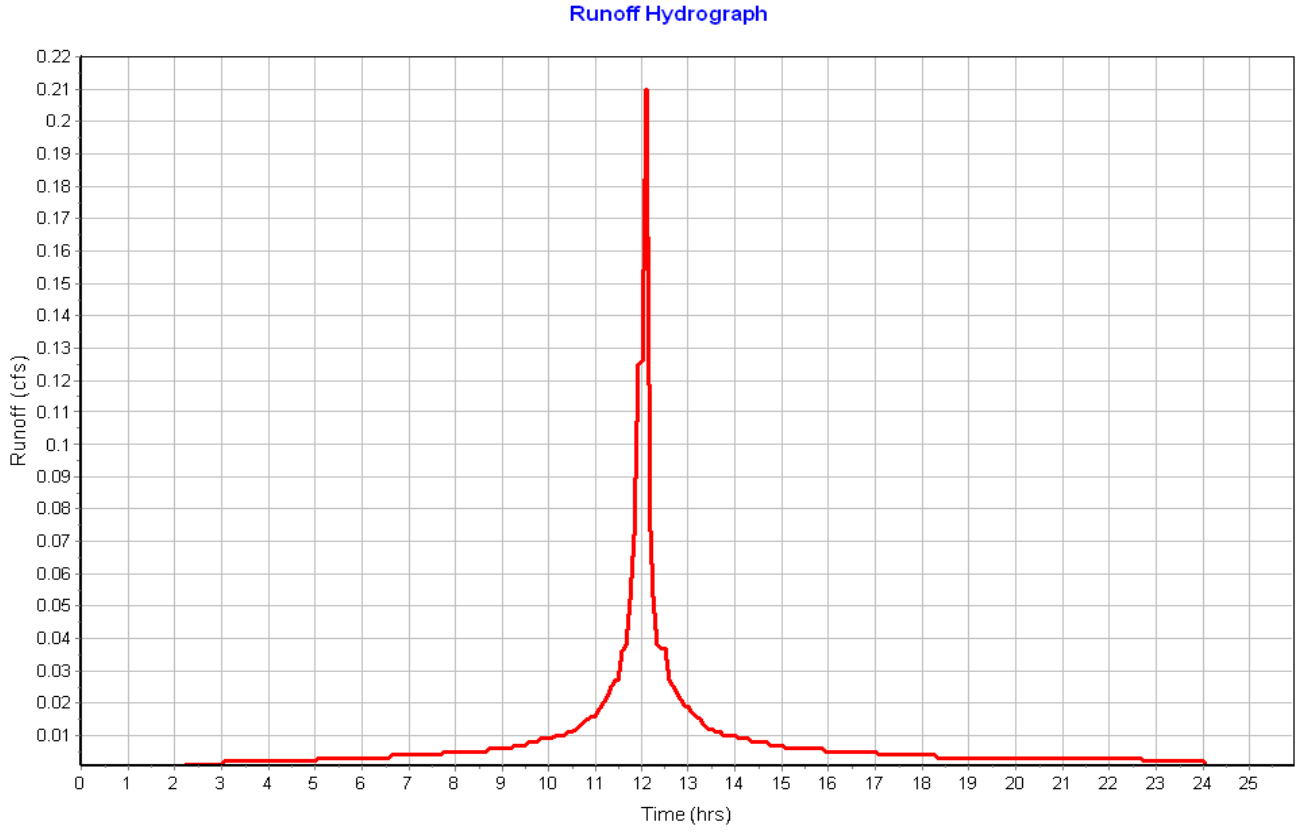
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-21





Subbasin : Roof-22

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

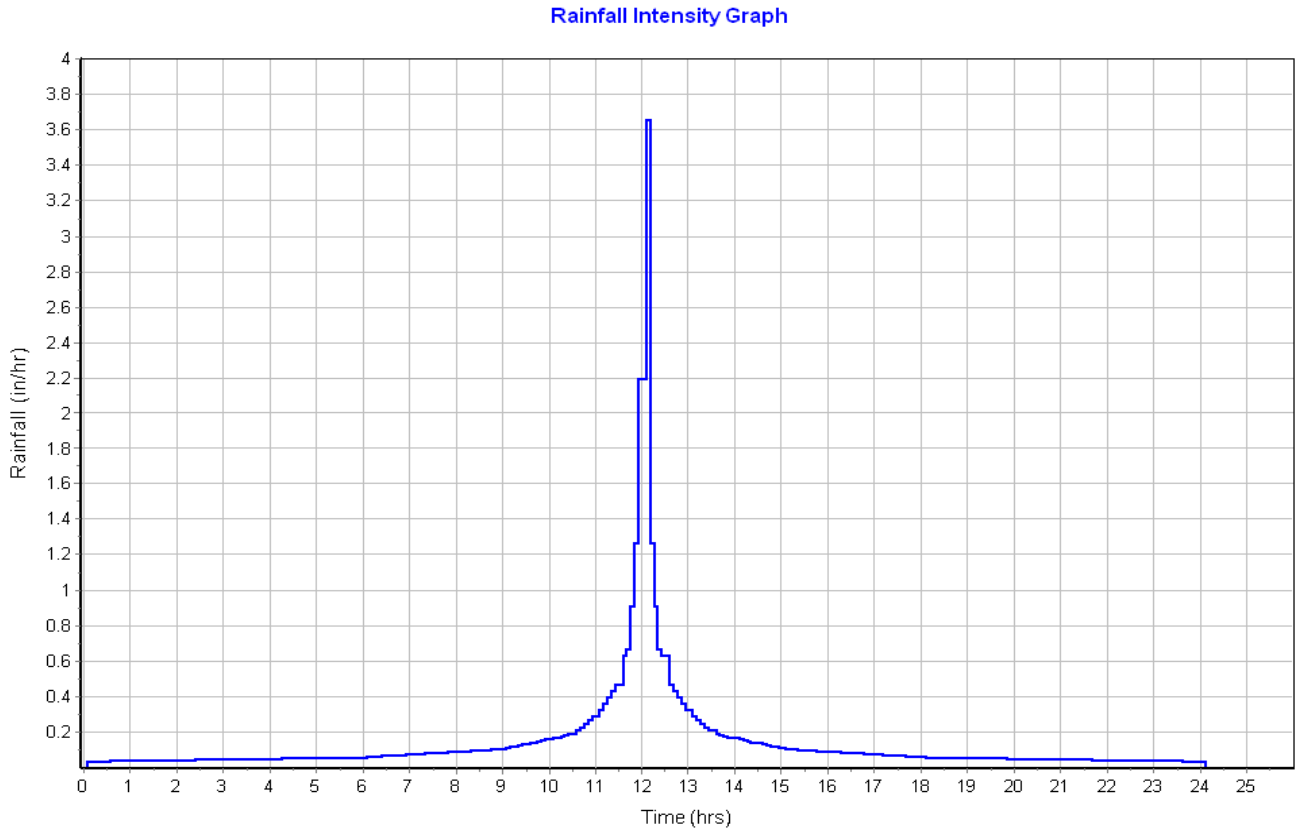
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

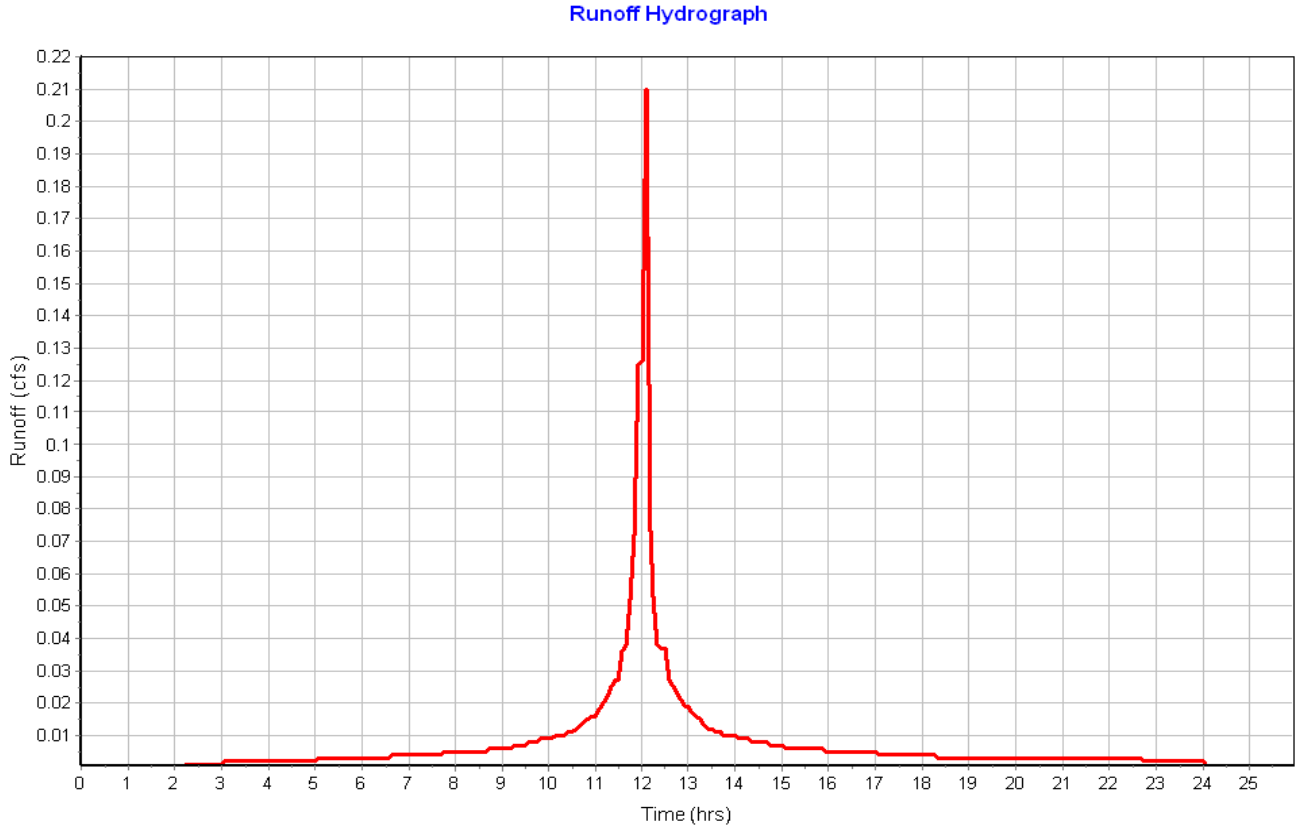
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-22





Subbasin : Roof-23

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

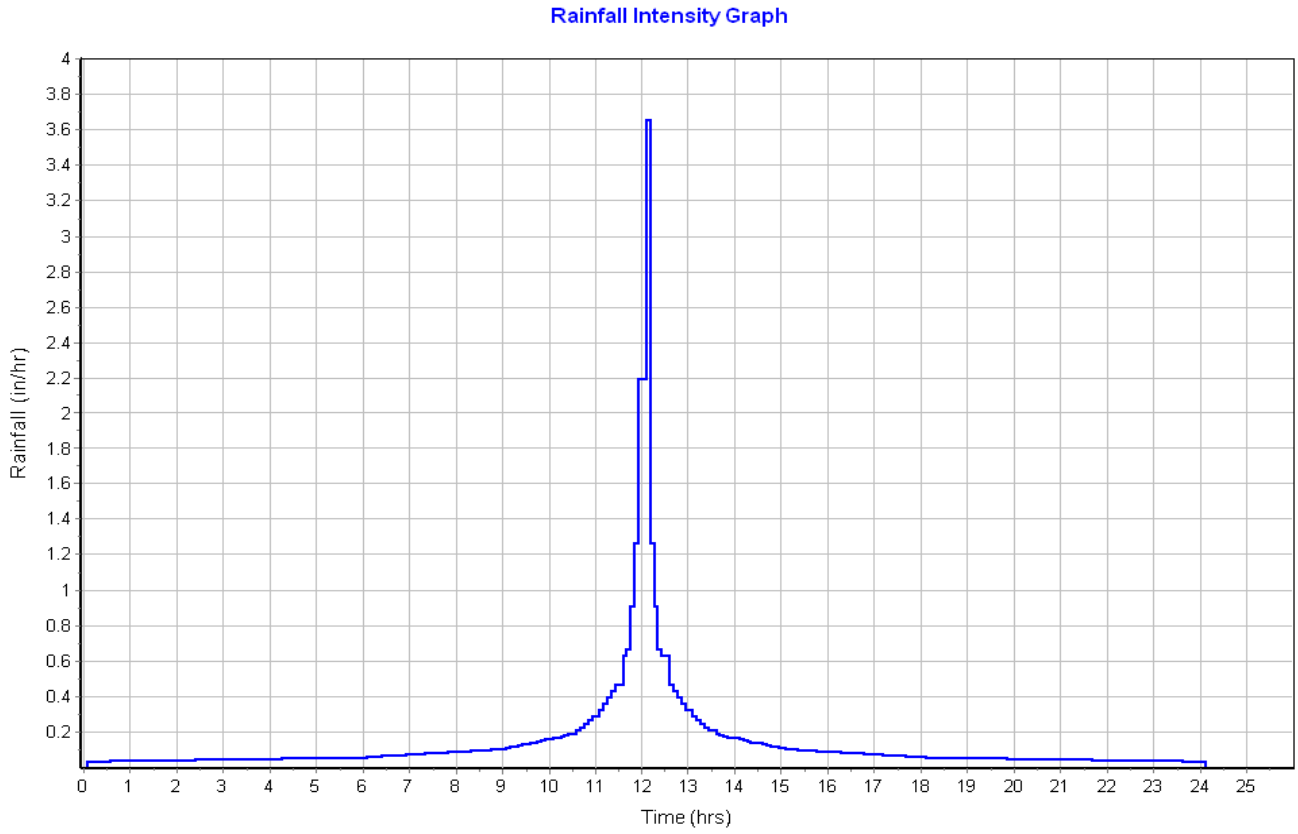
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

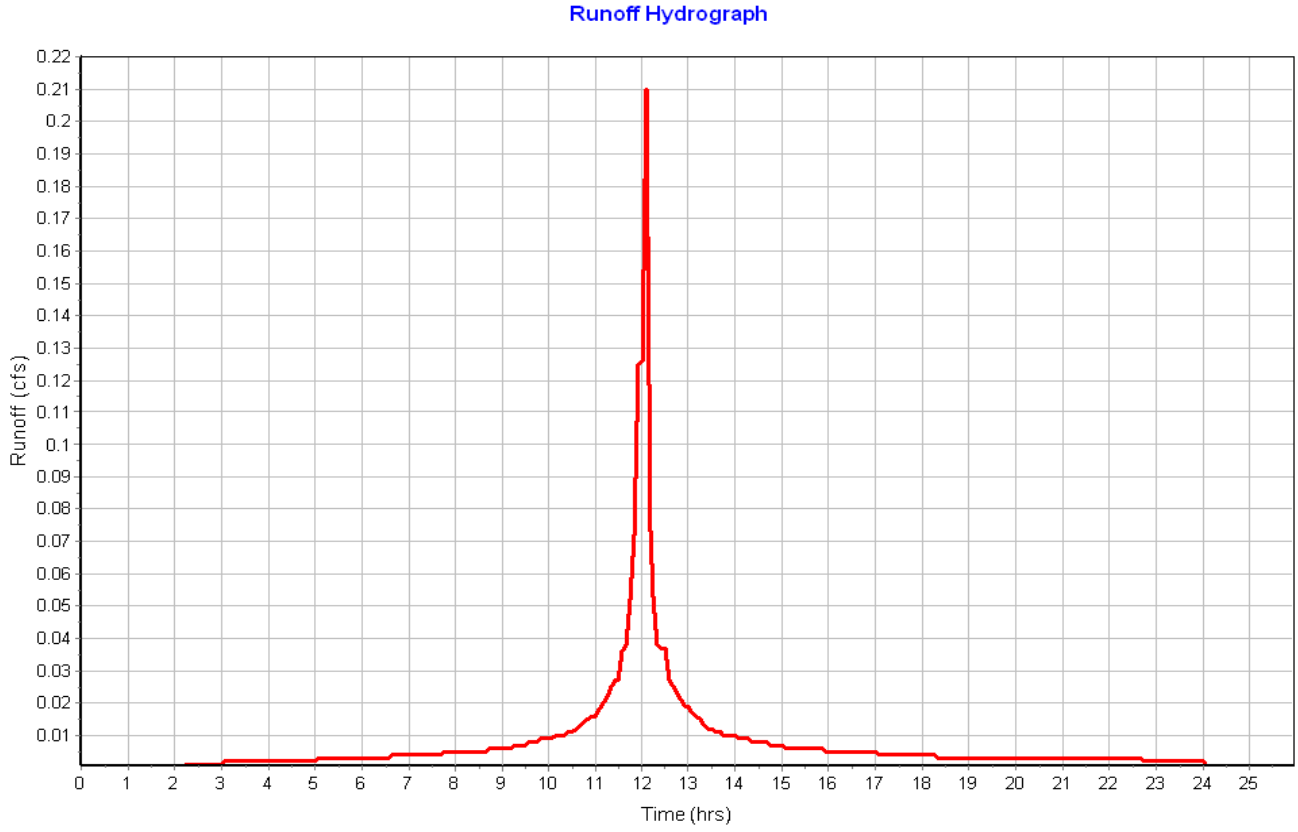
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-23





Subbasin : Roof-24

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

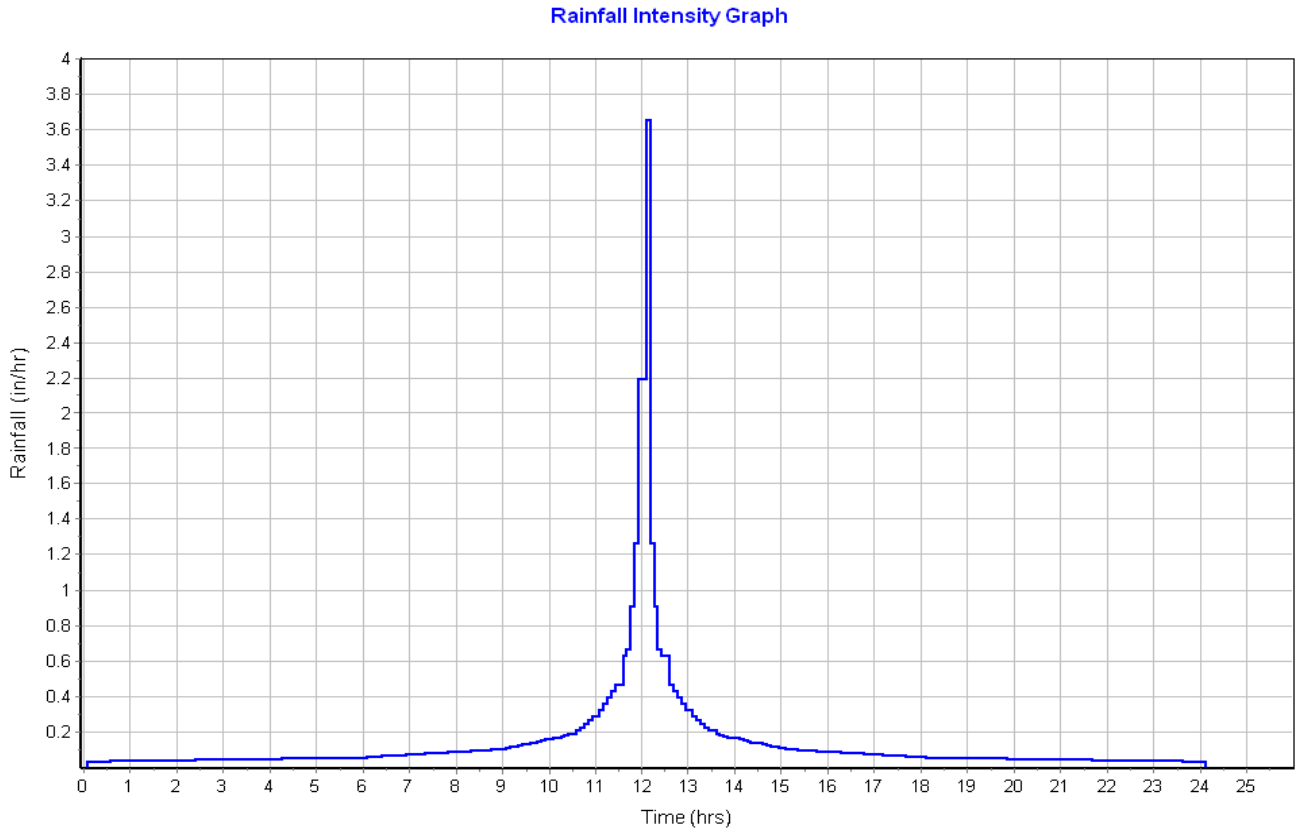
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

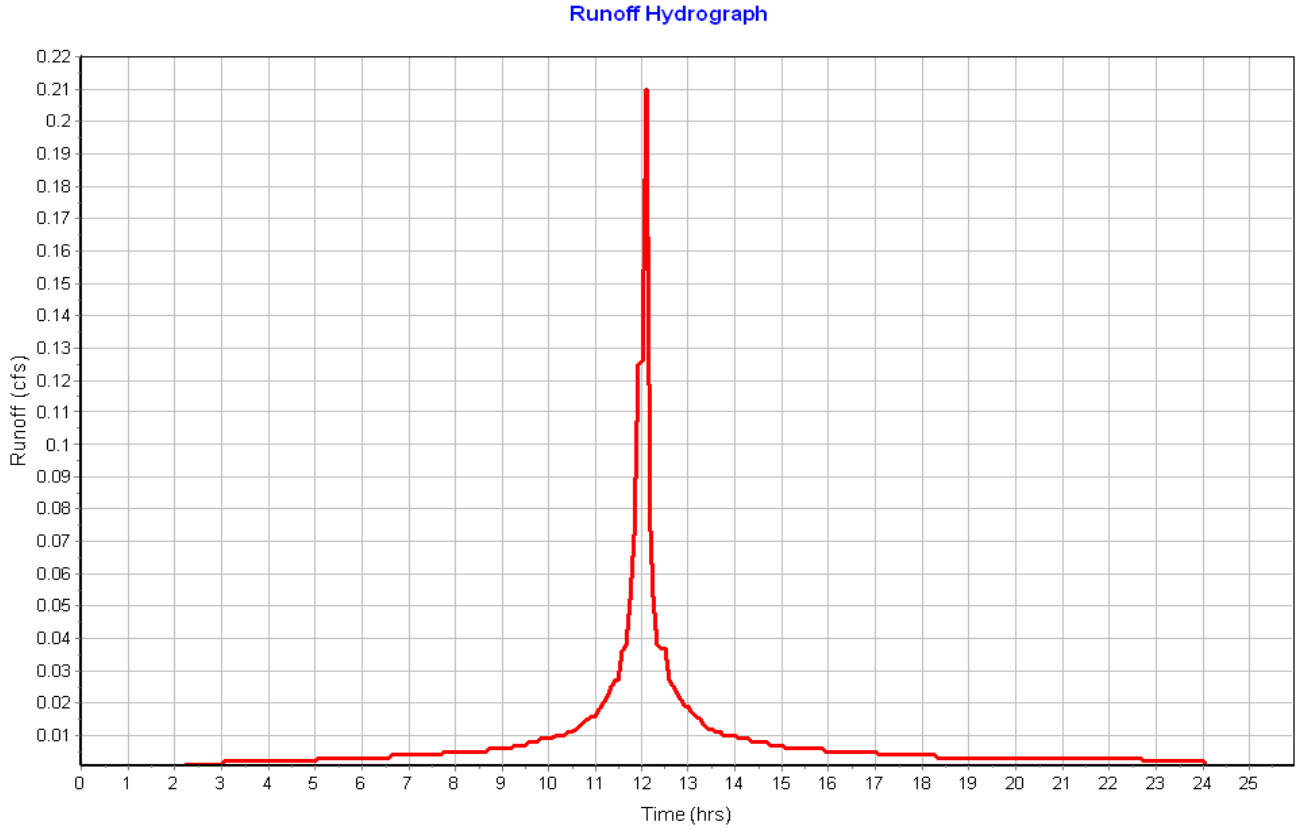
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-24





Subbasin : Roof-25

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

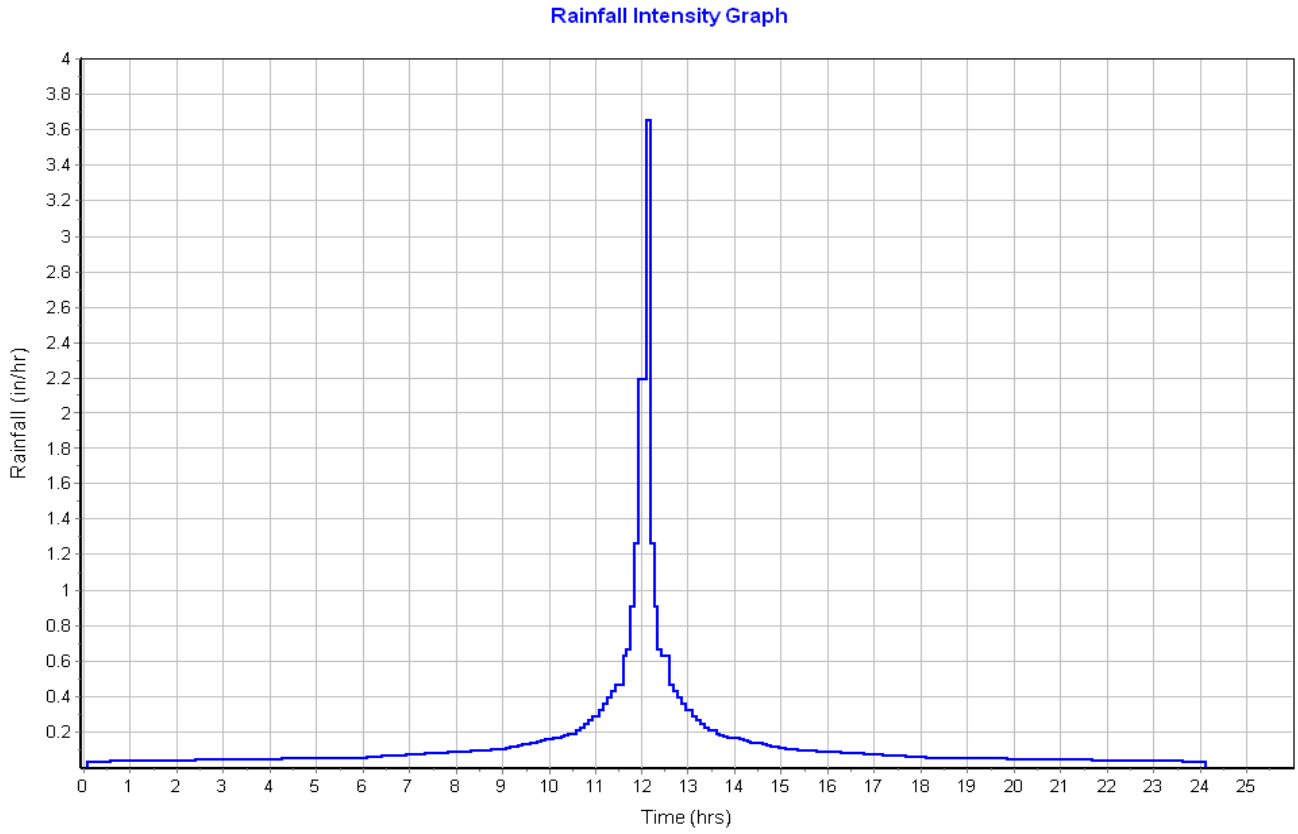
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

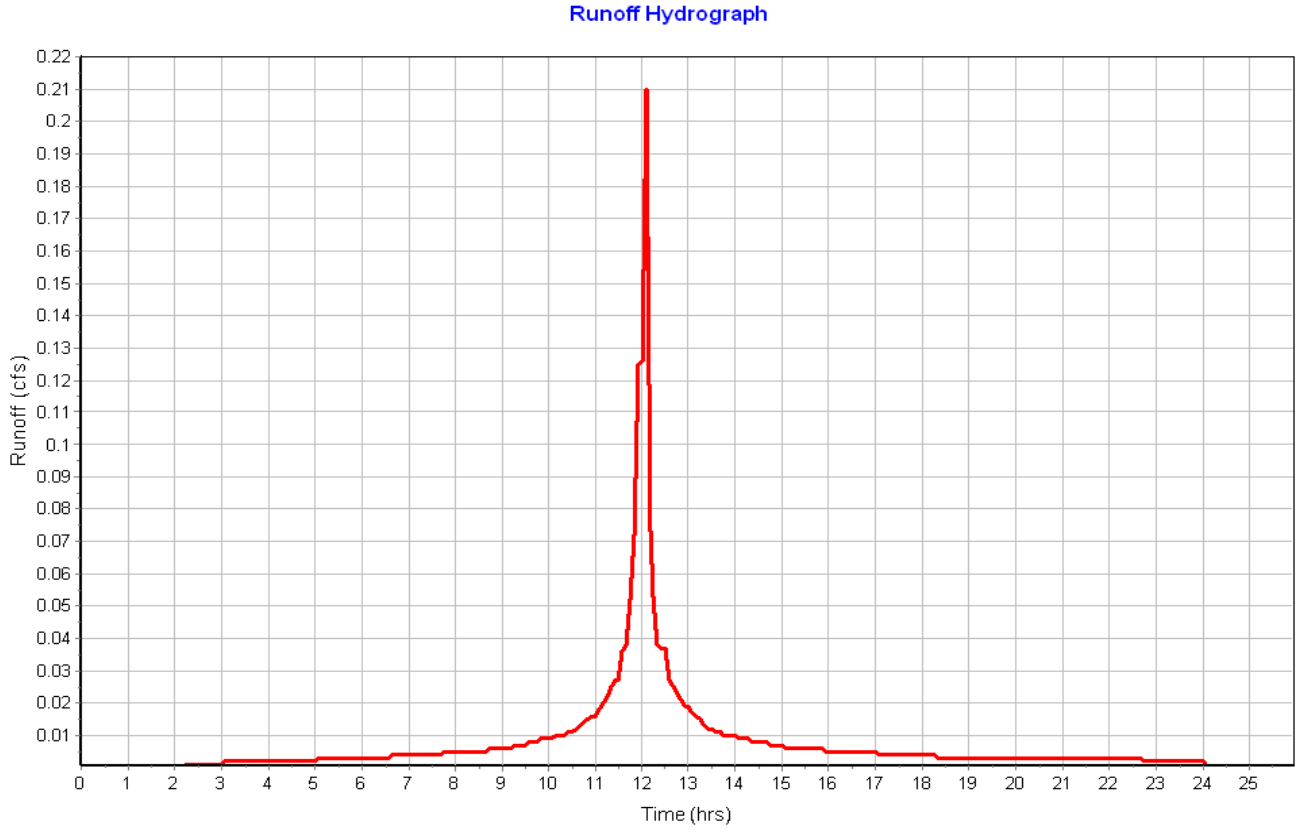
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-25





Subbasin : Roof-26

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

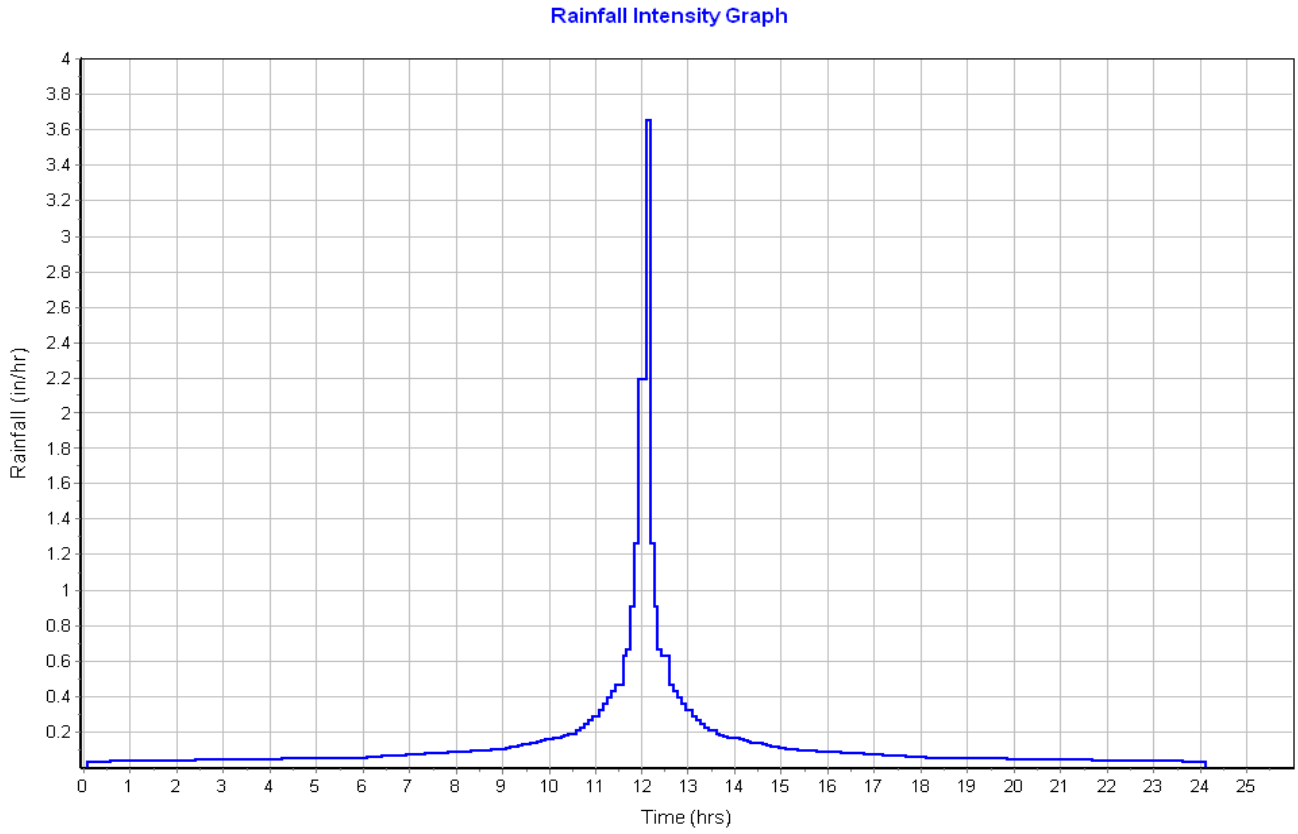
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

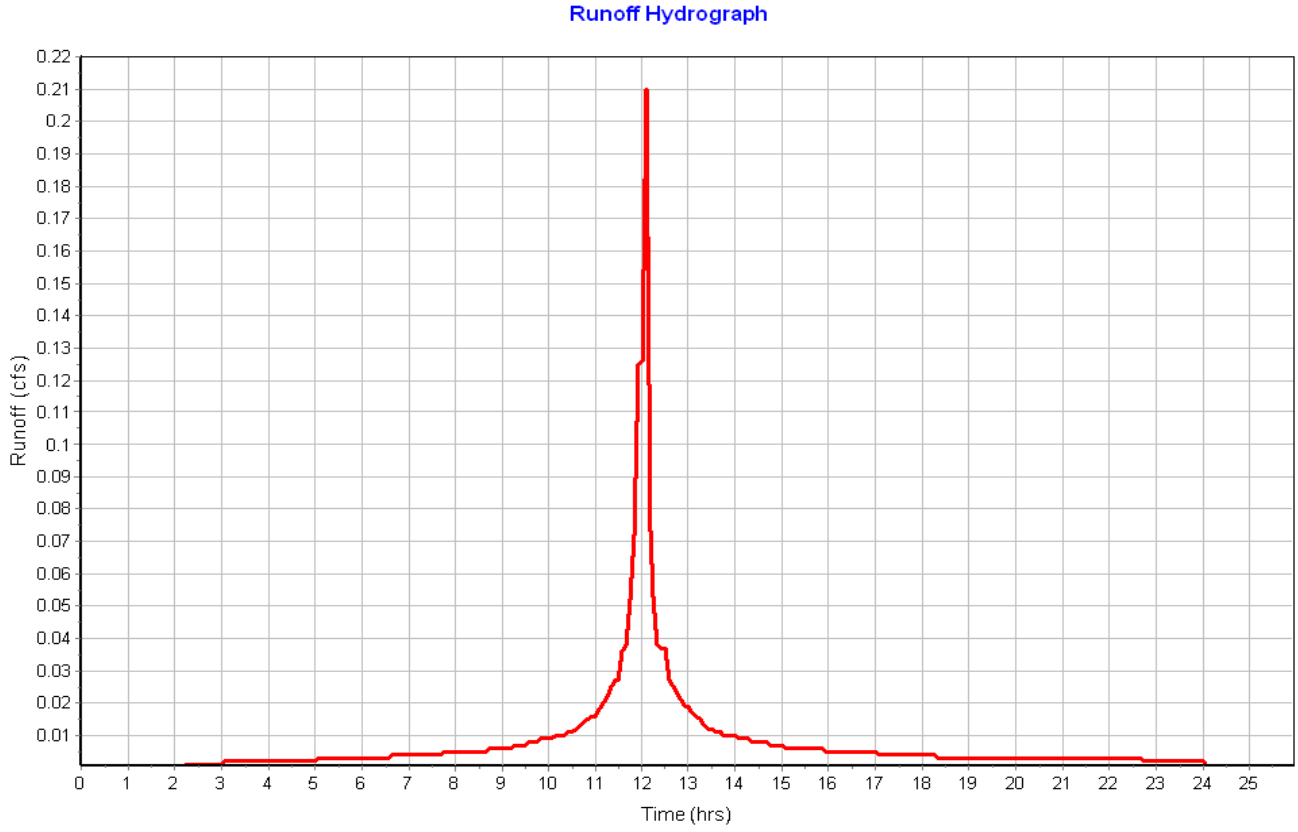
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-26





Subbasin : Sub-01

Input Data

Area (ac)	1.64
Peak Rate Factor	484.00
Weighted Curve Number	73.47
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	0.87	C	73.00
> 75% grass cover, Good	0.78	C	74.00
Composite Area & Weighted CN	1.65		73.47

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	7.1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.16	0.00	0.00
Computed Flow Time (min) :	31.11	0.00	0.00

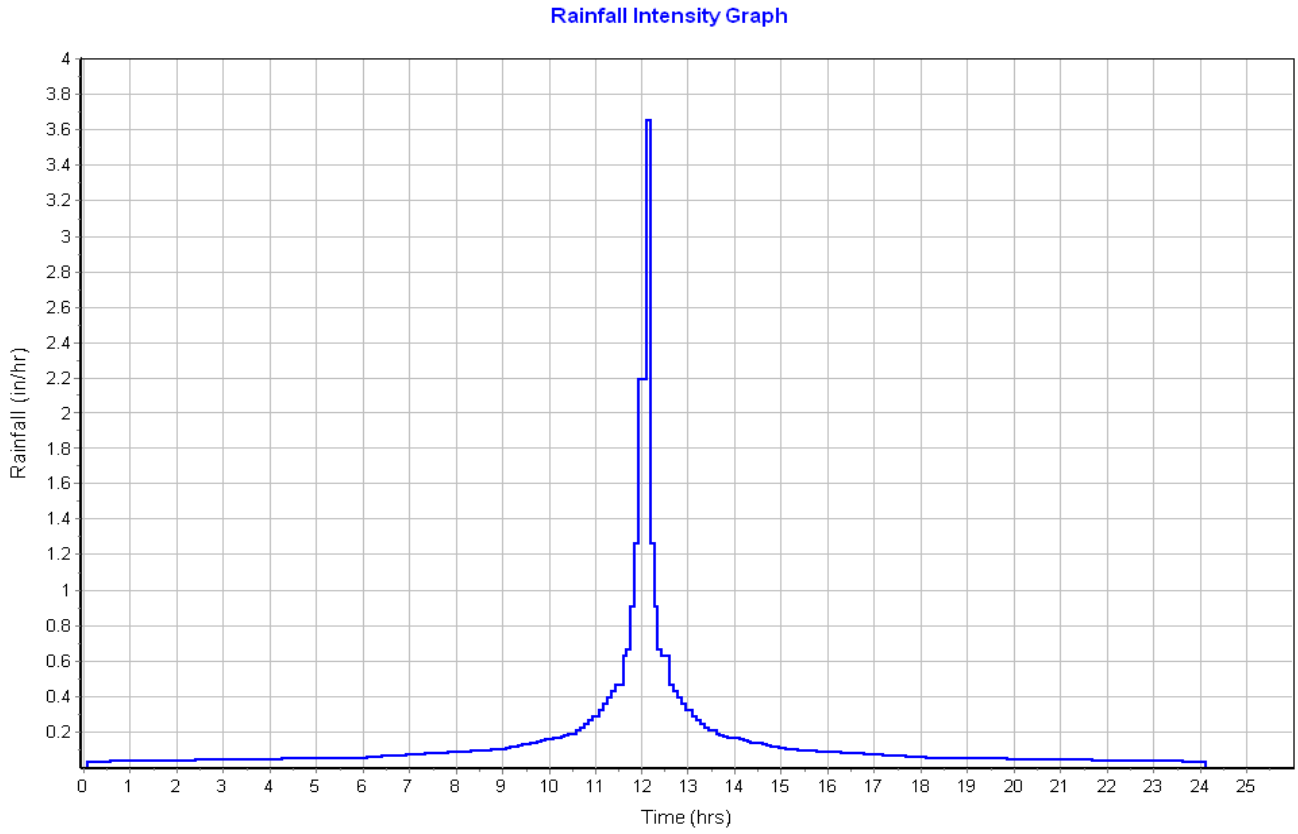
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	65	0.00	0.00
Slope (%) :	7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.32	0.00	0.00
Computed Flow Time (min) :	0.82	0.00	0.00

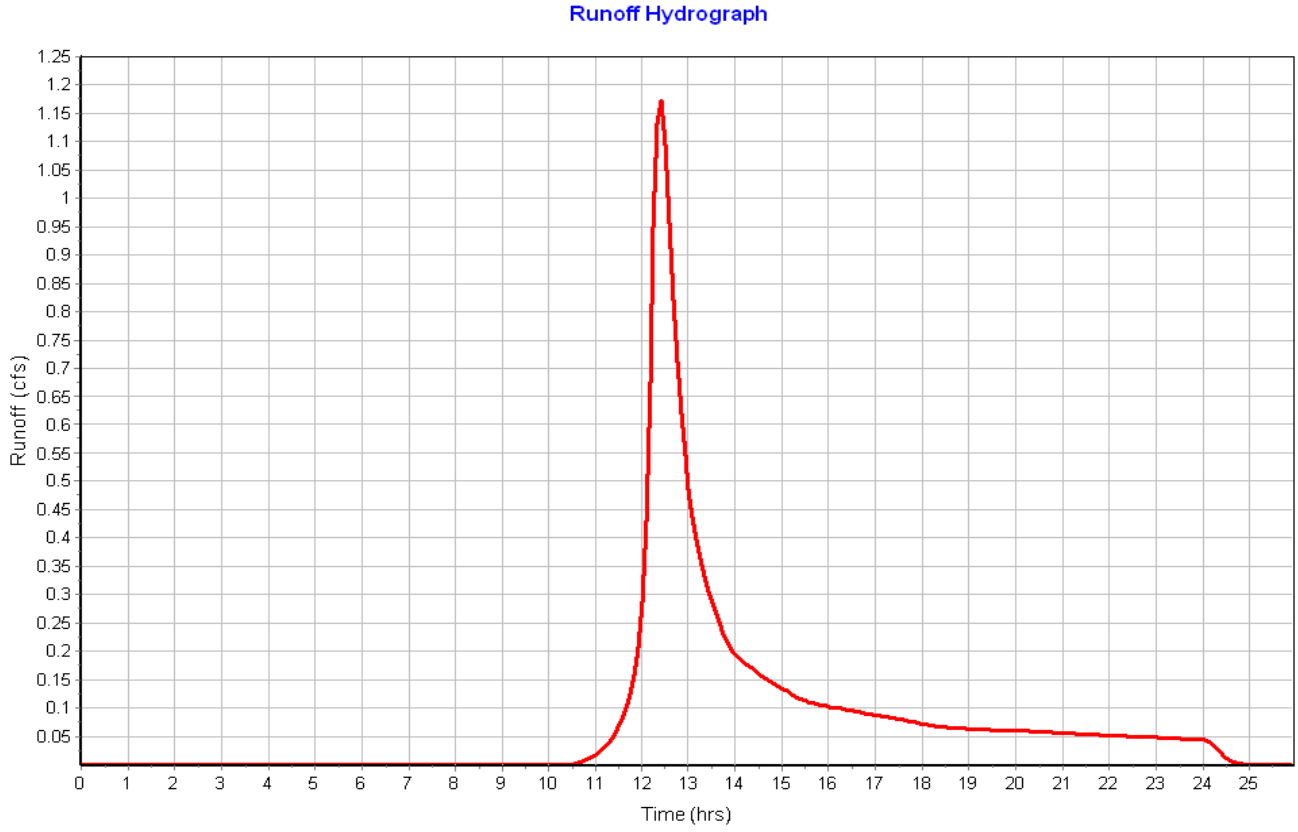
Total TOC (min) 31.93

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.21
Peak Runoff (cfs)	1.18
Weighted Curve Number	73.47
Time of Concentration (days hh:mm:ss)	0 00:31:56

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	2.48
Peak Rate Factor	484.00
Weighted Curve Number	73.09
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	2.25	C	73.00
> 75% grass cover, Good	0.23	C	74.00
Composite Area & Weighted CN	2.48		73.09

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	6.14	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.15	0.00	0.00
Computed Flow Time (min) :	32.97	0.00	0.00

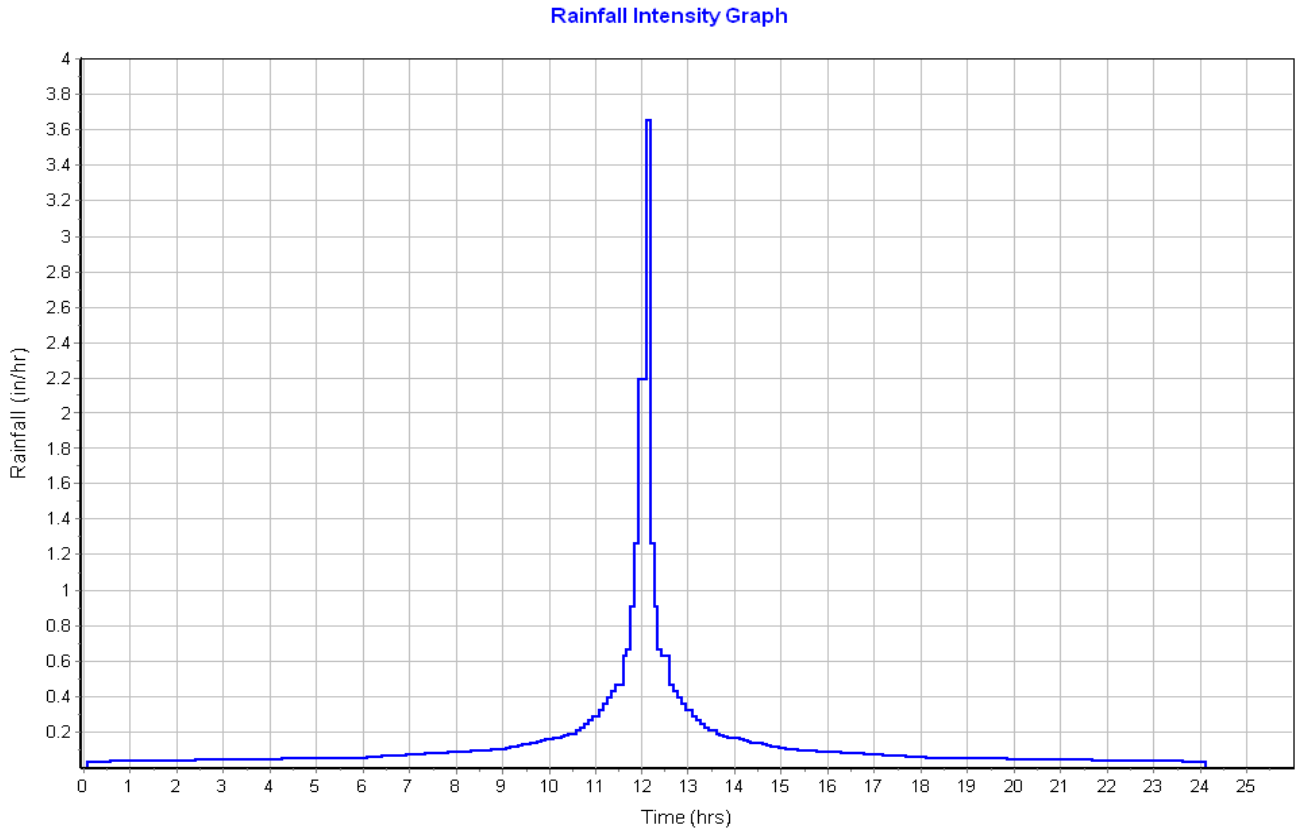
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	677	0.00	0.00
Slope (%) :	6.14	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	9.10	0.00	0.00

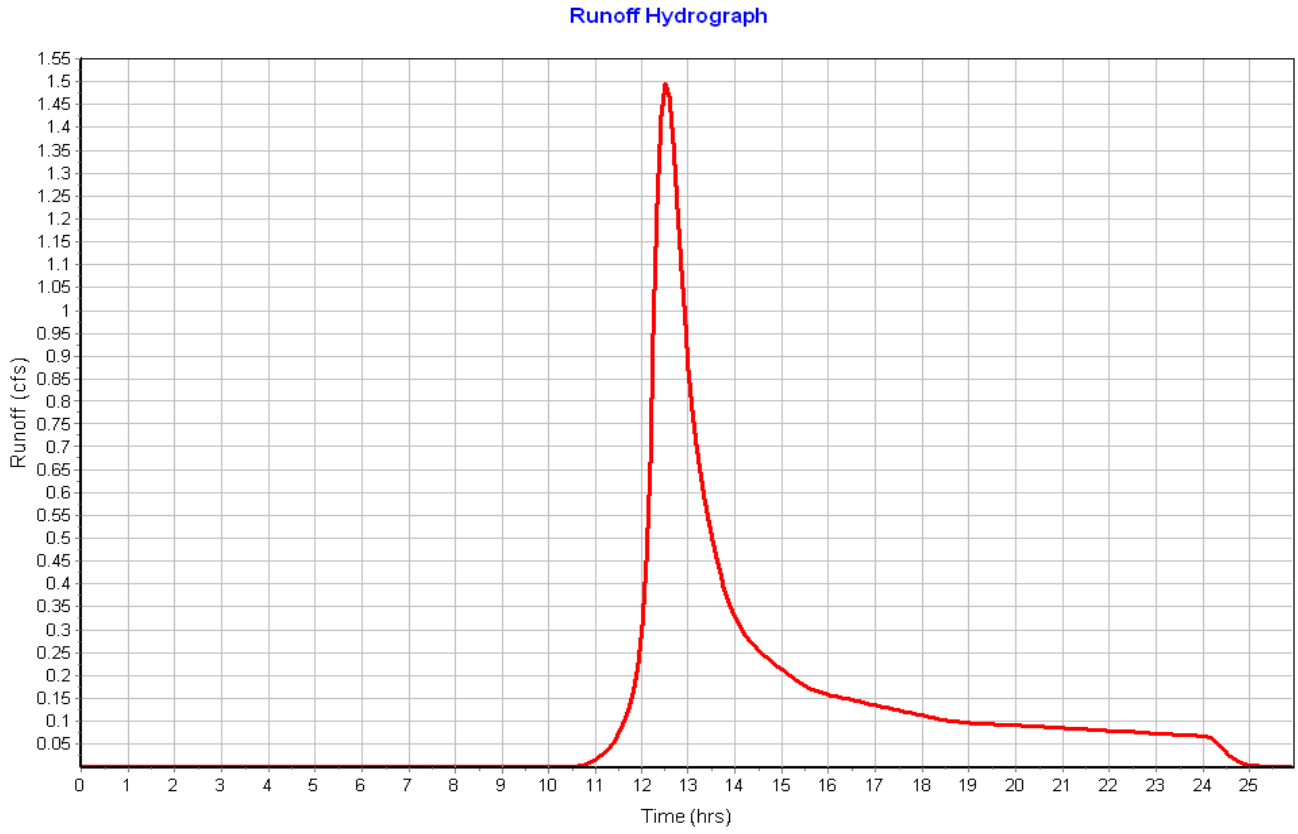
Total TOC (min) 42.07

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.19
Peak Runoff (cfs)	1.50
Weighted Curve Number	73.09
Time of Concentration (days hh:mm:ss)	0 00:42:04

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	9.20
Peak Rate Factor	484.00
Weighted Curve Number	73.58
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	5.33	C	74.00
Woods, Fair	3.87	C	73.00
Composite Area & Weighted CN	9.20		73.58

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	35.79	0.00	0.00

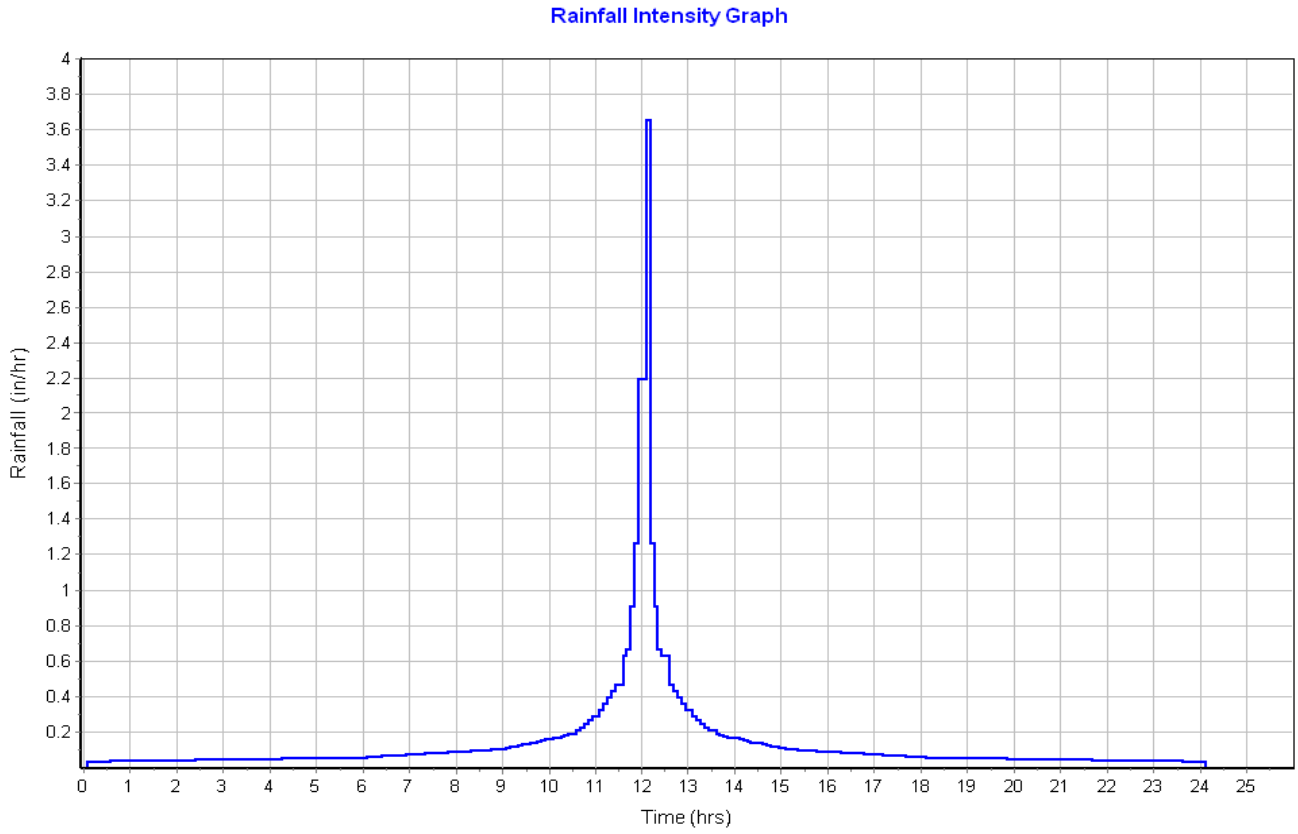
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	680.91	0.00	0.00
Slope (%) :	5	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.12	0.00	0.00
Computed Flow Time (min) :	10.13	0.00	0.00

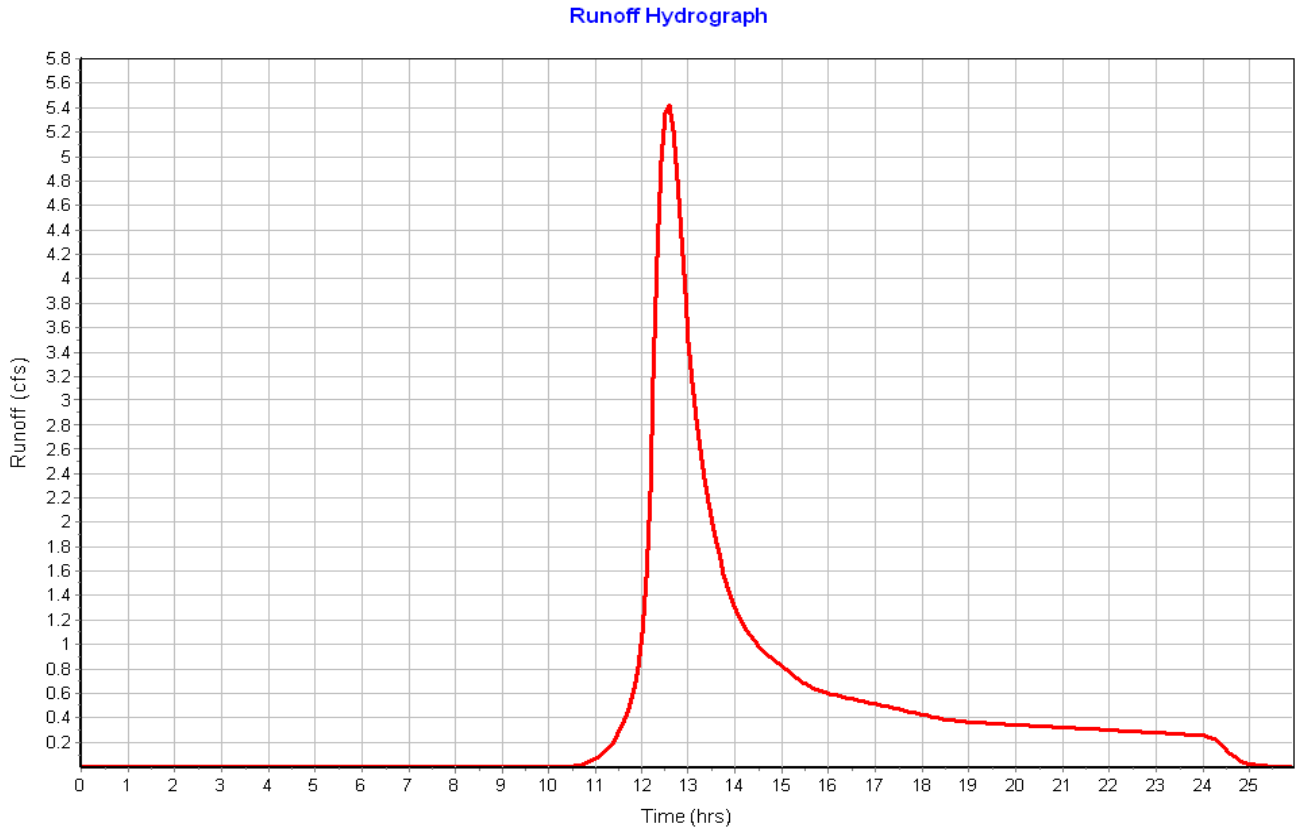
Total TOC (min) 45.92

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.21
Peak Runoff (cfs)	5.45
Weighted Curve Number	73.58
Time of Concentration (days hh:mm:ss)	0 00:45:55

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	4.36
Peak Rate Factor	484.00
Weighted Curve Number	73.02
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.29	C	73.00
> 75% grass cover, Good	0.07	C	74.00
Composite Area & Weighted CN	4.36		73.02

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

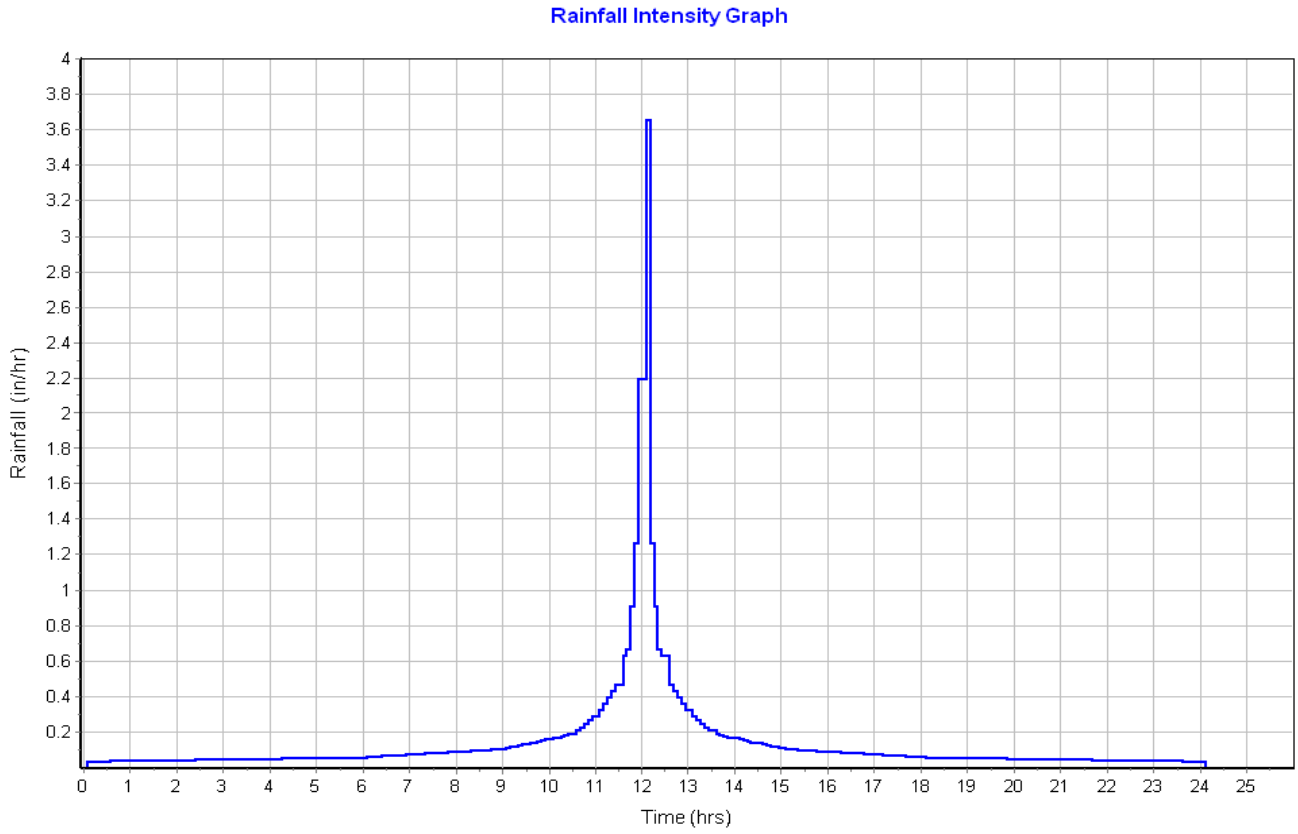
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

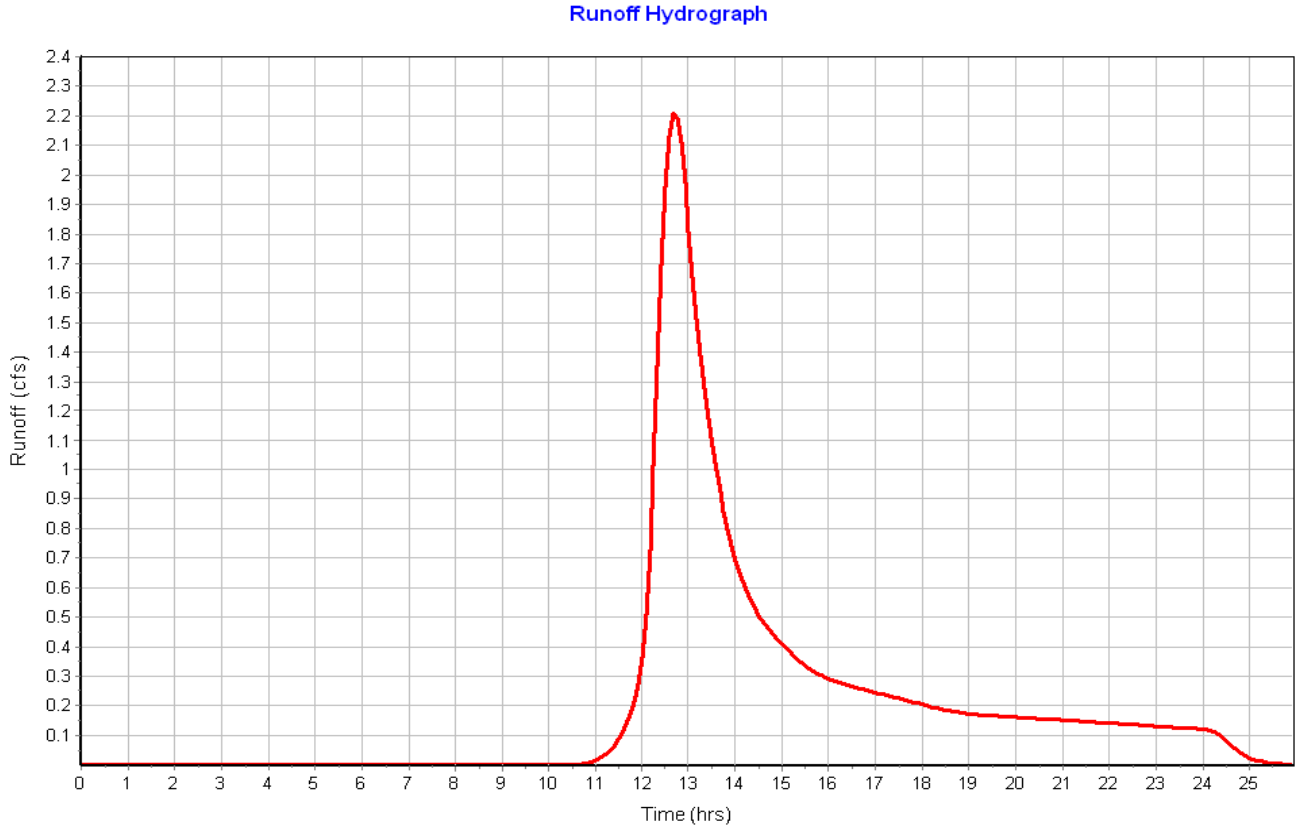
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.18
Peak Runoff (cfs)	2.21
Weighted Curve Number	73.02
Time of Concentration (days hh:mm:ss)	0 00:56:46

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 5.21
Peak Rate Factor 484.00
Weighted Curve Number 73.69
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.10	C	73.00
Paved parking & roofs	0.06	C	98.00
> 75% grass cover, Good	2.04	C	74.00
Composite Area & Weighted CN	5.20		73.69

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

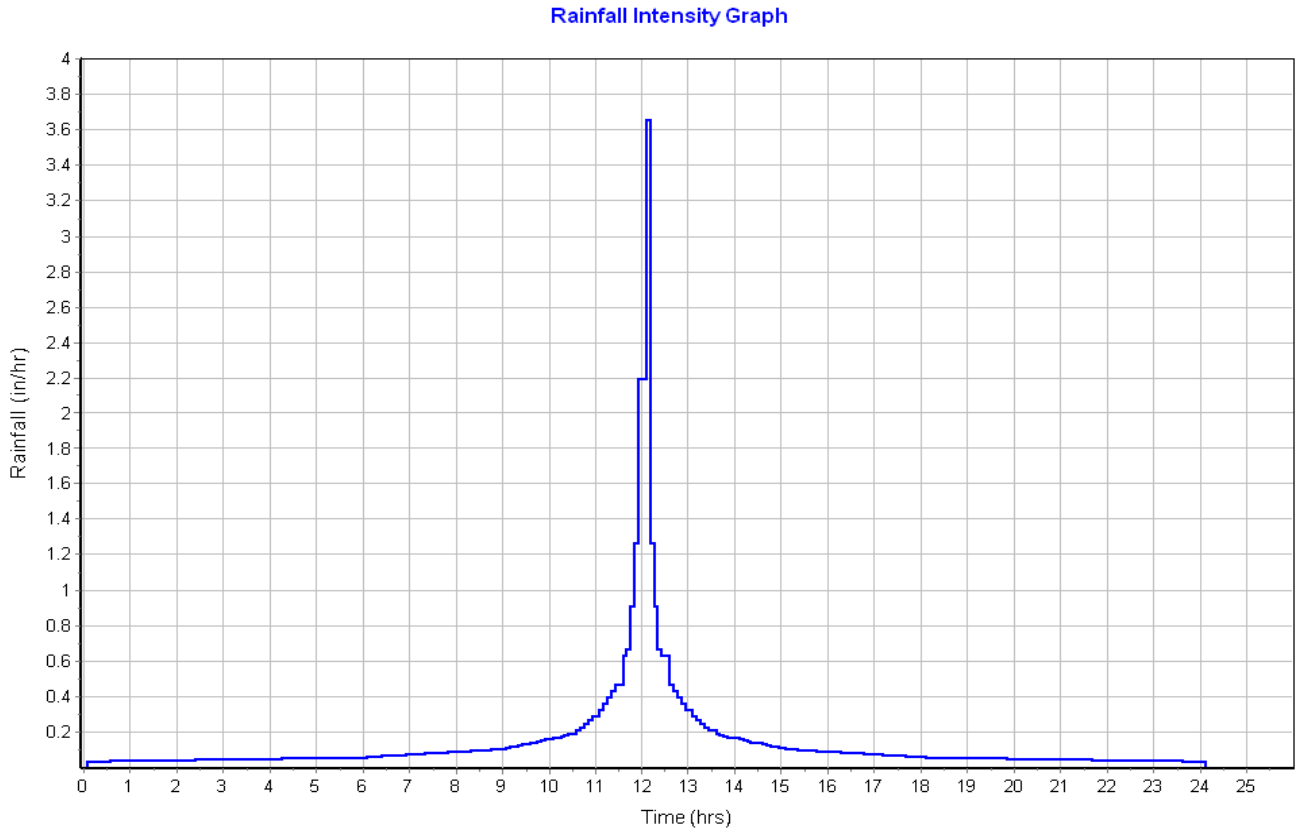
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

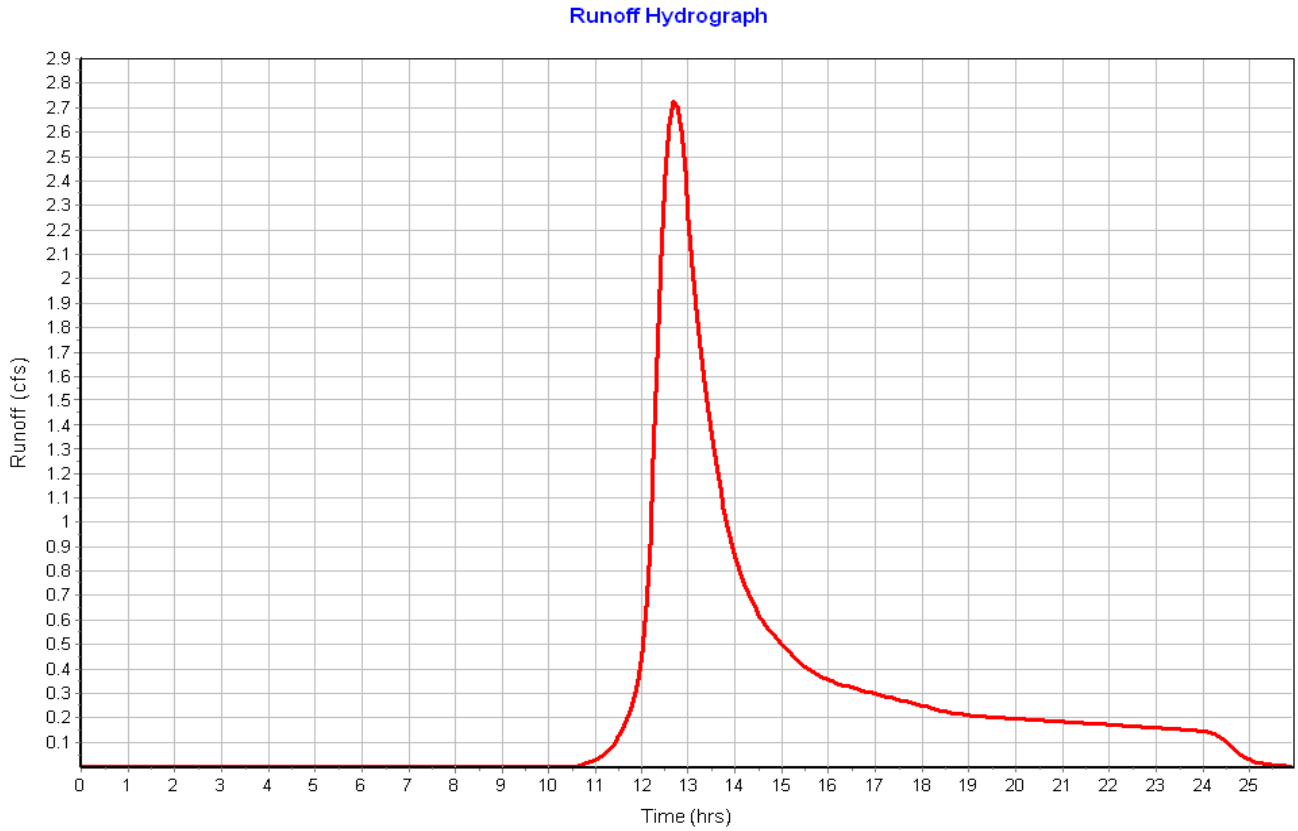
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 1.22
Peak Runoff (cfs) 2.73
Weighted Curve Number 73.69
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 4.48
Peak Rate Factor 484.00
Weighted Curve Number 73.88
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.81	C	74.00
Woods, Fair	0.34	C	73.00
Brush, Good	0.25	C	65.00
Paved parking & roofs	0.09	C	98.00
Composite Area & Weighted CN	4.49		73.88

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

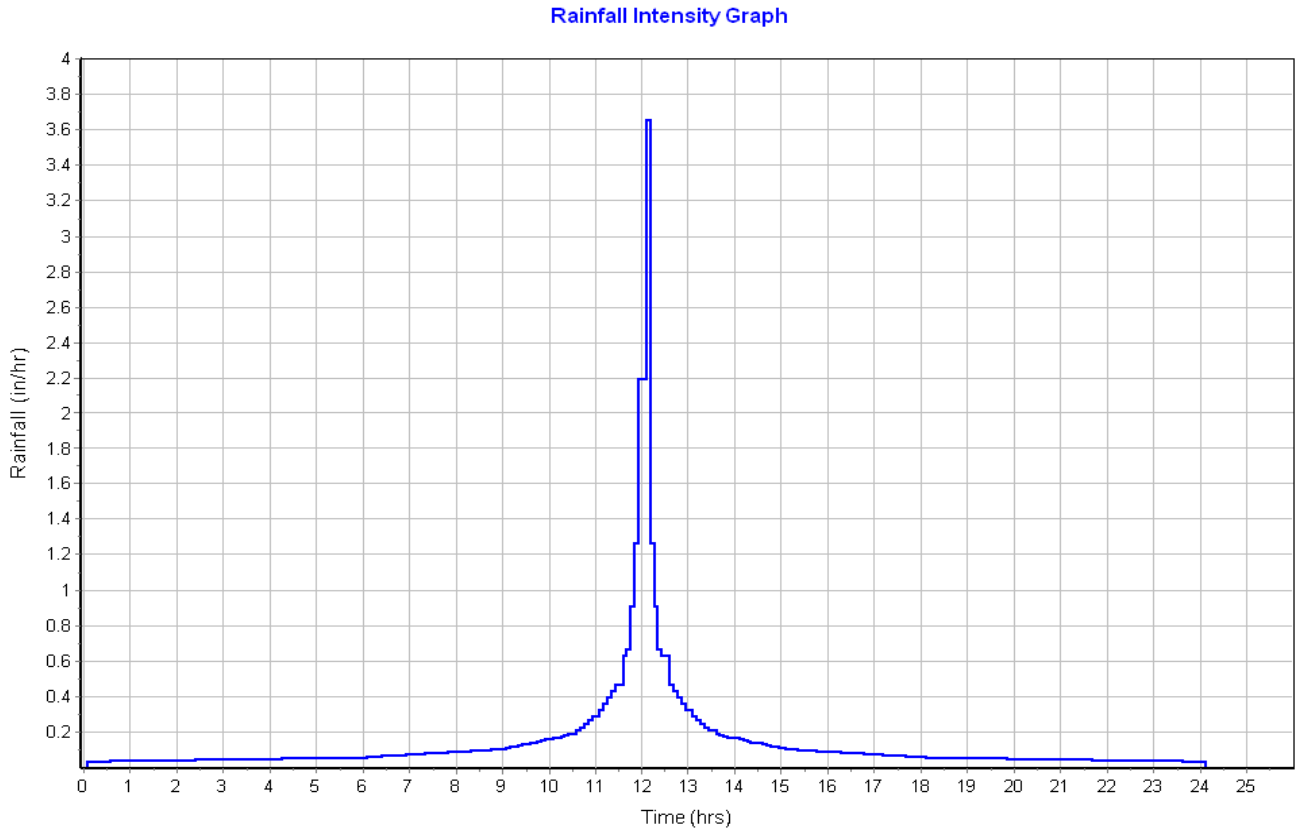
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

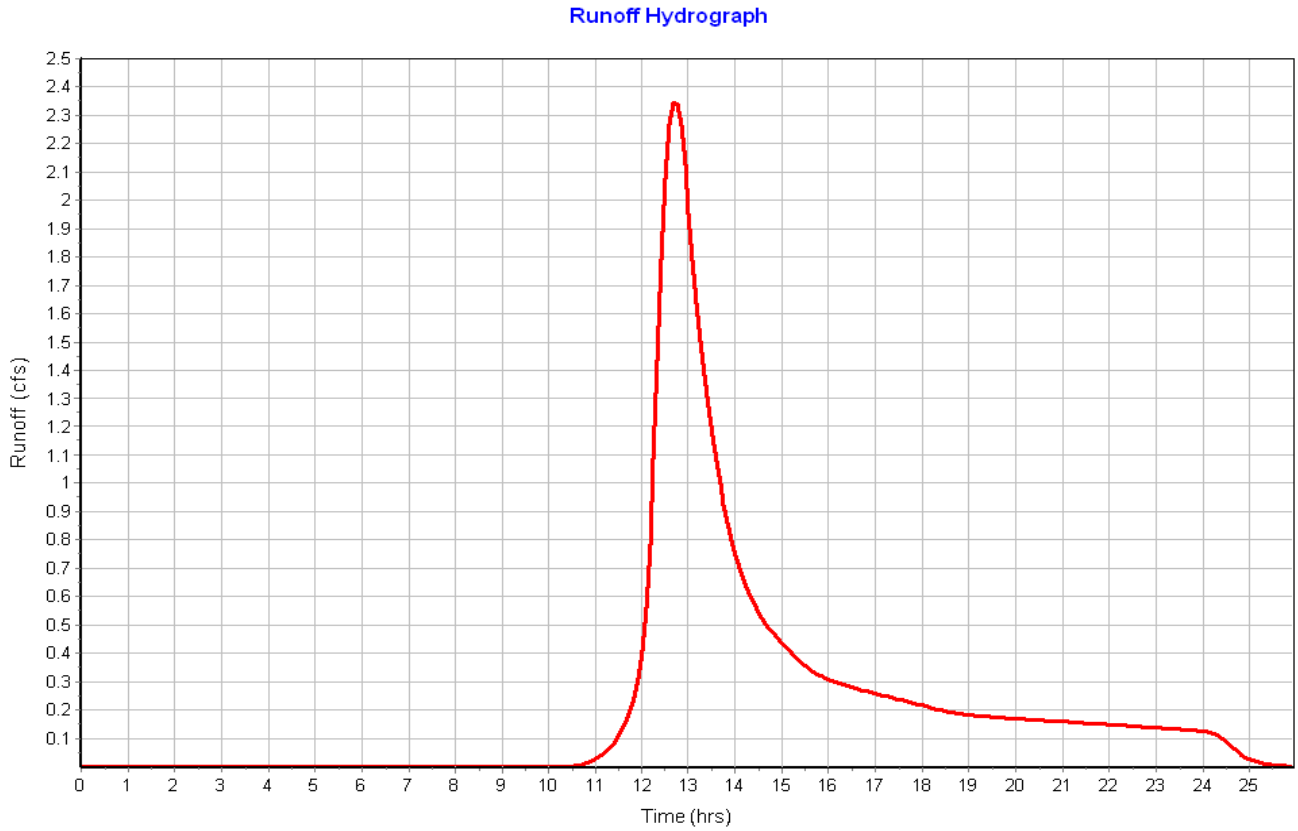
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 1.23
Peak Runoff (cfs) 2.36
Weighted Curve Number 73.88
Time of Concentration (days hh:mm:ss) 0 00:58:05

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac) 5.44
Peak Rate Factor 484.00
Weighted Curve Number 73.62
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.36	C	74.00
Woods, Fair	2.08	C	73.00
Composite Area & Weighted CN	5.44		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	4.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	36.69	0.00	0.00

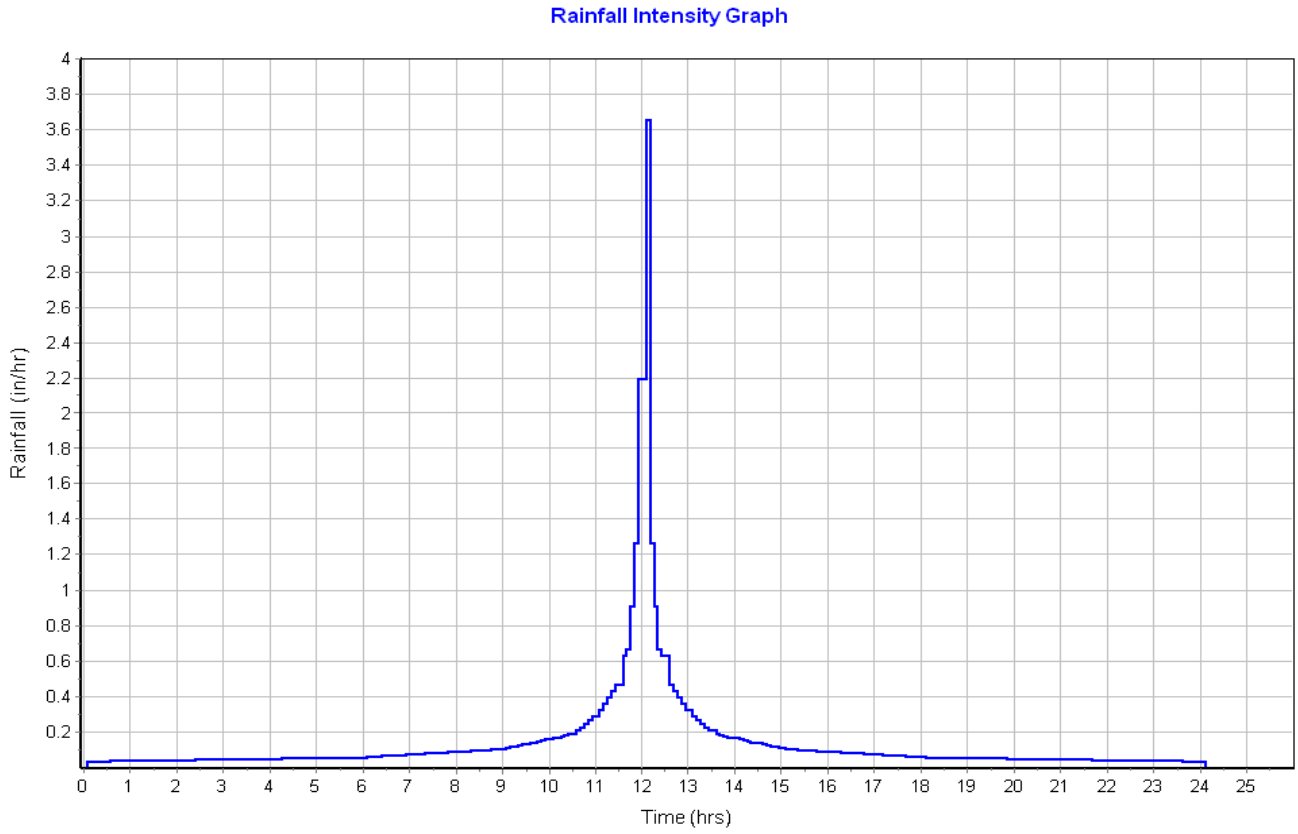
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	682.79	0.00	0.00
Slope (%) :	4.7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	10.54	0.00	0.00

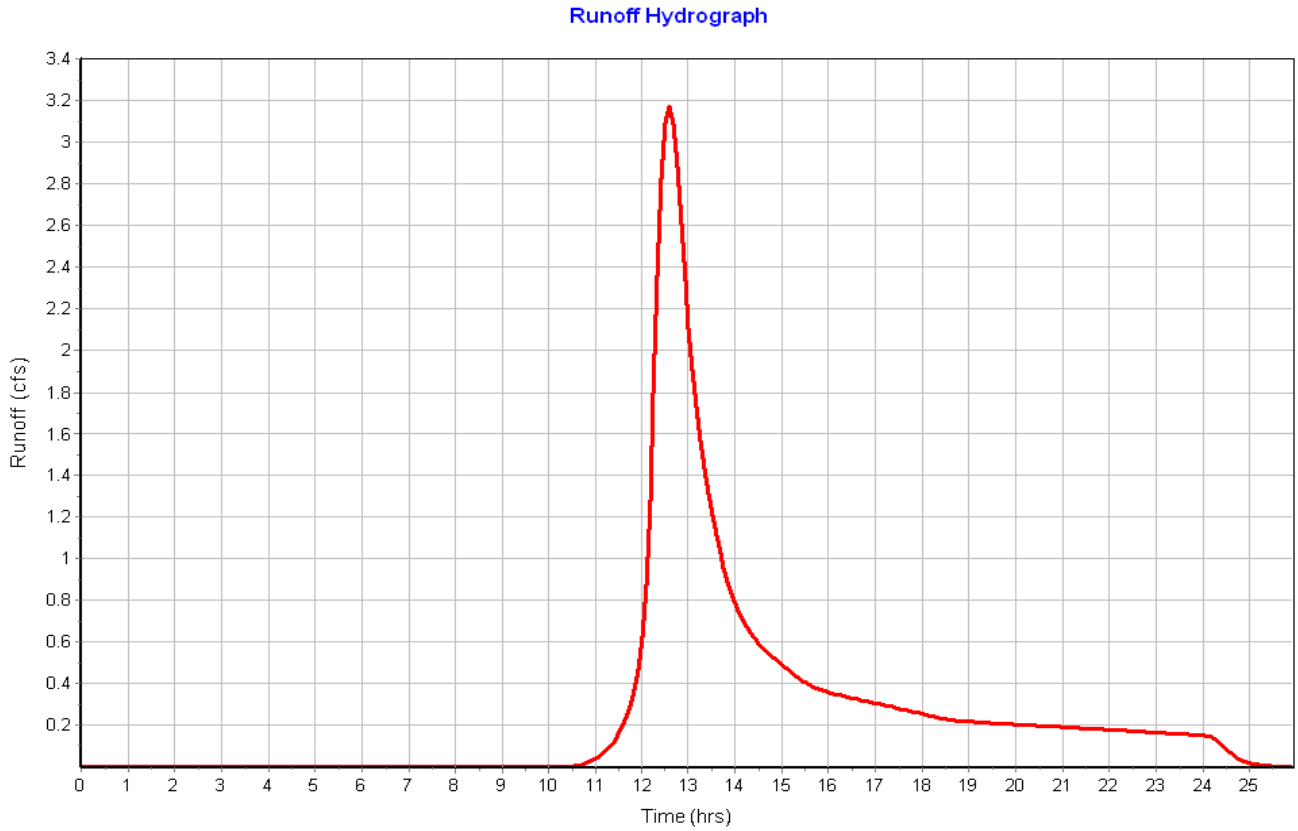
Total TOC (min) 47.22

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 1.22
Peak Runoff (cfs) 3.18
Weighted Curve Number 73.62
Time of Concentration (days hh:mm:ss) 0 00:47:13

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	3.74
Peak Rate Factor	484.00
Weighted Curve Number	73.61
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	2.29	C	74.00
Woods, Fair	1.46	C	73.00
Composite Area & Weighted CN	3.75		73.61

Time of Concentration

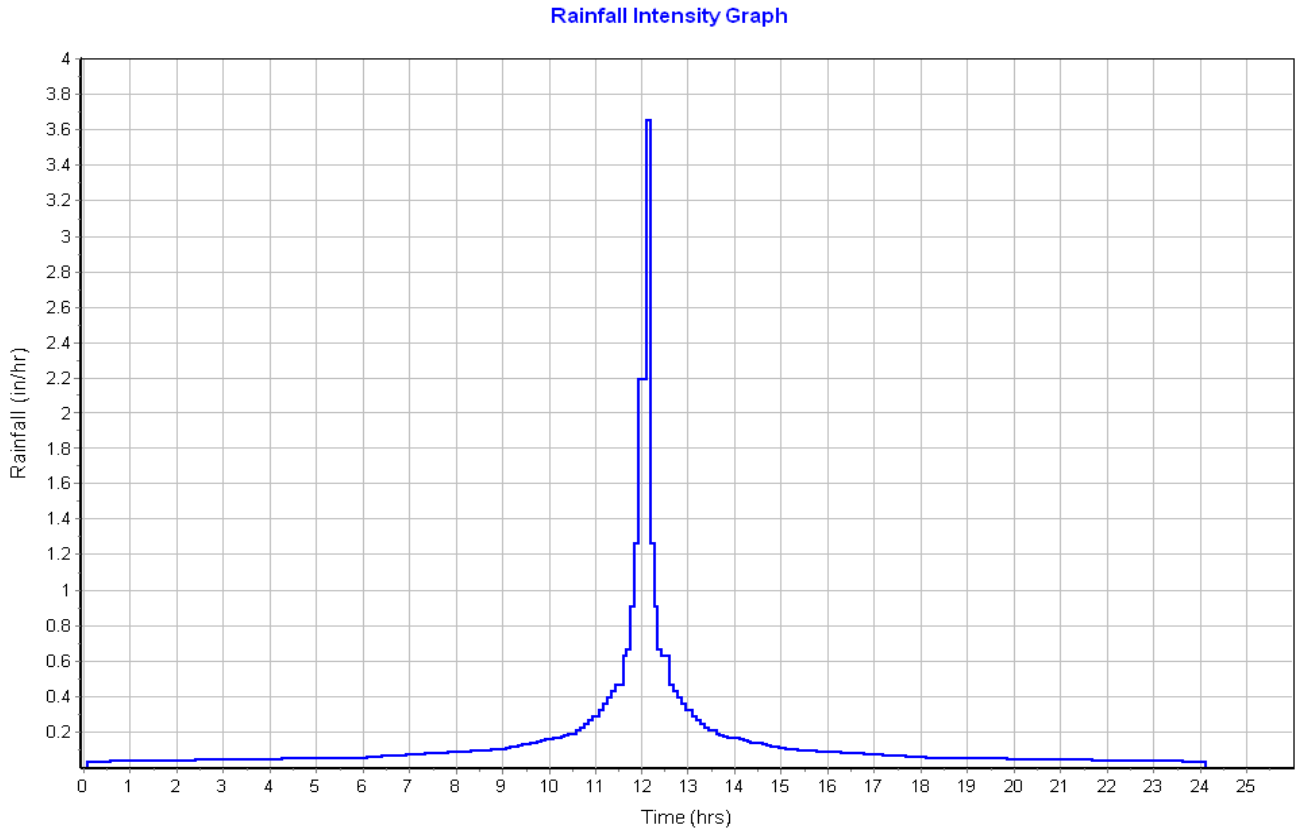
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	1.5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	57.93	0.00	0.00

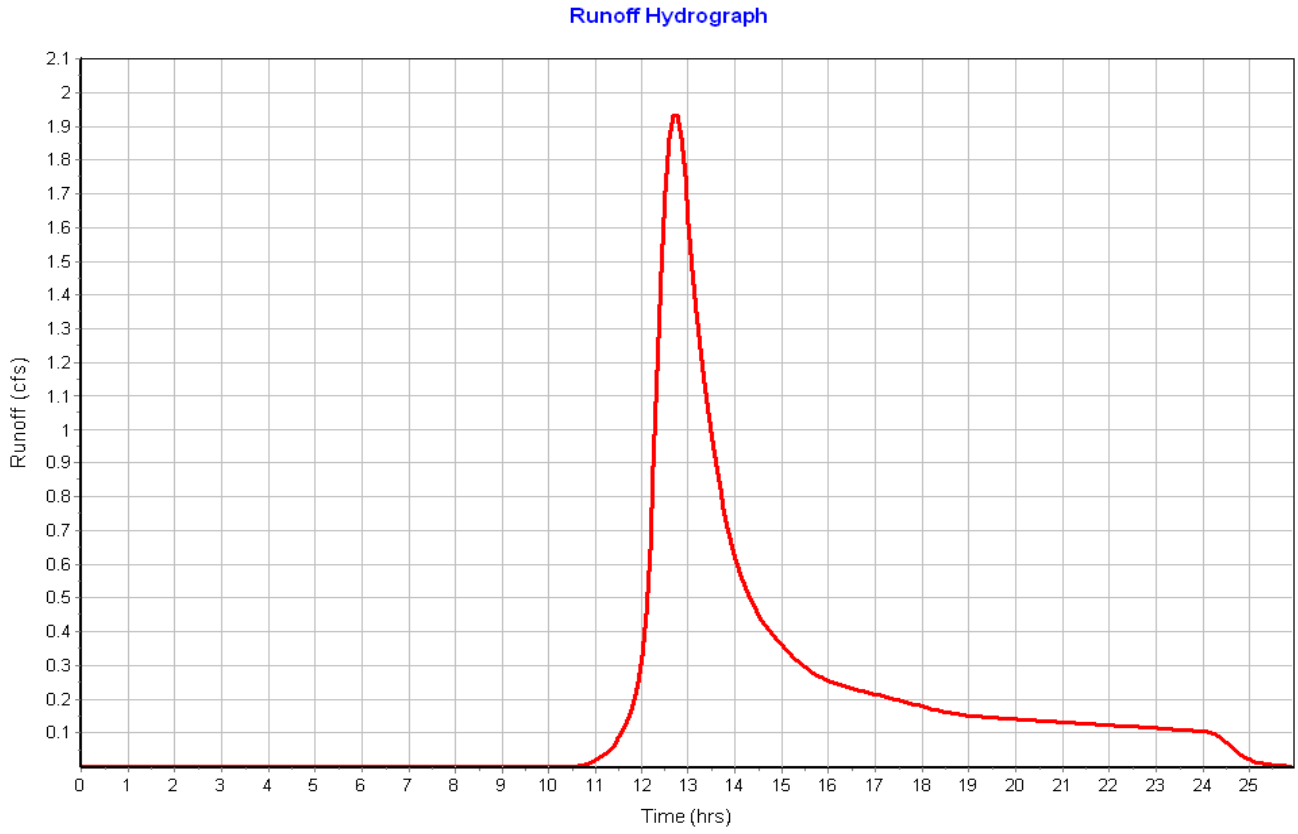
Total TOC (min) 57.93

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.22
Peak Runoff (cfs)	1.95
Weighted Curve Number	73.61
Time of Concentration (days hh:mm:ss)	0 00:57:56

Subbasin : Sub-08





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-01	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00
2	DMH-02	231.15	238.00	6.85	0.00	-231.15	0.00	-238.00	0.00	0.00
3	DMH-03	229.00	236.00	7.00	0.00	-229.00	0.00	-236.00	0.00	0.00
4	DMH-04	228.50	237.00	8.50	0.00	-228.50	0.00	-237.00	0.00	0.00
5	DMH-05	228.00	242.00	14.00	0.00	-228.00	0.00	-242.00	0.00	0.00
6	DMH-06	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	0.71	0.00	245.23	4.23	0.00	1.77	244.54	3.54	0 12:10	0 00:00	0.00	0.00
2	DMH-02	0.71	0.00	235.45	4.30	0.00	2.55	234.59	3.44	0 12:10	0 00:00	0.00	0.00
3	DMH-03	1.30	0.00	232.94	3.94	0.00	3.06	232.05	3.05	0 12:30	0 00:00	0.00	0.00
4	DMH-04	1.30	0.00	232.43	3.93	0.00	4.57	231.50	3.00	0 12:30	0 00:00	0.00	0.00
5	DMH-05	2.42	0.00	229.44	1.44	0.00	12.56	229.00	1.00	0 12:11	0 00:00	0.00	0.00
6	DMH-06	1.36	0.00	245.34	4.34	0.00	1.66	244.55	3.55	0 12:10	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-109	21.15	226.15	5.15	226.00	5.00	0.15	0.7100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-110	34.00	226.00	5.00	225.75	3.75	0.25	0.7400	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-114	102.82	222.00	5.00	220.00	1.00	2.00	1.9500	CIRCULAR	24.000	24.000	0.0200	0.5000	0.5000	0.0000	0.00	No	1
4	Link-115	237.93	221.00	4.00	217.15	6.15	3.85	1.6200	CIRCULAR	12.000	12.000	0.0200	0.5000	0.5000	0.0000	0.00	No	1
5	Link-28	42.00	214.65	4.00	212.00	0.00	2.65	6.3100	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-29	40.00	202.65	4.00	202.00	0.00	0.65	1.6300	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-30	215.00	210.15	0.50	207.00	4.00	3.15	1.4700	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-31	17.51	245.15	4.00	245.00	4.00	0.15	0.8600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
9	Link-32	24.09	245.15	4.00	245.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
10	Link-33	139.54	245.00	4.00	235.15	4.00	9.85	7.0600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-34	76.23	235.15	4.00	233.15	4.15	2.00	2.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
12	Link-35	24.01	233.15	233.15	233.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
13	Link-36	15.56	233.15	233.15	233.00	4.00	0.15	0.9600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
14	Link-37	38.28	234.50	3.35	233.15	4.15	1.35	3.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
15	Link-38	32.64	232.50	3.50	232.00	3.50	0.50	1.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
16	Link-39	18.32	233.15	233.15	233.00	4.50	0.15	0.8200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
17	Link-40	10.99	233.15	233.15	233.00	4.50	0.15	1.3600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
18	Link-41	130.94	232.00	3.50	230.00	2.00	2.00	1.5300	CIRCULAR	18.000	18.000	0.0200	2.0000	0.8000	0.0000	0.00	No	1
19	Link-42	23.74	245.15	4.00	245.00	4.00	0.15	0.6300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
20	Link-43	19.02	245.15	4.00	245.00	4.00	0.15	0.7900	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
21	Link-44	100.67	245.00	4.00	239.15	11.15	5.85	5.8100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
22	Link-45	245.00	229.00	1.00	220.00	1.00	9.00	3.6700	CIRCULAR	18.000	18.000	0.0200	0.0200	0.5000	0.0000	0.00	No	1
23	Link-62	33.00	217.15	6.15	216.75	3.75	0.40	1.2100	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
24	Link-63	52.00	217.15	6.15	216.75	3.75	0.40	0.7700	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
25	Link-77	67.00	207.65	4.00	207.00	1.00	0.65	0.9700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
26	Link-78	47.00	207.65	4.00	207.00	1.00	0.65	1.3800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-109	0.77	0 12:10	1.95	0.40	2.19	0.16	0.46	0.46	0.00		Calculated
2	Link-110	0.99	0 12:10	5.85	0.17	2.56	0.22	0.40	0.27	0.00		Calculated
3	Link-114	0.56	0 12:42	20.51	0.03	2.81	0.61	0.23	0.11	0.00		Calculated
4	Link-115	3.05	0 12:42	2.95	1.04	4.28	0.93	0.87	0.87	0.00		> CAPACITY
5	Link-28	1.27	0 13:15	17.15	0.07	5.53	0.13	0.28	0.19	0.00		Calculated
6	Link-29	0.19	1 00:59	8.70	0.02	1.93	0.35	0.16	0.10	0.00		Calculated
7	Link-30	3.18	0 12:58	8.26	0.39	4.31	0.83	0.65	0.44	0.00		Calculated
8	Link-31	0.23	0 12:10	2.14	0.11	1.65	0.18	0.23	0.23	0.00		Calculated
9	Link-32	0.48	0 12:10	1.83	0.26	2.08	0.19	0.34	0.34	0.00		Calculated
10	Link-33	0.71	0 12:10	6.15	0.12	4.25	0.55	0.26	0.27	0.00		Calculated
11	Link-34	0.70	0 12:10	3.75	0.19	3.56	0.36	0.29	0.30	0.00		Calculated
12	Link-35	0.00	0 00:00	1.83	0.00	0.00		0.00	0.00	0.00		Calculated
13	Link-36	0.00	0 00:00	2.27	0.00	0.00		0.00	0.00	0.00		Calculated
14	Link-37	1.17	0 12:30	12.82	0.09	4.27	0.15	0.32	0.21	0.00		Calculated
15	Link-38	1.30	0 12:30	8.45	0.15	3.06	0.18	0.43	0.29	0.00		Calculated
16	Link-39	0.00	0 00:00	2.10	0.00	0.00		0.00	0.00	0.00		Calculated
17	Link-40	0.00	0 00:00	2.71	0.00	0.00		0.00	0.00	0.00		Calculated
18	Link-41	1.30	0 12:30	8.44	0.15	3.29	0.66	0.41	0.28	0.00		Calculated
19	Link-42	0.30	0 12:10	1.84	0.16	1.40	0.28	0.32	0.32	0.00		Calculated
20	Link-43	1.06	0 12:10	2.06	0.52	2.68	0.12	0.50	0.50	0.00		Calculated
21	Link-44	1.35	0 12:10	5.58	0.24	5.74	0.29	0.34	0.34	0.00		Calculated
22	Link-45	2.39	0 12:11	13.09	0.18	5.60	0.73	0.42	0.29	0.00		Calculated
23	Link-62	3.23	0 12:27	16.19	0.20	3.78	0.15	0.63	0.32	0.00		Calculated
24	Link-63	0.92	0 12:10	5.99	0.15	2.53	0.34	0.39	0.26	0.00		Calculated
25	Link-77	0.84	0 12:10	2.28	0.37	2.75	0.41	0.41	0.41	0.00		Calculated
26	Link-78	0.41	0 12:10	2.72	0.15	2.45	0.32	0.27	0.27	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 215.00
Max (Rim) Elevation (ft) 218.00
Max (Rim) Offset (ft) 3.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -215.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

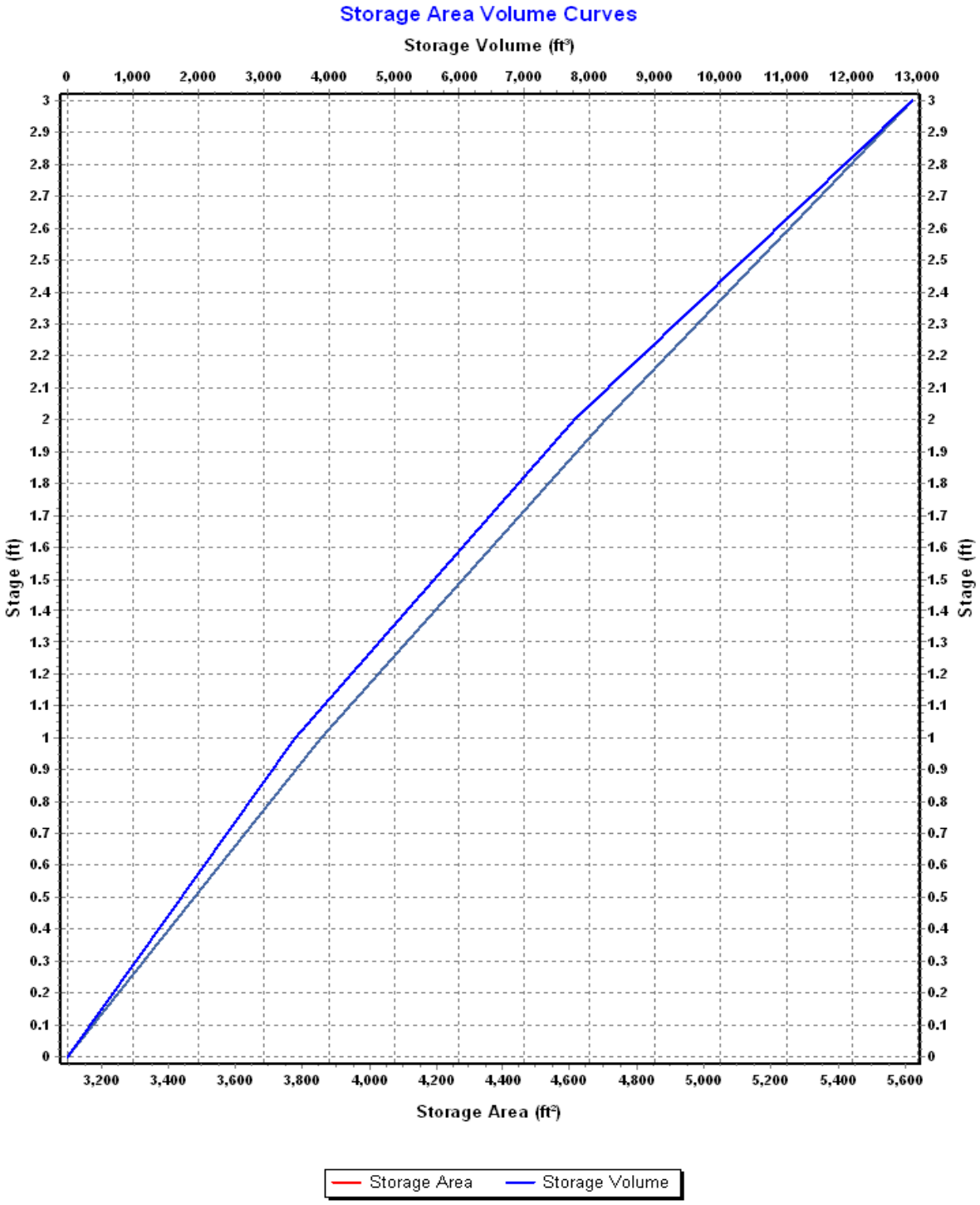
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	3100	0.000
1	3855	3477.50
2	4709	7759.50
3	5621	12924.50


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
13,000
Stage (ft)
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3,200
3,400
3,600
3,800
4,000
4,200
4,400
4,600
4,800
5,000
5,200
5,400
5,600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice3	Side Flow	No	217.50	2.50	5.00	0.25	0.61
2	Orifice4	Trapezoidal	No	217.50	2.50	5.00	0.25	3.33
3	Weir-02	Trapezoidal	No	217.80	2.80	30.00	0.20	3.33
4	Weir-03	Trapezoidal	No	217.75	2.75	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-03	Side	CIRCULAR	No	3.00			216.20	0.61

Output Summary Results

Peak Inflow (cfs)	3.24
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.27
Peak Exfiltration Flow Rate (cfm)	1.98
Max HGL Elevation Attained (ft)	217.64
Max HGL Depth Attained (ft)	2.64
Average HGL Elevation Attained (ft)	216.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 13:15
Total Exfiltration Volume (1000-ft³)	1.684
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	217.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

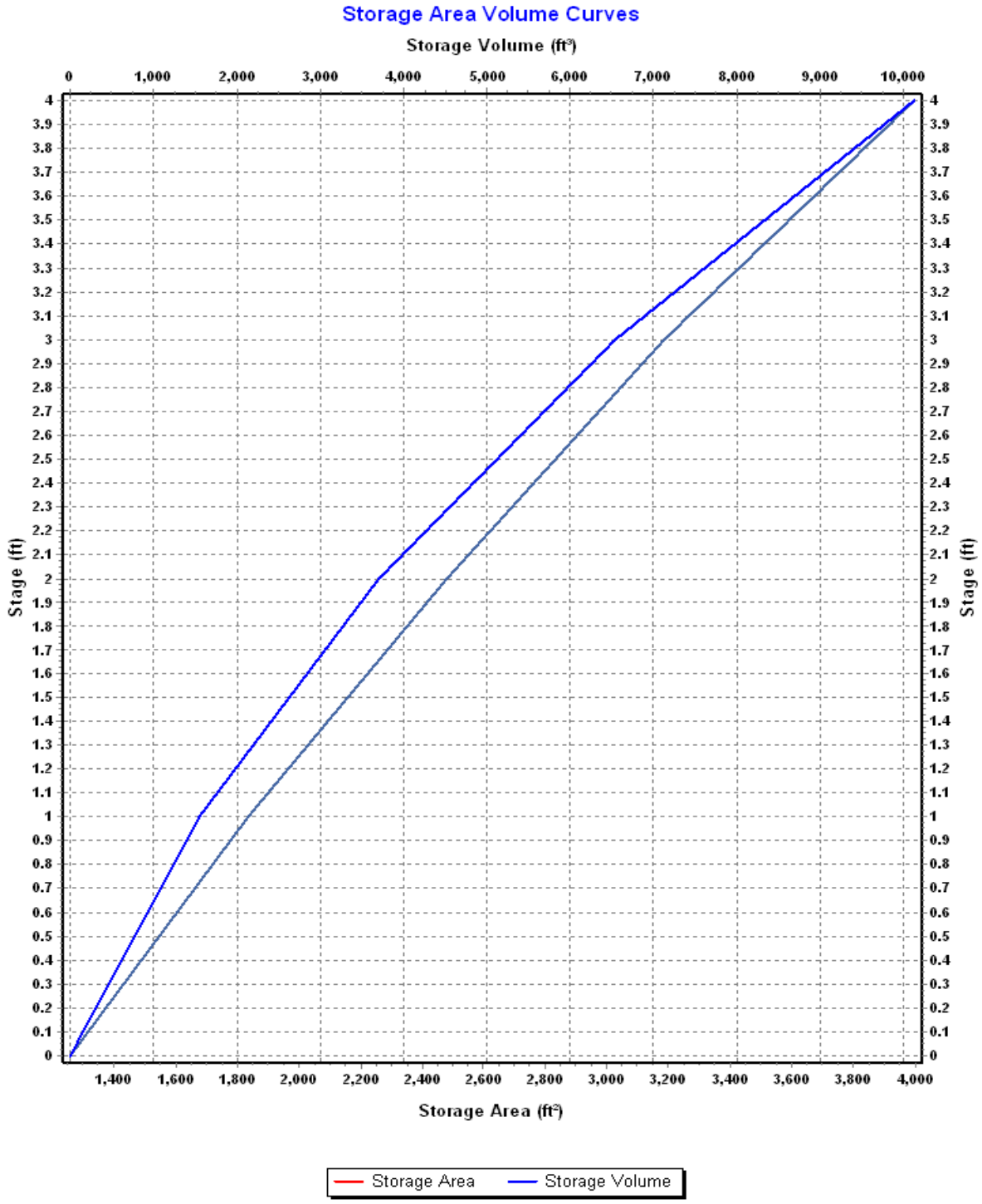
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1257	0.000
1	1833	1545.00
2	2480	3701.50
3	3184	6533.50
4	3997	10124.00


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
Stage (ft)
Storage Area (ft²)
1,400
1,600
1,800
2,000
2,200
2,400
2,600
2,800
3,000
3,200
3,400
3,600
3,800
4,000
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-06	Trapezoidal	No	216.90	3.90	20.00	0.10	3.33
2	Weir-07	Trapezoidal	No	216.50	3.50	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-04	Side	CIRCULAR	No	3.00			214.00	0.61

Output Summary Results

Peak Inflow (cfs)	3.40
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	3.18
Peak Exfiltration Flow Rate (cfm)	1.41
Max HGL Elevation Attained (ft)	216.72
Max HGL Depth Attained (ft)	3.72
Average HGL Elevation Attained (ft)	215.26
Average HGL Depth Attained (ft)	2.26
Time of Max HGL Occurrence (days hh:mm)	0 12:58
Total Exfiltration Volume (1000-ft³)	1.322
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	203.00
Max (Rim) Elevation (ft)	206.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

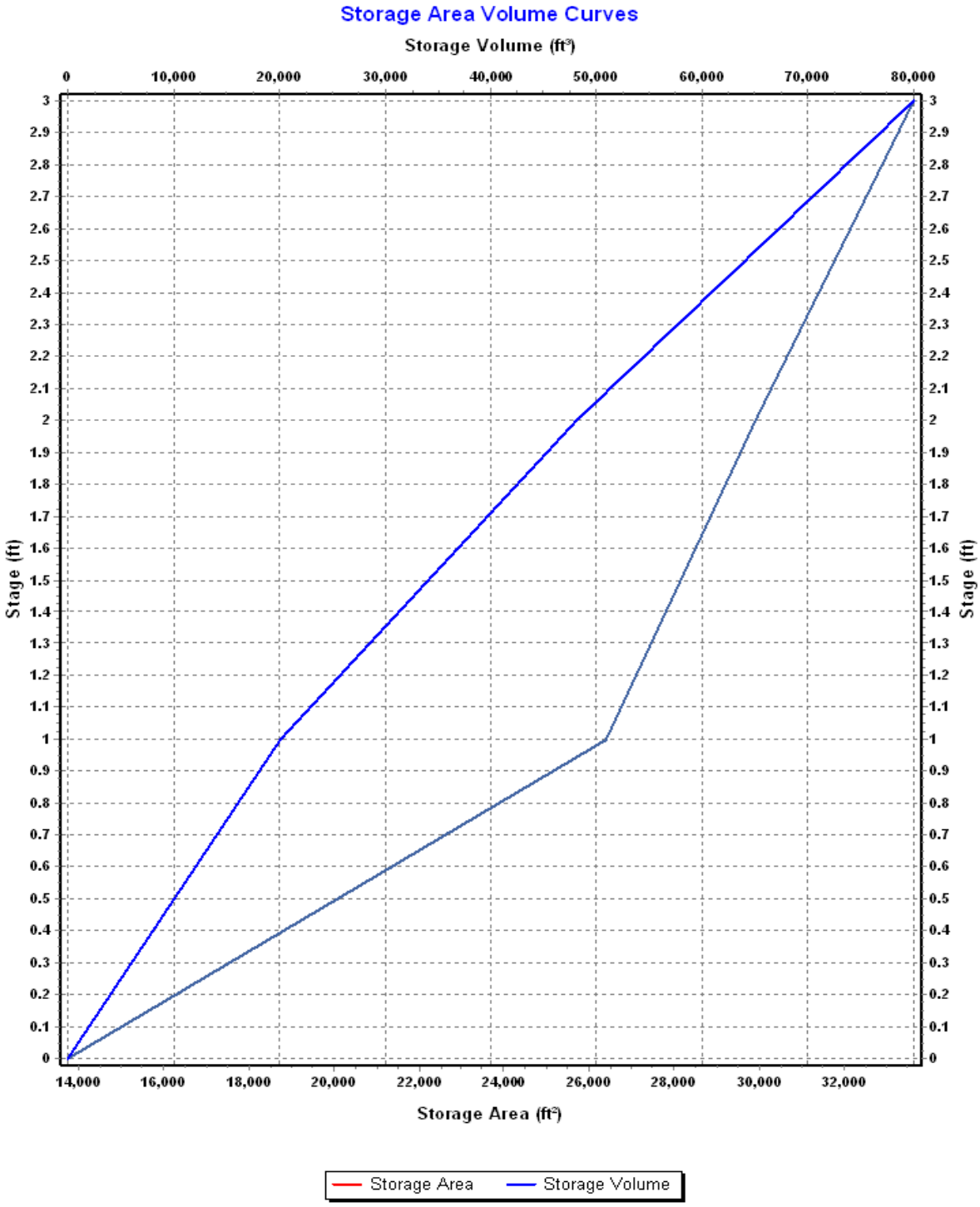
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	13751	0.000
1	26384	20067.50
2	29915	48217.00
3	33625	79987.00


Storage Area Volume Curves
Storage Volume (ft³)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Stage (ft)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
2.9
3
14,000
16,000
18,000
20,000
22,000
24,000
26,000
28,000
30,000
32,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-09	Trapezoidal	No	204.75	1.75	8.00	0.25	3.33
2	Weir-10	Trapezoidal	No	205.00	2.00	30.00	0.20	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-05	Side	CIRCULAR	No	3.00			203.75	0.61

Output Summary Results

Peak Inflow (cfs)	5.15
Peak Lateral Inflow (cfs)	1.93
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	10.53
Max HGL Elevation Attained (ft)	204.48
Max HGL Depth Attained (ft)	1.48
Average HGL Elevation Attained (ft)	203.57
Average HGL Depth Attained (ft)	0.57
Time of Max HGL Occurrence (days hh:mm)	1 00:59
Total Exfiltration Volume (1000-ft³)	9.357
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

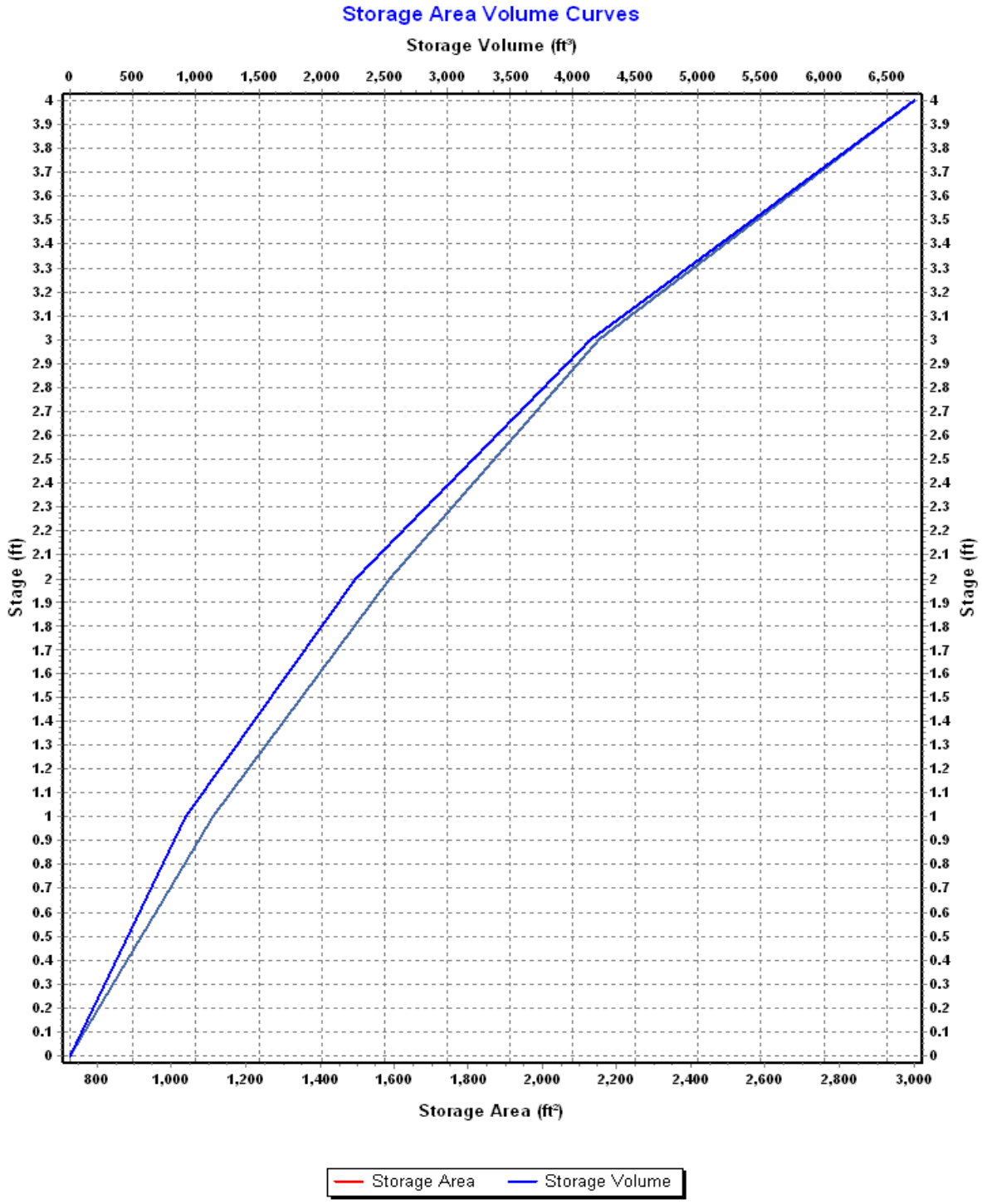
Input Data

Invert Elevation (ft)	222.00
Max (Rim) Elevation (ft)	226.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-222.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	728	0.000
1	1112	920.00
2	1589	2270.50
3	2153	4141.50
4	3001	6718.50


Storage Area Volume Curves
Storage Volume (ft³)
0 500 1,000 1,500 2,000 2,500 3,000 3,500 4,000 4,500 5,000 5,500 6,000 6,500
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4
800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400 2,600 2,800 3,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice2	Trapezoidal	No	225.00	3.00	5.00	0.25	3.33
2	OrificeforOCS	Side Flow	No	225.00	3.00	5.00	0.25	0.61
3	Weir-17	Trapezoidal	No	225.50	3.50	20.00	0.50	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-02	Side	CIRCULAR	No	3.00			223.00	0.61

Output Summary Results

Peak Inflow (cfs)	3.75
Peak Lateral Inflow (cfs)	3.26
Peak Outflow (cfs)	3.62
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	225.34
Max HGL Depth Attained (ft)	3.34
Average HGL Elevation Attained (ft)	224.19
Average HGL Depth Attained (ft)	2.19
Time of Max HGL Occurrence (days hh:mm)	0 12:41
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	231.15
Max (Rim) Elevation (ft)	238.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-231.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.17
Peak Lateral Inflow (cfs)	1.17
Peak Outflow (cfs)	1.17
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	234.83
Max HGL Depth Attained (ft)	3.68
Average HGL Elevation Attained (ft)	233.85
Average HGL Depth Attained (ft)	2.7
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.49
Peak Lateral Inflow (cfs)	0.49
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.53
Max HGL Depth Attained (ft)	4.38
Average HGL Elevation Attained (ft)	244.93
Average HGL Depth Attained (ft)	3.78
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.39
Max HGL Depth Attained (ft)	4.24
Average HGL Elevation Attained (ft)	244.76
Average HGL Depth Attained (ft)	3.61
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.26
Peak Lateral Inflow (cfs)	0.26
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	61.52
Max HGL Depth Attained (ft)	61.52
Average HGL Elevation Attained (ft)	34.27
Average HGL Depth Attained (ft)	34.27
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	44.54
Max HGL Depth Attained (ft)	44.54
Average HGL Elevation Attained (ft)	24.77
Average HGL Depth Attained (ft)	24.77
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.51
Peak Lateral Inflow (cfs)	0.51
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	122.84
Max HGL Depth Attained (ft)	122.84
Average HGL Elevation Attained (ft)	68.44
Average HGL Depth Attained (ft)	68.44
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-08

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	56.01
Max HGL Depth Attained (ft)	56.01
Average HGL Elevation Attained (ft)	31.13
Average HGL Depth Attained (ft)	31.13
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-09

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.30
Peak Lateral Inflow (cfs)	0.30
Peak Outflow (cfs)	0.30
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.44
Max HGL Depth Attained (ft)	4.29
Average HGL Elevation Attained (ft)	244.83
Average HGL Depth Attained (ft)	3.68
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-10

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.07
Peak Lateral Inflow (cfs)	0.44
Peak Outflow (cfs)	1.06
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.72
Max HGL Depth Attained (ft)	4.57
Average HGL Elevation Attained (ft)	244.95
Average HGL Depth Attained (ft)	3.8
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-15

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	229.00
Max (Rim) Offset (ft)	8.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.78
Peak Lateral Inflow (cfs)	0.78
Peak Outflow (cfs)	0.77
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	226.63
Max HGL Depth Attained (ft)	5.63
Average HGL Elevation Attained (ft)	225.45
Average HGL Depth Attained (ft)	4.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-16

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	229.00
Max (Rim) Offset (ft)	8.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.00
Peak Lateral Inflow (cfs)	0.33
Peak Outflow (cfs)	0.99
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	226.44
Max HGL Depth Attained (ft)	5.44
Average HGL Elevation Attained (ft)	225.35
Average HGL Depth Attained (ft)	4.35
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-17

Input Data

Invert Elevation (ft)	211.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	9.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.93
Peak Lateral Inflow (cfs)	0.51
Peak Outflow (cfs)	0.92
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	217.57
Max HGL Depth Attained (ft)	6.57
Average HGL Elevation Attained (ft)	216.69
Average HGL Depth Attained (ft)	5.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-18

Input Data

Invert Elevation (ft)	211.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	9.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.23
Peak Lateral Inflow (cfs)	0.91
Peak Outflow (cfs)	3.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	217.81
Max HGL Depth Attained (ft)	6.81
Average HGL Elevation Attained (ft)	217.02
Average HGL Depth Attained (ft)	6.02
Time of Max HGL Occurrence (days hh:mm)	0 12:27
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-19

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.86
Peak Lateral Inflow (cfs)	0.86
Peak Outflow (cfs)	0.84
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	208.09
Max HGL Depth Attained (ft)	4.44
Average HGL Elevation Attained (ft)	207.50
Average HGL Depth Attained (ft)	3.85
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-20

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.42
Peak Lateral Inflow (cfs)	0.42
Peak Outflow (cfs)	0.41
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.92
Max HGL Depth Attained (ft)	4.27
Average HGL Elevation Attained (ft)	207.38
Average HGL Depth Attained (ft)	3.73
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP01

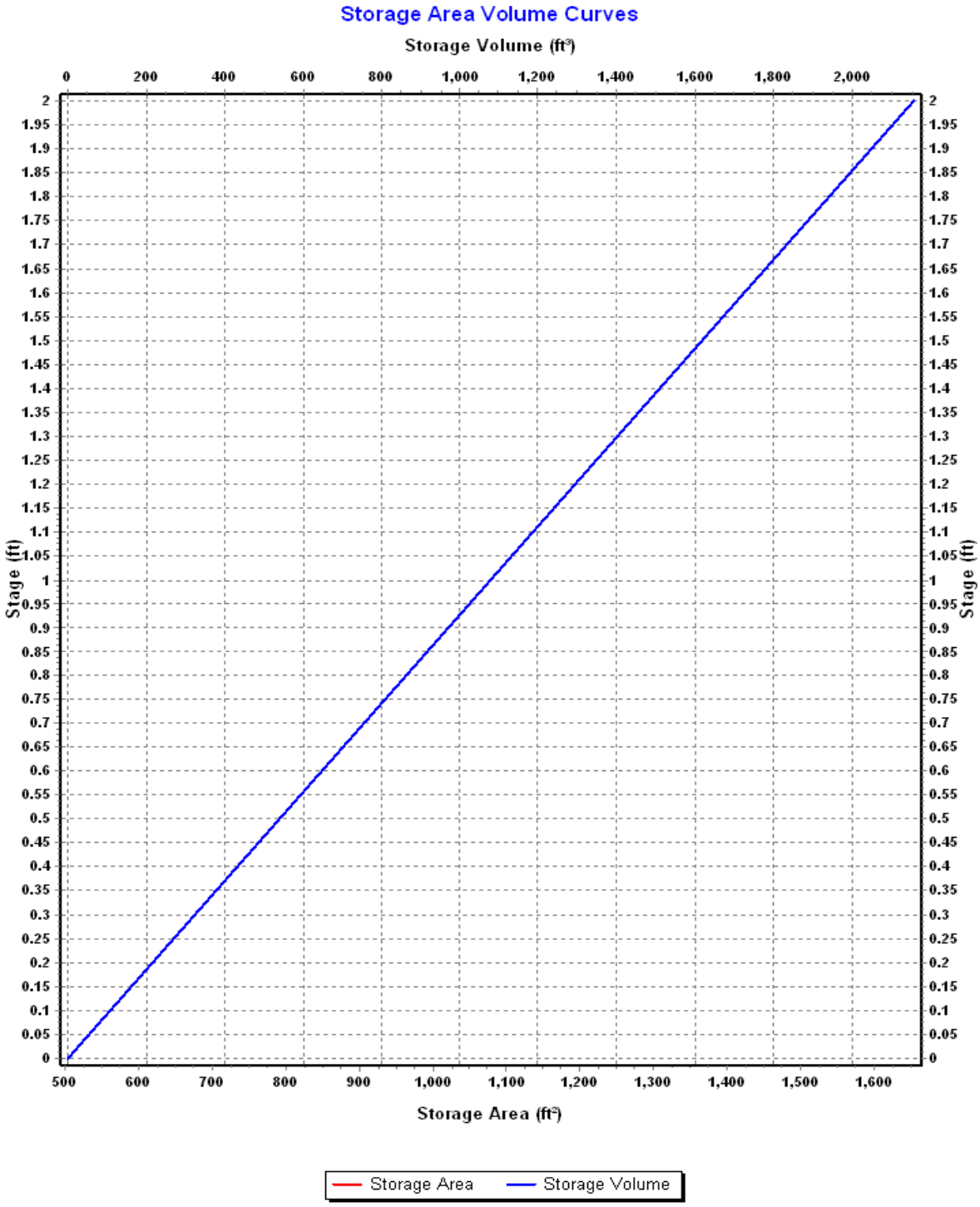
Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	504	0.000
2	1653	2157.00


Storage Area Volume Curves
Storage Volume (ft³)
0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Storage Area (ft²)
500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600
Storage Area
Storage Volume

Storage Node : Forebay_BMP01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	219.50	0.50	40.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	3.25
Peak Lateral Inflow (cfs)	1.49
Peak Outflow (cfs)	3.24
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	219.58
Max HGL Depth Attained (ft)	0.58
Average HGL Elevation Attained (ft)	219.43
Average HGL Depth Attained (ft)	0.43
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP03

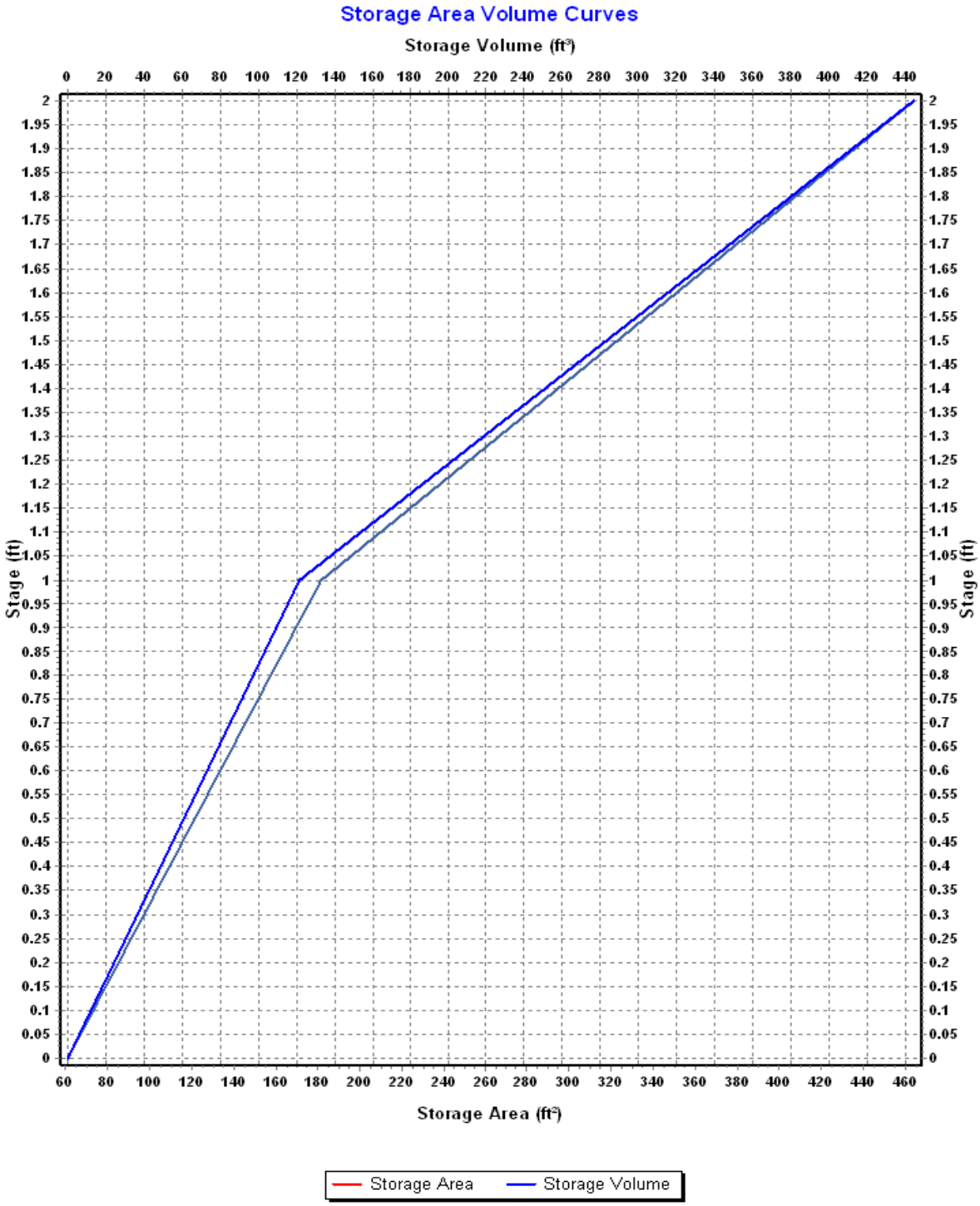
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	61	0.000
1	182	121.50
2	464	444.50


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Forebay_BMP03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	207.00	1.00	50.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	1.25
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.04
Max HGL Depth Attained (ft)	1.04
Average HGL Elevation Attained (ft)	206.89
Average HGL Depth Attained (ft)	0.89
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	210.65
Max (Rim) Elevation (ft)	217.75
Max (Rim) Offset (ft)	7.10
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-210.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.27
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.27
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	214.94
Max HGL Depth Attained (ft)	4.29
Average HGL Elevation Attained (ft)	213.00
Average HGL Depth Attained (ft)	2.35
Time of Max HGL Occurrence (days hh:mm)	0 13:15
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	209.65
Max (Rim) Elevation (ft)	216.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-209.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.18
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	3.18
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	210.81
Max HGL Depth Attained (ft)	1.16
Average HGL Elevation Attained (ft)	210.20
Average HGL Depth Attained (ft)	0.55
Time of Max HGL Occurrence (days hh:mm)	0 12:58
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	198.65
Max (Rim) Elevation (ft)	204.75
Max (Rim) Offset (ft)	6.10
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-198.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	202.80
Max HGL Depth Attained (ft)	4.15
Average HGL Elevation Attained (ft)	200.10
Average HGL Depth Attained (ft)	1.45
Time of Max HGL Occurrence (days hh:mm)	1 00:59
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	217.00
Max (Rim) Elevation (ft)	225.50
Max (Rim) Offset (ft)	8.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.62
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	3.61
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	222.23
Max HGL Depth Attained (ft)	5.23
Average HGL Elevation Attained (ft)	220.39
Average HGL Depth Attained (ft)	3.39
Time of Max HGL Occurrence (days hh:mm)	0 12:42
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber01

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	215.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-19	Trapezoidal	No	214.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	214.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	214.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber02

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-20	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	220.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber03

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-21	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	217.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber04

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-22	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	220.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber05

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	223.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-23	Trapezoidal	No	222.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	222.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	222.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber06

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-24	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber07

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-25	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	233.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber08

Input Data

Invert Elevation (ft)	233.00
Max (Rim) Elevation (ft)	235.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-233.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-27	Trapezoidal	No	234.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	234.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	234.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber09

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-26	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber10

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-44	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	217.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber11

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-43	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	221.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber12

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-42	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	221.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber13

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-47	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber14

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-46	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	233.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber15

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-41	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber16

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-40	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	224.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber17

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-39	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	229.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber18

Input Data

Invert Elevation (ft)	242.00
Max (Rim) Elevation (ft)	244.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-242.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-45	Trapezoidal	No	243.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	243.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	243.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber19

Input Data

Invert Elevation (ft)	252.00
Max (Rim) Elevation (ft)	254.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-252.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-31	Trapezoidal	No	253.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	253.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	253.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber20

Input Data

Invert Elevation (ft)	269.00
Max (Rim) Elevation (ft)	271.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-269.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-32	Trapezoidal	No	270.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	270.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	270.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber21

Input Data

Invert Elevation (ft)	270.00
Max (Rim) Elevation (ft)	272.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-270.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-33	Trapezoidal	No	271.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	271.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	271.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber22

Input Data

Invert Elevation (ft)	264.00
Max (Rim) Elevation (ft)	266.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-264.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-34	Trapezoidal	No	265.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	265.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	265.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber23

Input Data

Invert Elevation (ft)	250.00
Max (Rim) Elevation (ft)	252.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-250.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-35	Trapezoidal	No	251.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	251.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	251.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber24

Input Data

Invert Elevation (ft)	243.00
Max (Rim) Elevation (ft)	245.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-243.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-36	Trapezoidal	No	244.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	244.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	244.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber25

Input Data

Invert Elevation (ft)	238.00
Max (Rim) Elevation (ft)	240.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-238.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-37	Trapezoidal	No	239.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	239.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	239.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber26

Input Data

Invert Elevation (ft)	230.00
Max (Rim) Elevation (ft)	232.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-230.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-38	Trapezoidal	No	231.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	231.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	231.48
Average HGL Depth Attained (ft)	1.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.031
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Wetland

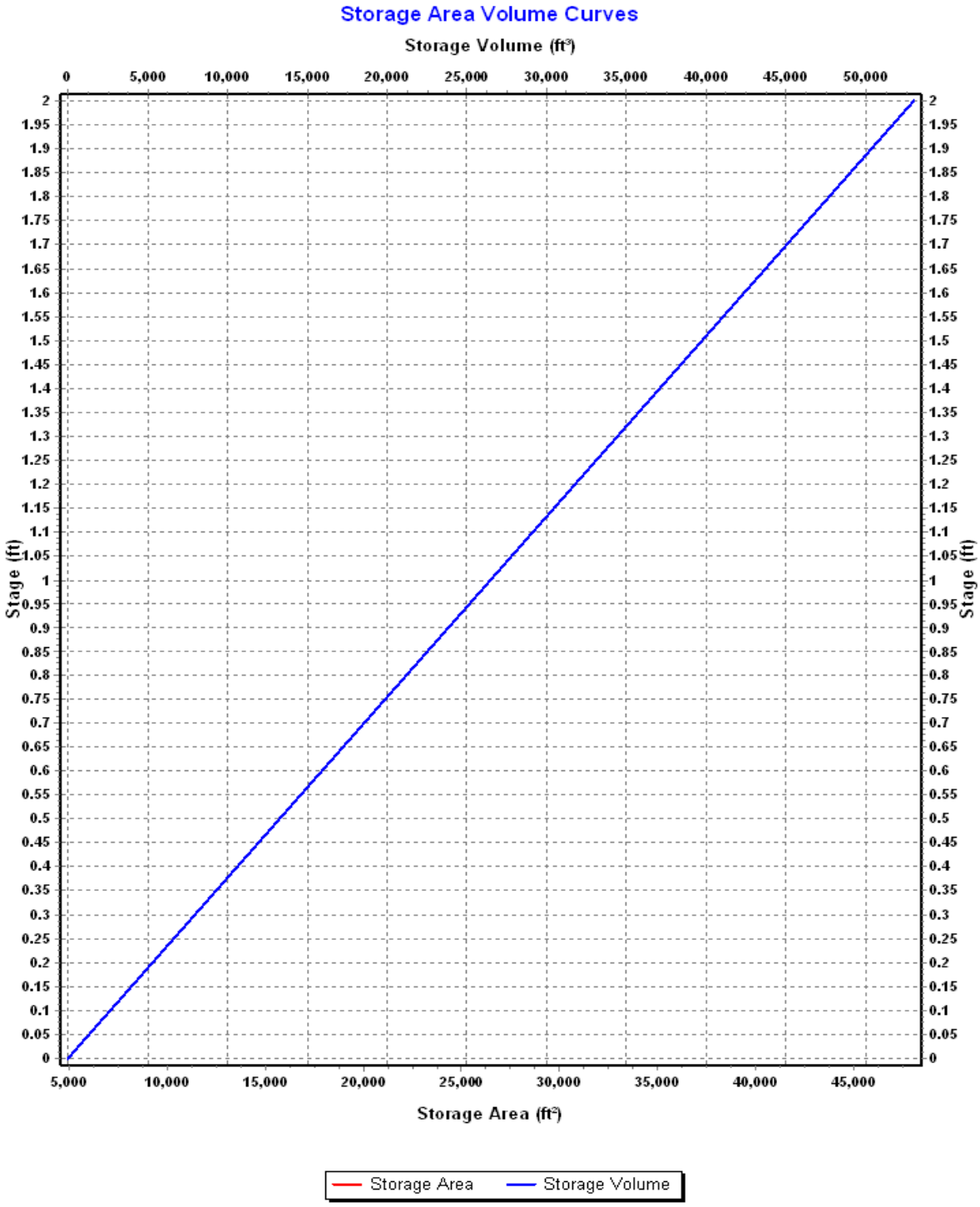
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Wetland (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	5.19
Peak Lateral Inflow (cfs)	5.07
Peak Outflow (cfs)	0.34
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.76
Max HGL Depth Attained (ft)	1.76
Average HGL Elevation Attained (ft)	206.79
Average HGL Depth Attained (ft)	0.79
Time of Max HGL Occurrence (days hh:mm)	0 21:43
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 1 - Proposed Conditions (Proposed Regulations) (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	50
Nodes	75
Junctions	6
Outfalls	17
Flow Diversions	0
Inlets	0
Storage Nodes	52
Links	70
Channels	0
Pipes	26
Pumps	0
Orifices	4
Weirs	40
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Pavement-01	0.13	484.00	98.00	7.86	7.62	1.01	1.11	0 00:01:36
2	Pavement-02	0.07	484.00	98.00	7.86	7.62	0.50	0.53	0 00:01:20
3	Pavement-03	0.12	484.00	98.00	7.86	7.62	0.94	1.00	0 00:01:27
4	Pavement-04	0.08	484.00	98.00	7.86	7.62	0.61	0.69	0 00:01:22
5	Pavement-05	0.14	484.00	98.00	7.86	7.62	1.09	1.16	0 00:01:16
6	Pavement-06	0.06	484.00	98.00	7.86	7.62	0.49	0.53	0 00:01:04
7	Pavement-07	0.07	484.00	98.00	7.86	7.62	0.56	0.58	0 00:00:58
8	Pavement-08	0.05	484.00	98.00	7.86	7.62	0.40	0.42	0 00:00:58
9	Pavement-09	0.18	484.00	98.00	7.86	7.62	1.40	1.49	0 00:04:04
10	Pavement-10	0.29	484.00	98.00	7.86	7.62	2.23	2.25	0 00:05:53
11	Pavement-13	0.14	484.00	98.00	7.86	7.62	1.06	1.16	0 00:01:25
12	Pavement-15	0.16	484.00	92.42	7.86	6.95	1.11	0.85	0 00:17:09
13	Pavement-16	0.25	484.00	90.40	7.86	6.72	1.66	1.98	0 00:02:12
14	Pavement-17	0.15	484.00	98.00	7.86	7.62	1.15	1.26	0 00:02:49
15	Pavement-18	0.11	484.00	98.00	7.86	7.62	0.85	0.95	0 00:02:22
16	Pavement-19	0.08	484.00	98.00	7.86	7.62	0.62	0.69	0 00:01:06
17	Roof-01	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
18	Roof-02	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
19	Roof-03	0.05	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
20	Roof-04	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
21	Roof-05	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
22	Roof-06	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
23	Roof-07	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
24	Roof-08	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
25	Roof-09	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
26	Roof-10	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
27	Roof-11	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
28	Roof-12	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
29	Roof-13	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
30	Roof-14	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
31	Roof-15	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
32	Roof-16	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
33	Roof-17	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
34	Roof-18	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
35	Roof-19	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
36	Roof-20	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
37	Roof-21	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
38	Roof-22	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
39	Roof-23	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
40	Roof-24	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
41	Roof-25	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
42	Roof-26	0.06	484.00	98.00	7.86	7.62	0.42	0.48	0 00:00:06
43	Sub-01	1.64	484.00	73.47	7.86	4.74	7.79	4.84	0 00:31:55
44	Sub-02	2.48	484.00	73.09	7.86	4.70	11.65	6.26	0 00:42:04
45	Sub-03	9.20	484.00	73.58	7.86	4.75	43.73	22.35	0 00:45:55
46	Sub-04	4.36	484.00	73.02	7.86	4.69	20.45	9.28	0 00:56:46
47	Sub-05	5.21	484.00	73.69	7.86	4.77	24.83	11.20	0 00:57:25
48	Sub-06	4.48	484.00	73.88	7.86	4.79	21.44	9.61	0 00:58:04
49	Sub-07	5.44	484.00	73.62	7.86	4.76	25.87	13.02	0 00:47:13
50	Sub-08	3.74	484.00	73.61	7.86	4.76	17.80	7.99	0 00:57:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	Junction	241.00	247.00	0.00	0.00	0.00	1.62	245.35	0.00	1.65	0 00:00	0.00	0.00
2	DMH-02	Junction	231.15	238.00	0.00	0.00	0.00	1.61	235.64	0.00	2.36	0 00:00	0.00	0.00
3	DMH-03	Junction	229.00	236.00	0.00	0.00	0.00	5.10	233.48	0.00	2.52	0 00:00	0.00	0.00
4	DMH-04	Junction	228.50	237.00	0.00	0.00	0.00	4.53	232.91	0.00	4.09	0 00:00	0.00	0.00
5	DMH-05	Junction	228.00	242.00	0.00	0.00	0.00	6.58	229.76	0.00	12.24	0 00:00	0.00	0.00
6	DMH-06	Junction	241.00	247.00	0.00	0.00	0.00	3.09	245.56	0.00	1.44	0 00:00	0.00	0.00
7	Out-01	Outfall	232.00					9.27	232.00					
8	Out-29	Outfall	210.00					4.96	210.00					
9	Out-30	Outfall	212.00					6.34	212.63					
10	Out-31	Outfall	206.00					20.92	206.00					
11	Out-32	Outfall	212.00					0.91	212.00					
12	Out-33	Outfall	202.00					5.00	202.82					
13	Out-34	Outfall	204.00					3.95	204.00					
14	Out-35	Outfall	204.00					22.29	204.00					
15	Out-37	Outfall	216.00					0.48	216.00					
16	Out-38	Outfall	220.00					0.48	220.00					
17	Out-39	Outfall	220.00					0.48	220.00					
18	Out-40	Outfall	223.00					0.48	223.00					
19	Out-41	Outfall	223.00					0.48	223.00					
20	Out-42	Outfall	228.00					0.48	228.00					
21	Out-43	Outfall	230.00					0.48	230.00					
22	Out-44	Outfall	238.00					0.48	238.00					
23	Out-46	Outfall	219.00					10.97	219.00					
24	BMP-01	Storage Node	215.00	218.00	0.00		0.00	11.36	217.93				0.00	0.00
25	BMP-02	Storage Node	213.00	217.00	0.00		0.00	7.54	216.96				0.00	0.00
26	BMP-03	Storage Node	203.00	206.00	0.00		0.00	12.44	205.12				0.00	0.00
27	BMP-04	Storage Node	222.00	226.00	0.00		0.00	14.40	225.75				0.00	0.00
28	CB-02	Storage Node	231.15	238.00	0.00		1000.00	4.78	235.25				0.00	0.00
29	CB-03	Storage Node	241.15	248.00	0.00		1000.00	1.11	245.76				0.00	0.00
30	CB-04	Storage Node	241.15	248.00	0.00		1000.00	0.53	245.53				0.00	0.00
31	CB-05	Storage Node	0.00	236.00	0.00		1000.00	0.66	172.01				0.00	0.00
32	CB-06	Storage Node	0.00	236.00	0.00		1000.00	0.51	134.96				0.00	0.00
33	CB-07	Storage Node	0.00	236.00	0.00		1000.00	1.16	233.25				0.00	0.00
34	CB-08	Storage Node	0.00	236.00	0.00		1000.00	0.53	130.60				0.00	0.00
35	CB-09	Storage Node	241.15	248.00	0.00		1000.00	0.69	245.65				0.00	0.00
36	CB-10	Storage Node	241.15	248.00	0.00		1000.00	2.43	246.17				0.00	0.00
37	CB-15	Storage Node	221.00	229.00	0.00		1000.00	1.97	227.02				0.00	0.00
38	CB-16	Storage Node	221.00	229.00	0.00		1000.00	2.53	226.74				0.00	0.00
39	CB-17	Storage Node	211.00	220.00	0.00		1000.00	2.11	217.80				0.00	0.00
40	CB-18	Storage Node	211.00	220.00	0.00		1000.00	5.46	218.04				0.00	0.00
41	CB-19	Storage Node	203.65	210.50	0.00		1000.00	1.94	208.41				0.00	0.00
42	CB-20	Storage Node	203.65	210.50	0.00		1000.00	0.95	208.07				0.00	0.00
43	Forebay_BMP01	Storage Node	219.00	220.00	0.00		0.00	11.36	219.69				0.00	0.00
44	Forebay_BMP03	Storage Node	206.00	208.00	0.00		0.00	2.83	207.07				0.00	0.00
45	OCS-01	Storage Node	210.65	217.75	0.00		0.00	6.34	215.35				0.00	0.00
46	OCS-02	Storage Node	209.65	216.50	0.00		0.00	5.97	211.13				0.00	0.00
47	OCS-03	Storage Node	198.65	204.75	0.00		0.00	5.00	203.55				0.00	0.00
48	OCS-05	Storage Node	217.00	225.50	0.00		0.00	14.34	223.15				0.00	0.00
49	Roof_Chamber01	Storage Node	213.00	215.00	0.00		0.00	0.48	214.77				0.00	0.00
50	Roof_Chamber02	Storage Node	219.00	221.00	0.00		0.00	0.48	220.77				0.00	0.00
51	Roof_Chamber03	Storage Node	216.00	218.00	0.00		0.00	0.48	217.77				0.00	0.00
52	Roof_Chamber04	Storage Node	219.00	221.00	0.00		0.00	0.48	220.77				0.00	0.00
53	Roof_Chamber05	Storage Node	221.00	223.00	0.00		0.00	0.48	222.77				0.00	0.00
54	Roof_Chamber06	Storage Node	223.00	225.00	0.00		0.00	0.48	224.77				0.00	0.00
55	Roof_Chamber07	Storage Node	232.00	234.00	0.00		0.00	0.48	233.77				0.00	0.00
56	Roof_Chamber08	Storage Node	233.00	235.00	0.00		0.00	0.48	234.77				0.00	0.00
57	Roof_Chamber09	Storage Node	228.00	230.00	0.00		0.00	0.48	229.77				0.00	0.00
58	Roof_Chamber10	Storage Node	216.00	218.00	0.00		0.00	0.48	217.77				0.00	0.00
59	Roof_Chamber11	Storage Node	220.00	222.00	0.00		0.00	0.48	221.77				0.00	0.00
60	Roof_Chamber12	Storage Node	220.00	222.00	0.00		0.00	0.48	221.77				0.00	0.00
61	Roof_Chamber13	Storage Node	228.00	230.00	0.00		0.00	0.48	229.77				0.00	0.00
62	Roof_Chamber14	Storage Node	232.00	234.00	0.00		0.00	0.48	233.77				0.00	0.00
63	Roof_Chamber15	Storage Node	223.00	225.00	0.00		0.00	0.48	224.77				0.00	0.00
64	Roof_Chamber16	Storage Node	223.00	225.00	0.00		0.00	0.48	224.77				0.00	0.00
65	Roof_Chamber17	Storage Node	228.00	230.00	0.00		0.00	0.48	229.77				0.00	0.00
66	Roof_Chamber18	Storage Node	242.00	244.00	0.00		0.00	0.48	243.77				0.00	0.00
67	Roof_Chamber19	Storage Node	252.00	254.00	0.00		0.00	0.48	253.77				0.00	0.00
68	Roof_Chamber20	Storage Node	269.00	271.00	0.00		0.00	0.48	270.77				0.00	0.00
69	Roof_Chamber21	Storage Node	270.00	272.00	0.00		0.00	0.48	271.77				0.00	0.00
70	Roof_Chamber22	Storage Node	264.00	266.00	0.00		0.00	0.48	265.77				0.00	0.00
71	Roof_Chamber23	Storage Node	250.00	252.00	0.00		0.00	0.48	251.77				0.00	0.00
72	Roof_Chamber24	Storage Node	243.00	245.00	0.00		0.00	0.48	244.77				0.00	0.00
73	Roof_Chamber25	Storage Node	238.00	240.00	0.00		0.00	0.48	239.77				0.00	0.00
74	Roof_Chamber26	Storage Node	230.00	232.00	0.00		0.00	0.48	231.77				0.00	0.00
75	Wetland	Storage Node	206.00	208.00	0.00		0.00	21.05	207.84				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-109	Pipe	CB-15	CB-16	21.15	226.15	226.00	0.7100	12.000	0.0200	1.96	1.95	1.00	2.89	0.80	0.81	0.00	> CAPACITY
2	Link-110	Pipe	CB-16	BMP-04	34.00	226.00	225.75	0.7400	18.000	0.0200	2.52	5.85	0.43	3.30	0.67	0.45	0.00	Calculated
3	Link-114	Pipe	OCS-05	Out-46	102.82	222.00	220.00	1.9500	24.000	0.0200	10.97	20.51	0.53	6.23	1.09	0.55	0.00	Calculated
4	Link-115	Pipe	OCS-05	CB-18	237.93	221.00	217.15	1.6200	12.000	0.0200	3.40	2.95	1.15	4.56	0.95	0.95	0.00	> CAPACITY
5	Link-28	Pipe	OCS-01	Out-30	42.00	214.65	212.00	6.3100	18.000	0.0200	6.34	17.15	0.37	8.39	0.66	0.44	0.00	Calculated
6	Link-29	Pipe	OCS-03	Out-33	40.00	202.65	202.00	1.6300	18.000	0.0200	5.00	8.70	0.58	4.77	0.86	0.57	0.00	Calculated
7	Link-30	Pipe	OCS-02	BMP-03	215.00	210.15	207.00	1.4700	18.000	0.0200	5.96	8.26	0.72	4.99	0.95	0.64	0.00	Calculated
8	Link-31	Pipe	CB-04	DMH-01	17.51	245.15	245.00	0.8600	12.000	0.0200	0.52	2.14	0.24	2.03	0.36	0.36	0.00	Calculated
9	Link-32	Pipe	CB-03	DMH-01	24.09	245.15	245.00	0.6200	12.000	0.0200	1.10	1.83	0.60	2.62	0.52	0.53	0.00	Calculated
10	Link-33	Pipe	DMH-01	DMH-02	139.54	245.00	235.15	7.0600	12.000	0.0200	1.61	6.15	0.26	5.22	0.41	0.42	0.00	Calculated
11	Link-34	Pipe	DMH-02	DMH-03	76.23	235.15	233.15	2.6200	12.000	0.0200	1.60	3.75	0.43	4.40	0.46	0.47	0.00	Calculated
12	Link-35	Pipe	CB-05	DMH-03	24.01	233.15	233.00	0.6200	12.000	0.0200	0.27	1.83	0.15	1.14	0.34	0.35	0.00	Calculated
13	Link-36	Pipe	CB-06	DMH-03	15.56	233.15	233.00	0.9600	12.000	0.0200	0.30	2.27	0.13	1.21	0.35	0.35	0.00	Calculated
14	Link-37	Pipe	CB-02	DMH-03	38.28	234.50	233.15	3.5300	18.000	0.0200	4.78	12.82	0.37	5.97	0.69	0.46	0.00	Calculated
15	Link-38	Pipe	DMH-03	DMH-04	32.64	232.50	232.00	1.5300	18.000	0.0200	4.53	8.45	0.54	3.87	0.94	0.63	0.00	Calculated
16	Link-39	Pipe	CB-08	DMH-04	18.32	233.15	233.00	0.8200	12.000	0.0200	0.00	2.10	0.00	0.00	0.00	0.00	0.00	Calculated
17	Link-40	Pipe	CB-07	DMH-04	10.99	233.15	233.00	1.3600	12.000	0.0200	0.05	2.71	0.02	1.28	0.09	0.09	0.00	Calculated
18	Link-41	Pipe	DMH-04	DMH-05	130.94	232.00	230.00	1.5300	18.000	0.0200	4.52	8.44	0.54	4.40	0.84	0.56	0.00	Calculated
19	Link-42	Pipe	CB-09	DMH-06	23.74	245.15	245.00	0.6300	12.000	0.0200	0.68	1.84	0.37	1.62	0.52	0.53	0.00	Calculated
20	Link-43	Pipe	CB-10	DMH-06	19.02	245.15	245.00	0.7900	12.000	0.0200	2.41	2.06	1.17	3.45	0.83	0.83	0.00	> CAPACITY
21	Link-44	Pipe	DMH-06	DMH-05	100.67	245.00	239.15	5.8100	12.000	0.0200	3.06	5.58	0.55	7.04	0.54	0.54	0.00	Calculated
22	Link-45	Pipe	DMH-05	Forebay_BMP01	245.00	229.00	220.00	3.6700	18.000	0.0200	6.53	13.09	0.50	7.32	0.74	0.50	0.00	Calculated
23	Link-62	Pipe	CB-18	BMP-02	33.00	217.15	216.75	1.2100	24.000	0.0200	5.45	16.19	0.34	4.30	0.85	0.42	0.00	Calculated
24	Link-63	Pipe	CB-17	BMP-02	52.00	217.15	216.75	0.7700	18.000	0.0200	2.09	5.99	0.35	3.17	0.60	0.40	0.00	Calculated
25	Link-77	Pipe	CB-19	Forebay_BMP03	67.00	207.65	207.00	0.9700	12.000	0.0200	1.90	2.28	0.83	3.38	0.67	0.67	0.00	Calculated
26	Link-78	Pipe	CB-20	Forebay_BMP03	47.00	207.65	207.00	1.3800	12.000	0.0200	0.93	2.72	0.34	3.05	0.41	0.41	0.00	Calculated
27	Orifice-02	Orifice	BMP-04	OCS-05		222.00	217.00		3.000		0.39							
28	Orifice-03	Orifice	BMP-01	OCS-01		215.00	210.65		3.000		0.31							
29	Orifice-04	Orifice	BMP-02	OCS-02		213.00	209.65		3.000		0.41							
30	Orifice-05	Orifice	BMP-03	OCS-03		203.00	198.65		3.000		0.27							
31	Orifice2	Weir	BMP-04	OCS-05		222.00	217.00				4.84							
32	Orifice3	Weir	BMP-01	OCS-01		215.00	210.65				0.48							
33	Orifice4	Weir	BMP-01	OCS-01		215.00	210.65				3.40							
34	OrificeforOCS	Weir	BMP-04	OCS-05		222.00	217.00				0.68							
35	Weir-01	Weir	Forebay_BMP01	BMP-01		219.00	215.00				11.36							
36	Weir-02	Weir	BMP-01	Out-29		215.00	210.00				4.96							
37	Weir-03	Weir	BMP-01	OCS-01		215.00	210.65				2.15							
38	Weir-04	Weir	Wetland	Out-31		206.00	206.00				20.92							
39	Weir-06	Weir	BMP-02	Out-32		213.00	212.00				0.91							
40	Weir-07	Weir	BMP-02	OCS-02		213.00	209.65				5.56							
41	Weir-09	Weir	BMP-03	OCS-03		203.00	198.65				4.74							
42	Weir-10	Weir	BMP-03	Out-34		203.00	204.00				3.95							
43	Weir-16	Weir	Forebay_BMP03	BMP-03		206.00	203.00				2.83							
44	Weir-17	Weir	BMP-04	OCS-05		222.00	217.00				8.44							
45	Weir-19	Weir	Roof_Chamber01	Wetland		213.00	206.00				0.48							
46	Weir-20	Weir	Roof_Chamber02	Wetland		219.00	206.00				0.48							
47	Weir-21	Weir	Roof_Chamber03	Wetland		216.00	206.00				0.48							
48	Weir-22	Weir	Roof_Chamber04	CB-17		219.00	211.00				0.48							
49	Weir-23	Weir	Roof_Chamber05	CB-17		221.00	211.00				0.48							
50	Weir-24	Weir	Roof_Chamber06	Wetland		223.00	206.00				0.48							
51	Weir-25	Weir	Roof_Chamber07	Wetland		232.00	206.00				0.48							
52	Weir-26	Weir	Roof_Chamber09	BMP-04		228.00	222.00				0.48							
53	Weir-27	Weir	Roof_Chamber08	BMP-04		233.00	222.00				0.48							
54	Weir-31	Weir	Roof_Chamber19	BMP-04		252.00	222.00				0.48							
55	Weir-32	Weir	Roof_Chamber20	CB-10		269.00	241.15				0.48							
56	Weir-33	Weir	Roof_Chamber21	CB-10		270.00	241.15				0.48							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
57	Weir-34	Weir	Roof_Chamber22	CB-10		264.00	241.15				0.48							
58	Weir-35	Weir	Roof_Chamber23	Forebay_BMP01		250.00	219.00				0.48							
59	Weir-36	Weir	Roof_Chamber24	Forebay_BMP01		243.00	219.00				0.48							
60	Weir-37	Weir	Roof_Chamber25	Out-44		238.00	238.00				0.48							
61	Weir-38	Weir	Roof_Chamber26	Out-43		230.00	230.00				0.48							
62	Weir-39	Weir	Roof_Chamber17	Out-42		228.00	228.00				0.48							
63	Weir-40	Weir	Roof_Chamber16	Out-41		223.00	223.00				0.48							
64	Weir-41	Weir	Roof_Chamber15	Out-40		223.00	223.00				0.48							
65	Weir-42	Weir	Roof_Chamber12	Out-39		220.00	220.00				0.48							
66	Weir-43	Weir	Roof_Chamber11	Out-38		220.00	220.00				0.48							
67	Weir-44	Weir	Roof_Chamber10	Out-37		216.00	216.00				0.48							
68	Weir-45	Weir	Roof_Chamber18	BMP-04		242.00	222.00				0.48							
69	Weir-46	Weir	Roof_Chamber14	BMP-04		232.00	222.00				0.48							
70	Weir-47	Weir	Roof_Chamber13	BMP-04		228.00	222.00				0.48							

Subbasin Hydrology

Subbasin : Pavement-01

Input Data

Area (ac) 0.13
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.13	C	98.00
Composite Area & Weighted CN	0.13		98.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	40	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	0.54	0.00	0.00

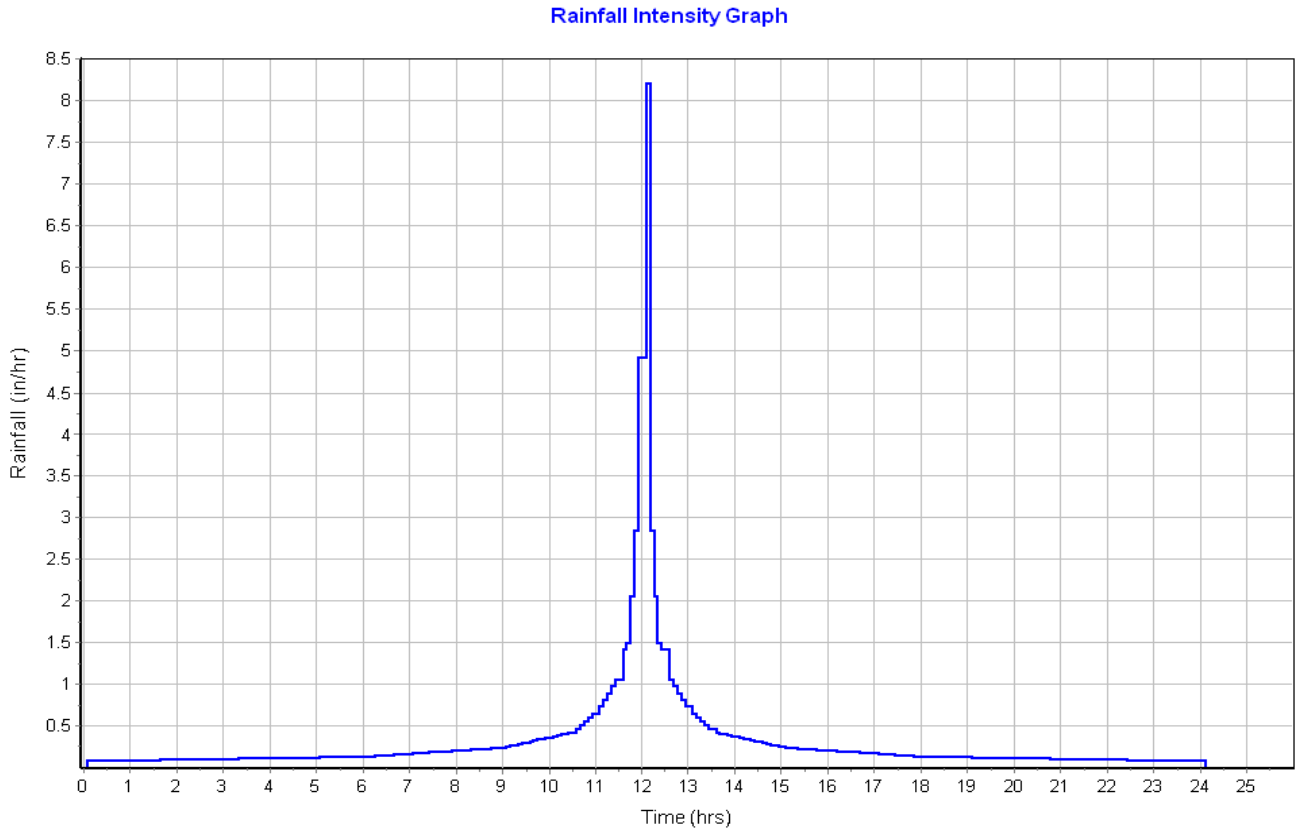
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

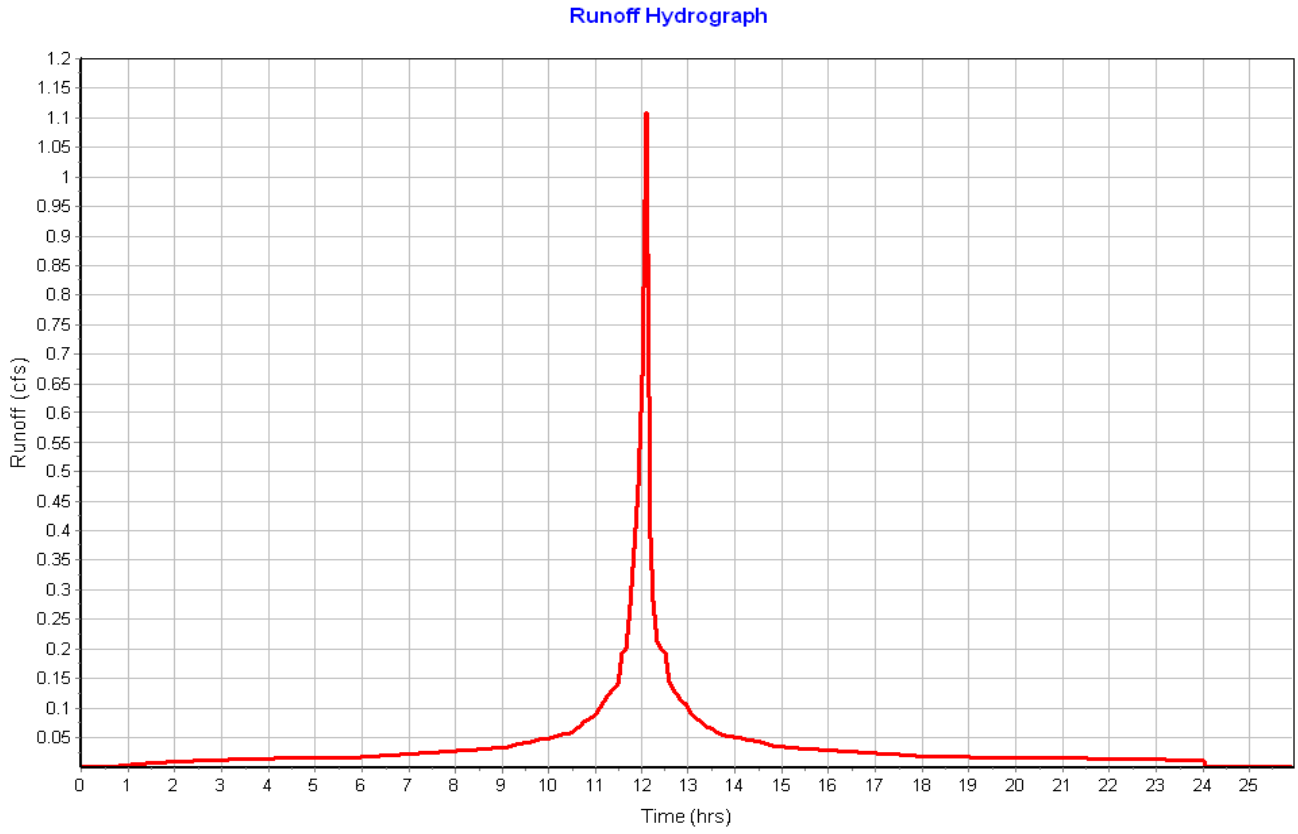
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	1.11
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Pavement-01





Subbasin : Pavement-02

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.17	0.00	0.00
Computed Flow Time (min) :	0.43	0.00	0.00

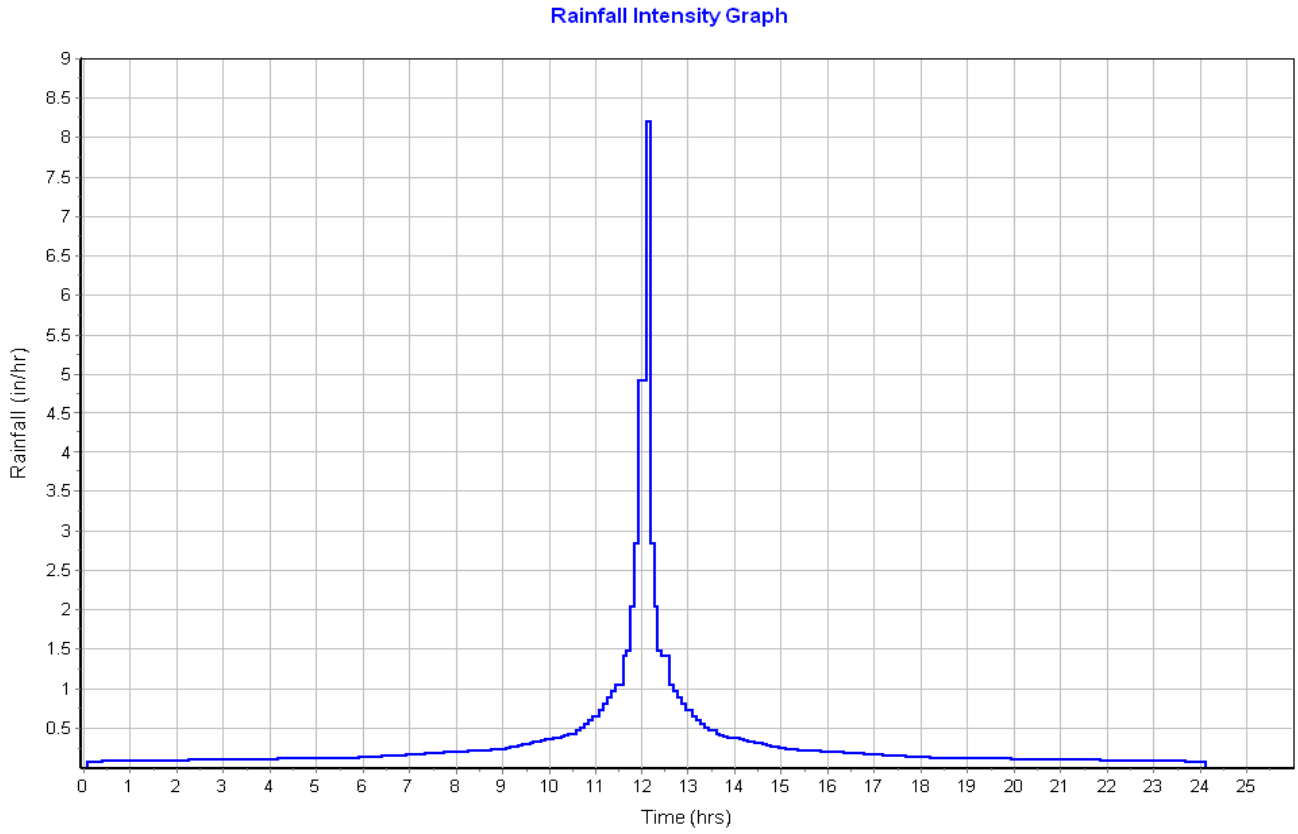
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.82	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

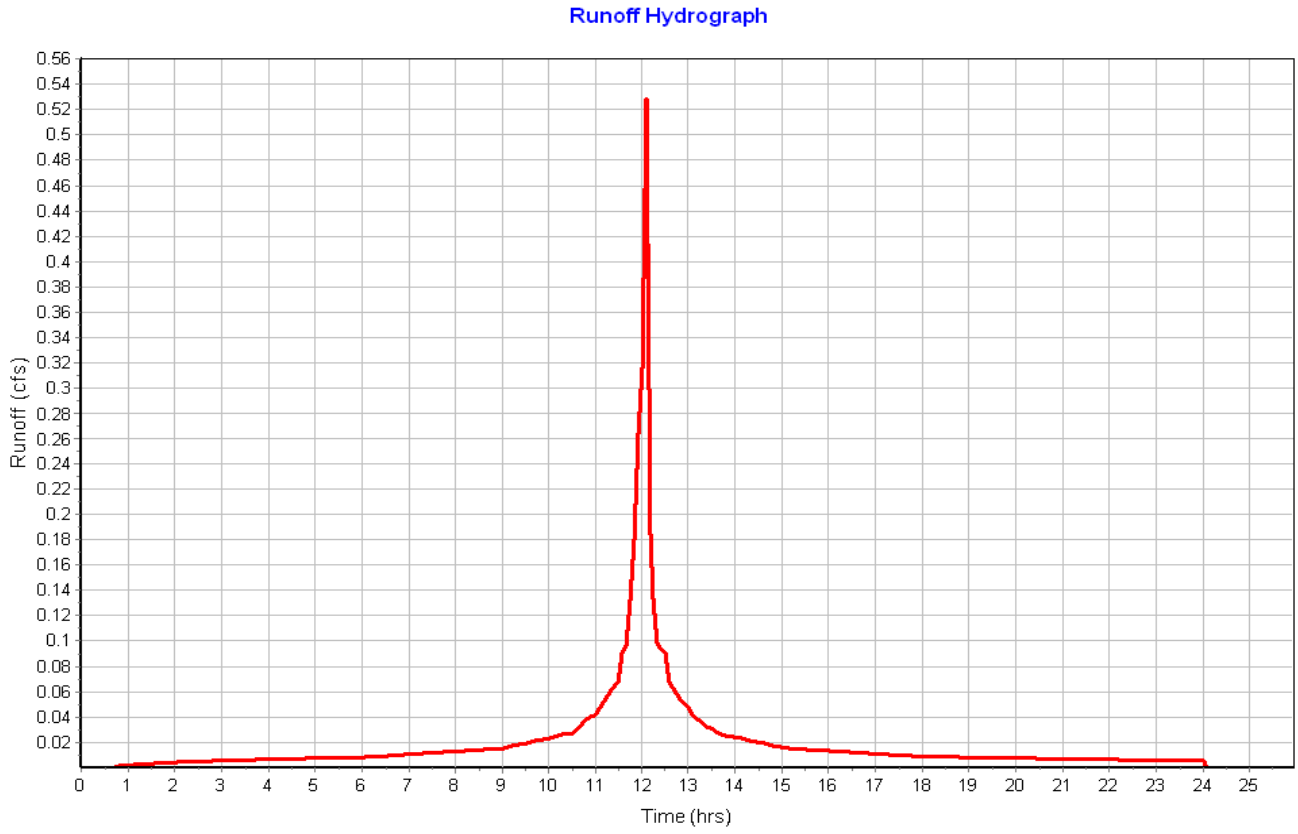
Total TOC (min) 1.34

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.53
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:20

Subbasin : Pavement-02





Subbasin : Pavement-03

Input Data

Area (ac)	0.12
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
Composite Area & Weighted CN	0.12		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	41.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.25	0.00	0.00
Computed Flow Time (min) :	0.56	0.00	0.00

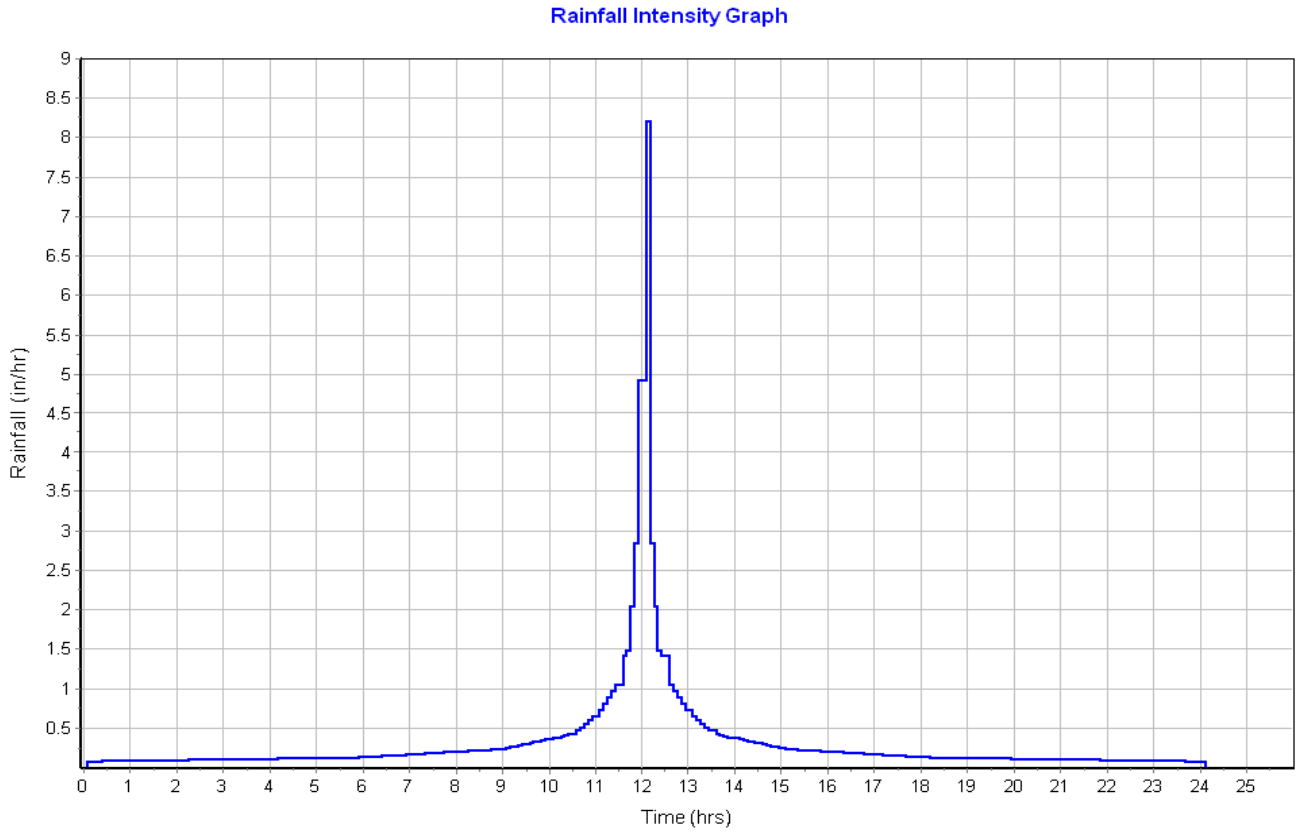
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	266.17	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

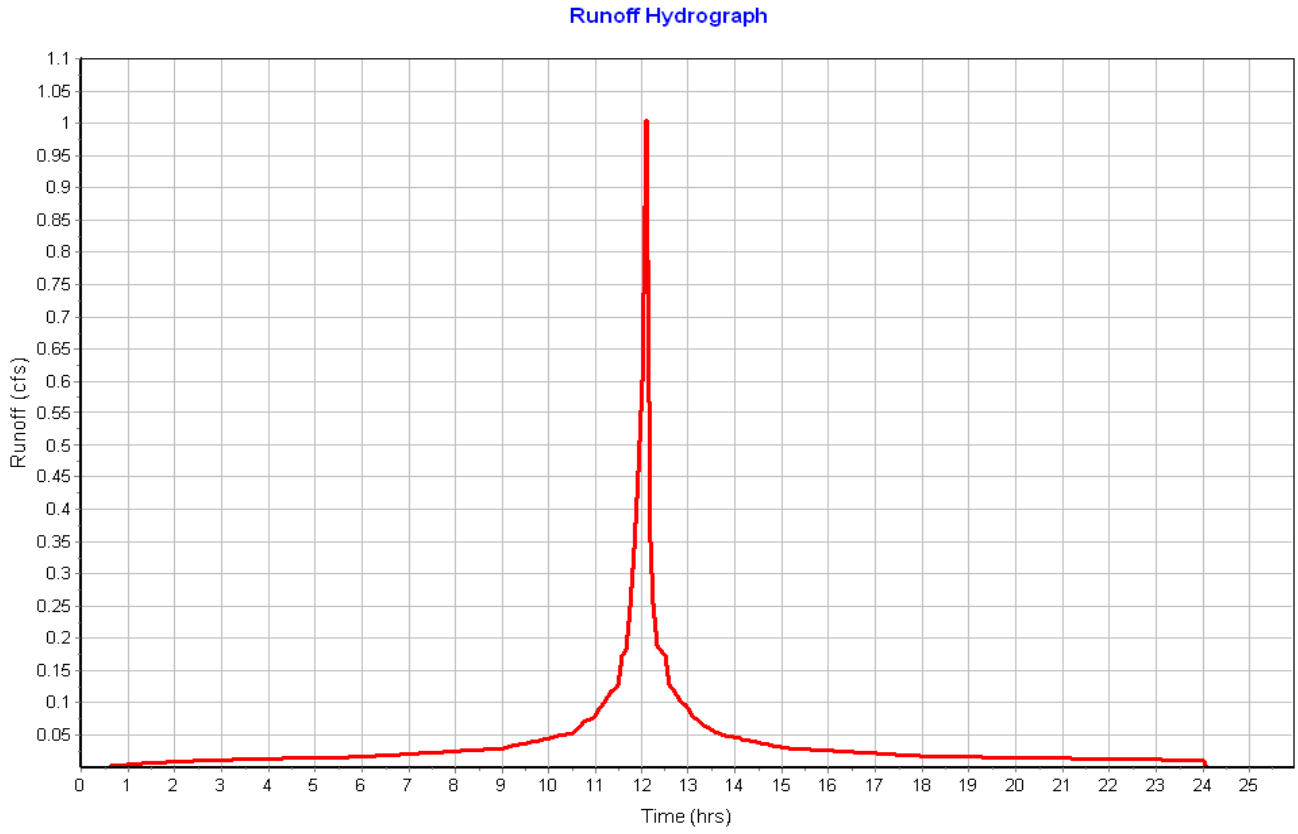
Total TOC (min) 1.45

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	1.00
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:27

Subbasin : Pavement-03





Subbasin : Pavement-04

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	36.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.22	0.00	0.00
Computed Flow Time (min) :	0.50	0.00	0.00

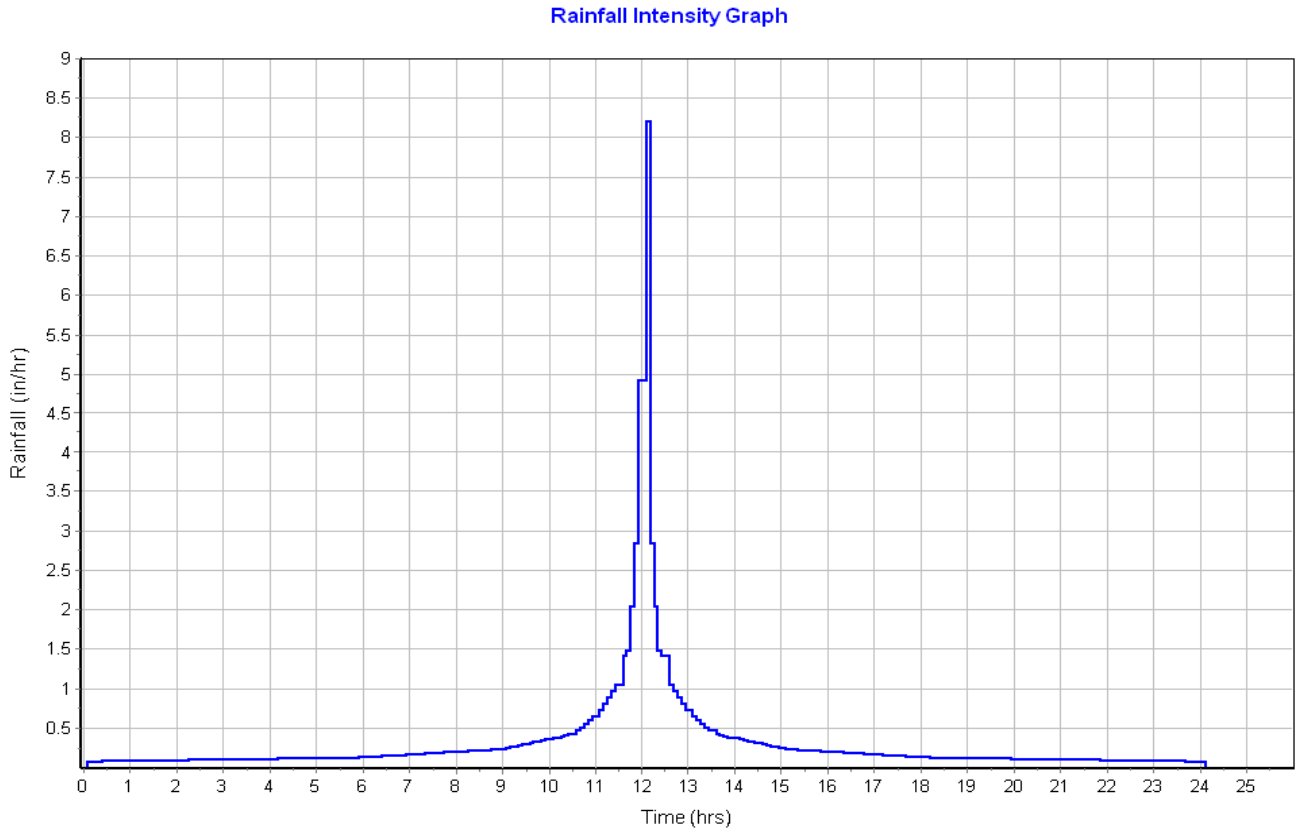
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.91	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

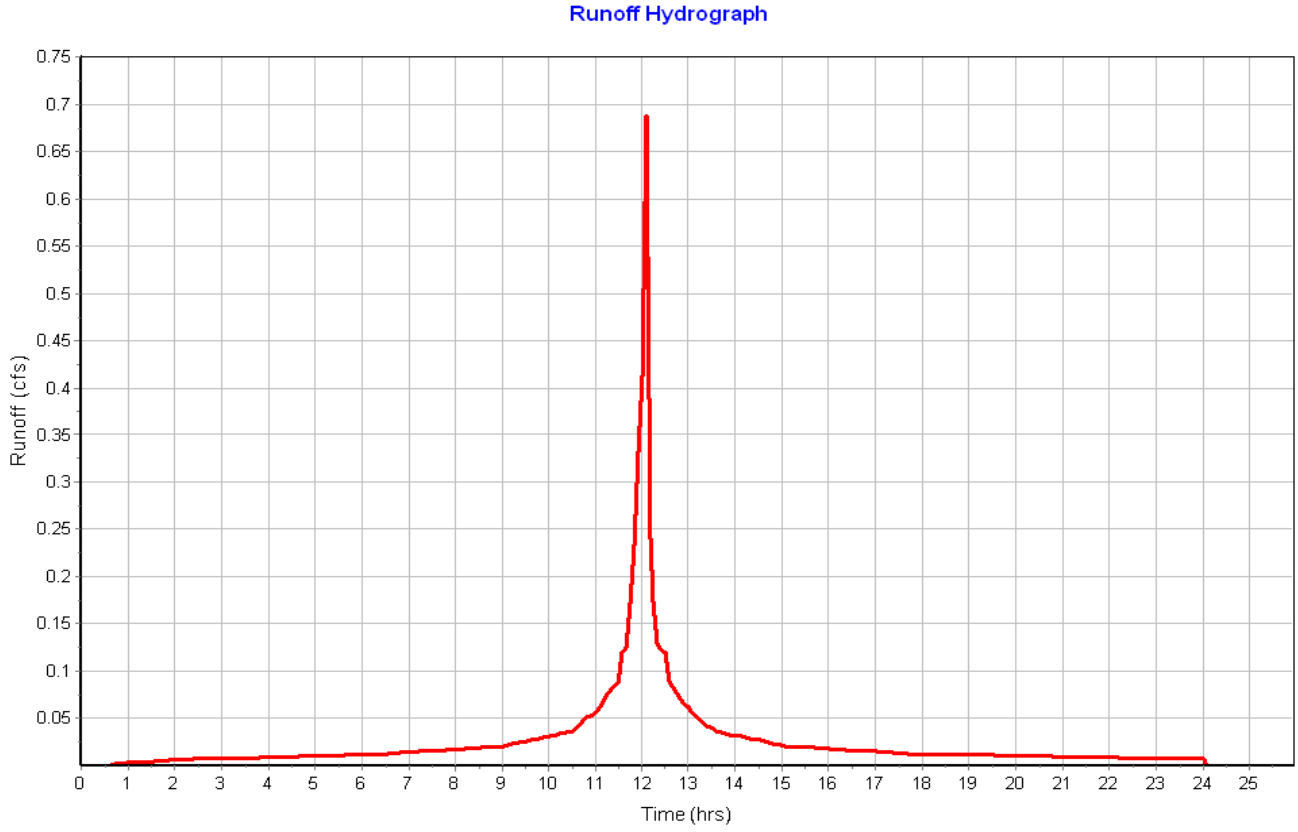
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.69
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Pavement-04





Subbasin : Pavement-05

Input Data

Area (ac)	0.14
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.14	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

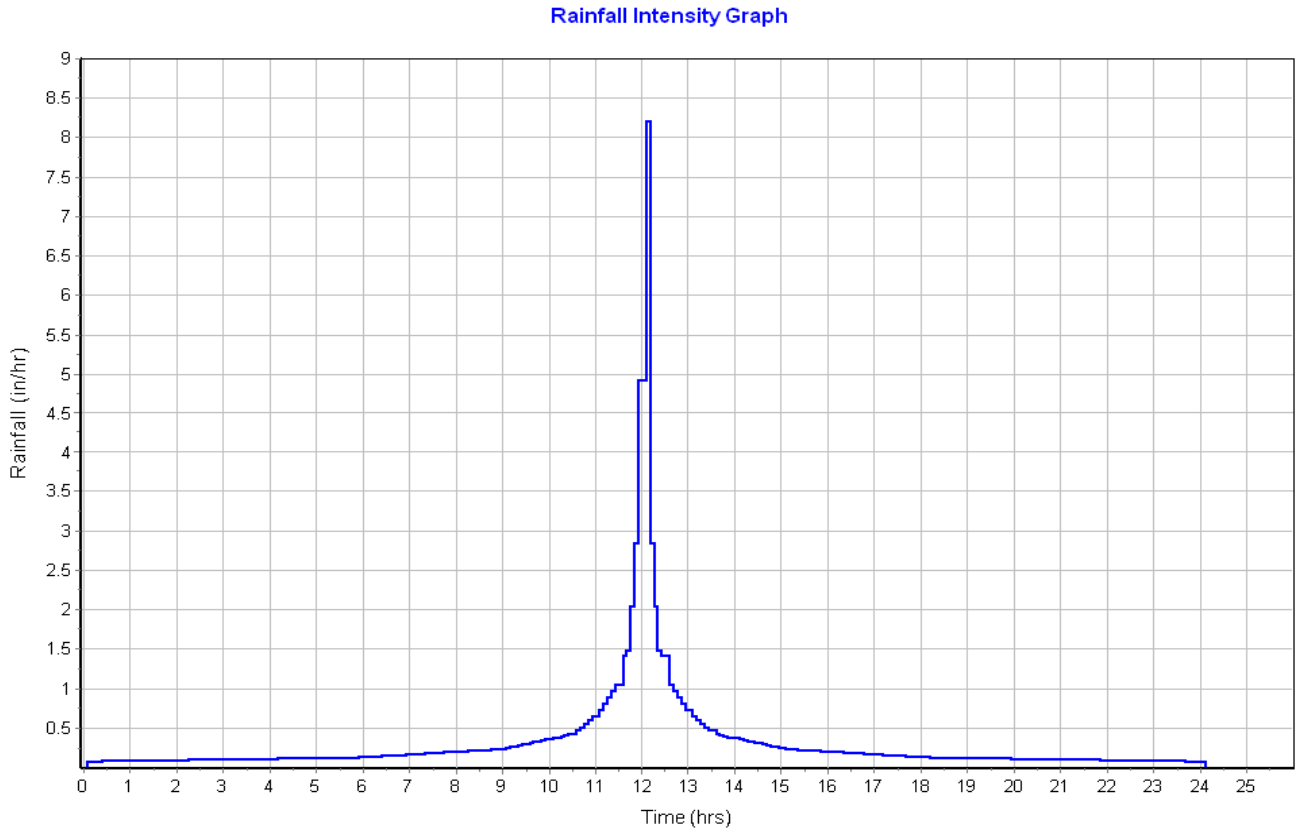
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	272.65	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

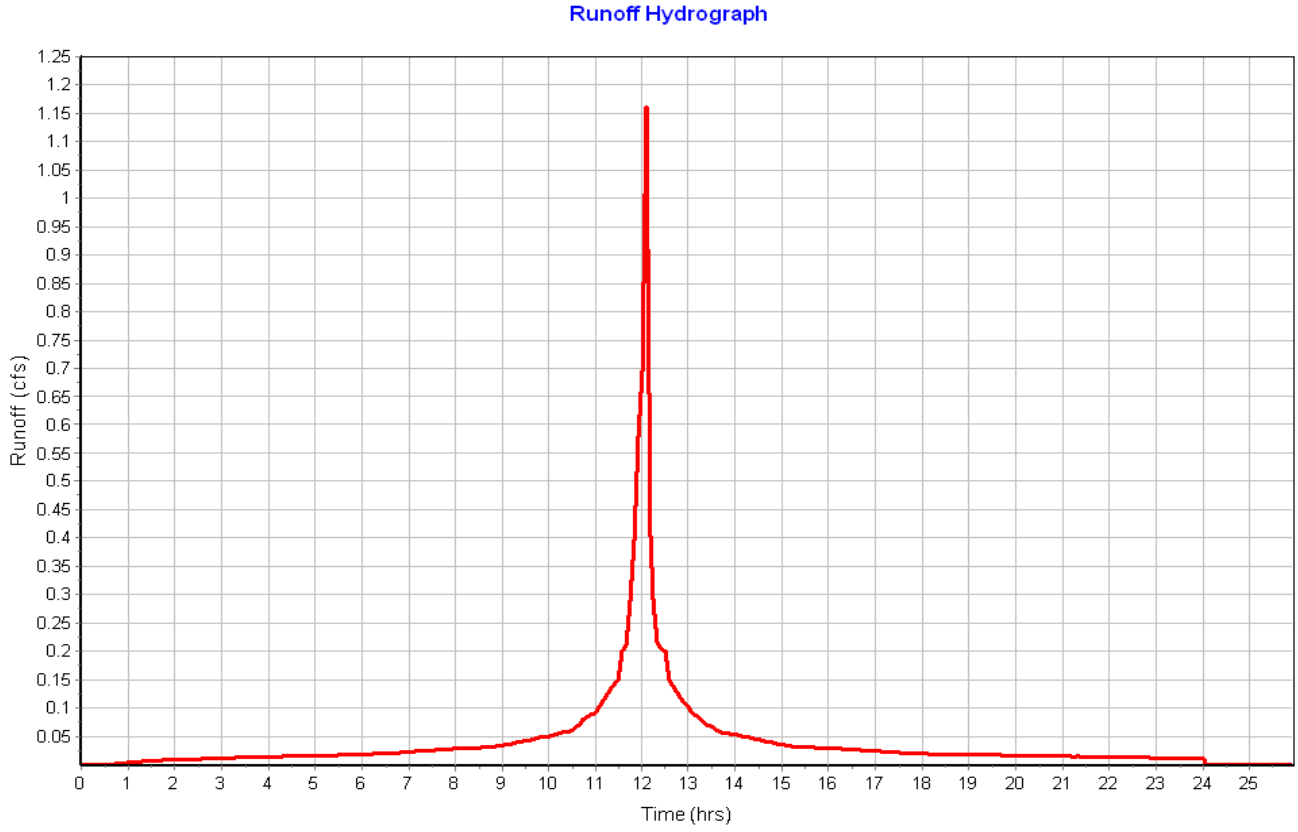
Total TOC (min) 1.27

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	1.16
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:16

Subbasin : Pavement-05





Subbasin : Pavement-06

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.22	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

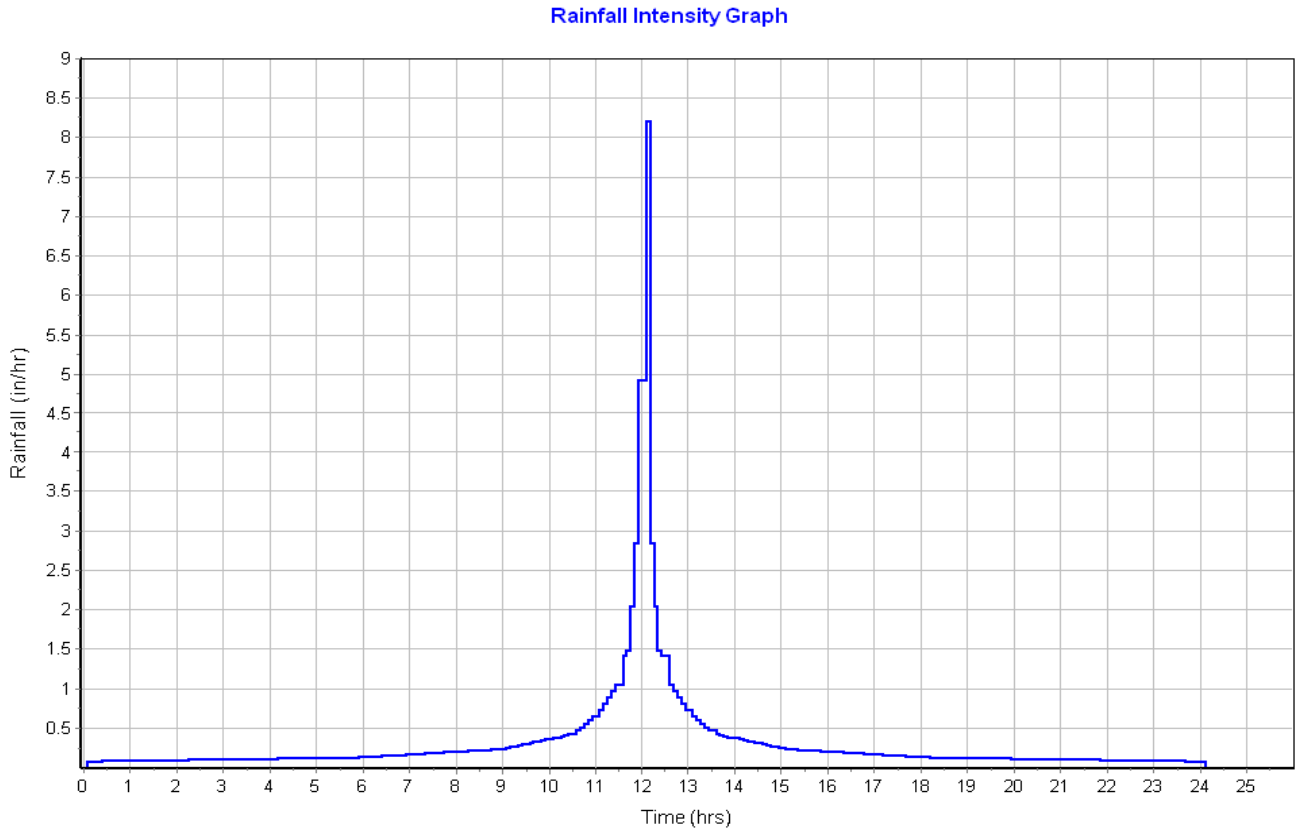
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	220.27	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	0.86	0.00	0.00

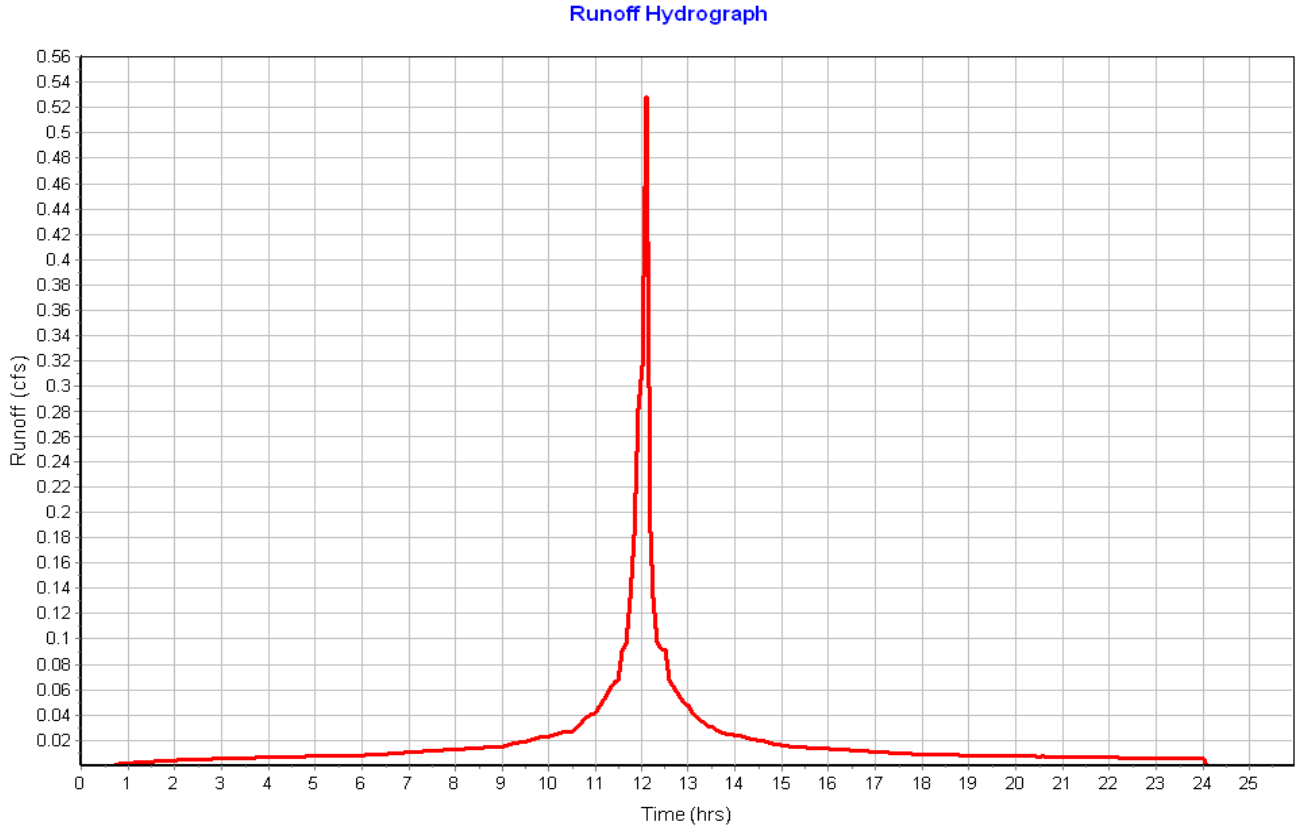
Total TOC (min) 1.07

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.53
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:04

Subbasin : Pavement-06





Subbasin : Pavement-07

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.65	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.01	0.00	0.00
Computed Flow Time (min) :	0.24	0.00	0.00

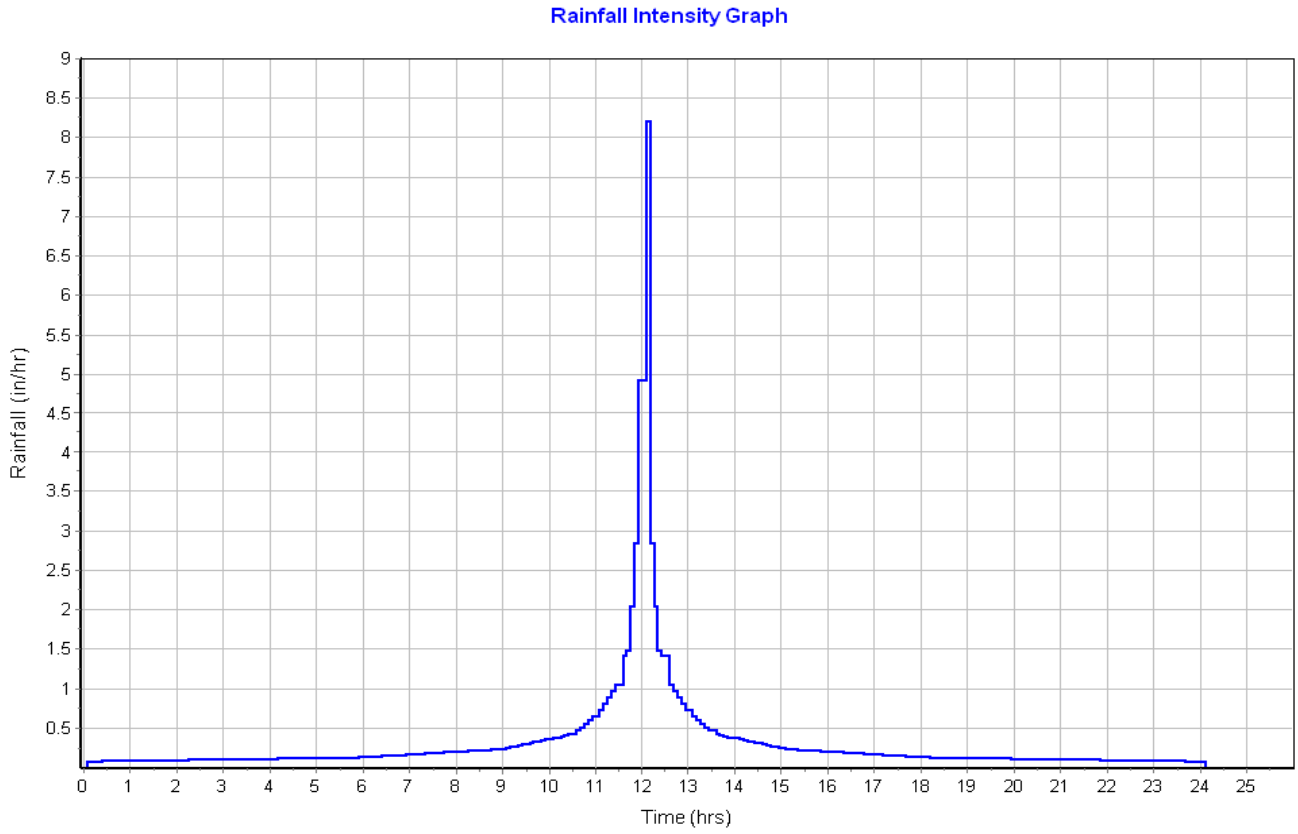
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	211.90	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

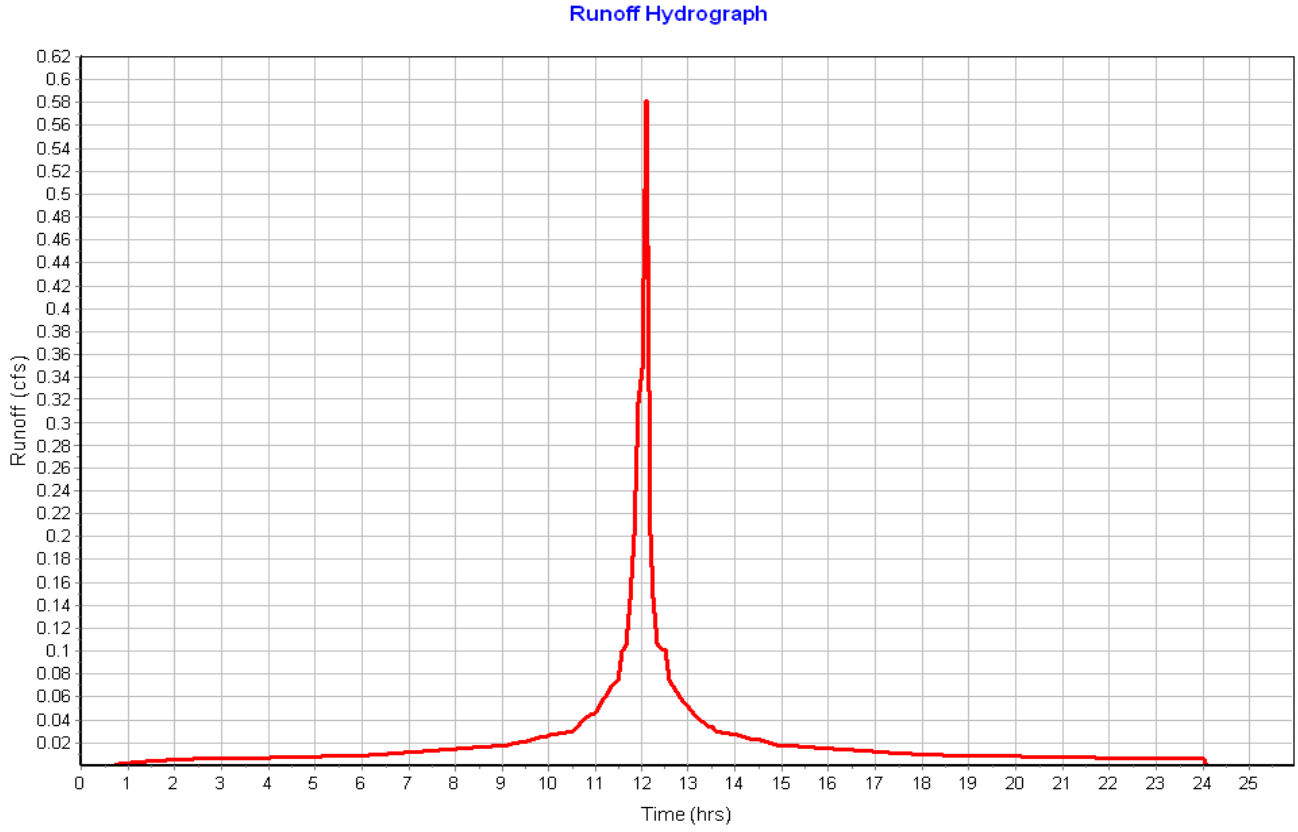
Total TOC (min) 0.97

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.58
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:58

Subbasin : Pavement-07





Subbasin : Pavement-08

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.97	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

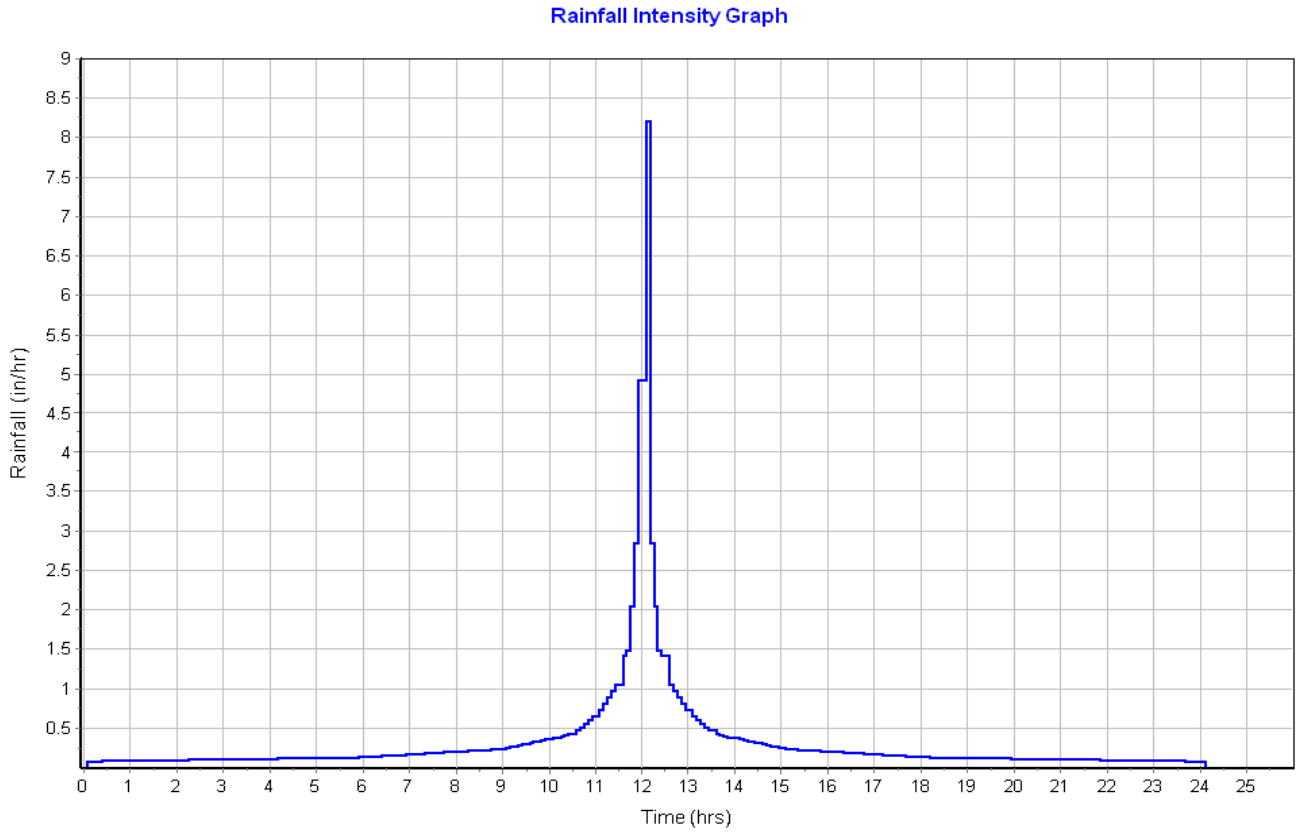
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	226.53	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.78	0.00	0.00

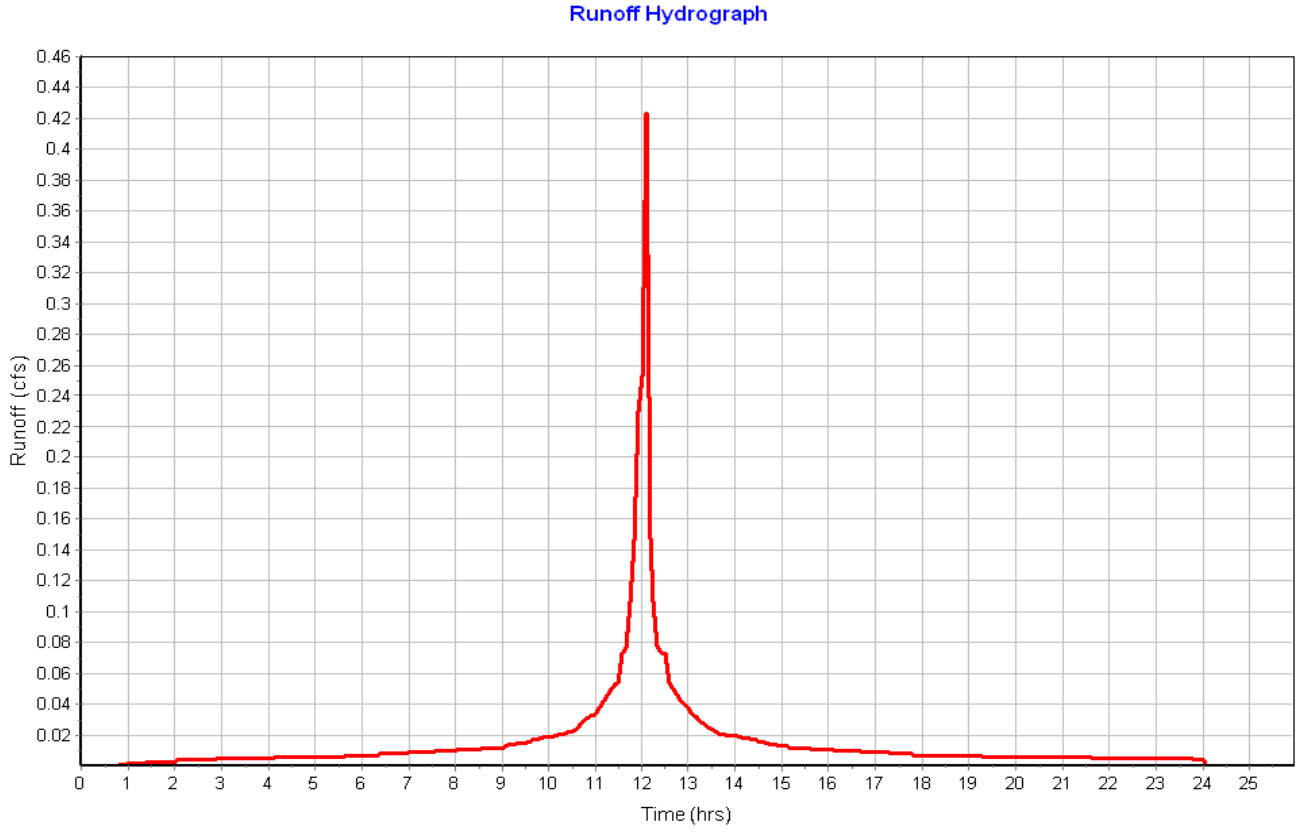
Total TOC (min) 0.98

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.42
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:59

Subbasin : Pavement-08





Subbasin : Pavement-09

Input Data

Area (ac) 0.18
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.18	C	98.00
Composite Area & Weighted CN	0.18		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	82.18	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.54	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

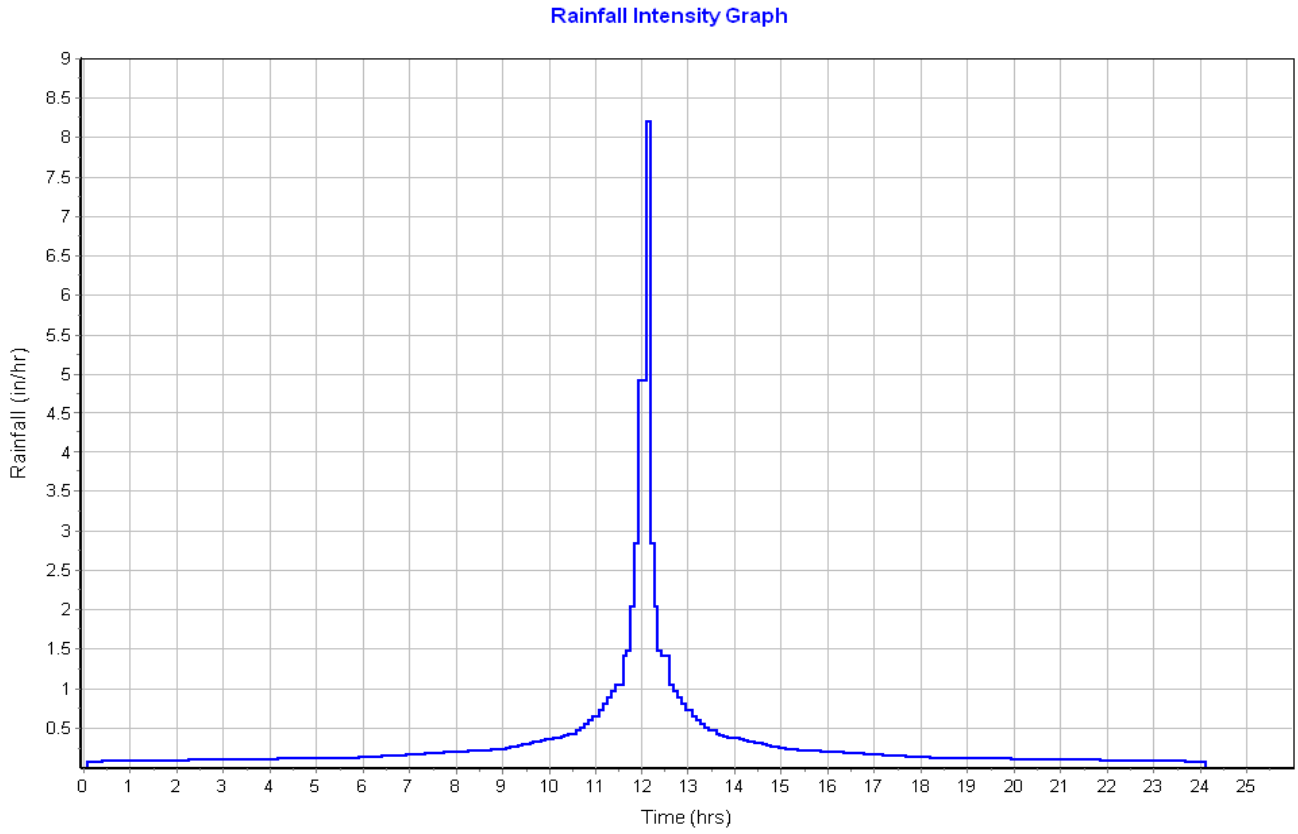
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	449.39	0.00	0.00
Slope (%) :	2.45	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.35	0.00	0.00
Computed Flow Time (min) :	3.19	0.00	0.00

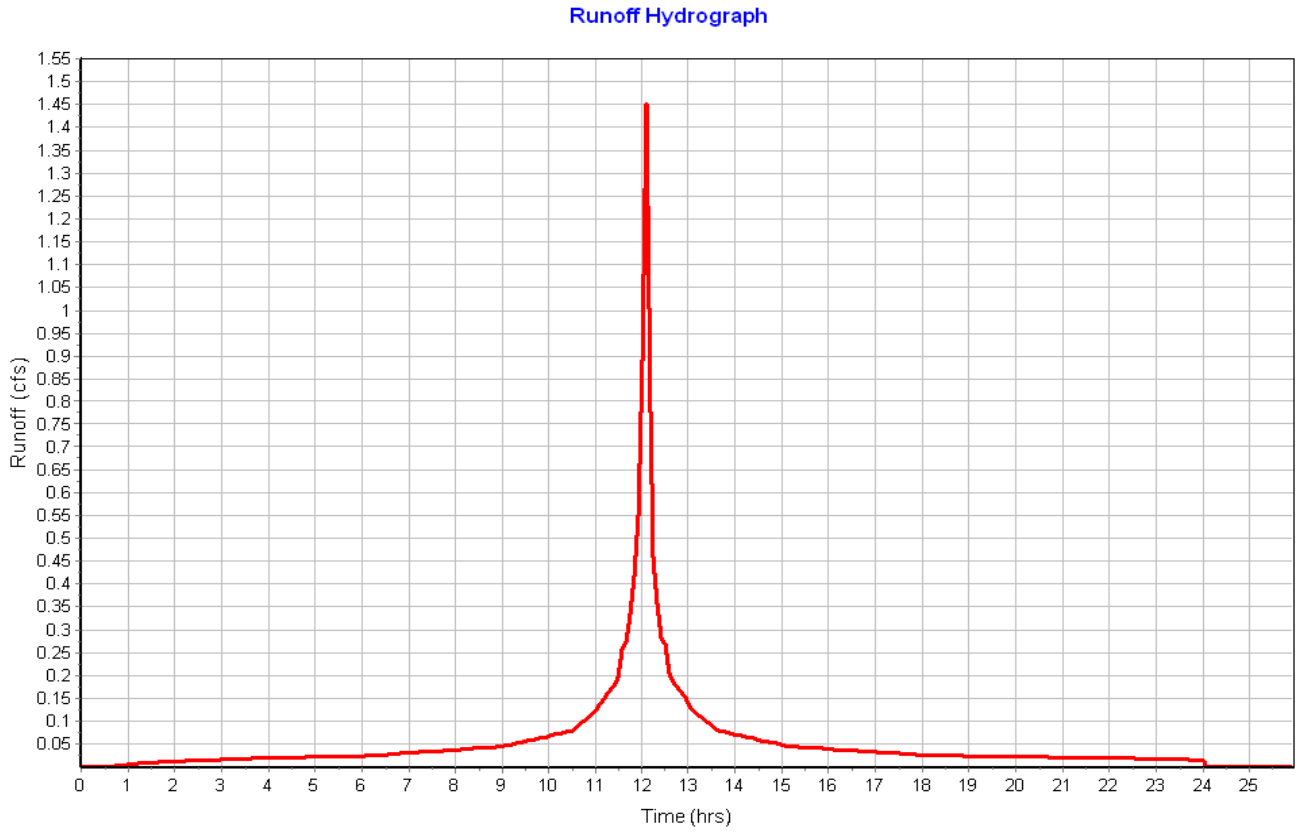
Total TOC (min) 4.08

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 1.49
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:04:05

Subbasin : Pavement-09





Subbasin : Pavement-10

Input Data

Area (ac) 0.29
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.29	C	98.00
Composite Area & Weighted CN	0.29		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	23.24	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.11	0.00	0.00
Computed Flow Time (min) :	0.35	0.00	0.00

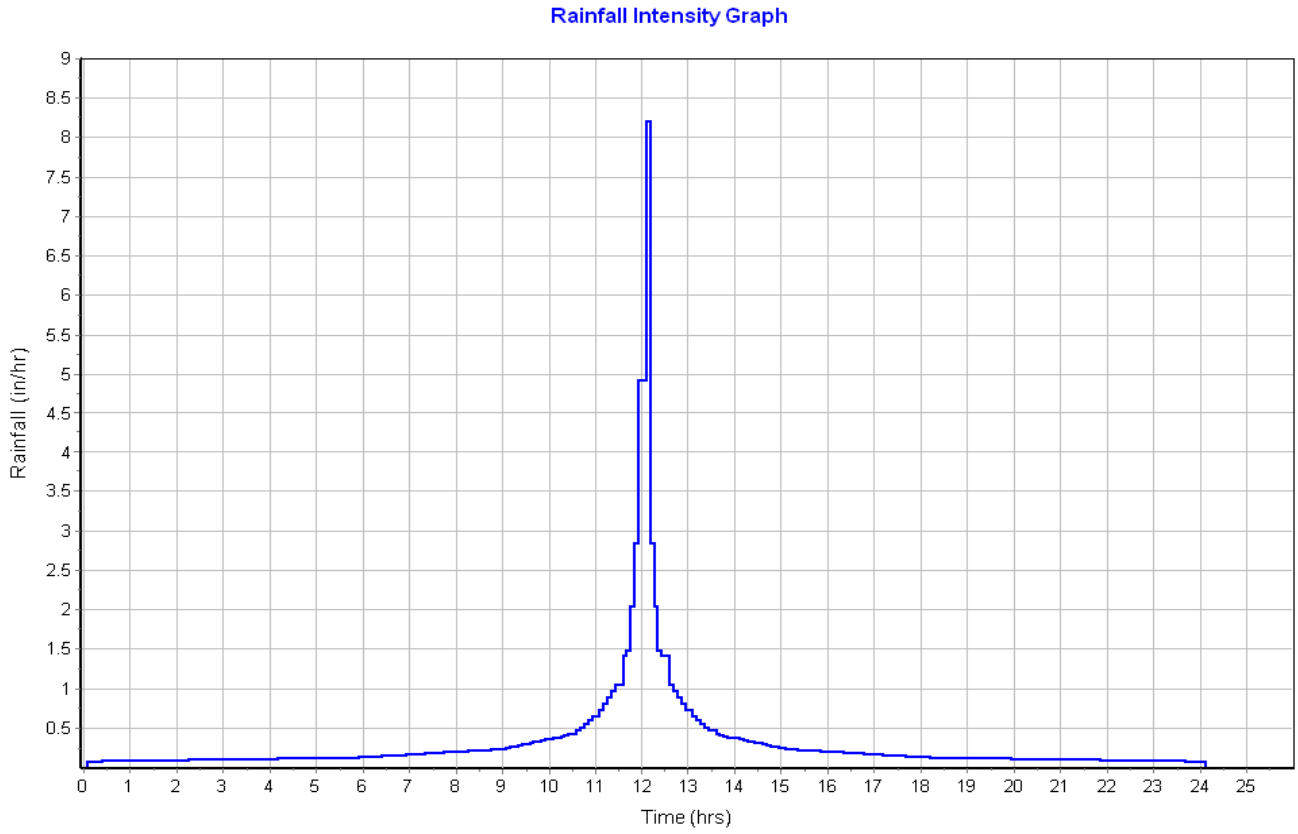
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	754.46	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.27	0.00	0.00
Computed Flow Time (min) :	5.54	0.00	0.00

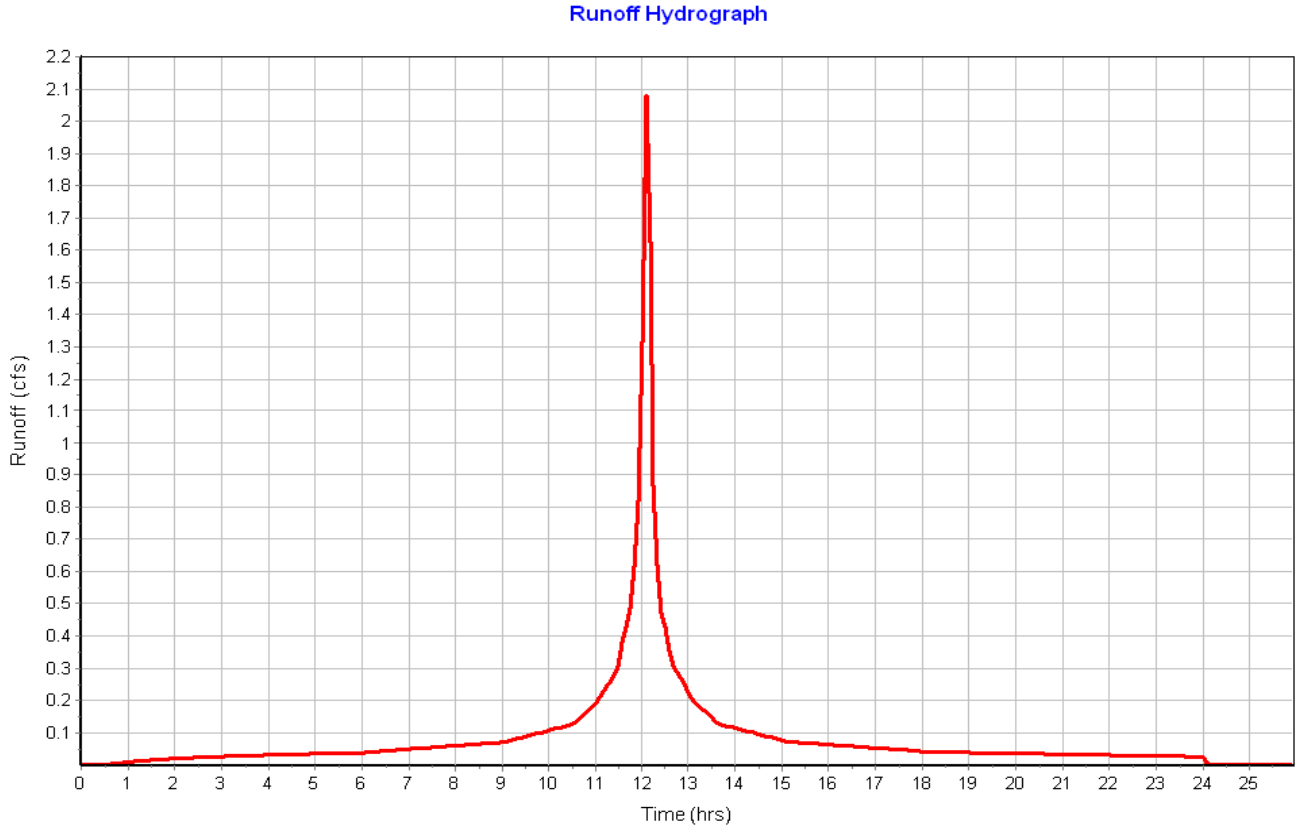
Total TOC (min) 5.89

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 2.25
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:05:53

Subbasin : Pavement-10





Subbasin : Pavement-13

Input Data

Area (ac)	0.14
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	17.45	0.00	0.00
Slope (%) :	1.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.30	0.00	0.00

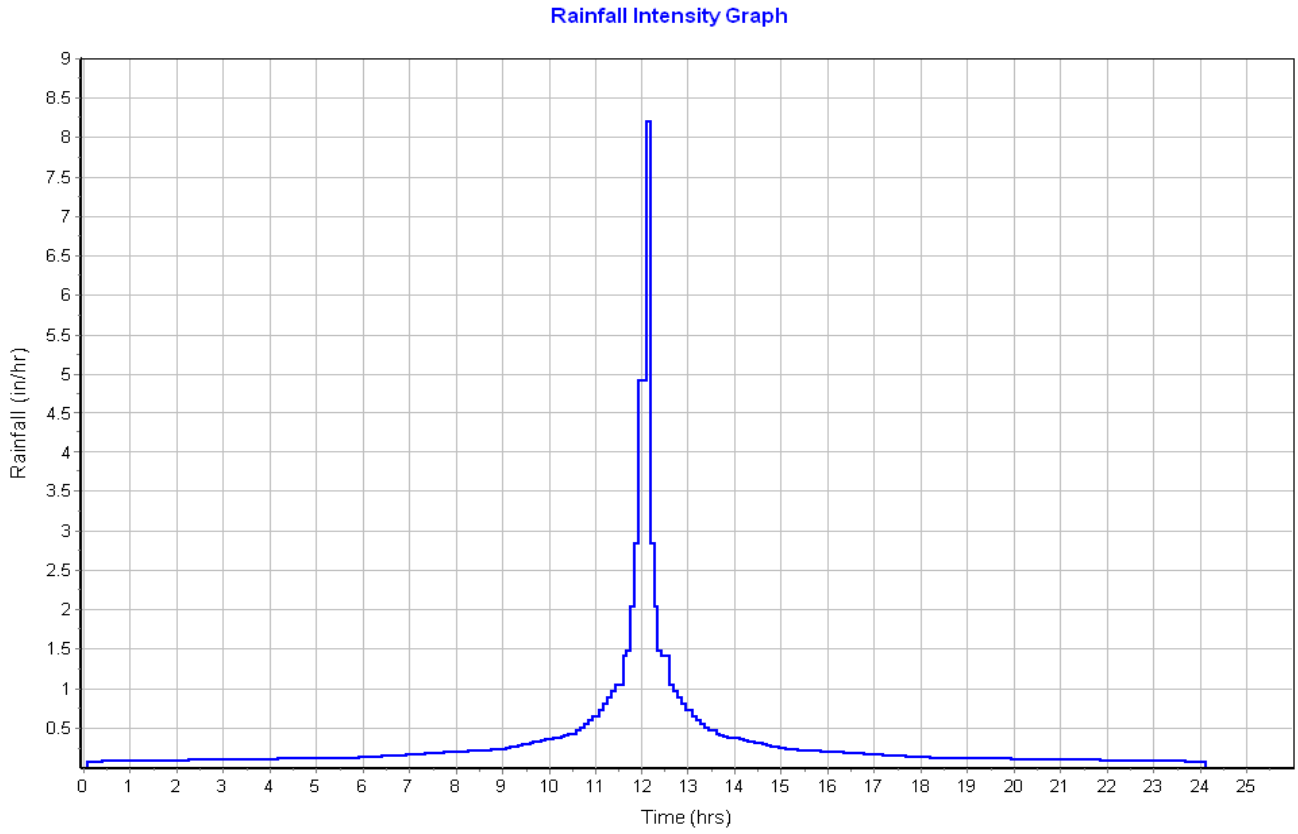
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	238.58	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.13	0.00	0.00

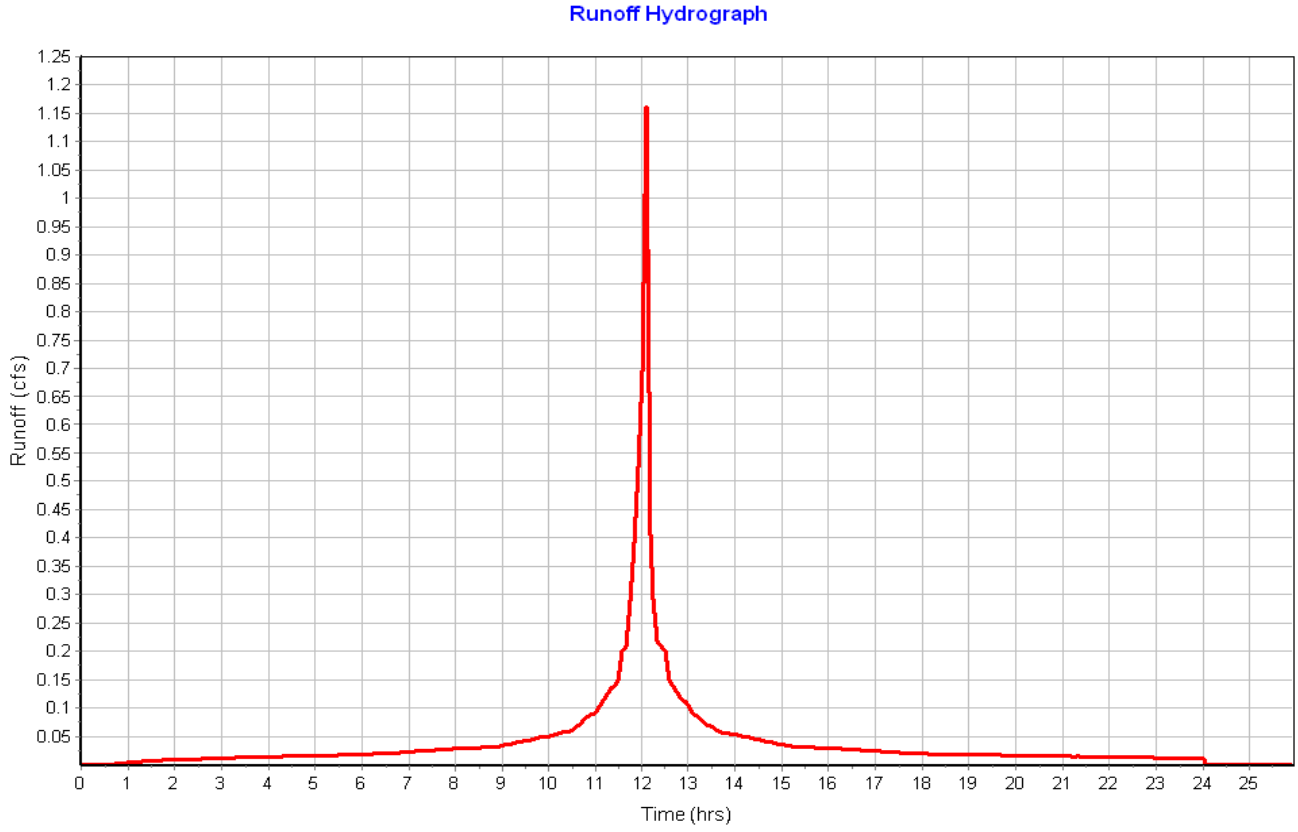
Total TOC (min) 1.43

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	1.16
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:26

Subbasin : Pavement-13





Subbasin : Pavement-15

Input Data

Area (ac)	0.16
Peak Rate Factor	484.00
Weighted Curve Number	92.42
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.16		92.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	.4	.01
Flow Length (ft) :	22.40	76.05	35.47
Slope (%) :	2	2.63	2
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	1.10	0.08	1.21
Computed Flow Time (min) :	0.34	15.44	0.49

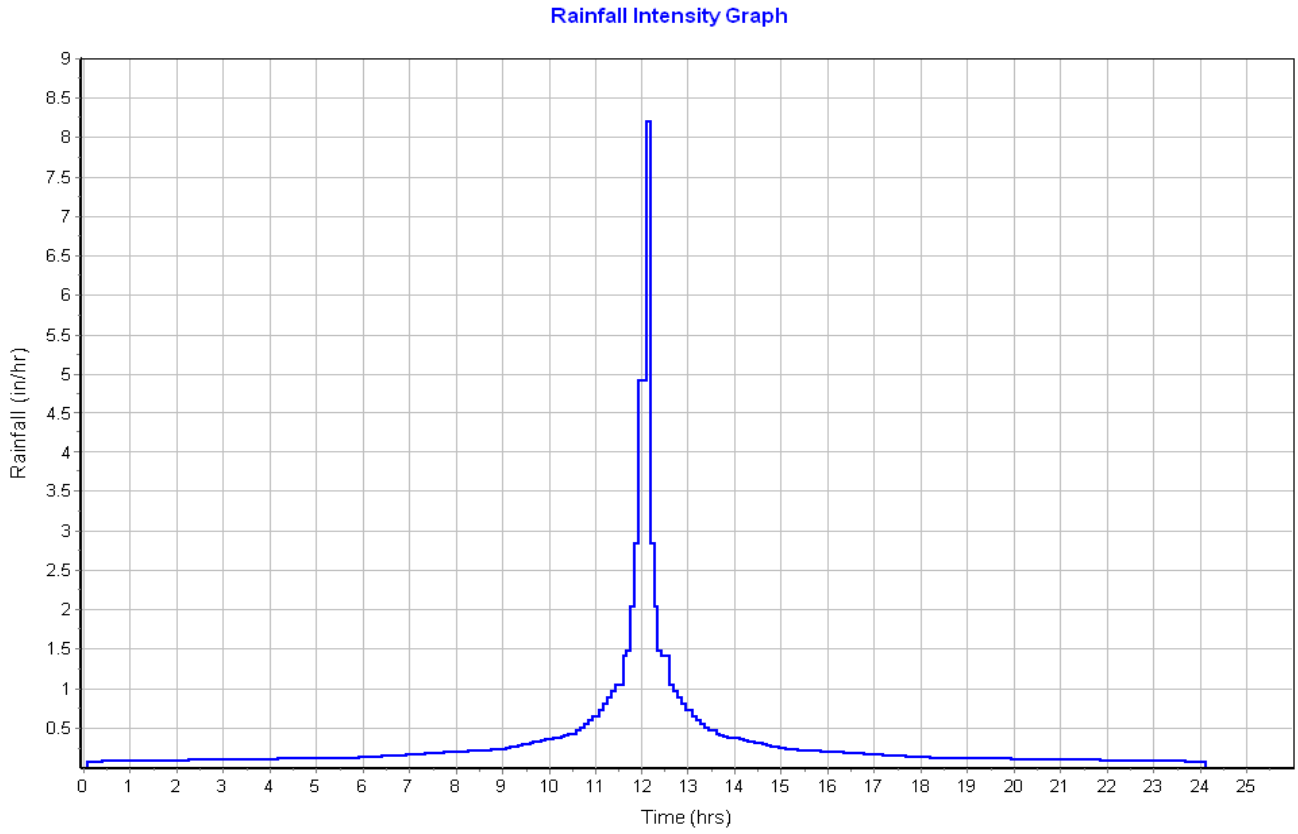
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	231.04	0.00	0.00
Slope (%) :	4.5	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.31	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

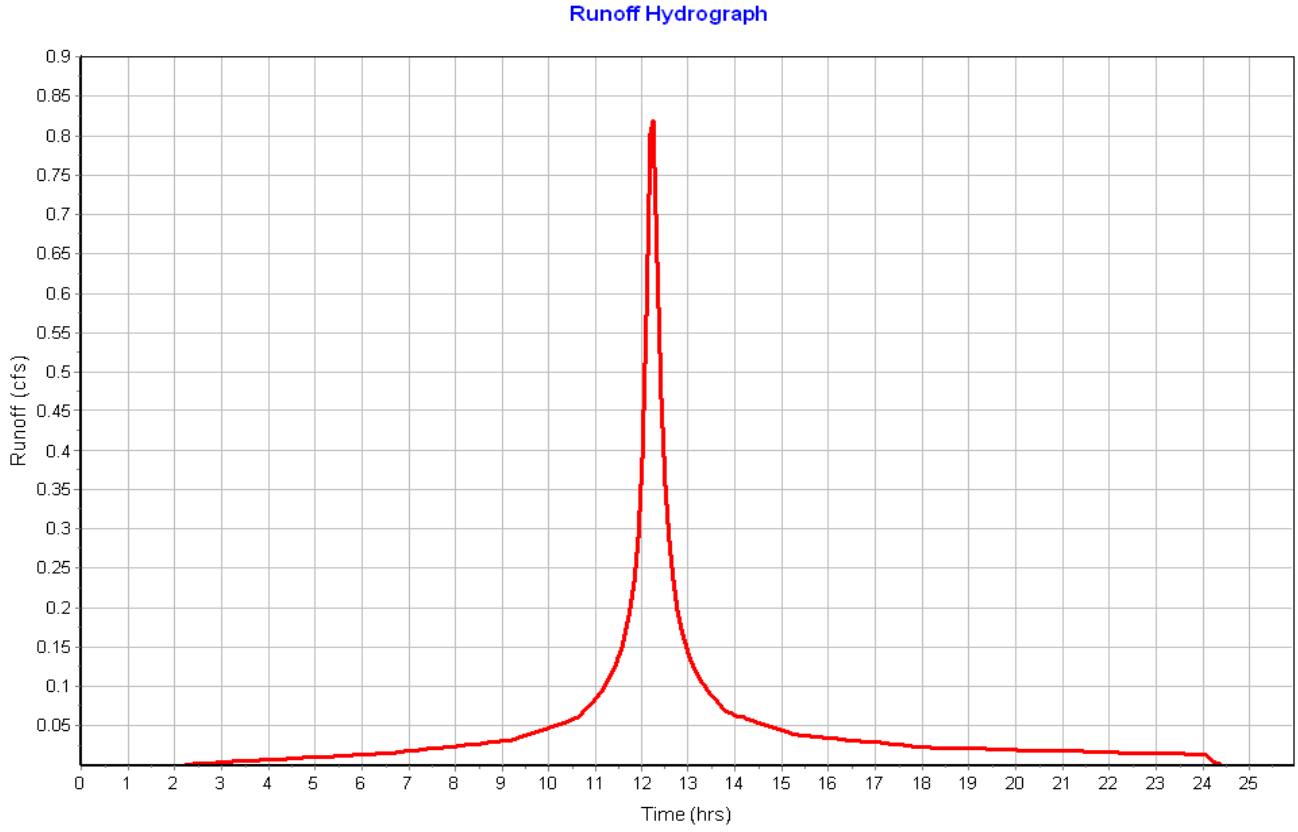
Total TOC (min) 17.16

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	6.95
Peak Runoff (cfs)	0.85
Weighted Curve Number	92.42
Time of Concentration (days hh:mm:ss)	0 00:17:10

Subbasin : Pavement-15





Subbasin : Pavement-16

Input Data

Area (ac)	0.25
Peak Rate Factor	484.00
Weighted Curve Number	90.40
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.17	C	98.00
> 75% grass cover, Good	0.08	C	74.00
Composite Area & Weighted CN	0.25		90.40

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	74.01	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.40	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

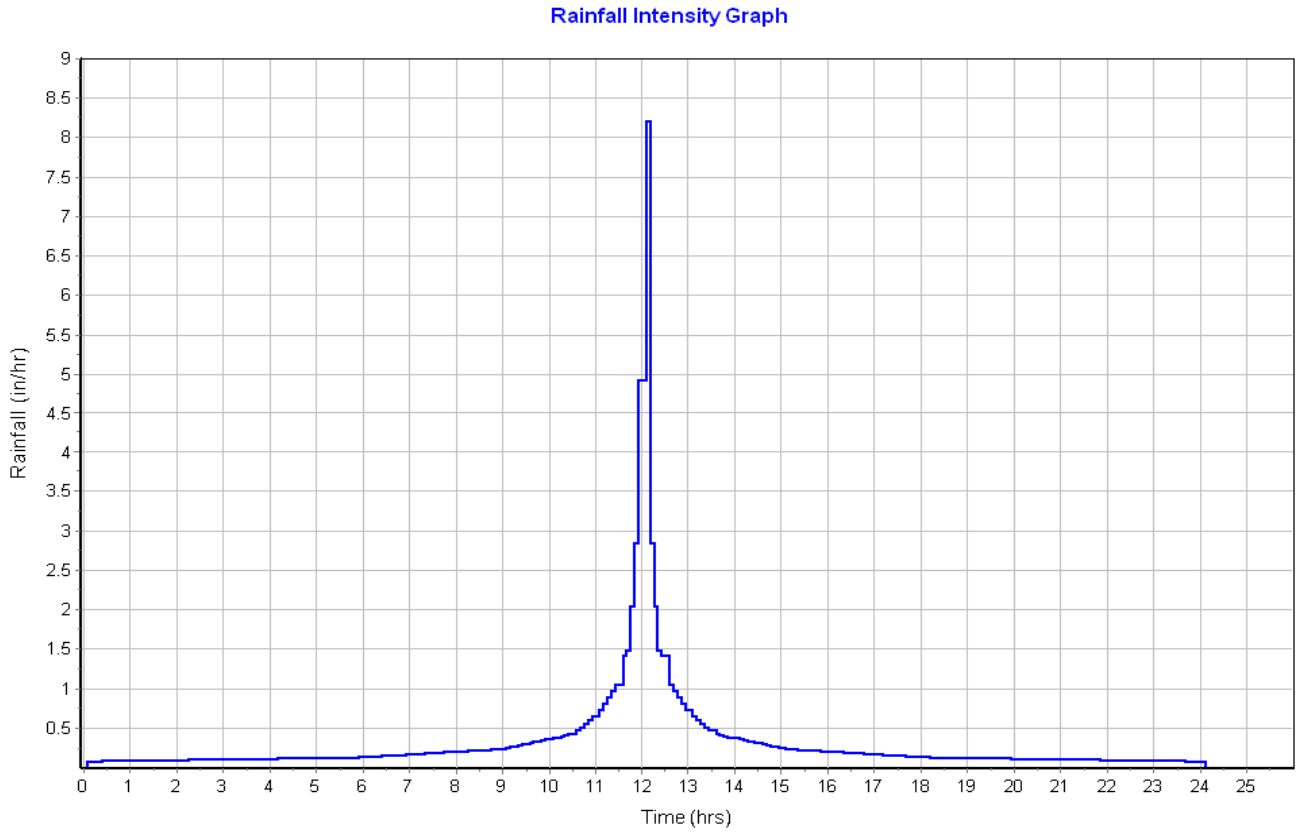
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	278.80	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.32	0.00	0.00

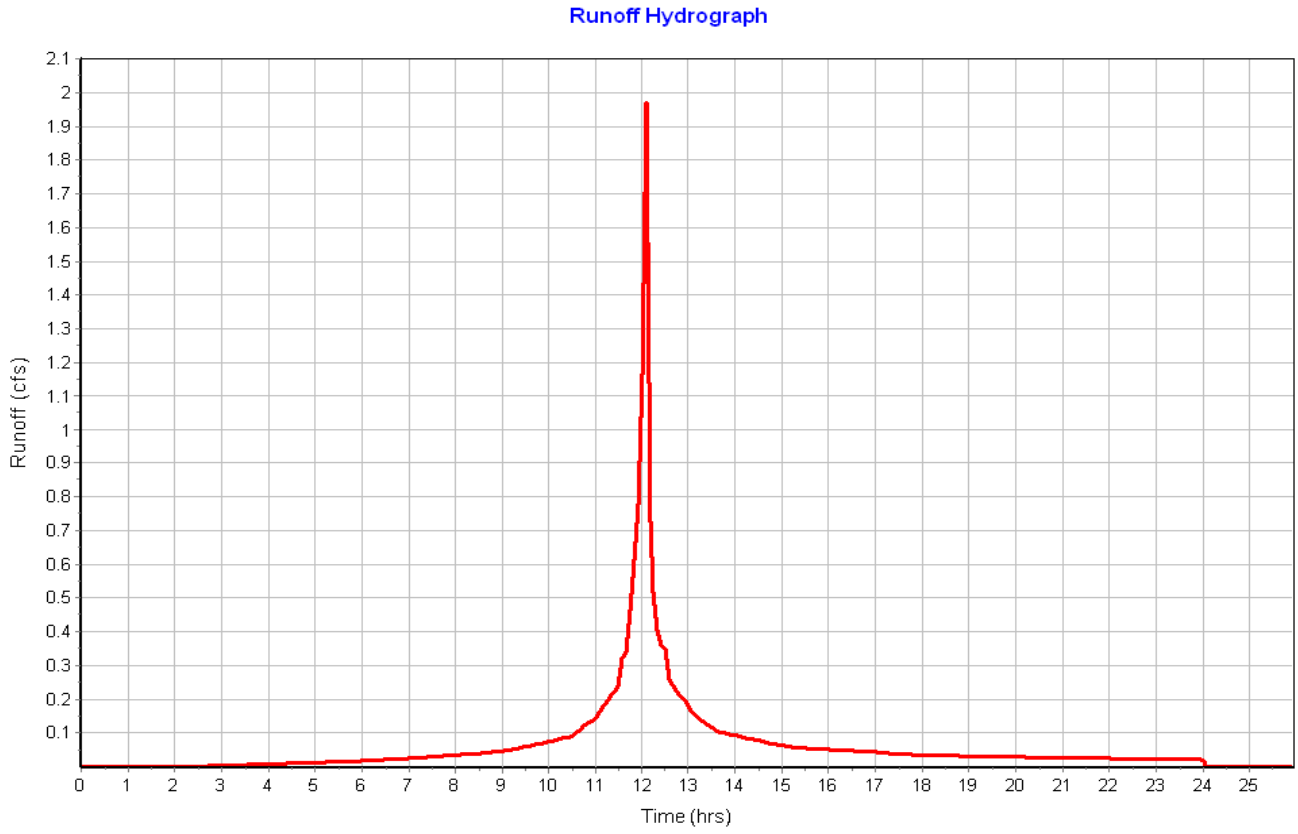
Total TOC (min) 2.20

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	6.72
Peak Runoff (cfs)	1.98
Weighted Curve Number	90.40
Time of Concentration (days hh:mm:ss)	0 00:02:12

Subbasin : Pavement-16





Subbasin : Pavement-17

Input Data

Area (ac)	0.15
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.15	C	98.00
Composite Area & Weighted CN	0.15		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	135.74	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.58	0.00	0.00
Computed Flow Time (min) :	1.43	0.00	0.00

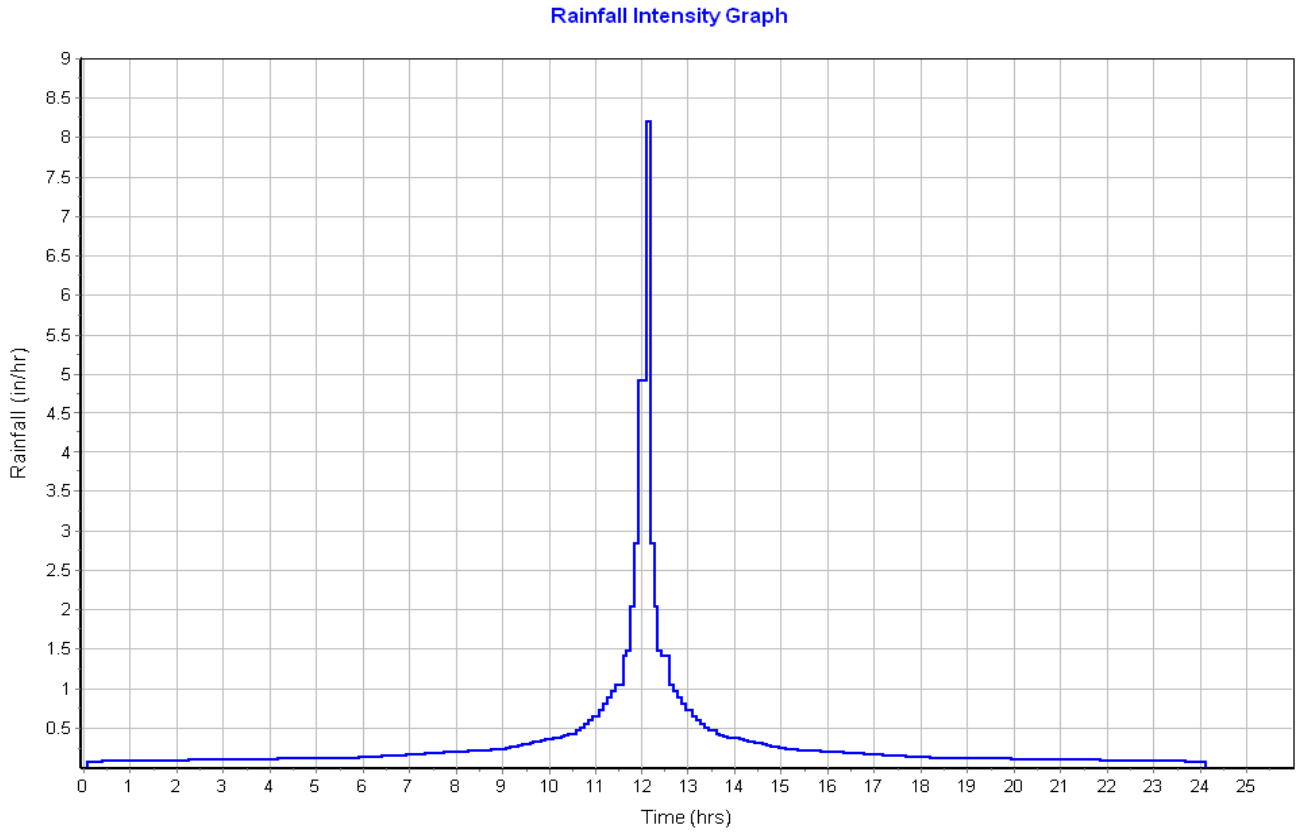
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	257.69	0.00	0.00
Slope (%) :	2.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.10	0.00	0.00
Computed Flow Time (min) :	1.39	0.00	0.00

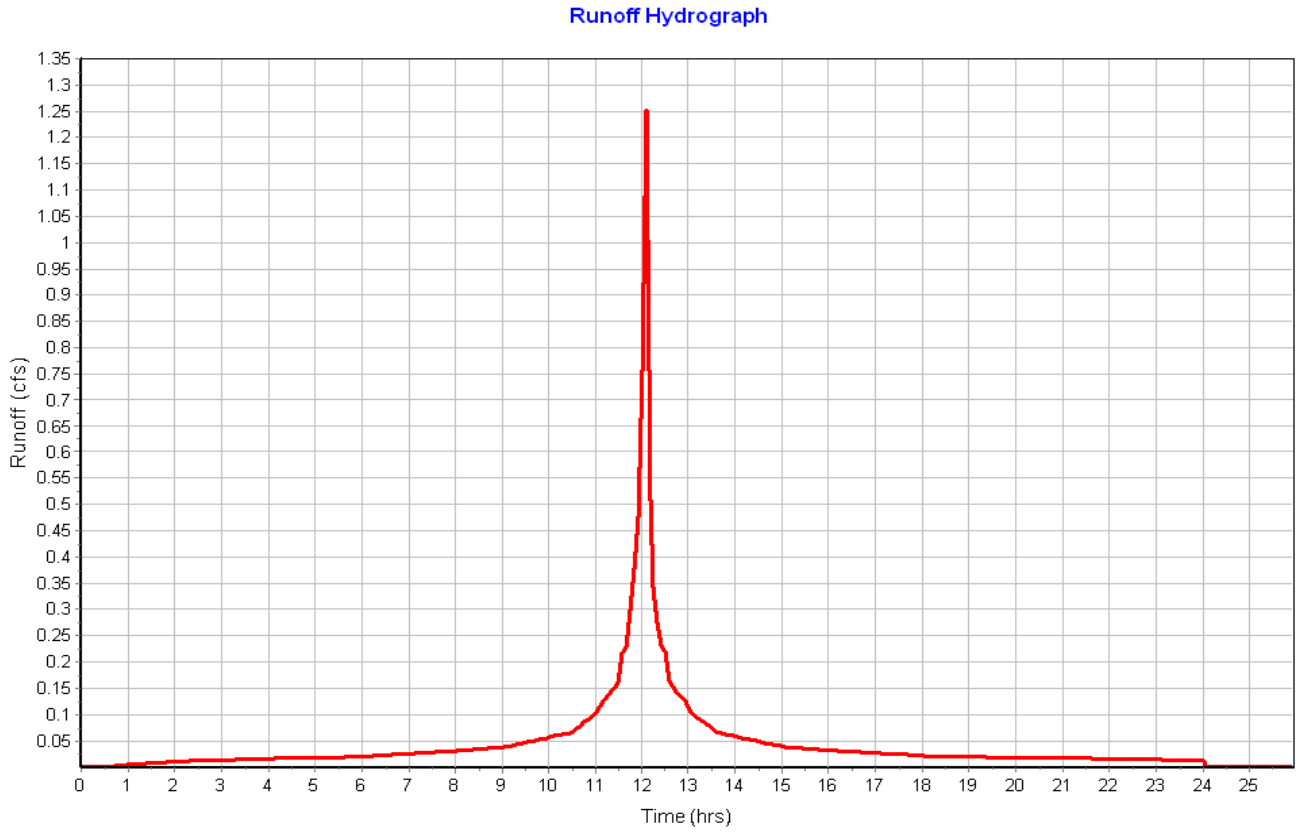
Total TOC (min) 2.82

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	1.26
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:49

Subbasin : Pavement-17





Subbasin : Pavement-18

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.62	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

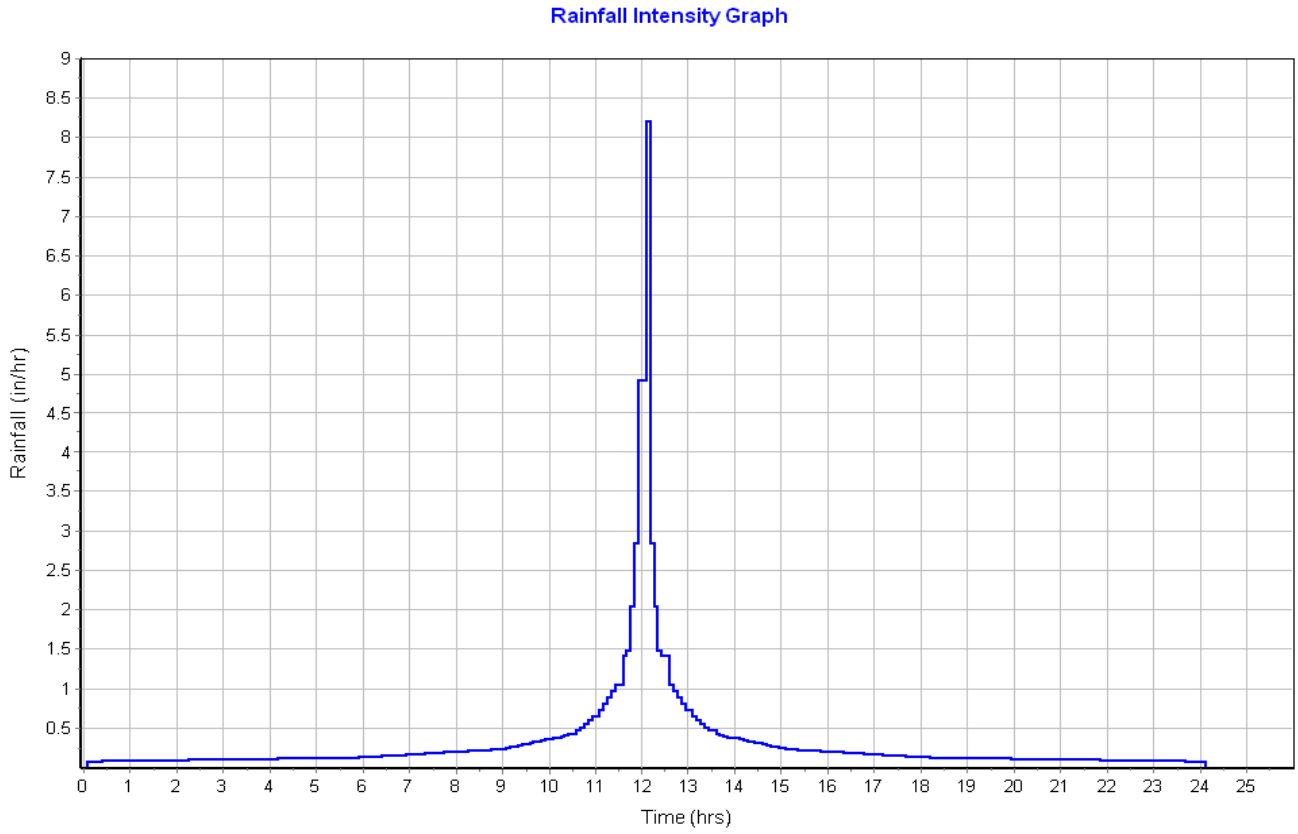
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	382.38	0.00	0.00
Slope (%) :	2.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.95	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

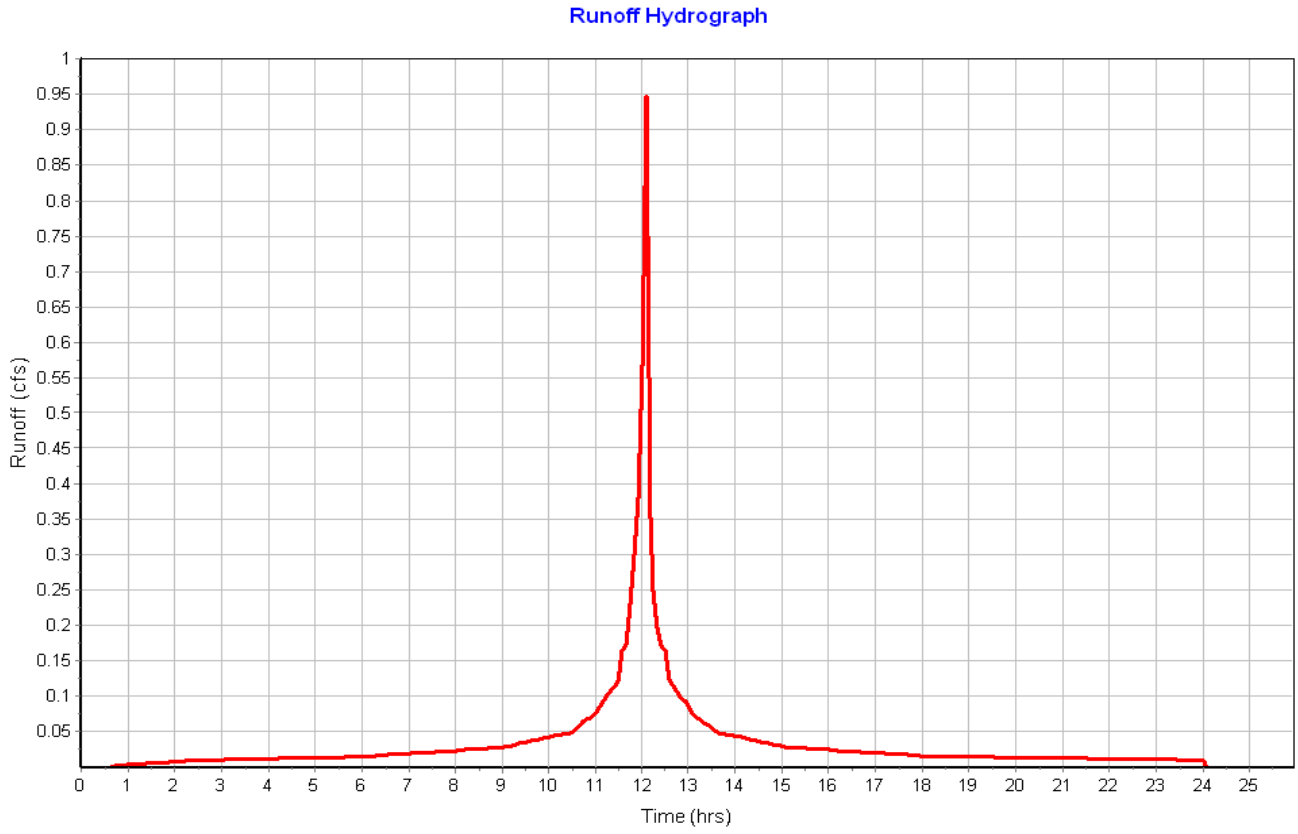
Total TOC (min) 2.37

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.95
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:22

Subbasin : Pavement-18





Subbasin : Pavement-19

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	27.28	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.15	0.00	0.00
Computed Flow Time (min) :	0.40	0.00	0.00

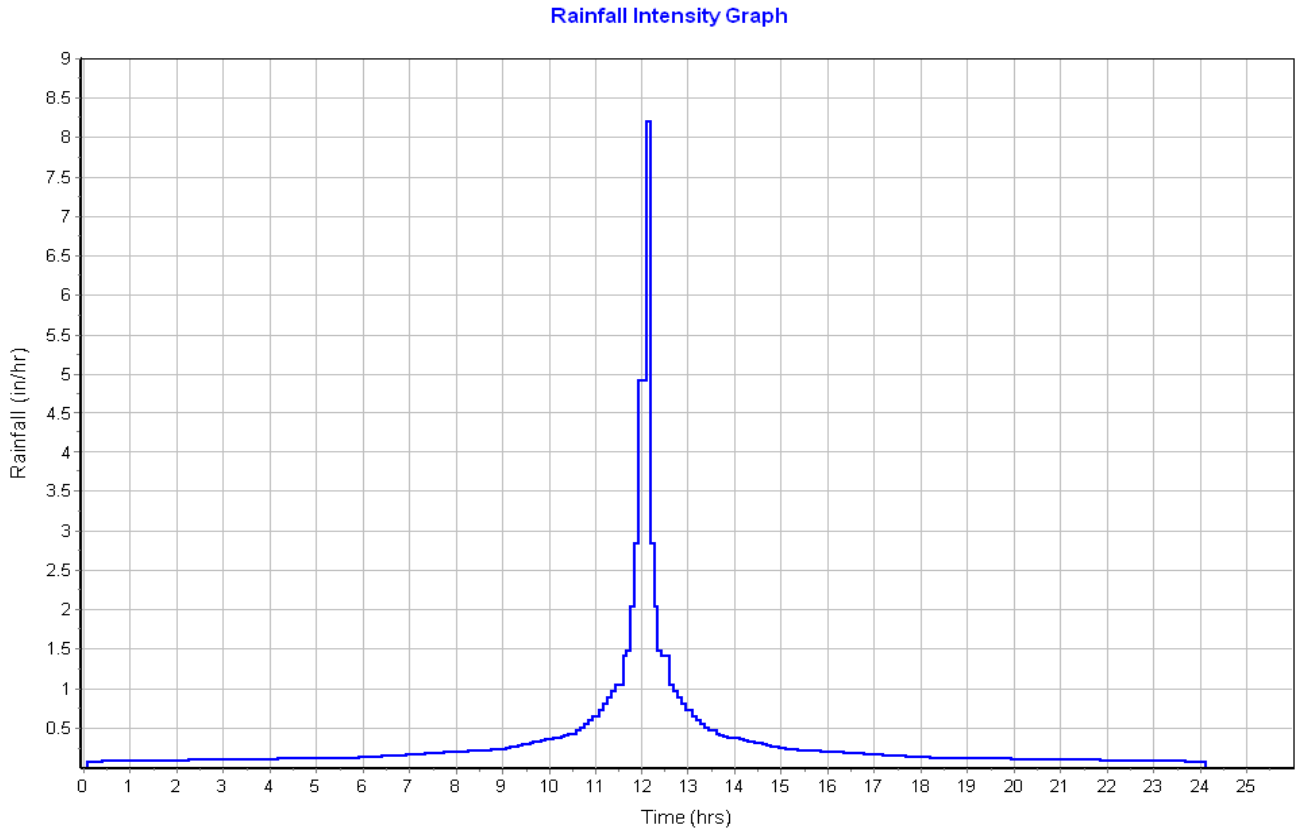
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	112.86	0.00	0.00
Slope (%) :	1.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.65	0.00	0.00
Computed Flow Time (min) :	0.71	0.00	0.00

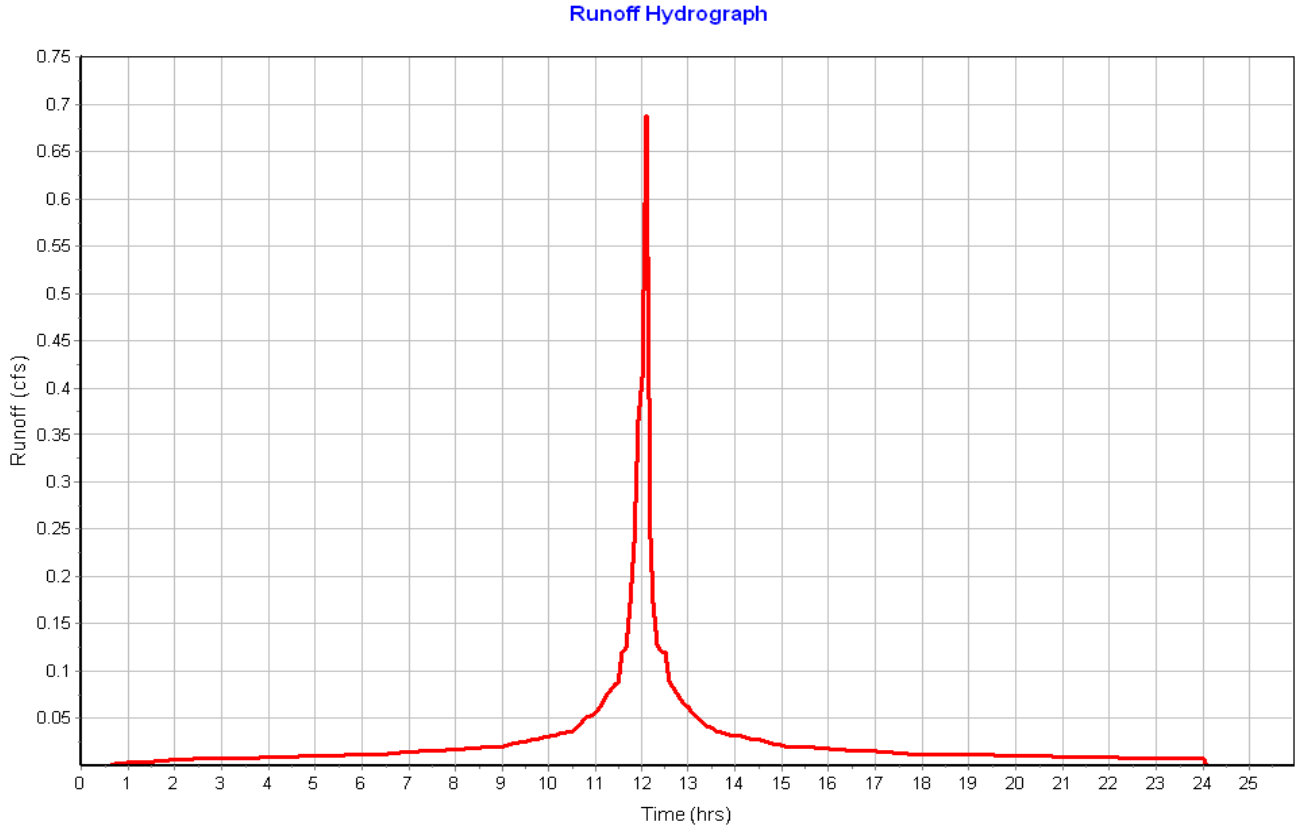
Total TOC (min) 1.11

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.69
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:07

Subbasin : Pavement-19





Subbasin : Roof-01

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

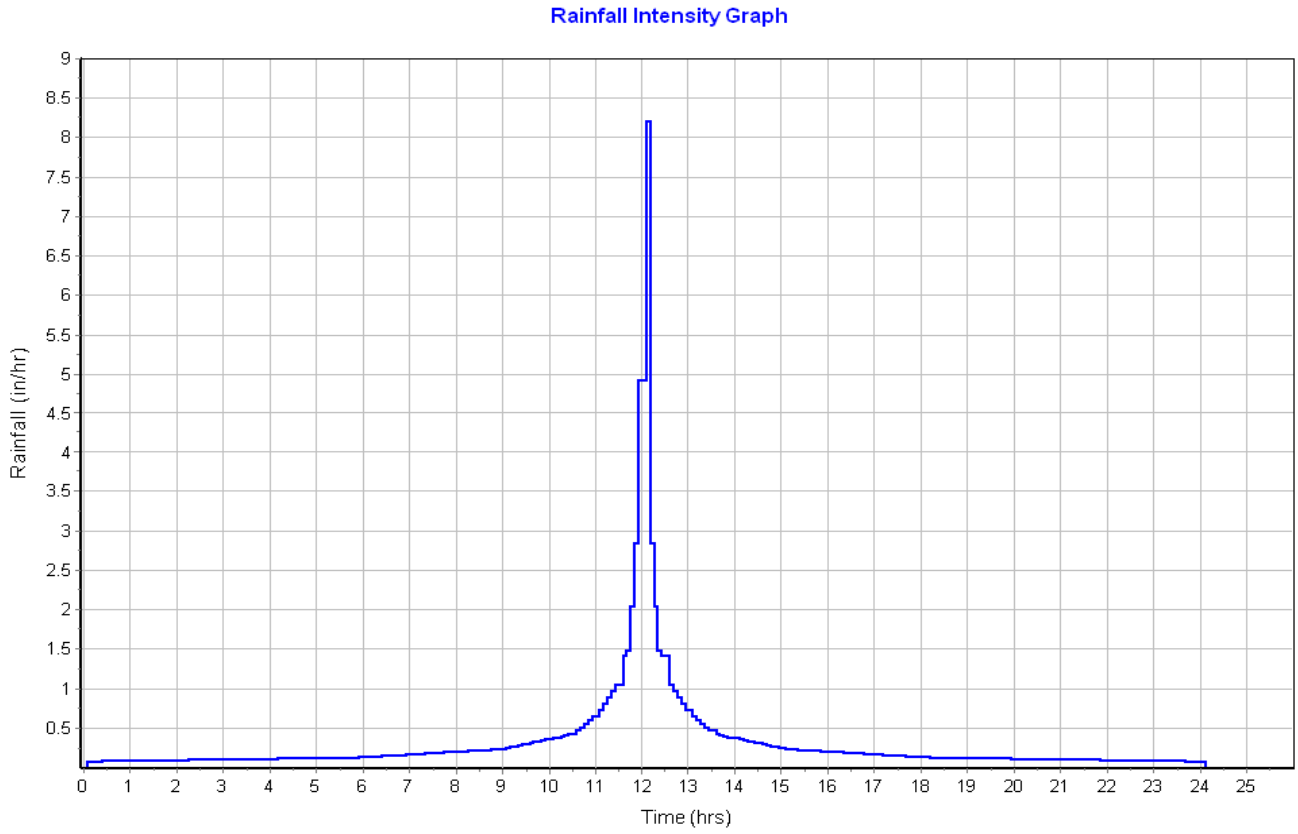
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

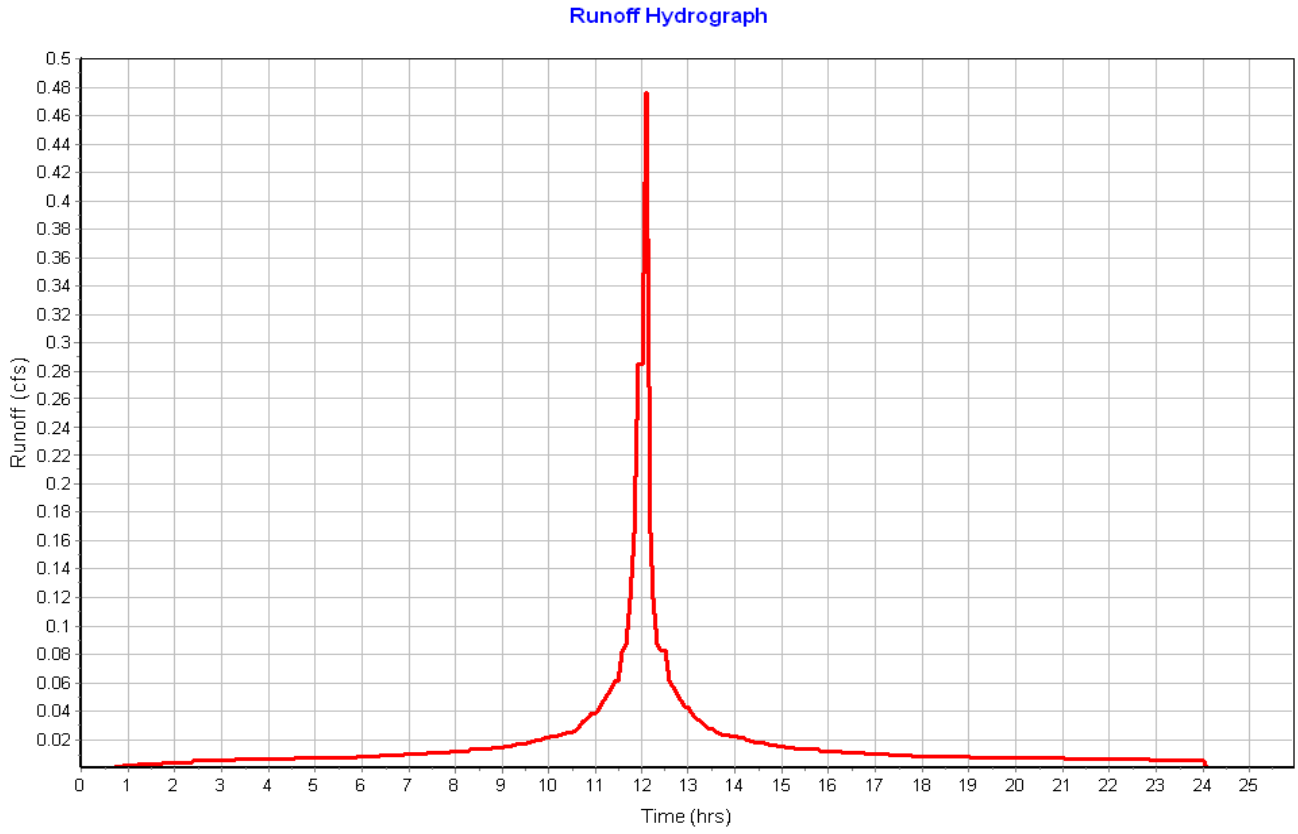
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-01





Subbasin : Roof-02

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

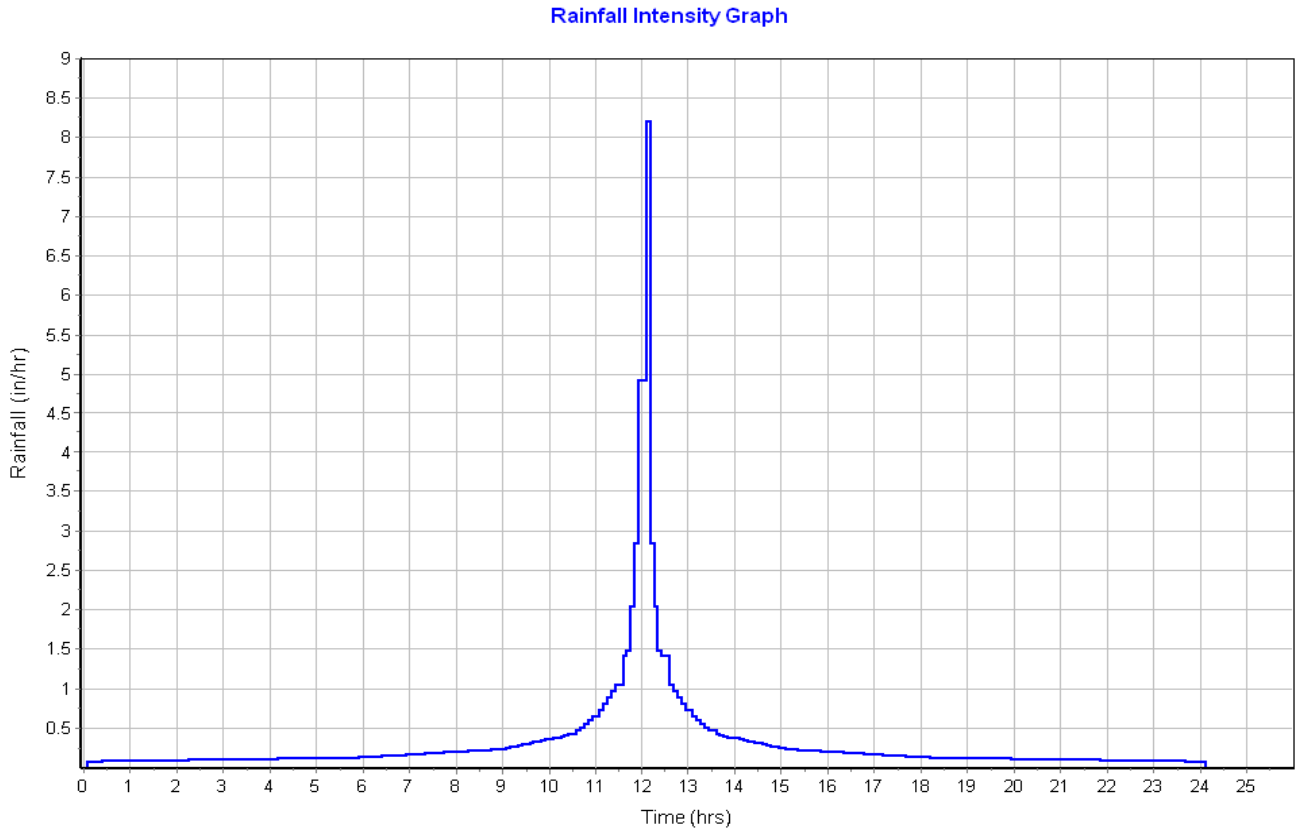
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

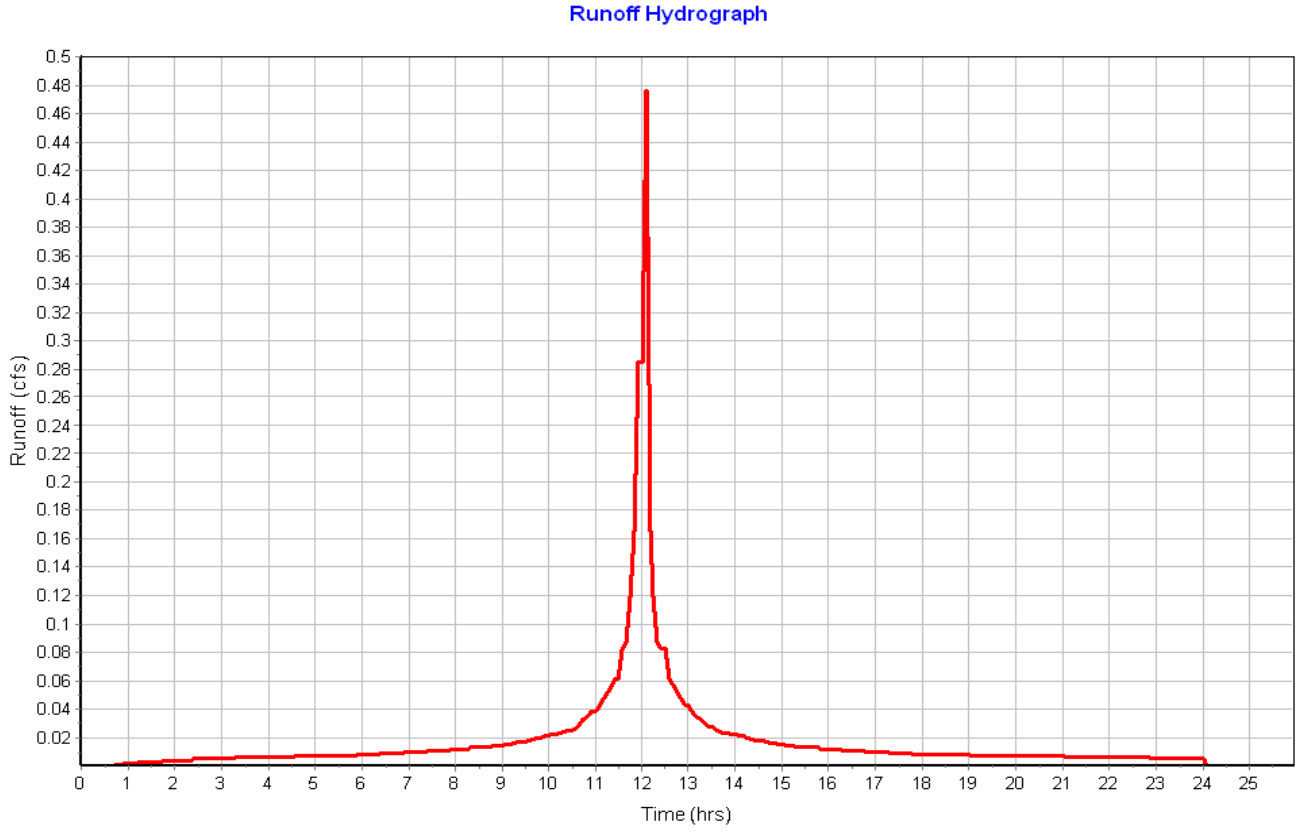
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-02





Subbasin : Roof-03

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

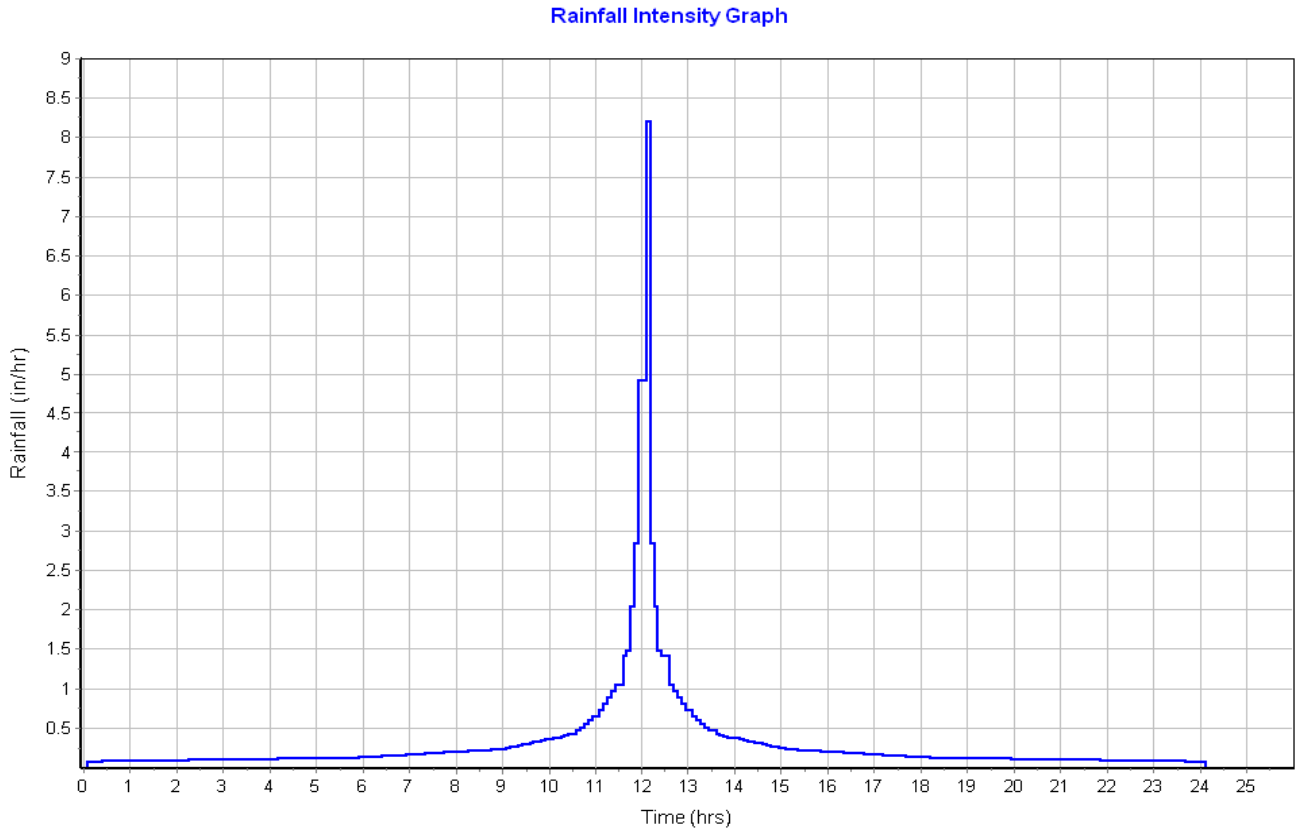
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

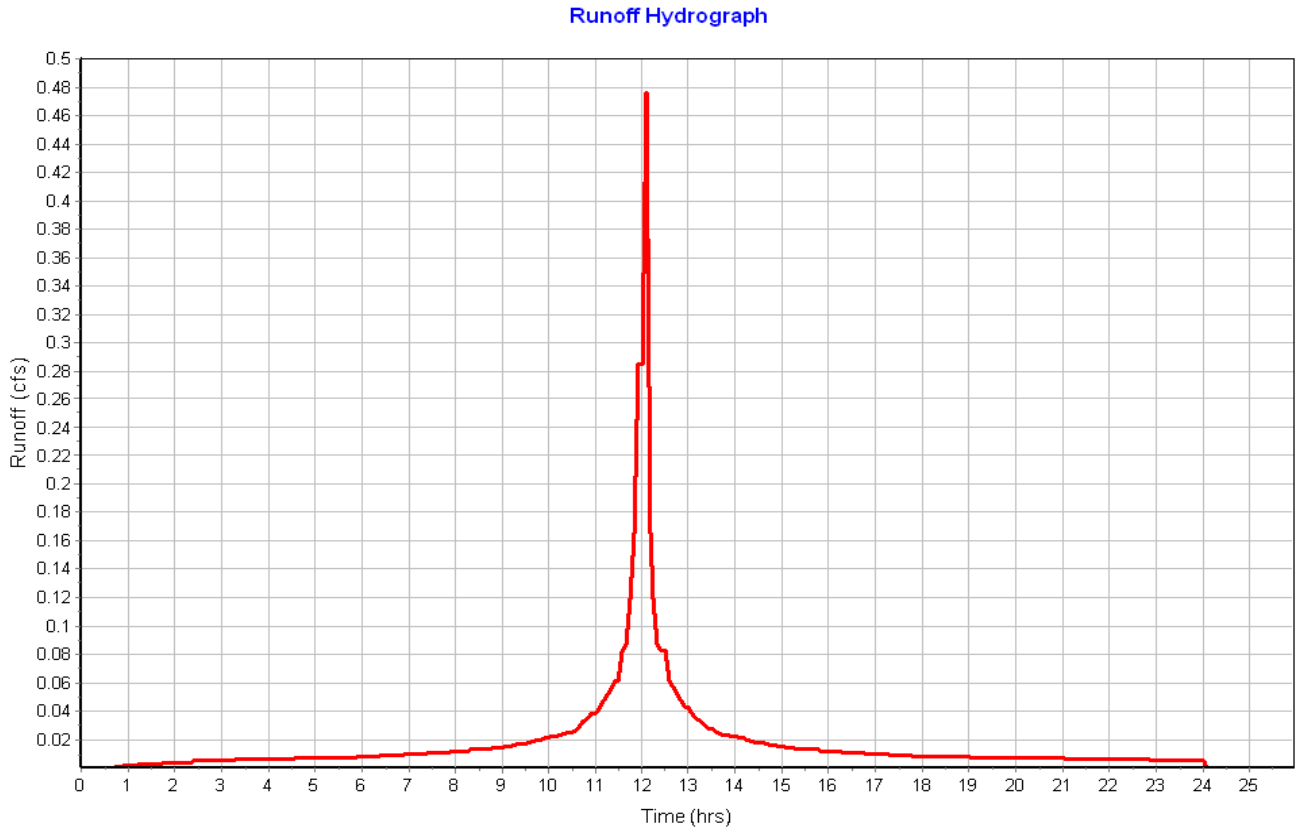
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-03





Subbasin : Roof-04

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

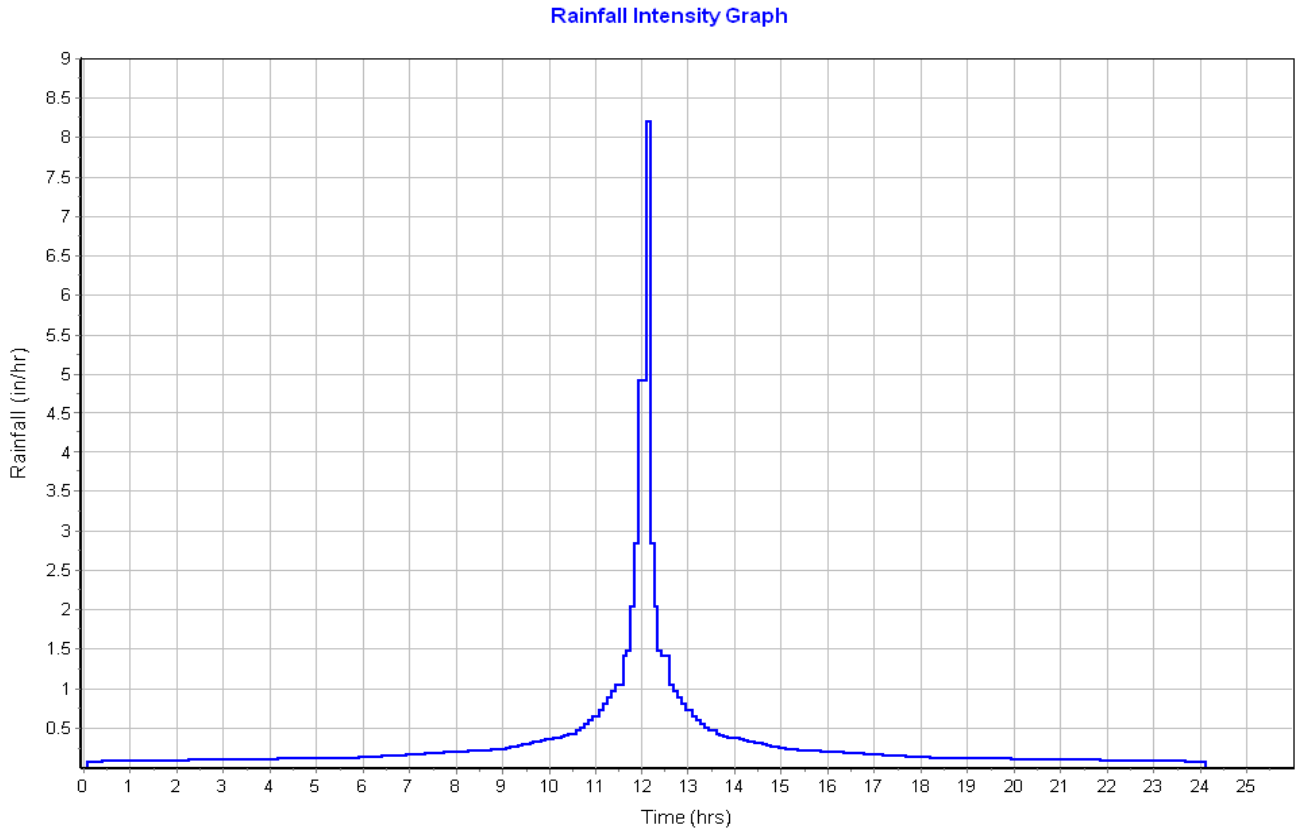
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

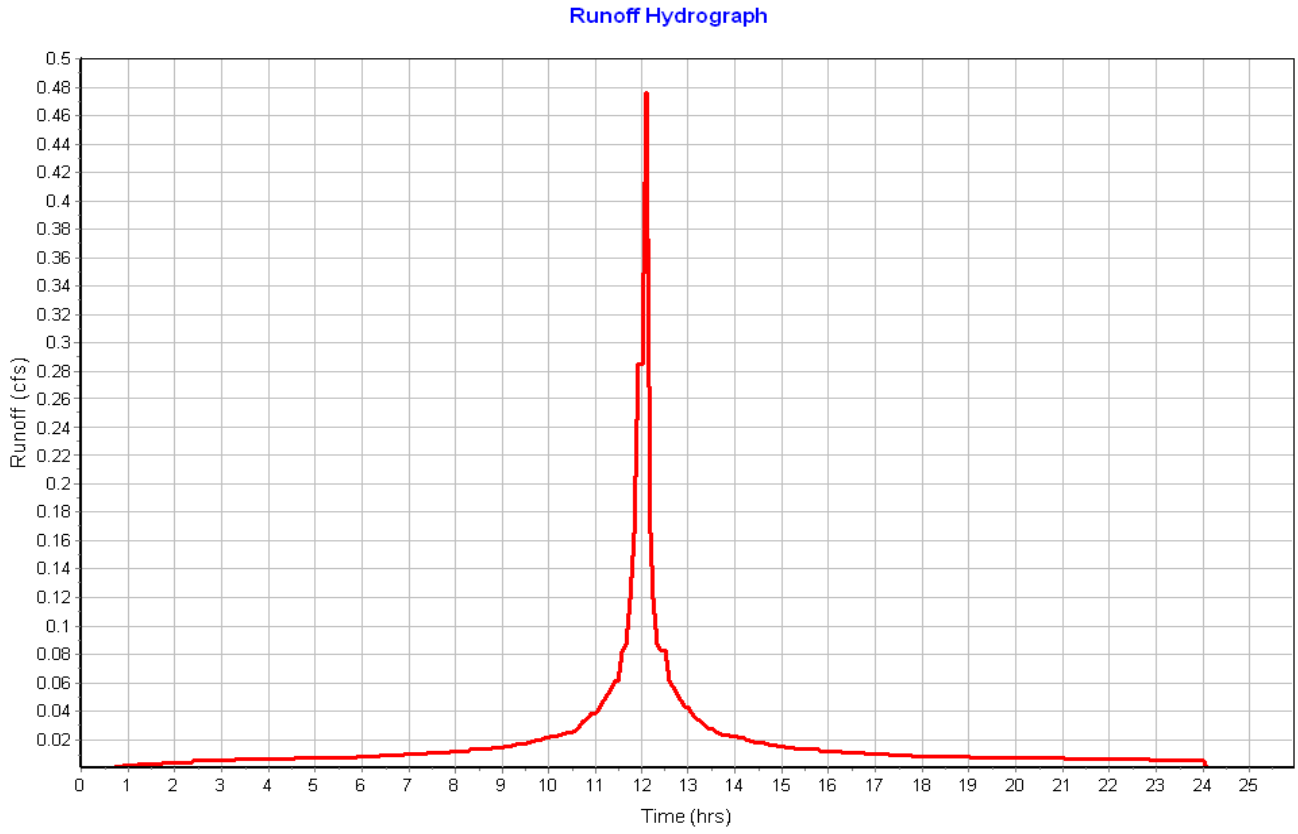
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-04





Subbasin : Roof-05

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

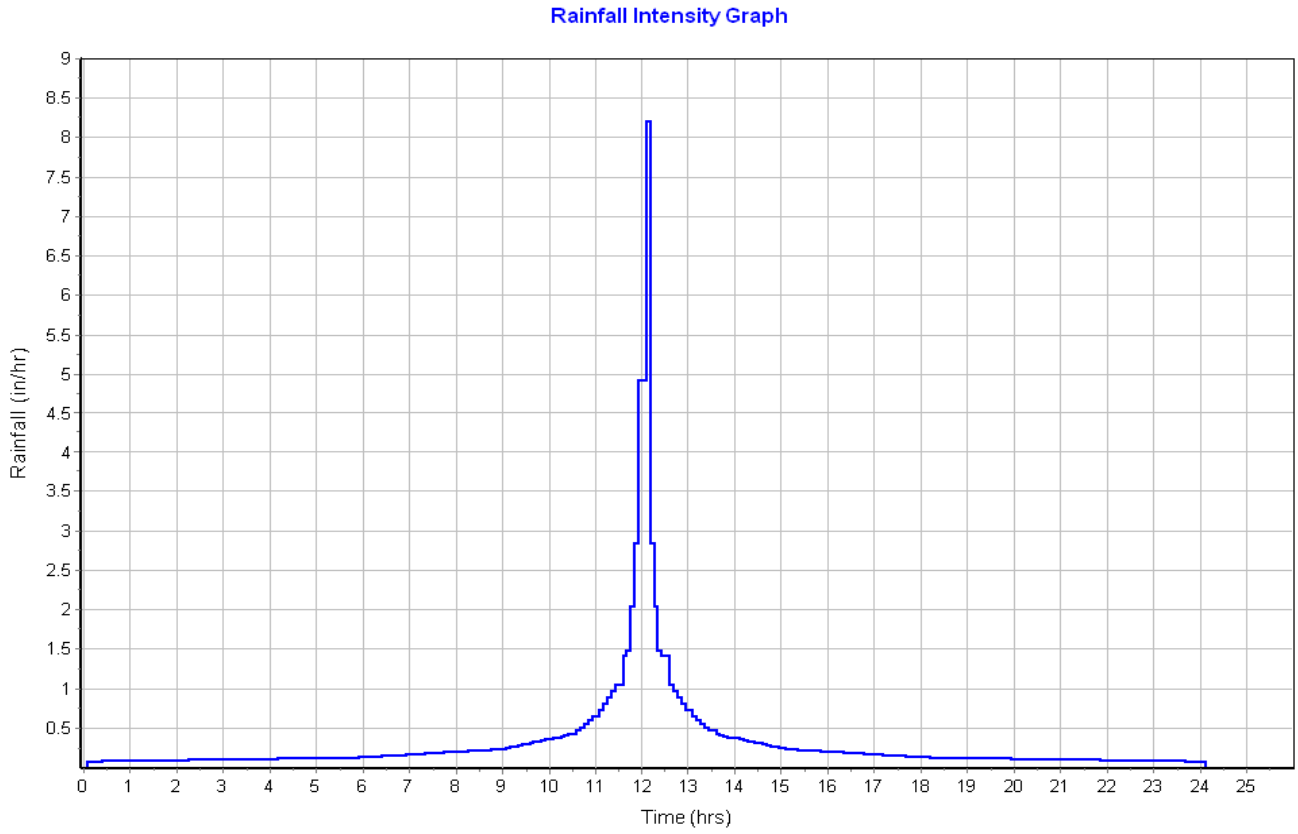
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

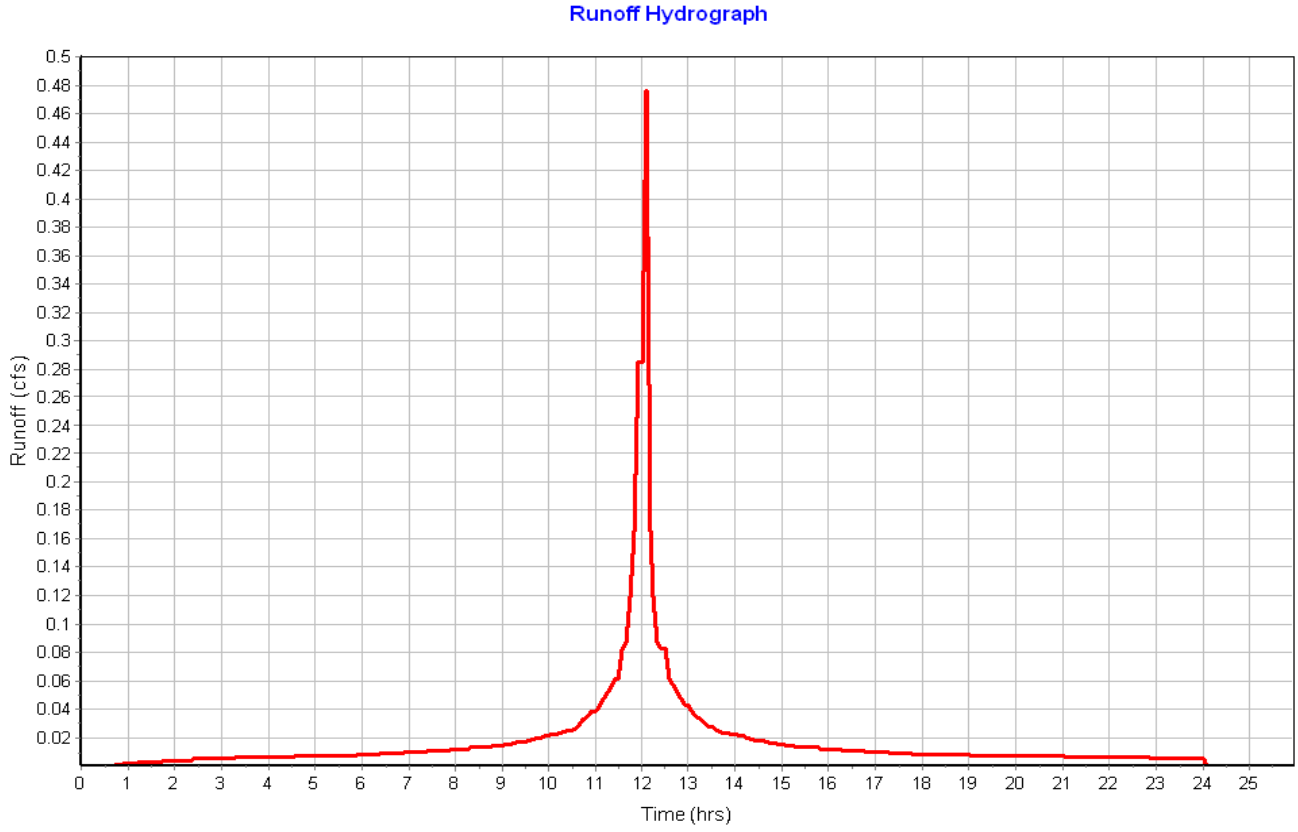
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-05





Subbasin : Roof-06

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

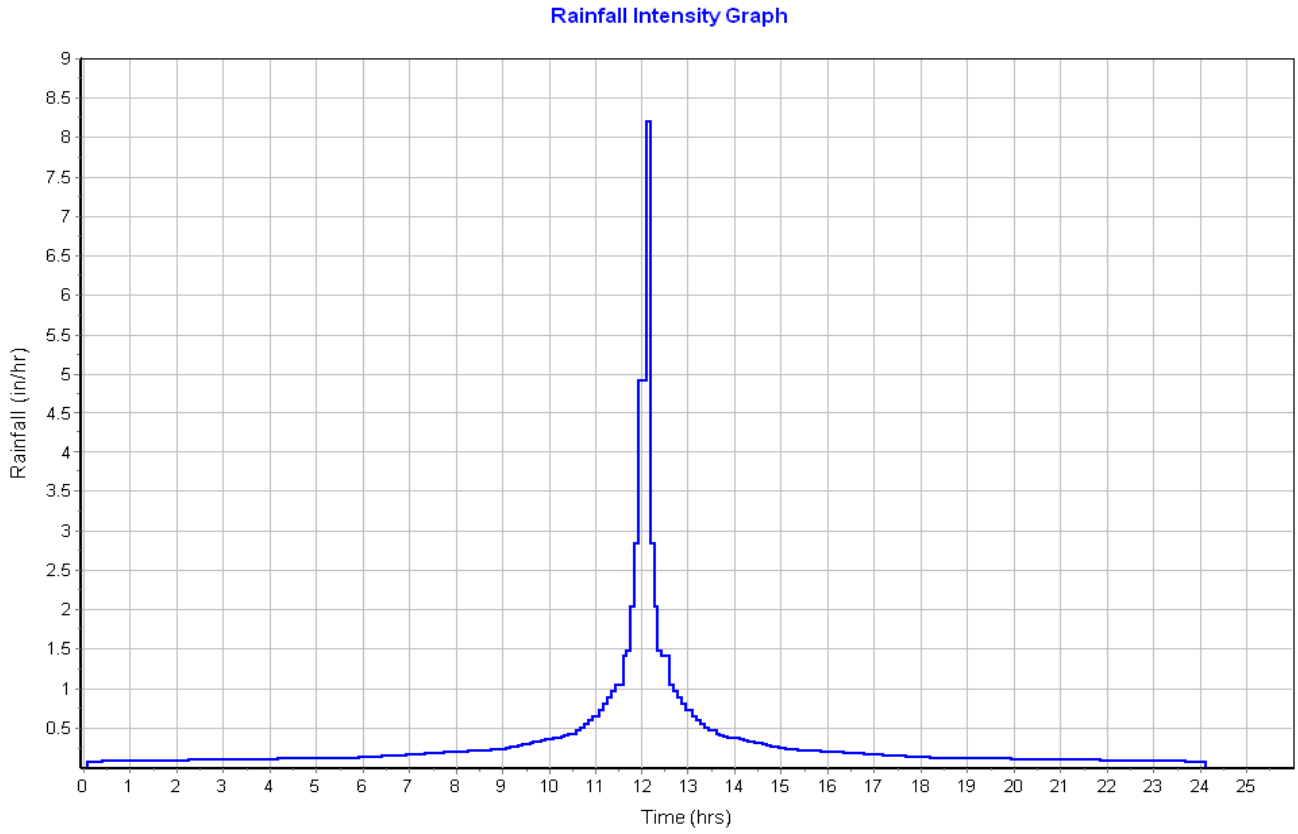
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

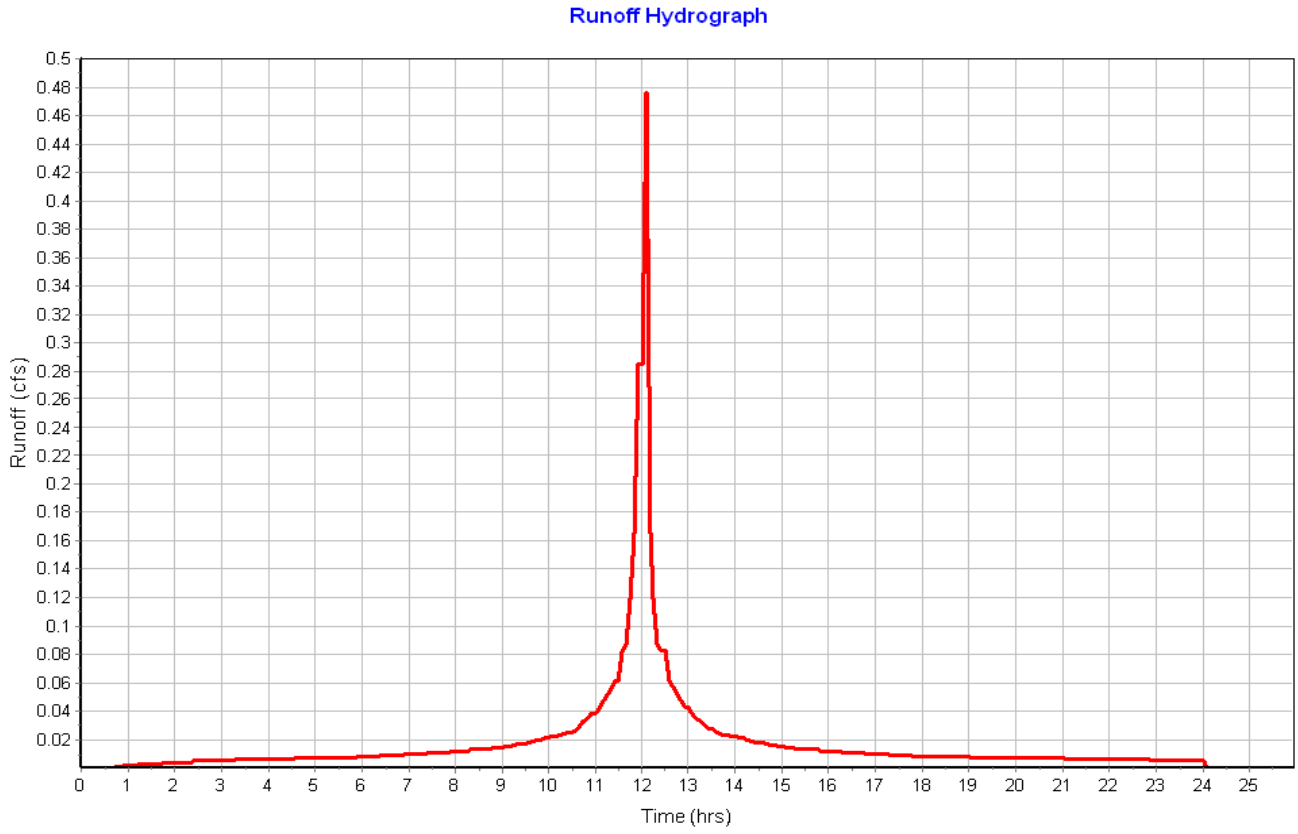
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-06





Subbasin : Roof-07

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

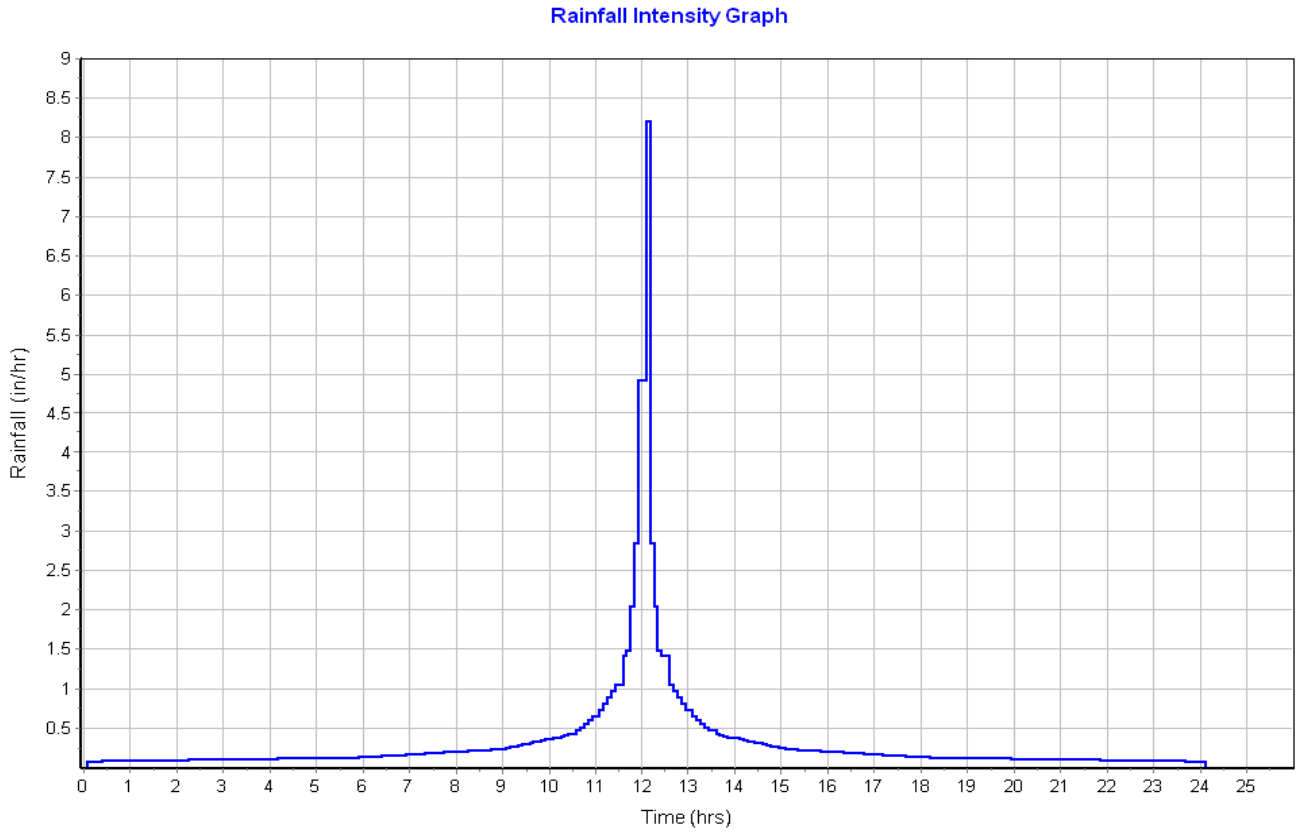
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

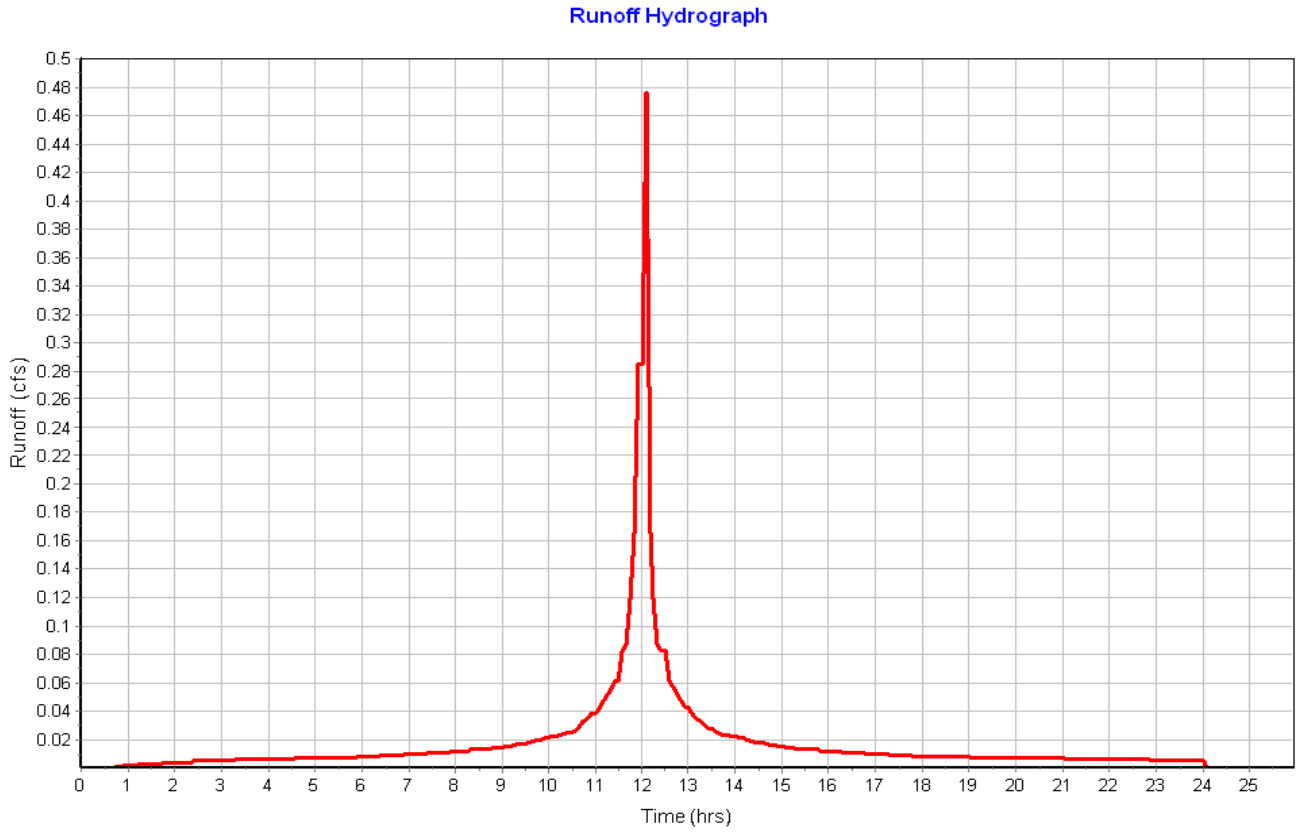
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-07





Subbasin : Roof-08

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

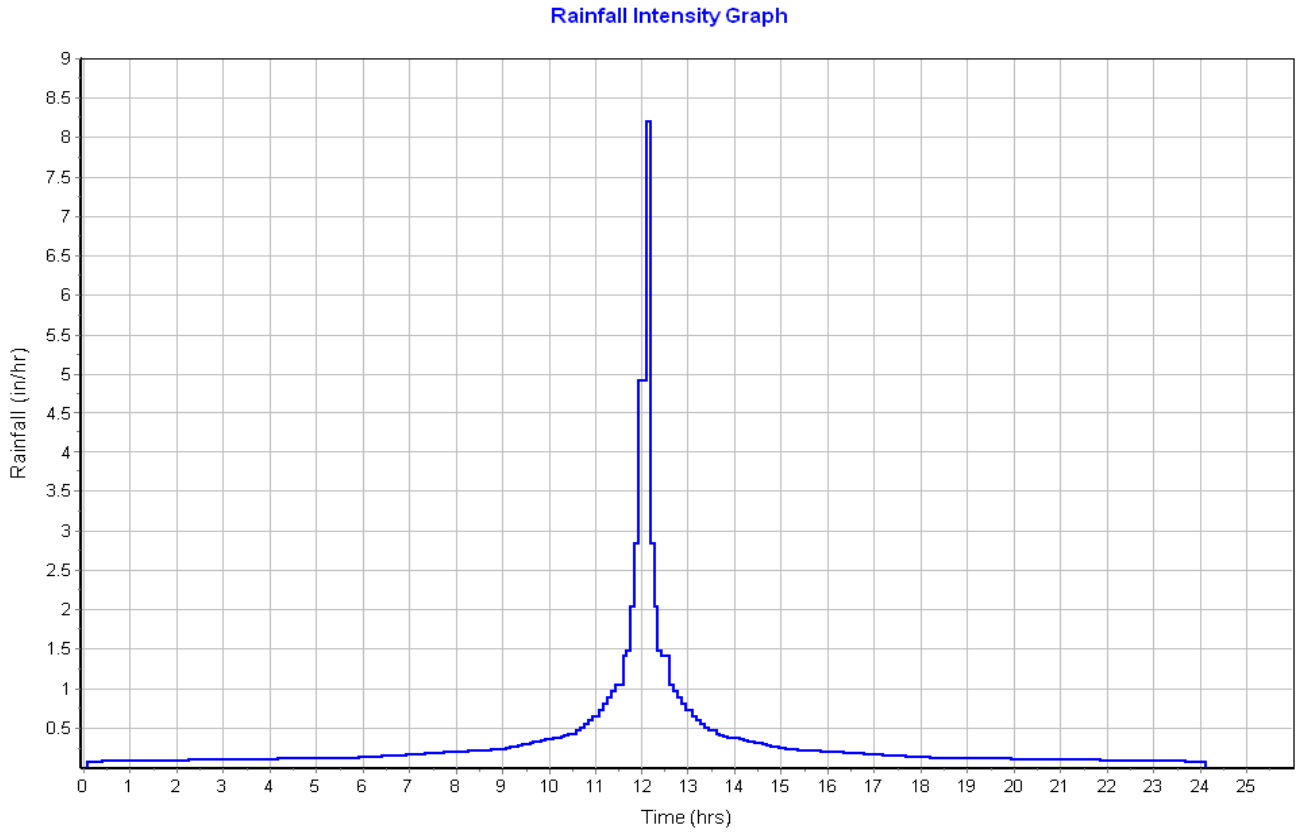
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

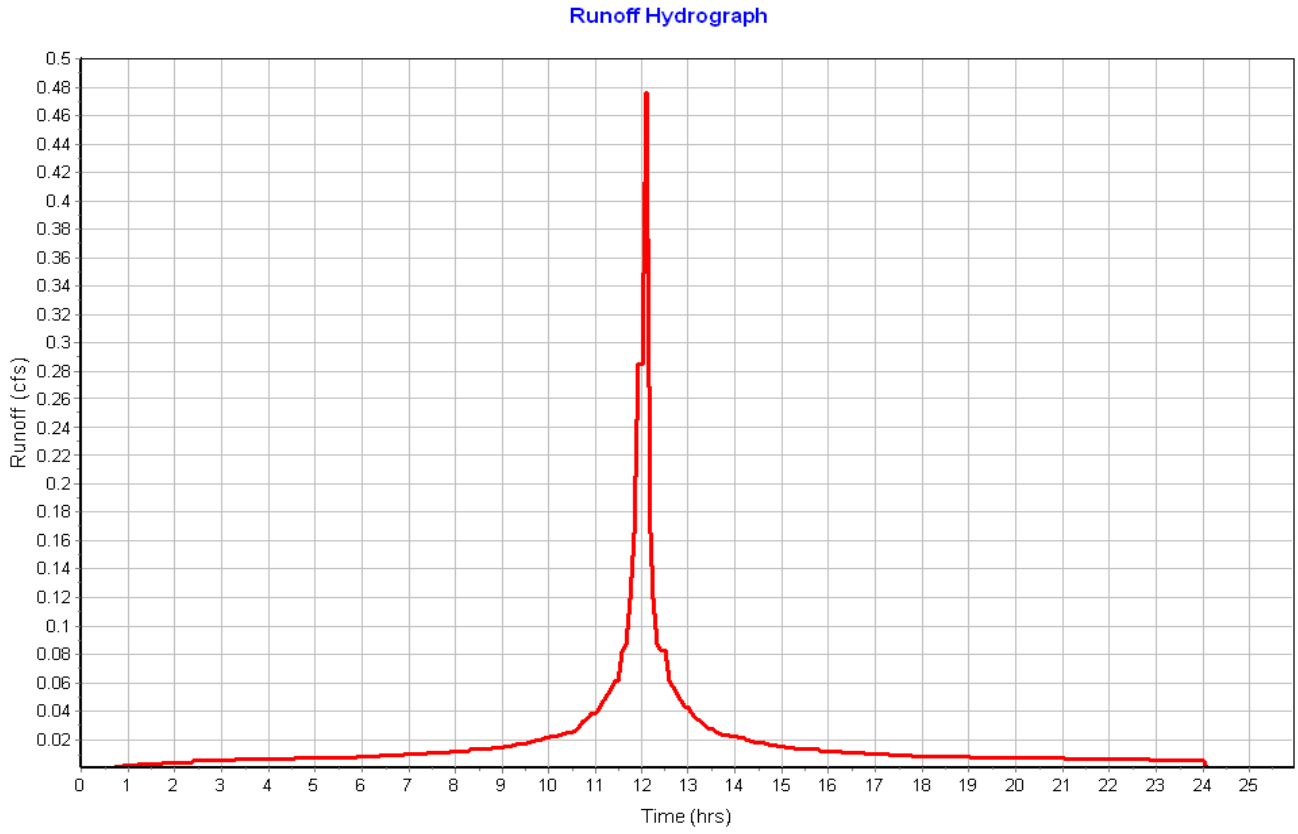
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-08





Subbasin : Roof-09

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

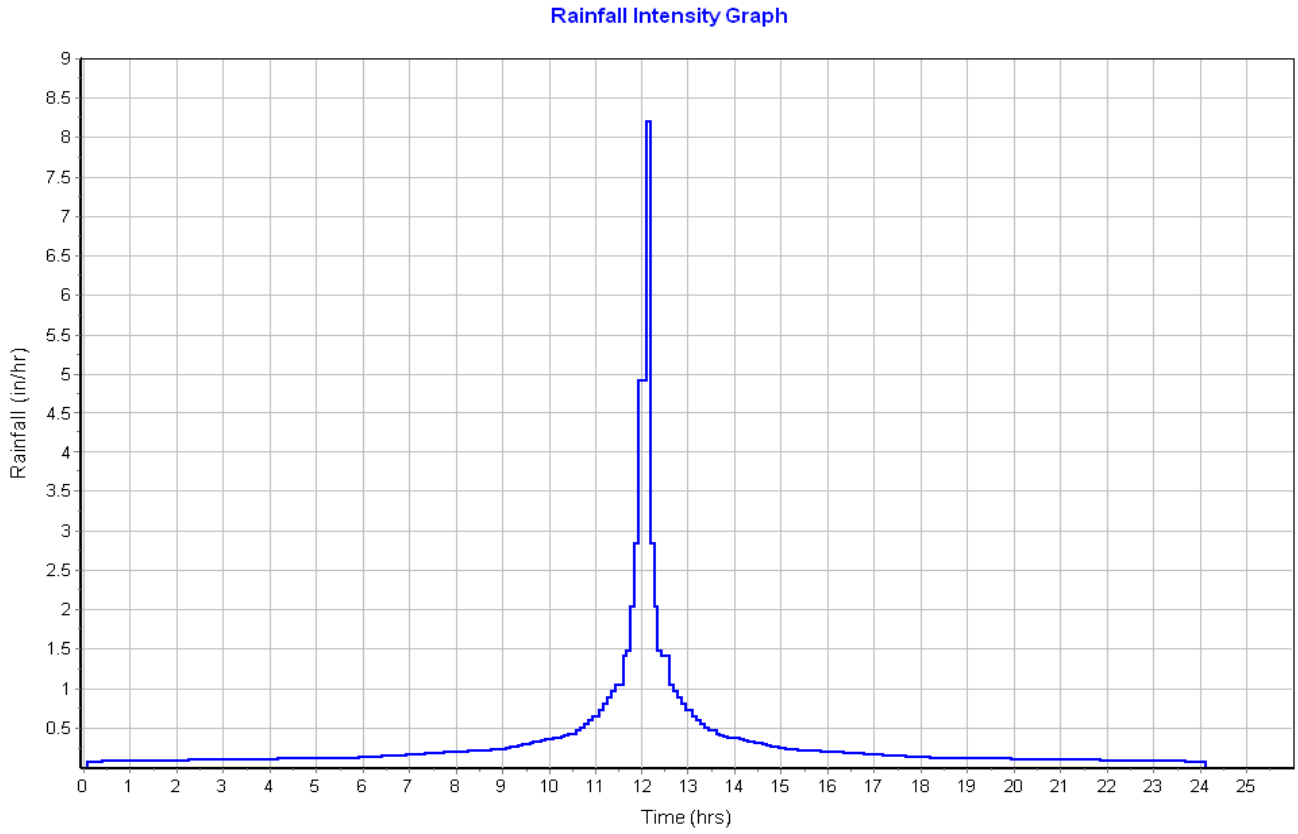
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

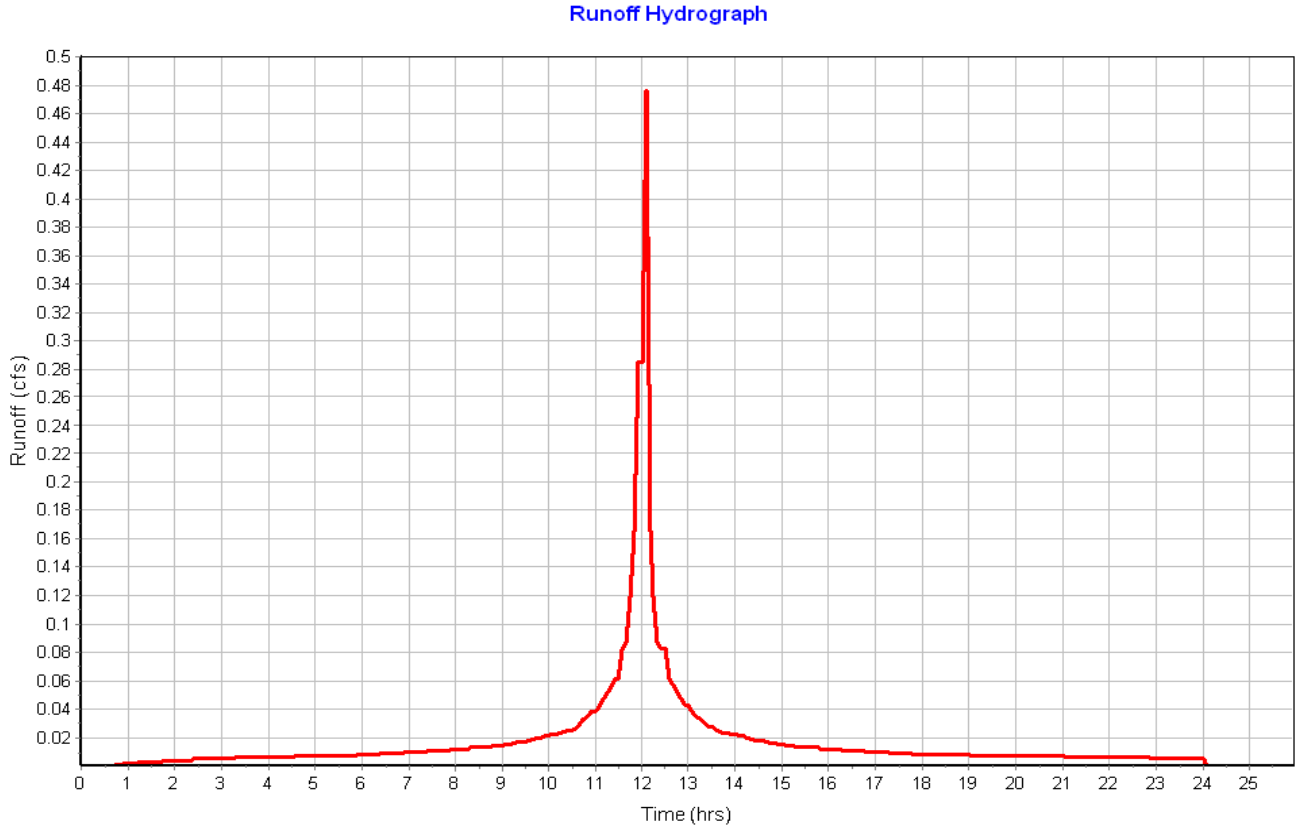
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-09





Subbasin : Roof-10

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

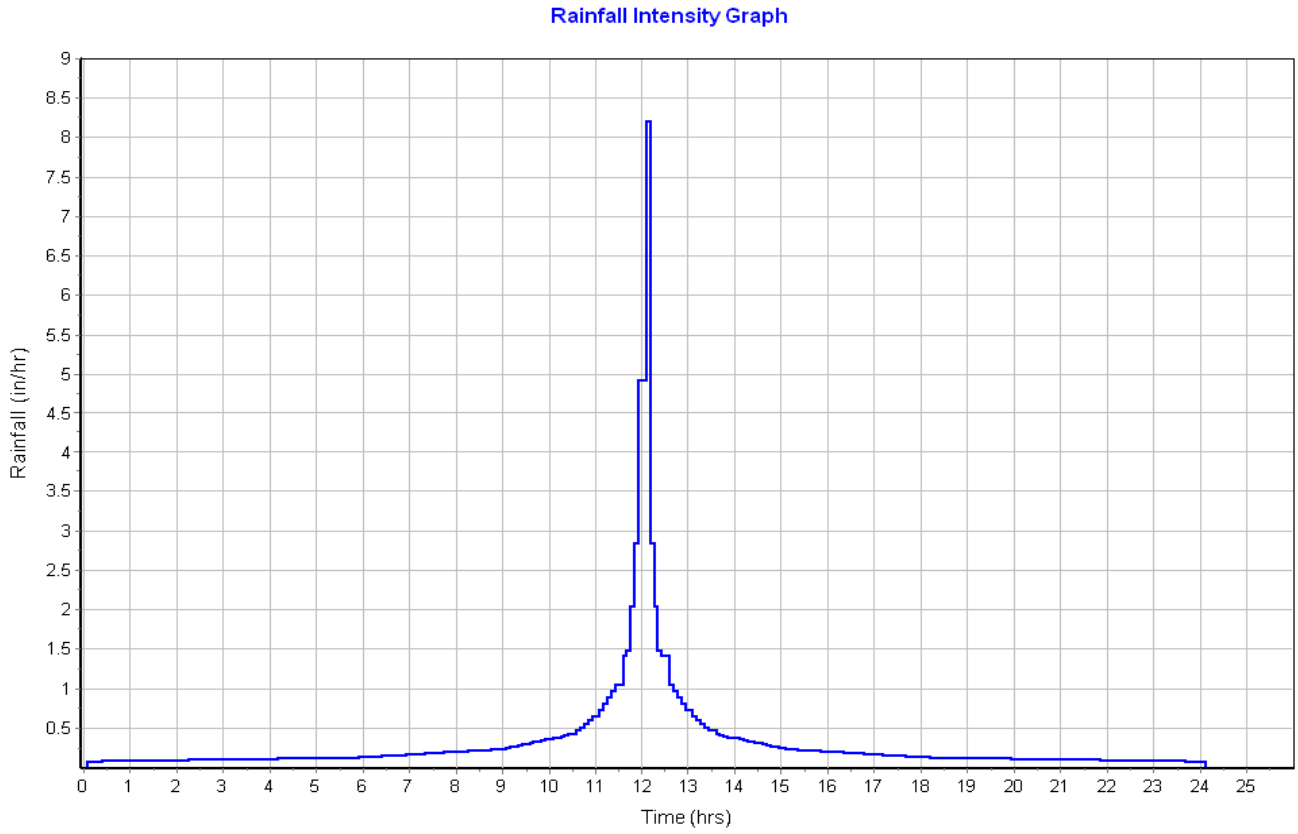
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

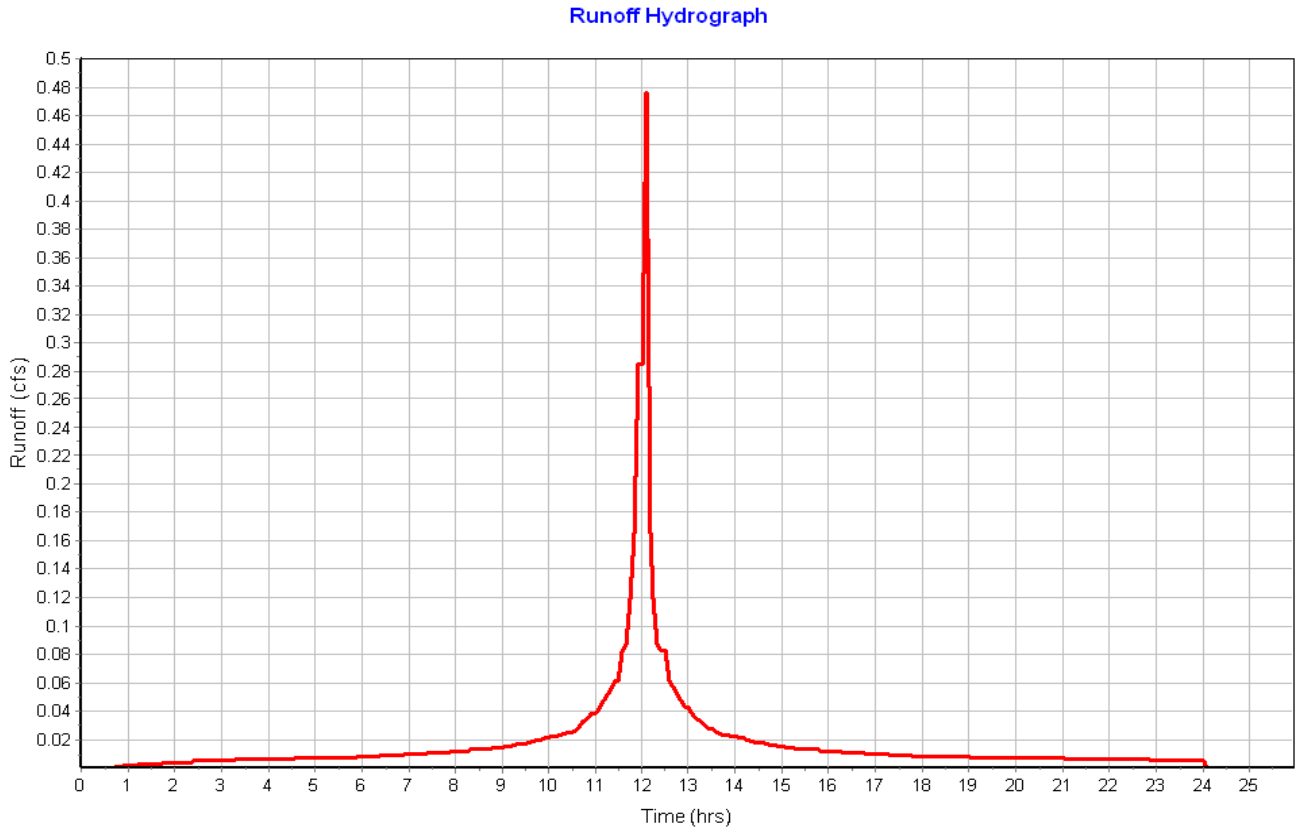
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.48
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-10





Subbasin : Roof-11

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

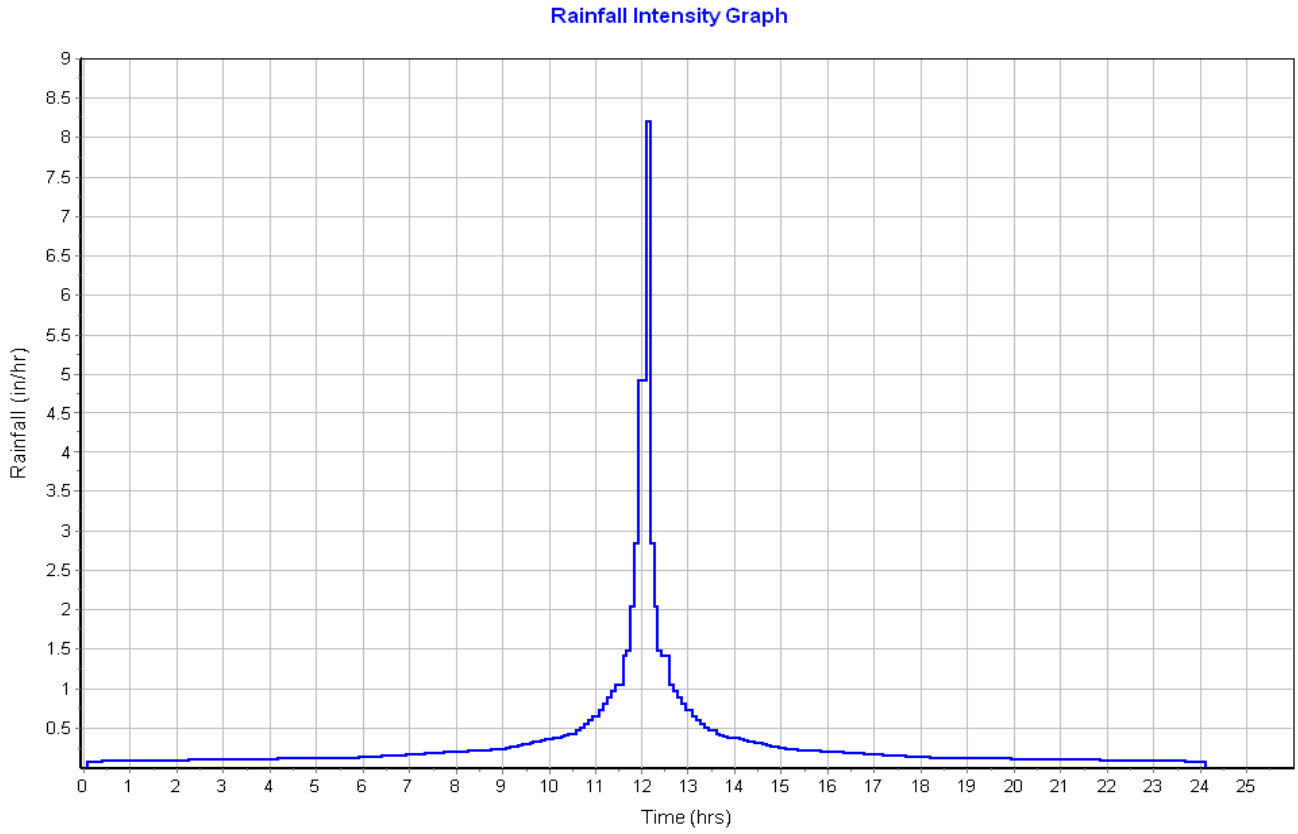
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

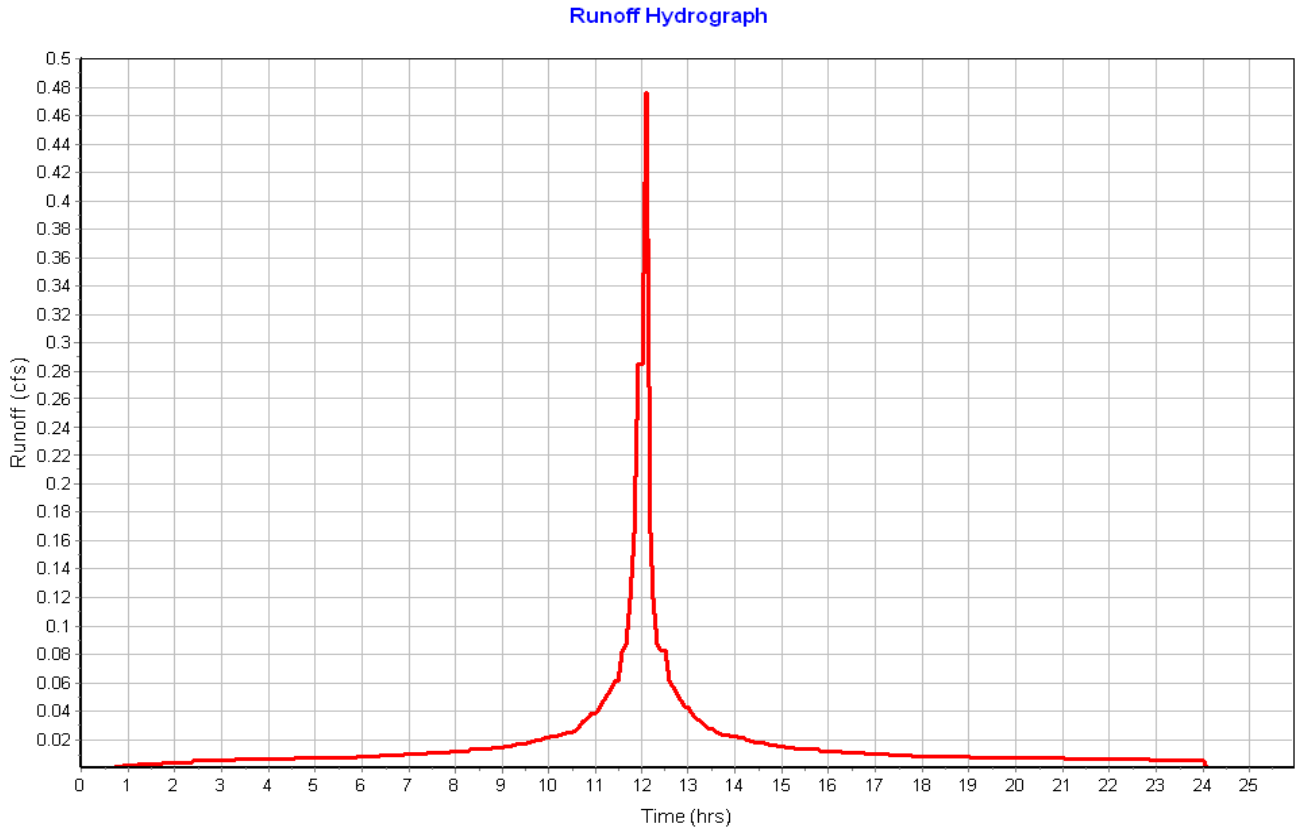
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-11





Subbasin : Roof-12

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

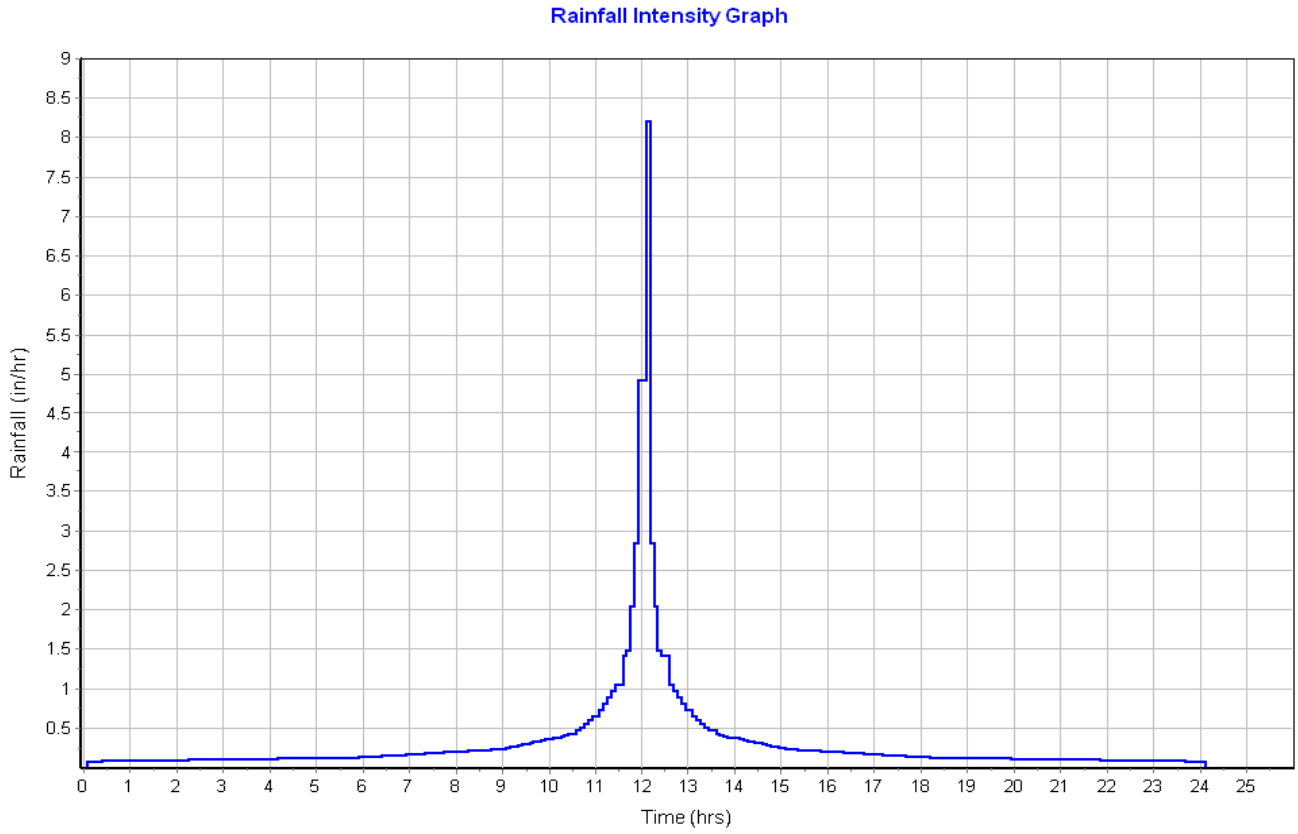
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

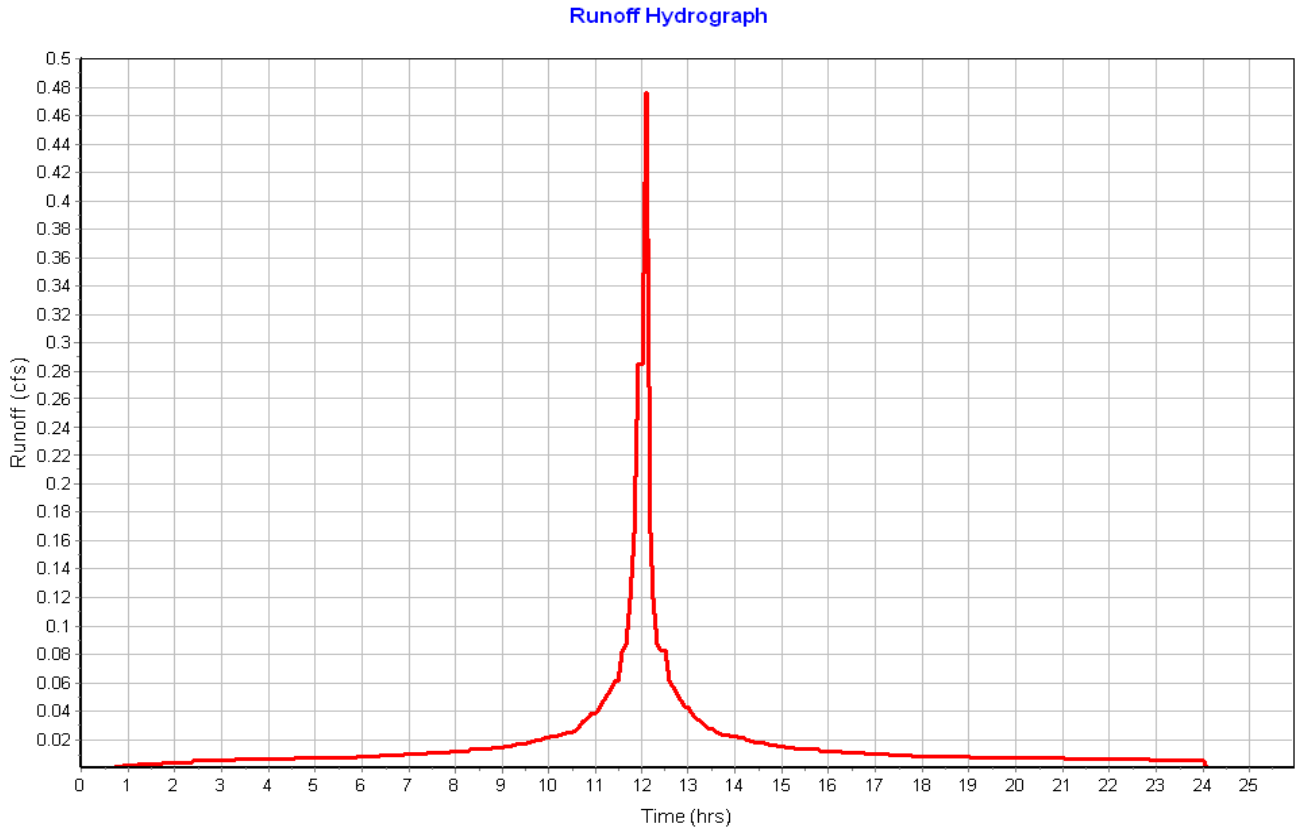
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-12





Subbasin : Roof-13

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

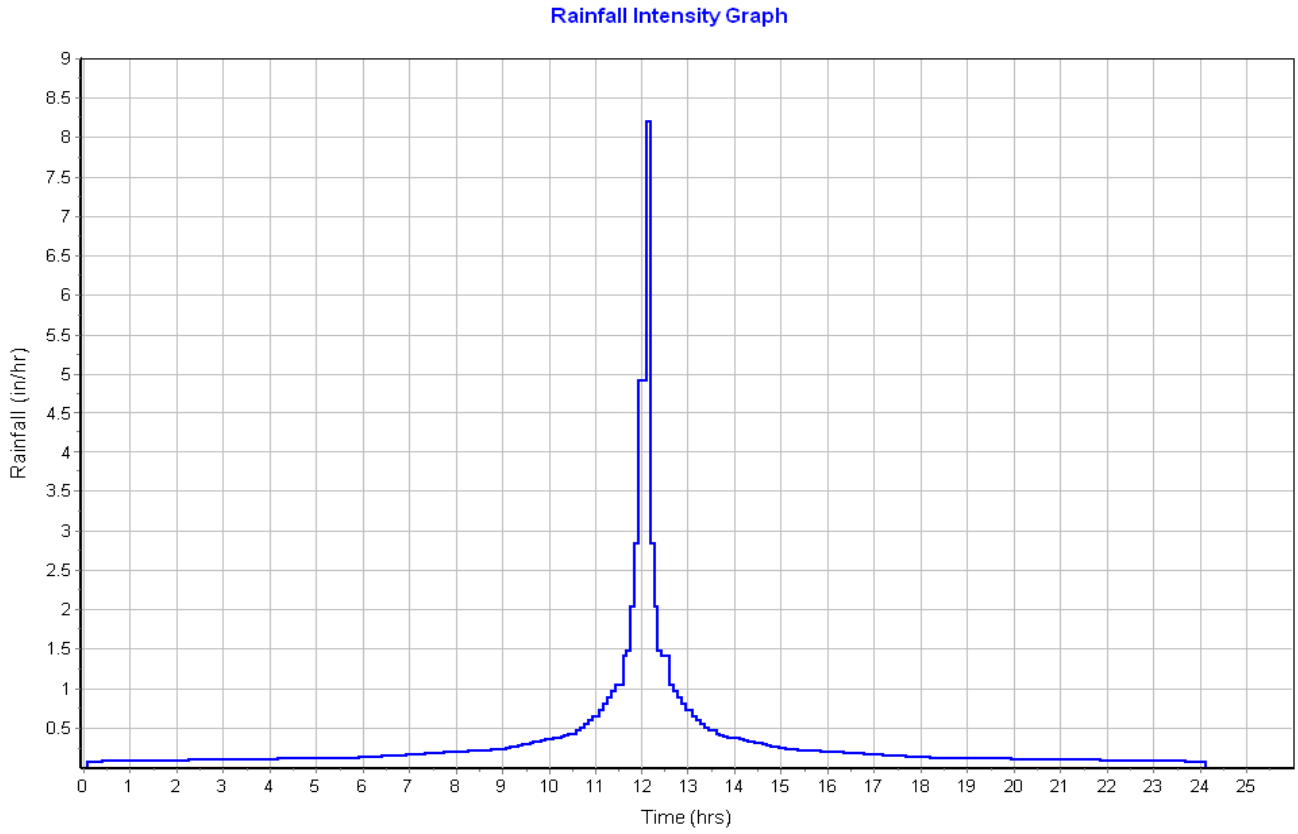
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

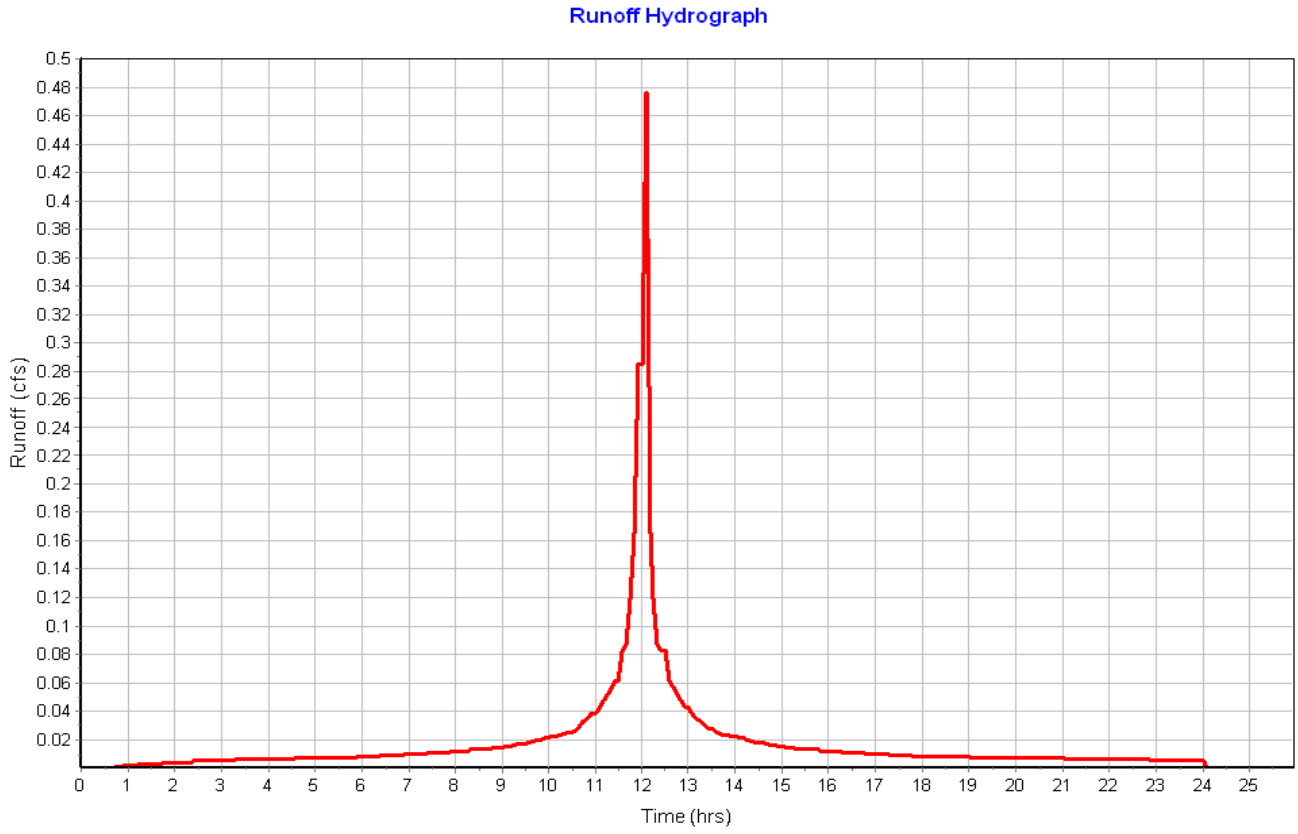
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-13





Subbasin : Roof-14

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

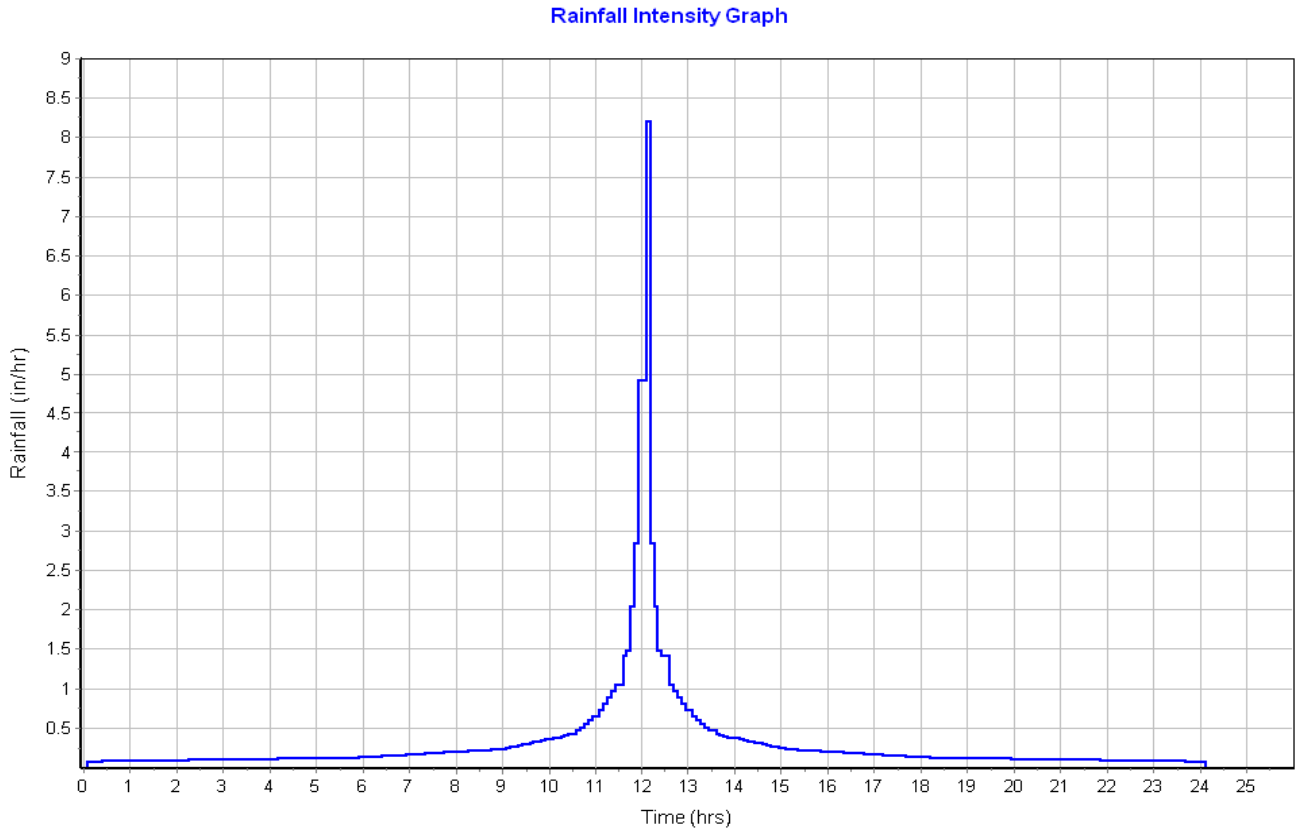
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

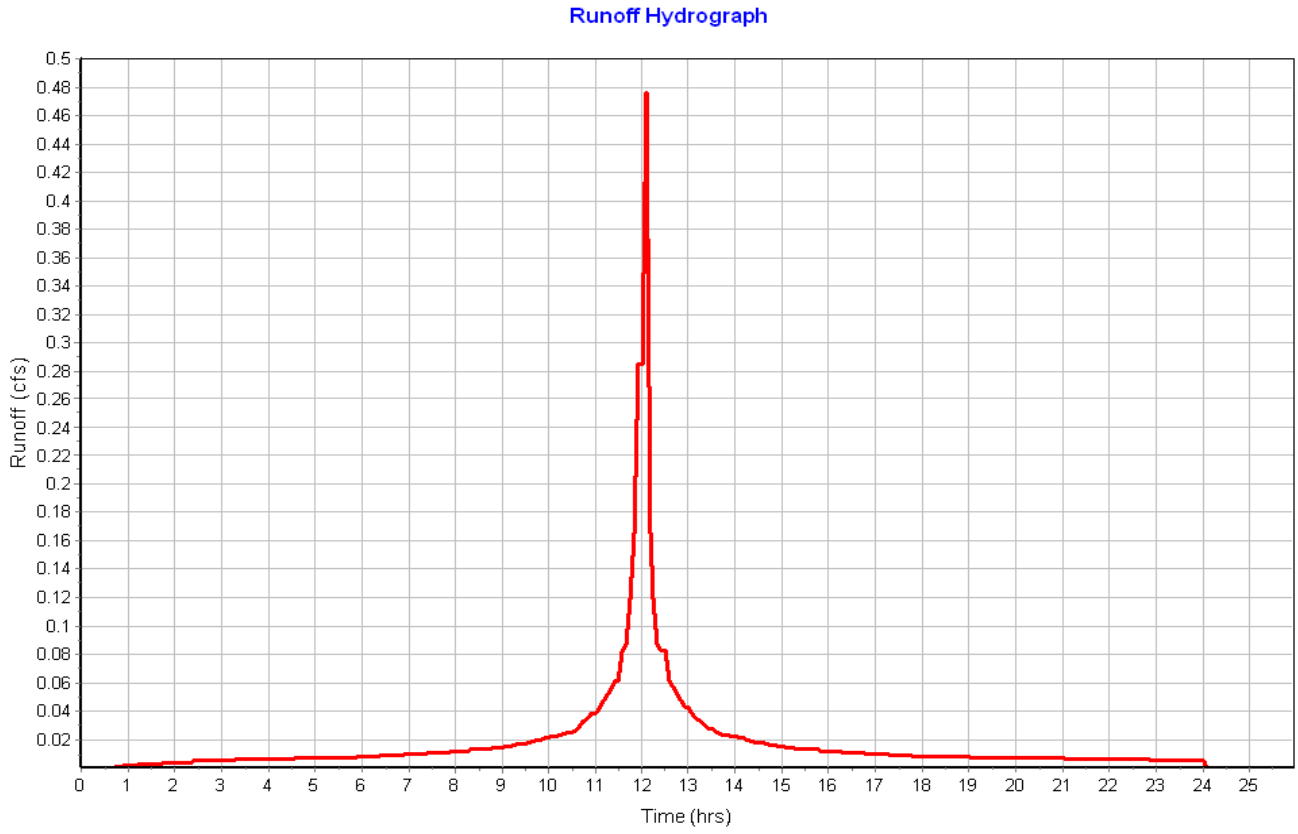
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-14





Subbasin : Roof-15

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

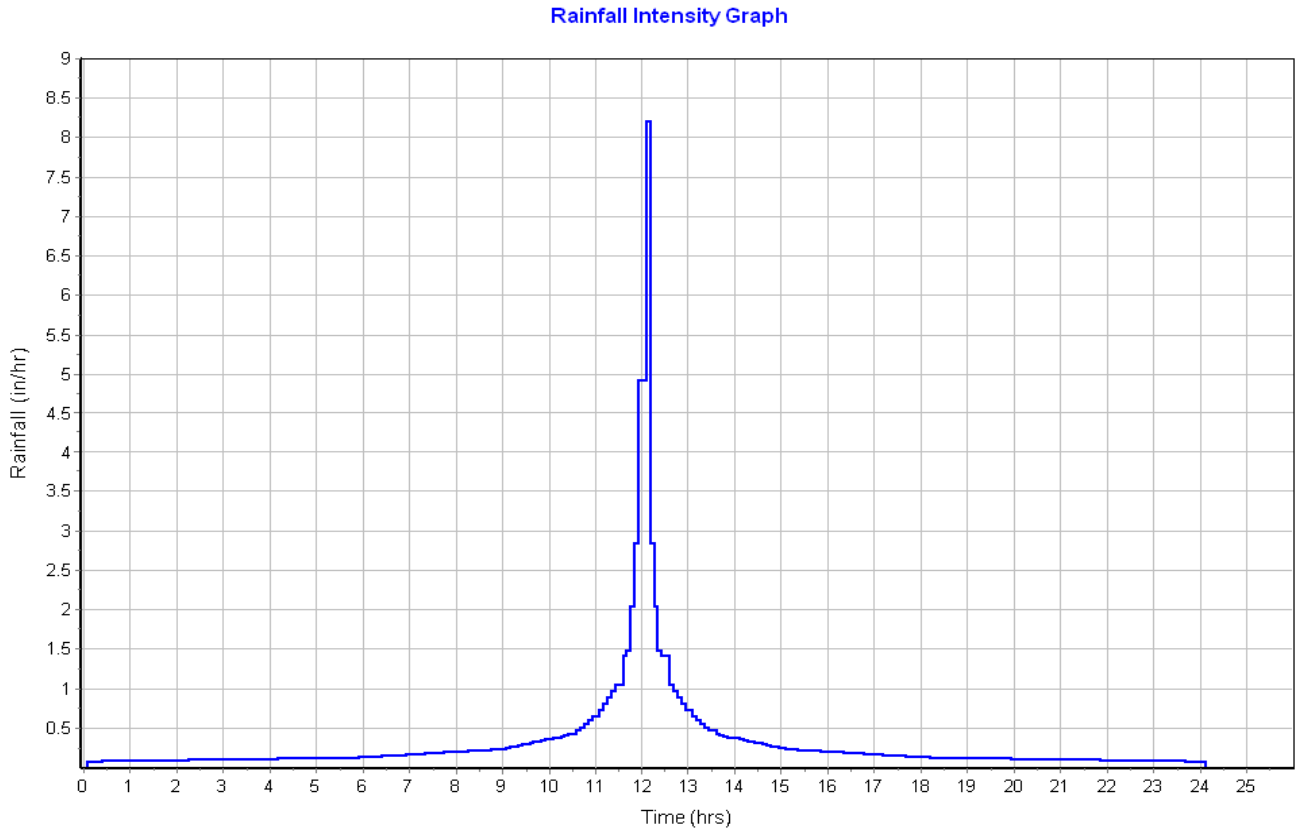
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

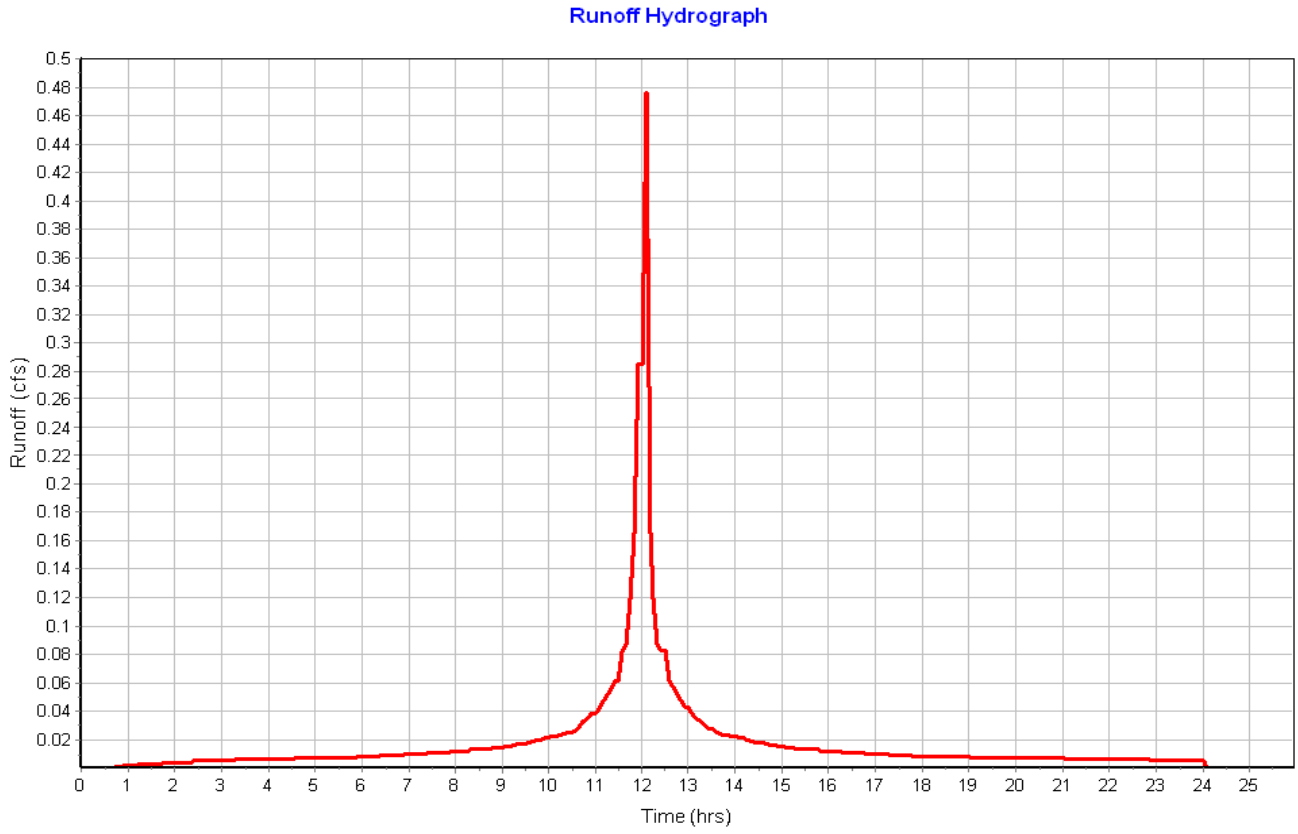
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-15





Subbasin : Roof-16

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

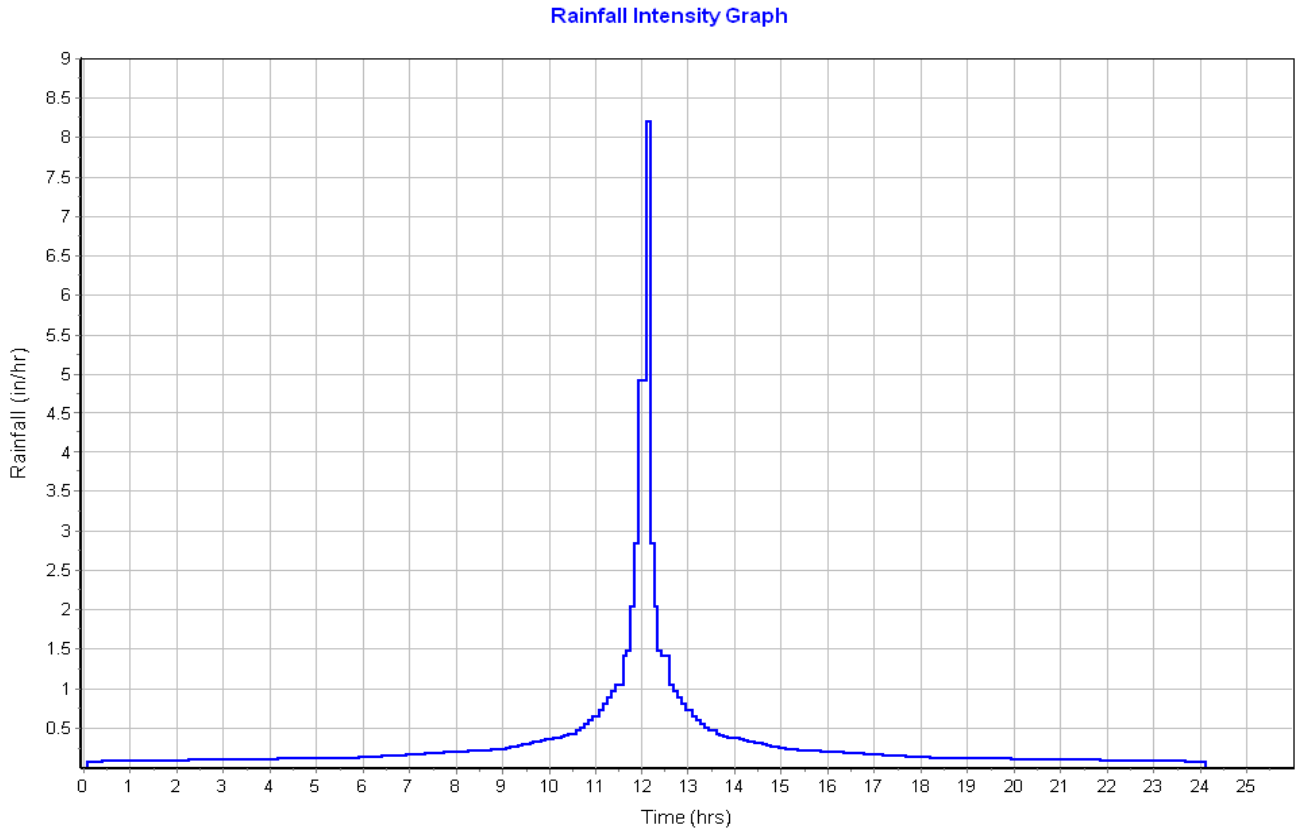
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

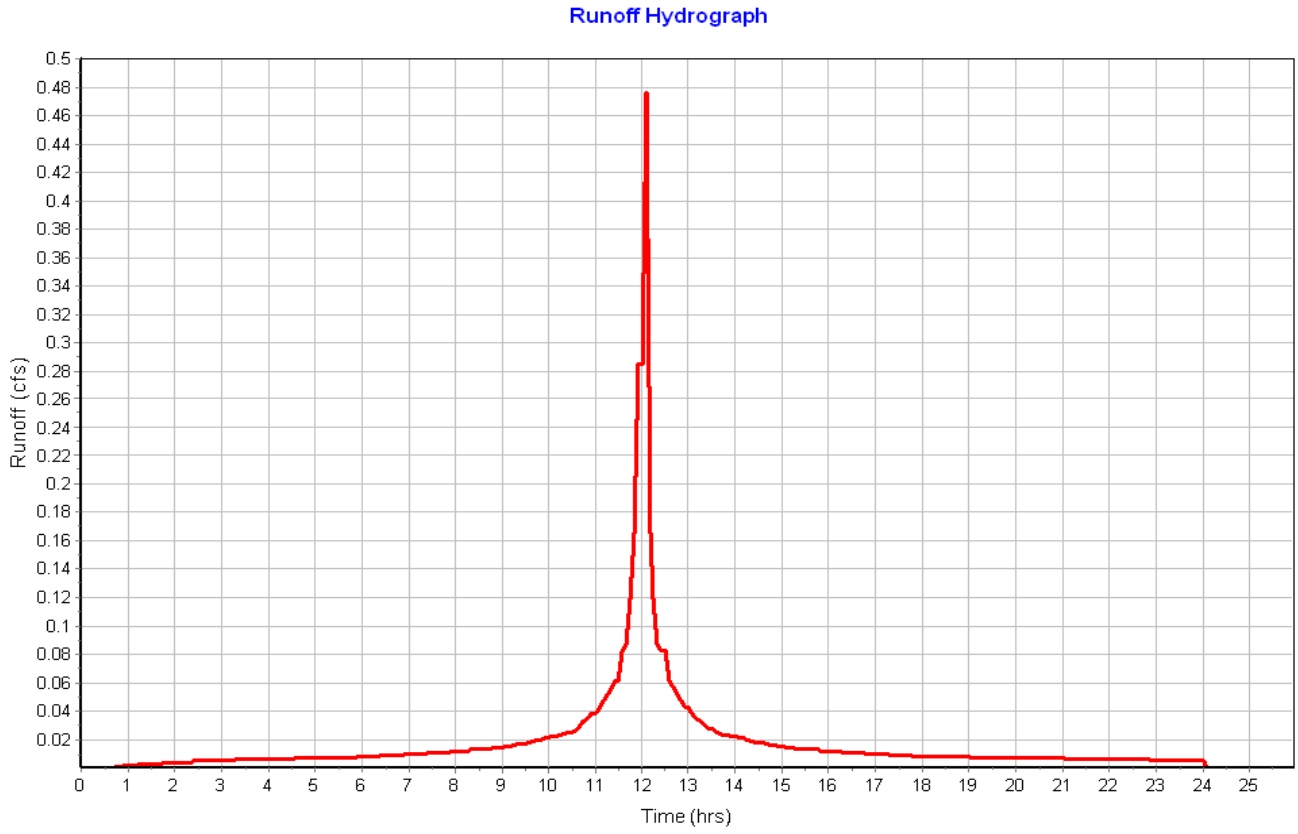
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-16





Subbasin : Roof-17

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

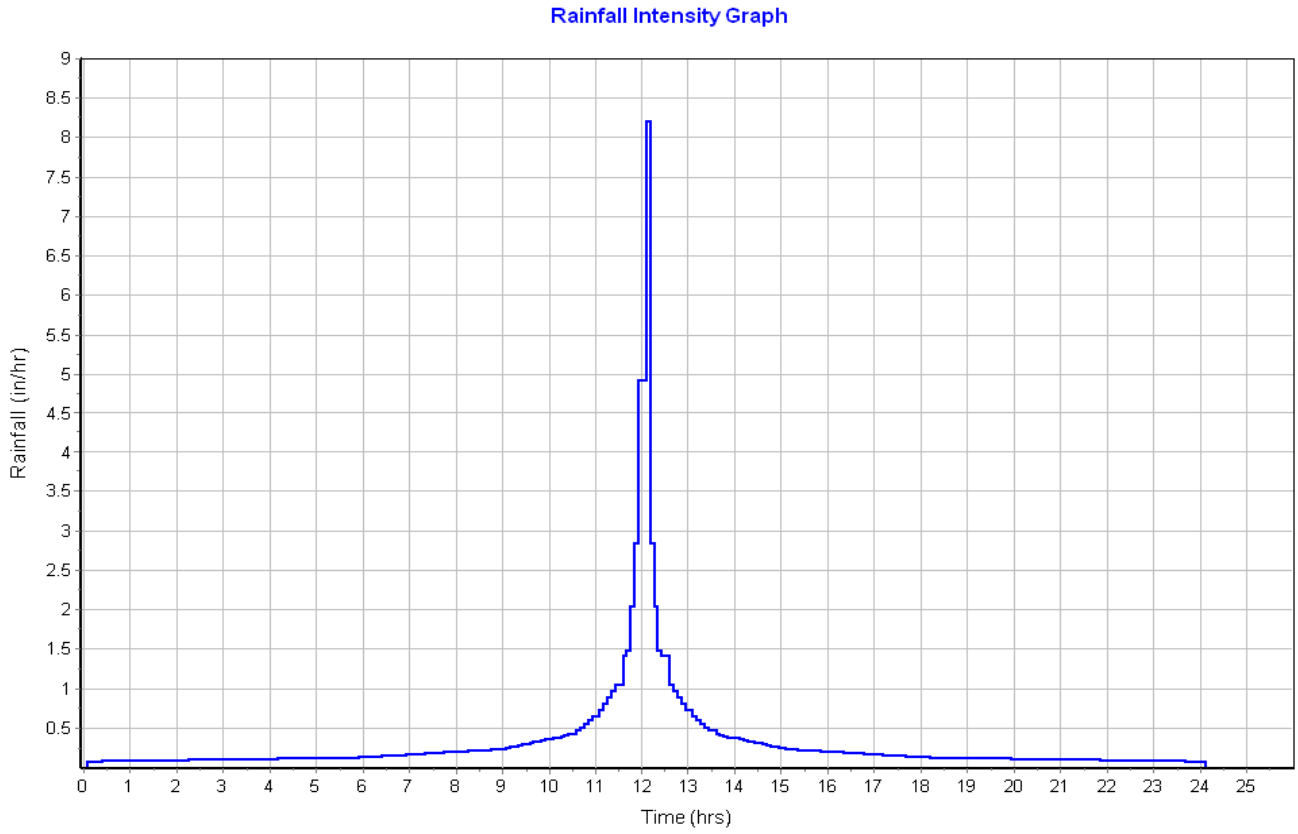
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

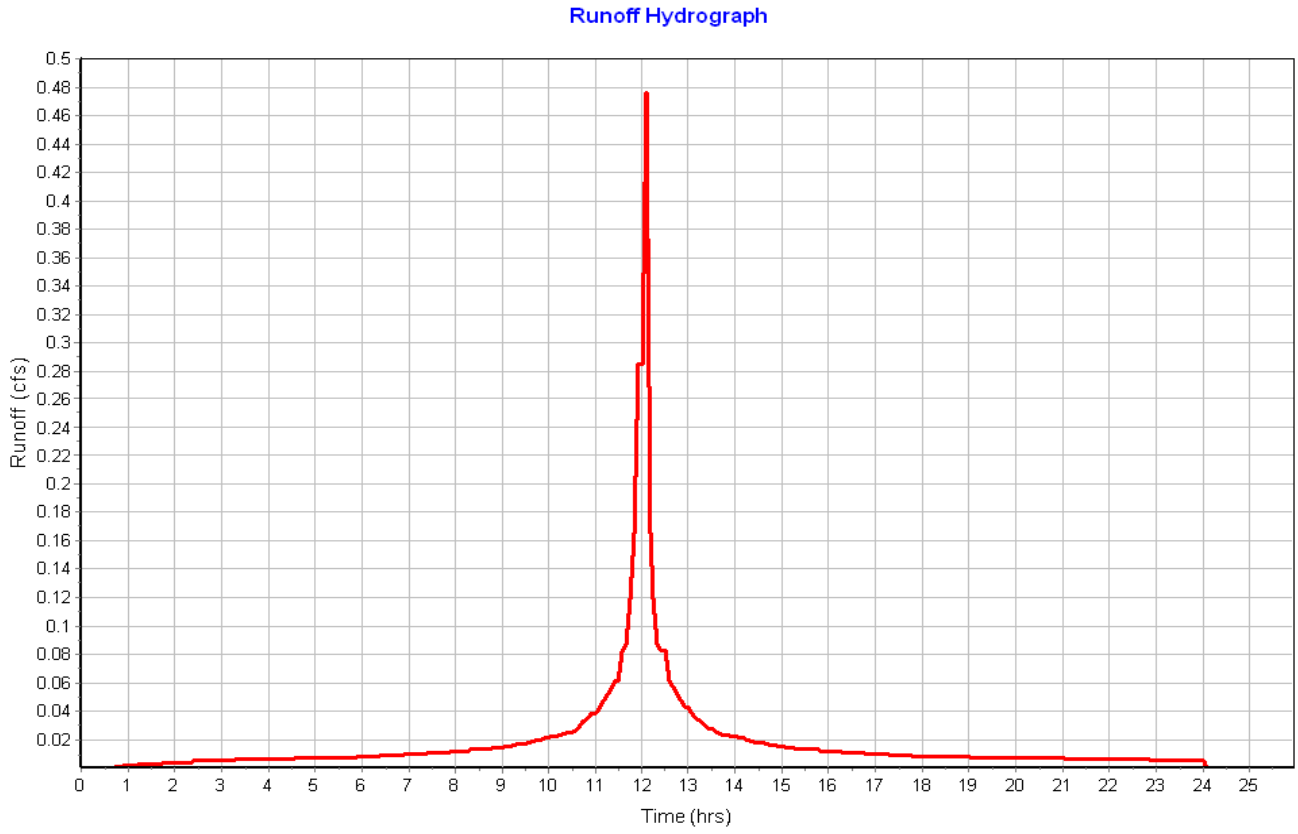
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-17





Subbasin : Roof-18

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

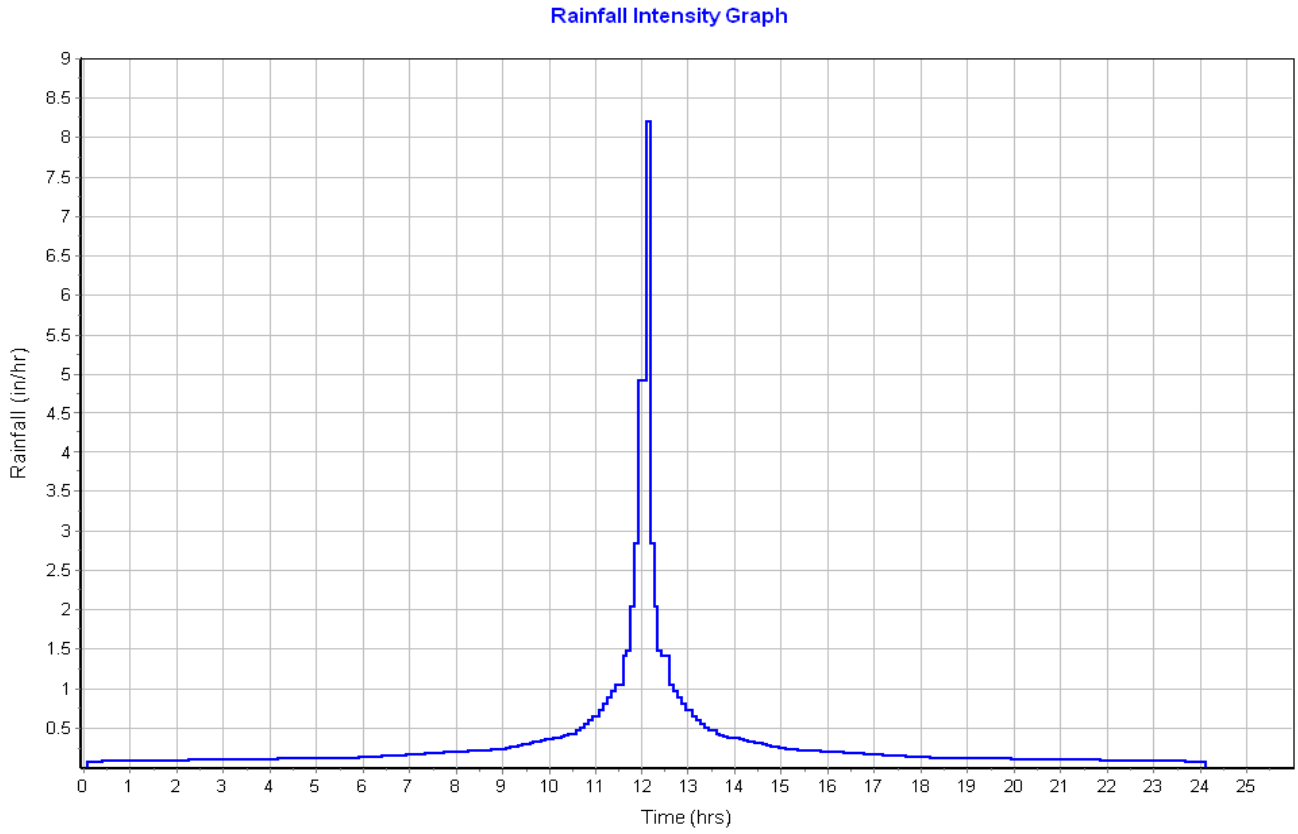
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

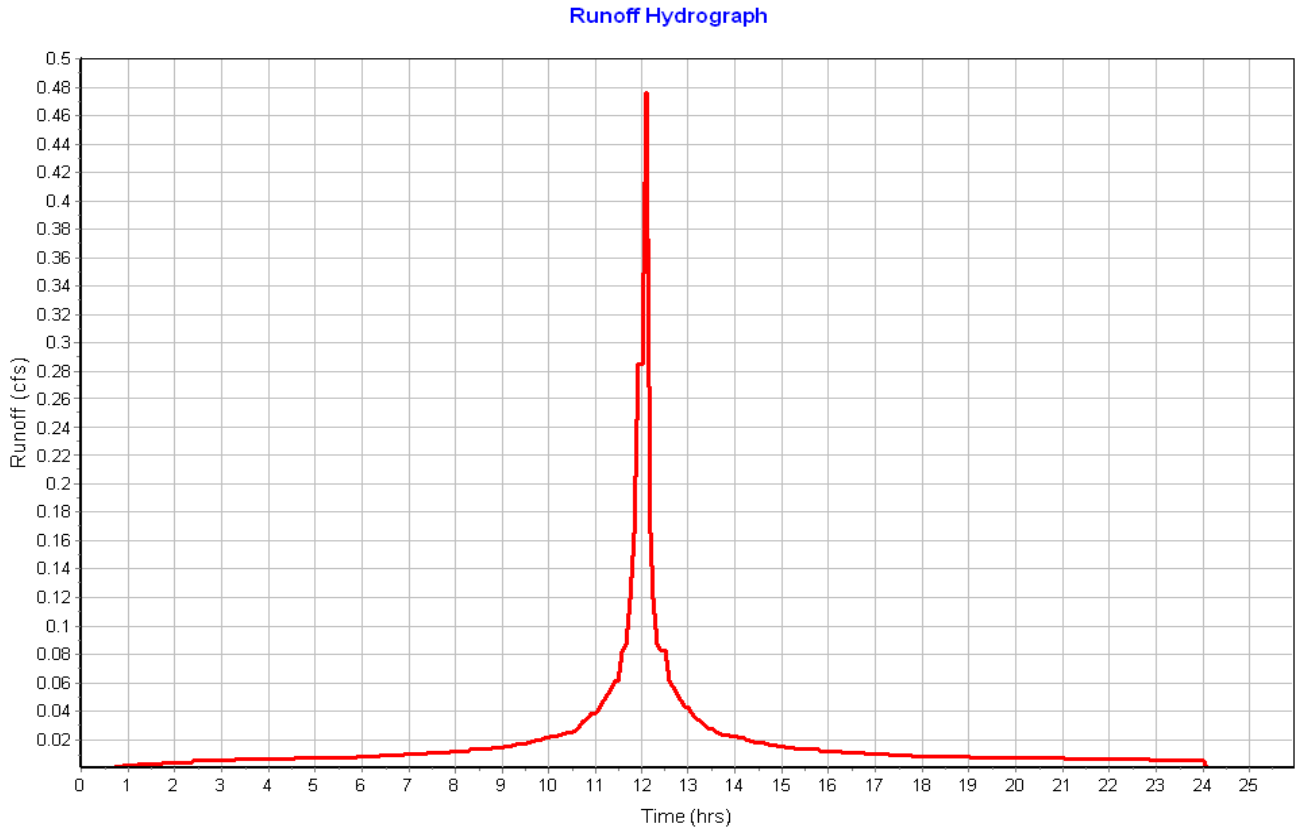
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-18





Subbasin : Roof-19

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

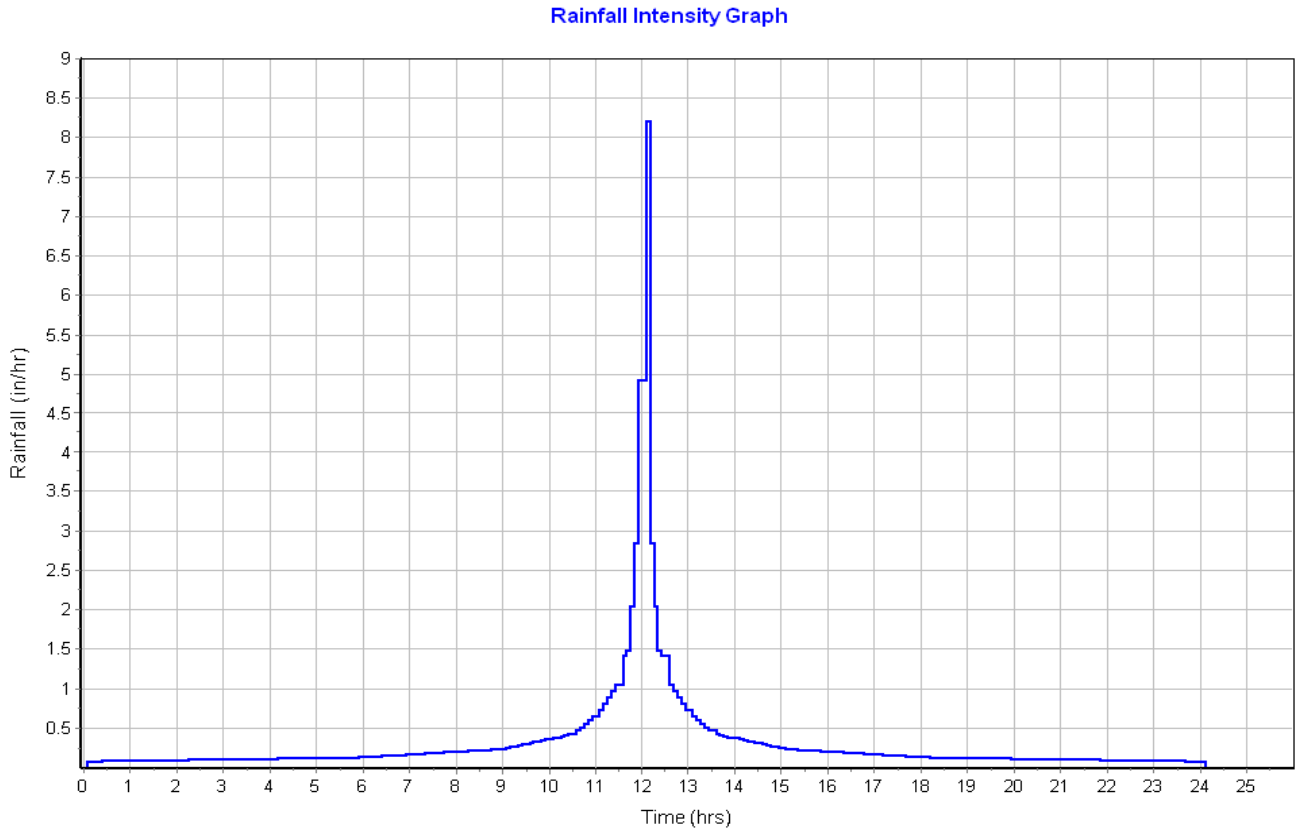
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

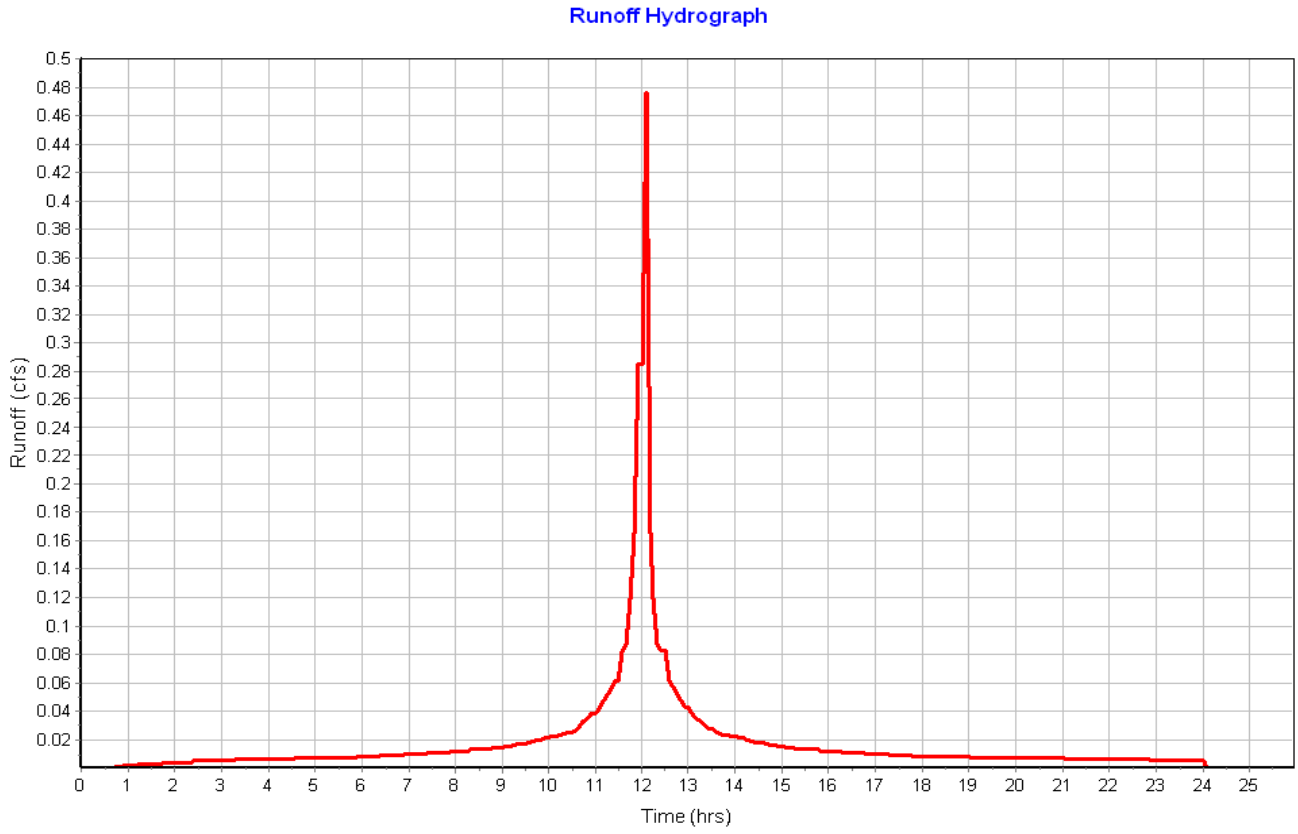
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-19





Subbasin : Roof-20

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

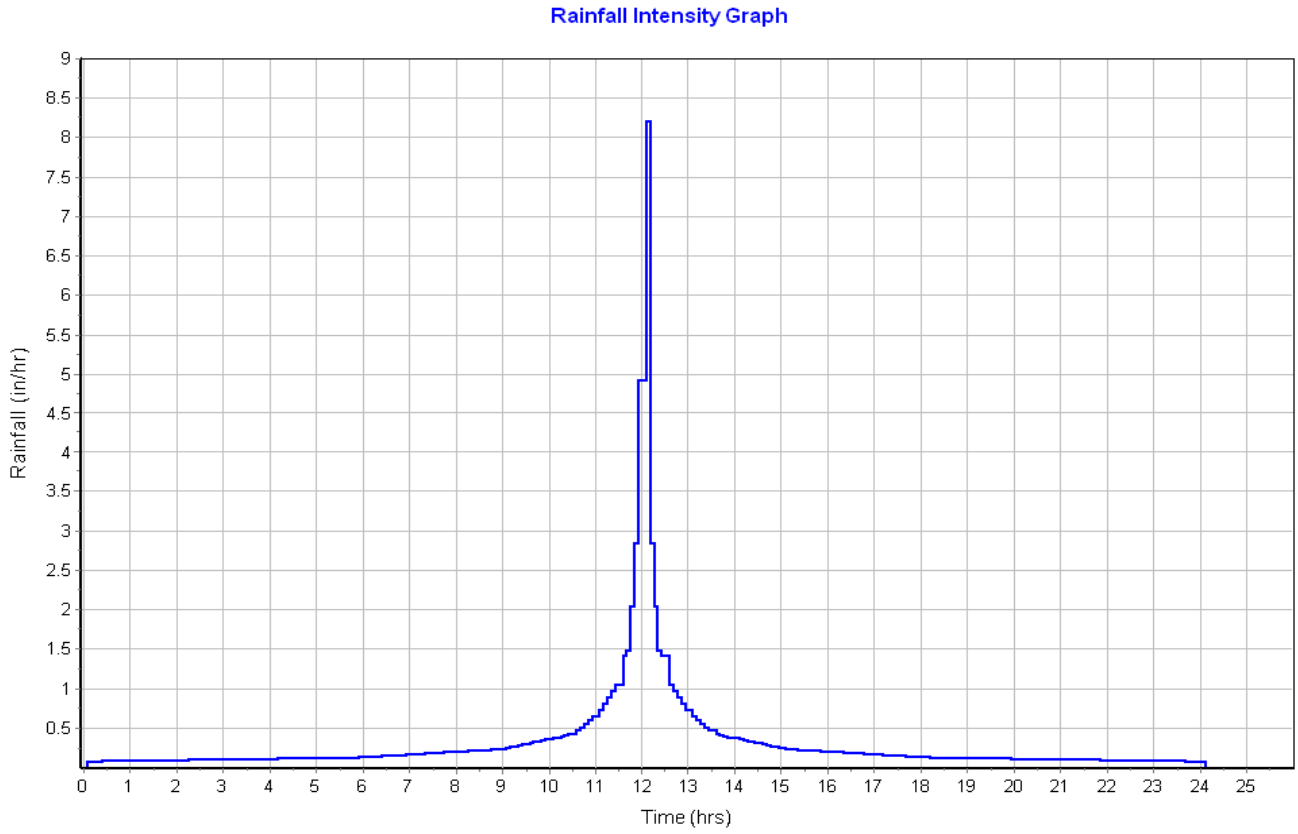
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

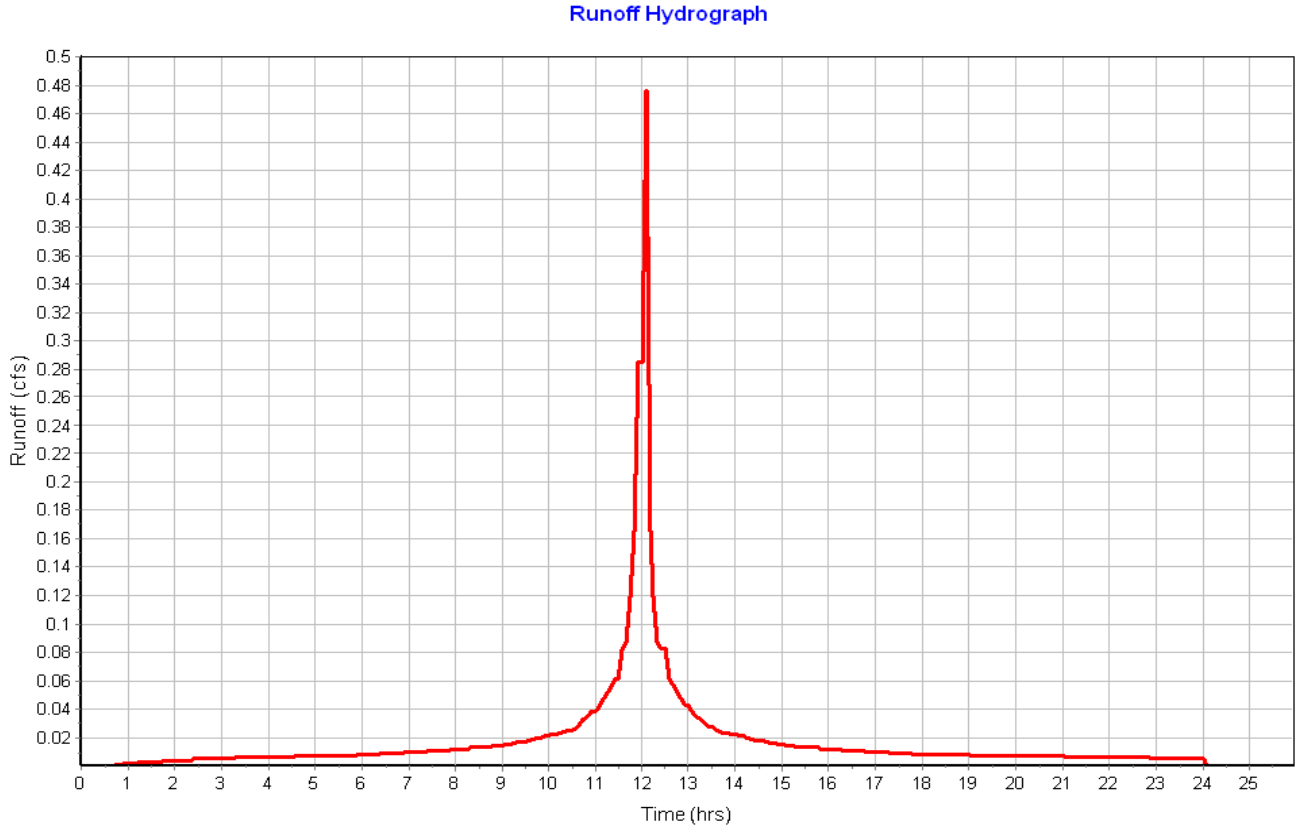
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-20





Subbasin : Roof-21

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

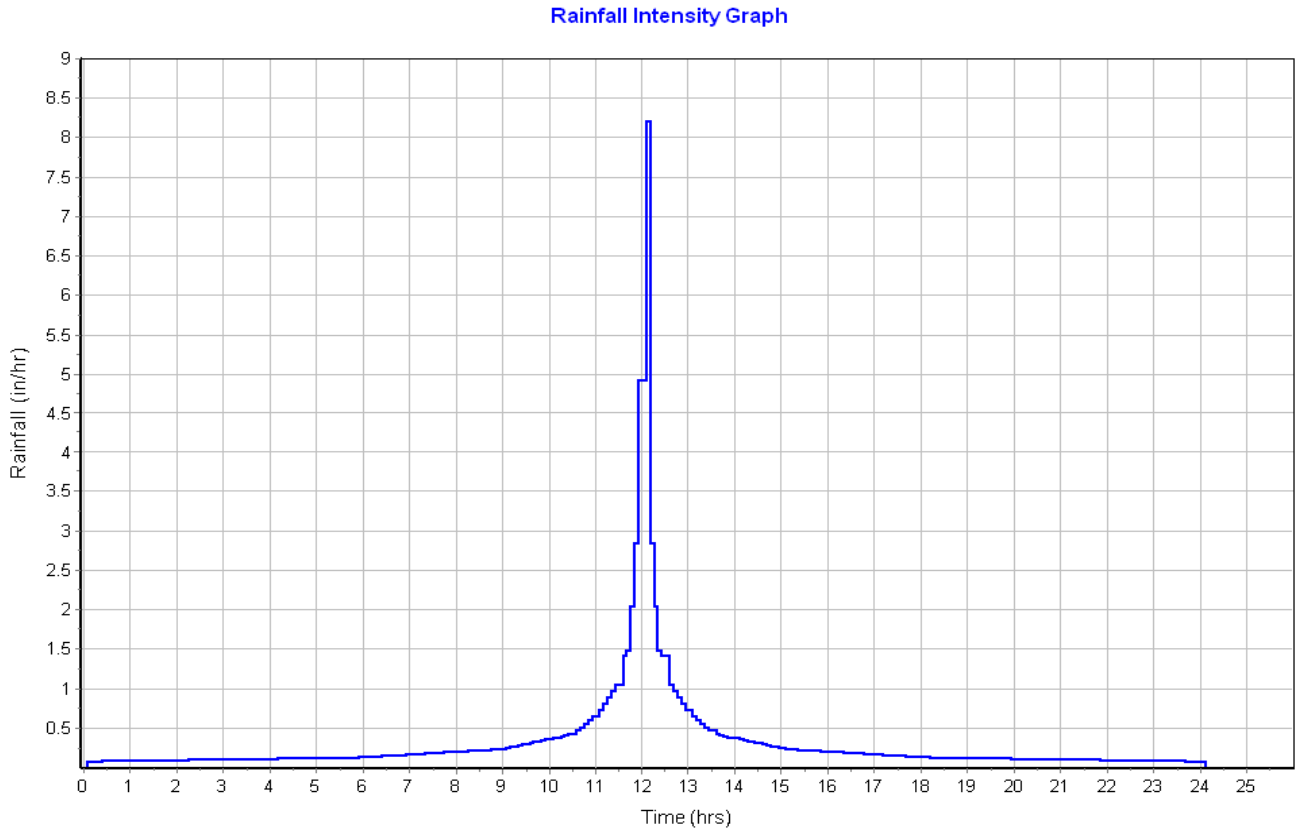
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

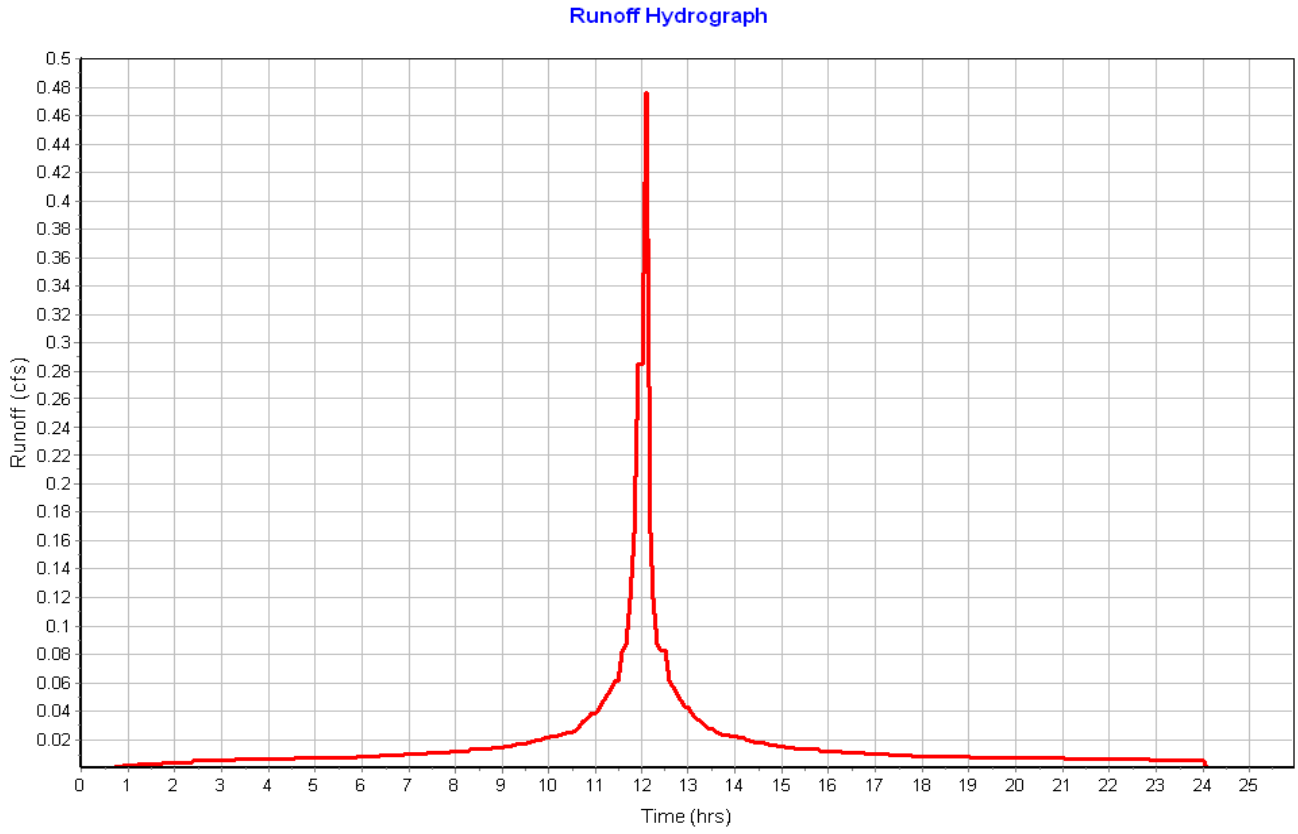
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-21





Subbasin : Roof-22

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

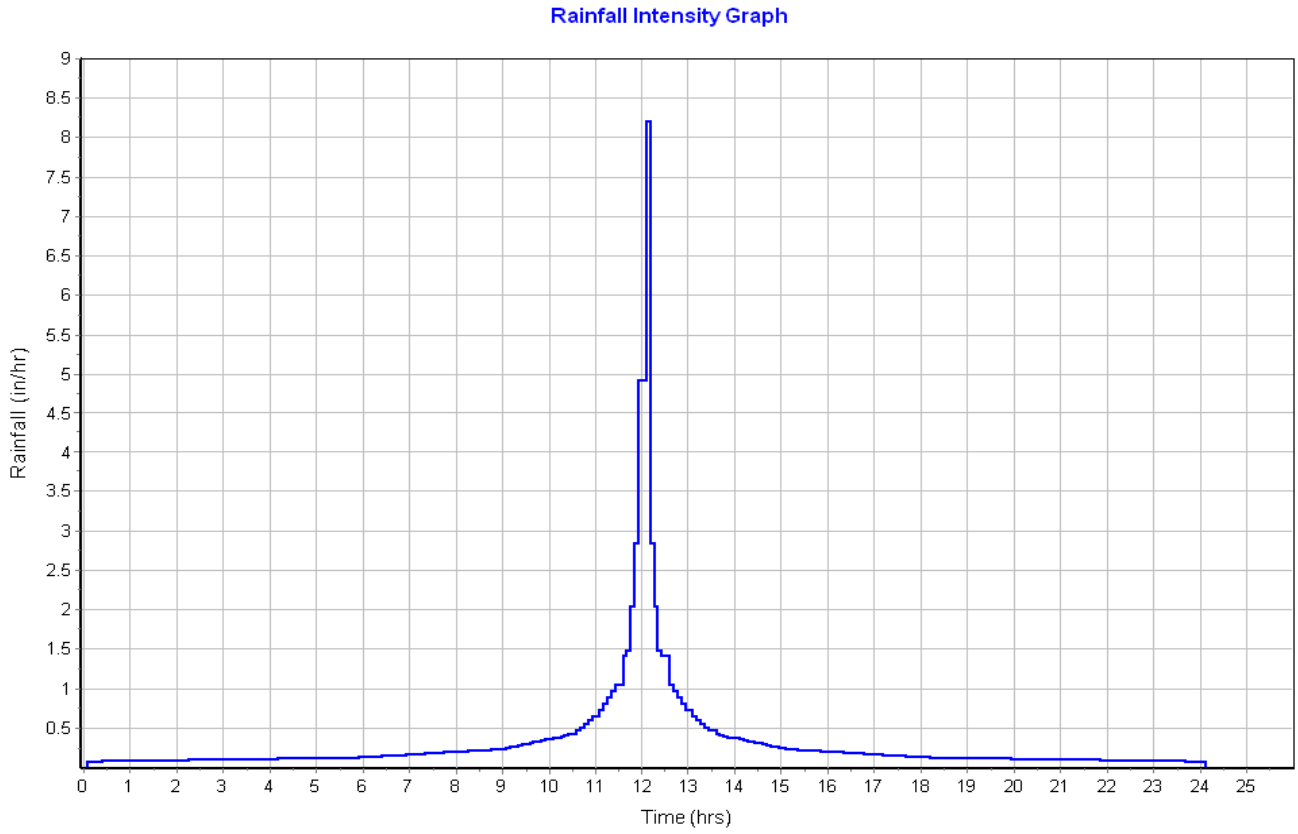
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

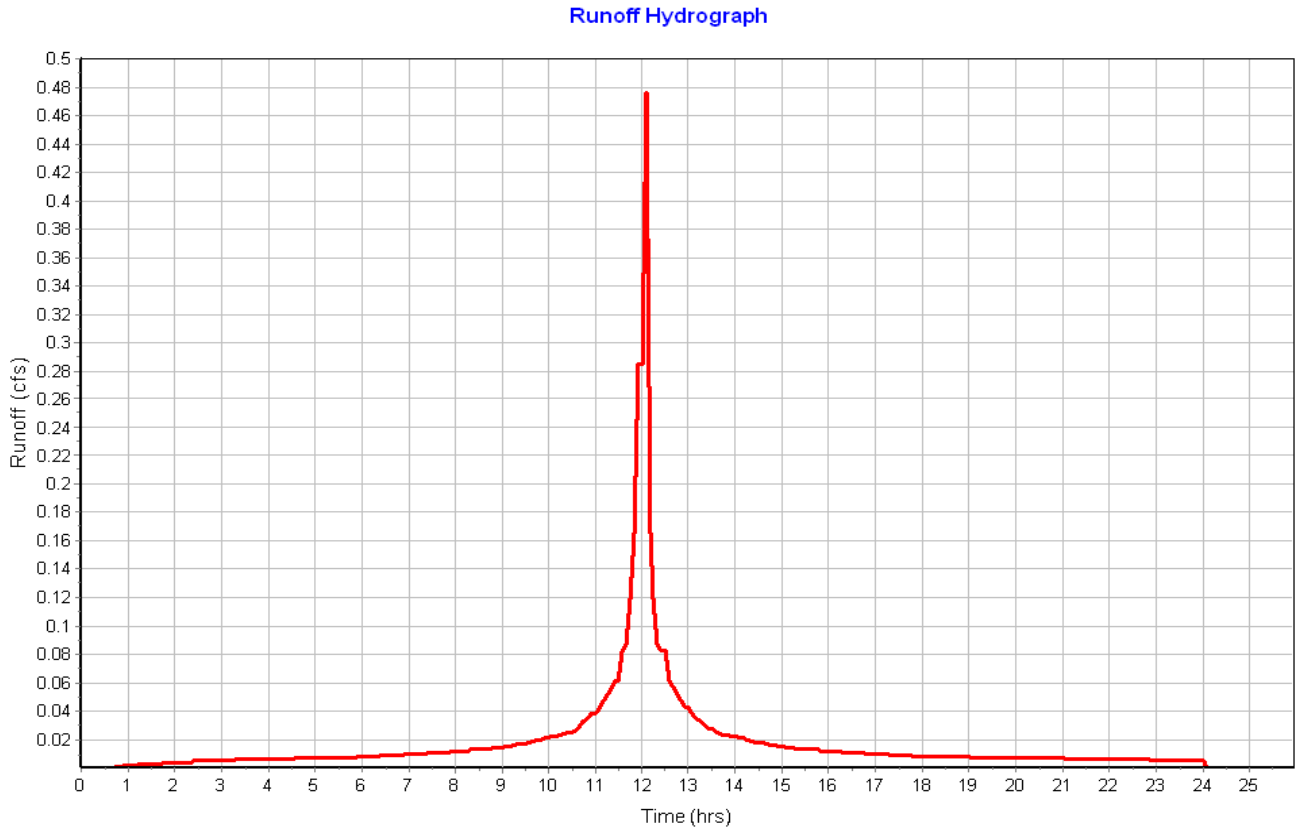
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-22





Subbasin : Roof-23

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

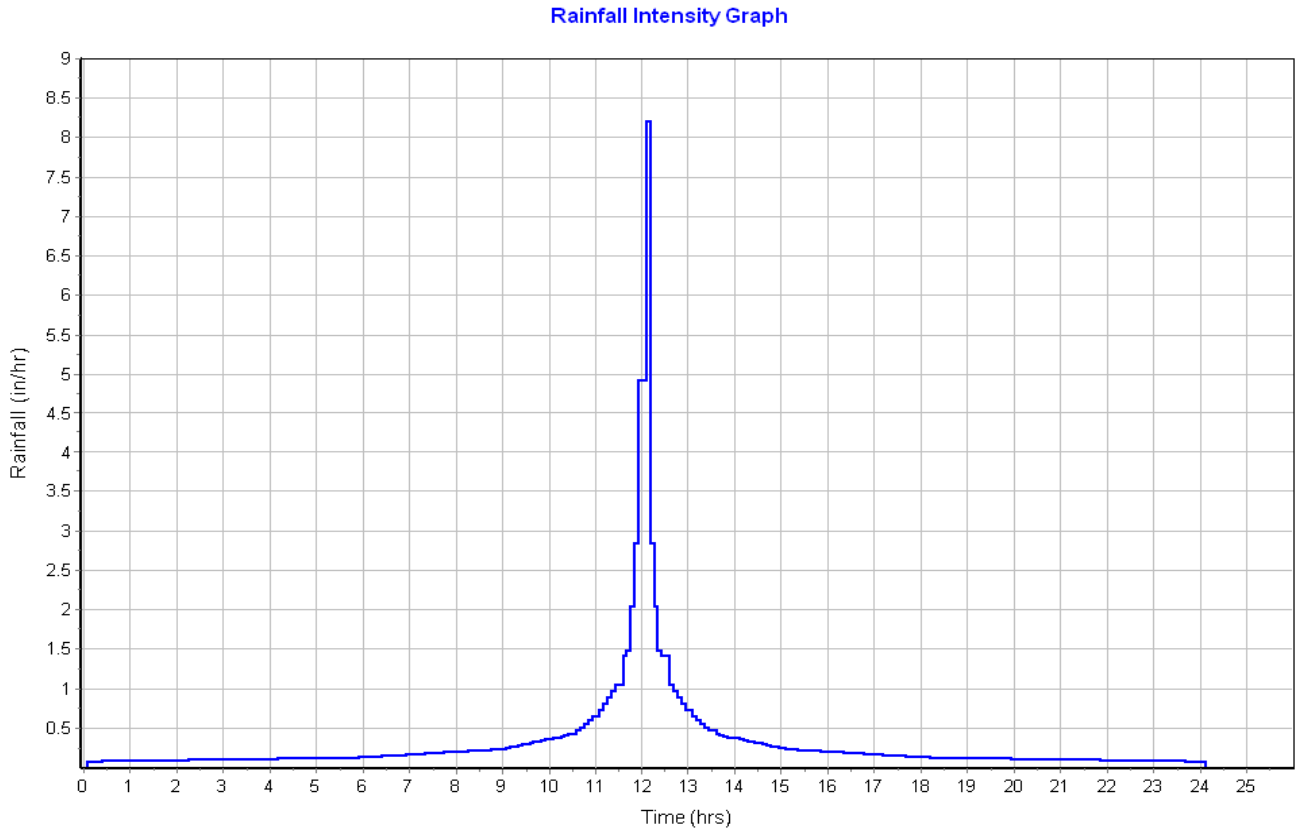
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

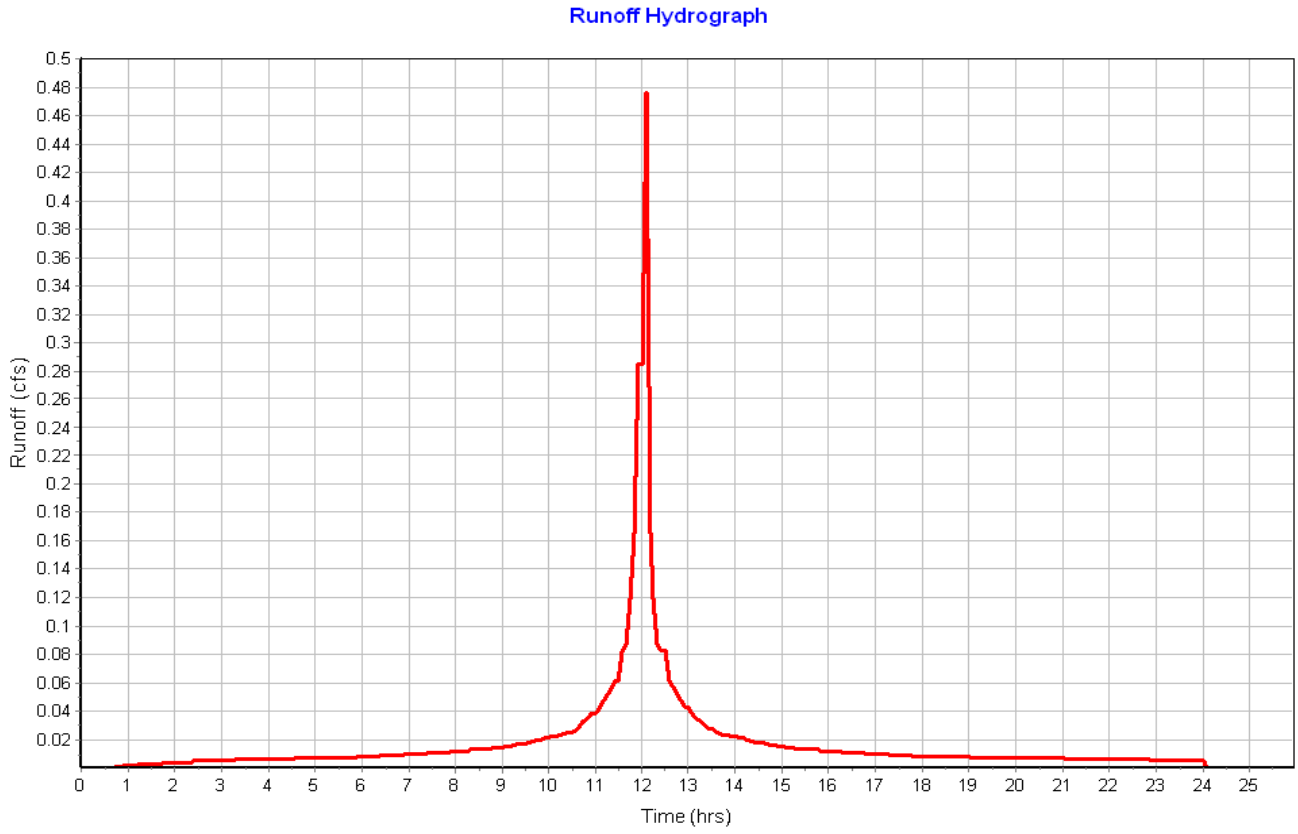
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-23





Subbasin : Roof-24

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

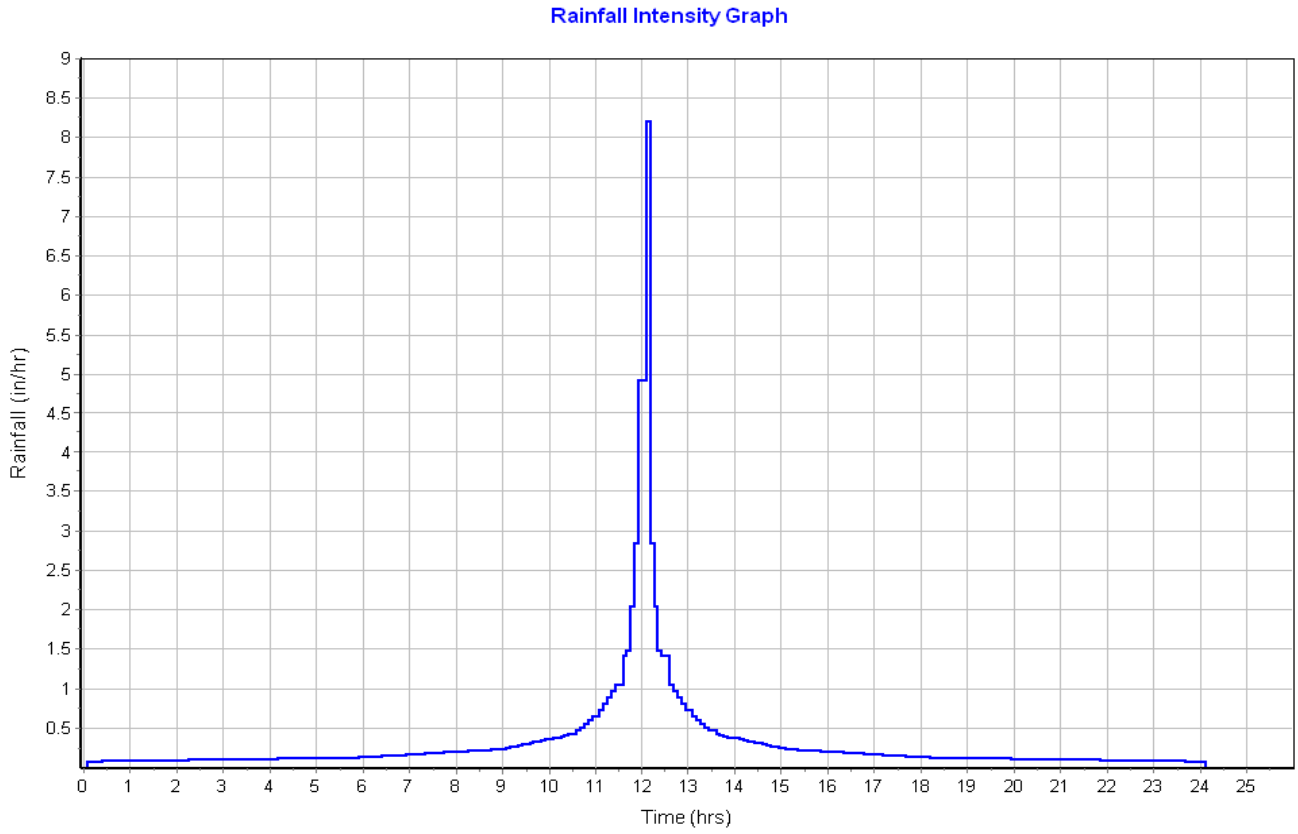
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

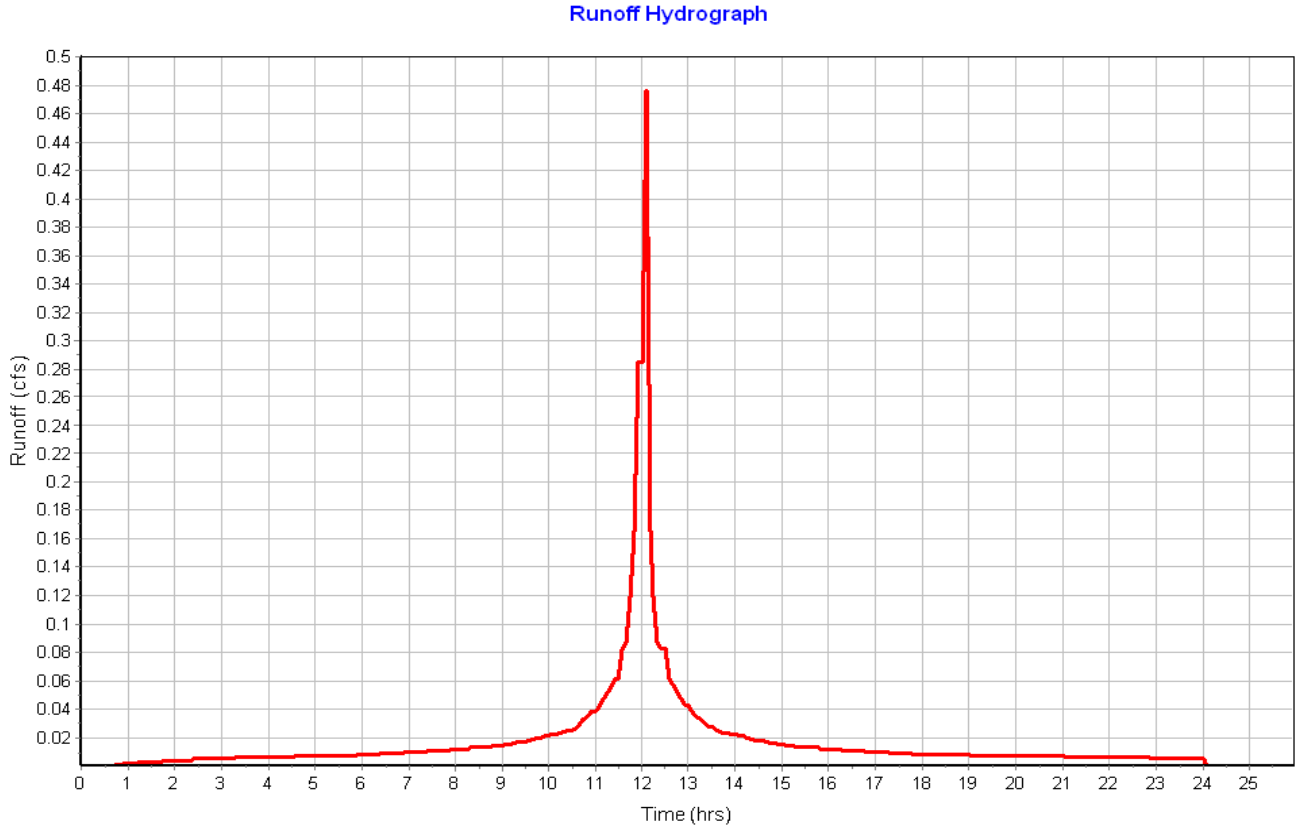
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.48
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-24





Subbasin : Roof-25

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

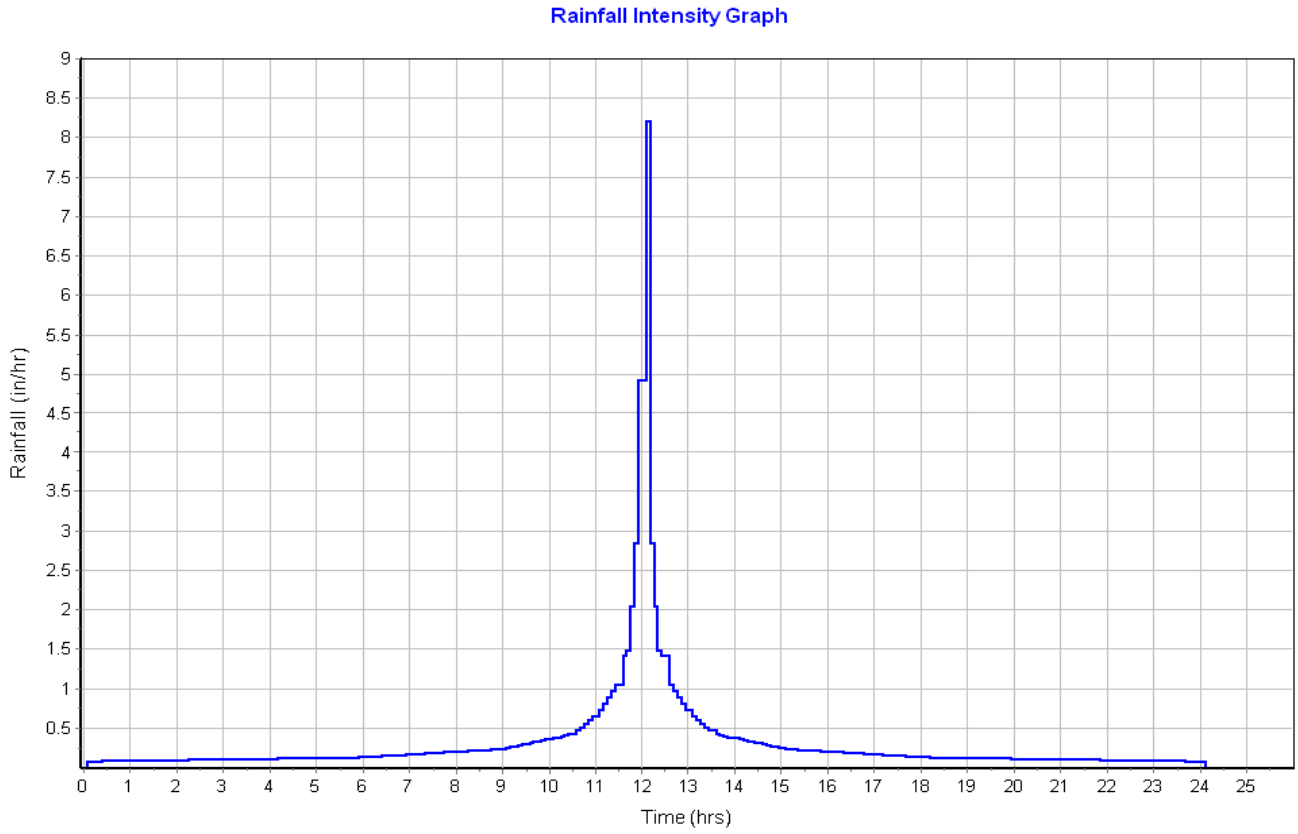
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

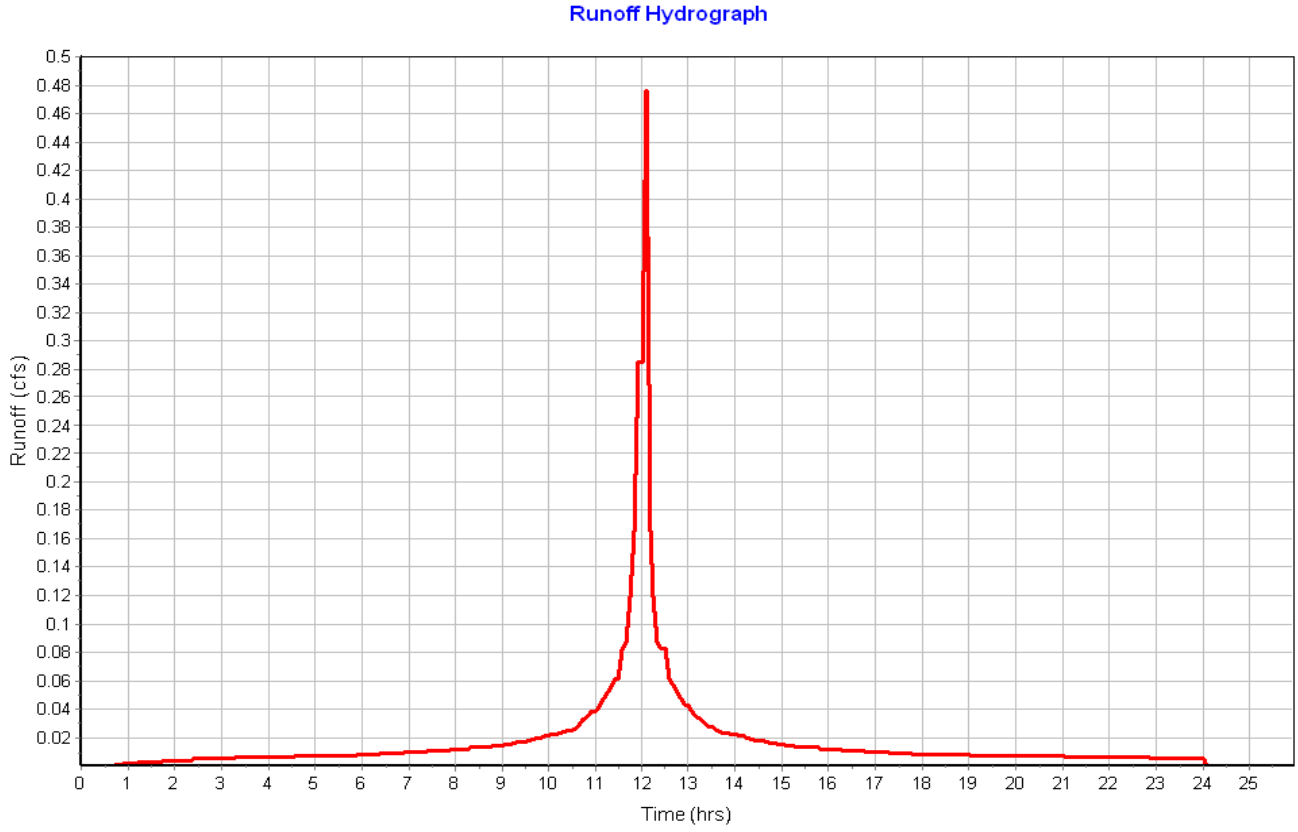
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-25





Subbasin : Roof-26

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

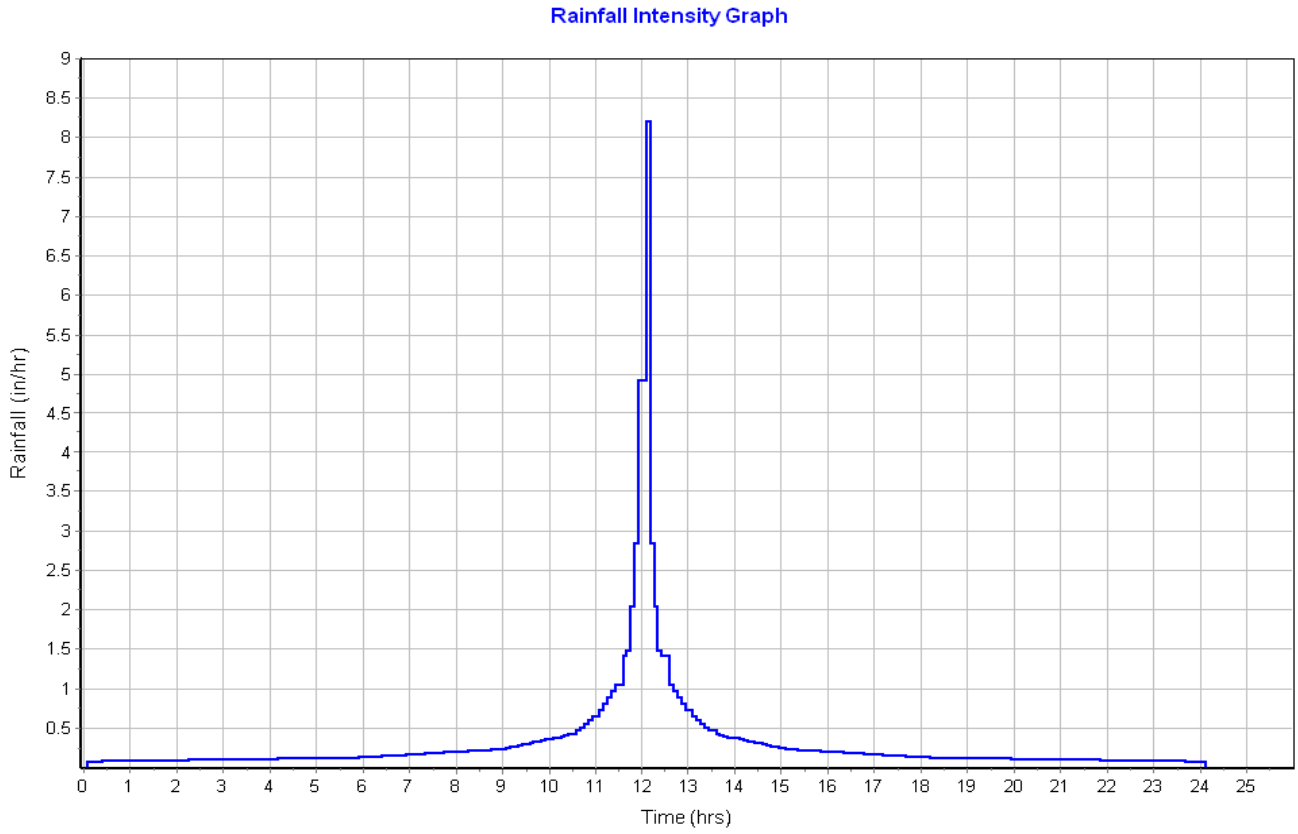
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

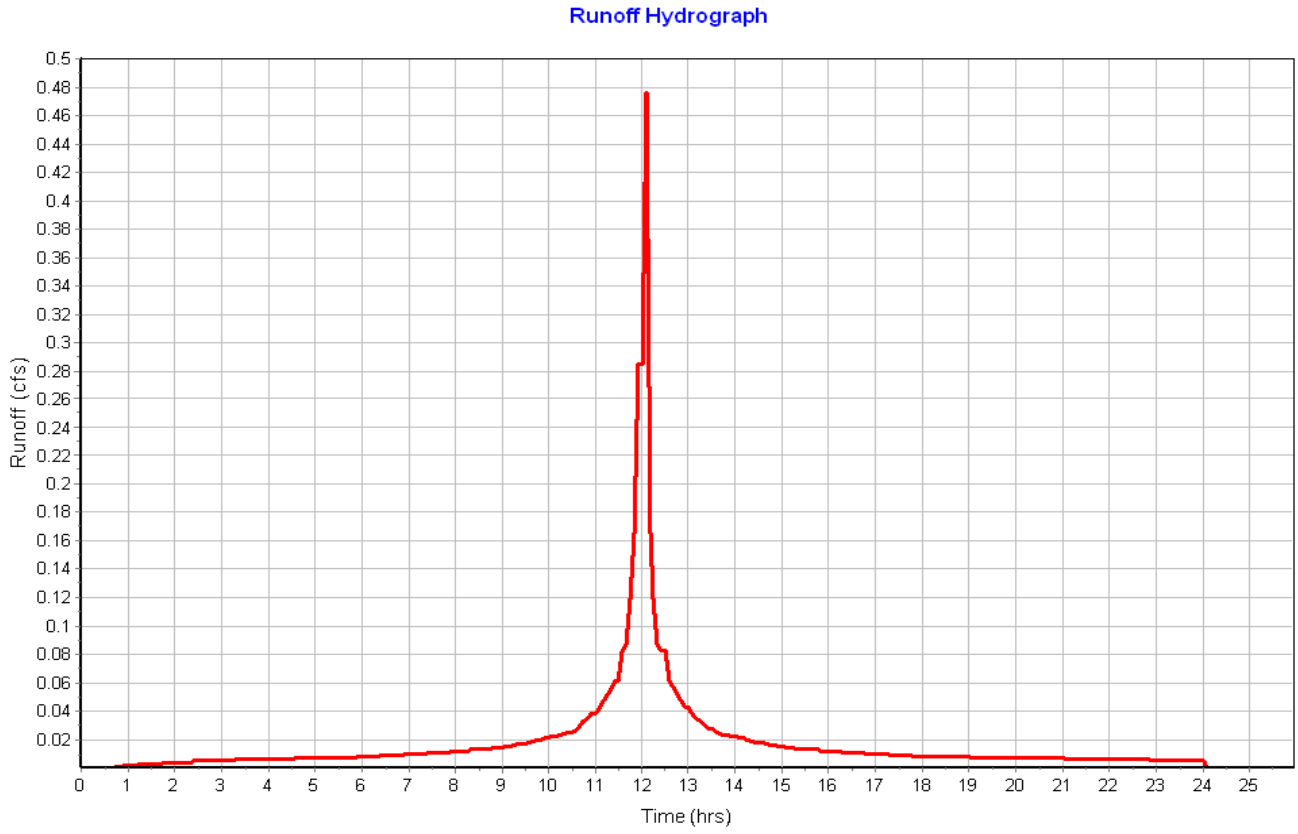
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-26





Subbasin : Sub-01

Input Data

Area (ac)	1.64
Peak Rate Factor	484.00
Weighted Curve Number	73.47
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	0.87	C	73.00
> 75% grass cover, Good	0.78	C	74.00
Composite Area & Weighted CN	1.65		73.47

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	7.1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.16	0.00	0.00
Computed Flow Time (min) :	31.11	0.00	0.00

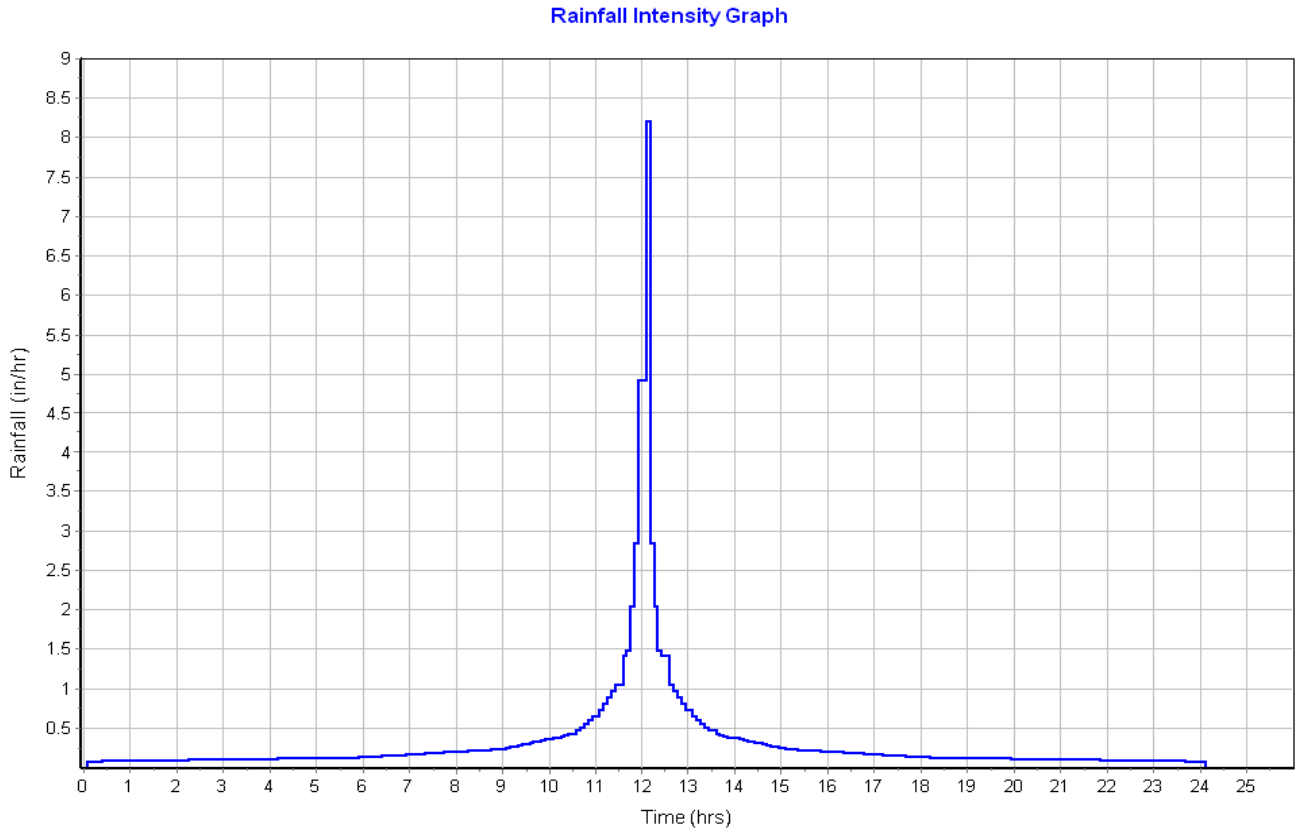
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	65	0.00	0.00
Slope (%) :	7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.32	0.00	0.00
Computed Flow Time (min) :	0.82	0.00	0.00

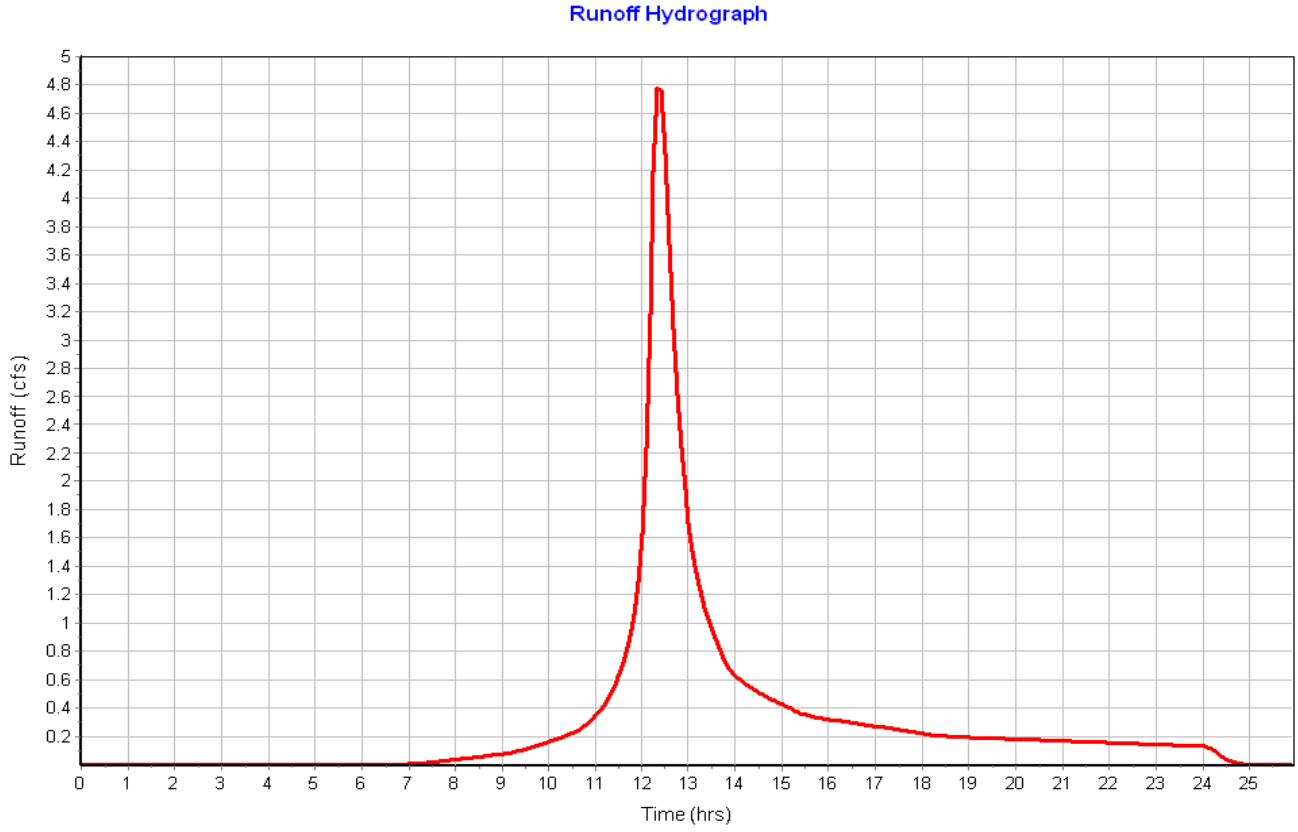
Total TOC (min) 31.93

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.74
Peak Runoff (cfs)	4.84
Weighted Curve Number	73.47
Time of Concentration (days hh:mm:ss)	0 00:31:56

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	2.48
Peak Rate Factor	484.00
Weighted Curve Number	73.09
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	2.25	C	73.00
> 75% grass cover, Good	0.23	C	74.00
Composite Area & Weighted CN	2.48		73.09

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	6.14	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.15	0.00	0.00
Computed Flow Time (min) :	32.97	0.00	0.00

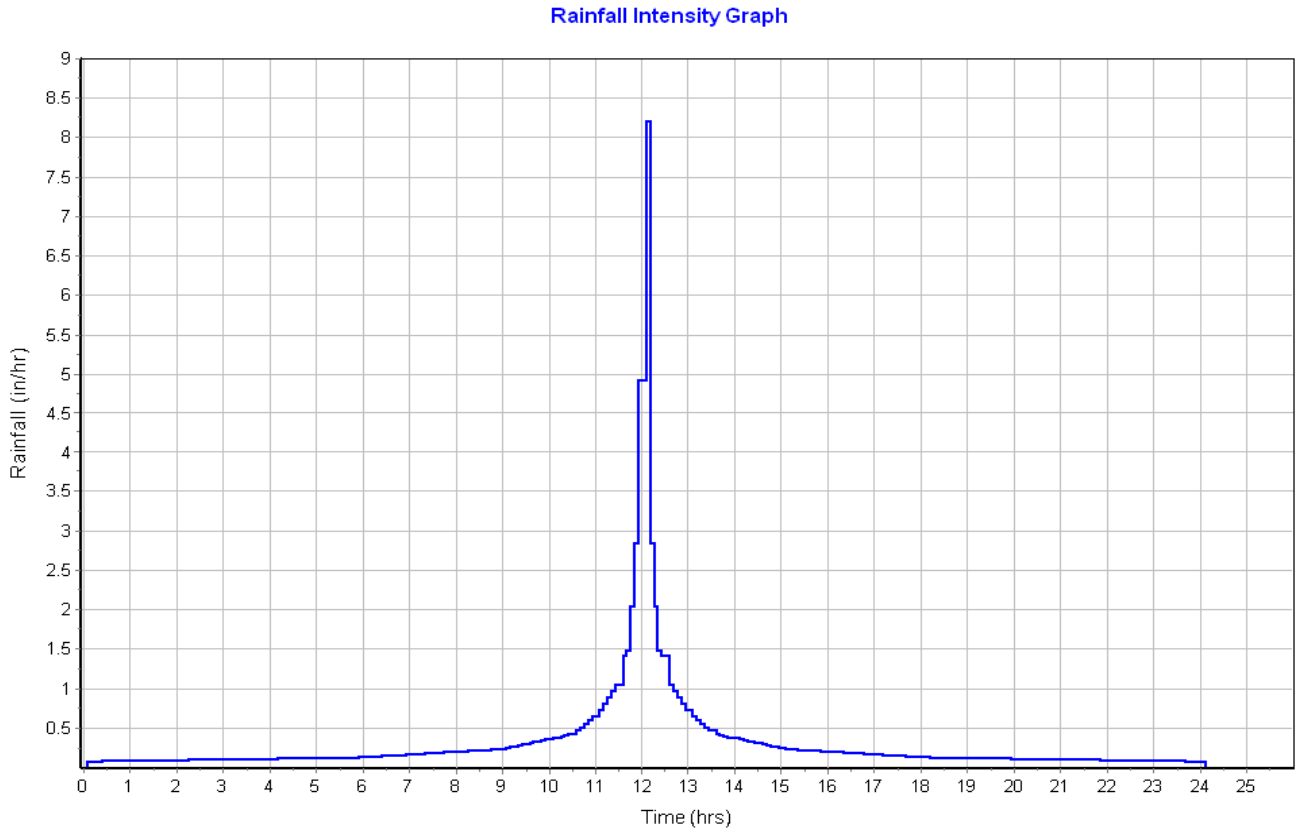
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	677	0.00	0.00
Slope (%) :	6.14	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	9.10	0.00	0.00

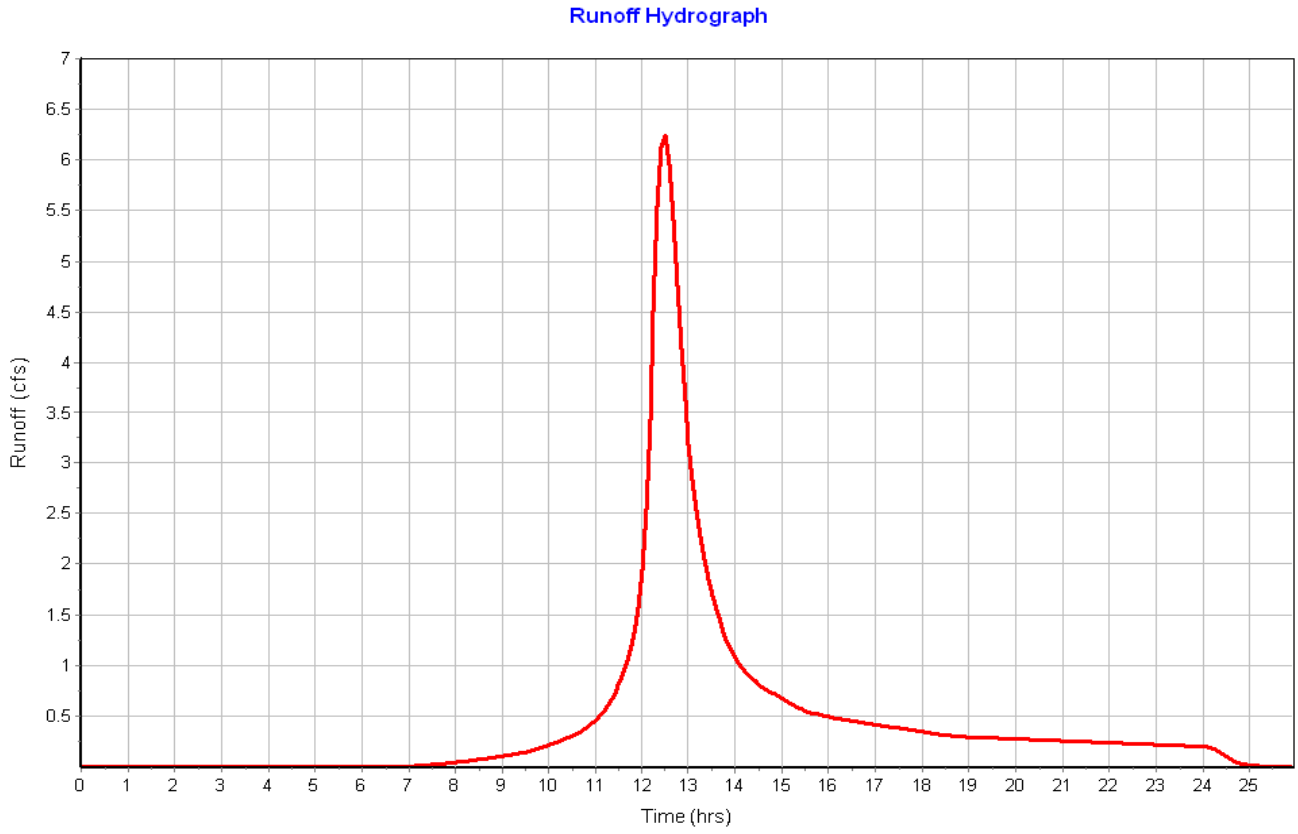
Total TOC (min) 42.07

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.70
Peak Runoff (cfs)	6.26
Weighted Curve Number	73.09
Time of Concentration (days hh:mm:ss)	0 00:42:04

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	9.20
Peak Rate Factor	484.00
Weighted Curve Number	73.58
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	5.33	C	74.00
Woods, Fair	3.87	C	73.00
Composite Area & Weighted CN	9.20		73.58

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	35.79	0.00	0.00

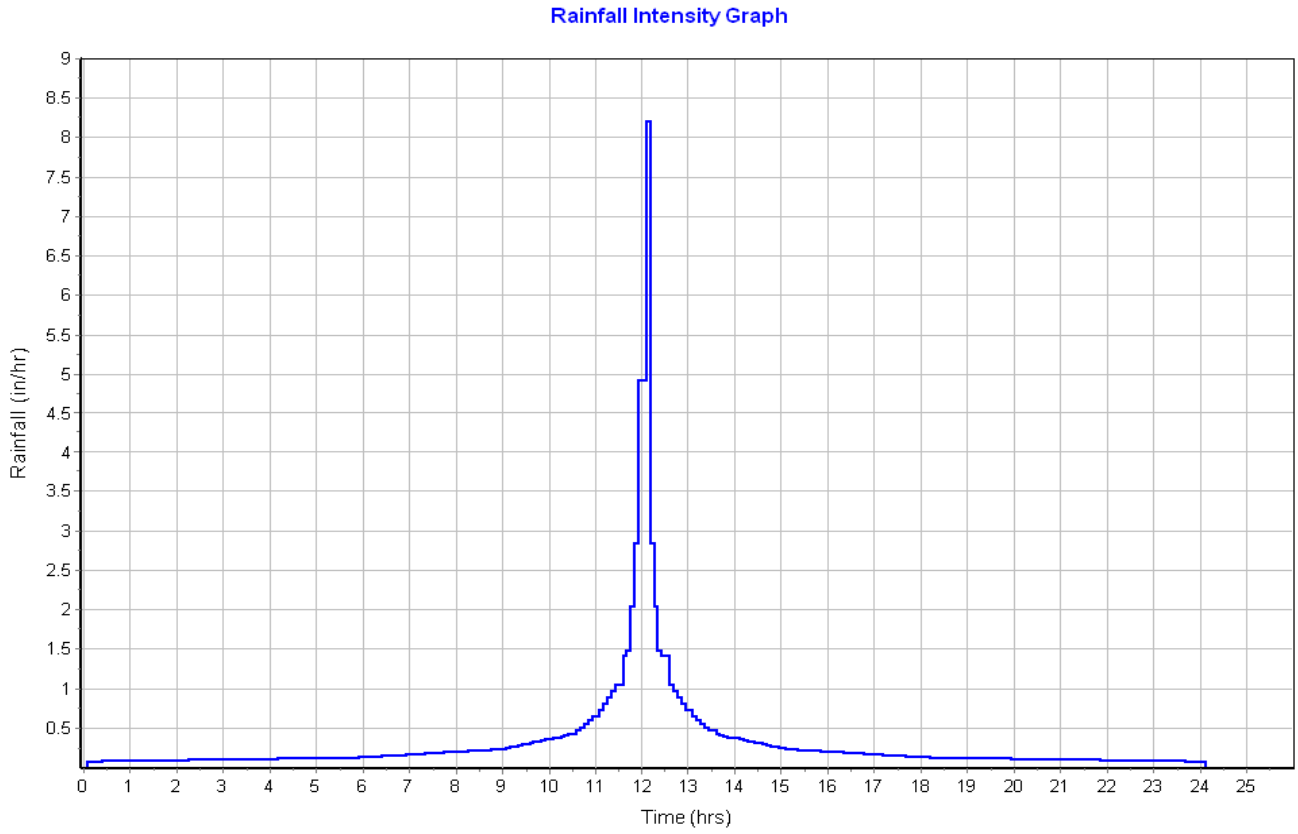
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	680.91	0.00	0.00
Slope (%) :	5	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.12	0.00	0.00
Computed Flow Time (min) :	10.13	0.00	0.00

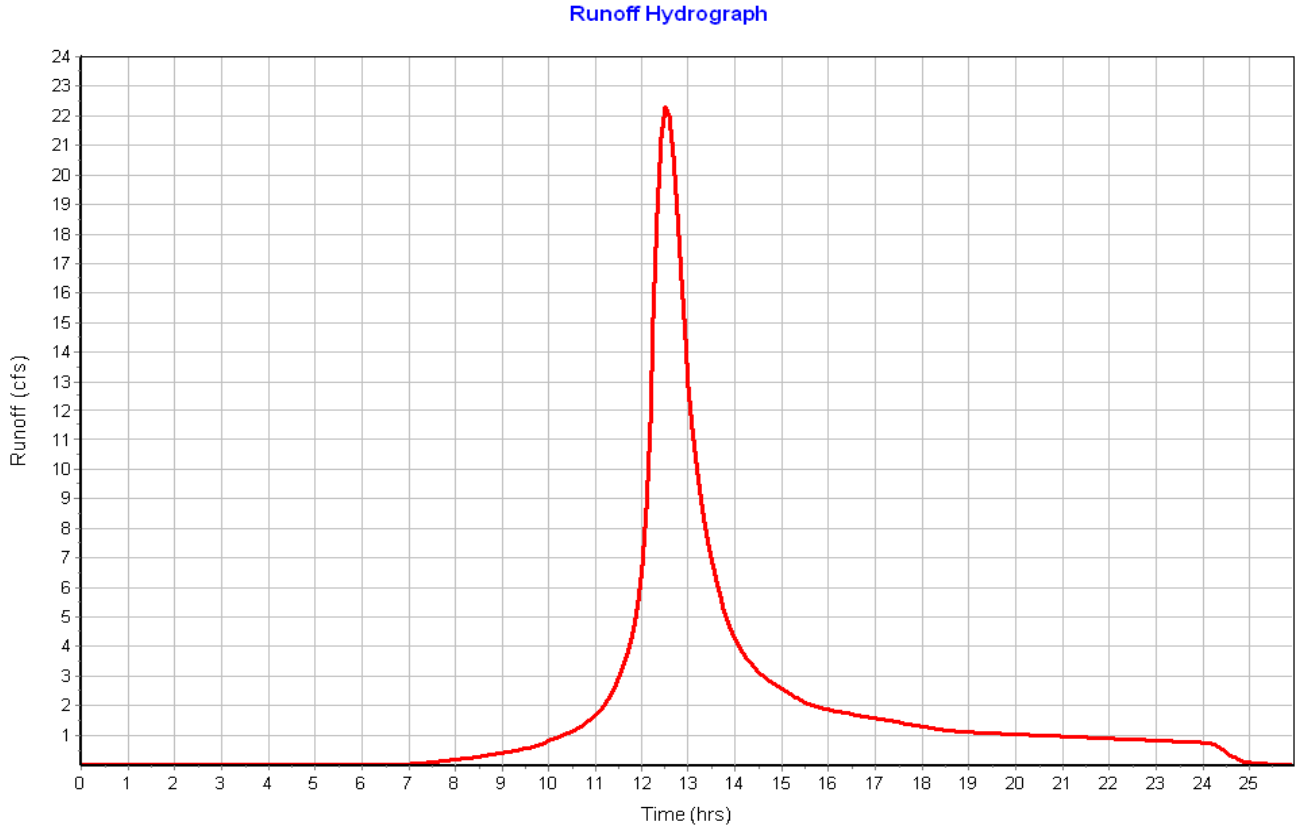
Total TOC (min) 45.92

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.75
Peak Runoff (cfs)	22.35
Weighted Curve Number	73.58
Time of Concentration (days hh:mm:ss)	0 00:45:55

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	4.36
Peak Rate Factor	484.00
Weighted Curve Number	73.02
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.29	C	73.00
> 75% grass cover, Good	0.07	C	74.00
Composite Area & Weighted CN	4.36		73.02

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

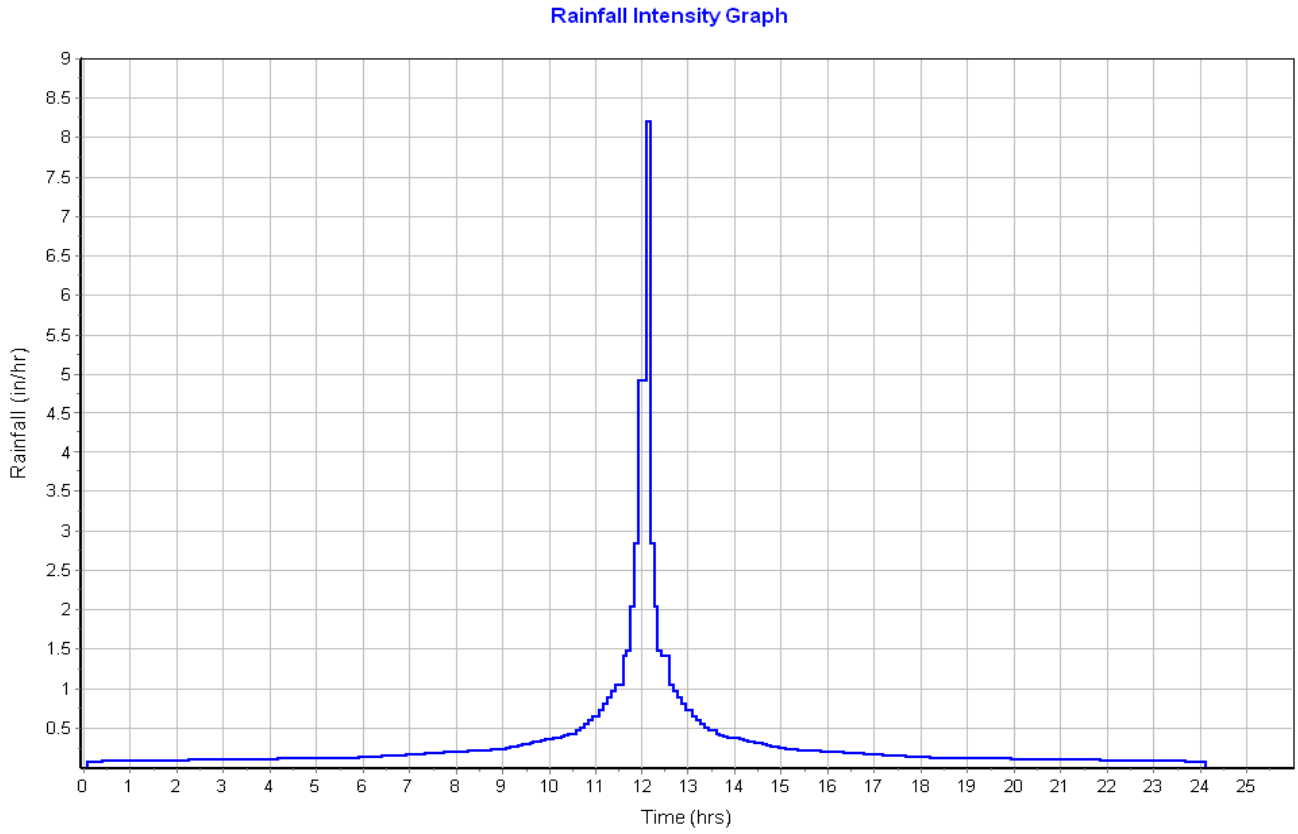
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

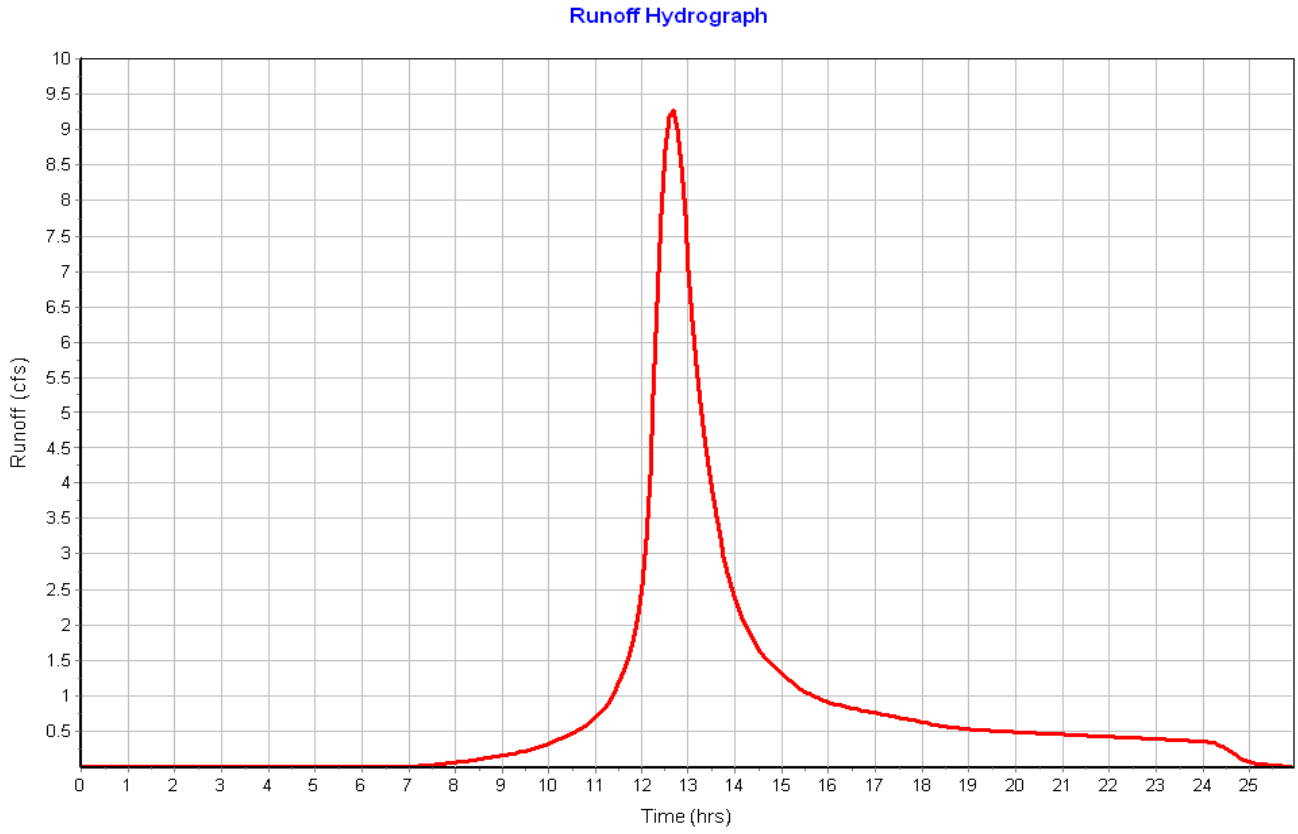
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.69
Peak Runoff (cfs)	9.28
Weighted Curve Number	73.02
Time of Concentration (days hh:mm:ss)	0 00:56:46

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 5.21
Peak Rate Factor 484.00
Weighted Curve Number 73.69
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.10	C	73.00
Paved parking & roofs	0.06	C	98.00
> 75% grass cover, Good	2.04	C	74.00
Composite Area & Weighted CN	5.20		73.69

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

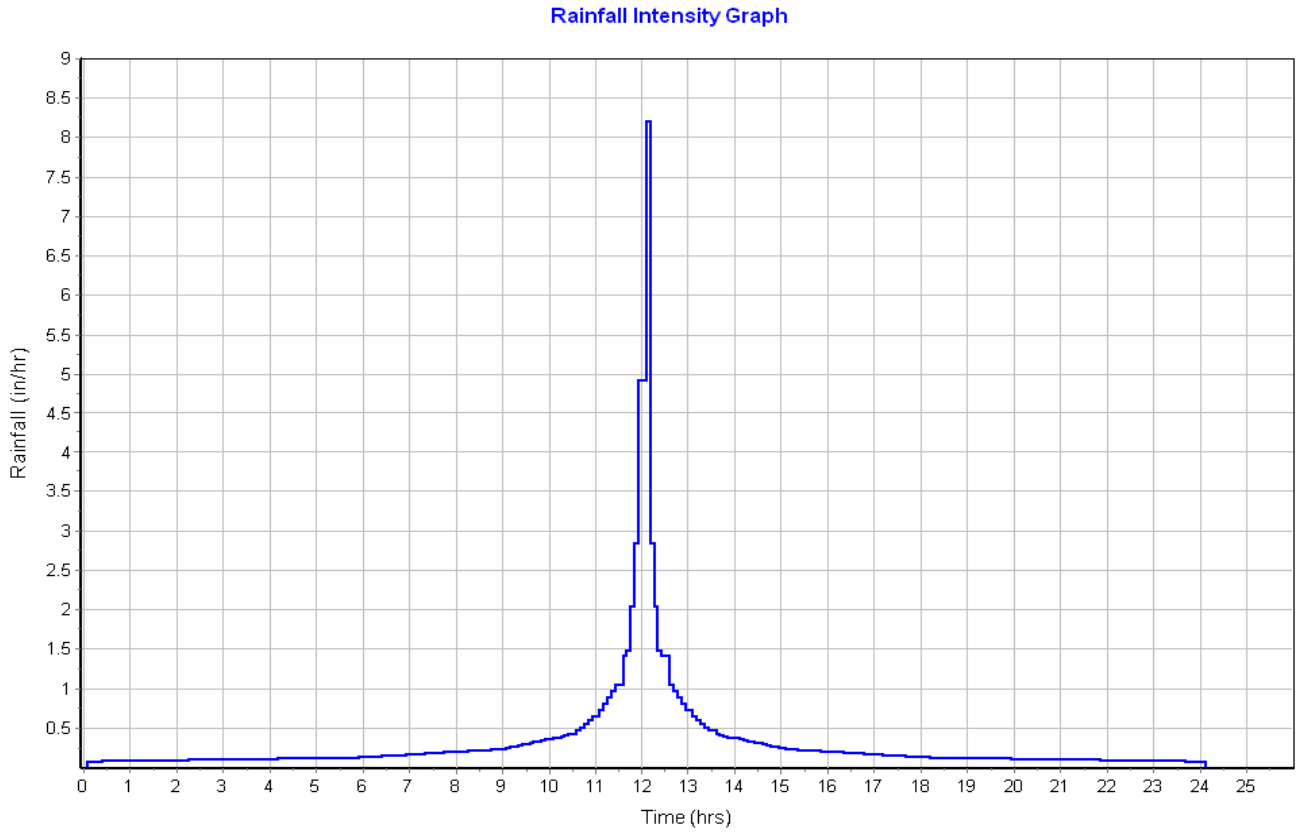
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

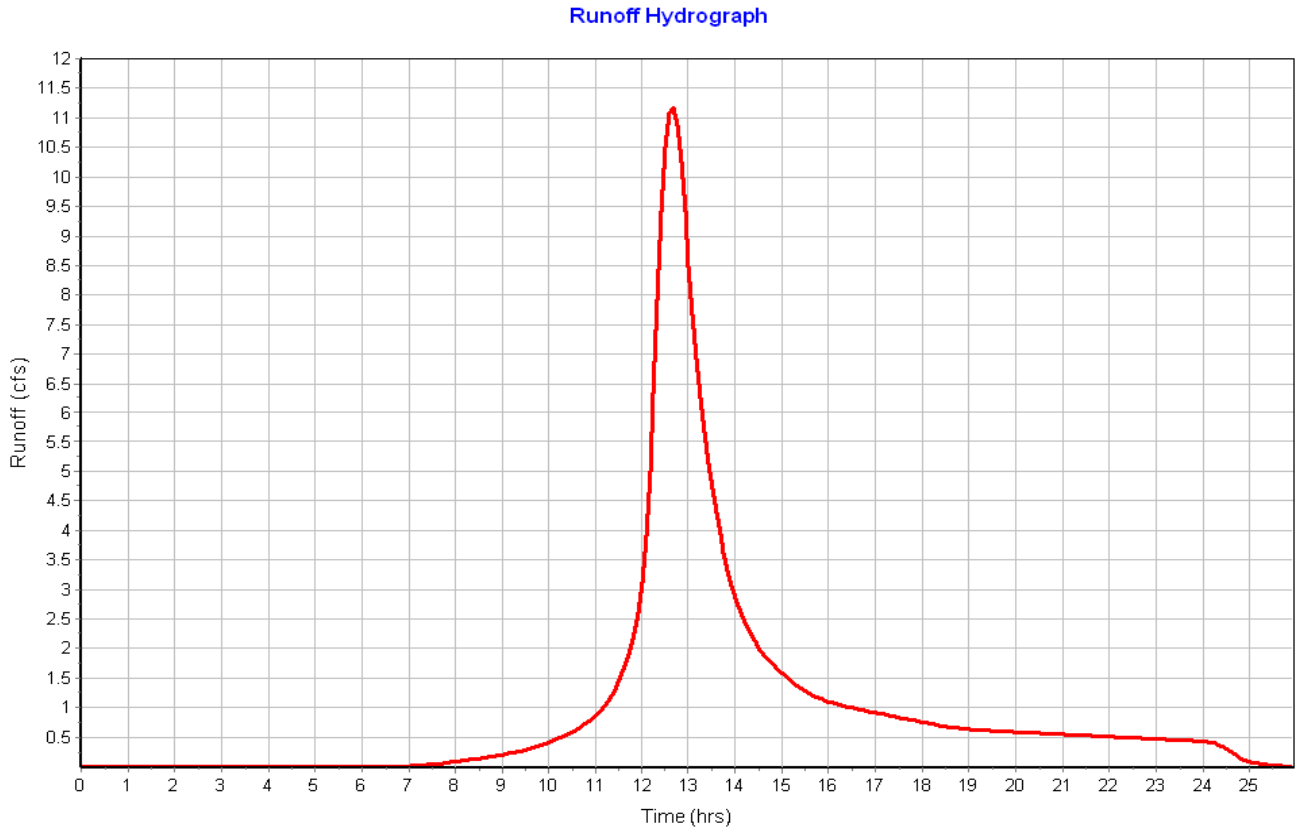
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 4.77
Peak Runoff (cfs) 11.20
Weighted Curve Number 73.69
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	4.48
Peak Rate Factor	484.00
Weighted Curve Number	73.88
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.81	C	74.00
Woods, Fair	0.34	C	73.00
Brush, Good	0.25	C	65.00
Paved parking & roofs	0.09	C	98.00
Composite Area & Weighted CN	4.49		73.88

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

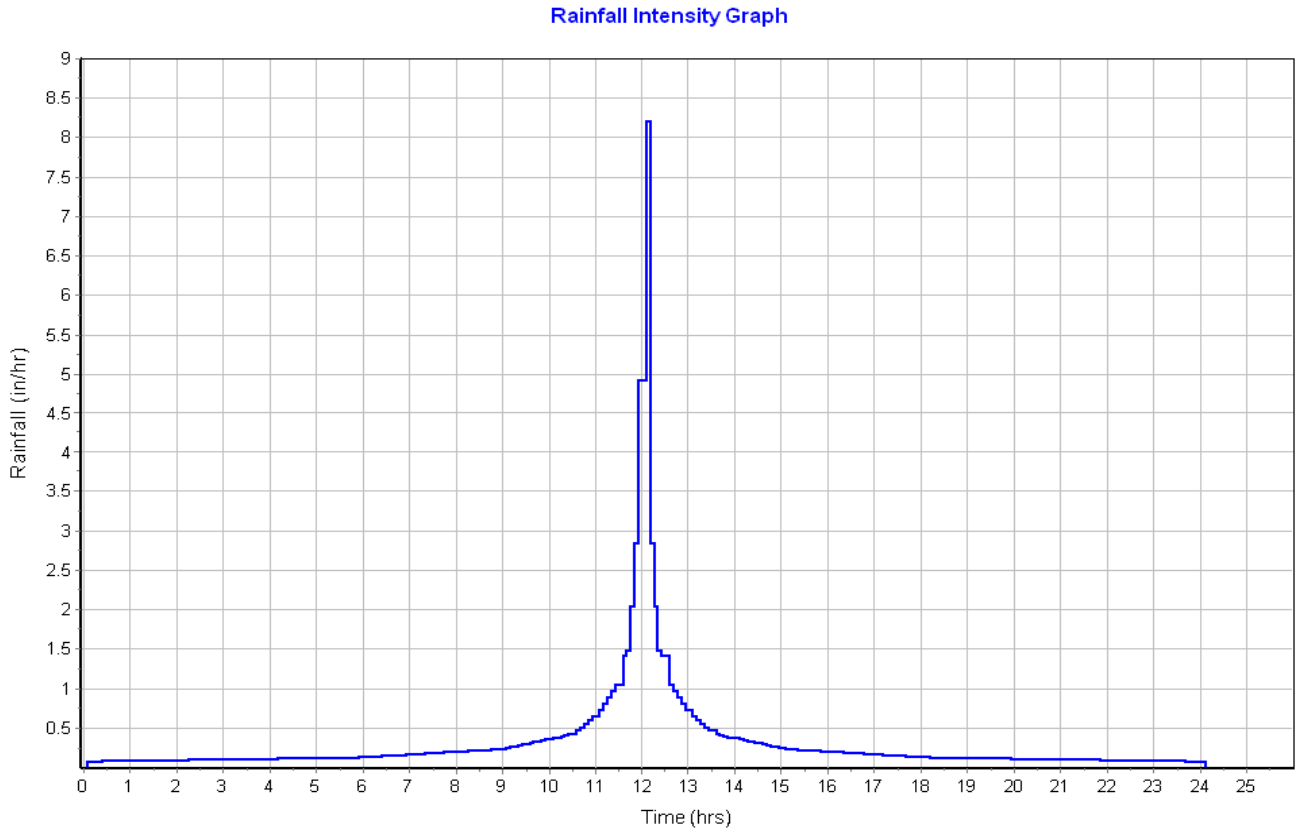
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

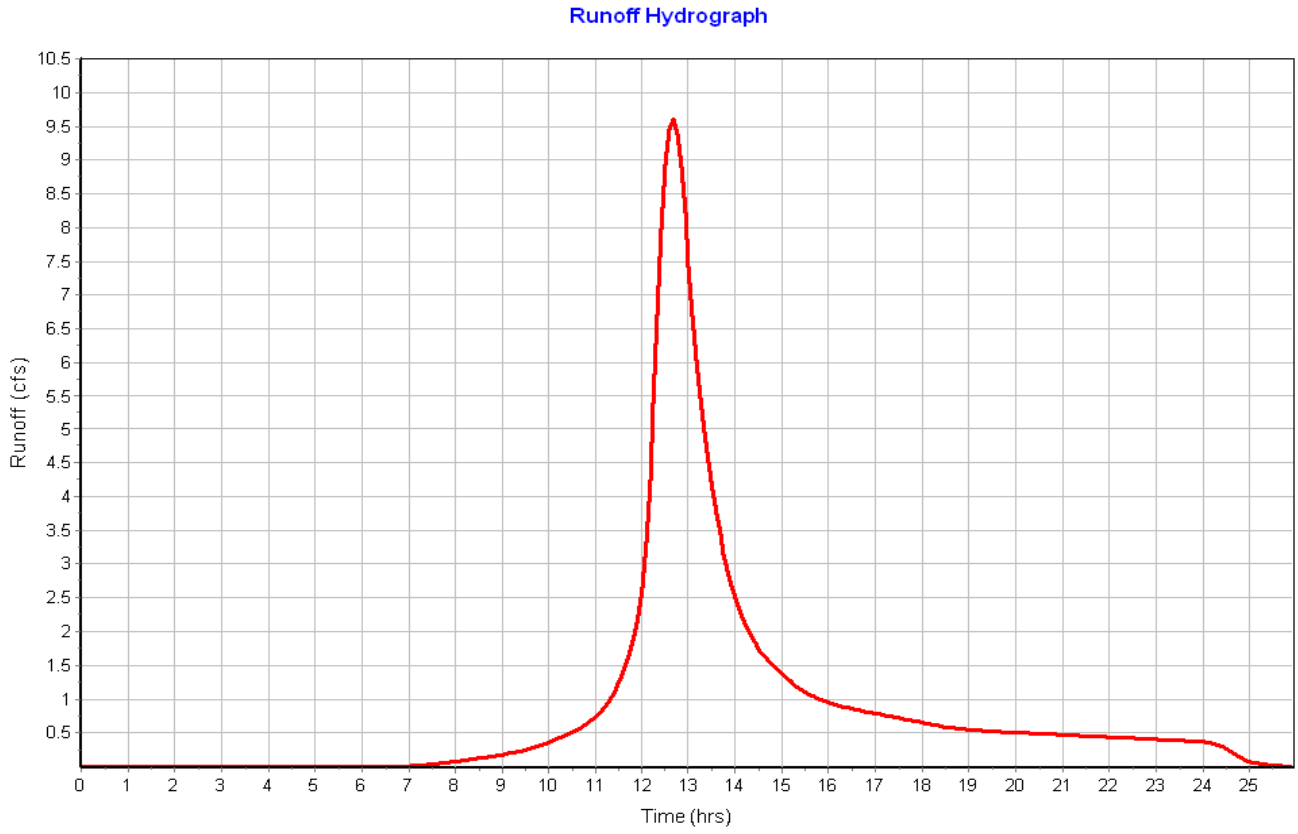
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.79
Peak Runoff (cfs)	9.61
Weighted Curve Number	73.88
Time of Concentration (days hh:mm:ss)	0 00:58:05

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	5.44
Peak Rate Factor	484.00
Weighted Curve Number	73.62
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.36	C	74.00
Woods, Fair	2.08	C	73.00
Composite Area & Weighted CN	5.44		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	4.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	36.69	0.00	0.00

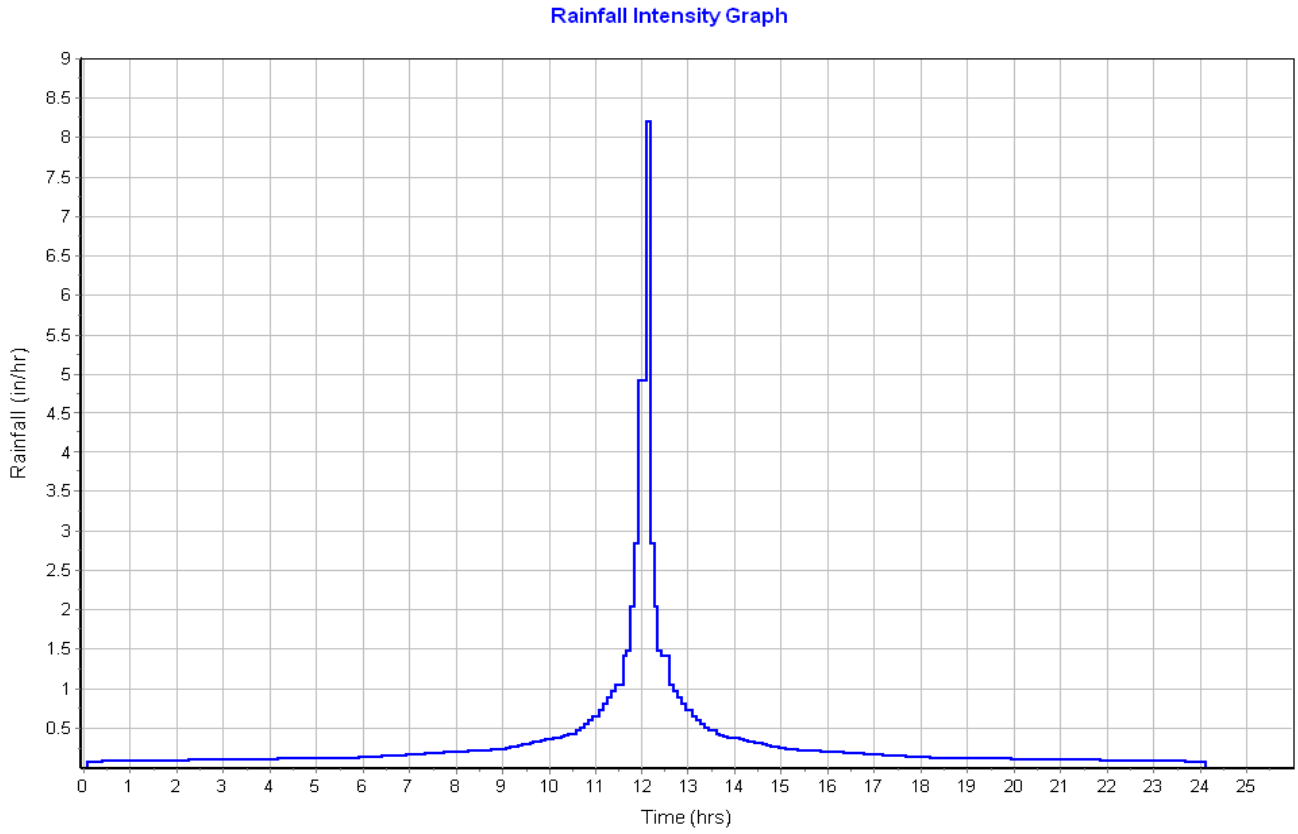
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	682.79	0.00	0.00
Slope (%) :	4.7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	10.54	0.00	0.00

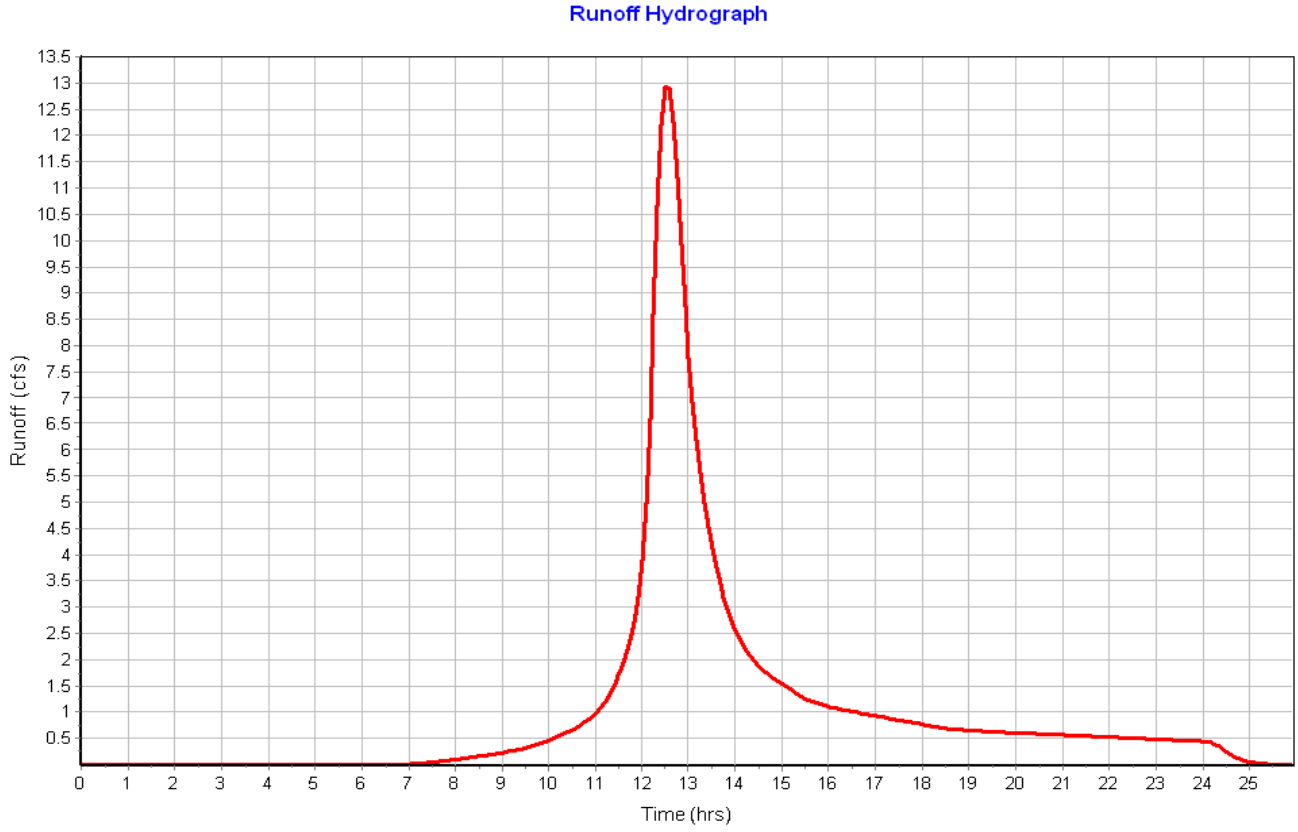
Total TOC (min) 47.22

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.76
Peak Runoff (cfs)	13.02
Weighted Curve Number	73.62
Time of Concentration (days hh:mm:ss)	0 00:47:13

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	3.74
Peak Rate Factor	484.00
Weighted Curve Number	73.61
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	2.29	C	74.00
Woods, Fair	1.46	C	73.00
Composite Area & Weighted CN	3.75		73.61

Time of Concentration

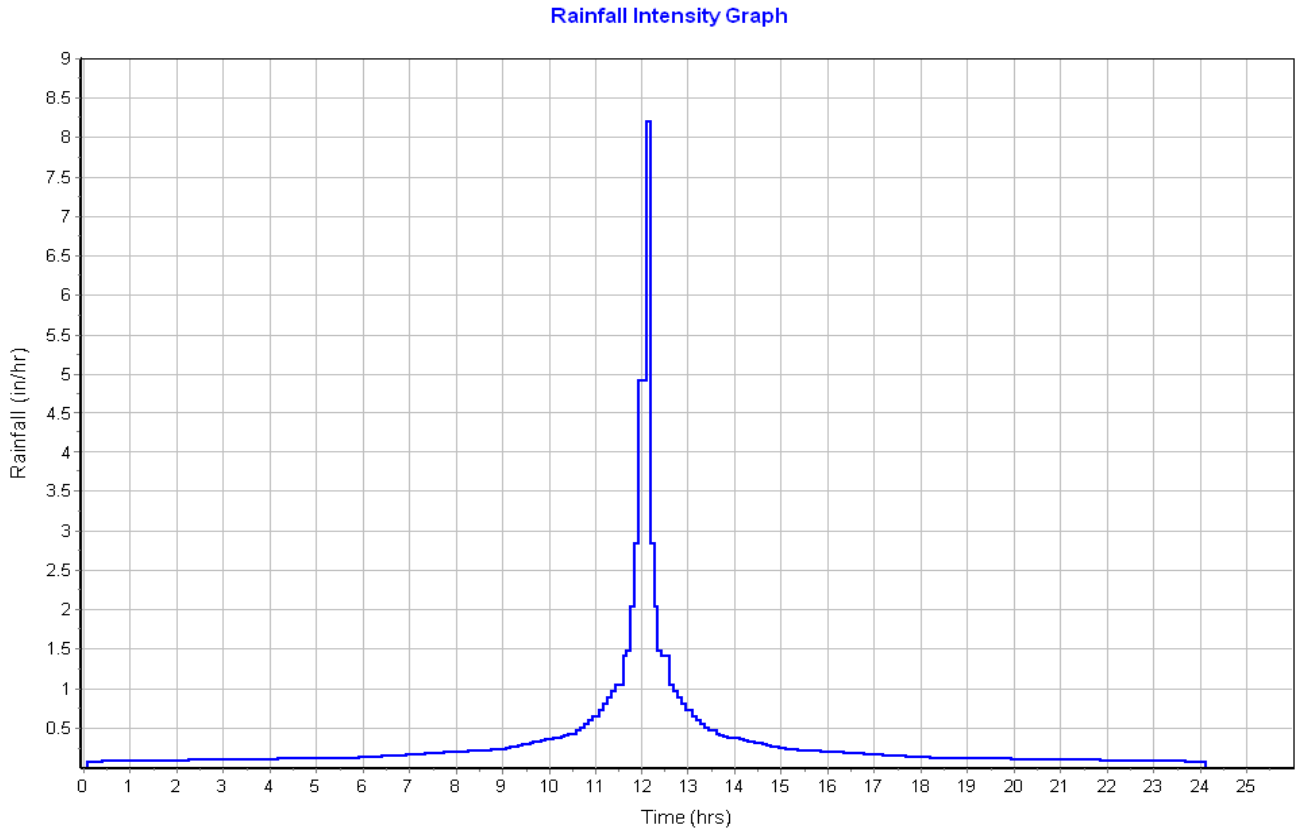
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	1.5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	57.93	0.00	0.00

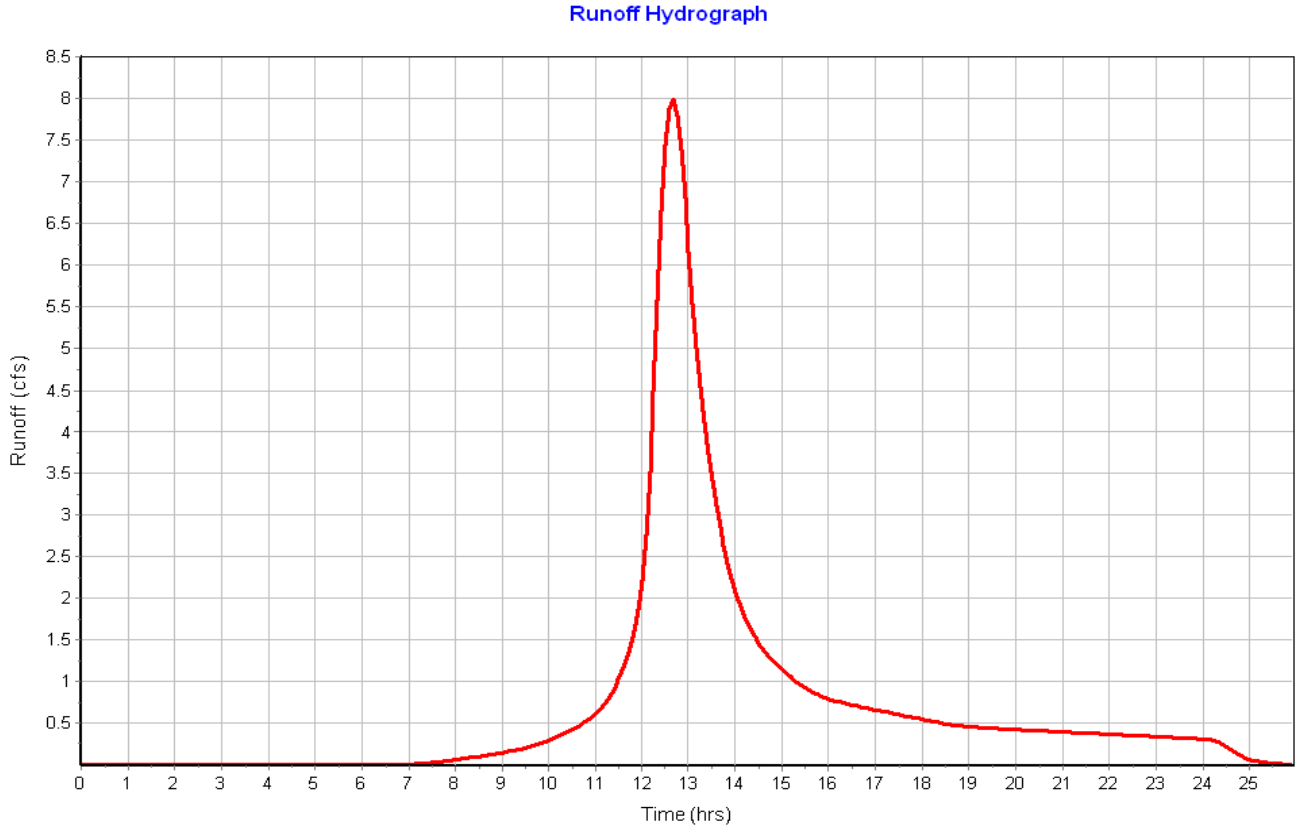
Total TOC (min) 57.93

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.76
Peak Runoff (cfs)	7.99
Weighted Curve Number	73.61
Time of Concentration (days hh:mm:ss)	0 00:57:56

Subbasin : Sub-08





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-01	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00
2	DMH-02	231.15	238.00	6.85	0.00	-231.15	0.00	-238.00	0.00	0.00
3	DMH-03	229.00	236.00	7.00	0.00	-229.00	0.00	-236.00	0.00	0.00
4	DMH-04	228.50	237.00	8.50	0.00	-228.50	0.00	-237.00	0.00	0.00
5	DMH-05	228.00	242.00	14.00	0.00	-228.00	0.00	-242.00	0.00	0.00
6	DMH-06	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	1.62	0.00	245.35	4.35	0.00	1.65	244.97	3.97	0 12:10	0 00:00	0.00	0.00
2	DMH-02	1.61	0.00	235.64	4.49	0.00	2.36	235.11	3.96	0 12:10	0 00:00	0.00	0.00
3	DMH-03	5.10	0.00	233.48	4.48	0.00	2.52	232.63	3.63	0 12:25	0 00:00	0.00	0.00
4	DMH-04	4.53	0.00	232.91	4.41	0.00	4.09	232.11	3.61	0 12:26	0 00:00	0.00	0.00
5	DMH-05	6.58	0.00	229.76	1.76	0.00	12.24	229.19	1.19	0 12:10	0 00:00	0.00	0.00
6	DMH-06	3.09	0.00	245.56	4.56	0.00	1.44	244.99	3.99	0 12:10	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-109	21.15	226.15	5.15	226.00	5.00	0.15	0.7100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-110	34.00	226.00	5.00	225.75	3.75	0.25	0.7400	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-114	102.82	222.00	5.00	220.00	1.00	2.00	1.9500	CIRCULAR	24.000	24.000	0.0200	0.5000	0.5000	0.0000	0.00	No	1
4	Link-115	237.93	221.00	4.00	217.15	6.15	3.85	1.6200	CIRCULAR	12.000	12.000	0.0200	0.5000	0.5000	0.0000	0.00	No	1
5	Link-28	42.00	214.65	4.00	212.00	0.00	2.65	6.3100	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-29	40.00	202.65	4.00	202.00	0.00	0.65	1.6300	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-30	215.00	210.15	0.50	207.00	4.00	3.15	1.4700	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-31	17.51	245.15	4.00	245.00	4.00	0.15	0.8600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
9	Link-32	24.09	245.15	4.00	245.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
10	Link-33	139.54	245.00	4.00	235.15	4.00	9.85	7.0600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-34	76.23	235.15	4.00	233.15	4.15	2.00	2.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
12	Link-35	24.01	233.15	233.15	233.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
13	Link-36	15.56	233.15	233.15	233.00	4.00	0.15	0.9600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
14	Link-37	38.28	234.50	3.35	233.15	4.15	1.35	3.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
15	Link-38	32.64	232.50	3.50	232.00	3.50	0.50	1.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
16	Link-39	18.32	233.15	233.15	233.00	4.50	0.15	0.8200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
17	Link-40	10.99	233.15	233.15	233.00	4.50	0.15	1.3600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
18	Link-41	130.94	232.00	3.50	230.00	2.00	2.00	1.5300	CIRCULAR	18.000	18.000	0.0200	2.0000	0.8000	0.0000	0.00	No	1
19	Link-42	23.74	245.15	4.00	245.00	4.00	0.15	0.6300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
20	Link-43	19.02	245.15	4.00	245.00	4.00	0.15	0.7900	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
21	Link-44	100.67	245.00	4.00	239.15	11.15	5.85	5.8100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
22	Link-45	245.00	229.00	1.00	220.00	1.00	9.00	3.6700	CIRCULAR	18.000	18.000	0.0200	0.0200	0.5000	0.0000	0.00	No	1
23	Link-62	33.00	217.15	6.15	216.75	3.75	0.40	1.2100	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
24	Link-63	52.00	217.15	6.15	216.75	3.75	0.40	0.7700	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
25	Link-77	67.00	207.65	4.00	207.00	1.00	0.65	0.9700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
26	Link-78	47.00	207.65	4.00	207.00	1.00	0.65	1.3800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-109	1.96	0 12:10	1.95	1.00	2.89	0.12	0.80	0.81	0.00		> CAPACITY
2	Link-110	2.52	0 12:10	5.85	0.43	3.30	0.17	0.67	0.45	0.00		Calculated
3	Link-114	10.97	0 12:36	20.51	0.53	6.23	0.28	1.09	0.55	0.00		Calculated
4	Link-115	3.40	0 12:11	2.95	1.15	4.56	0.87	0.95	0.95	0.00		> CAPACITY
5	Link-28	6.34	0 12:32	17.15	0.37	8.39	0.08	0.66	0.44	0.00		Calculated
6	Link-29	5.00	0 13:12	8.70	0.58	4.77	0.14	0.86	0.57	0.00		Calculated
7	Link-30	5.96	0 12:12	8.26	0.72	4.99	0.72	0.95	0.64	0.00		Calculated
8	Link-31	0.52	0 12:10	2.14	0.24	2.03	0.14	0.36	0.36	0.00		Calculated
9	Link-32	1.10	0 12:10	1.83	0.60	2.62	0.15	0.52	0.53	0.00		Calculated
10	Link-33	1.61	0 12:10	6.15	0.26	5.22	0.45	0.41	0.42	0.00		Calculated
11	Link-34	1.60	0 12:10	3.75	0.43	4.40	0.29	0.46	0.47	0.00		Calculated
12	Link-35	0.27	0 12:25	1.83	0.15	1.14	0.35	0.34	0.35	0.00		Calculated
13	Link-36	0.30	0 12:25	2.27	0.13	1.21	0.21	0.35	0.35	0.00		Calculated
14	Link-37	4.78	0 12:25	12.82	0.37	5.97	0.11	0.69	0.46	0.00		Calculated
15	Link-38	4.53	0 12:25	8.45	0.54	3.87	0.14	0.94	0.63	0.00		Calculated
16	Link-39	0.00	0 00:00	2.10	0.00	0.00		0.00	0.00	0.00		Calculated
17	Link-40	0.05	0 14:32	2.71	0.02	1.28	0.14	0.09	0.09	0.00		Calculated
18	Link-41	4.52	0 12:26	8.44	0.54	4.40	0.50	0.84	0.56	0.00		Calculated
19	Link-42	0.68	0 12:10	1.84	0.37	1.62	0.24	0.52	0.53	0.00		Calculated
20	Link-43	2.41	0 12:10	2.06	1.17	3.45	0.09	0.83	0.83	0.00		> CAPACITY
21	Link-44	3.06	0 12:10	5.58	0.55	7.04	0.24	0.54	0.54	0.00		Calculated
22	Link-45	6.53	0 12:11	13.09	0.50	7.32	0.56	0.74	0.50	0.00		Calculated
23	Link-62	5.45	0 12:10	16.19	0.34	4.30	0.13	0.85	0.42	0.00		Calculated
24	Link-63	2.09	0 12:10	5.99	0.35	3.17	0.27	0.60	0.40	0.00		Calculated
25	Link-77	1.90	0 12:10	2.28	0.83	3.38	0.33	0.67	0.67	0.00		Calculated
26	Link-78	0.93	0 12:10	2.72	0.34	3.05	0.26	0.41	0.41	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 215.00
Max (Rim) Elevation (ft) 218.00
Max (Rim) Offset (ft) 3.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -215.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

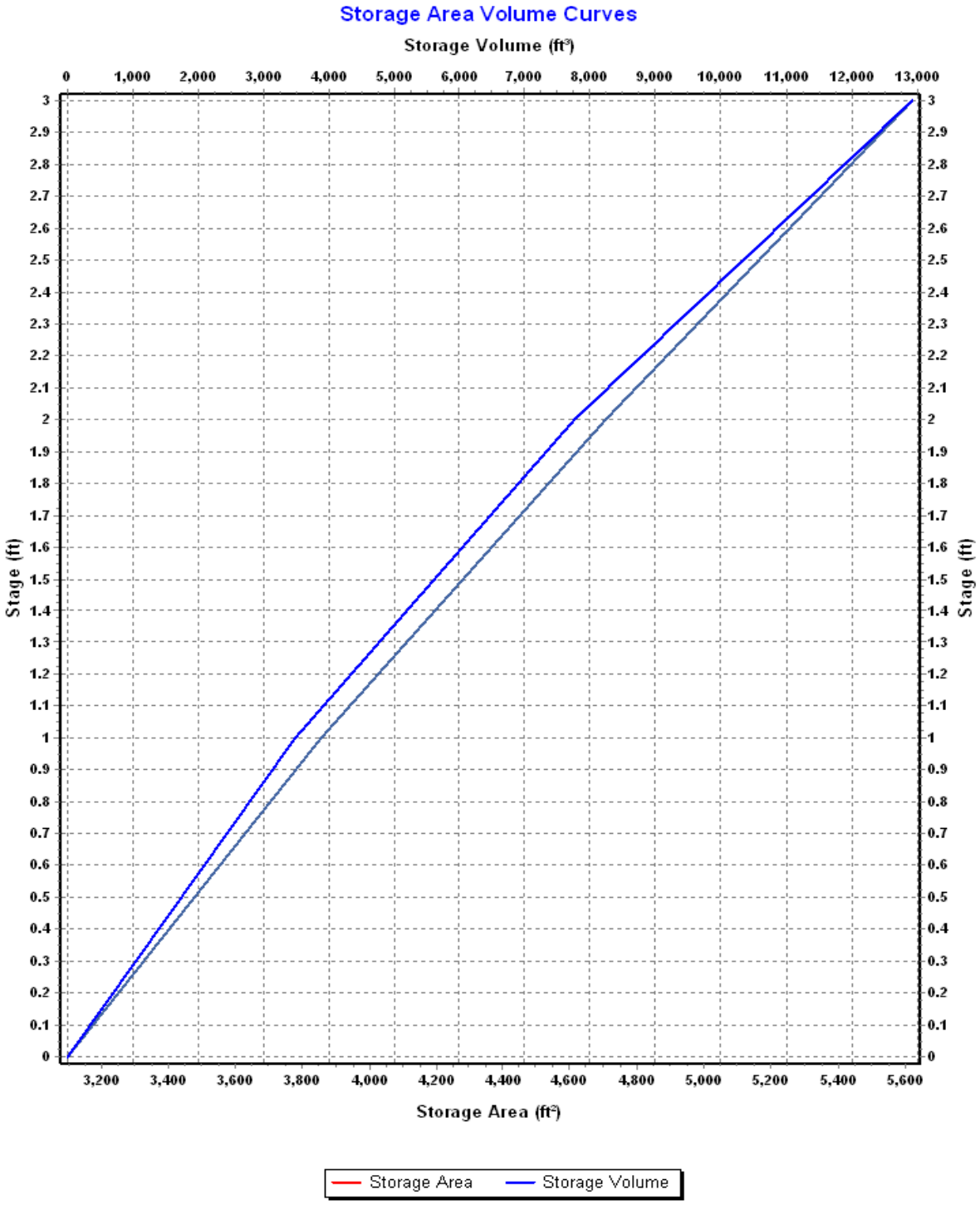
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	3100	0.000
1	3855	3477.50
2	4709	7759.50
3	5621	12924.50


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
13,000
Stage (ft)
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3,200
3,400
3,600
3,800
4,000
4,200
4,400
4,600
4,800
5,000
5,200
5,400
5,600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice3	Side Flow	No	217.50	2.50	5.00	0.25	0.61
2	Orifice4	Trapezoidal	No	217.50	2.50	5.00	0.25	3.33
3	Weir-02	Trapezoidal	No	217.80	2.80	30.00	0.20	3.33
4	Weir-03	Trapezoidal	No	217.75	2.75	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-03	Side	CIRCULAR	No	3.00			216.20	0.61

Output Summary Results

Peak Inflow (cfs)	11.36
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	11.30
Peak Exfiltration Flow Rate (cfm)	2.09
Max HGL Elevation Attained (ft)	217.93
Max HGL Depth Attained (ft)	2.93
Average HGL Elevation Attained (ft)	217.32
Average HGL Depth Attained (ft)	2.32
Time of Max HGL Occurrence (days hh:mm)	0 12:32
Total Exfiltration Volume (1000-ft³)	2.111
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	217.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

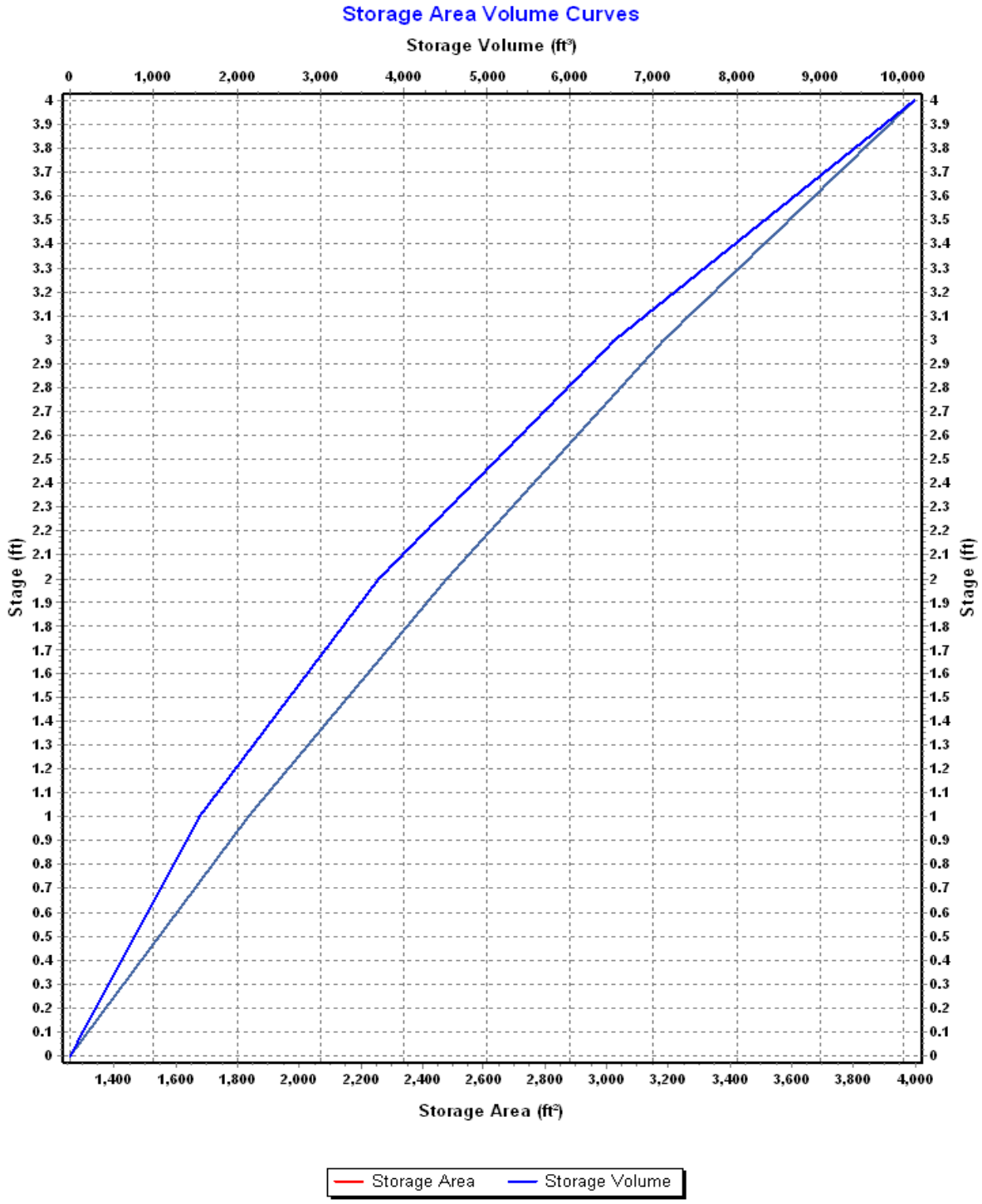
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1257	0.000
1	1833	1545.00
2	2480	3701.50
3	3184	6533.50
4	3997	10124.00


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
Stage (ft)
Storage Area (ft²)
1,400
1,600
1,800
2,000
2,200
2,400
2,600
2,800
3,000
3,200
3,400
3,600
3,800
4,000
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-06	Trapezoidal	No	216.90	3.90	20.00	0.10	3.33
2	Weir-07	Trapezoidal	No	216.50	3.50	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-04	Side	CIRCULAR	No	3.00			214.00	0.61

Output Summary Results

Peak Inflow (cfs)	7.54
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	6.87
Peak Exfiltration Flow Rate (cfm)	1.49
Max HGL Elevation Attained (ft)	216.96
Max HGL Depth Attained (ft)	3.96
Average HGL Elevation Attained (ft)	216.26
Average HGL Depth Attained (ft)	3.26
Time of Max HGL Occurrence (days hh:mm)	0 12:12
Total Exfiltration Volume (1000-ft³)	1.557
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	203.00
Max (Rim) Elevation (ft)	206.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

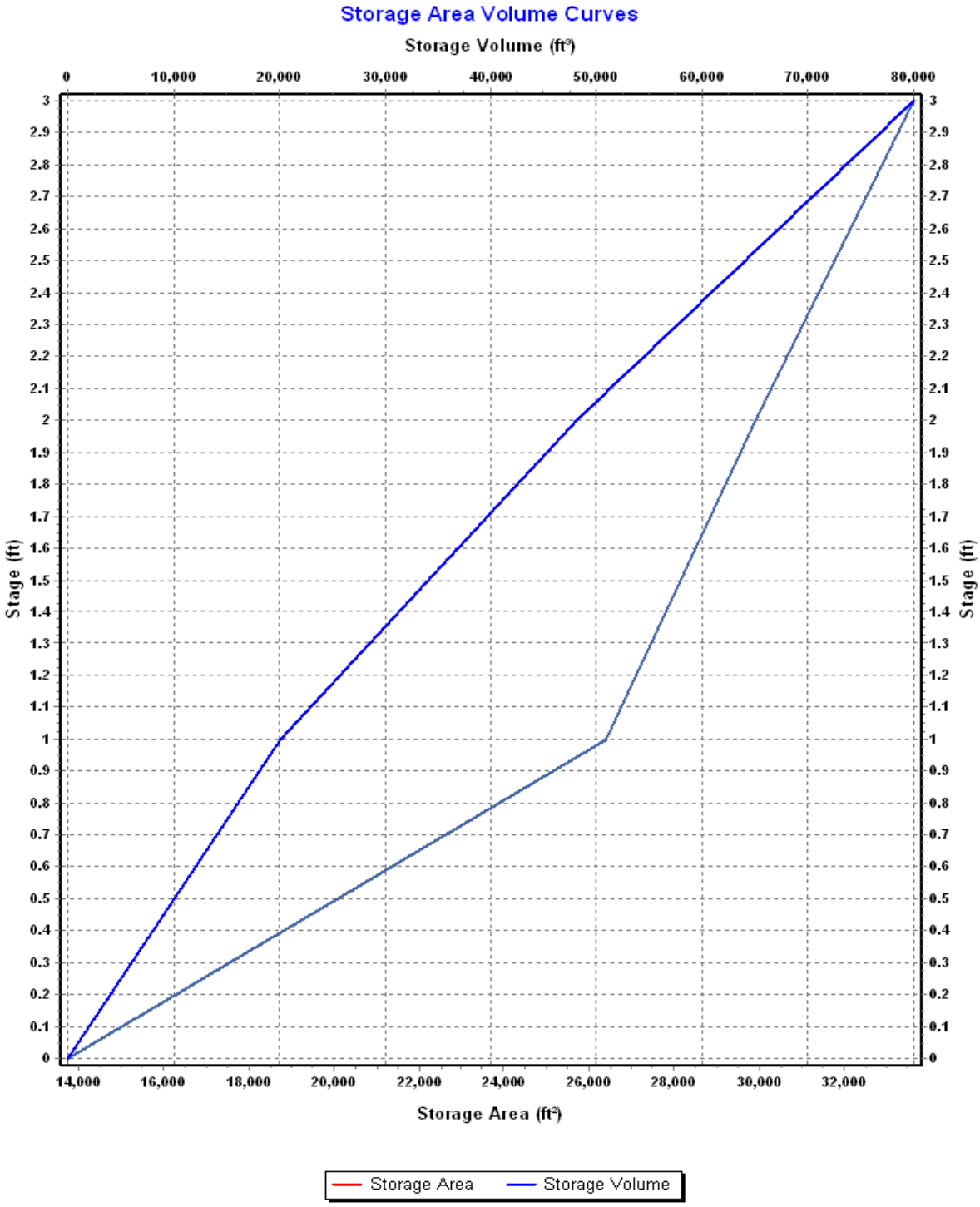
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	13751	0.000
1	26384	20067.50
2	29915	48217.00
3	33625	79987.00


Storage Area Volume Curves
Storage Volume (ft³)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Stage (ft)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
2.9
3
14,000
16,000
18,000
20,000
22,000
24,000
26,000
28,000
30,000
32,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-09	Trapezoidal	No	204.75	1.75	8.00	0.25	3.33
2	Weir-10	Trapezoidal	No	205.00	2.00	30.00	0.20	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-05	Side	CIRCULAR	No	3.00			203.75	0.61

Output Summary Results

Peak Inflow (cfs)	12.44
Peak Lateral Inflow (cfs)	7.98
Peak Outflow (cfs)	8.96
Peak Exfiltration Flow Rate (cfm)	11.38
Max HGL Elevation Attained (ft)	205.12
Max HGL Depth Attained (ft)	2.12
Average HGL Elevation Attained (ft)	204.50
Average HGL Depth Attained (ft)	1.5
Time of Max HGL Occurrence (days hh:mm)	0 13:11
Total Exfiltration Volume (1000-ft³)	11.555
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

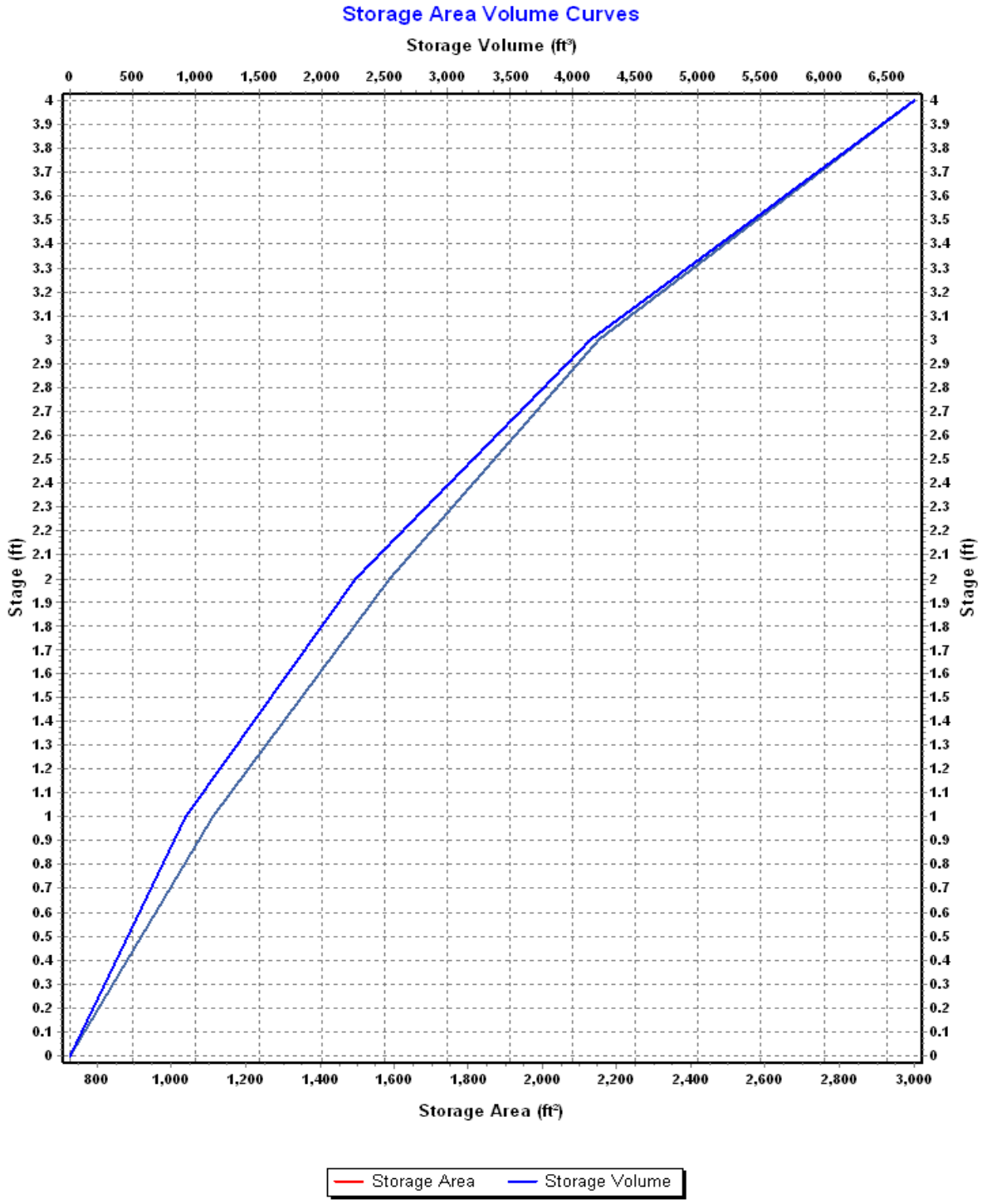
Input Data

Invert Elevation (ft)	222.00
Max (Rim) Elevation (ft)	226.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-222.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	728	0.000
1	1112	920.00
2	1589	2270.50
3	2153	4141.50
4	3001	6718.50


Storage Area Volume Curves
Storage Volume (ft³)
0 500 1,000 1,500 2,000 2,500 3,000 3,500 4,000 4,500 5,000 5,500 6,000 6,500
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4
800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400 2,600 2,800 3,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice2	Trapezoidal	No	225.00	3.00	5.00	0.25	3.33
2	OrificeforOCS	Side Flow	No	225.00	3.00	5.00	0.25	0.61
3	Weir-17	Trapezoidal	No	225.50	3.50	20.00	0.50	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-02	Side	CIRCULAR	No	3.00			223.00	0.61

Output Summary Results

Peak Inflow (cfs)	14.40
Peak Lateral Inflow (cfs)	13.19
Peak Outflow (cfs)	14.34
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	225.75
Max HGL Depth Attained (ft)	3.75
Average HGL Elevation Attained (ft)	224.99
Average HGL Depth Attained (ft)	2.99
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	231.15
Max (Rim) Elevation (ft)	238.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-231.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	4.78
Peak Lateral Inflow (cfs)	4.78
Peak Outflow (cfs)	4.78
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	235.25
Max HGL Depth Attained (ft)	4.1
Average HGL Elevation Attained (ft)	234.50
Average HGL Depth Attained (ft)	3.35
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.11
Peak Lateral Inflow (cfs)	1.11
Peak Outflow (cfs)	1.10
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.76
Max HGL Depth Attained (ft)	4.61
Average HGL Elevation Attained (ft)	245.21
Average HGL Depth Attained (ft)	4.06
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.53
Peak Lateral Inflow (cfs)	0.53
Peak Outflow (cfs)	0.52
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.53
Max HGL Depth Attained (ft)	4.38
Average HGL Elevation Attained (ft)	245.14
Average HGL Depth Attained (ft)	3.99
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.66
Peak Lateral Inflow (cfs)	0.58
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	172.01
Max HGL Depth Attained (ft)	172.01
Average HGL Elevation Attained (ft)	124.04
Average HGL Depth Attained (ft)	124.04
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.51
Peak Lateral Inflow (cfs)	0.42
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	134.96
Max HGL Depth Attained (ft)	134.96
Average HGL Elevation Attained (ft)	97.43
Average HGL Depth Attained (ft)	97.43
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.16
Peak Lateral Inflow (cfs)	1.16
Peak Outflow (cfs)	0.05
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	233.25
Max HGL Depth Attained (ft)	233.25
Average HGL Elevation Attained (ft)	187.32
Average HGL Depth Attained (ft)	187.32
Time of Max HGL Occurrence (days hh:mm)	0 14:32
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-08

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.53
Peak Lateral Inflow (cfs)	0.53
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	130.60
Max HGL Depth Attained (ft)	130.6
Average HGL Elevation Attained (ft)	93.74
Average HGL Depth Attained (ft)	93.74
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-09

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.69
Peak Lateral Inflow (cfs)	0.69
Peak Outflow (cfs)	0.68
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.65
Max HGL Depth Attained (ft)	4.5
Average HGL Elevation Attained (ft)	245.16
Average HGL Depth Attained (ft)	4.01
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-10

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.43
Peak Lateral Inflow (cfs)	1.00
Peak Outflow (cfs)	2.41
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	246.17
Max HGL Depth Attained (ft)	5.02
Average HGL Elevation Attained (ft)	245.25
Average HGL Depth Attained (ft)	4.1
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-15

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	229.00
Max (Rim) Offset (ft)	8.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.97
Peak Lateral Inflow (cfs)	1.97
Peak Outflow (cfs)	1.96
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	227.02
Max HGL Depth Attained (ft)	6.02
Average HGL Elevation Attained (ft)	226.12
Average HGL Depth Attained (ft)	5.12
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-16

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	229.00
Max (Rim) Offset (ft)	8.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.53
Peak Lateral Inflow (cfs)	0.82
Peak Outflow (cfs)	2.52
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	226.74
Max HGL Depth Attained (ft)	5.74
Average HGL Elevation Attained (ft)	226.00
Average HGL Depth Attained (ft)	5
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-17

Input Data

Invert Elevation (ft)	211.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	9.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.11
Peak Lateral Inflow (cfs)	1.16
Peak Outflow (cfs)	2.09
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	217.80
Max HGL Depth Attained (ft)	6.8
Average HGL Elevation Attained (ft)	217.17
Average HGL Depth Attained (ft)	6.17
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-18

Input Data

Invert Elevation (ft)	211.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	9.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	5.46
Peak Lateral Inflow (cfs)	2.08
Peak Outflow (cfs)	5.45
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	218.04
Max HGL Depth Attained (ft)	7.04
Average HGL Elevation Attained (ft)	217.48
Average HGL Depth Attained (ft)	6.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-19

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.94
Peak Lateral Inflow (cfs)	1.94
Peak Outflow (cfs)	1.90
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	208.41
Max HGL Depth Attained (ft)	4.76
Average HGL Elevation Attained (ft)	207.74
Average HGL Depth Attained (ft)	4.09
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-20

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.95
Peak Lateral Inflow (cfs)	0.95
Peak Outflow (cfs)	0.93
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	208.07
Max HGL Depth Attained (ft)	4.42
Average HGL Elevation Attained (ft)	207.67
Average HGL Depth Attained (ft)	4.02
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP01

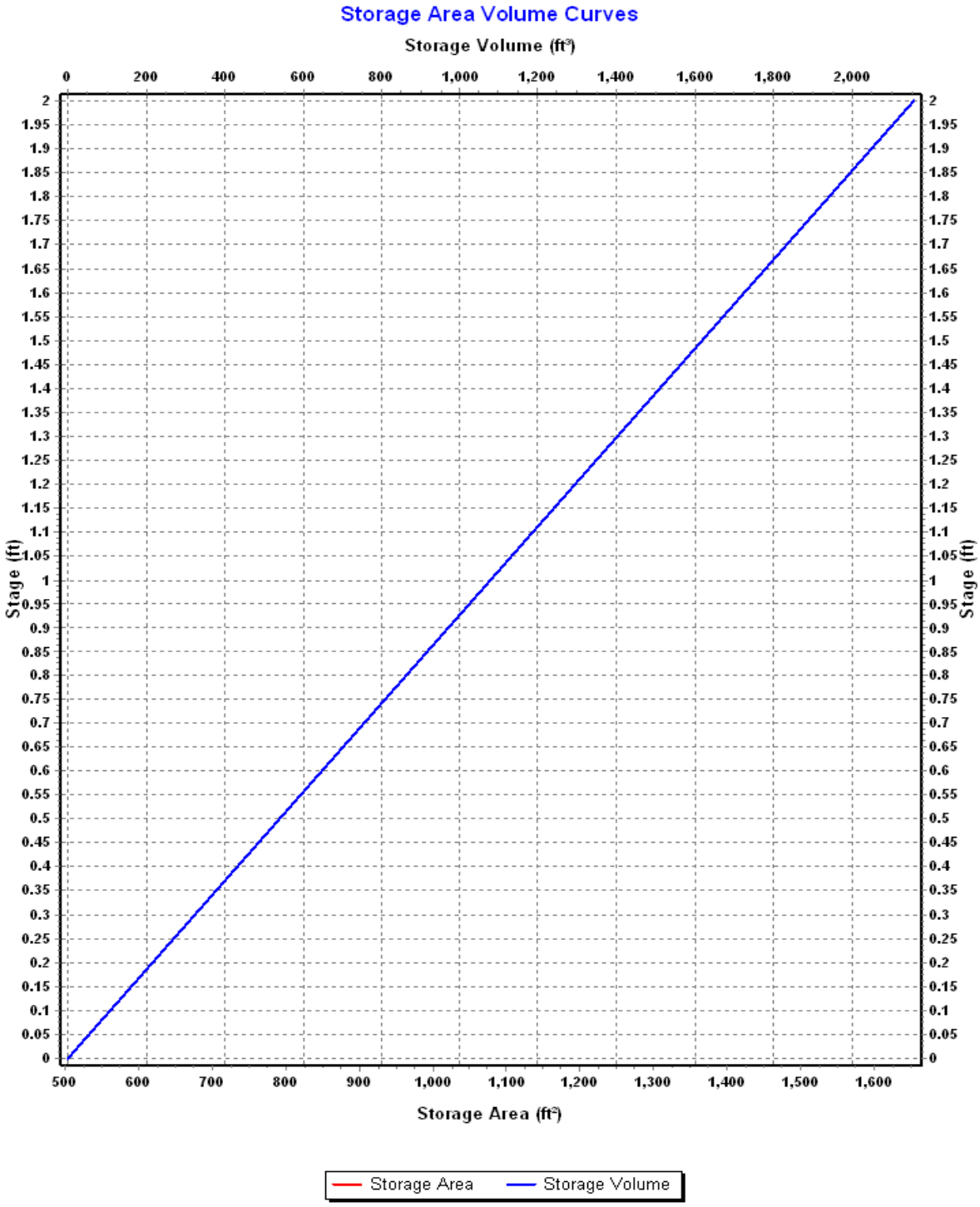
Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	504	0.000
2	1653	2157.00


Storage Area Volume Curves
Storage Volume (ft³)
0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Storage Area (ft²)
500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600
Storage Area
Storage Volume

Storage Node : Forebay_BMP01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	219.50	0.50	40.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	11.36
Peak Lateral Inflow (cfs)	6.24
Peak Outflow (cfs)	11.36
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	219.69
Max HGL Depth Attained (ft)	0.69
Average HGL Elevation Attained (ft)	219.53
Average HGL Depth Attained (ft)	0.53
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP03

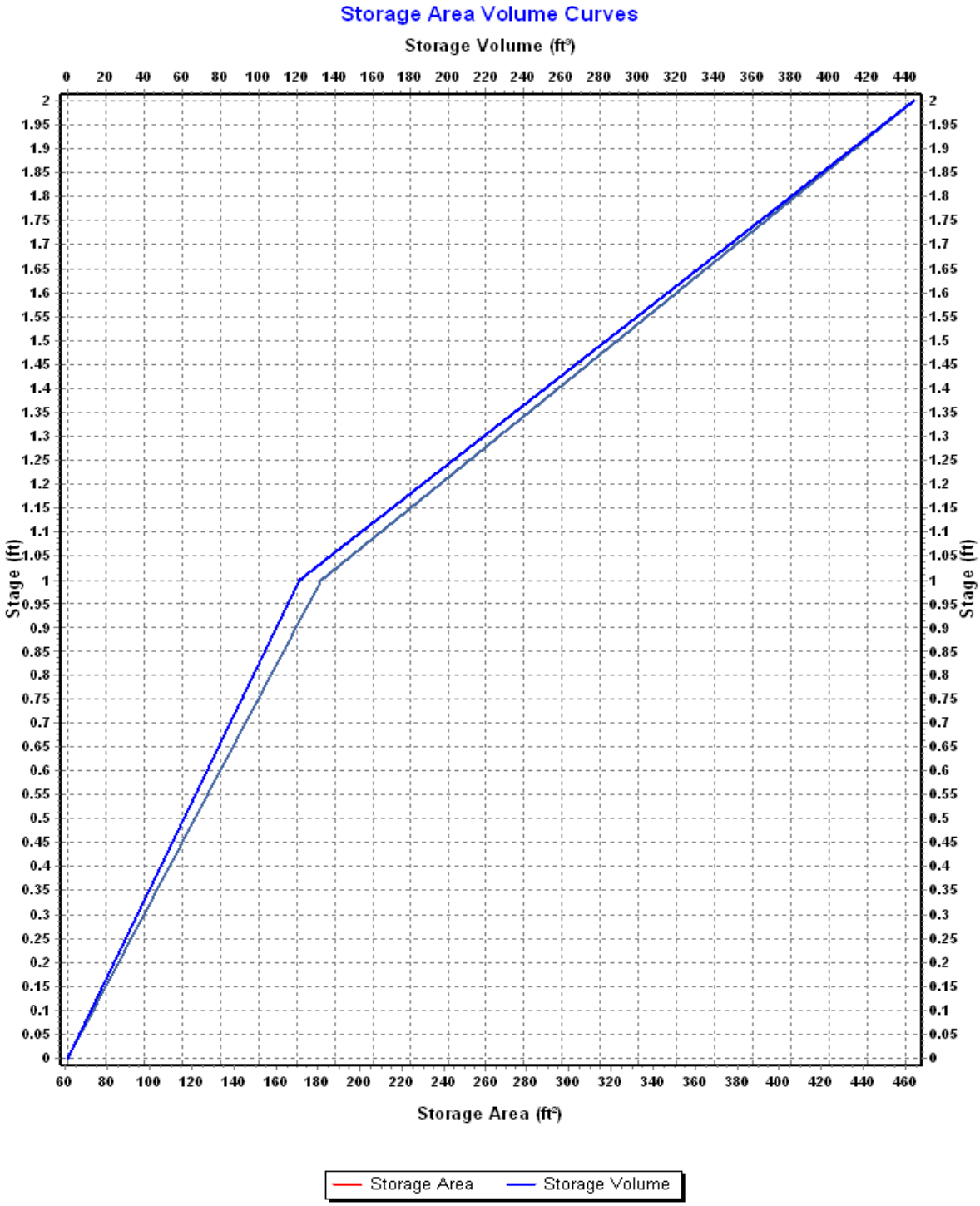
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	61	0.000
1	182	121.50
2	464	444.50


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Forebay_BMP03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	207.00	1.00	50.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	2.83
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	2.83
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.07
Max HGL Depth Attained (ft)	1.07
Average HGL Elevation Attained (ft)	206.99
Average HGL Depth Attained (ft)	0.99
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	210.65
Max (Rim) Elevation (ft)	217.75
Max (Rim) Offset (ft)	7.10
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-210.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	6.34
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	6.34
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	215.35
Max HGL Depth Attained (ft)	4.7
Average HGL Elevation Attained (ft)	214.38
Average HGL Depth Attained (ft)	3.73
Time of Max HGL Occurrence (days hh:mm)	0 12:32
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	209.65
Max (Rim) Elevation (ft)	216.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-209.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	5.97
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	5.96
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	211.13
Max HGL Depth Attained (ft)	1.48
Average HGL Elevation Attained (ft)	210.52
Average HGL Depth Attained (ft)	0.87
Time of Max HGL Occurrence (days hh:mm)	0 12:12
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	198.65
Max (Rim) Elevation (ft)	204.75
Max (Rim) Offset (ft)	6.10
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-198.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	5.00
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	5.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	203.55
Max HGL Depth Attained (ft)	4.9
Average HGL Elevation Attained (ft)	202.08
Average HGL Depth Attained (ft)	3.43
Time of Max HGL Occurrence (days hh:mm)	0 13:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	217.00
Max (Rim) Elevation (ft)	225.50
Max (Rim) Offset (ft)	8.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	14.34
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	14.34
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	223.15
Max HGL Depth Attained (ft)	6.15
Average HGL Elevation Attained (ft)	221.40
Average HGL Depth Attained (ft)	4.4
Time of Max HGL Occurrence (days hh:mm)	0 12:36
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber01

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	215.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-19	Trapezoidal	No	214.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	214.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	214.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber02

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-20	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	220.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber03

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-21	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	217.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber04

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-22	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	220.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber05

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	223.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-23	Trapezoidal	No	222.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	222.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	222.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber06

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-24	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	224.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber07

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-25	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	233.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber08

Input Data

Invert Elevation (ft)	233.00
Max (Rim) Elevation (ft)	235.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-233.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-27	Trapezoidal	No	234.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	234.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	234.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber09

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-26	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	229.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber10

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-44	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	217.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber11

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-43	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	221.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber12

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-42	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	221.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber13

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-47	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	229.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber14

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-46	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	233.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber15

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-41	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	224.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber16

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-40	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	224.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber17

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-39	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	229.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber18

Input Data

Invert Elevation (ft)	242.00
Max (Rim) Elevation (ft)	244.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-242.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-45	Trapezoidal	No	243.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	243.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	243.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber19

Input Data

Invert Elevation (ft)	252.00
Max (Rim) Elevation (ft)	254.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-252.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-31	Trapezoidal	No	253.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	253.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	253.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber20

Input Data

Invert Elevation (ft)	269.00
Max (Rim) Elevation (ft)	271.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-269.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-32	Trapezoidal	No	270.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	270.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	270.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber21

Input Data

Invert Elevation (ft)	270.00
Max (Rim) Elevation (ft)	272.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-270.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-33	Trapezoidal	No	271.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	271.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	271.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber22

Input Data

Invert Elevation (ft)	264.00
Max (Rim) Elevation (ft)	266.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-264.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-34	Trapezoidal	No	265.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	265.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	265.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber23

Input Data

Invert Elevation (ft)	250.00
Max (Rim) Elevation (ft)	252.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-250.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-35	Trapezoidal	No	251.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	251.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	251.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber24

Input Data

Invert Elevation (ft)	243.00
Max (Rim) Elevation (ft)	245.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-243.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-36	Trapezoidal	No	244.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	244.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	244.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber25

Input Data

Invert Elevation (ft)	238.00
Max (Rim) Elevation (ft)	240.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-238.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-37	Trapezoidal	No	239.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	239.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	239.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber26

Input Data

Invert Elevation (ft)	230.00
Max (Rim) Elevation (ft)	232.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-230.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-38	Trapezoidal	No	231.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.48
Peak Lateral Inflow (cfs)	0.48
Peak Outflow (cfs)	0.48
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	231.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	231.69
Average HGL Depth Attained (ft)	1.69
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Wetland

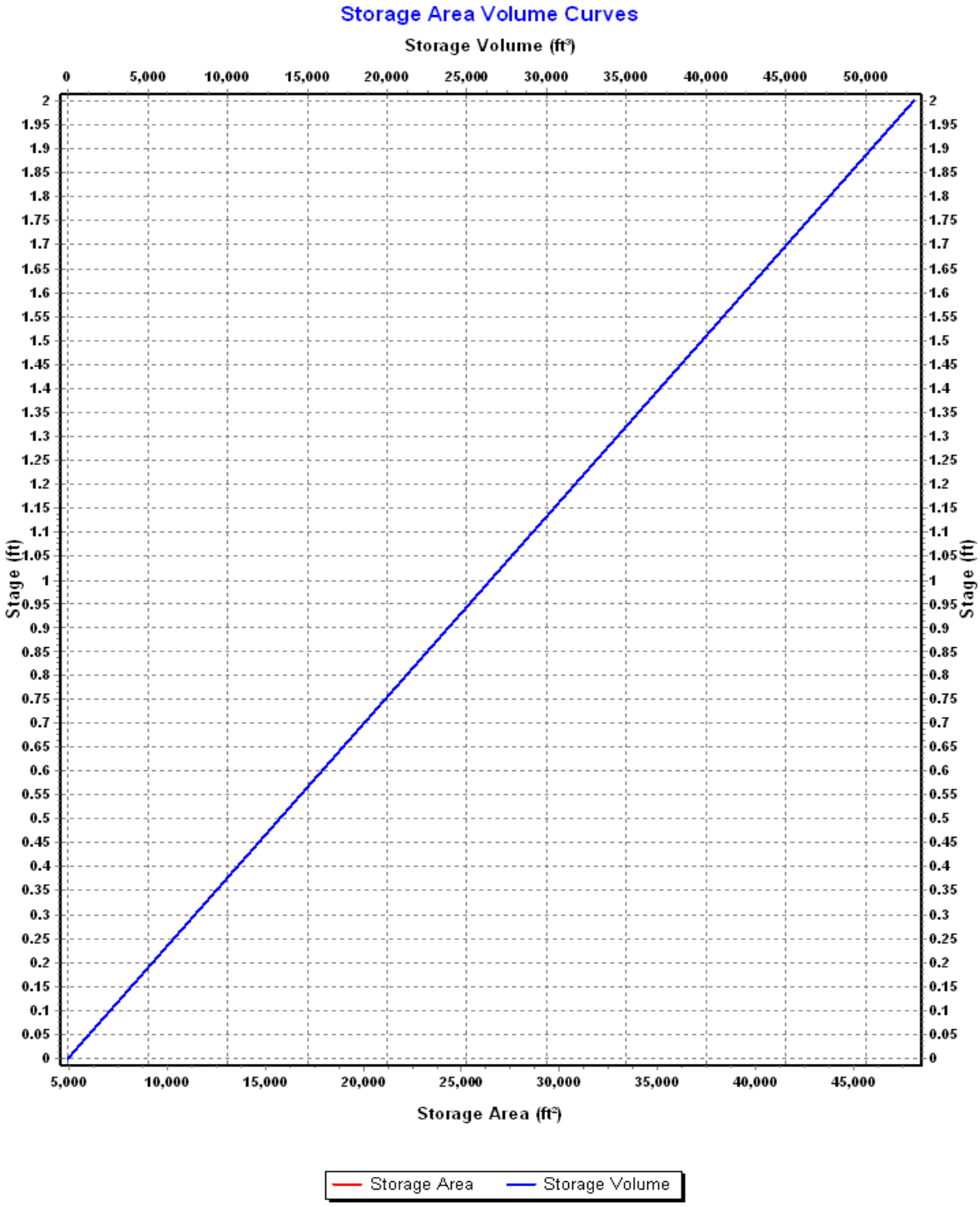
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Wetland (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	21.05
Peak Lateral Inflow (cfs)	20.77
Peak Outflow (cfs)	20.92
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.84
Max HGL Depth Attained (ft)	1.84
Average HGL Elevation Attained (ft)	207.47
Average HGL Depth Attained (ft)	1.47
Time of Max HGL Occurrence (days hh:mm)	0 12:46
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 1 - Proposed Conditions (Proposed Regulations) (2).SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	50
Nodes	75
Junctions	6
Outfalls	17
Flow Diversions	0
Inlets	0
Storage Nodes	52
Links	70
Channels	0
Pipes	26
Pumps	0
Orifices	4
Weirs	40
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Pavement-01	0.13	484.00	98.00	9.70	9.46	1.26	1.37	0 00:01:36
2	Pavement-02	0.07	484.00	98.00	9.70	9.46	0.61	0.65	0 00:01:20
3	Pavement-03	0.12	484.00	98.00	9.70	9.46	1.16	1.24	0 00:01:27
4	Pavement-04	0.08	484.00	98.00	9.70	9.46	0.76	0.85	0 00:01:22
5	Pavement-05	0.14	484.00	98.00	9.70	9.46	1.35	1.44	0 00:01:16
6	Pavement-06	0.06	484.00	98.00	9.70	9.46	0.61	0.65	0 00:01:04
7	Pavement-07	0.07	484.00	98.00	9.70	9.46	0.69	0.72	0 00:00:58
8	Pavement-08	0.05	484.00	98.00	9.70	9.46	0.50	0.52	0 00:00:58
9	Pavement-09	0.18	484.00	98.00	9.70	9.46	1.74	1.84	0 00:04:04
10	Pavement-10	0.29	484.00	98.00	9.70	9.46	2.77	2.78	0 00:05:53
11	Pavement-13	0.14	484.00	98.00	9.70	9.46	1.31	1.44	0 00:01:25
12	Pavement-15	0.16	484.00	92.42	9.70	8.78	1.40	1.06	0 00:17:09
13	Pavement-16	0.25	484.00	90.40	9.70	8.53	2.11	2.47	0 00:02:12
14	Pavement-17	0.15	484.00	98.00	9.70	9.46	1.43	1.56	0 00:02:49
15	Pavement-18	0.11	484.00	98.00	9.70	9.46	1.06	1.17	0 00:02:22
16	Pavement-19	0.08	484.00	98.00	9.70	9.46	0.77	0.85	0 00:01:06
17	Roof-01	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
18	Roof-02	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
19	Roof-03	0.05	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
20	Roof-04	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
21	Roof-05	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
22	Roof-06	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
23	Roof-07	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
24	Roof-08	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
25	Roof-09	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
26	Roof-10	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
27	Roof-11	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
28	Roof-12	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
29	Roof-13	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
30	Roof-14	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
31	Roof-15	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
32	Roof-16	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
33	Roof-17	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
34	Roof-18	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
35	Roof-19	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
36	Roof-20	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
37	Roof-21	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
38	Roof-22	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
39	Roof-23	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
40	Roof-24	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
41	Roof-25	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
42	Roof-26	0.06	484.00	98.00	9.70	9.46	0.52	0.59	0 00:00:06
43	Sub-01	1.64	484.00	73.47	9.70	6.40	10.52	6.49	0 00:31:55
44	Sub-02	2.48	484.00	73.09	9.70	6.35	15.76	8.42	0 00:42:04
45	Sub-03	9.20	484.00	73.58	9.70	6.42	59.06	30.04	0 00:45:55
46	Sub-04	4.36	484.00	73.02	9.70	6.35	27.68	12.54	0 00:56:46
47	Sub-05	5.21	484.00	73.69	9.70	6.43	33.51	15.05	0 00:57:25
48	Sub-06	4.48	484.00	73.88	9.70	6.46	28.91	12.90	0 00:58:04
49	Sub-07	5.44	484.00	73.62	9.70	6.42	34.92	17.52	0 00:47:13
50	Sub-08	3.74	484.00	73.61	9.70	6.42	24.03	10.75	0 00:57:55

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	Junction	241.00	247.00	0.00	0.00	0.00	2.00	245.39	0.00	1.61	0 00:00	0.00	0.00
2	DMH-02	Junction	231.15	238.00	0.00	0.00	0.00	1.99	235.70	0.00	2.30	0 00:00	0.00	0.00
3	DMH-03	Junction	229.00	236.00	0.00	0.00	0.00	6.82	233.65	0.00	2.35	0 00:00	0.00	0.00
4	DMH-04	Junction	228.50	237.00	0.00	0.00	0.00	5.74	233.10	0.00	3.90	0 00:00	0.00	0.00
5	DMH-05	Junction	228.00	242.00	0.00	0.00	0.00	8.18	229.87	0.00	12.13	0 00:00	0.00	0.00
6	DMH-06	Junction	241.00	247.00	0.00	0.00	0.00	3.81	245.64	0.00	1.36	0 00:00	0.00	0.00
7	Out-01	Outfall	232.00					12.47	232.00					
8	Out-29	Outfall	210.00					7.43	210.00					
9	Out-30	Outfall	212.00					7.38	212.69					
10	Out-31	Outfall	206.00					28.15	206.00					
11	Out-32	Outfall	212.00					1.79	212.00					
12	Out-33	Outfall	202.00					5.72	202.89					
13	Out-34	Outfall	204.00					8.55	204.00					
14	Out-35	Outfall	204.00					30.03	204.00					
15	Out-37	Outfall	216.00					0.59	216.00					
16	Out-38	Outfall	220.00					0.59	220.00					
17	Out-39	Outfall	220.00					0.59	220.00					
18	Out-40	Outfall	223.00					0.59	223.00					
19	Out-41	Outfall	223.00					0.59	223.00					
20	Out-42	Outfall	228.00					0.59	228.00					
21	Out-43	Outfall	230.00					0.59	230.00					
22	Out-44	Outfall	238.00					0.59	238.00					
23	Out-46	Outfall	219.00					15.70	219.00					
24	BMP-01	Storage Node	215.00	218.00	0.00		0.00	14.88	217.98				0.00	0.00
25	BMP-02	Storage Node	213.00	217.00	0.00		0.00	8.59	216.99				0.00	0.00
26	BMP-03	Storage Node	203.00	206.00	0.00		0.00	15.60	205.19				0.00	0.00
27	BMP-04	Storage Node	222.00	226.00	0.00		0.00	19.26	225.83				0.00	0.00
28	CB-02	Storage Node	231.15	238.00	0.00		1000.00	6.42	235.42				0.00	0.00
29	CB-03	Storage Node	241.15	248.00	0.00		1000.00	1.37	245.85				0.00	0.00
30	CB-04	Storage Node	241.15	248.00	0.00		1000.00	0.65	245.58				0.00	0.00
31	CB-05	Storage Node	0.00	236.00	0.00		1000.00	0.97	233.22				0.00	0.00
32	CB-06	Storage Node	0.00	236.00	0.00		1000.00	0.79	208.53				0.00	0.00
33	CB-07	Storage Node	0.00	236.00	0.00		1000.00	1.43	233.38				0.00	0.00
34	CB-08	Storage Node	0.00	236.00	0.00		1000.00	0.65	162.17				0.00	0.00
35	CB-09	Storage Node	241.15	248.00	0.00		1000.00	0.85	245.74				0.00	0.00
36	CB-10	Storage Node	241.15	248.00	0.00		1000.00	3.00	246.40				0.00	0.00
37	CB-15	Storage Node	221.00	229.00	0.00		1000.00	2.46	227.20				0.00	0.00
38	CB-16	Storage Node	221.00	229.00	0.00		1000.00	3.17	226.84				0.00	0.00
39	CB-17	Storage Node	211.00	220.00	0.00		1000.00	2.61	217.89				0.00	0.00
40	CB-18	Storage Node	211.00	220.00	0.00		1000.00	6.02	218.10				0.00	0.00
41	CB-19	Storage Node	203.65	210.50	0.00		1000.00	2.39	208.58				0.00	0.00
42	CB-20	Storage Node	203.65	210.50	0.00		1000.00	1.17	208.13				0.00	0.00
43	Forebay_BMP01	Storage Node	219.00	220.00	0.00		0.00	14.88	219.73				0.00	0.00
44	Forebay_BMP03	Storage Node	206.00	208.00	0.00		0.00	3.48	207.08				0.00	0.00
45	OCS-01	Storage Node	210.65	217.75	0.00		0.00	7.38	215.42				0.00	0.00
46	OCS-02	Storage Node	209.65	216.50	0.00		0.00	6.24	211.16				0.00	0.00
47	OCS-03	Storage Node	198.65	204.75	0.00		0.00	5.72	203.65				0.00	0.00
48	OCS-05	Storage Node	217.00	225.50	0.00		0.00	19.20	223.49				0.00	0.00
49	Roof_Chamber01	Storage Node	213.00	215.00	0.00		0.00	0.59	214.77				0.00	0.00
50	Roof_Chamber02	Storage Node	219.00	221.00	0.00		0.00	0.59	220.77				0.00	0.00
51	Roof_Chamber03	Storage Node	216.00	218.00	0.00		0.00	0.59	217.77				0.00	0.00
52	Roof_Chamber04	Storage Node	219.00	221.00	0.00		0.00	0.59	220.77				0.00	0.00
53	Roof_Chamber05	Storage Node	221.00	223.00	0.00		0.00	0.59	222.77				0.00	0.00
54	Roof_Chamber06	Storage Node	223.00	225.00	0.00		0.00	0.59	224.77				0.00	0.00
55	Roof_Chamber07	Storage Node	232.00	234.00	0.00		0.00	0.59	233.77				0.00	0.00
56	Roof_Chamber08	Storage Node	233.00	235.00	0.00		0.00	0.59	234.77				0.00	0.00
57	Roof_Chamber09	Storage Node	228.00	230.00	0.00		0.00	0.59	229.77				0.00	0.00
58	Roof_Chamber10	Storage Node	216.00	218.00	0.00		0.00	0.59	217.77				0.00	0.00
59	Roof_Chamber11	Storage Node	220.00	222.00	0.00		0.00	0.59	221.77				0.00	0.00
60	Roof_Chamber12	Storage Node	220.00	222.00	0.00		0.00	0.59	221.77				0.00	0.00
61	Roof_Chamber13	Storage Node	228.00	230.00	0.00		0.00	0.59	229.77				0.00	0.00
62	Roof_Chamber14	Storage Node	232.00	234.00	0.00		0.00	0.59	233.77				0.00	0.00
63	Roof_Chamber15	Storage Node	223.00	225.00	0.00		0.00	0.59	224.77				0.00	0.00
64	Roof_Chamber16	Storage Node	223.00	225.00	0.00		0.00	0.59	224.77				0.00	0.00
65	Roof_Chamber17	Storage Node	228.00	230.00	0.00		0.00	0.59	229.77				0.00	0.00
66	Roof_Chamber18	Storage Node	242.00	244.00	0.00		0.00	0.59	243.77				0.00	0.00
67	Roof_Chamber19	Storage Node	252.00	254.00	0.00		0.00	0.59	253.77				0.00	0.00
68	Roof_Chamber20	Storage Node	269.00	271.00	0.00		0.00	0.59	270.77				0.00	0.00
69	Roof_Chamber21	Storage Node	270.00	272.00	0.00		0.00	0.59	271.77				0.00	0.00
70	Roof_Chamber22	Storage Node	264.00	266.00	0.00		0.00	0.59	265.77				0.00	0.00
71	Roof_Chamber23	Storage Node	250.00	252.00	0.00		0.00	0.59	251.77				0.00	0.00
72	Roof_Chamber24	Storage Node	243.00	245.00	0.00		0.00	0.59	244.77				0.00	0.00
73	Roof_Chamber25	Storage Node	238.00	240.00	0.00		0.00	0.59	239.77				0.00	0.00
74	Roof_Chamber26	Storage Node	230.00	232.00	0.00		0.00	0.59	231.77				0.00	0.00
75	Wetland	Storage Node	206.00	208.00	0.00		0.00	28.24	207.85				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-109	Pipe	CB-15	CB-16	21.15	226.15	226.00	0.7100	12.000	0.0200	2.45	1.95	1.26	3.24	0.92	0.92	0.00	> CAPACITY
2	Link-110	Pipe	CB-16	BMP-04	34.00	226.00	225.75	0.7400	18.000	0.0200	3.15	5.85	0.54	3.51	0.75	0.51	0.00	Calculated
3	Link-114	Pipe	OCS-05	Out-46	102.82	222.00	220.00	1.9500	24.000	0.0200	15.70	20.51	0.77	6.68	1.40	0.70	0.00	Calculated
4	Link-115	Pipe	OCS-05	CB-18	237.93	221.00	217.15	1.6200	12.000	0.0200	3.48	2.95	1.18	4.68	0.97	0.97	0.00	> CAPACITY
5	Link-28	Pipe	OCS-01	Out-30	42.00	214.65	212.00	6.3100	18.000	0.0200	7.38	17.15	0.43	8.68	0.73	0.49	0.00	Calculated
6	Link-29	Pipe	OCS-03	Out-33	40.00	202.65	202.00	1.6300	18.000	0.0200	5.72	8.70	0.66	4.90	0.94	0.63	0.00	Calculated
7	Link-30	Pipe	OCS-02	BMP-03	215.00	210.15	207.00	1.4700	18.000	0.0200	6.23	8.26	0.75	5.05	0.97	0.66	0.00	Calculated
8	Link-31	Pipe	CB-04	DMH-01	17.51	245.15	245.00	0.8600	12.000	0.0200	0.65	2.14	0.30	2.13	0.41	0.41	0.00	Calculated
9	Link-32	Pipe	CB-03	DMH-01	24.09	245.15	245.00	0.6200	12.000	0.0200	1.36	1.83	0.74	2.79	0.59	0.59	0.00	Calculated
10	Link-33	Pipe	DMH-01	DMH-02	139.54	245.00	235.15	7.0600	12.000	0.0200	1.99	6.15	0.32	5.48	0.47	0.47	0.00	Calculated
11	Link-34	Pipe	DMH-02	DMH-03	76.23	235.15	233.15	2.6200	12.000	0.0200	1.97	3.75	0.53	4.62	0.53	0.53	0.00	Calculated
12	Link-35	Pipe	CB-05	DMH-03	24.01	233.15	233.00	0.6200	12.000	0.0200	0.61	1.83	0.33	1.59	0.49	0.49	0.00	Calculated
13	Link-36	Pipe	CB-06	DMH-03	15.56	233.15	233.00	0.9600	12.000	0.0200	0.65	2.27	0.29	1.68	0.49	0.49	0.00	Calculated
14	Link-37	Pipe	CB-02	DMH-03	38.28	234.50	233.15	3.5300	18.000	0.0200	6.42	12.82	0.50	6.34	0.84	0.56	0.00	Calculated
15	Link-38	Pipe	DMH-03	DMH-04	32.64	232.50	232.00	1.5300	18.000	0.0200	5.56	8.45	0.66	3.96	1.11	0.75	0.00	Calculated
16	Link-39	Pipe	CB-08	DMH-04	18.32	233.15	233.00	0.8200	12.000	0.0200	0.00	2.10	0.00	0.00	0.04	0.05	0.00	Calculated
17	Link-40	Pipe	CB-07	DMH-04	10.99	233.15	233.00	1.3600	12.000	0.0200	0.25	2.71	0.09	1.97	0.22	0.22	0.00	Calculated
18	Link-41	Pipe	DMH-04	DMH-05	130.94	232.00	230.00	1.5300	18.000	0.0200	5.69	8.44	0.67	4.55	0.98	0.67	0.00	Calculated
19	Link-42	Pipe	CB-09	DMH-06	23.74	245.15	245.00	0.6300	12.000	0.0200	0.84	1.84	0.45	2.86	0.61	0.61	0.00	Calculated
20	Link-43	Pipe	CB-10	DMH-06	19.02	245.15	245.00	0.7900	12.000	0.0200	2.97	2.06	1.45	4.10	0.87	0.87	0.00	> CAPACITY
21	Link-44	Pipe	DMH-06	DMH-05	100.67	245.00	239.15	5.8100	12.000	0.0200	3.78	5.58	0.68	7.36	0.62	0.62	0.00	Calculated
22	Link-45	Pipe	DMH-05	Forebay_BMP01	245.00	229.00	220.00	3.6700	18.000	0.0200	8.12	13.09	0.62	7.70	0.84	0.58	0.00	Calculated
23	Link-62	Pipe	CB-18	BMP-02	33.00	217.15	216.75	1.2100	24.000	0.0200	6.01	16.19	0.37	4.41	0.90	0.45	0.00	Calculated
24	Link-63	Pipe	CB-17	BMP-02	52.00	217.15	216.75	0.7700	18.000	0.0200	2.58	5.99	0.43	3.36	0.67	0.45	0.00	Calculated
25	Link-77	Pipe	CB-19	Forebay_BMP03	67.00	207.65	207.00	0.9700	12.000	0.0200	2.33	2.28	1.02	3.51	0.78	0.79	0.00	> CAPACITY
26	Link-78	Pipe	CB-20	Forebay_BMP03	47.00	207.65	207.00	1.3800	12.000	0.0200	1.15	2.72	0.42	3.22	0.46	0.47	0.00	Calculated
27	Orifice-02	Orifice	BMP-04	OCS-05		222.00	217.00		3.000		0.39							
28	Orifice-03	Orifice	BMP-01	OCS-01		215.00	210.65		3.000		0.31							
29	Orifice-04	Orifice	BMP-02	OCS-02		213.00	209.65		3.000		0.41							
30	Orifice-05	Orifice	BMP-03	OCS-03		203.00	198.65		3.000		0.28							
31	Orifice2	Weir	BMP-04	OCS-05		222.00	217.00				5.15							
32	Orifice3	Weir	BMP-01	OCS-01		215.00	210.65				0.51							
33	Orifice4	Weir	BMP-01	OCS-01		215.00	210.65				3.63							
34	OrificeforOCS	Weir	BMP-04	OCS-05		222.00	217.00				0.72							
35	Weir-01	Weir	Forebay_BMP01	BMP-01		219.00	215.00				14.88							
36	Weir-02	Weir	BMP-01	Out-29		215.00	210.00				7.43							
37	Weir-03	Weir	BMP-01	OCS-01		215.00	210.65				2.93							
38	Weir-04	Weir	Wetland	Out-31		206.00	206.00				28.15							
39	Weir-06	Weir	BMP-02	Out-32		213.00	212.00				1.79							
40	Weir-07	Weir	BMP-02	OCS-02		213.00	209.65				5.83							
41	Weir-09	Weir	BMP-03	OCS-03		203.00	198.65				5.45							
42	Weir-10	Weir	BMP-03	Out-34		203.00	204.00				8.55							
43	Weir-16	Weir	Forebay_BMP03	BMP-03		206.00	203.00				3.48							
44	Weir-17	Weir	BMP-04	OCS-05		222.00	217.00				12.96							
45	Weir-19	Weir	Roof_Chamber01	Wetland		213.00	206.00				0.59							
46	Weir-20	Weir	Roof_Chamber02	Wetland		219.00	206.00				0.59							
47	Weir-21	Weir	Roof_Chamber03	Wetland		216.00	206.00				0.59							
48	Weir-22	Weir	Roof_Chamber04	CB-17		219.00	211.00				0.59							
49	Weir-23	Weir	Roof_Chamber05	CB-17		221.00	211.00				0.59							
50	Weir-24	Weir	Roof_Chamber06	Wetland		223.00	206.00				0.59							
51	Weir-25	Weir	Roof_Chamber07	Wetland		232.00	206.00				0.59							
52	Weir-26	Weir	Roof_Chamber09	BMP-04		228.00	222.00				0.59							
53	Weir-27	Weir	Roof_Chamber08	BMP-04		233.00	222.00				0.59							
54	Weir-31	Weir	Roof_Chamber19	BMP-04		252.00	222.00				0.59							
55	Weir-32	Weir	Roof_Chamber20	CB-10		269.00	241.15				0.59							
56	Weir-33	Weir	Roof_Chamber21	CB-10		270.00	241.15				0.59							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
57	Weir-34	Weir	Roof_Chamber22	CB-10		264.00	241.15				0.59							
58	Weir-35	Weir	Roof_Chamber23	Forebay_BMP01		250.00	219.00				0.59							
59	Weir-36	Weir	Roof_Chamber24	Forebay_BMP01		243.00	219.00				0.59							
60	Weir-37	Weir	Roof_Chamber25	Out-44		238.00	238.00				0.59							
61	Weir-38	Weir	Roof_Chamber26	Out-43		230.00	230.00				0.59							
62	Weir-39	Weir	Roof_Chamber17	Out-42		228.00	228.00				0.59							
63	Weir-40	Weir	Roof_Chamber16	Out-41		223.00	223.00				0.59							
64	Weir-41	Weir	Roof_Chamber15	Out-40		223.00	223.00				0.59							
65	Weir-42	Weir	Roof_Chamber12	Out-39		220.00	220.00				0.59							
66	Weir-43	Weir	Roof_Chamber11	Out-38		220.00	220.00				0.59							
67	Weir-44	Weir	Roof_Chamber10	Out-37		216.00	216.00				0.59							
68	Weir-45	Weir	Roof_Chamber18	BMP-04		242.00	222.00				0.59							
69	Weir-46	Weir	Roof_Chamber14	BMP-04		232.00	222.00				0.59							
70	Weir-47	Weir	Roof_Chamber13	BMP-04		228.00	222.00				0.59							

Subbasin Hydrology

Subbasin : Pavement-01

Input Data

Area (ac) 0.13
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.13	C	98.00
Composite Area & Weighted CN	0.13		98.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	40	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	0.54	0.00	0.00

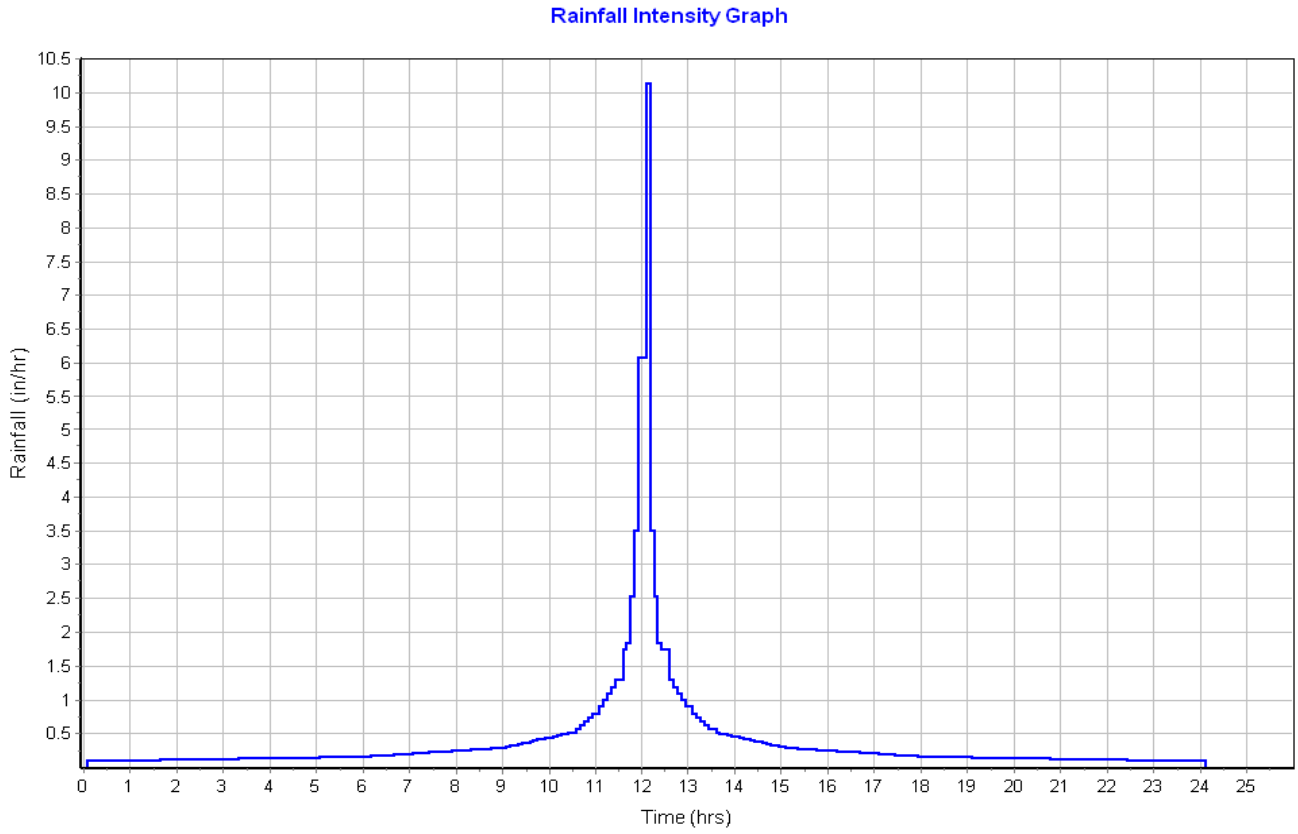
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

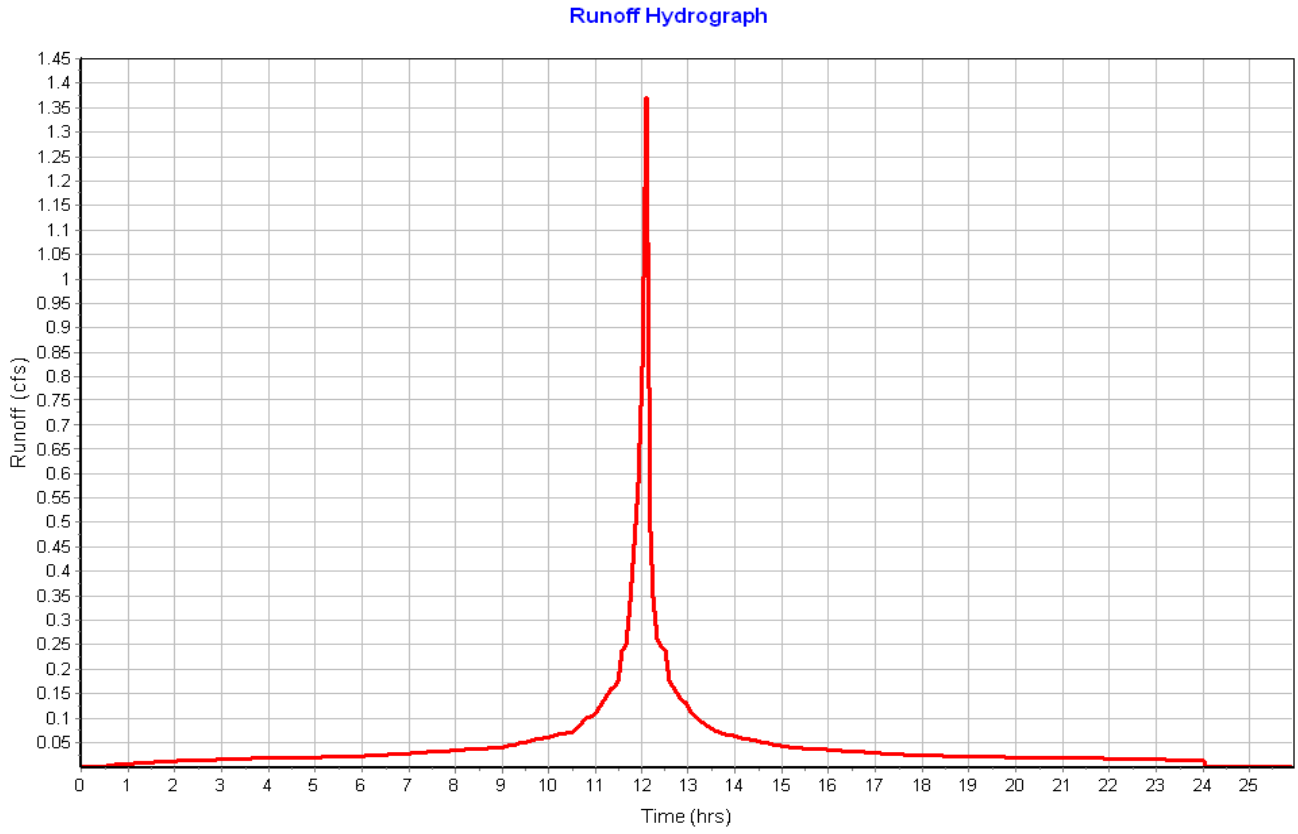
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	1.37
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Pavement-01





Subbasin : Pavement-02

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.17	0.00	0.00
Computed Flow Time (min) :	0.43	0.00	0.00

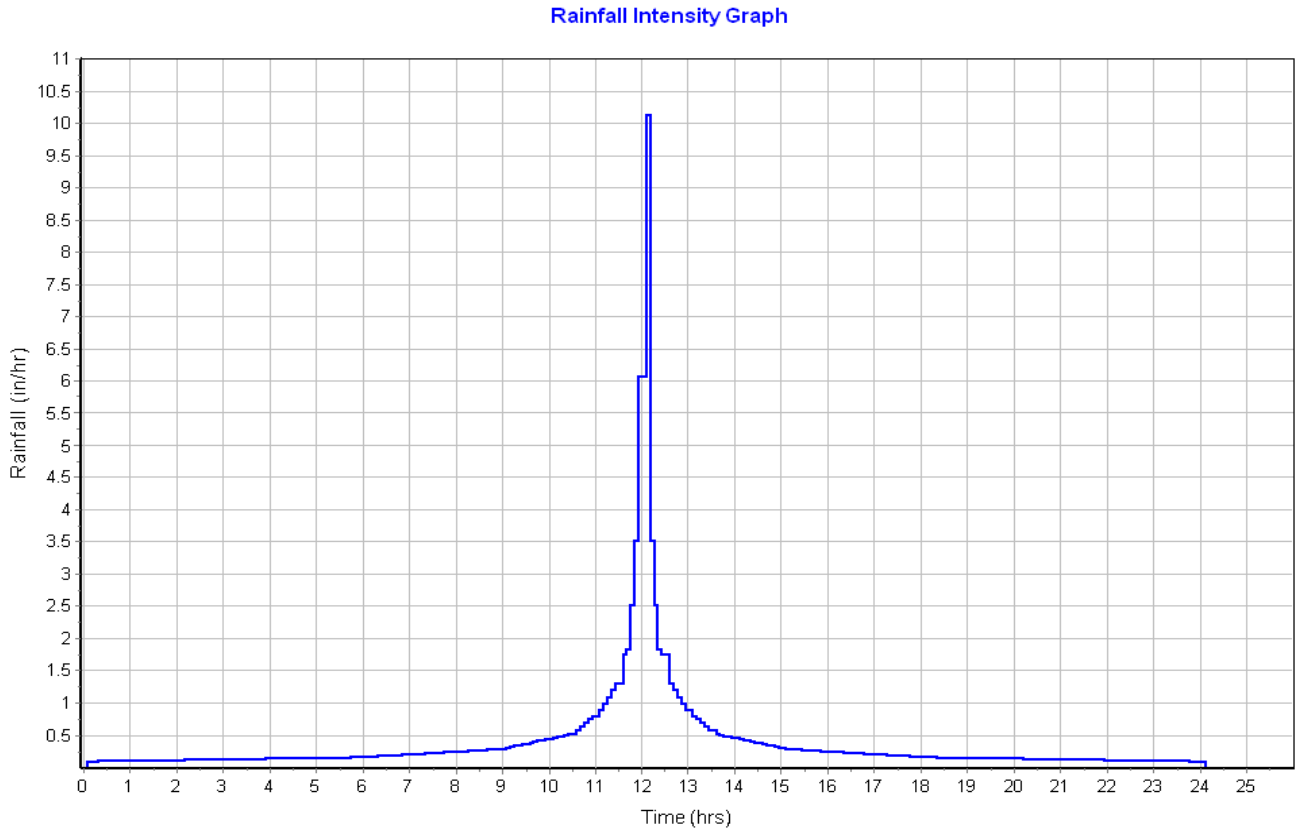
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.82	0.00	0.00
Slope (%) :	5.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.69	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

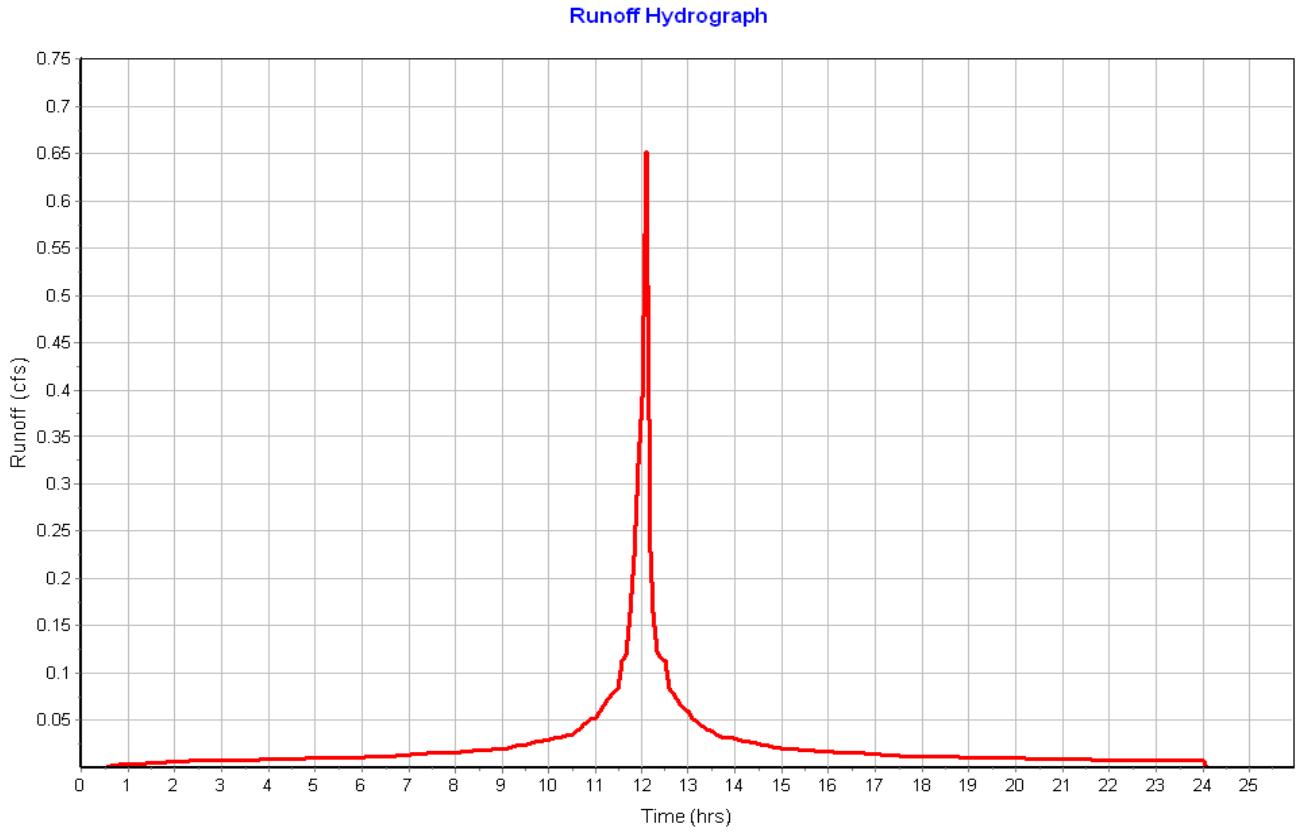
Total TOC (min) 1.34

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.65
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:20

Subbasin : Pavement-02





Subbasin : Pavement-03

Input Data

Area (ac)	0.12
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
Composite Area & Weighted CN	0.12		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	41.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.25	0.00	0.00
Computed Flow Time (min) :	0.56	0.00	0.00

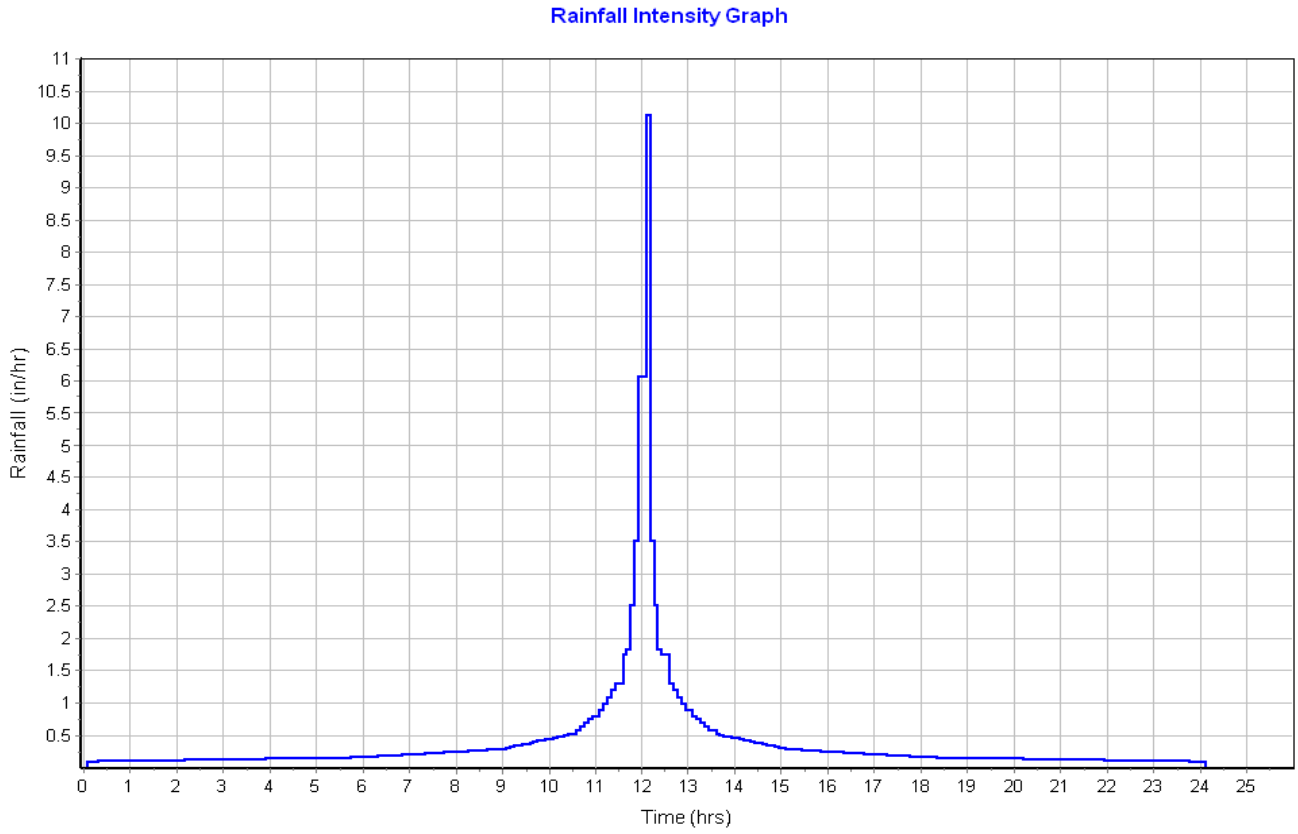
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	266.17	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

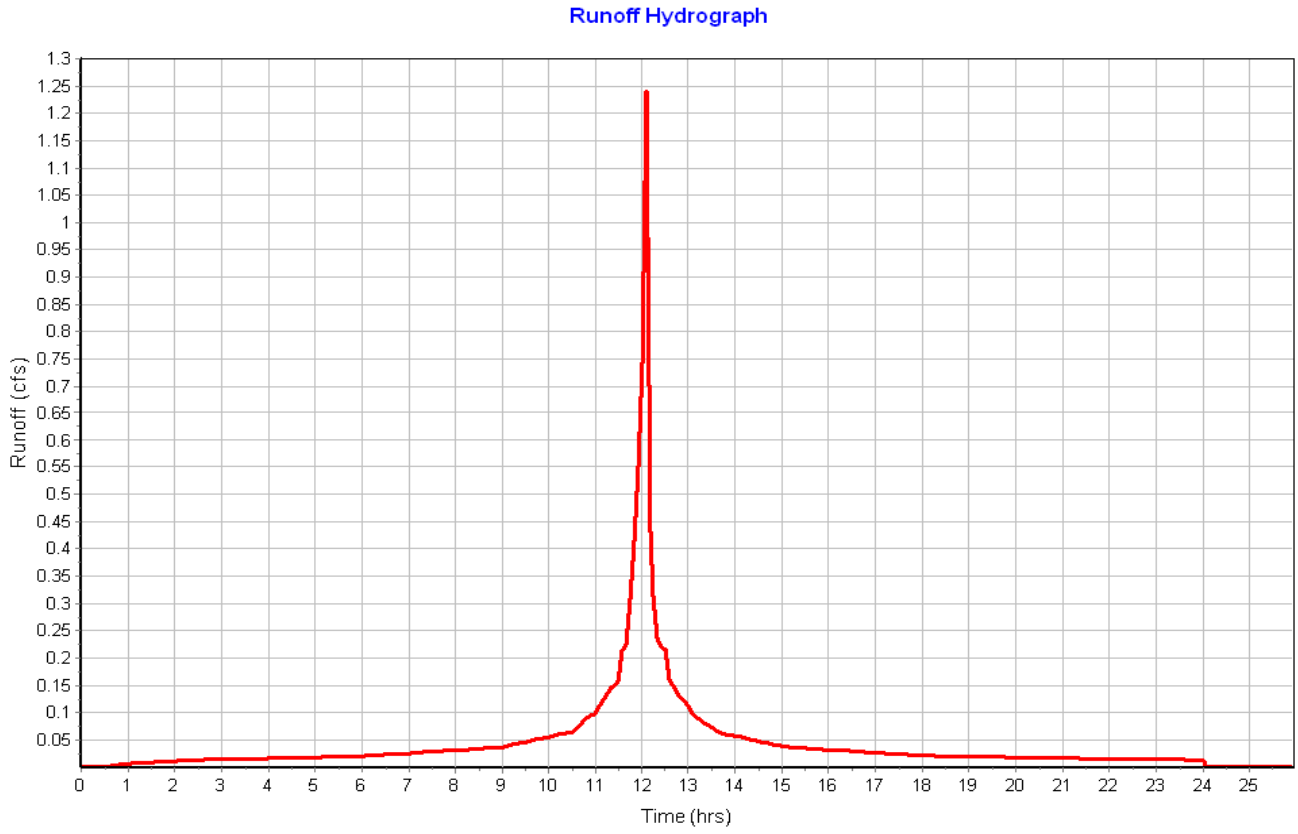
Total TOC (min) 1.45

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	1.24
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:27

Subbasin : Pavement-03





Subbasin : Pavement-04

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	36.58	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.22	0.00	0.00
Computed Flow Time (min) :	0.50	0.00	0.00

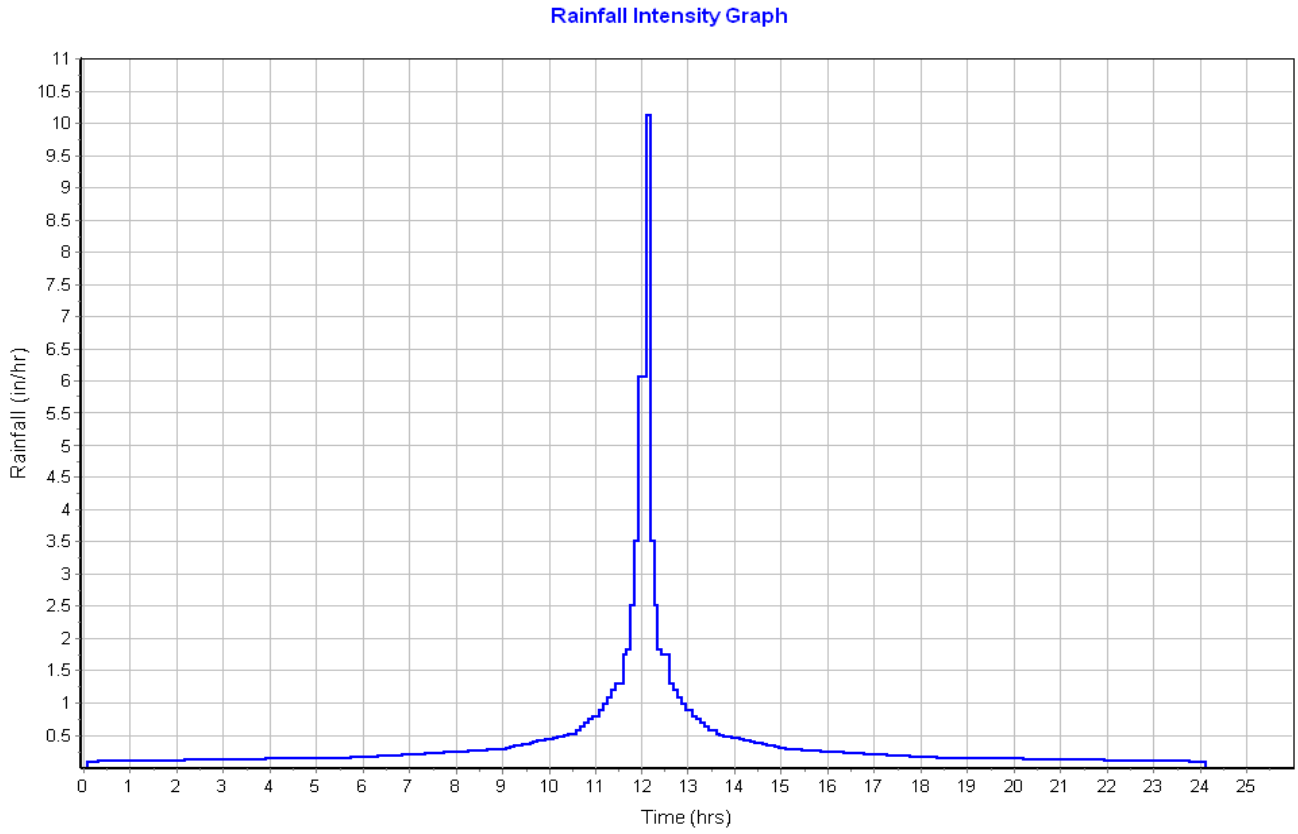
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.91	0.00	0.00
Slope (%) :	6	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.98	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

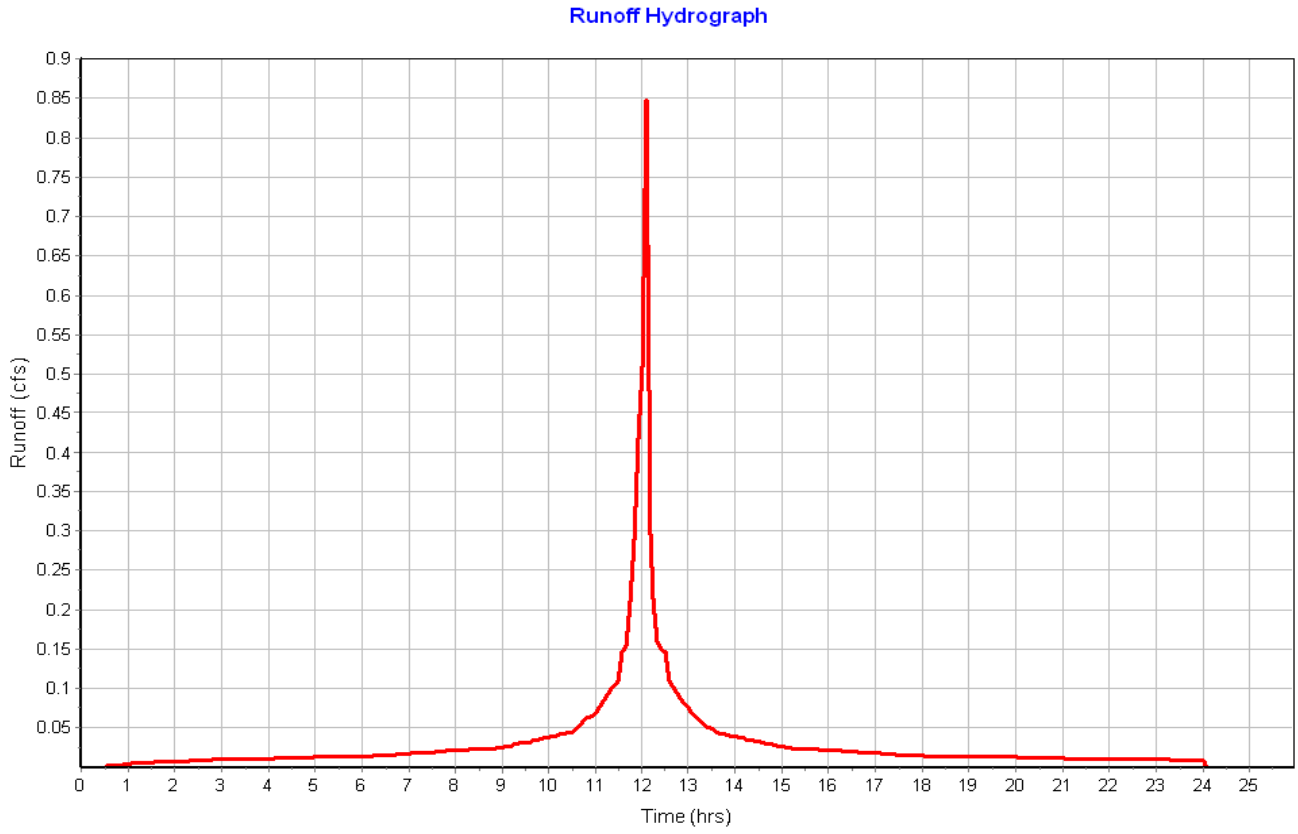
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.85
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Pavement-04





Subbasin : Pavement-05

Input Data

Area (ac)	0.14
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.14	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

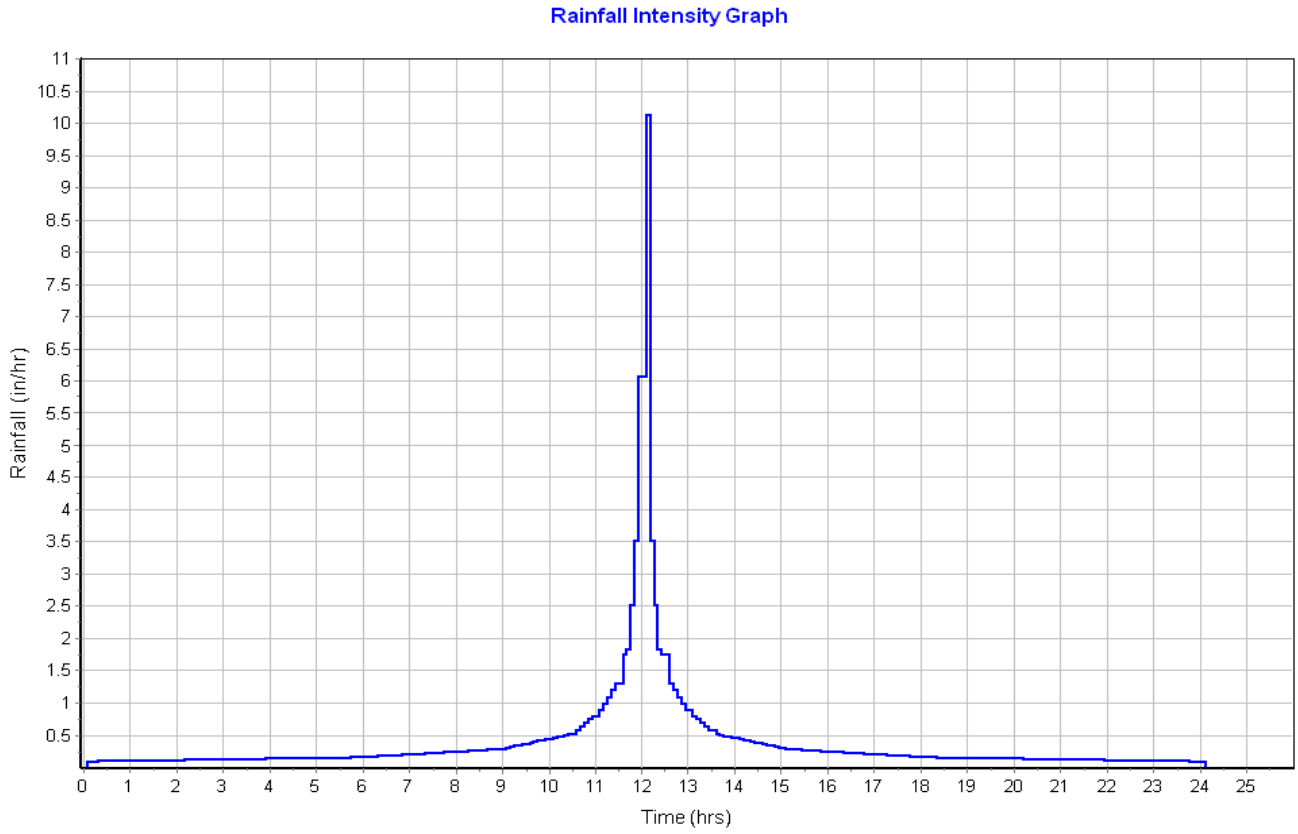
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	272.65	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	1.07	0.00	0.00

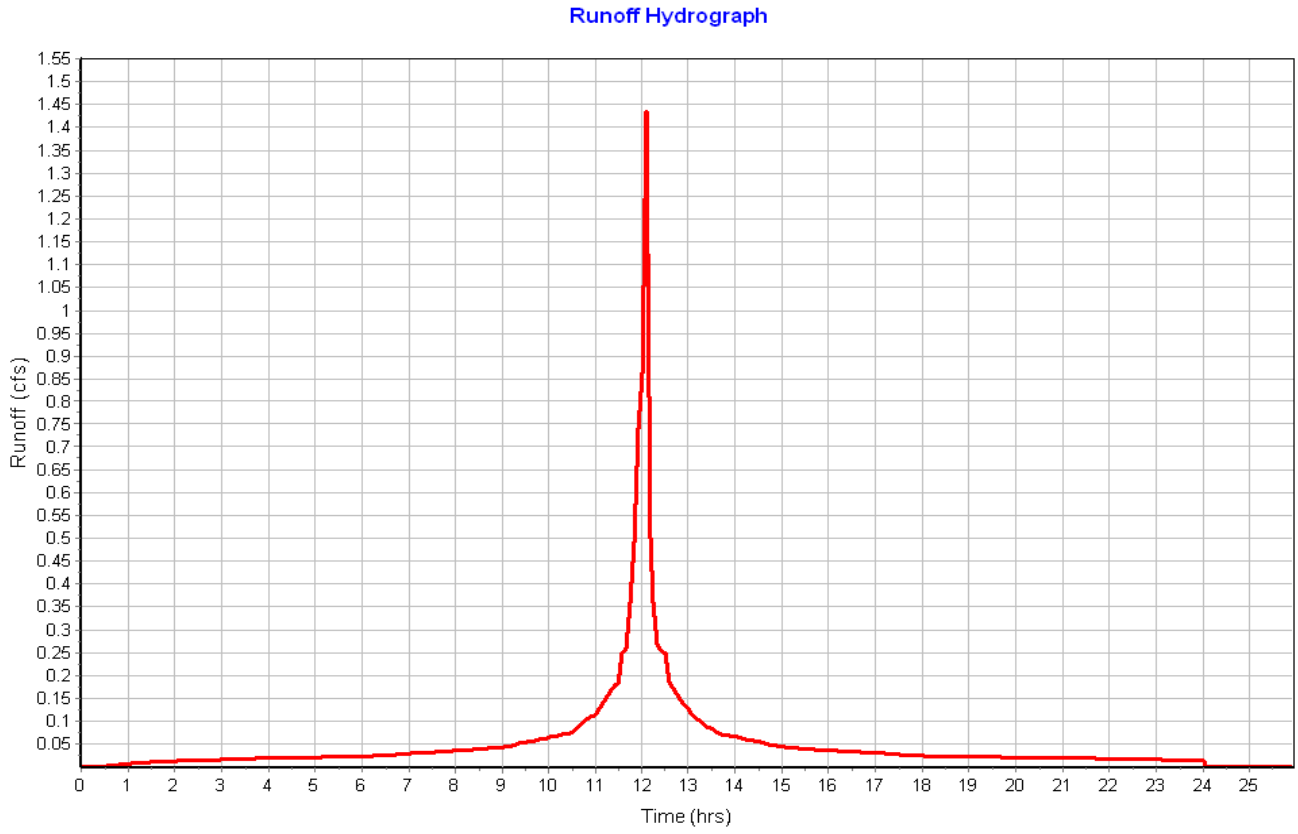
Total TOC (min) 1.27

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	1.44
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:16

Subbasin : Pavement-05





Subbasin : Pavement-06

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.22	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

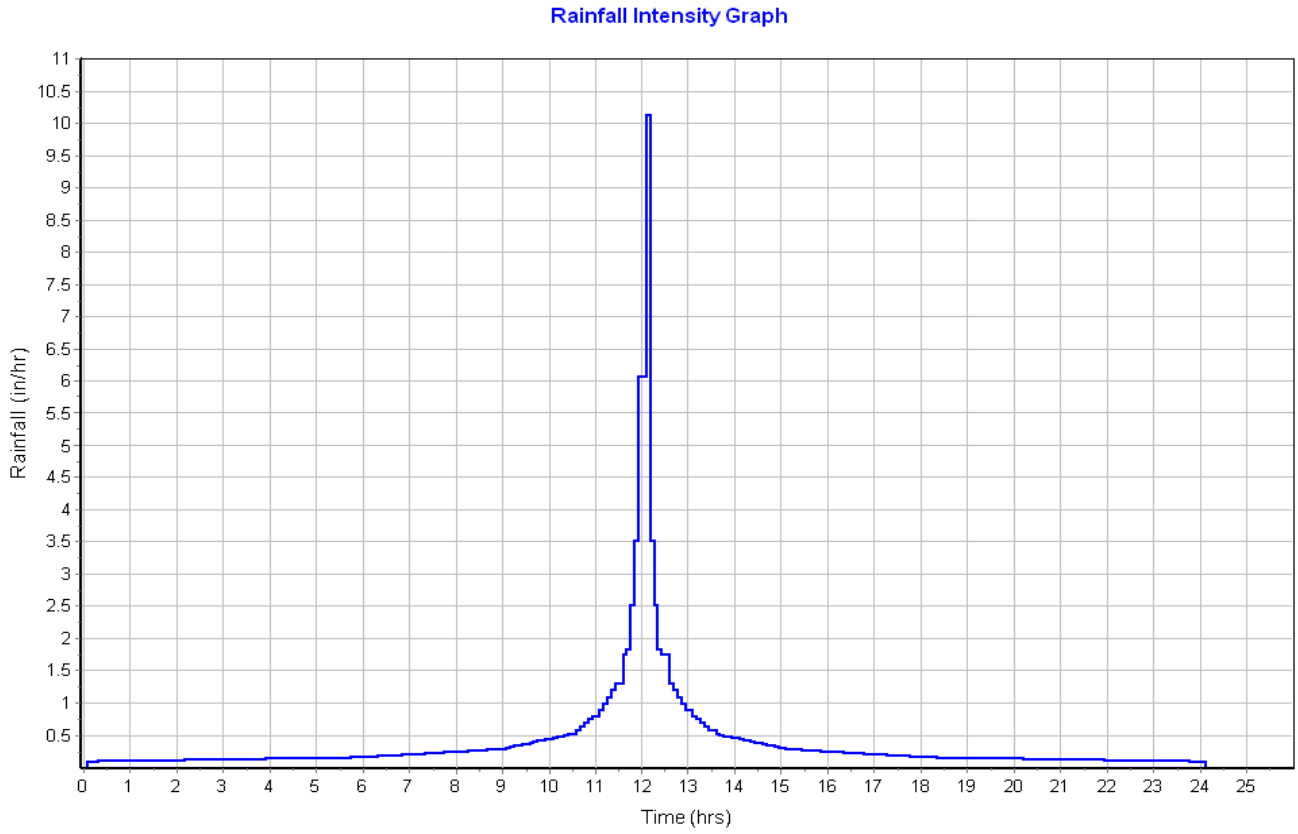
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	220.27	0.00	0.00
Slope (%) :	4.4	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.26	0.00	0.00
Computed Flow Time (min) :	0.86	0.00	0.00

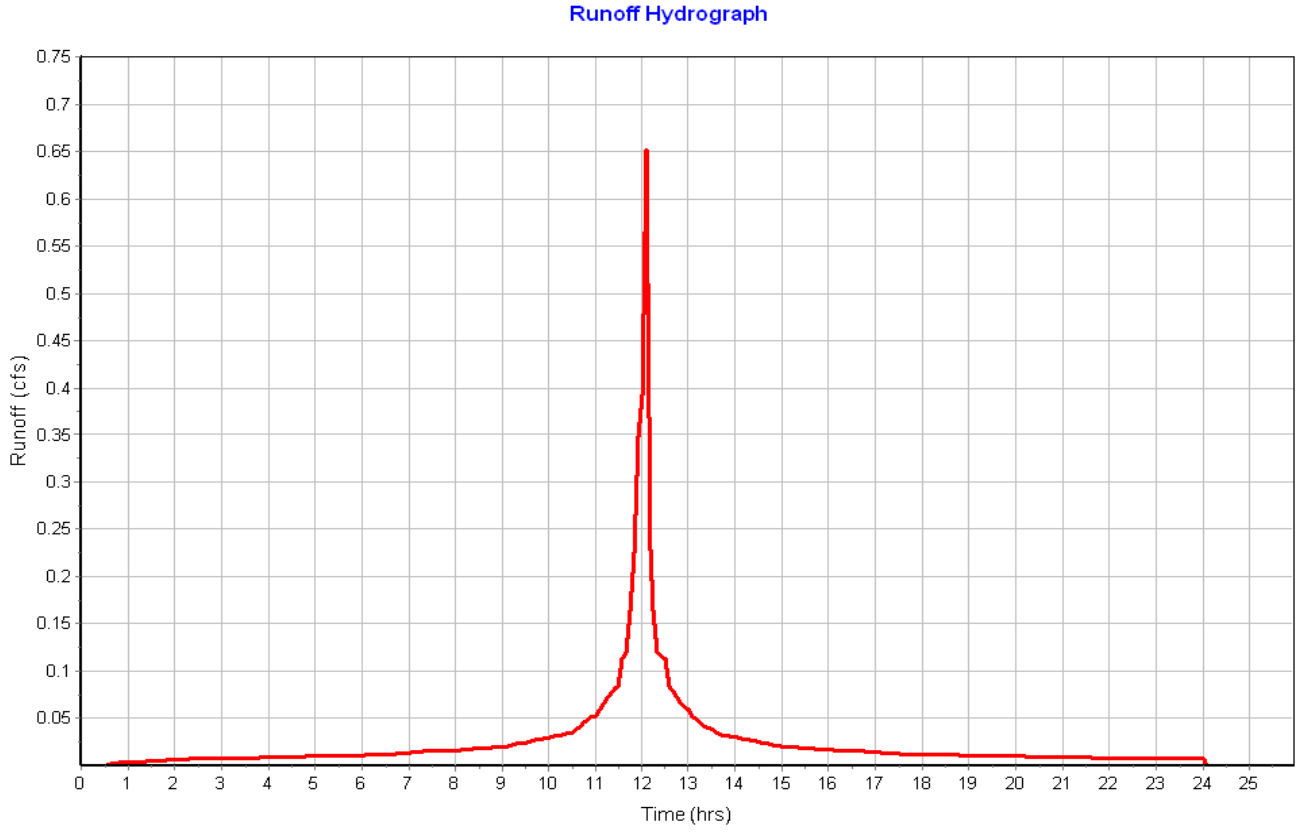
Total TOC (min) 1.07

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.65
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:04

Subbasin : Pavement-06





Subbasin : Pavement-07

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.65	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.01	0.00	0.00
Computed Flow Time (min) :	0.24	0.00	0.00

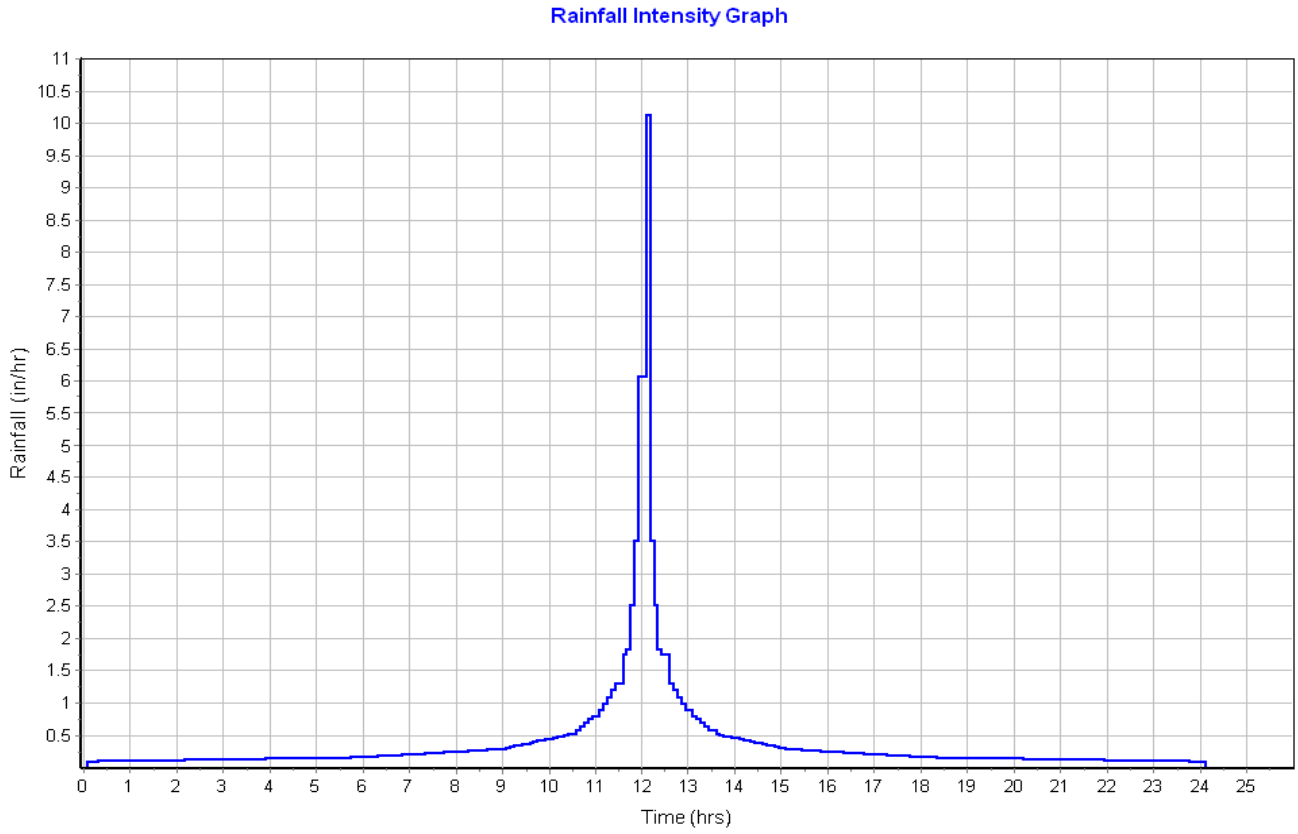
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	211.90	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

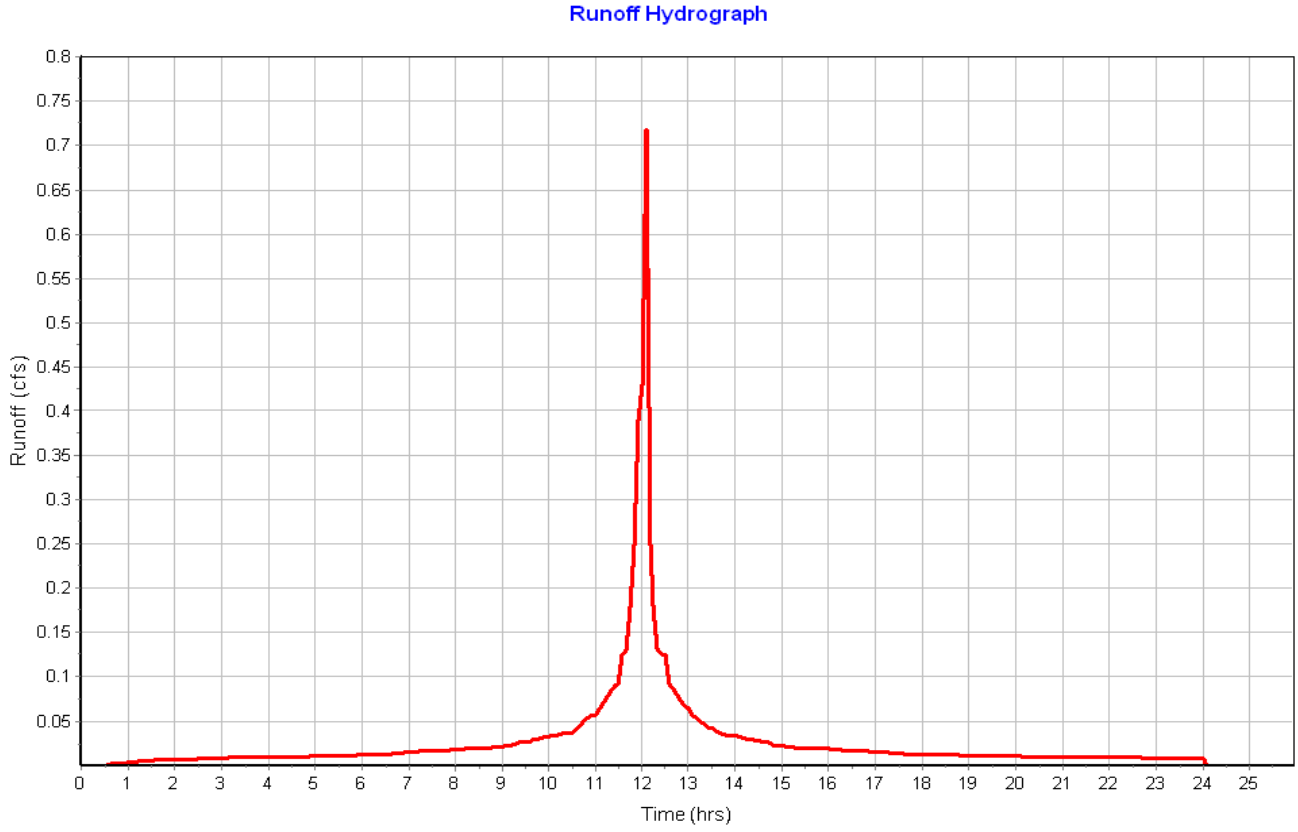
Total TOC (min) 0.97

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.72
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:58

Subbasin : Pavement-07





Subbasin : Pavement-08

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.97	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

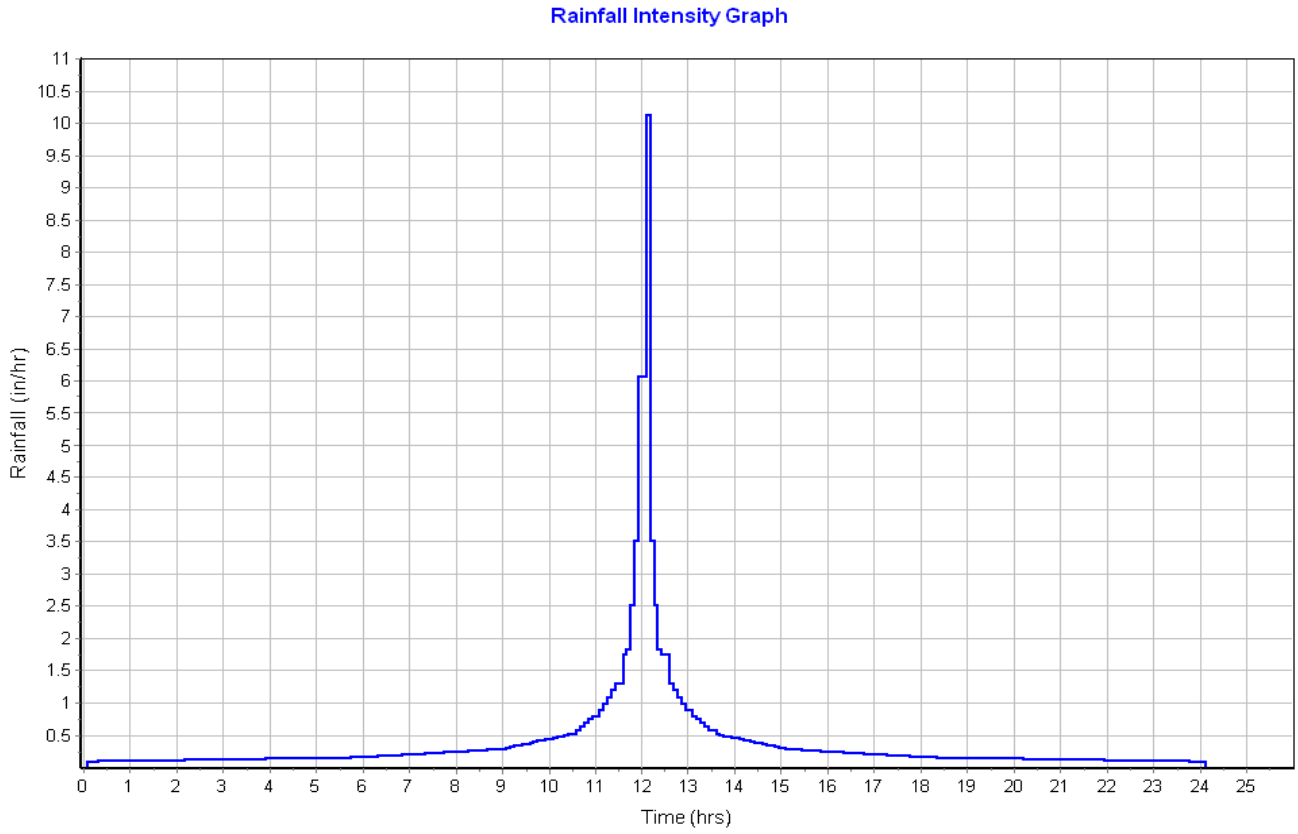
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	226.53	0.00	0.00
Slope (%) :	5.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.85	0.00	0.00
Computed Flow Time (min) :	0.78	0.00	0.00

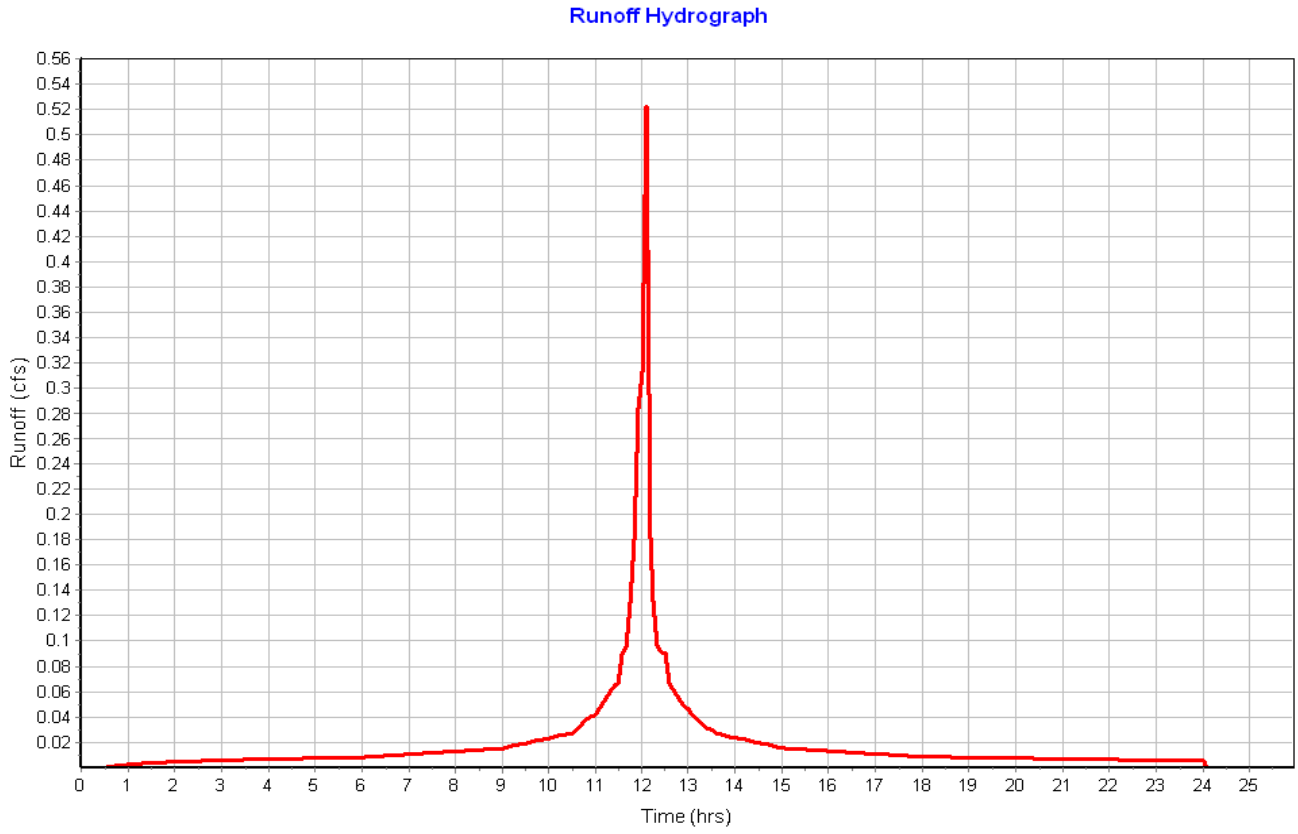
Total TOC (min) 0.98

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.52
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:59

Subbasin : Pavement-08





Subbasin : Pavement-09

Input Data

Area (ac) 0.18
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.18	C	98.00
Composite Area & Weighted CN	0.18		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	82.18	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.54	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

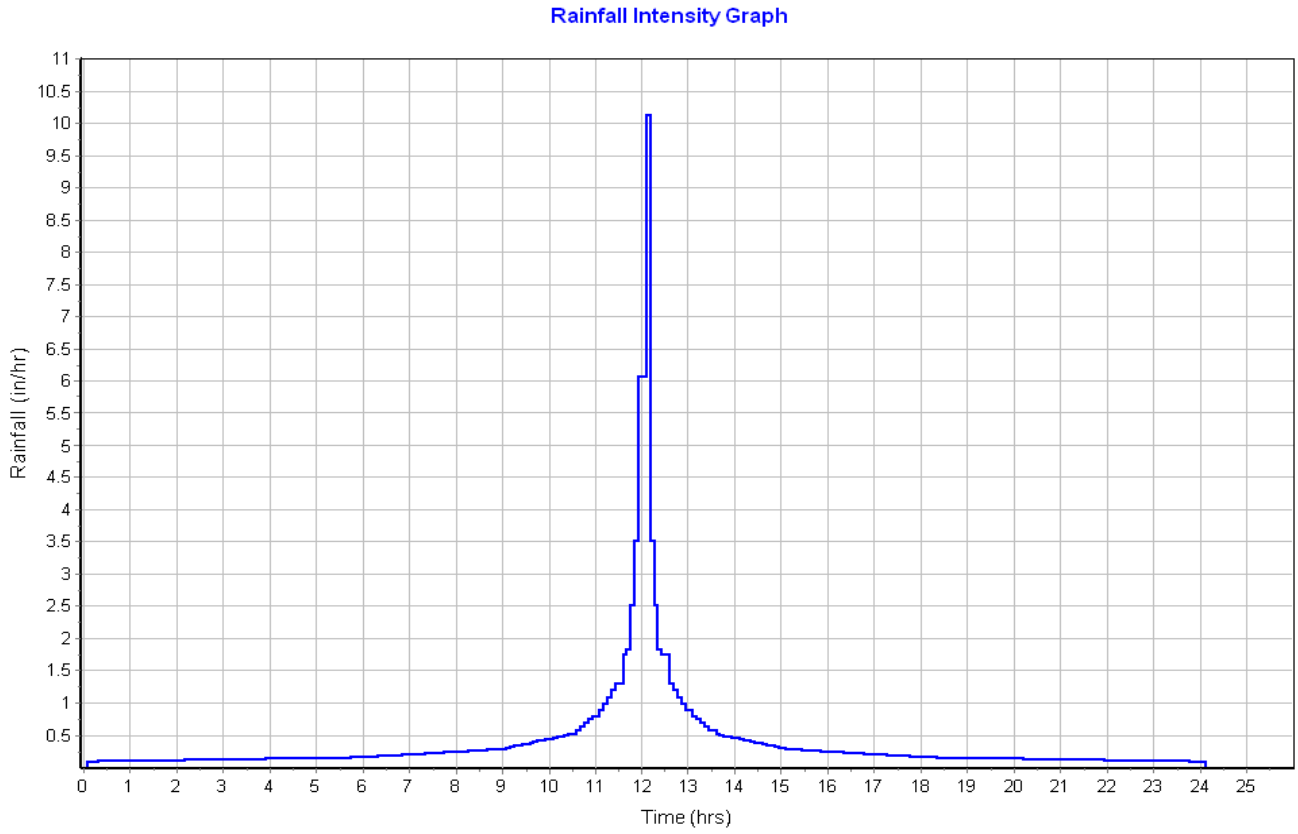
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	449.39	0.00	0.00
Slope (%) :	2.45	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.35	0.00	0.00
Computed Flow Time (min) :	3.19	0.00	0.00

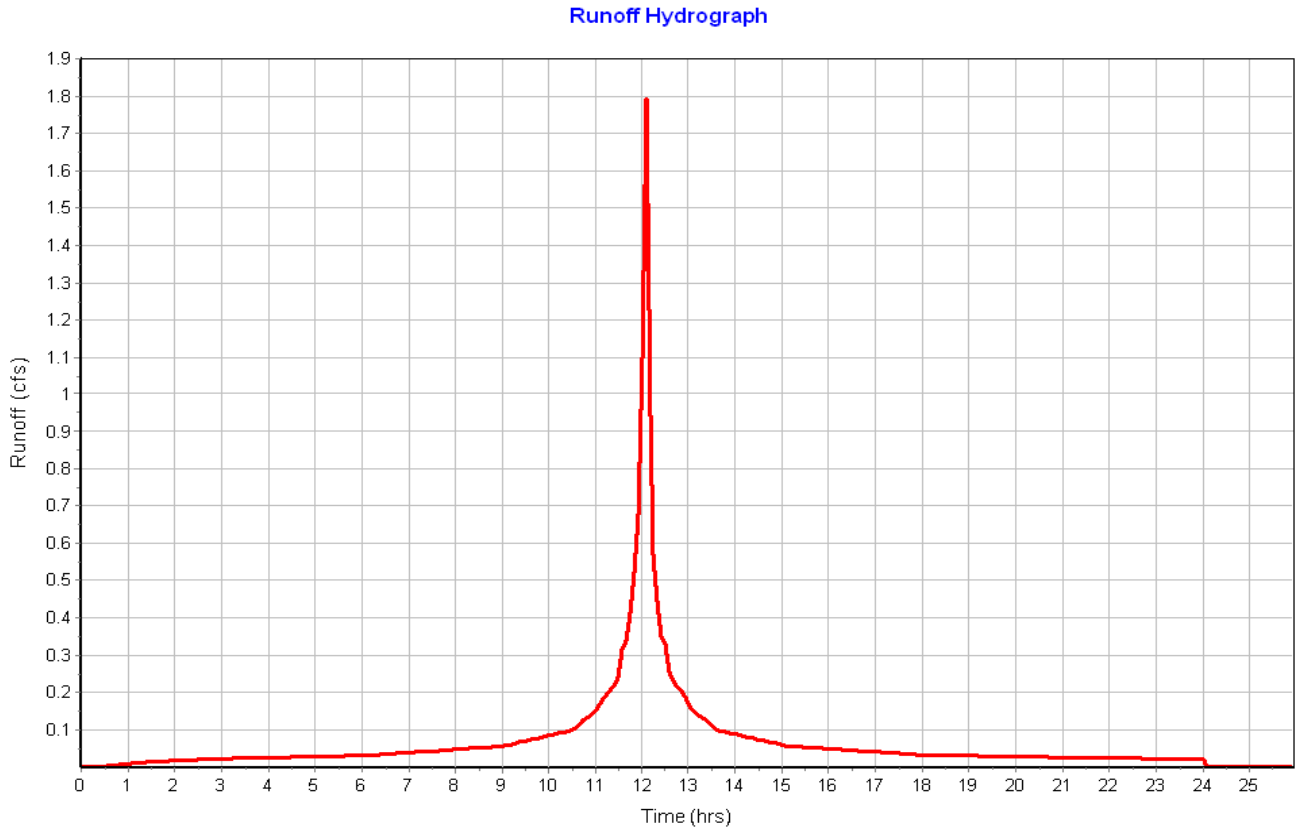
Total TOC (min) 4.08

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 1.84
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:04:05

Subbasin : Pavement-09





Subbasin : Pavement-10

Input Data

Area (ac) 0.29
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.29	C	98.00
Composite Area & Weighted CN	0.29		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	23.24	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.11	0.00	0.00
Computed Flow Time (min) :	0.35	0.00	0.00

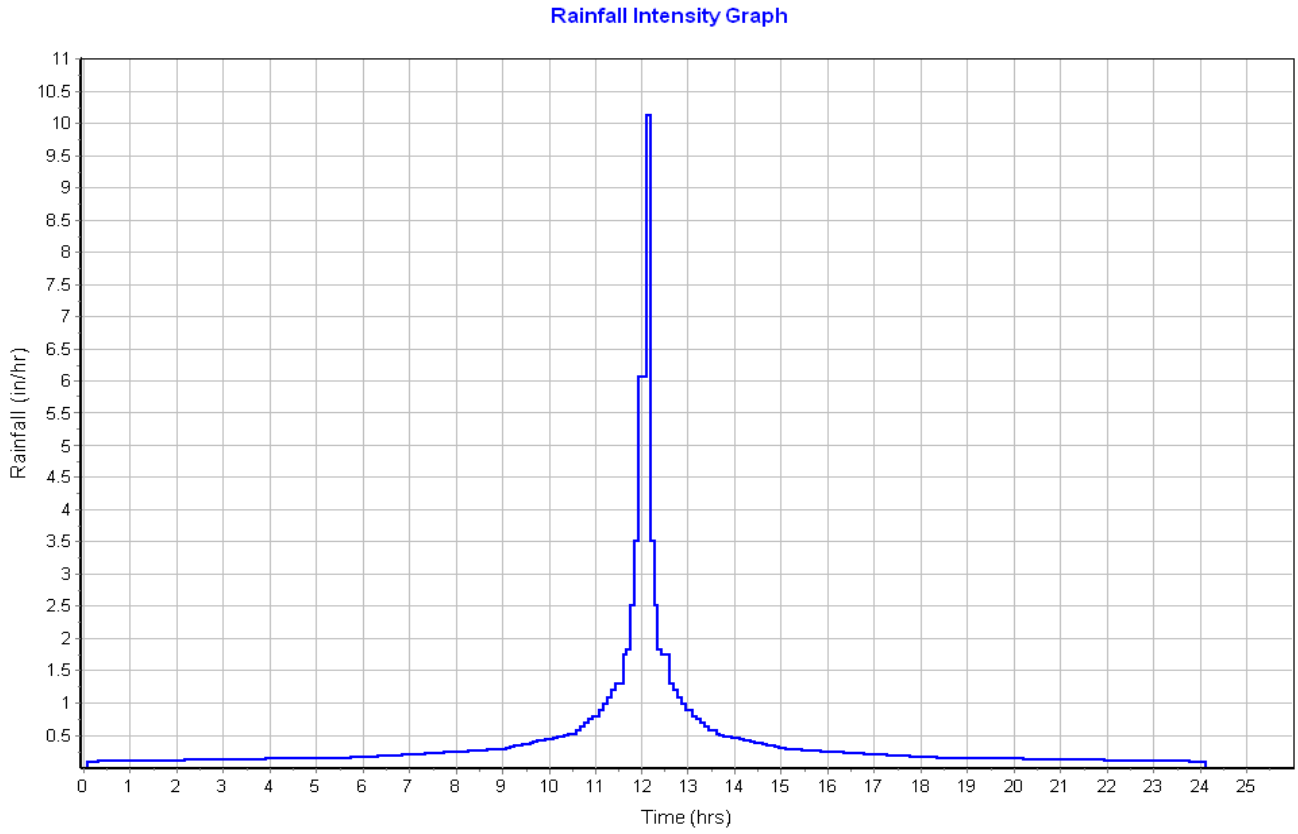
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	754.46	0.00	0.00
Slope (%) :	2.3	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.27	0.00	0.00
Computed Flow Time (min) :	5.54	0.00	0.00

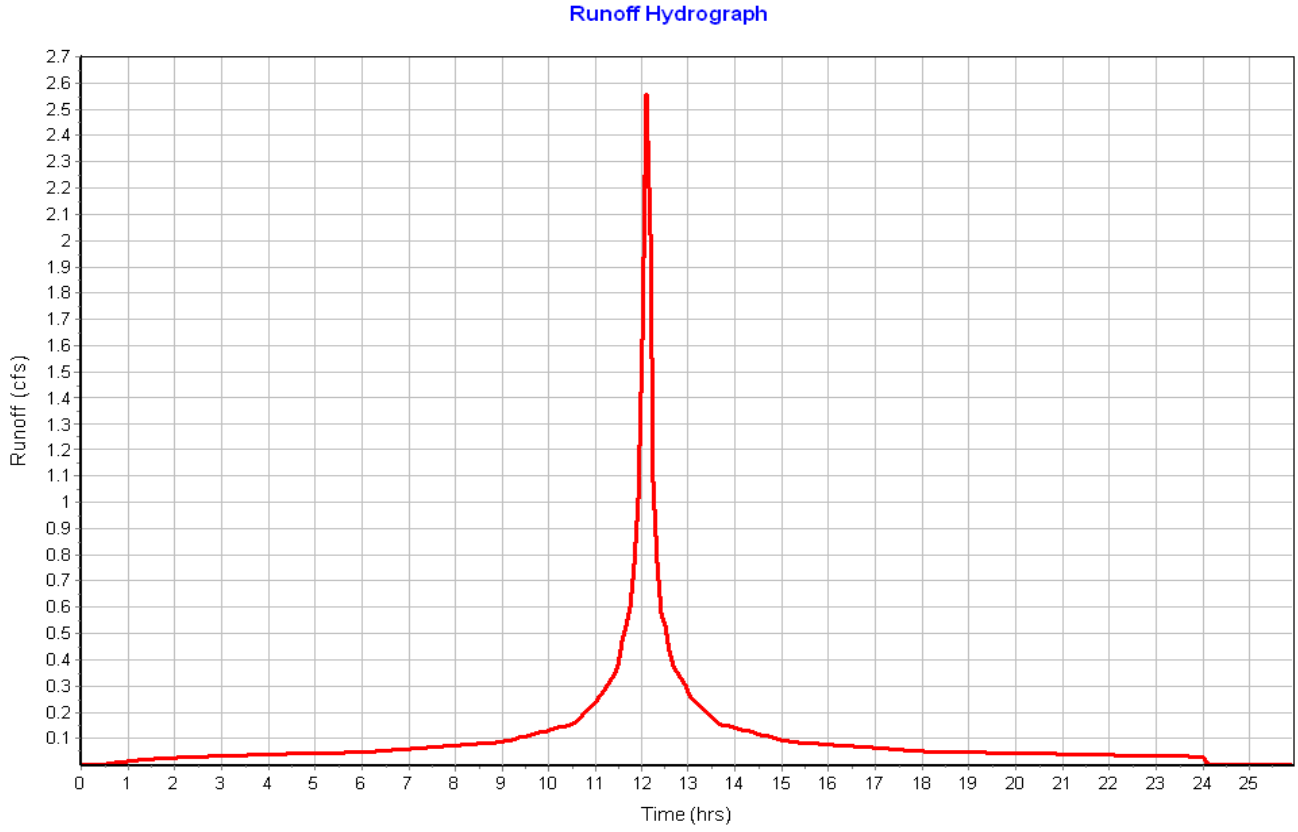
Total TOC (min) 5.89

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 2.78
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:05:53

Subbasin : Pavement-10





Subbasin : Pavement-13

Input Data

Area (ac)	0.14
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.14	C	98.00
Composite Area & Weighted CN	0.14		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	17.45	0.00	0.00
Slope (%) :	1.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.30	0.00	0.00

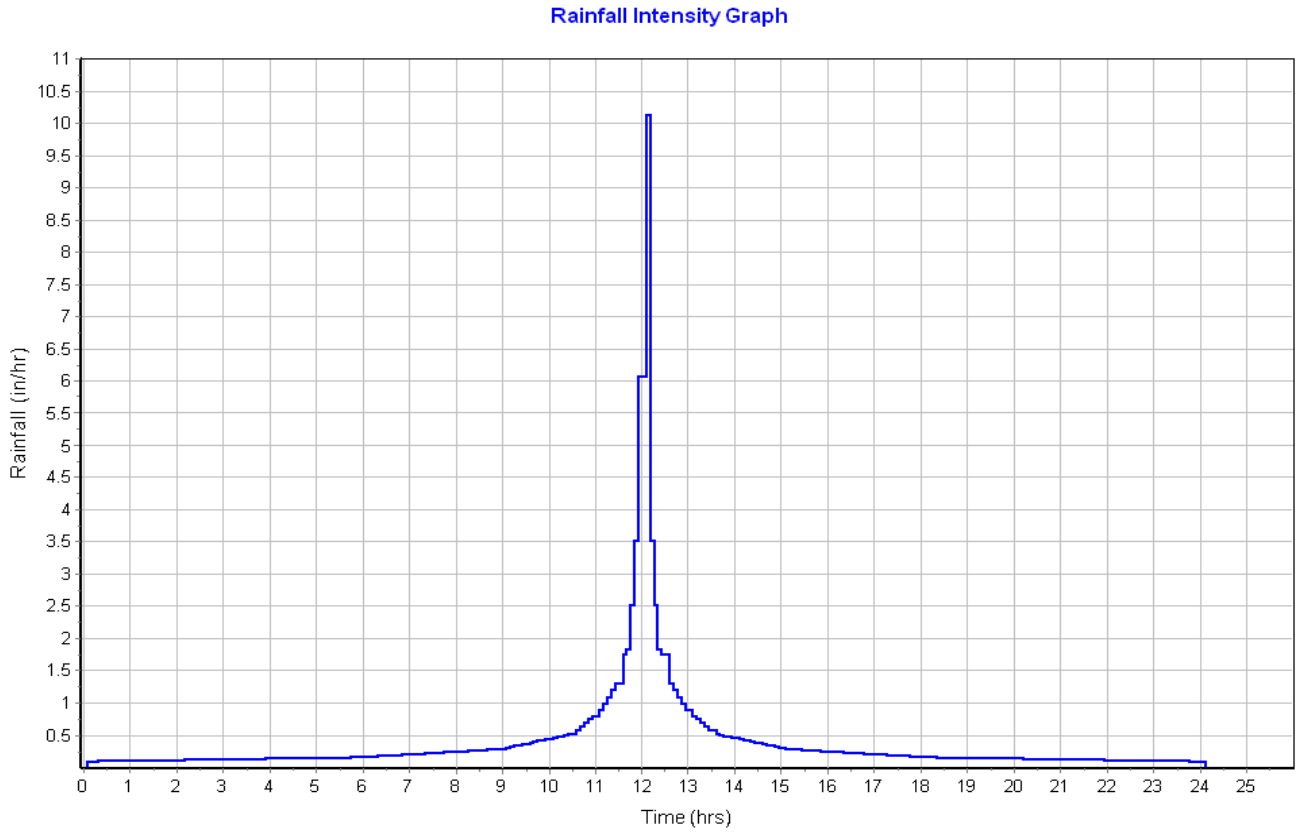
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	238.58	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.13	0.00	0.00

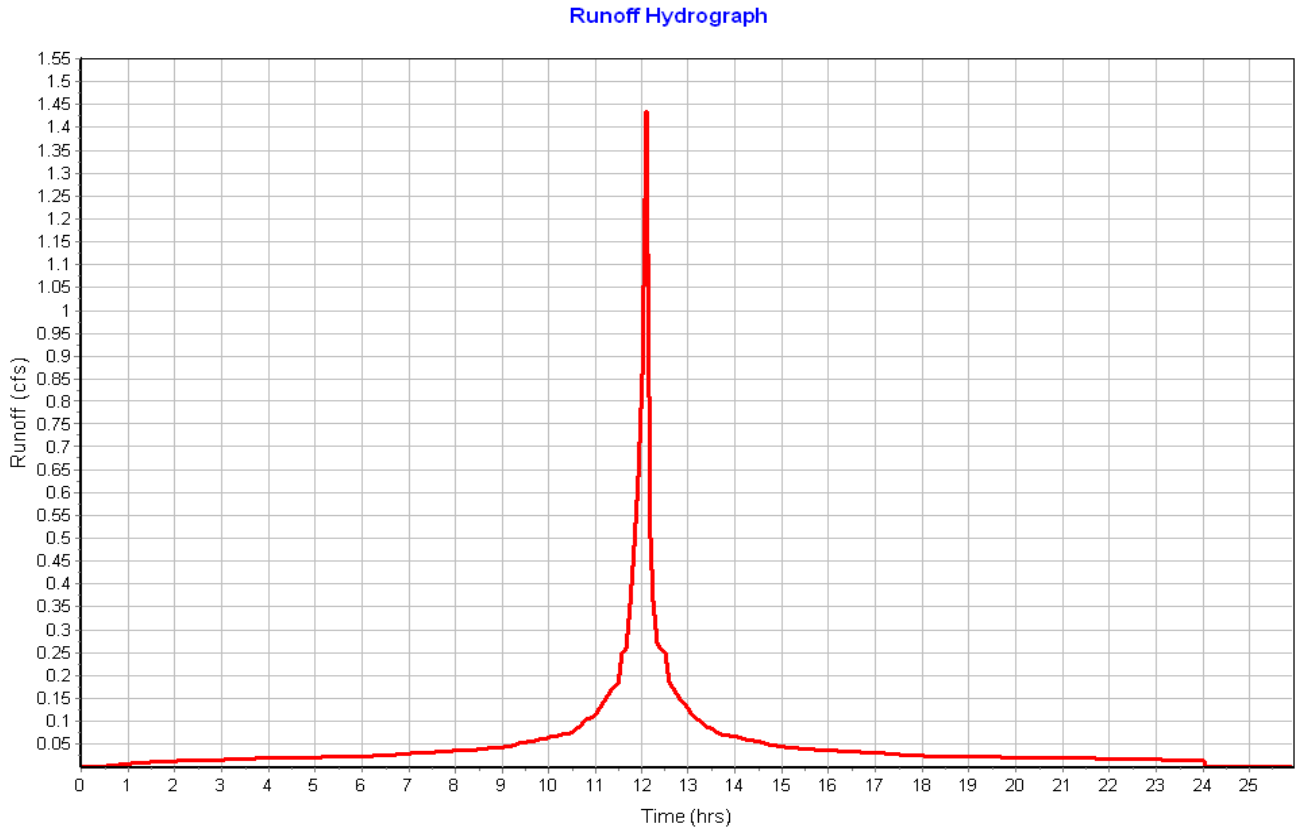
Total TOC (min) 1.43

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	1.44
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:26

Subbasin : Pavement-13





Subbasin : Pavement-15

Input Data

Area (ac)	0.16
Peak Rate Factor	484.00
Weighted Curve Number	92.42
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.12	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.16		92.42

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	.4	.01
Flow Length (ft) :	22.40	76.05	35.47
Slope (%) :	2	2.63	2
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	1.10	0.08	1.21
Computed Flow Time (min) :	0.34	15.44	0.49

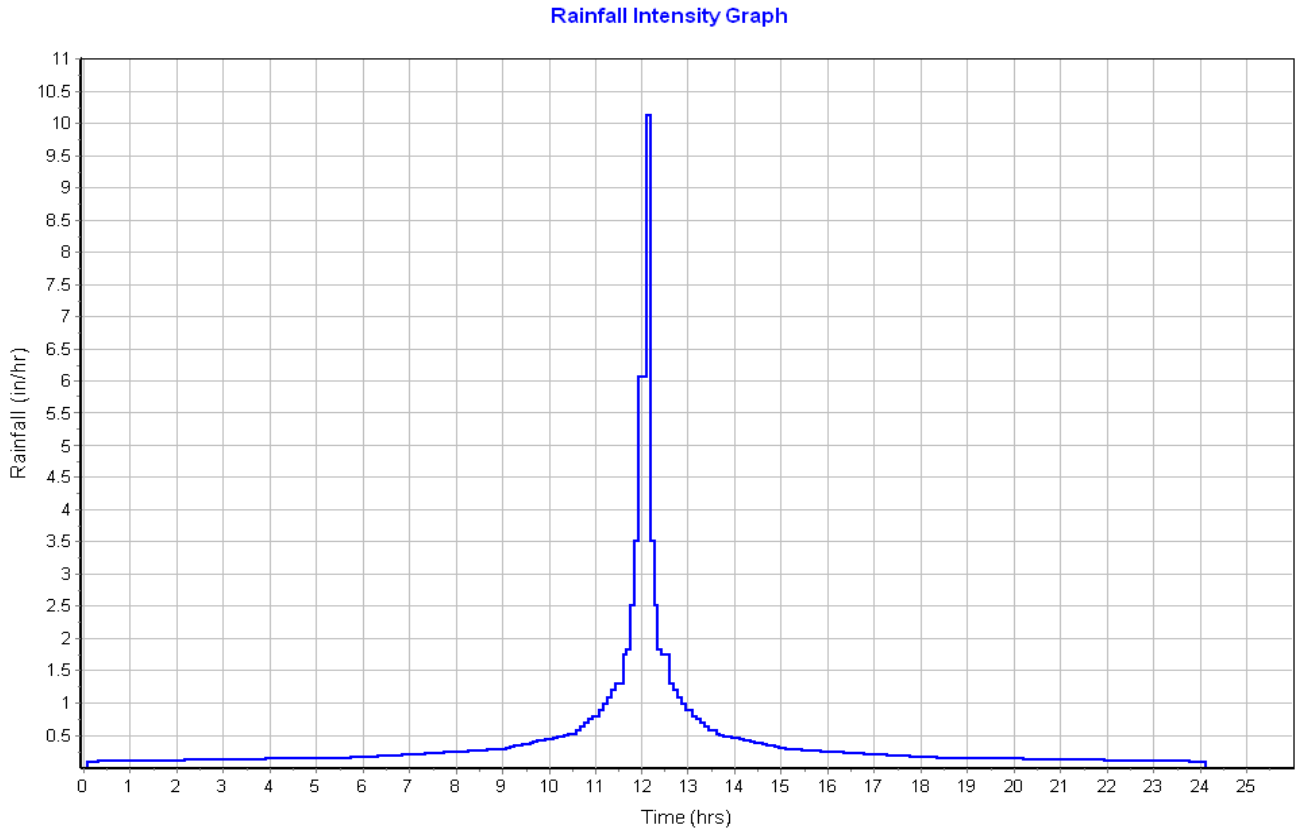
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	231.04	0.00	0.00
Slope (%) :	4.5	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	4.31	0.00	0.00
Computed Flow Time (min) :	0.89	0.00	0.00

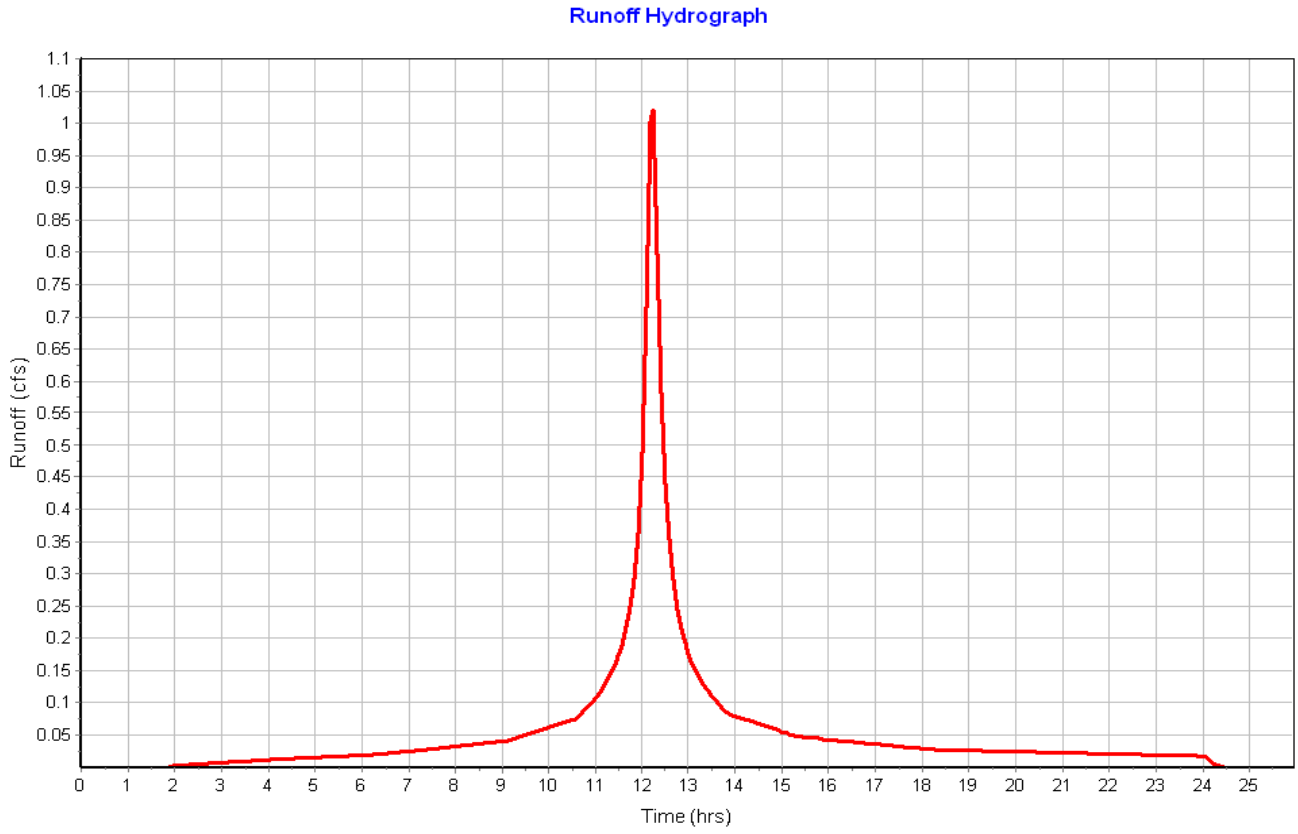
Total TOC (min) 17.16

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	8.78
Peak Runoff (cfs)	1.06
Weighted Curve Number	92.42
Time of Concentration (days hh:mm:ss)	0 00:17:10

Subbasin : Pavement-15





Subbasin : Pavement-16

Input Data

Area (ac)	0.25
Peak Rate Factor	484.00
Weighted Curve Number	90.40
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.17	C	98.00
> 75% grass cover, Good	0.08	C	74.00
Composite Area & Weighted CN	0.25		90.40

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	74.01	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.40	0.00	0.00
Computed Flow Time (min) :	0.88	0.00	0.00

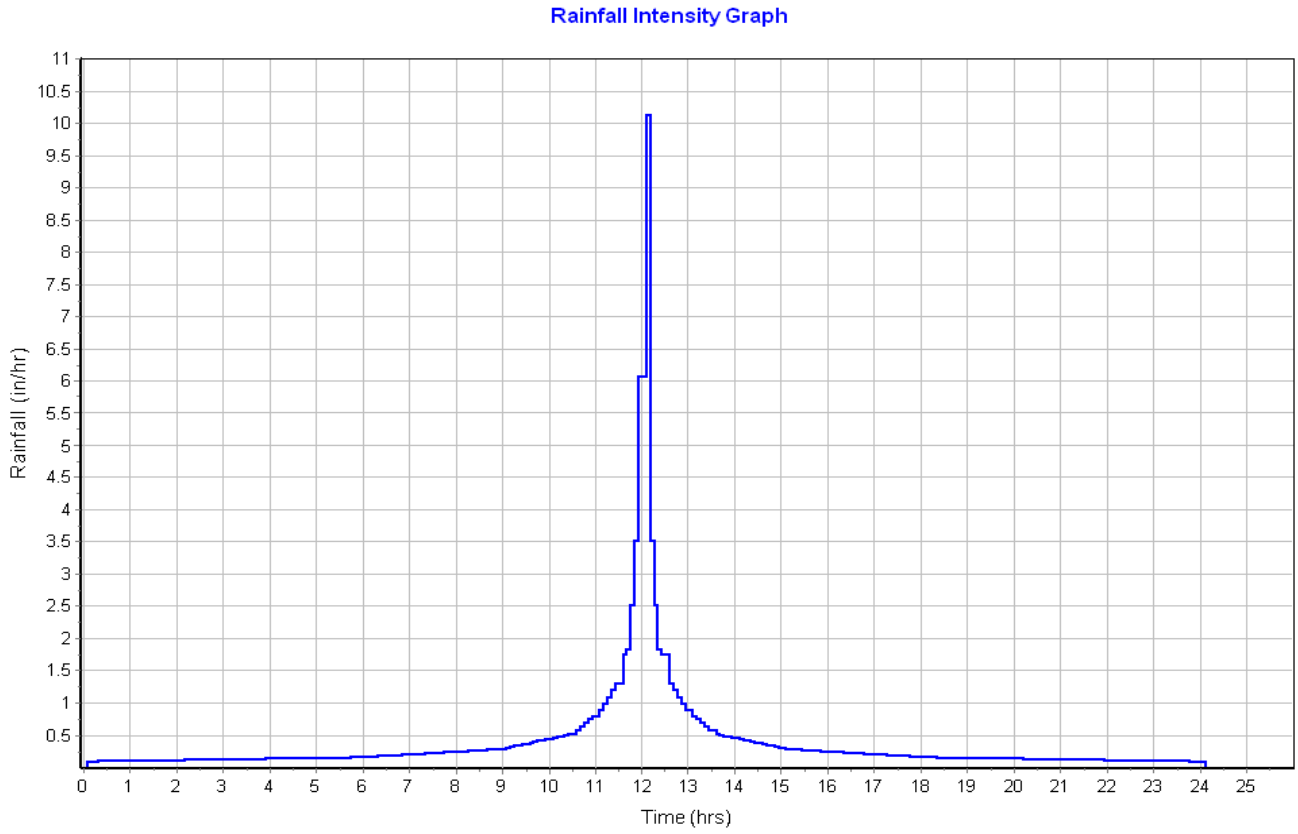
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	278.80	0.00	0.00
Slope (%) :	3	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.52	0.00	0.00
Computed Flow Time (min) :	1.32	0.00	0.00

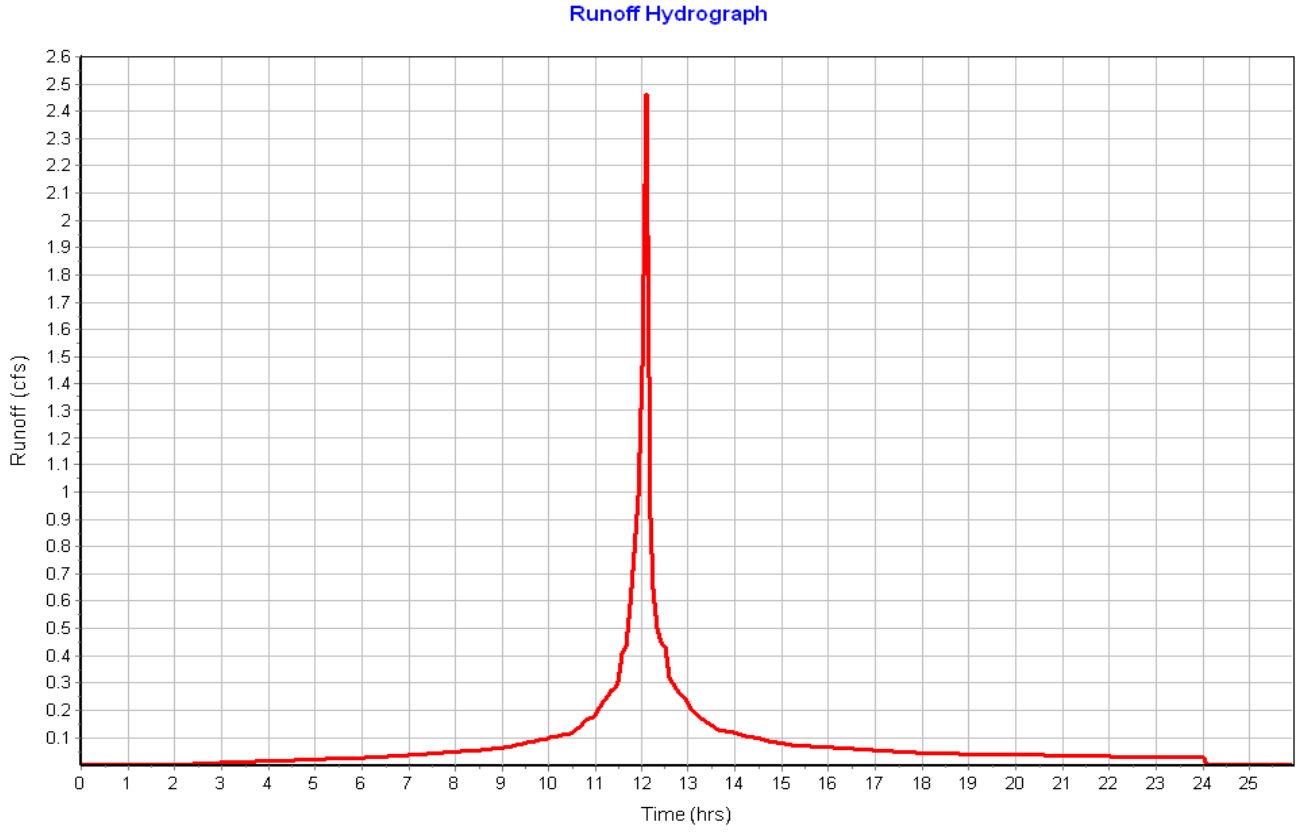
Total TOC (min) 2.20

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	8.53
Peak Runoff (cfs)	2.47
Weighted Curve Number	90.40
Time of Concentration (days hh:mm:ss)	0 00:02:12

Subbasin : Pavement-16





Subbasin : Pavement-17

Input Data

Area (ac)	0.15
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.15	C	98.00
Composite Area & Weighted CN	0.15		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	135.74	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.58	0.00	0.00
Computed Flow Time (min) :	1.43	0.00	0.00

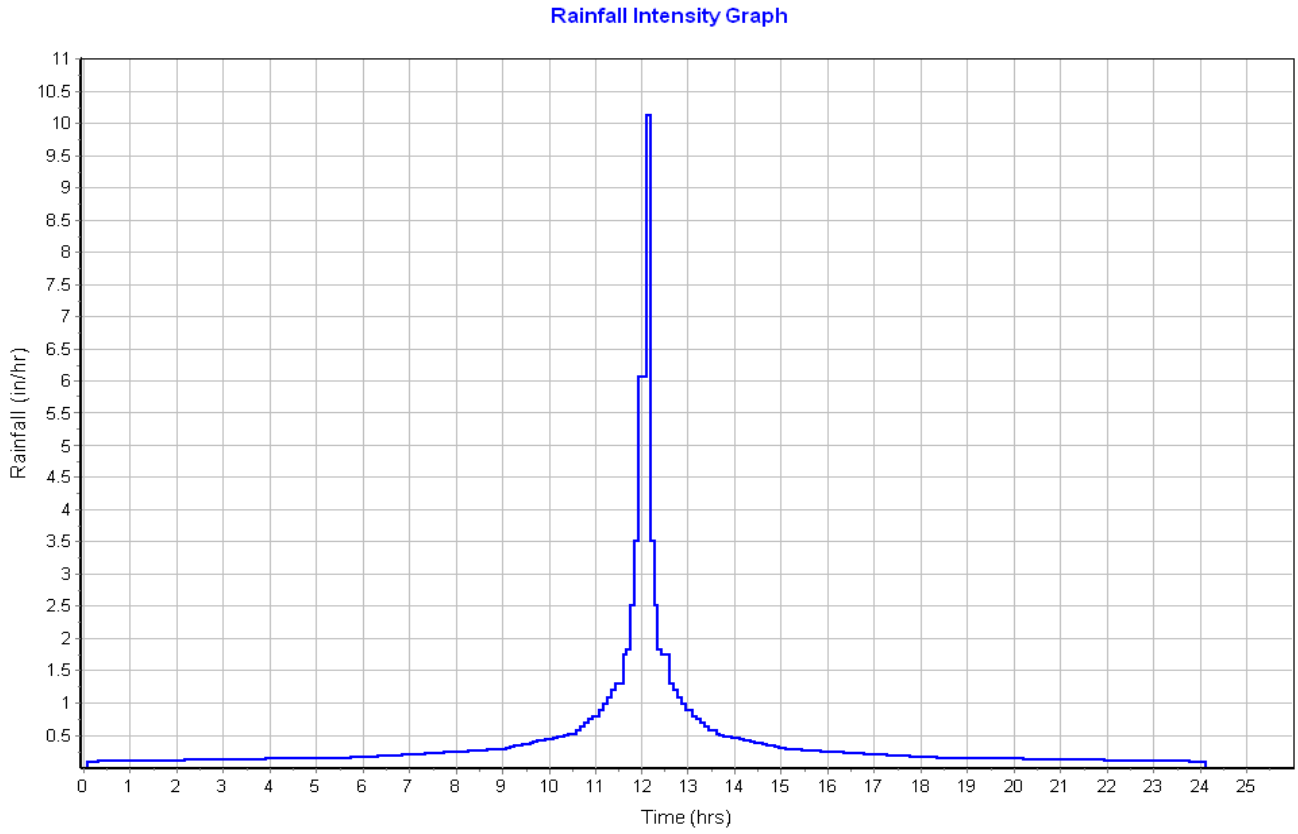
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	257.69	0.00	0.00
Slope (%) :	2.33	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	3.10	0.00	0.00
Computed Flow Time (min) :	1.39	0.00	0.00

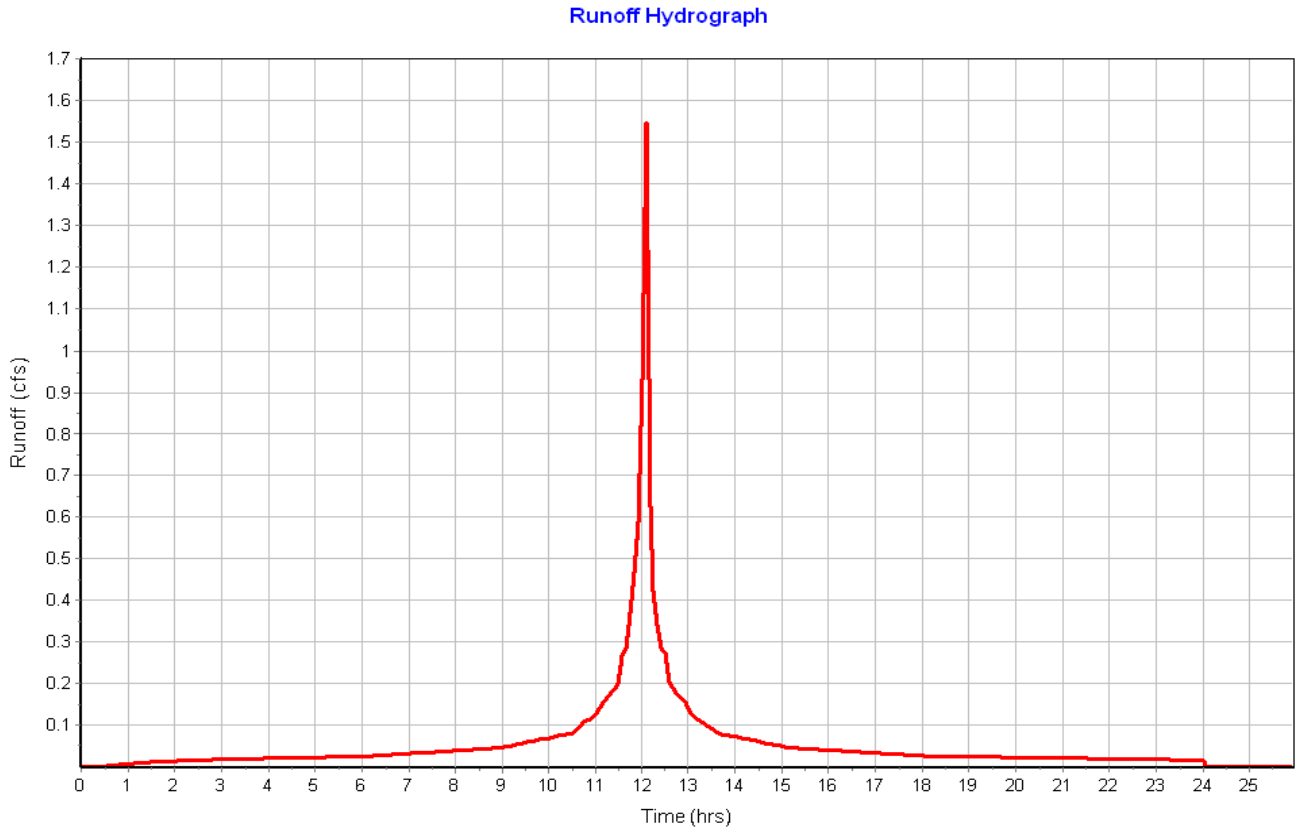
Total TOC (min) 2.82

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	1.56
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:49

Subbasin : Pavement-17





Subbasin : Pavement-18

Input Data

Area (ac)	0.11
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.11	C	98.00
Composite Area & Weighted CN	0.11		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.62	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.98	0.00	0.00
Computed Flow Time (min) :	0.21	0.00	0.00

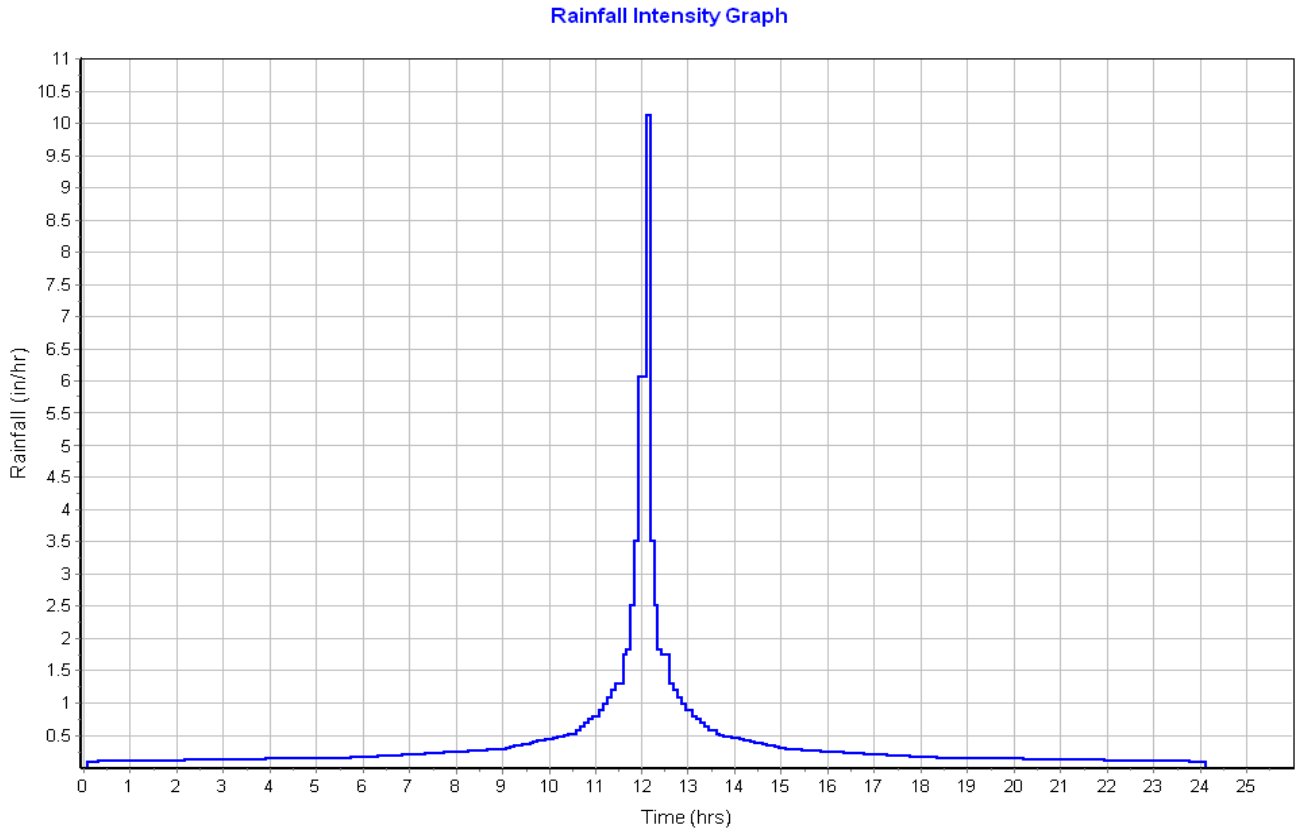
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	382.38	0.00	0.00
Slope (%) :	2.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.95	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

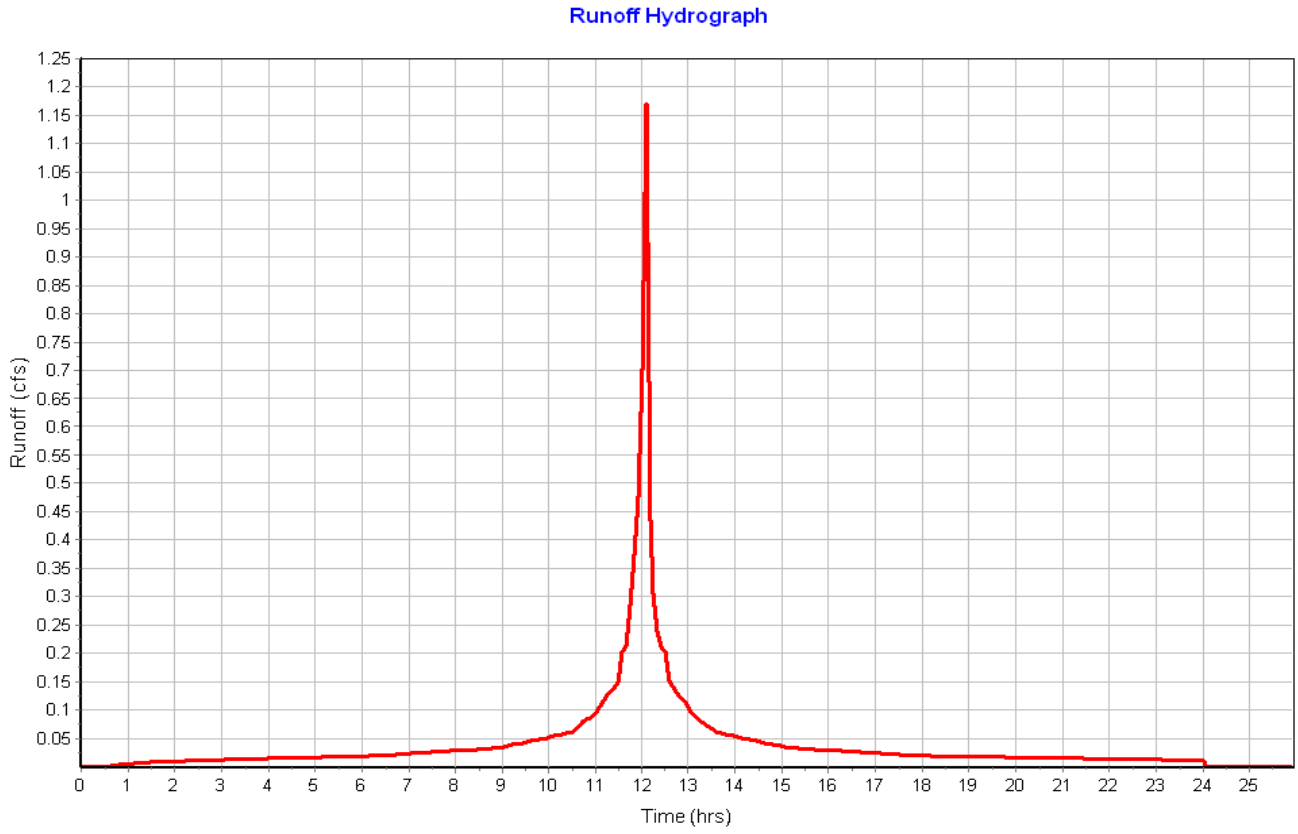
Total TOC (min) 2.37

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	1.17
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:22

Subbasin : Pavement-18





Subbasin : Pavement-19

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	27.28	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.15	0.00	0.00
Computed Flow Time (min) :	0.40	0.00	0.00

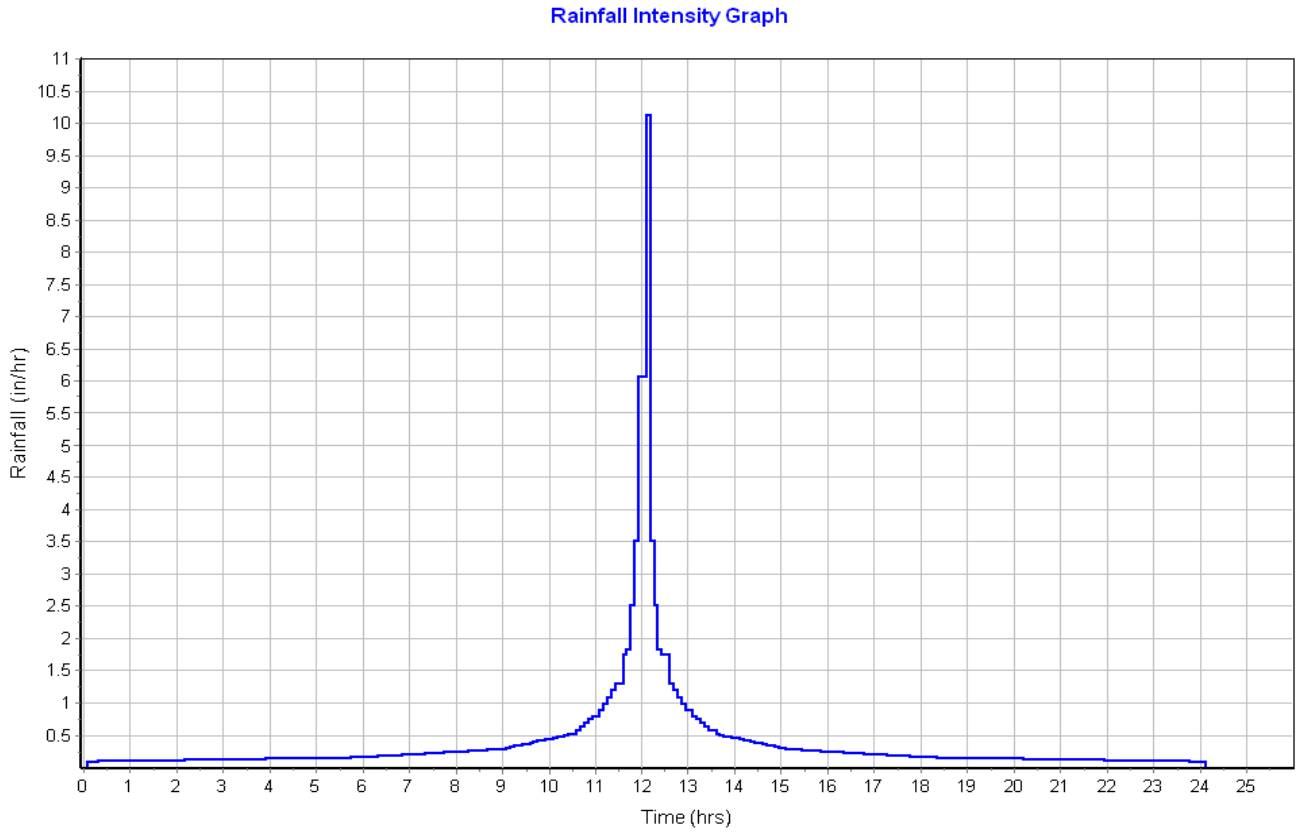
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	112.86	0.00	0.00
Slope (%) :	1.7	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.65	0.00	0.00
Computed Flow Time (min) :	0.71	0.00	0.00

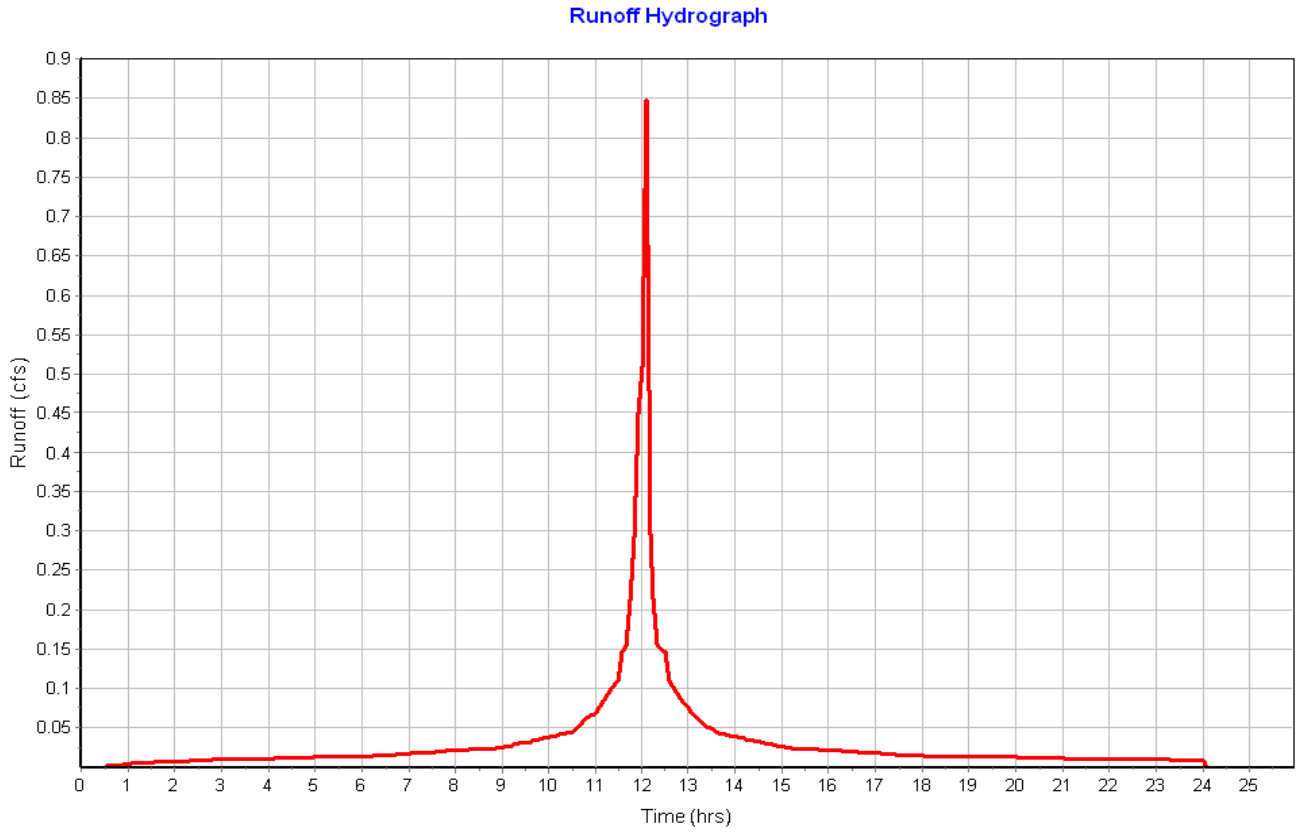
Total TOC (min) 1.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.85
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:07

Subbasin : Pavement-19





Subbasin : Roof-01

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

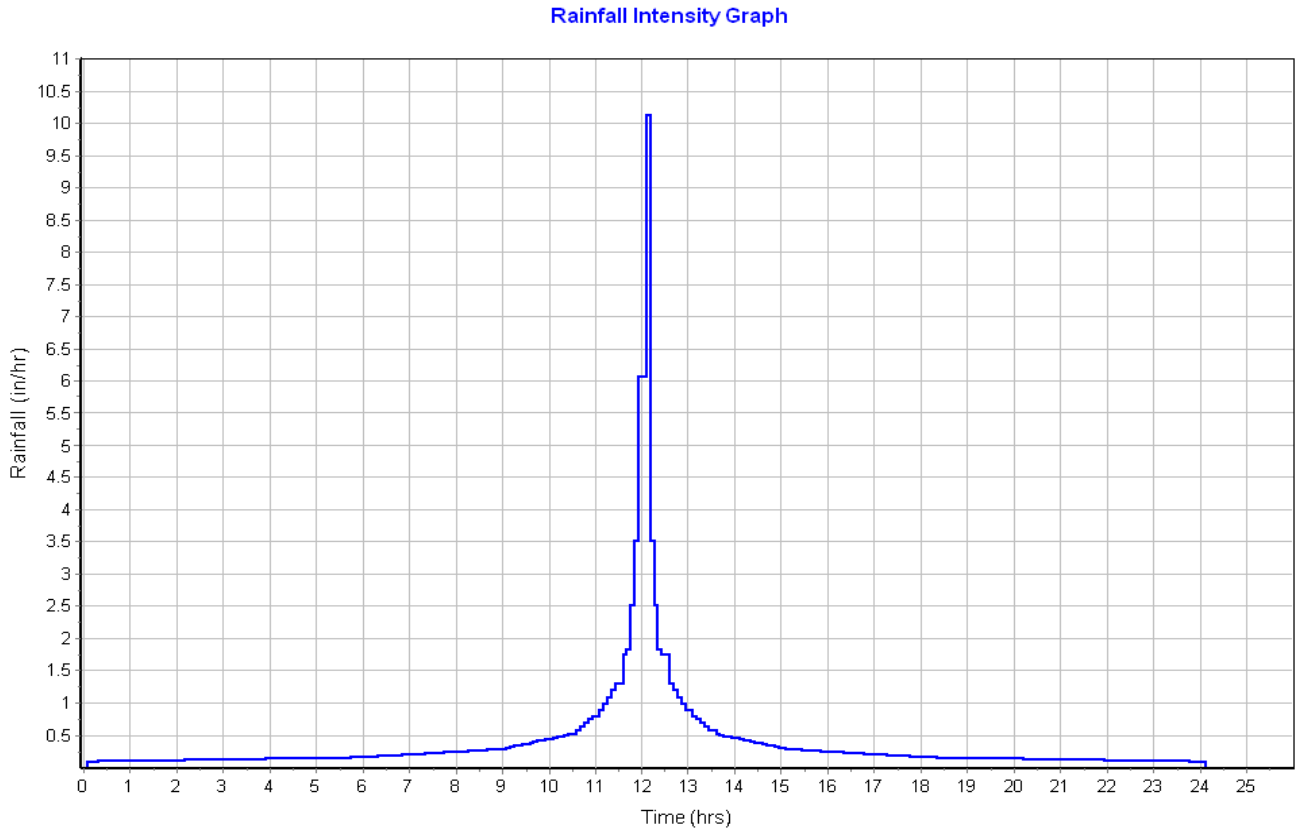
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

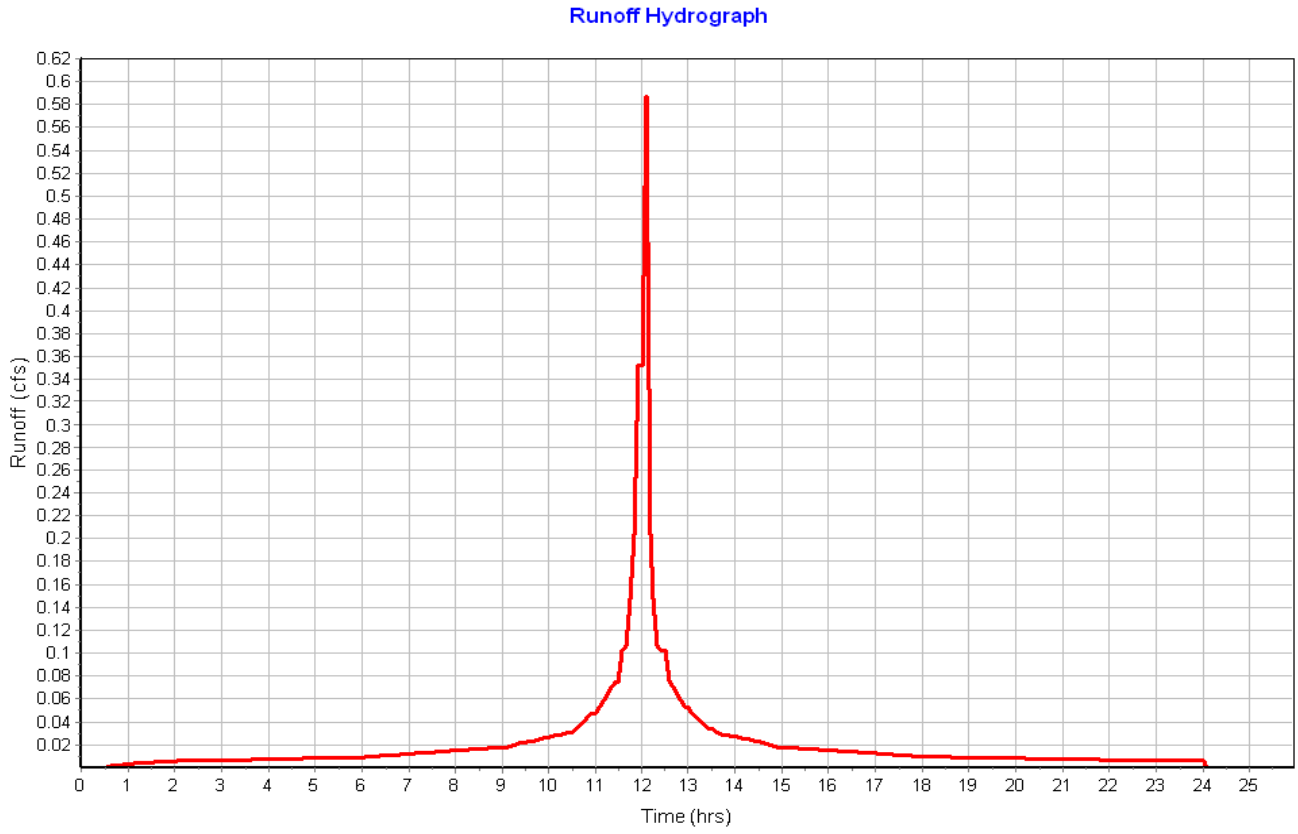
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-01





Subbasin : Roof-02

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

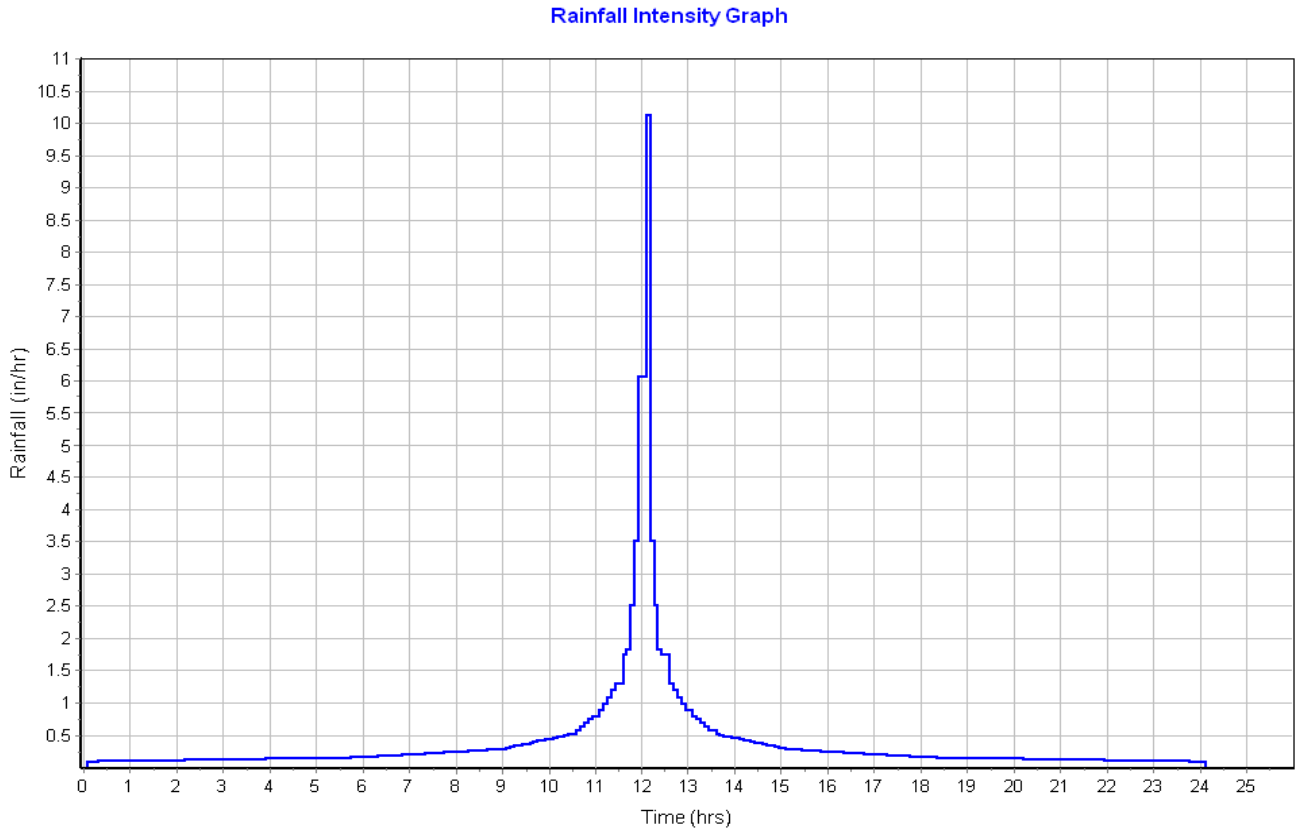
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

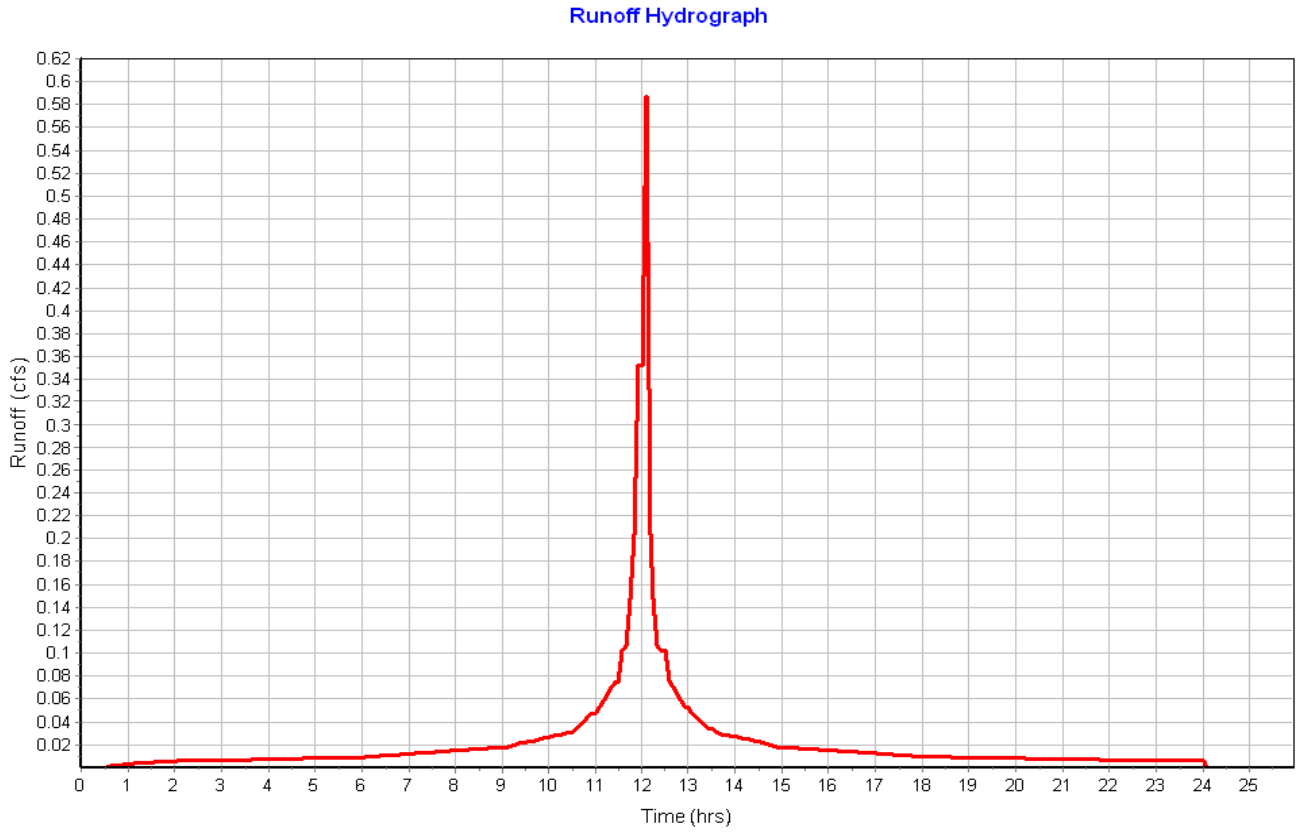
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.59
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-02





Subbasin : Roof-03

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

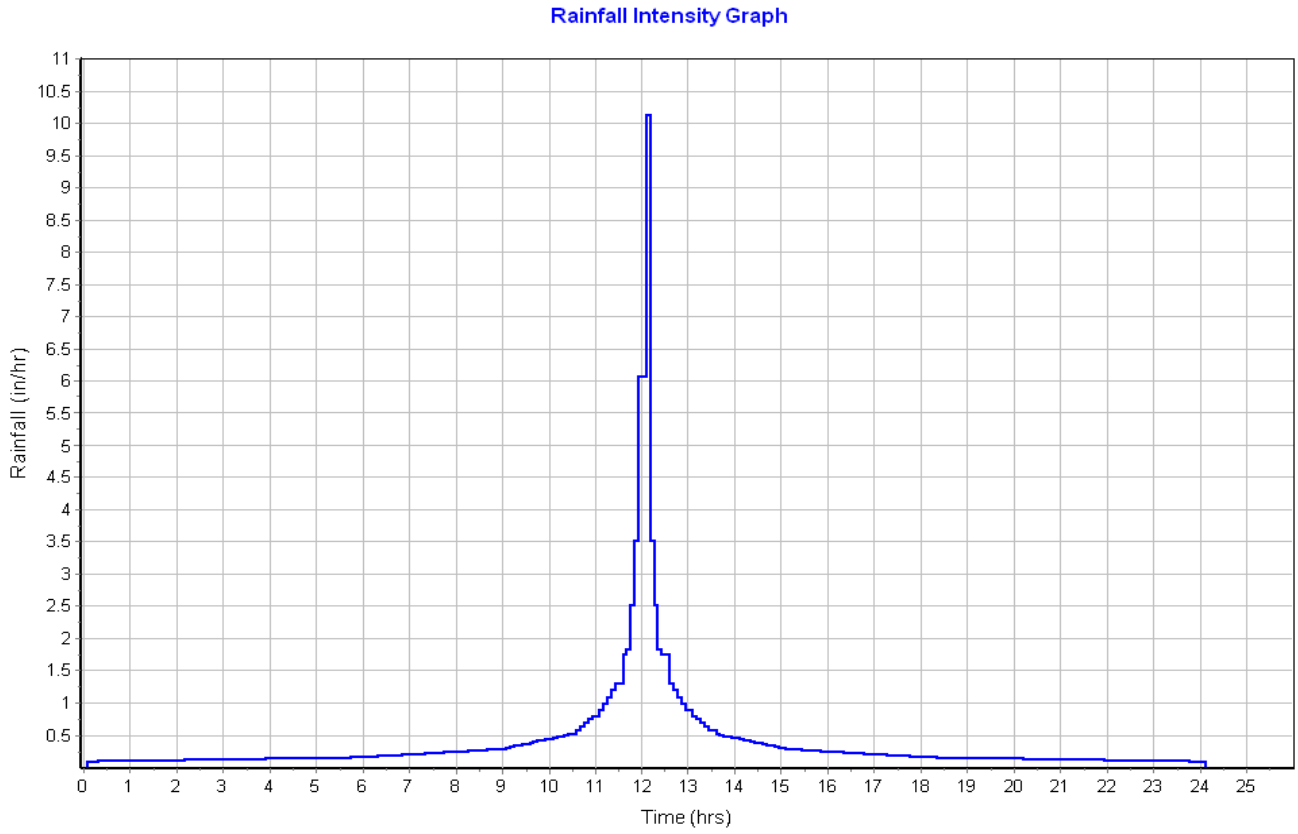
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

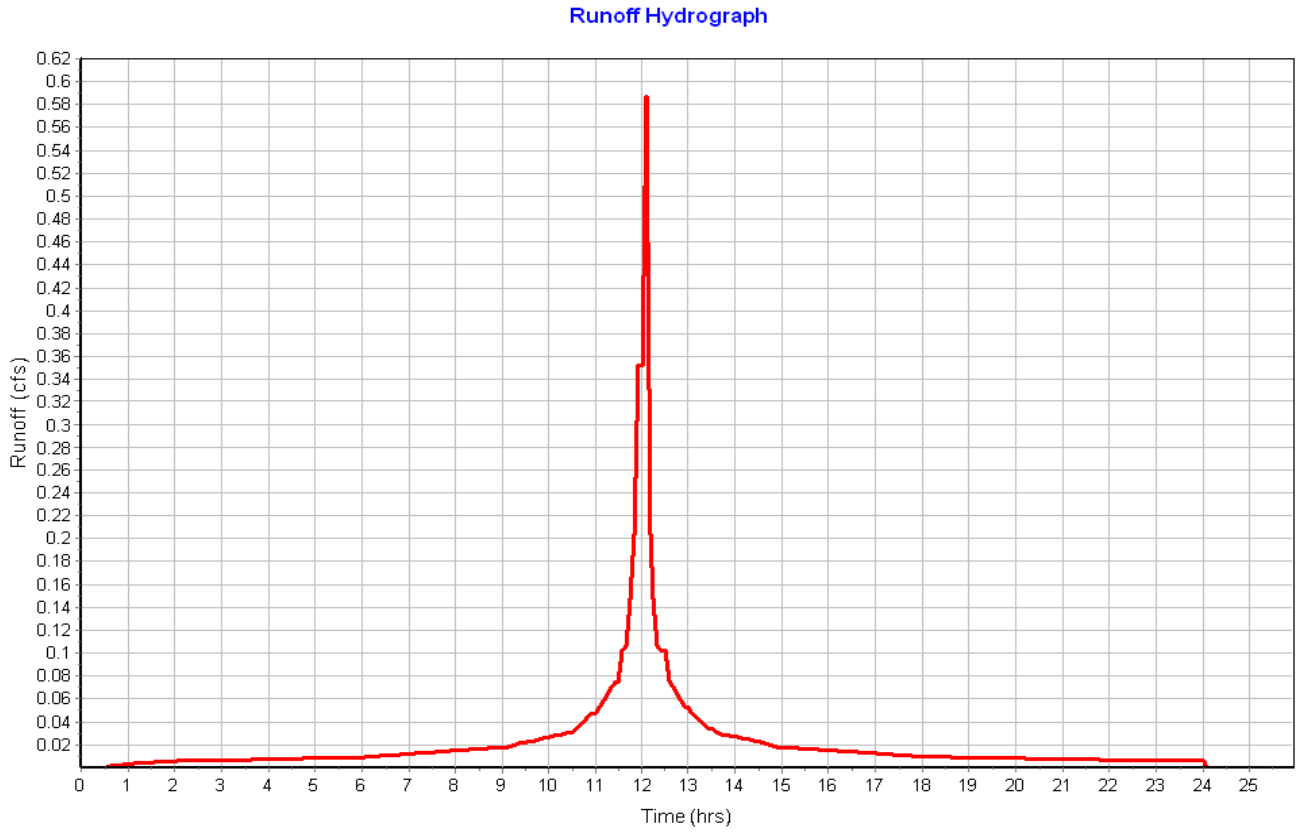
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-03





Subbasin : Roof-04

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

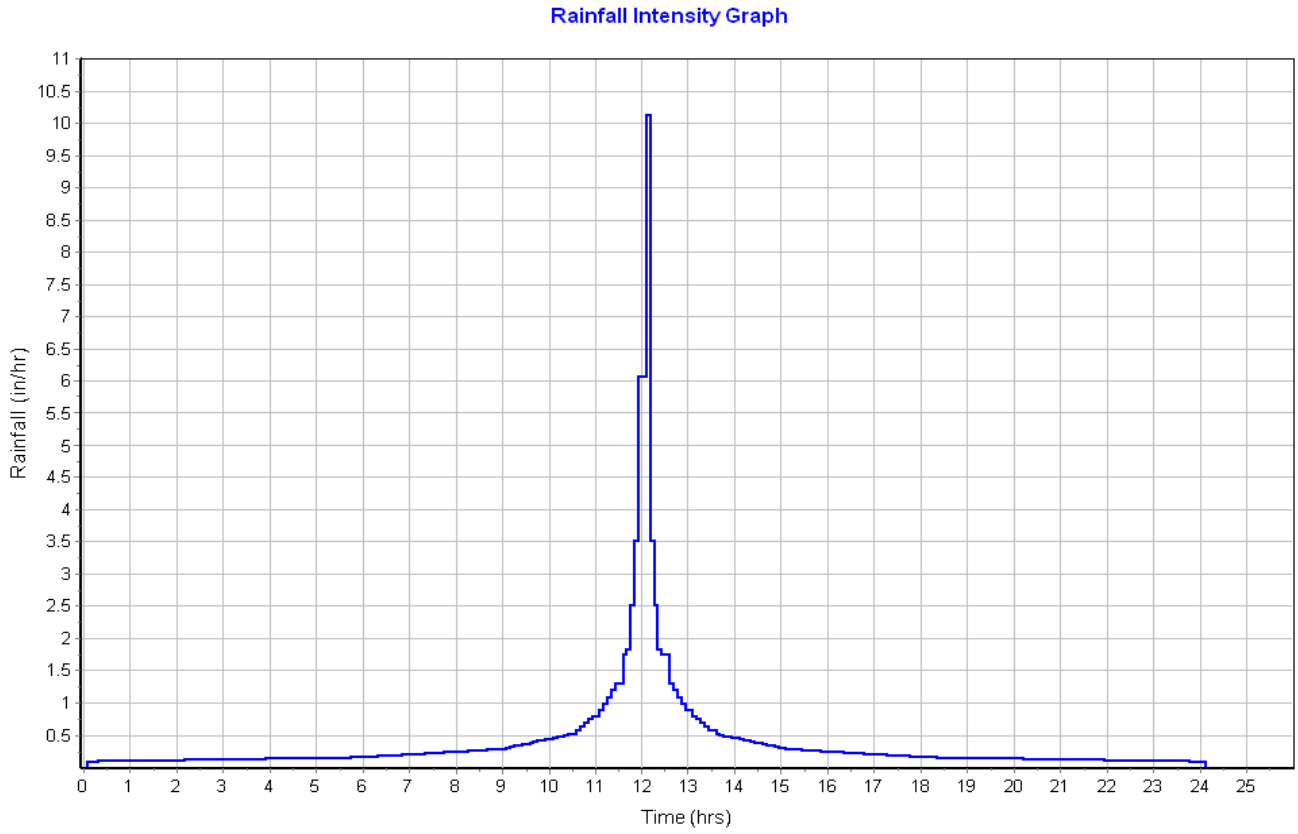
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

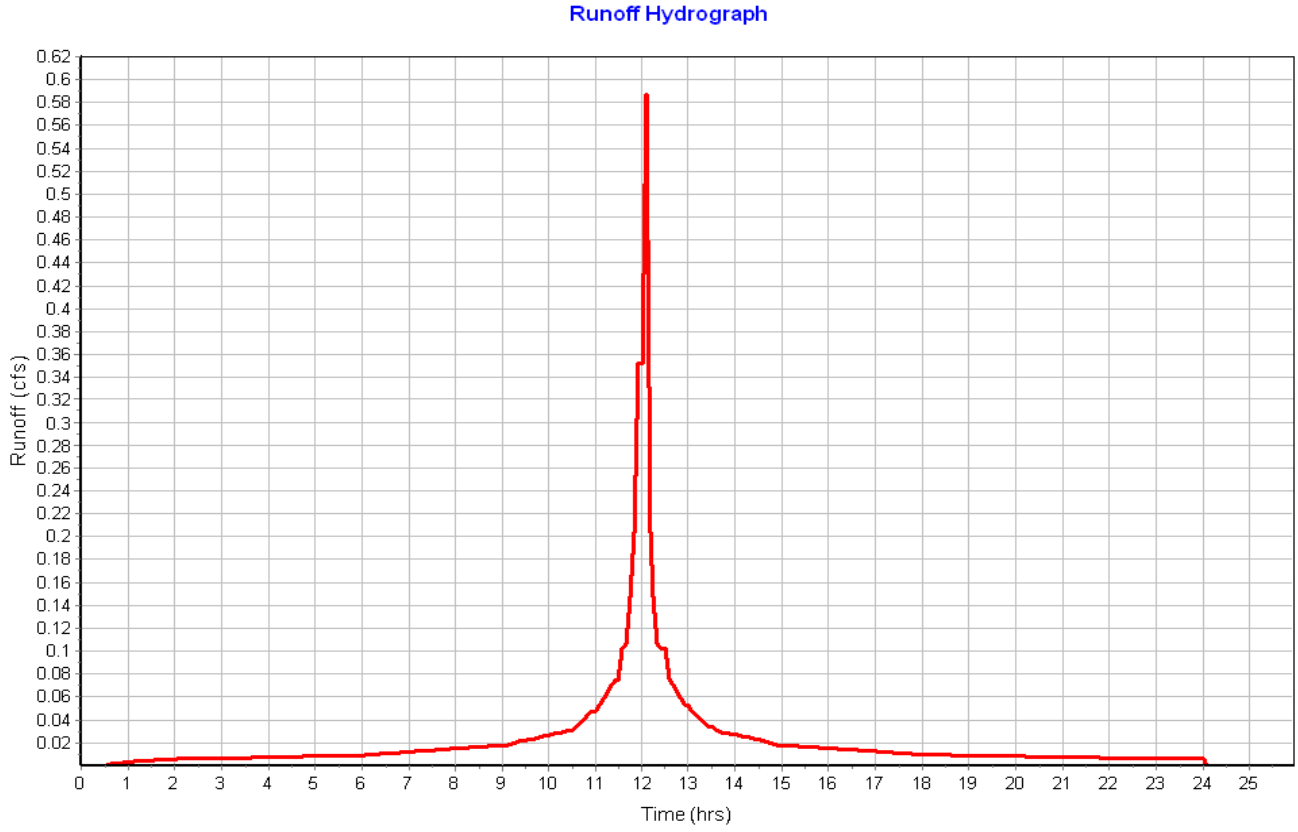
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-04





Subbasin : Roof-05

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

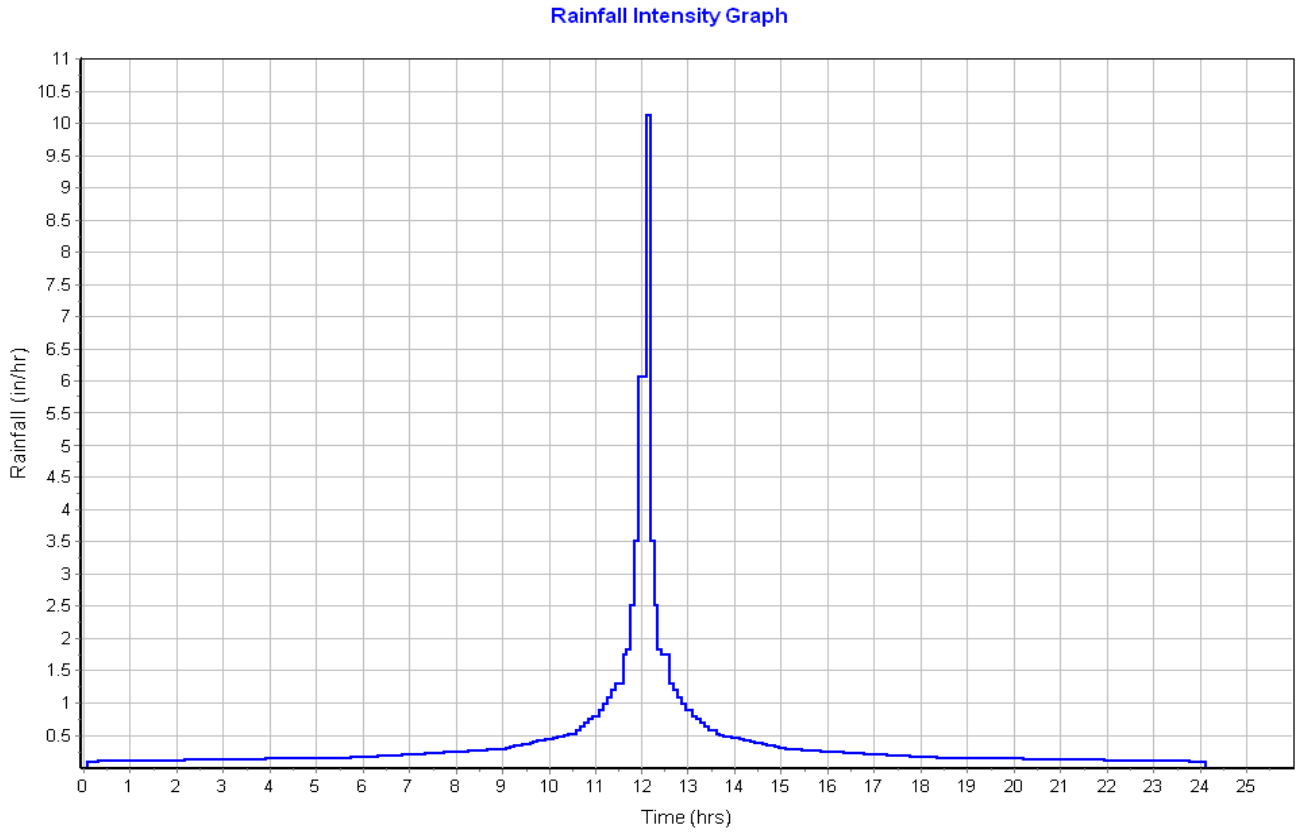
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

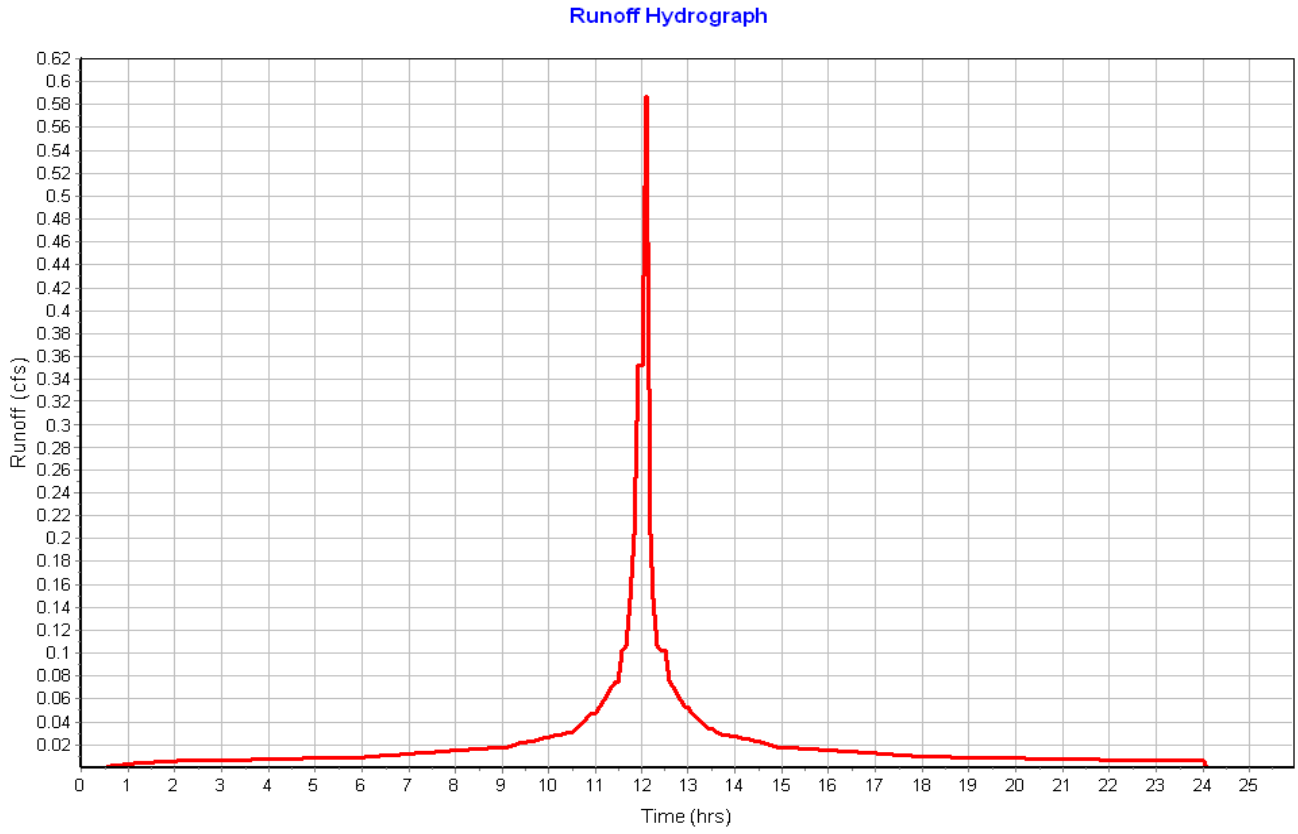
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-05





Subbasin : Roof-06

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

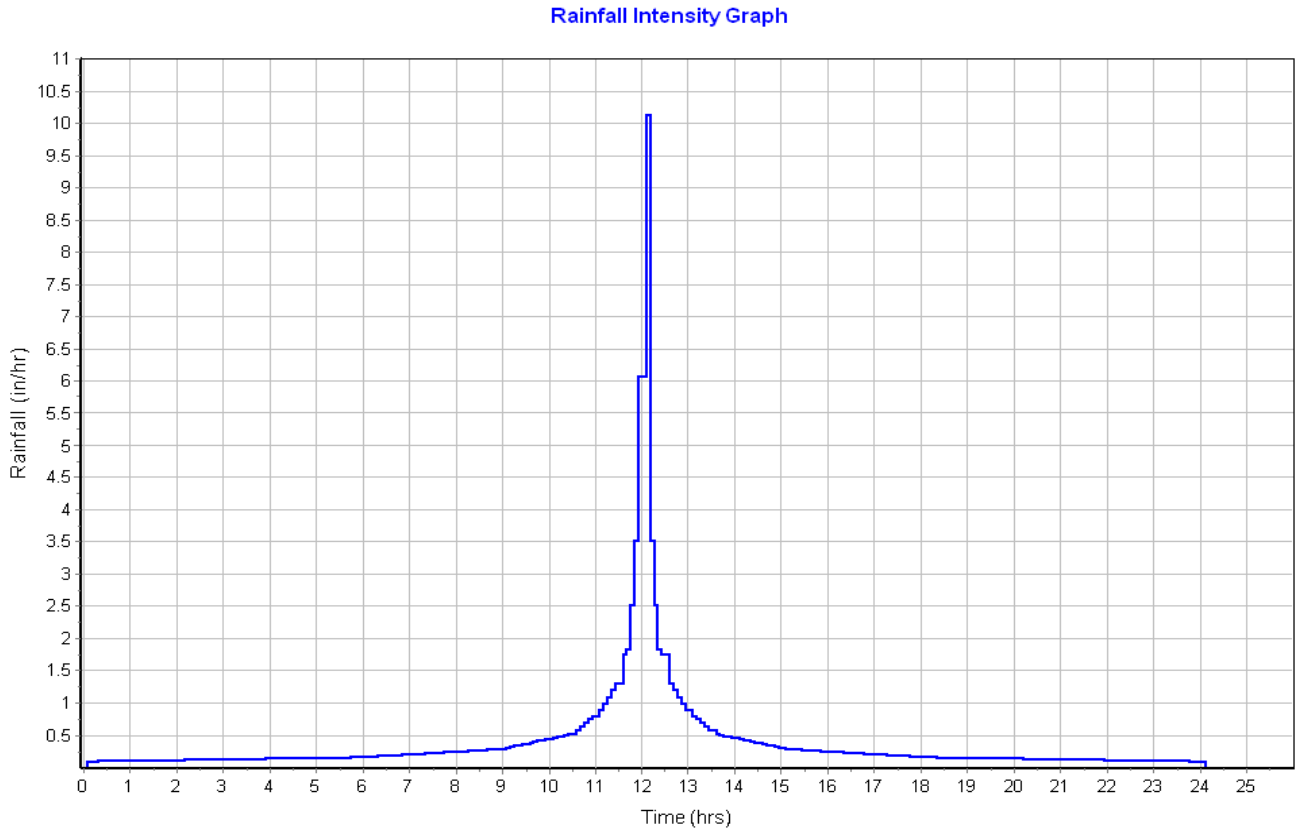
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

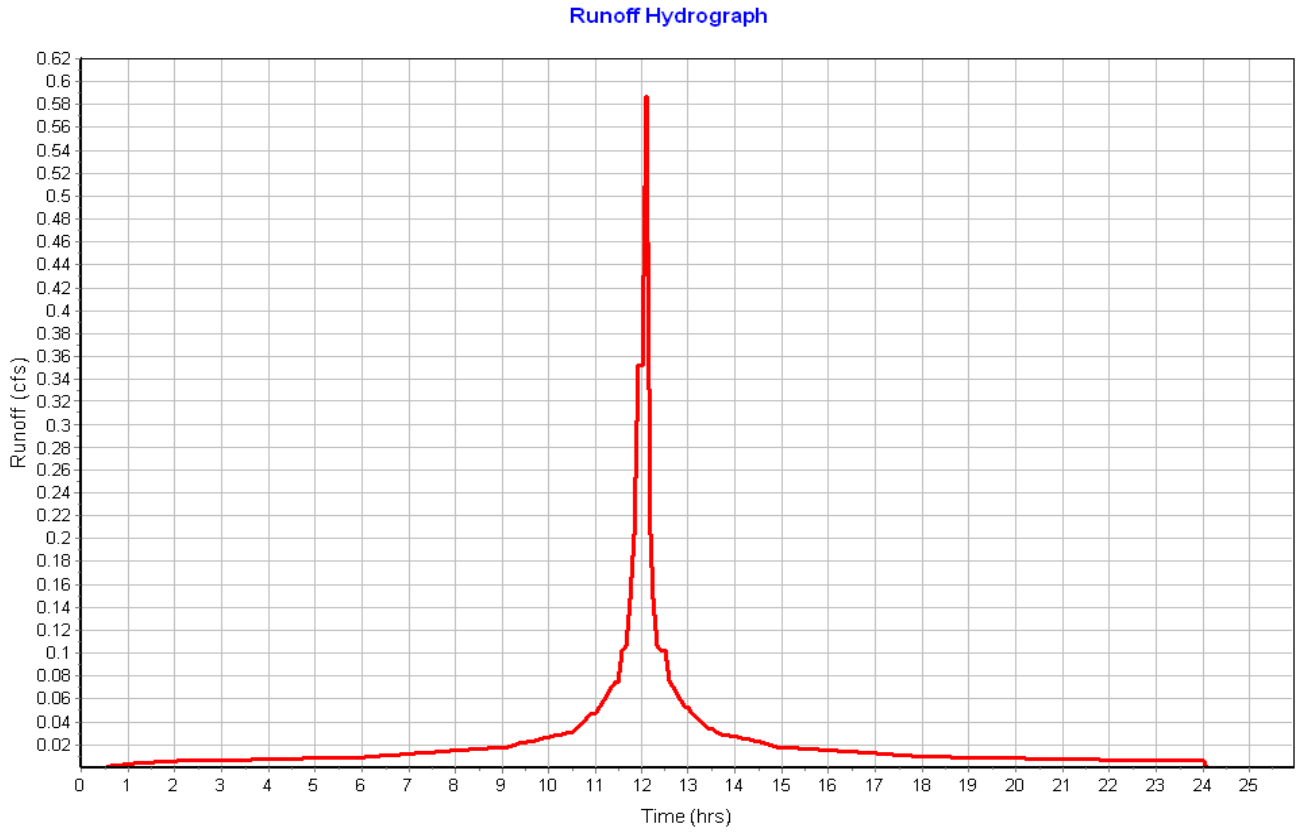
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-06





Subbasin : Roof-07

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

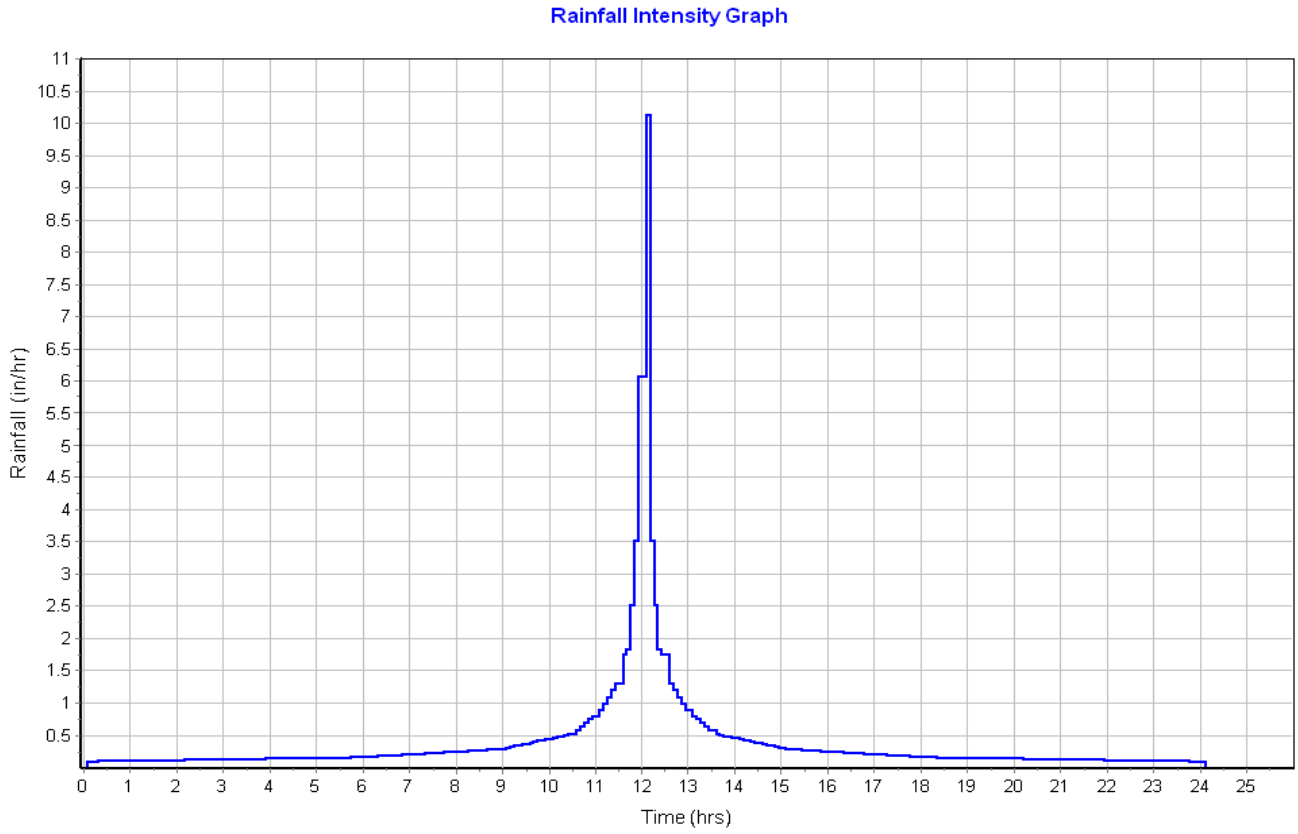
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

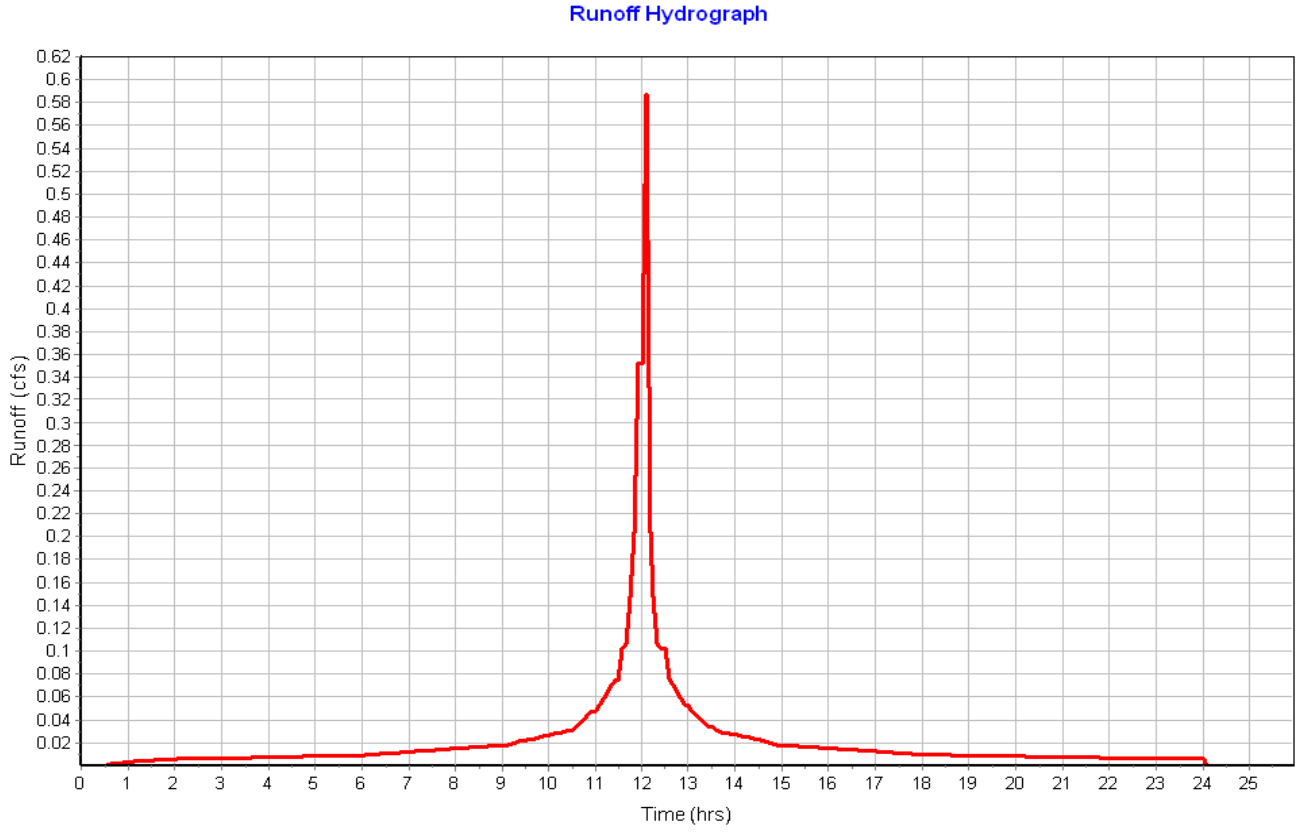
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-07





Subbasin : Roof-08

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

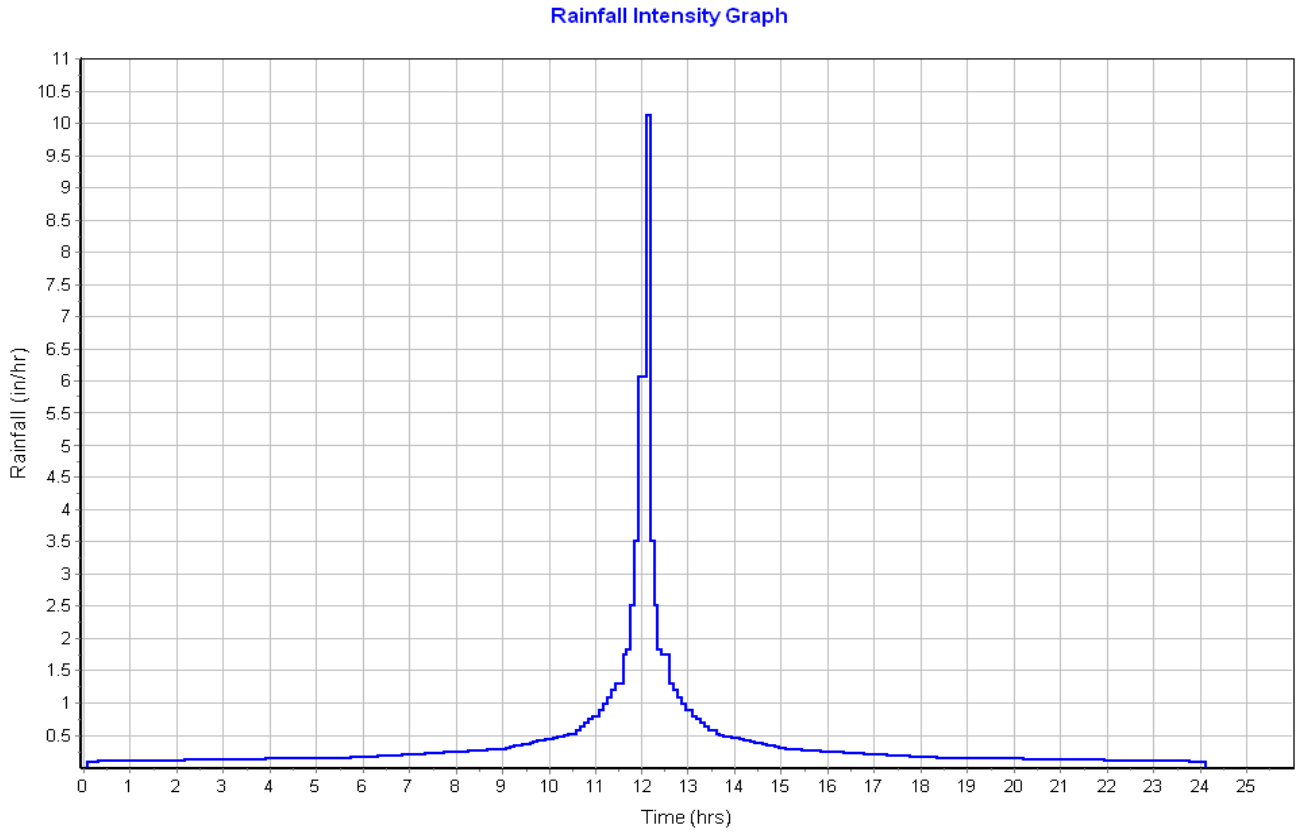
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

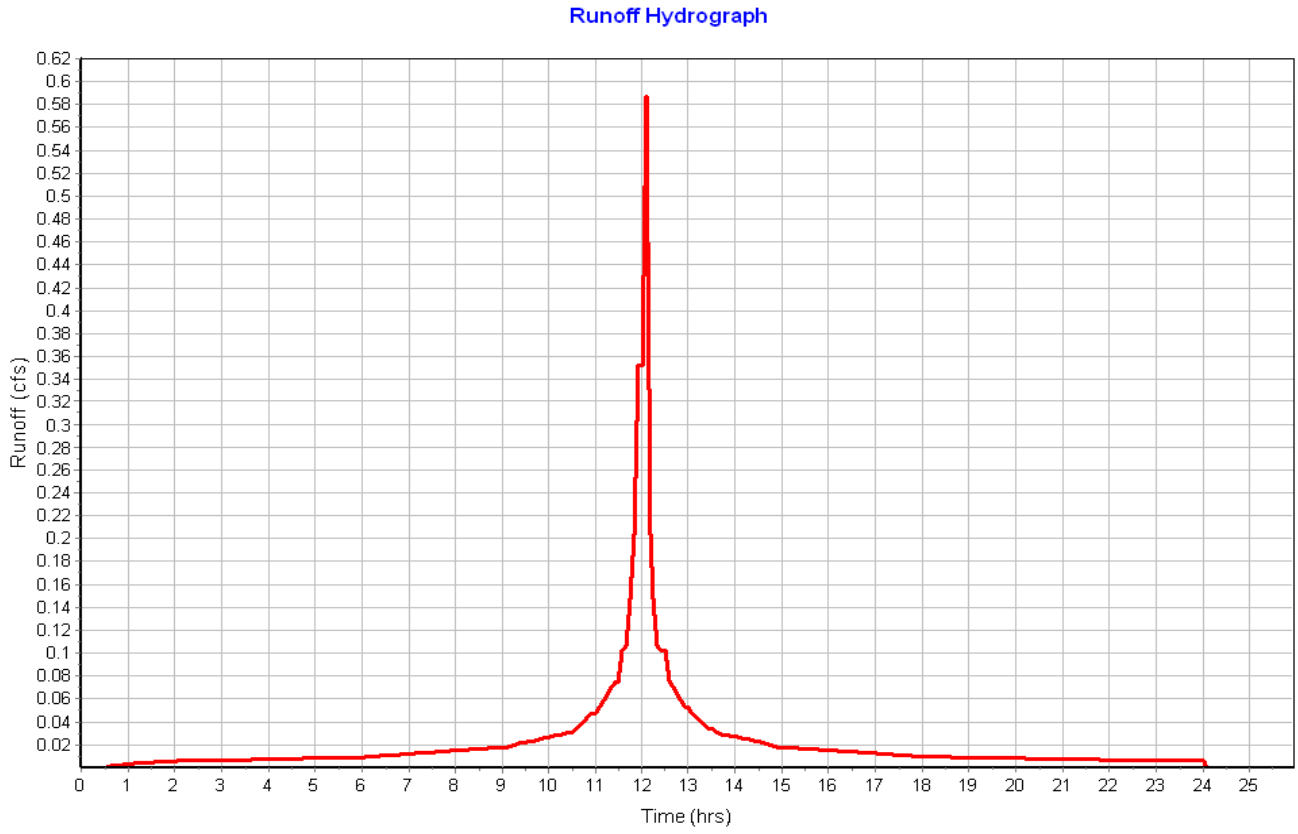
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-08





Subbasin : Roof-09

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

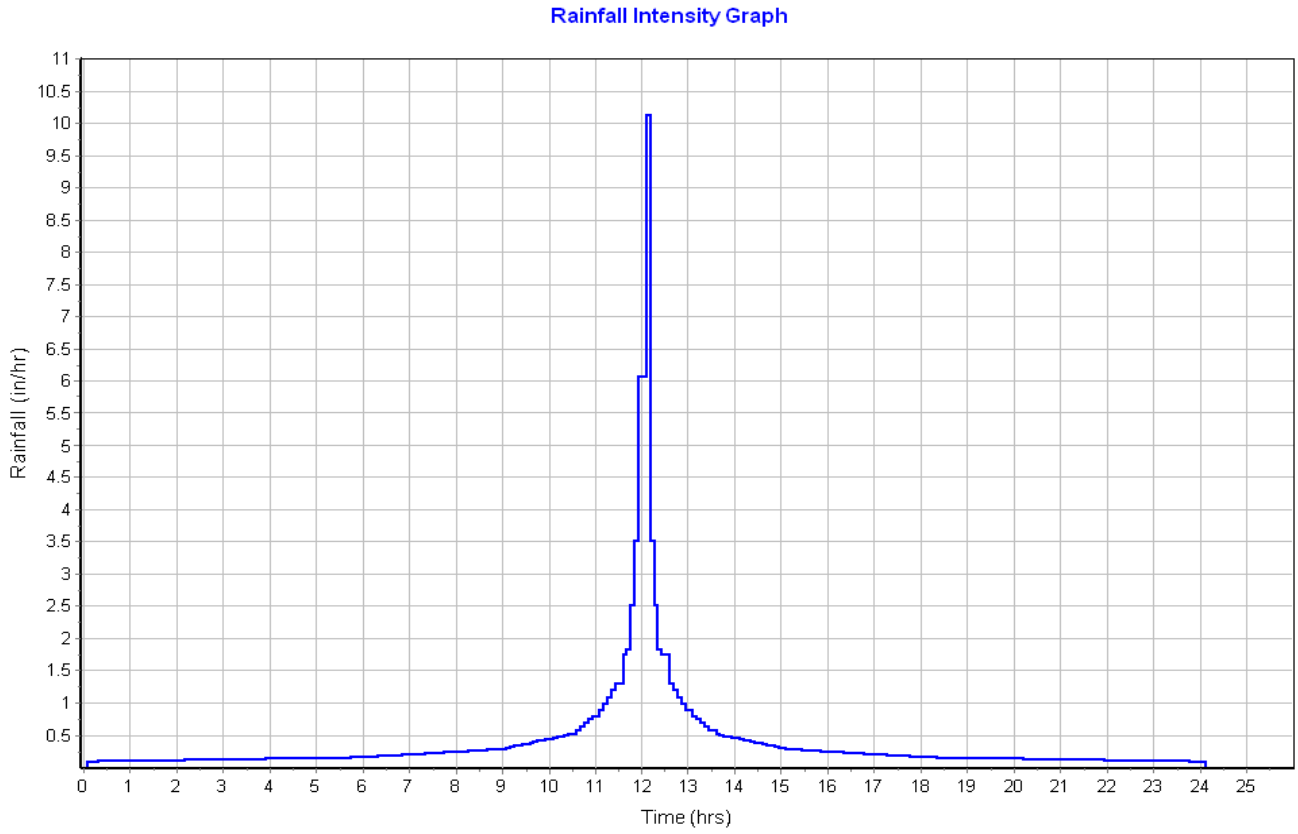
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

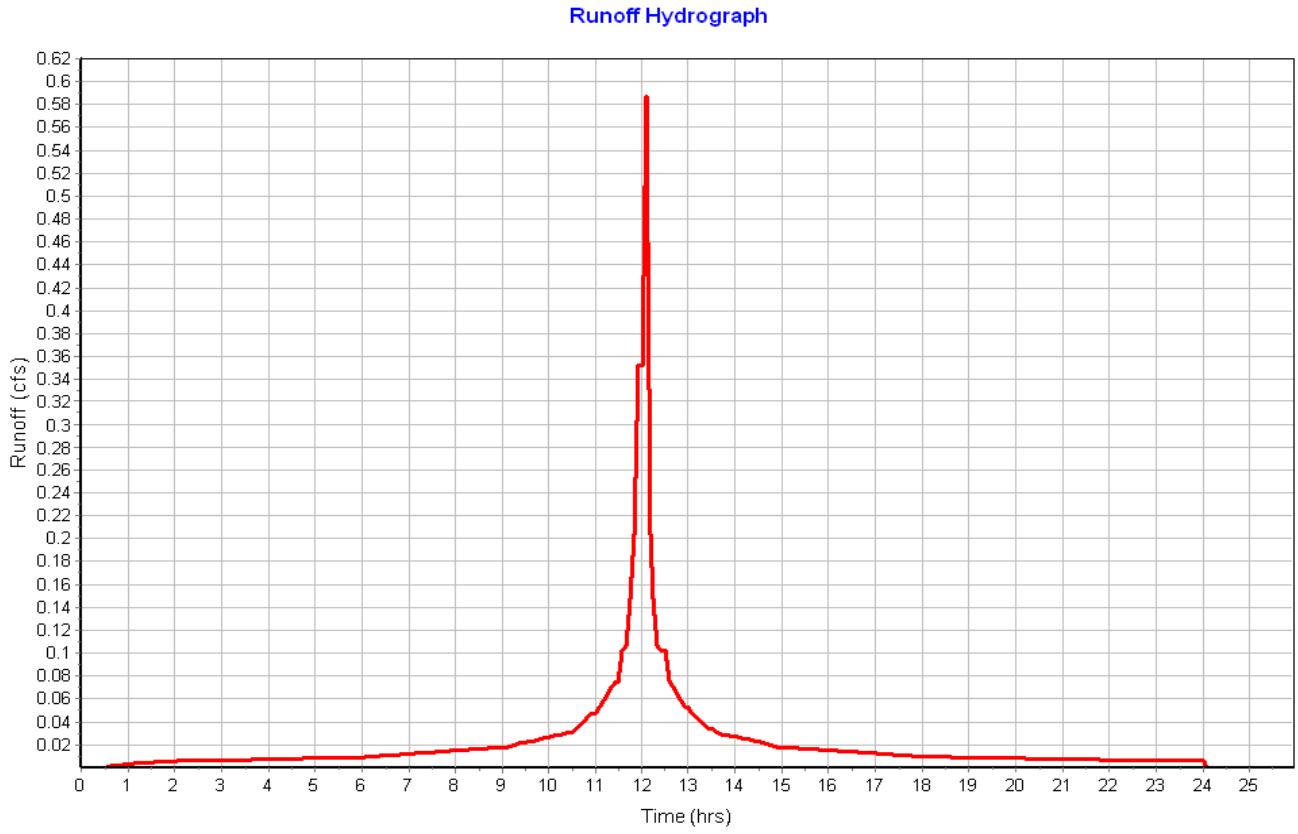
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-09





Subbasin : Roof-10

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

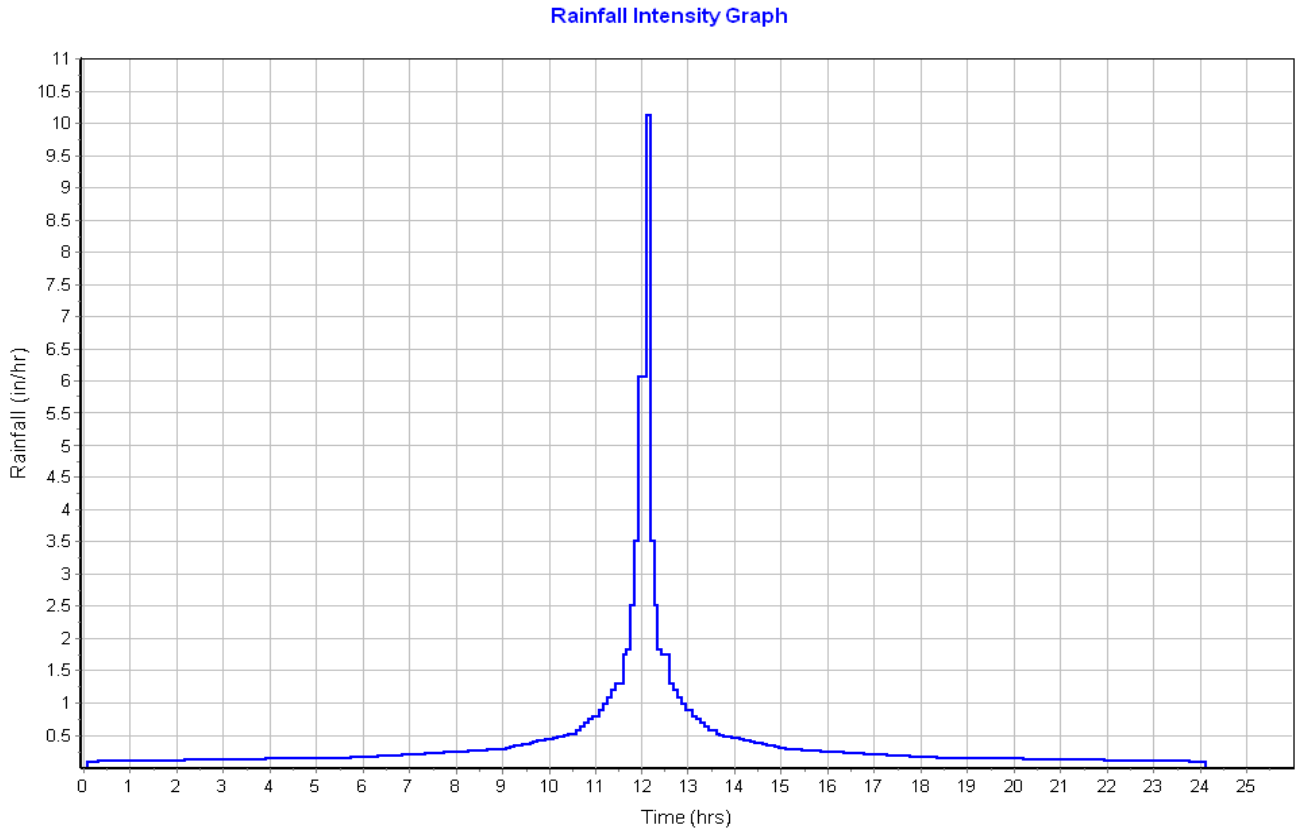
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

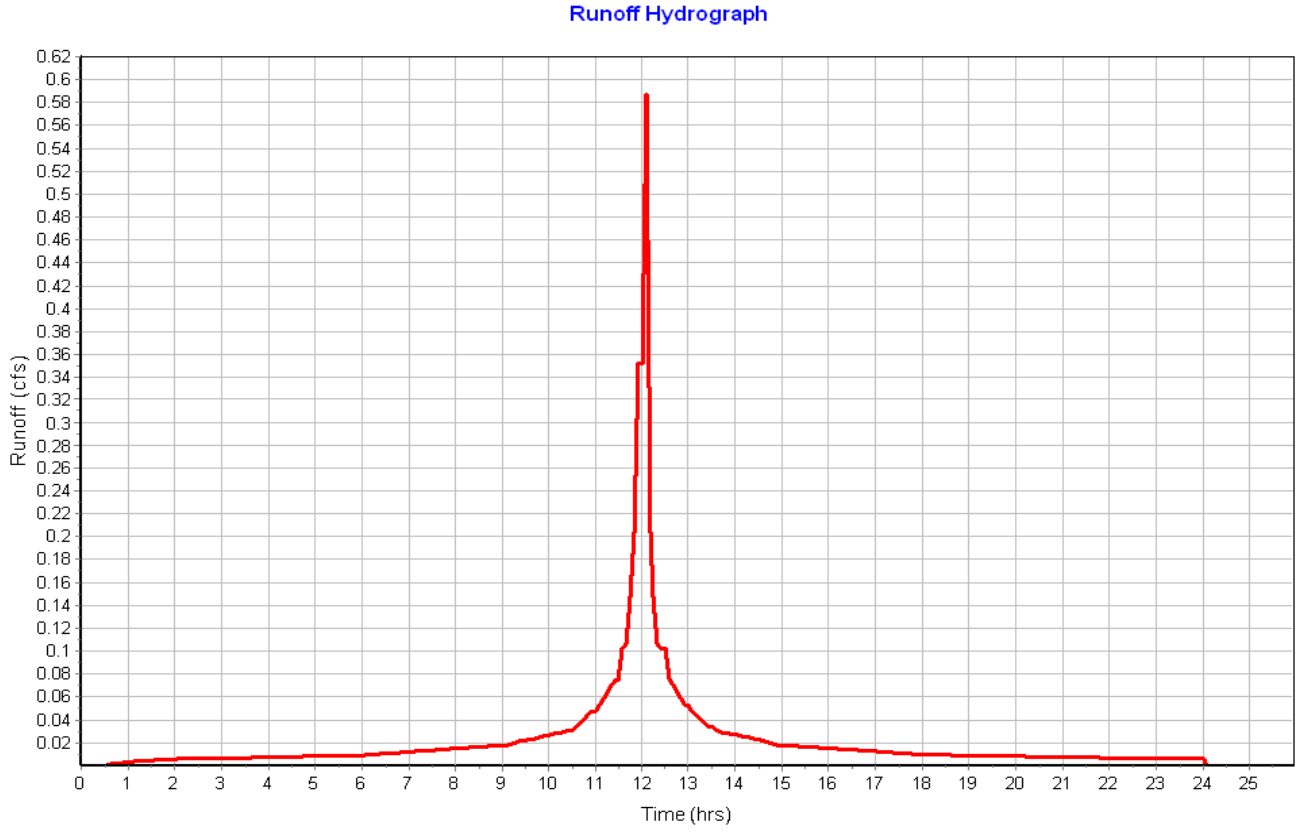
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-10





Subbasin : Roof-11

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

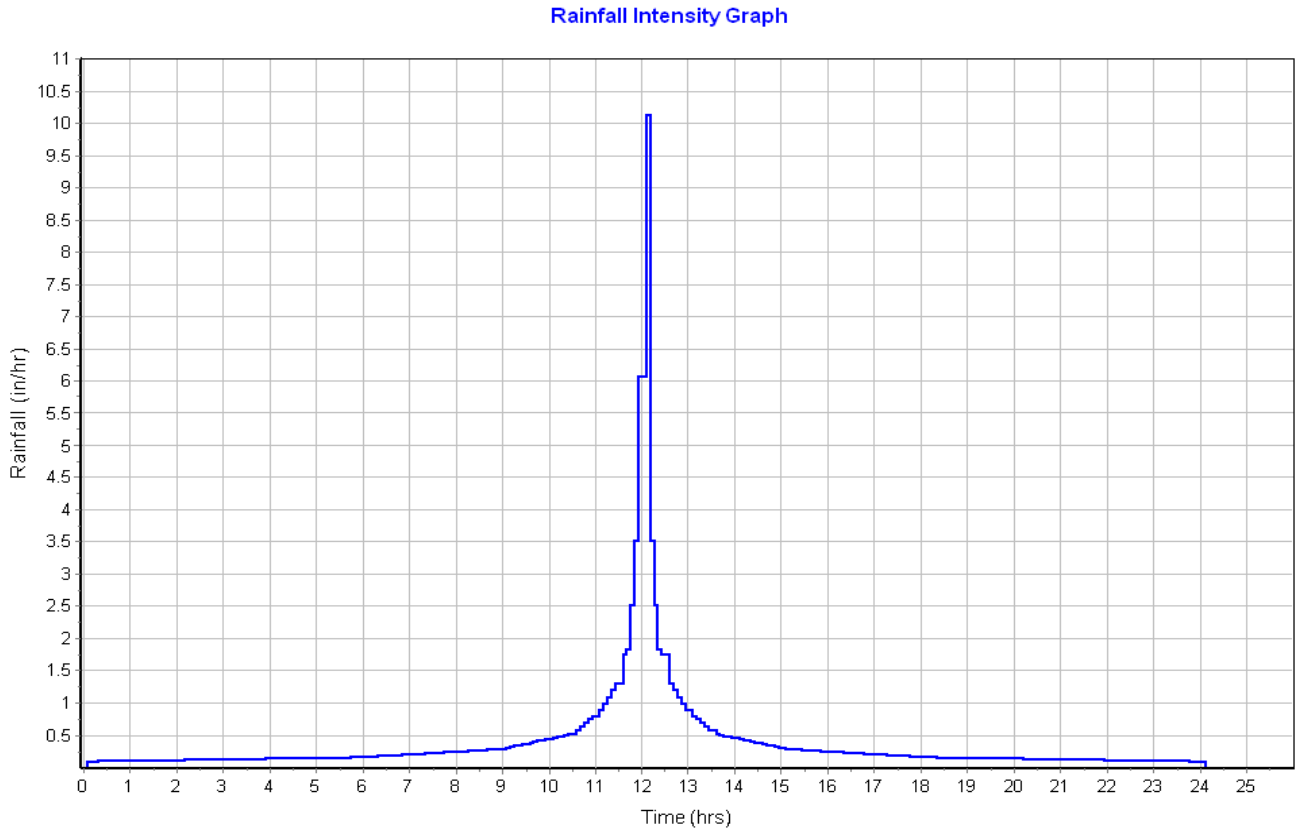
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

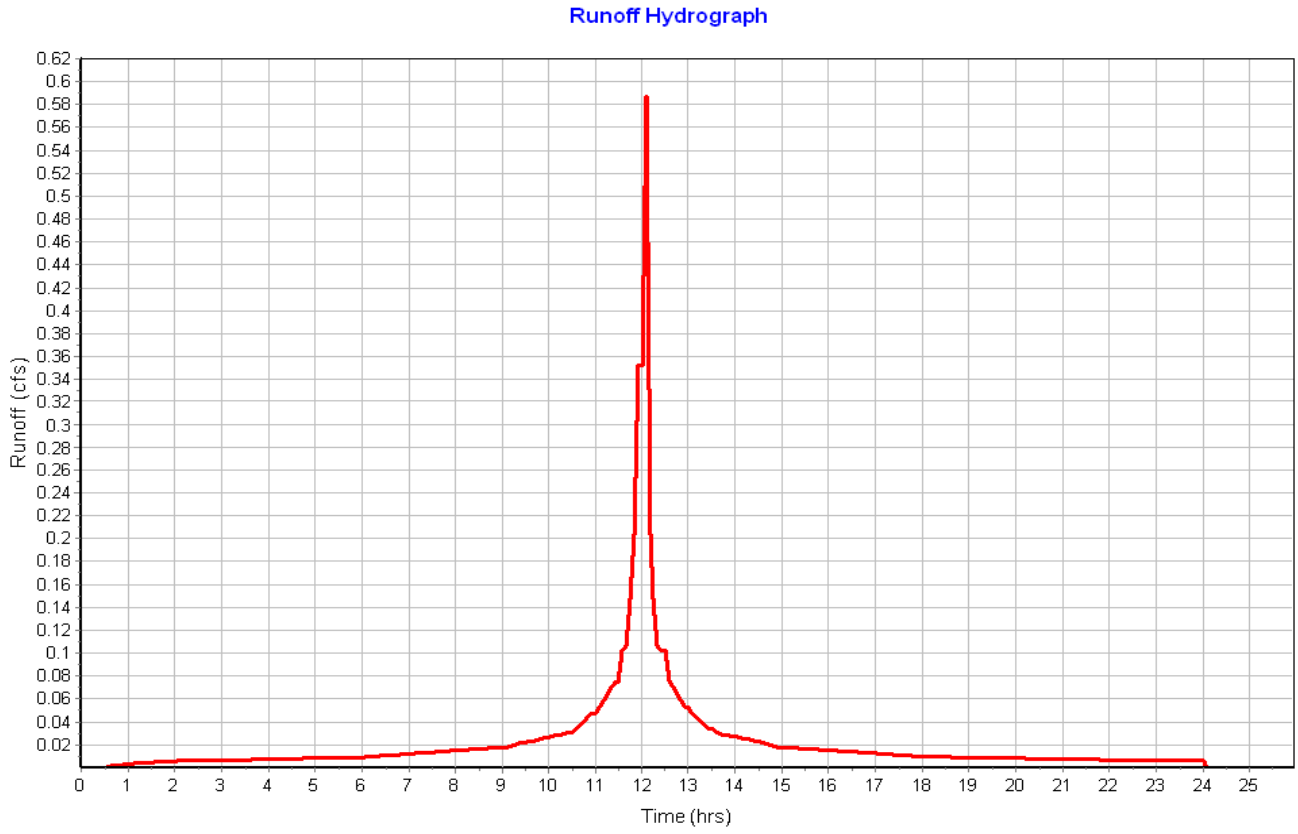
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-11





Subbasin : Roof-12

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

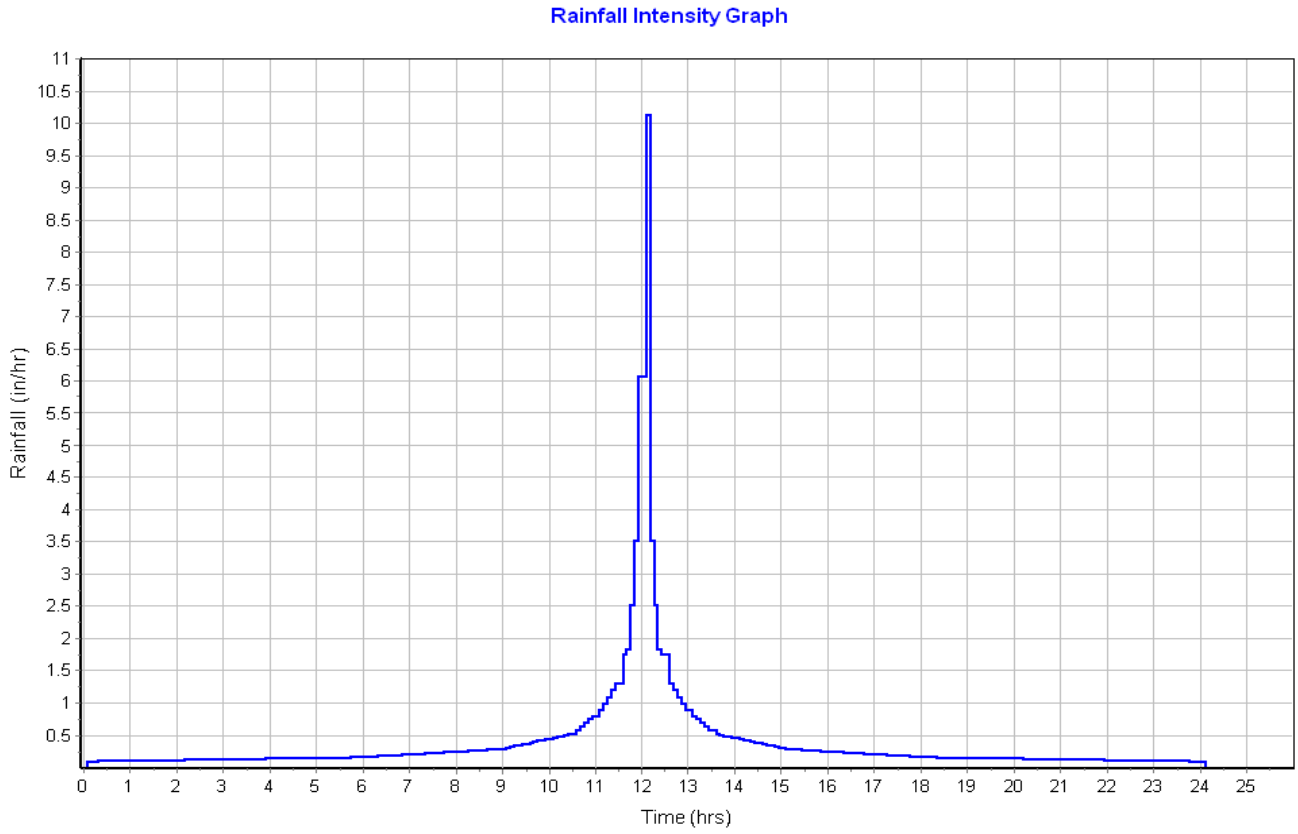
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

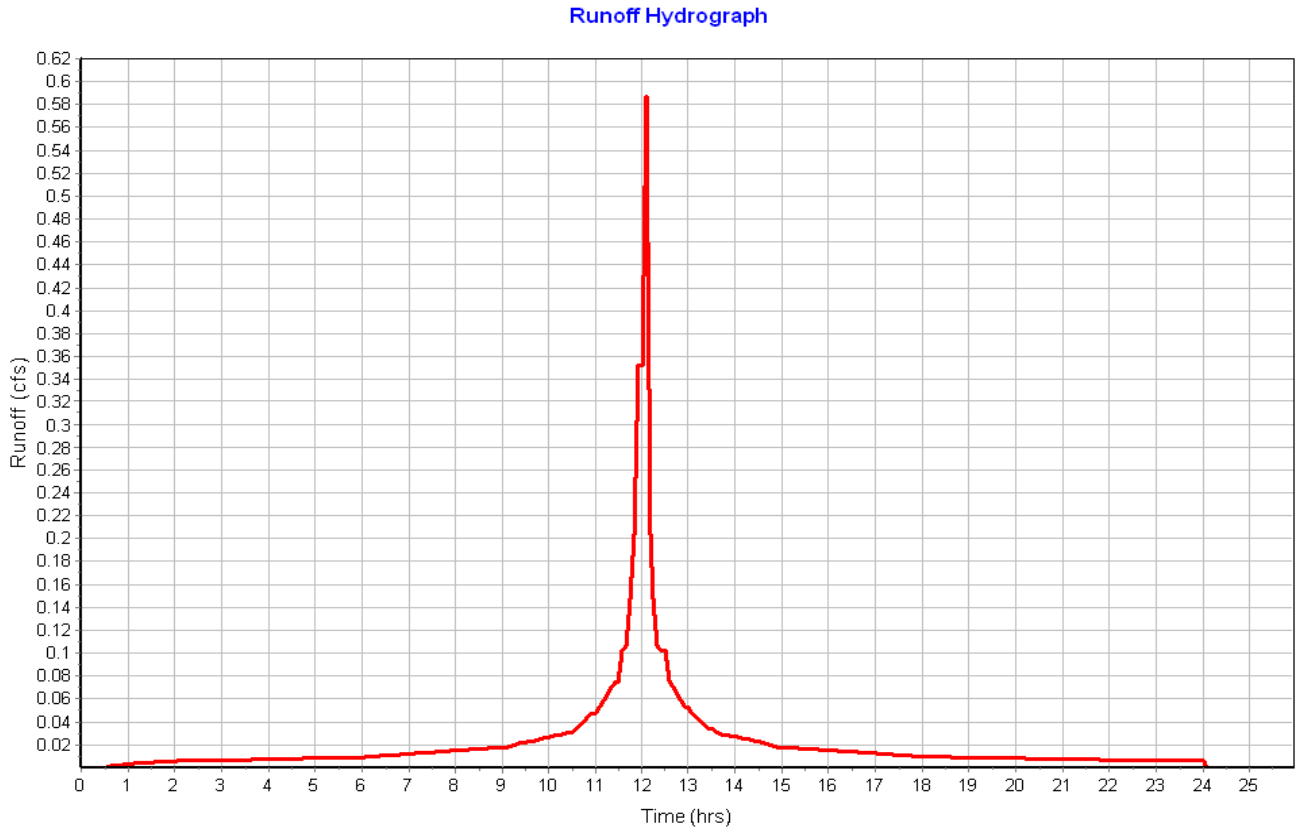
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-12





Subbasin : Roof-13

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

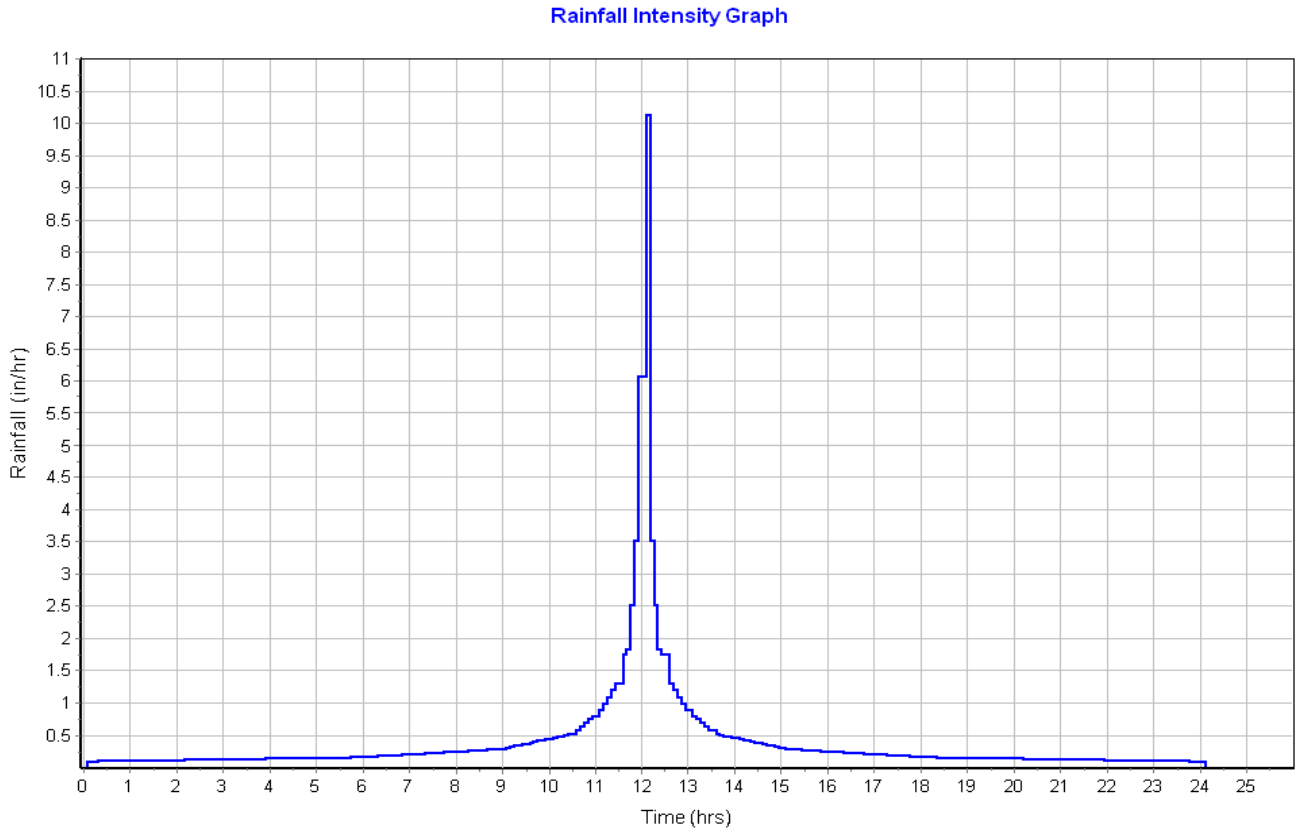
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

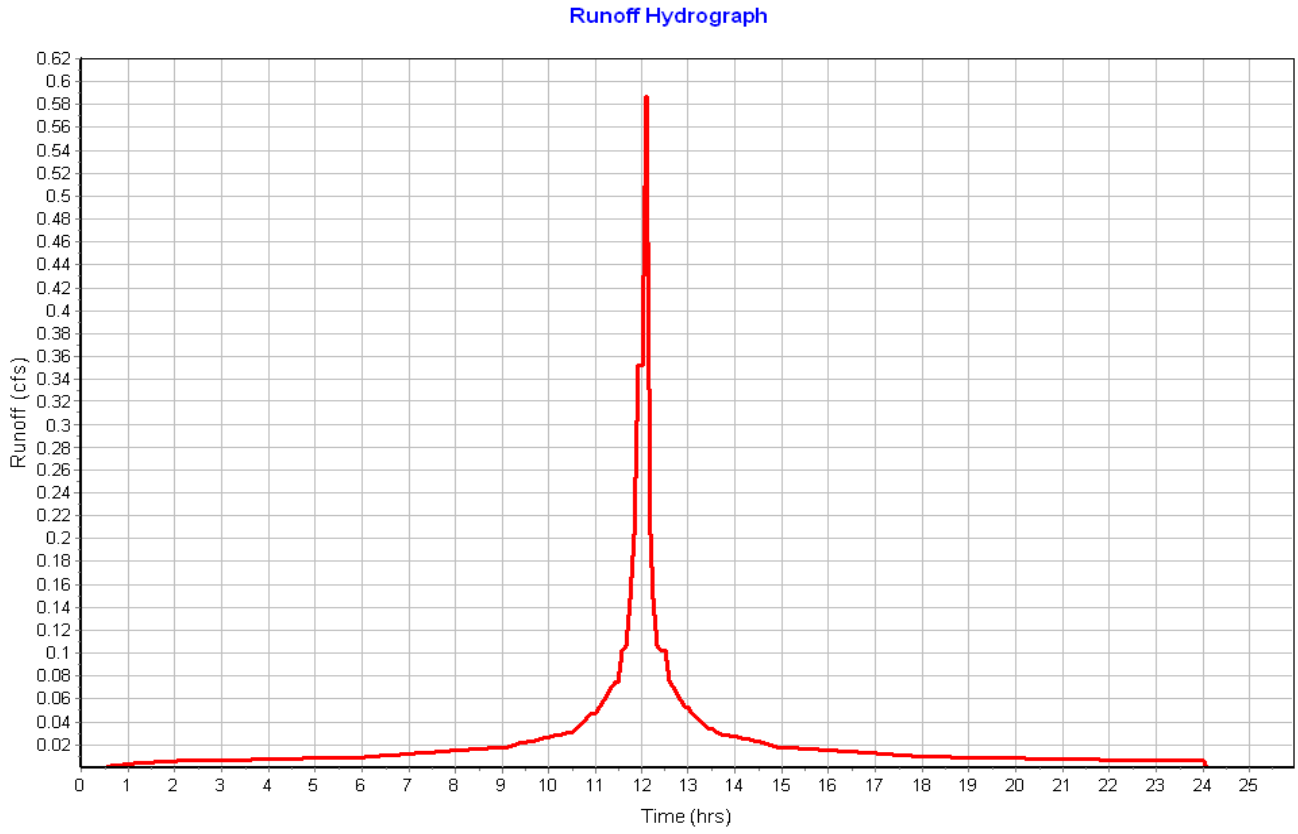
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-13





Subbasin : Roof-14

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

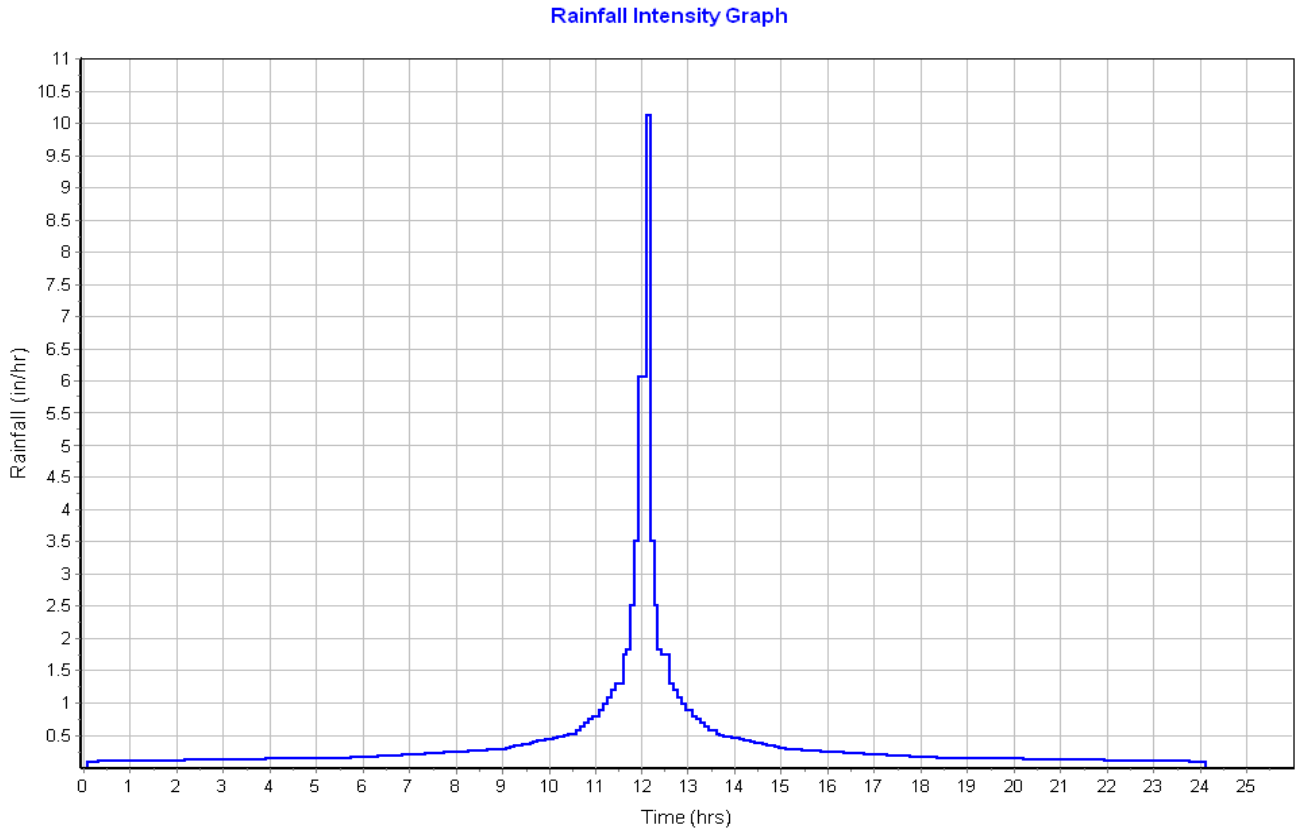
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

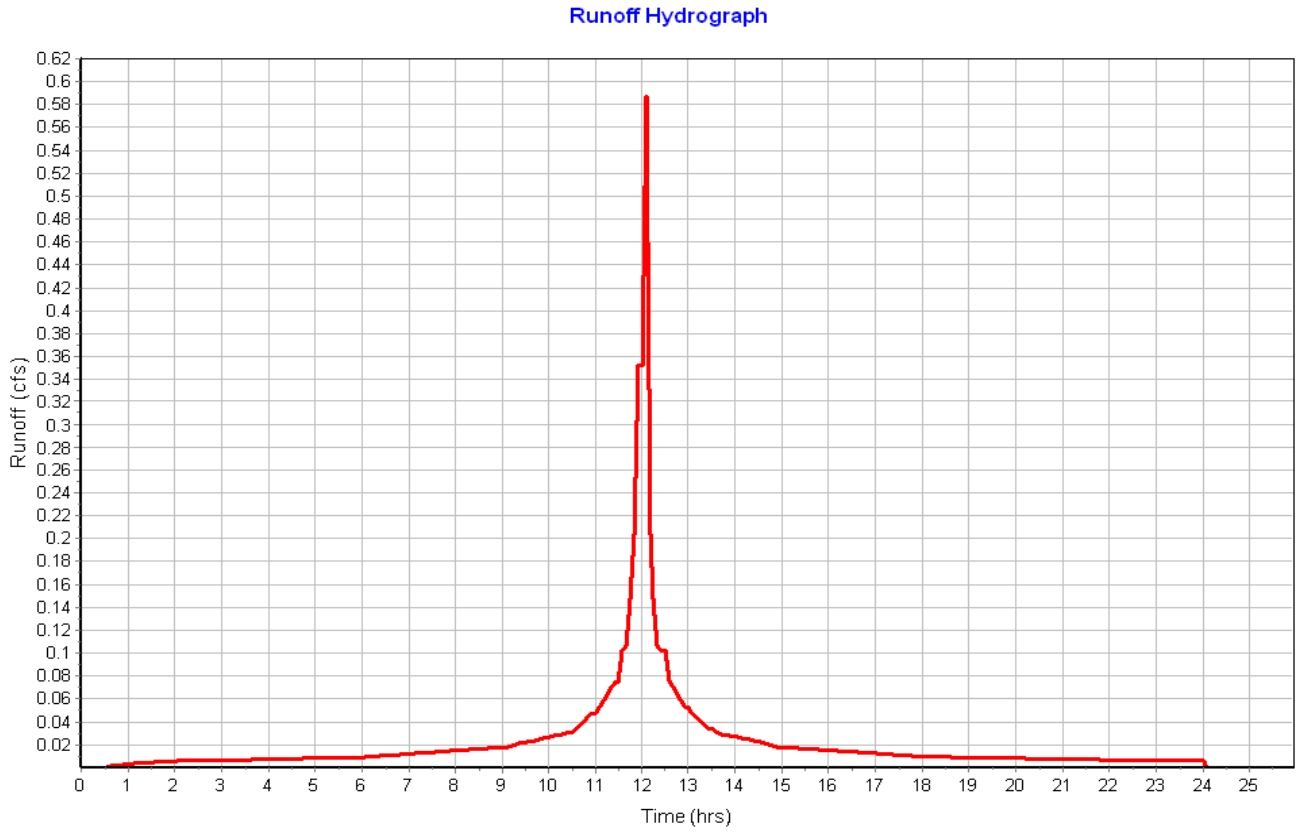
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-14





Subbasin : Roof-15

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

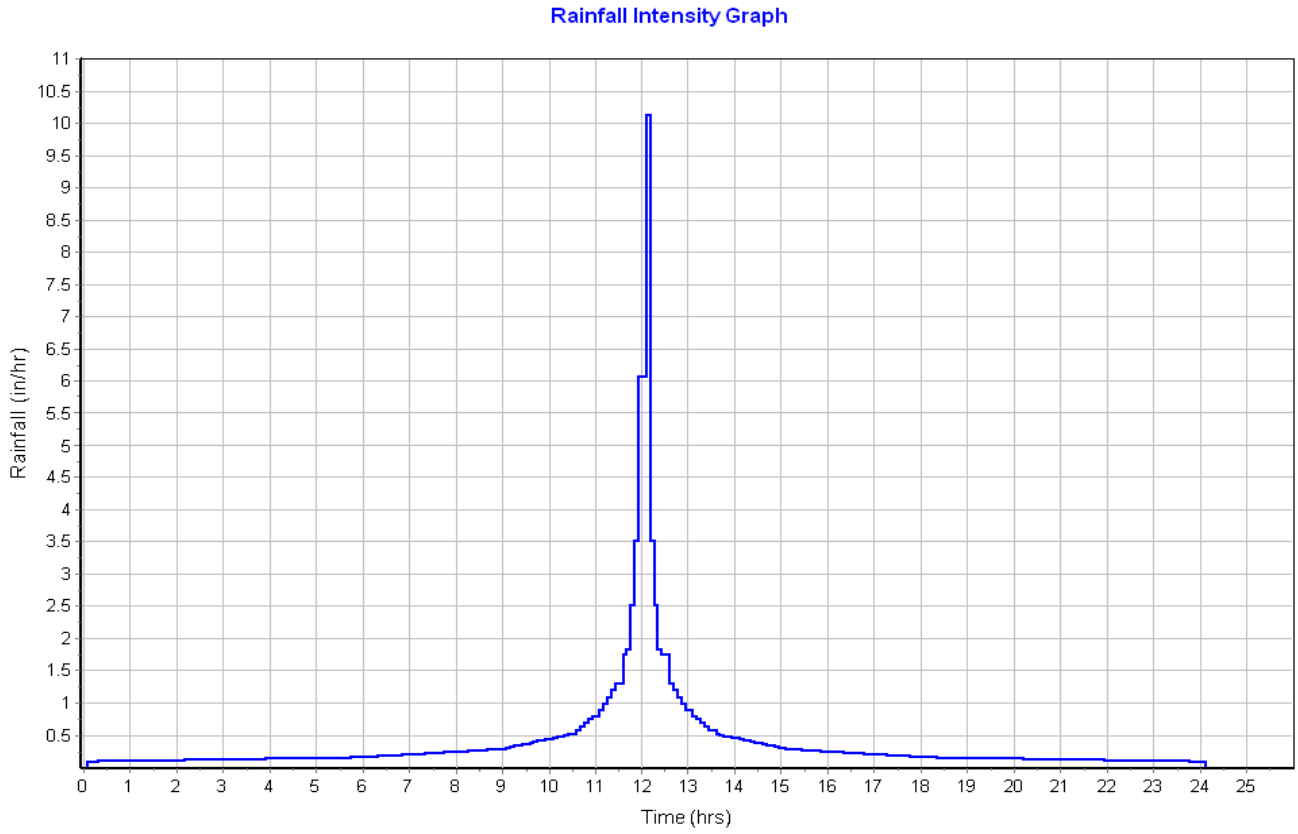
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

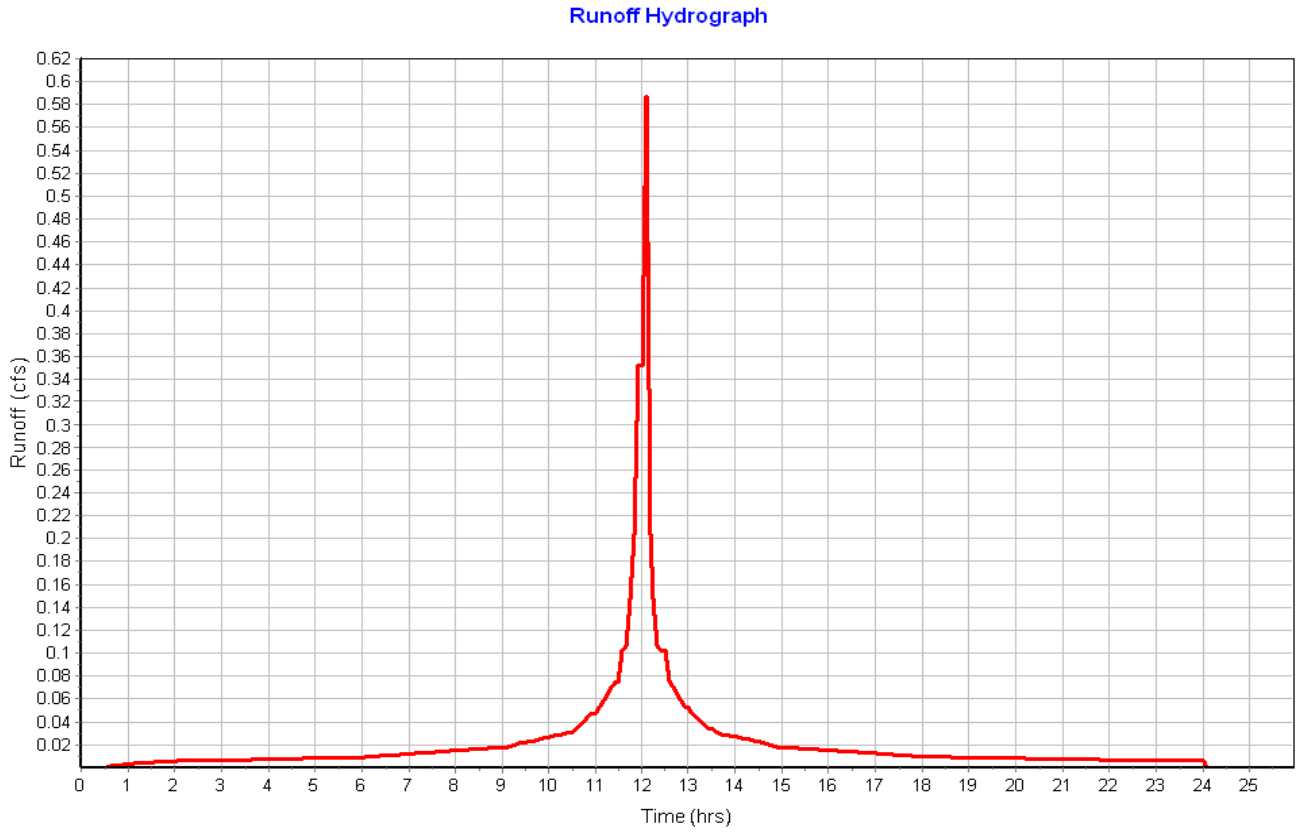
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-15





Subbasin : Roof-16

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

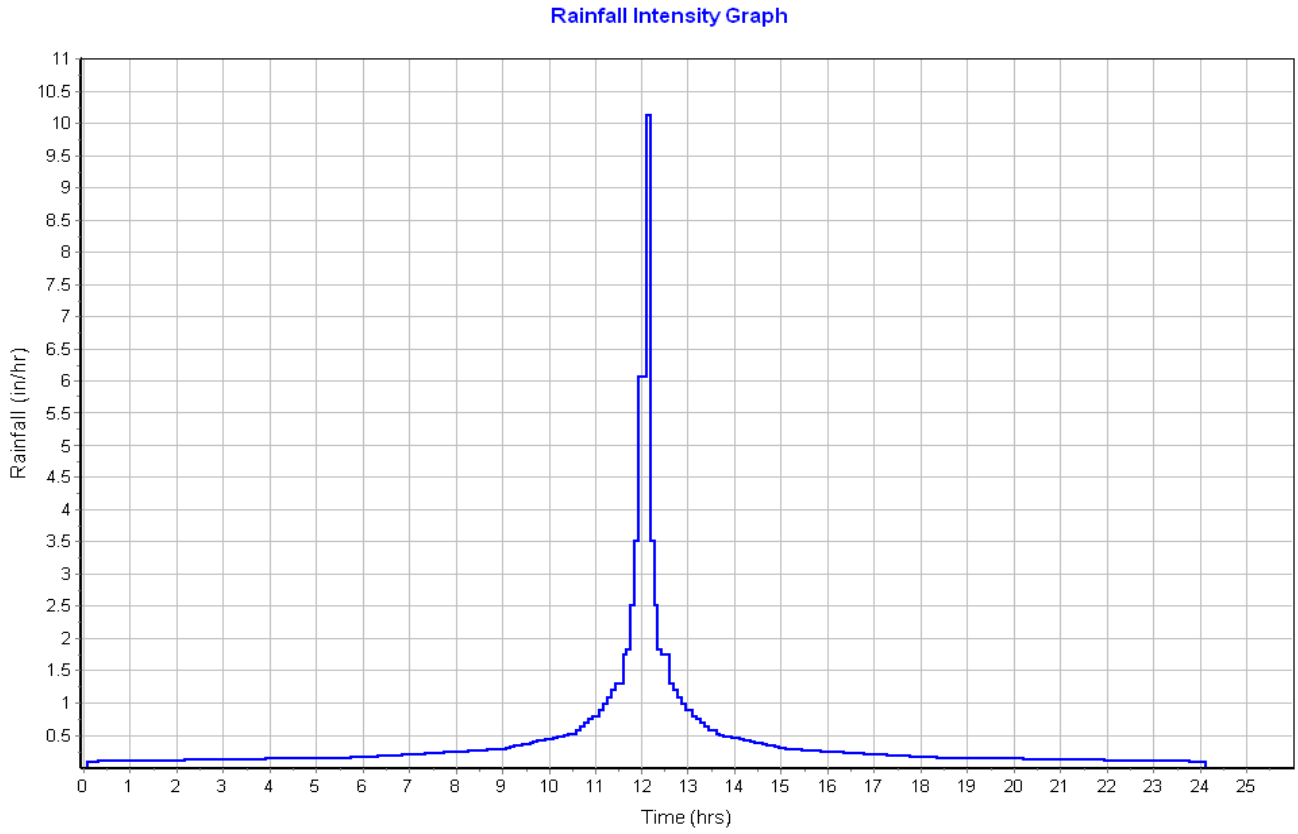
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

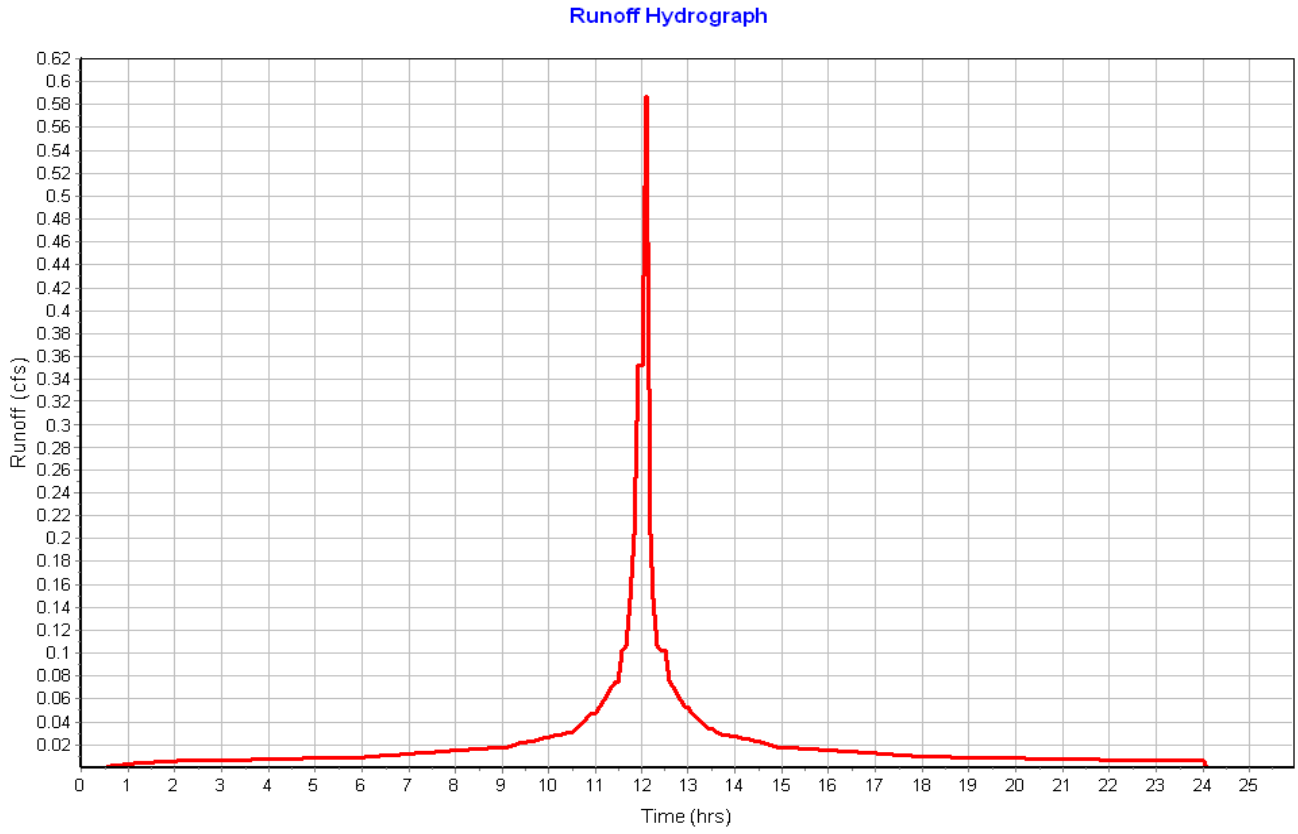
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-16





Subbasin : Roof-17

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

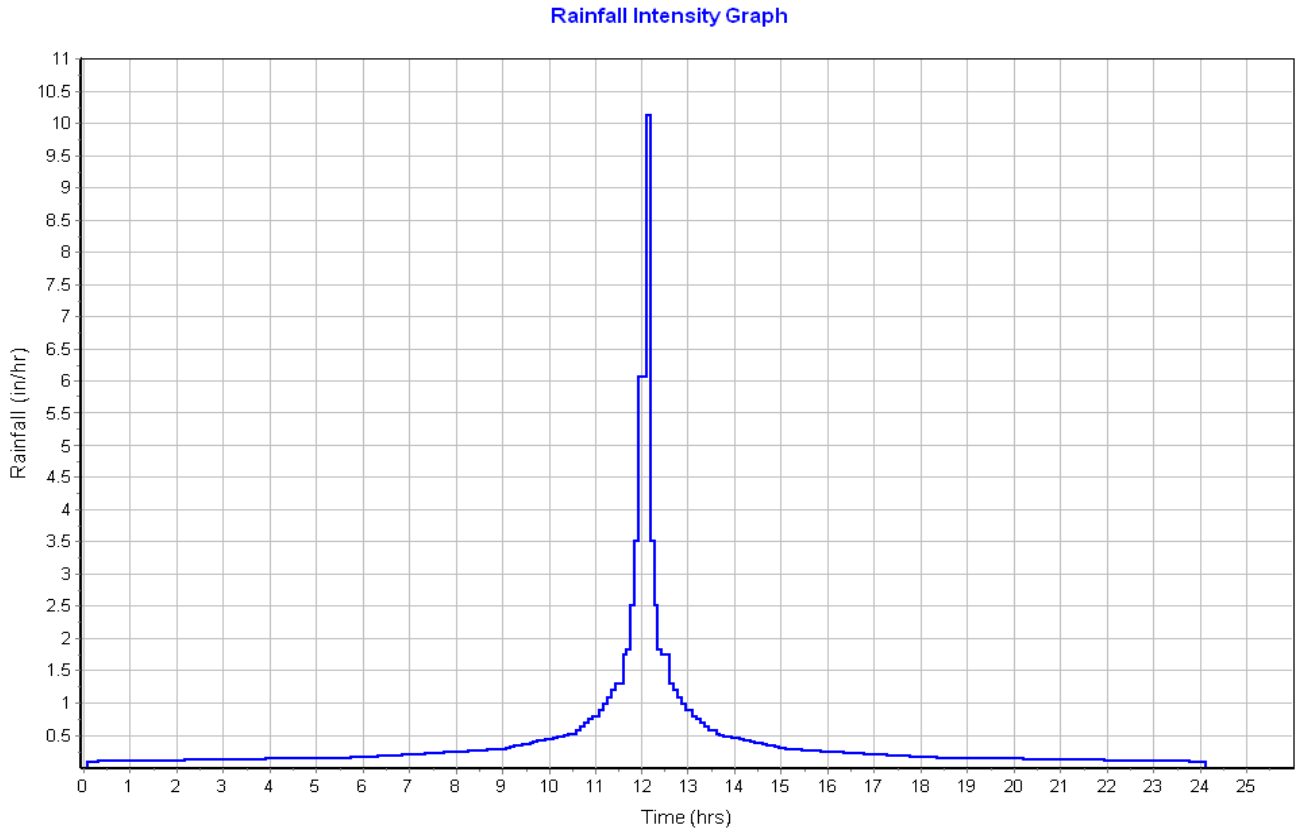
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

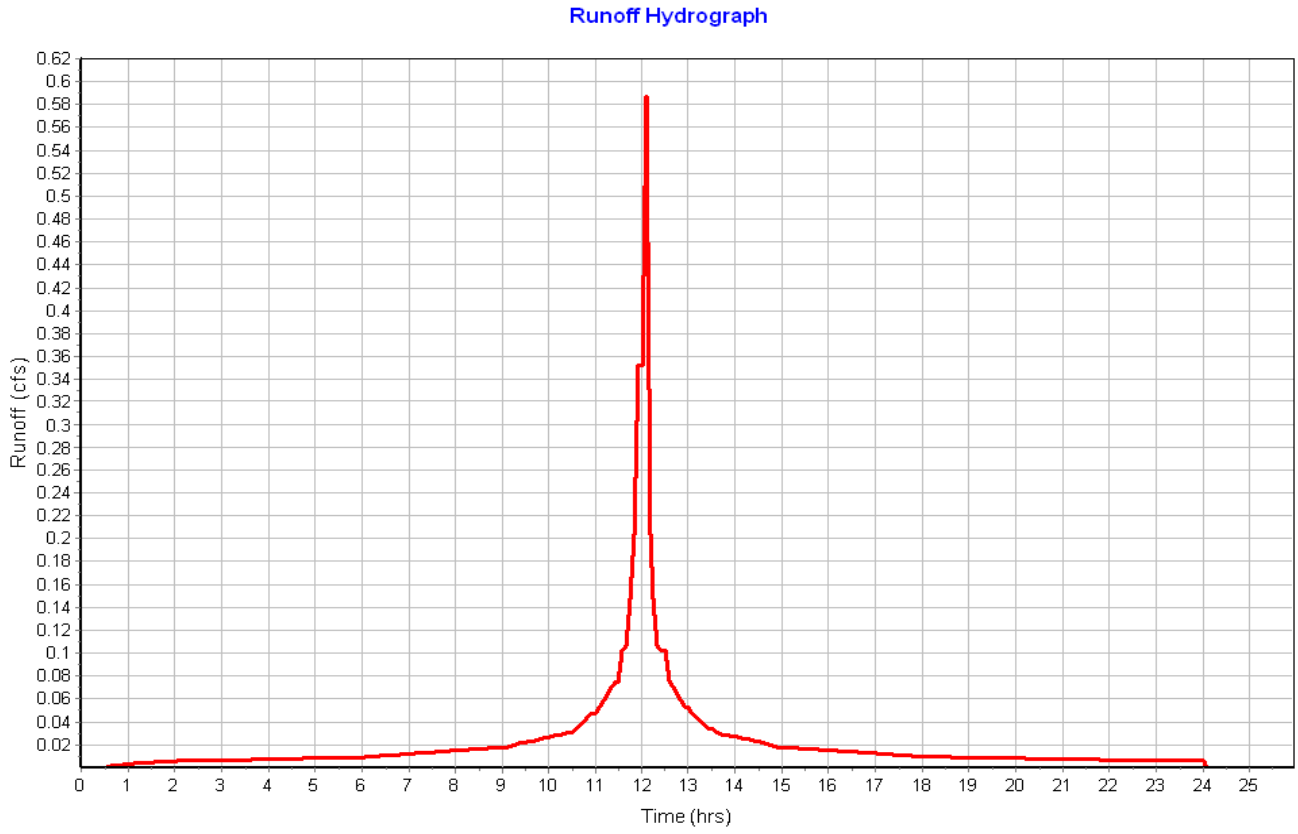
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-17





Subbasin : Roof-18

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

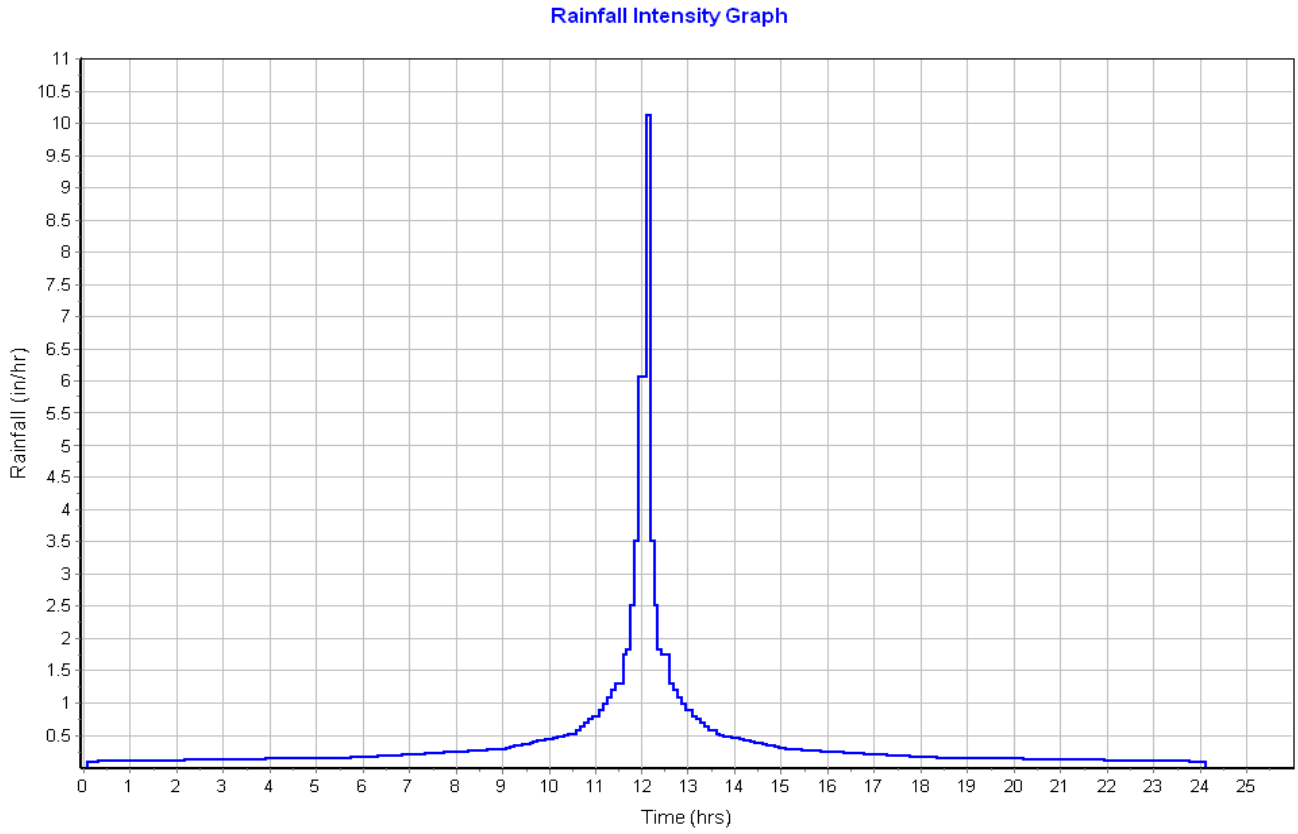
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

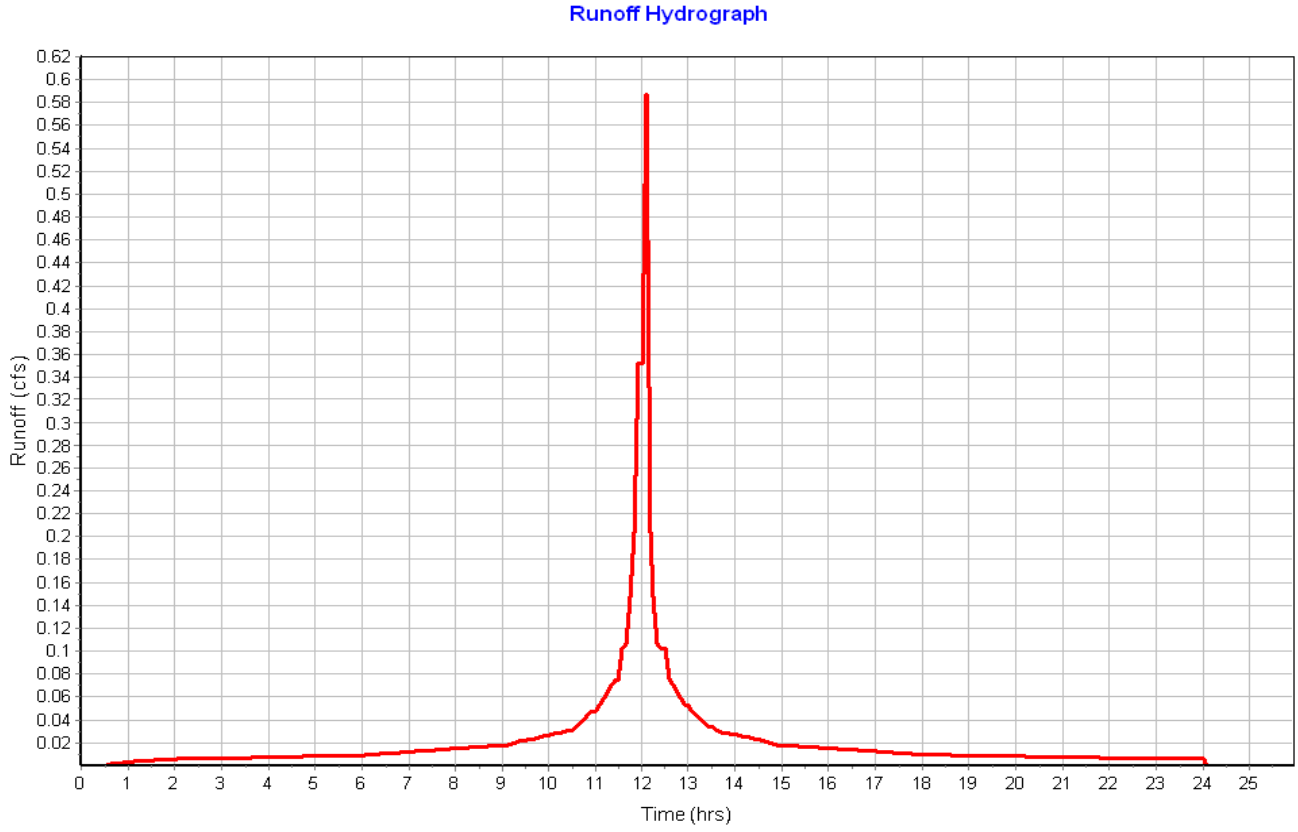
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-18





Subbasin : Roof-19

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

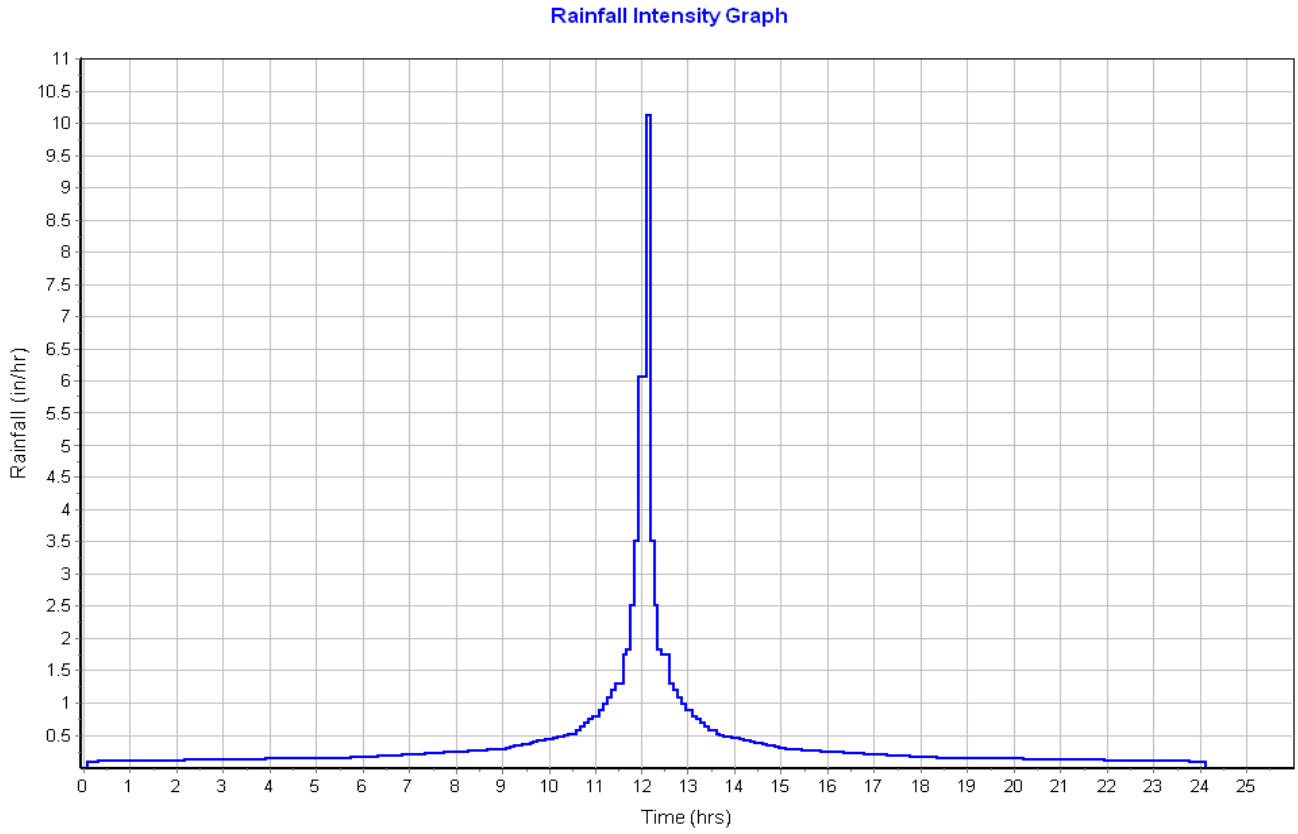
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

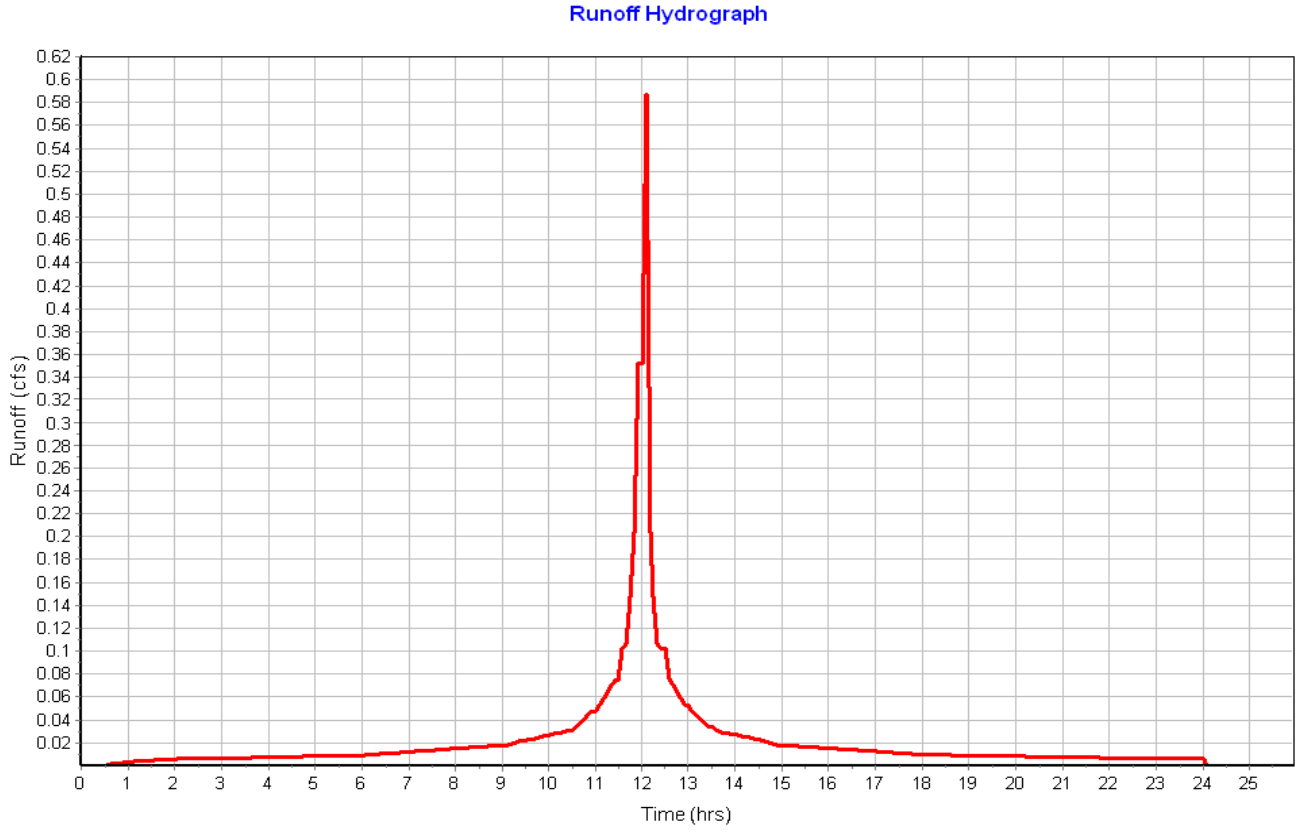
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-19





Subbasin : Roof-20

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

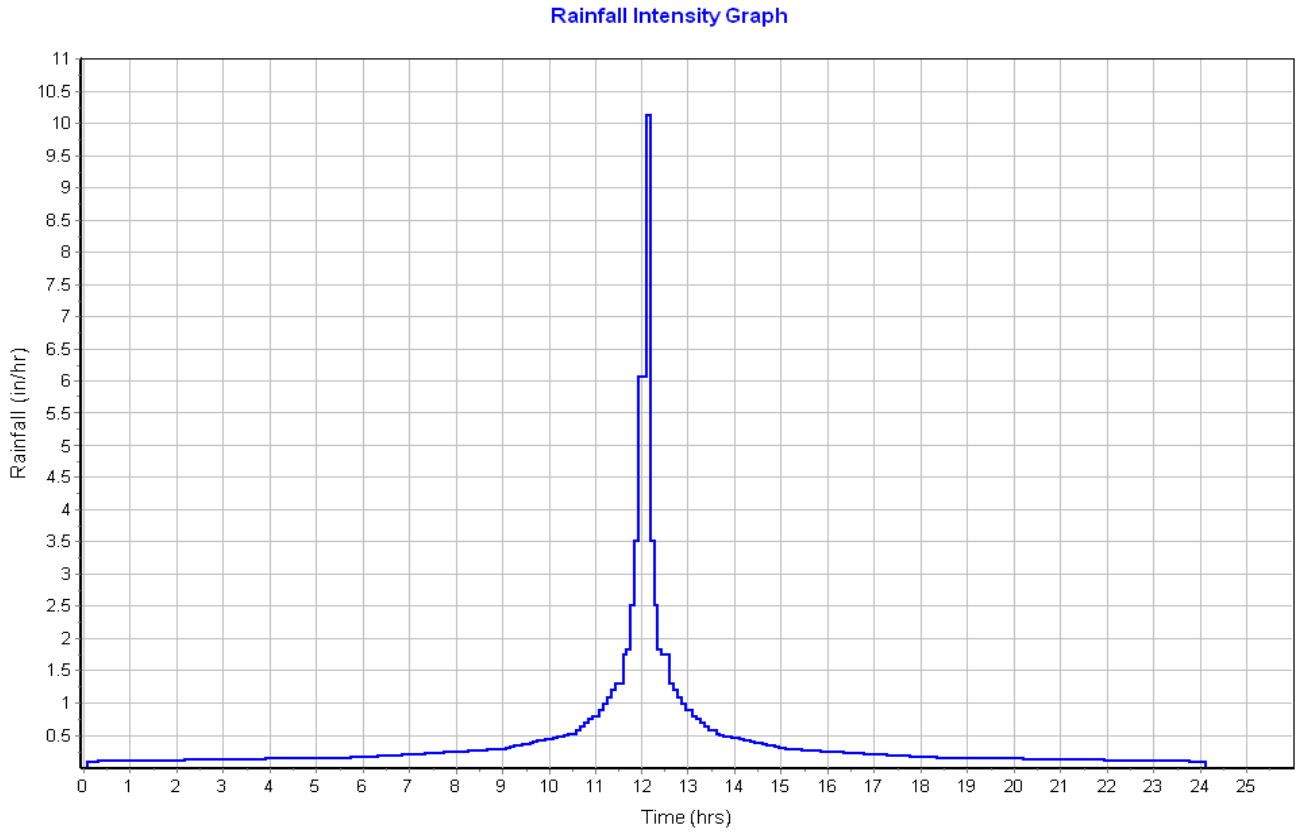
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

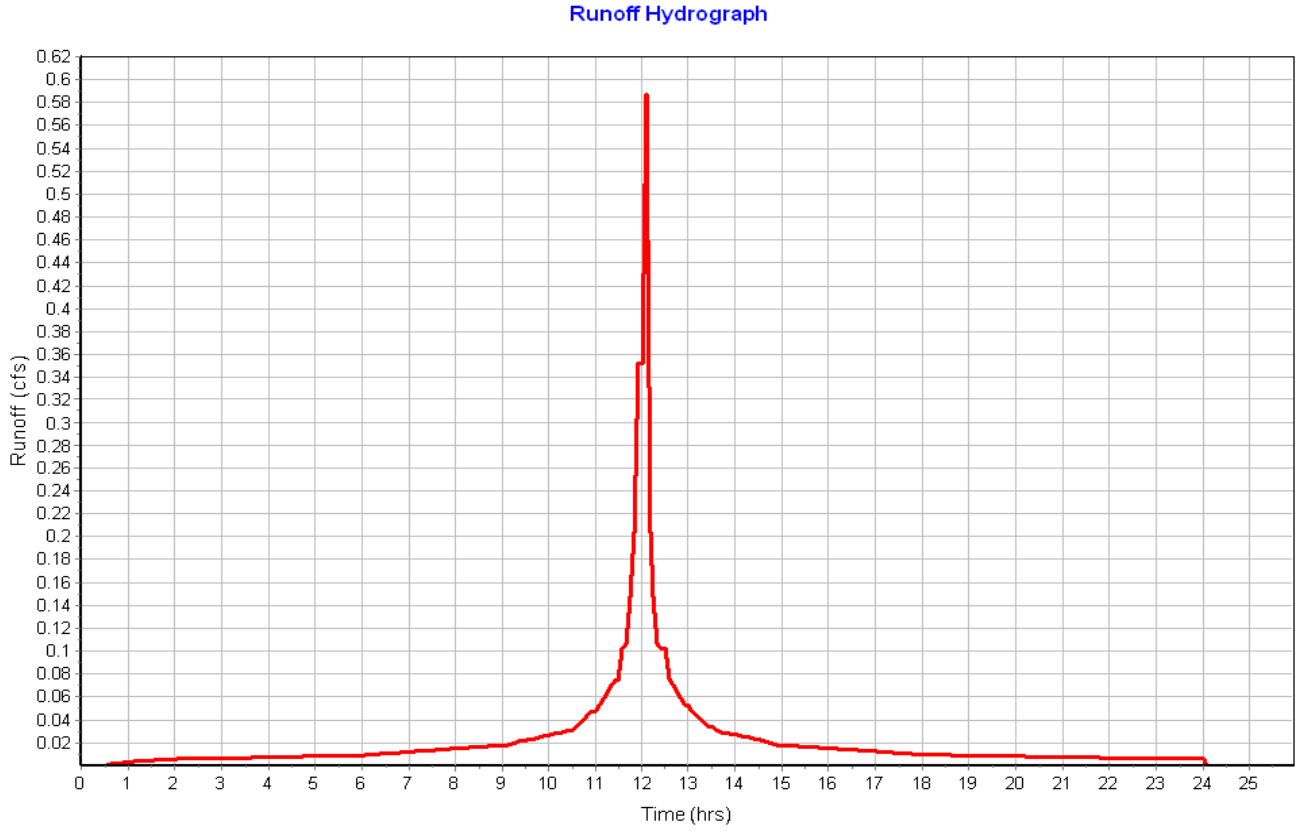
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-20





Subbasin : Roof-21

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

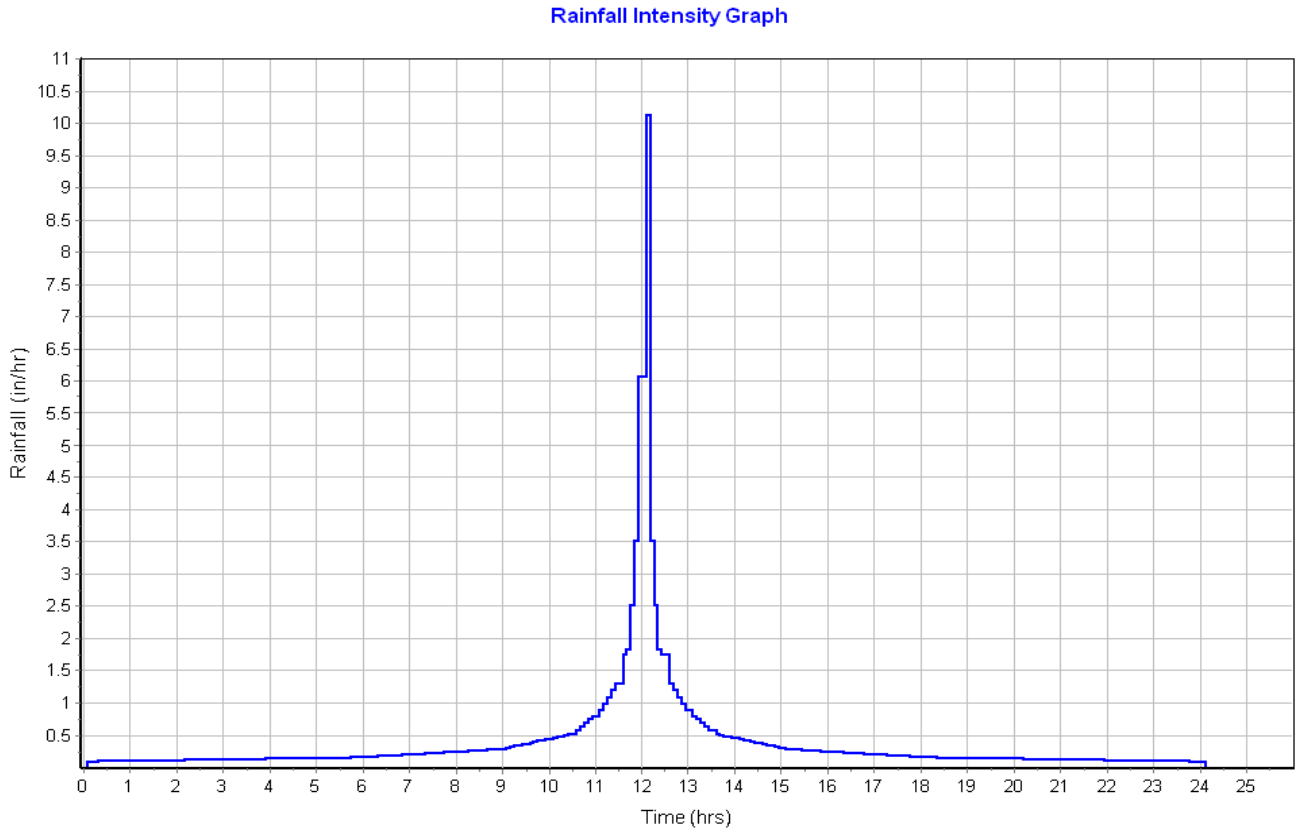
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

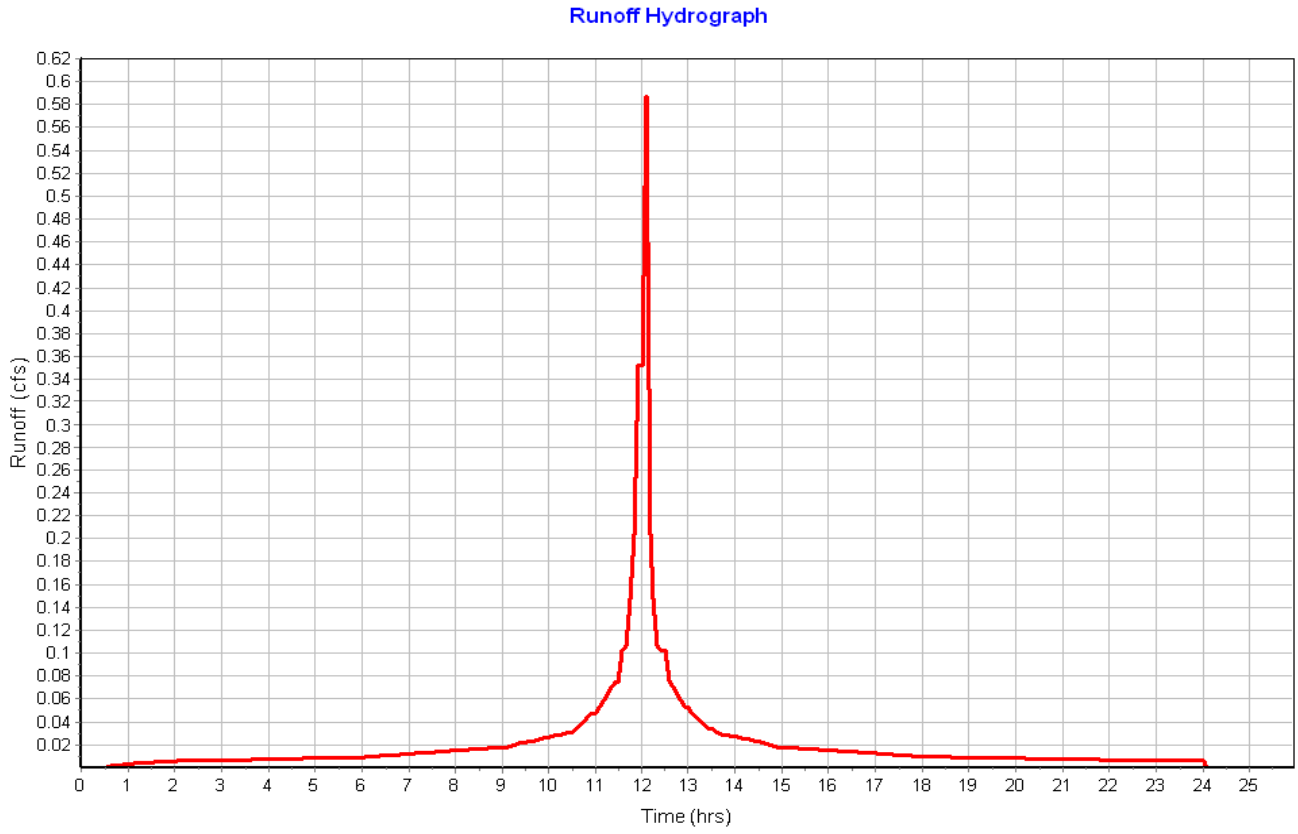
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.59
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:00:07

Subbasin : Roof-21





Subbasin : Roof-22

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

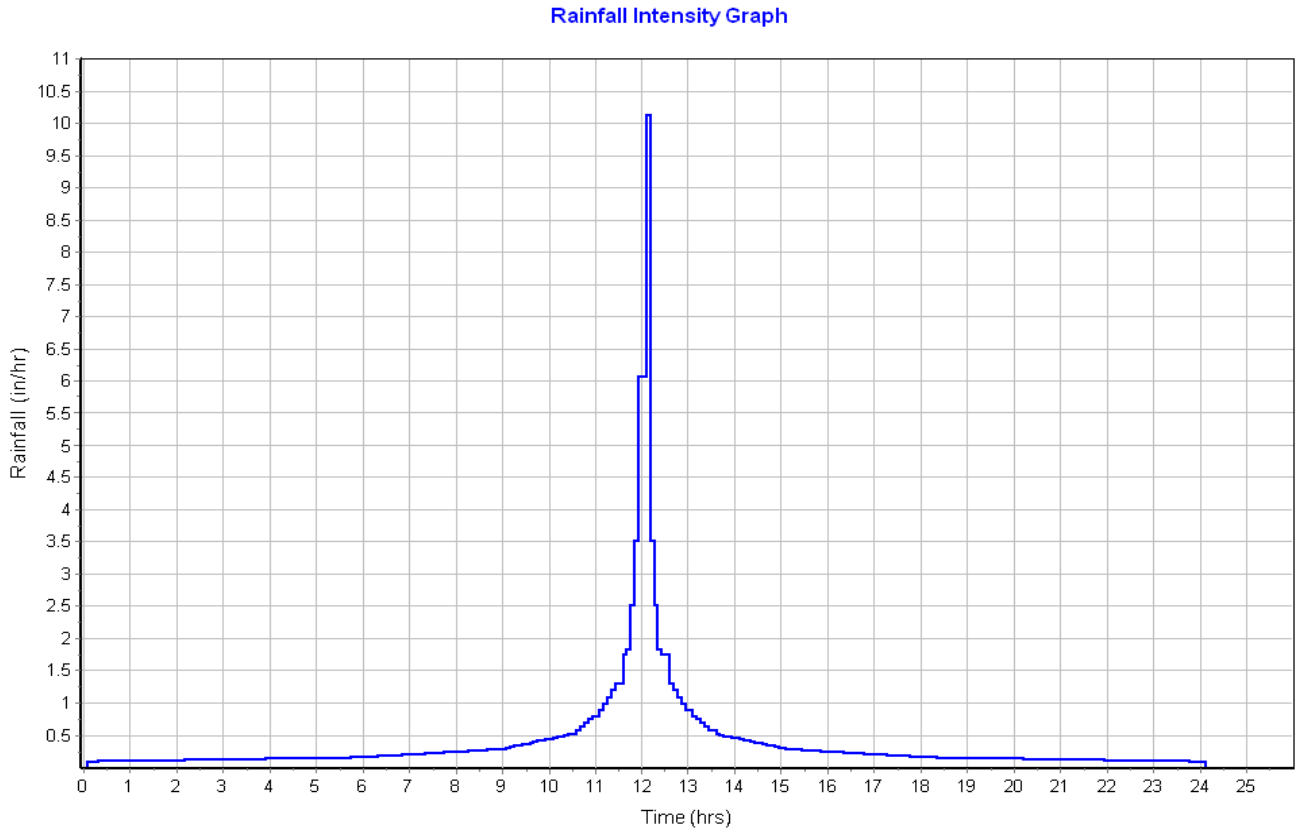
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

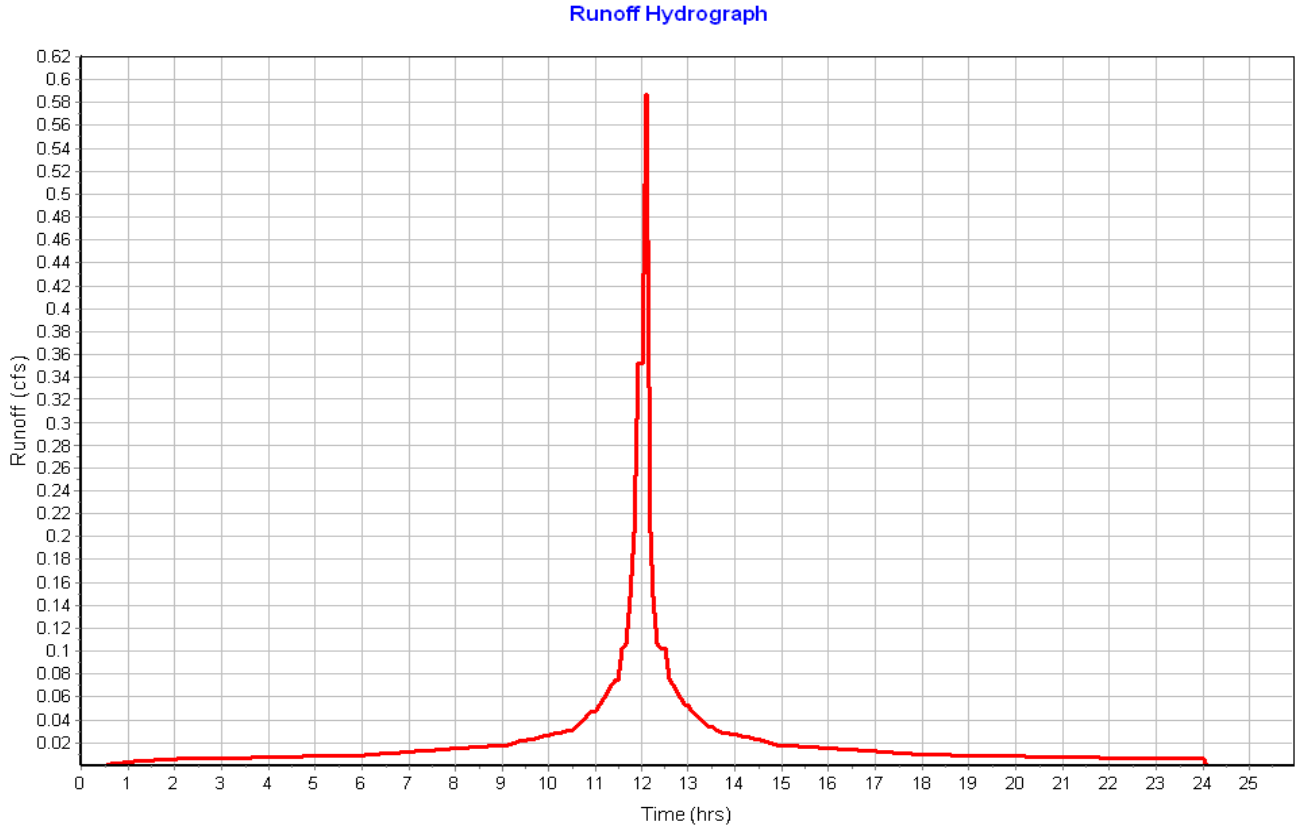
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-22





Subbasin : Roof-23

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

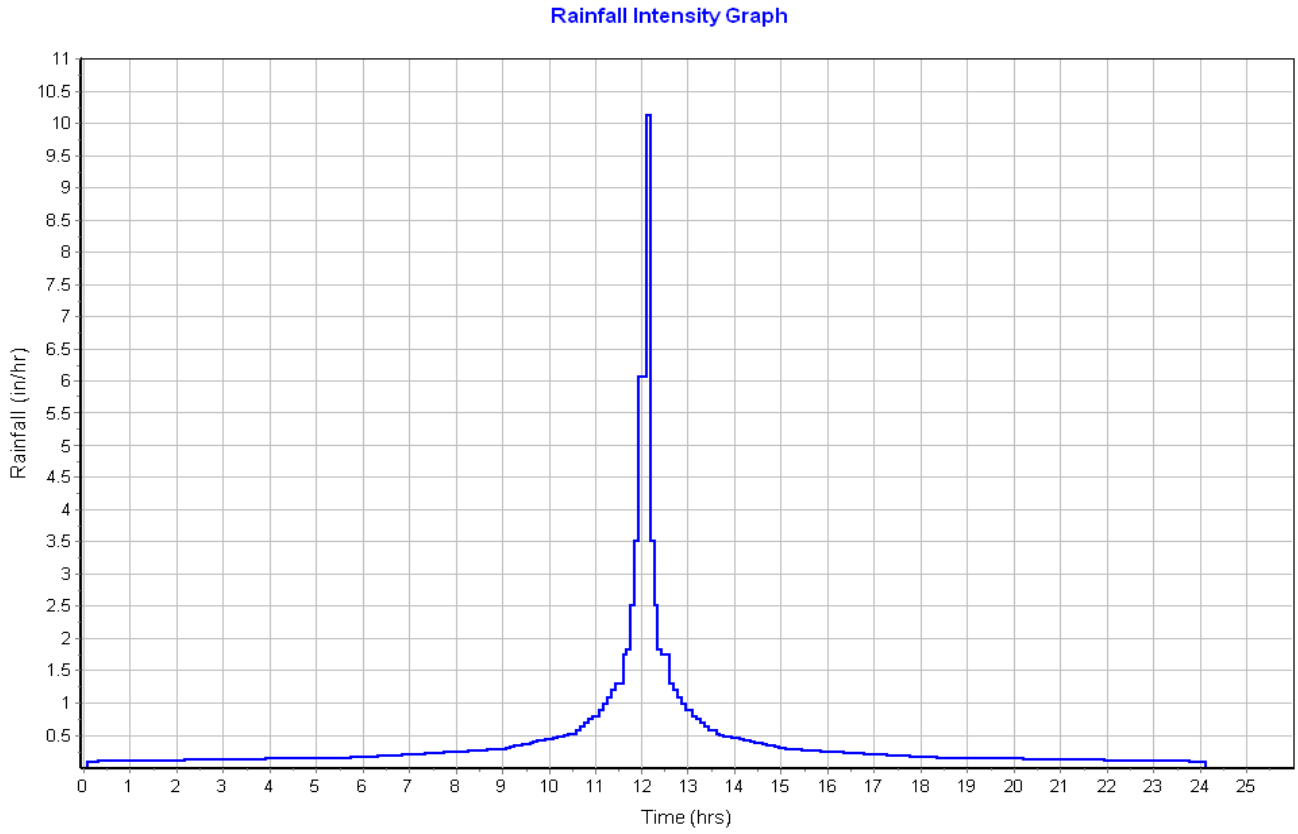
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

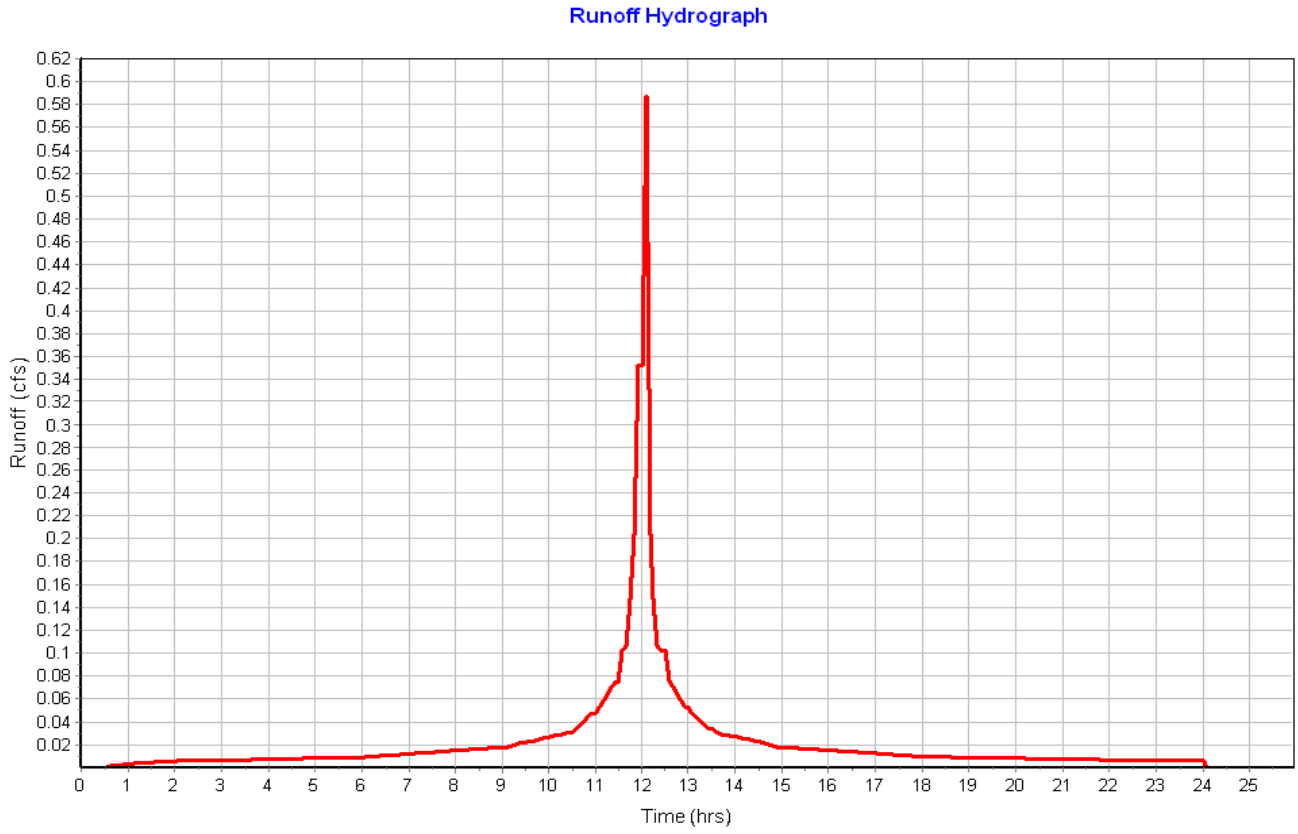
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-23





Subbasin : Roof-24

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

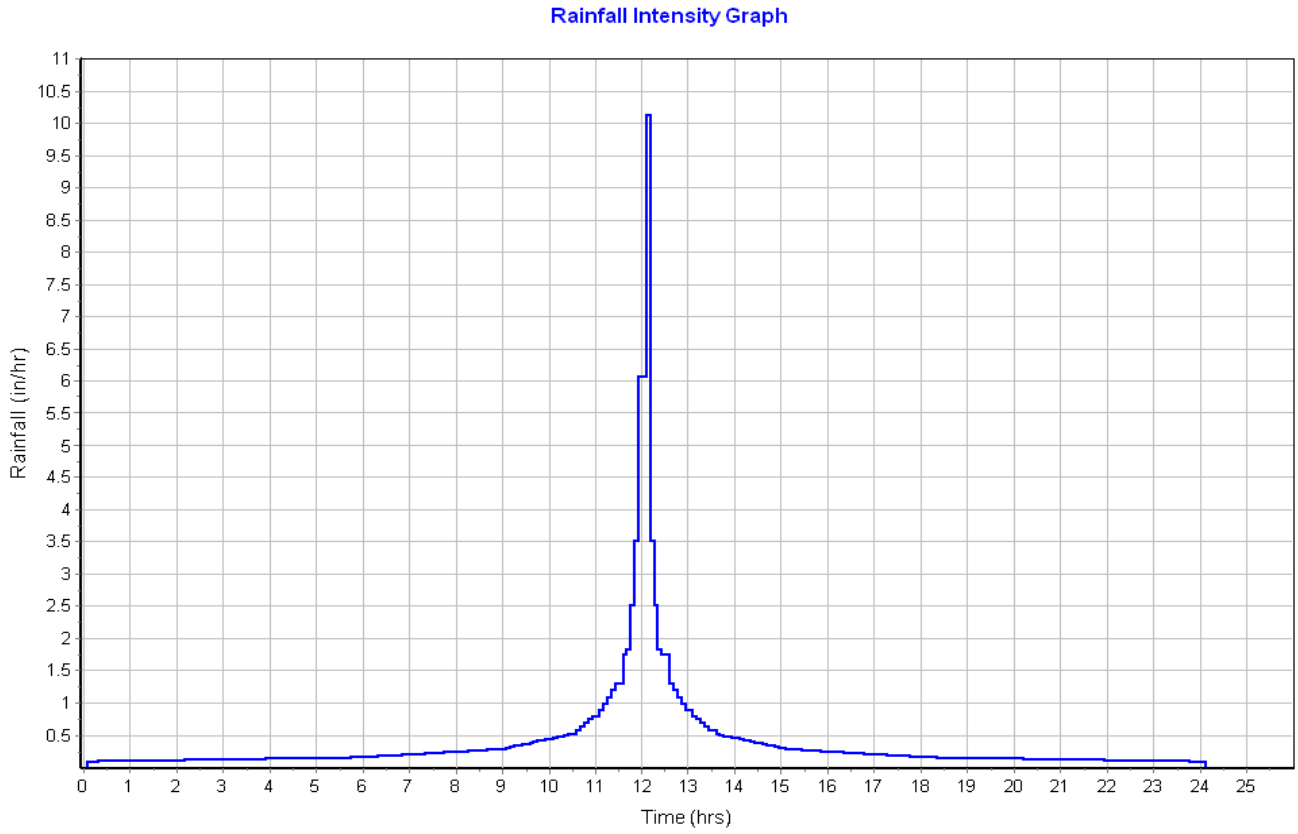
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

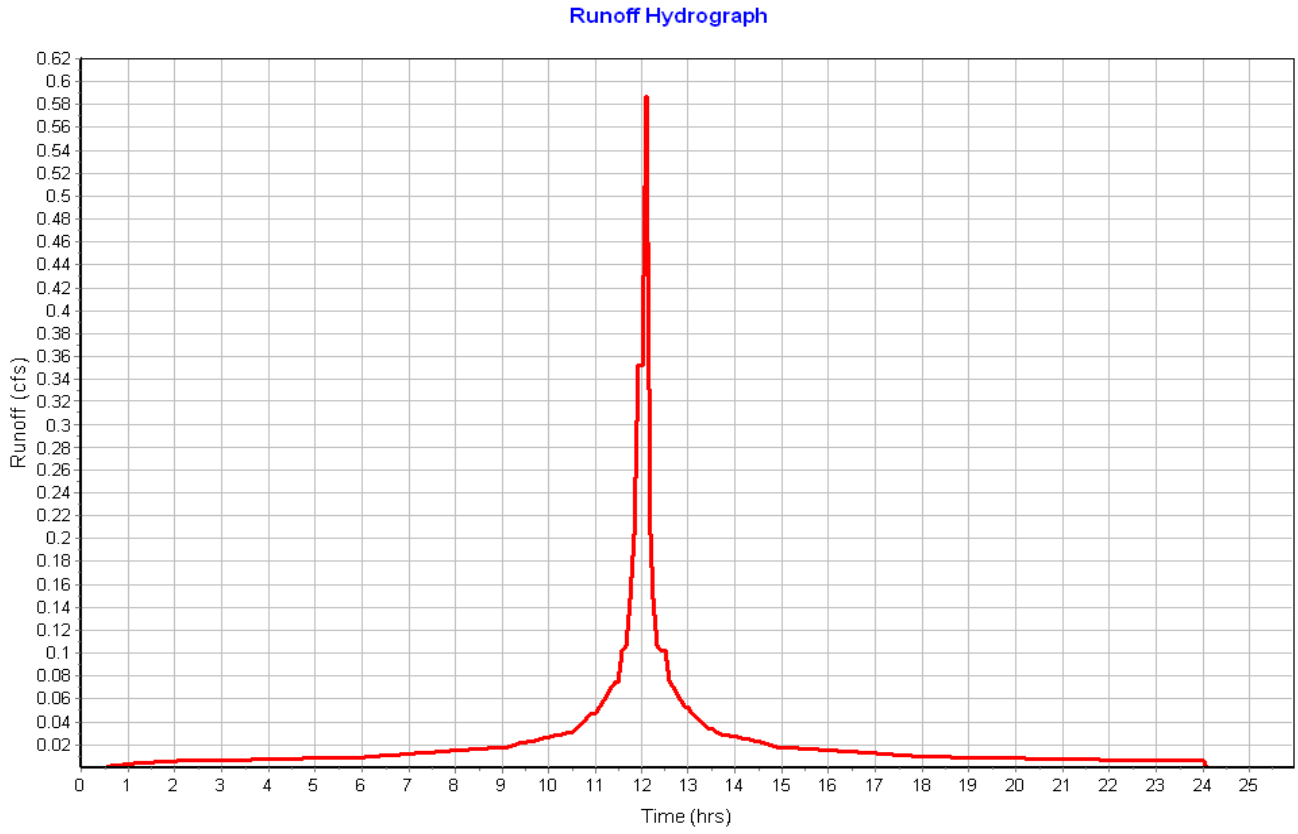
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-24





Subbasin : Roof-25

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

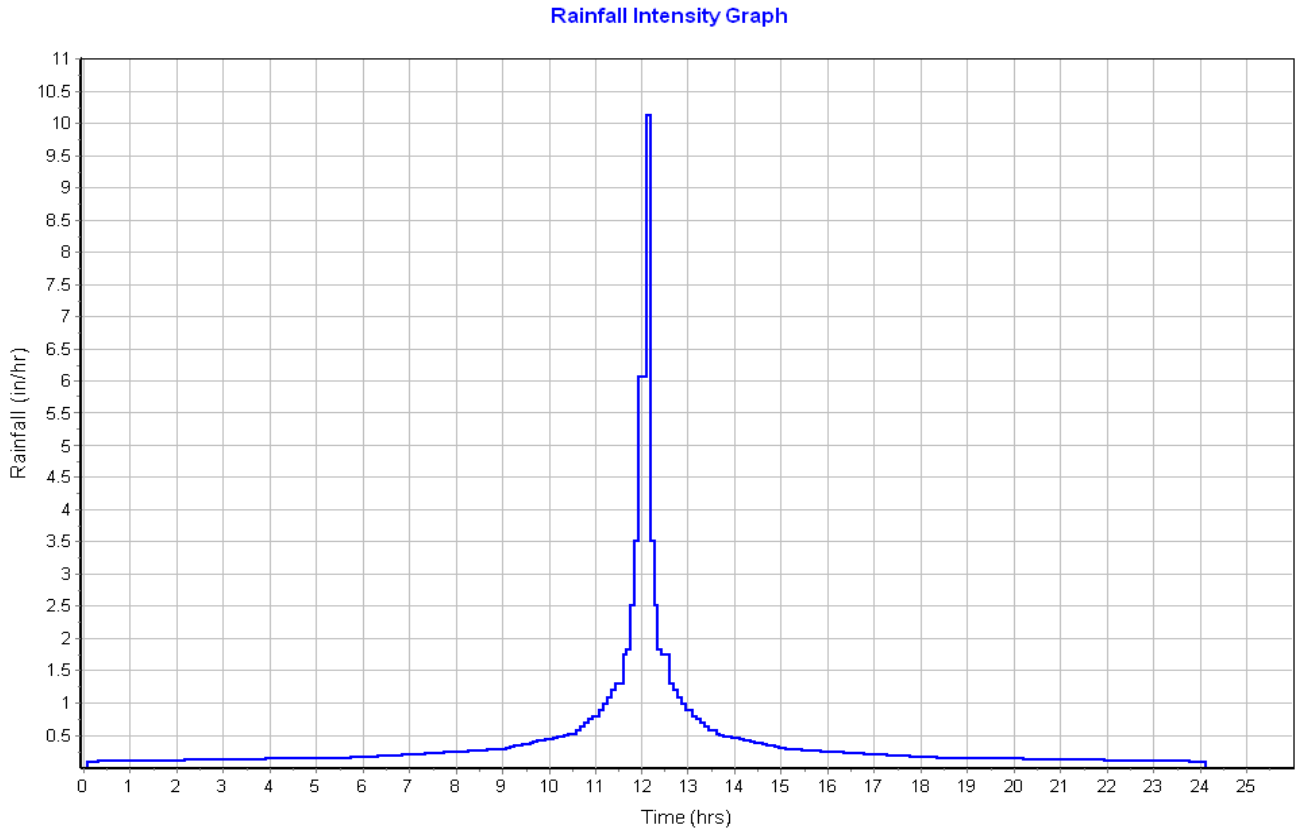
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

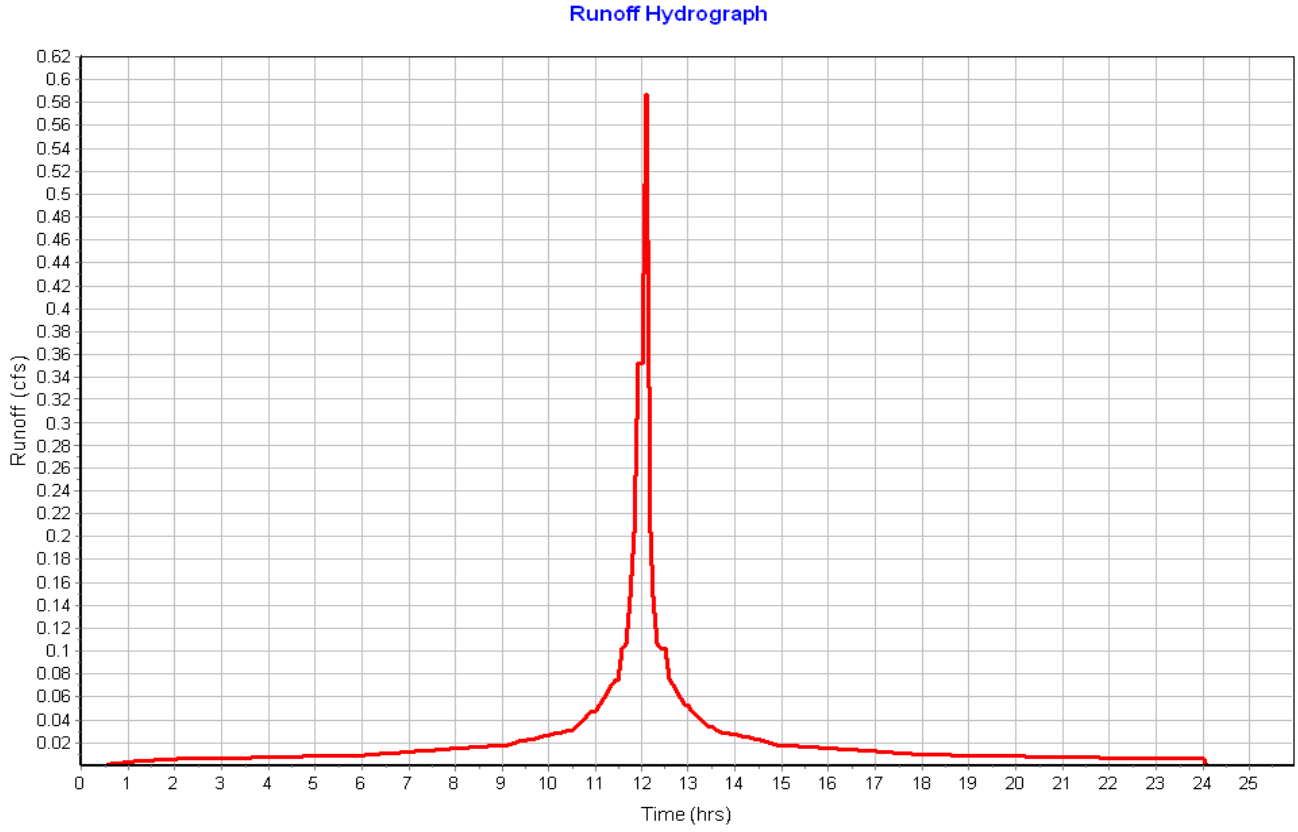
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-25





Subbasin : Roof-26

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

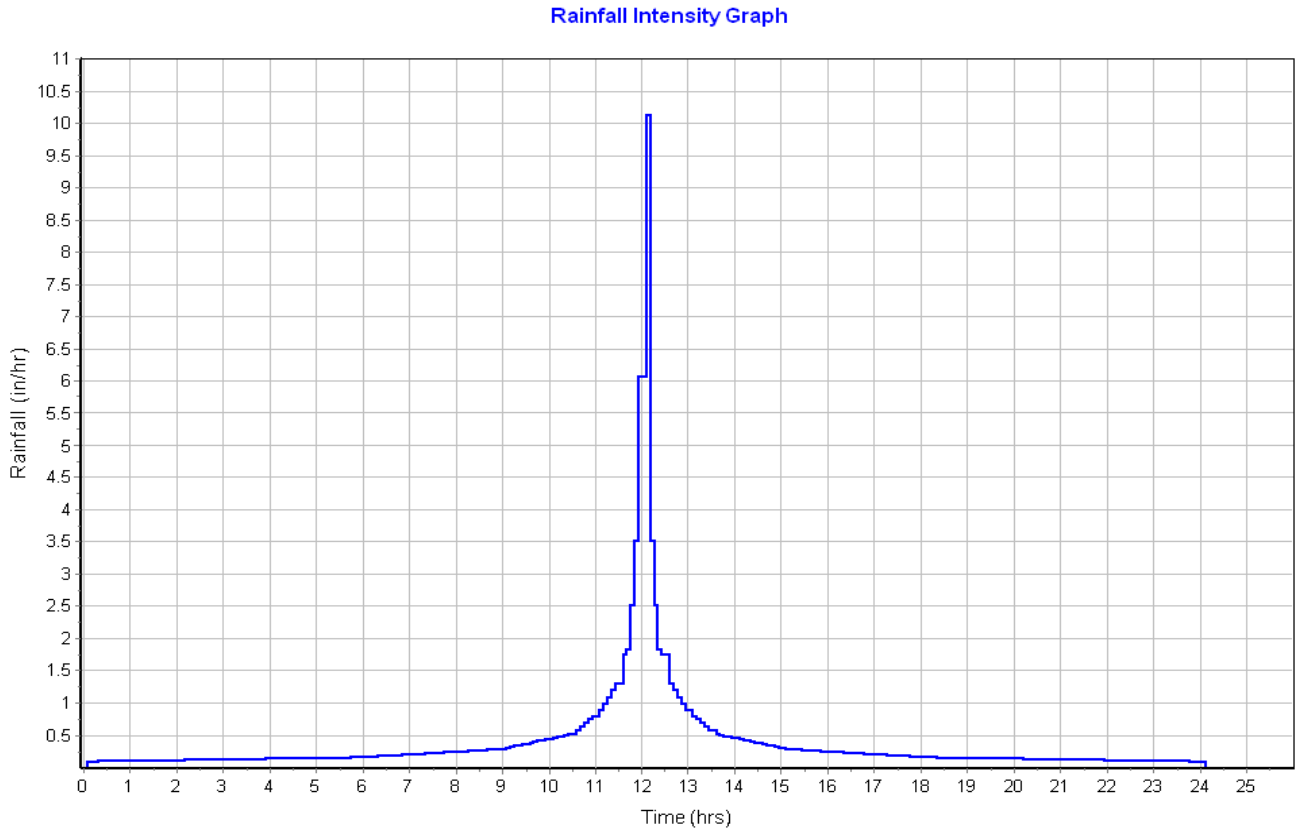
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	25	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	2.96	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

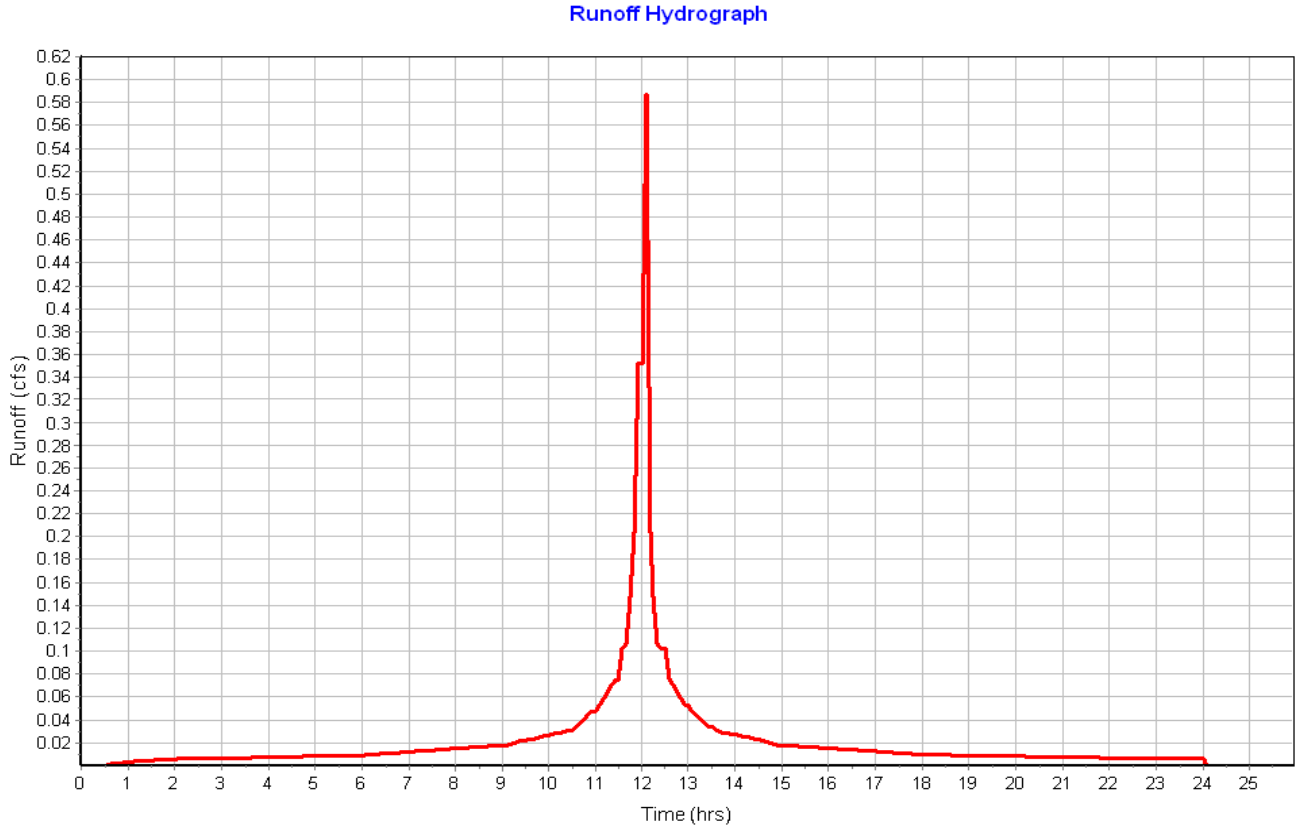
Total TOC (min) 0.11

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:07

Subbasin : Roof-26





Subbasin : Sub-01

Input Data

Area (ac)	1.64
Peak Rate Factor	484.00
Weighted Curve Number	73.47
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	0.87	C	73.00
> 75% grass cover, Good	0.78	C	74.00
Composite Area & Weighted CN	1.65		73.47

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	7.1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.16	0.00	0.00
Computed Flow Time (min) :	31.11	0.00	0.00

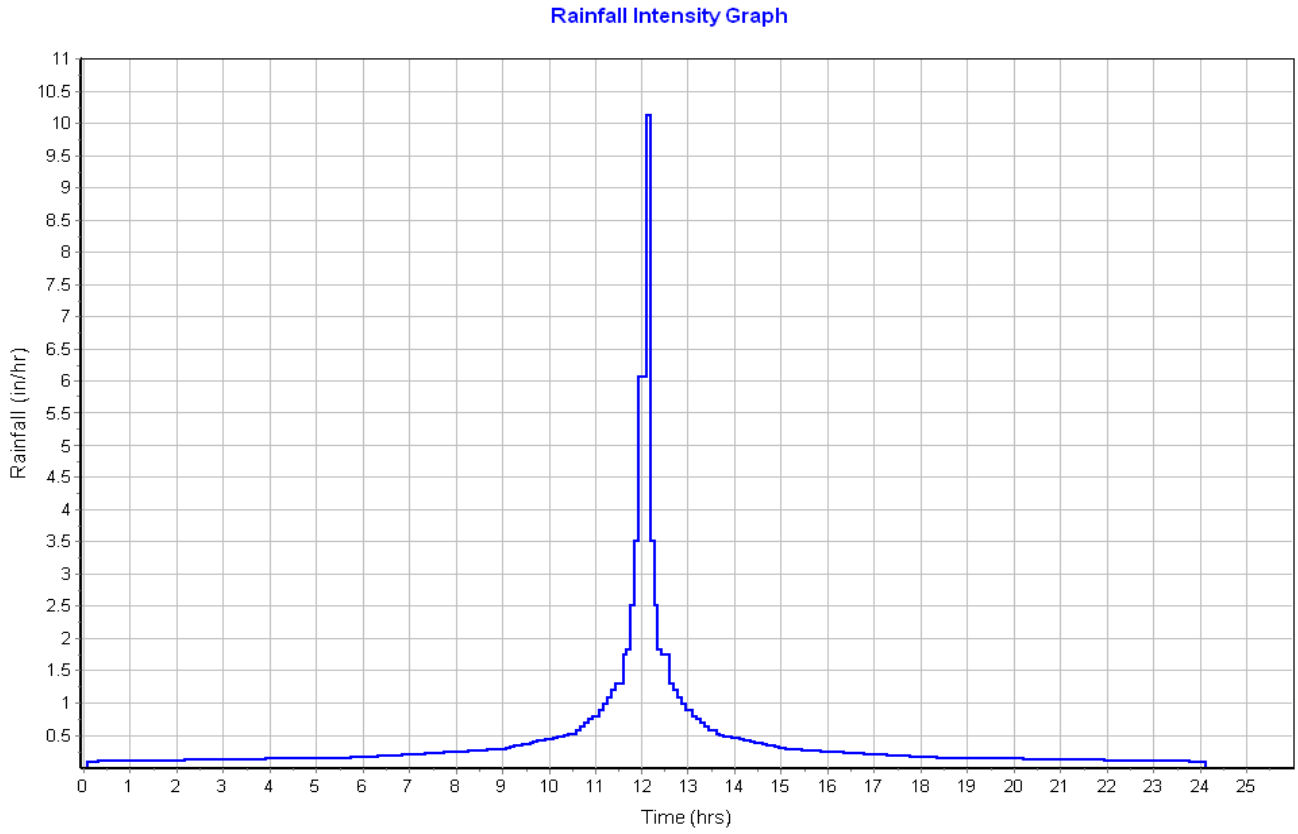
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	65	0.00	0.00
Slope (%) :	7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.32	0.00	0.00
Computed Flow Time (min) :	0.82	0.00	0.00

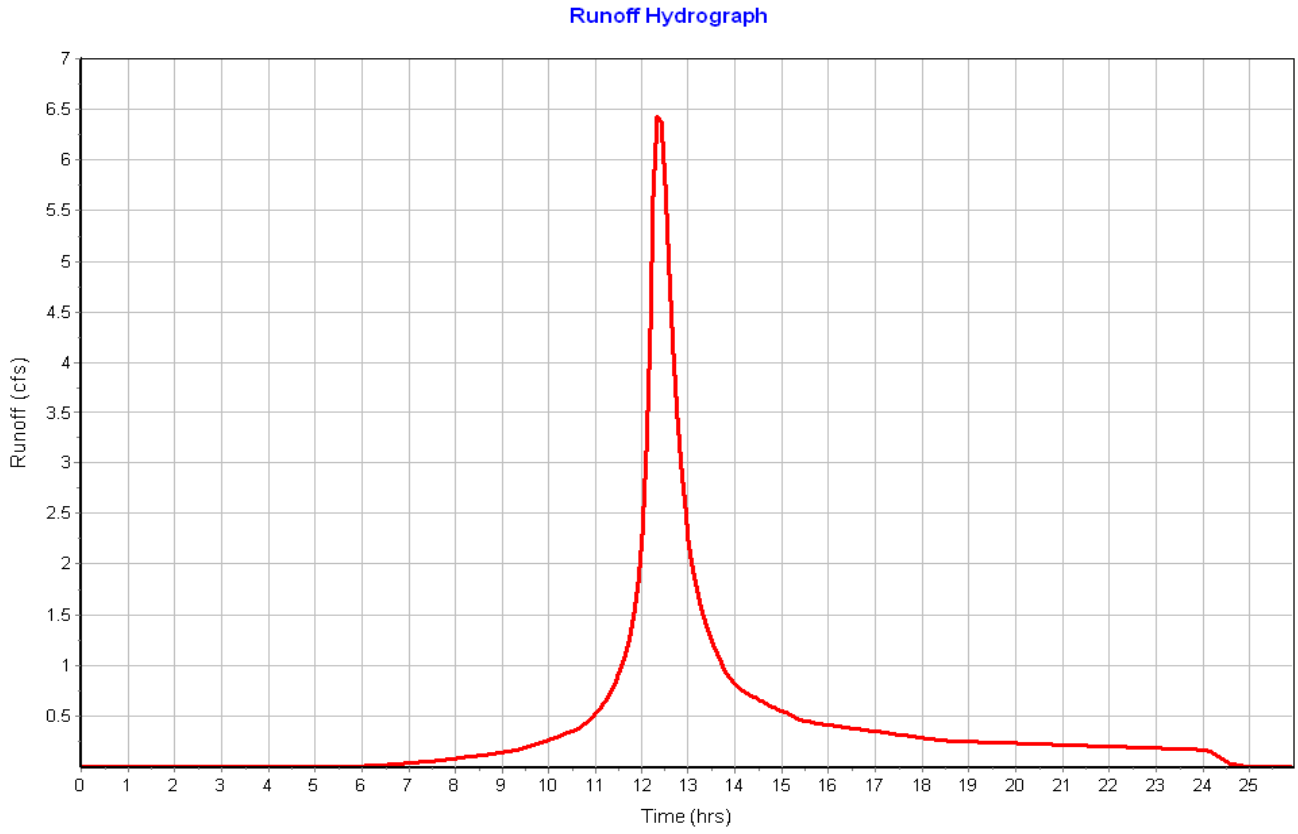
Total TOC (min) 31.93

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.40
Peak Runoff (cfs)	6.49
Weighted Curve Number	73.47
Time of Concentration (days hh:mm:ss)	0 00:31:56

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	2.48
Peak Rate Factor	484.00
Weighted Curve Number	73.09
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	2.25	C	73.00
> 75% grass cover, Good	0.23	C	74.00
Composite Area & Weighted CN	2.48		73.09

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	6.14	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.15	0.00	0.00
Computed Flow Time (min) :	32.97	0.00	0.00

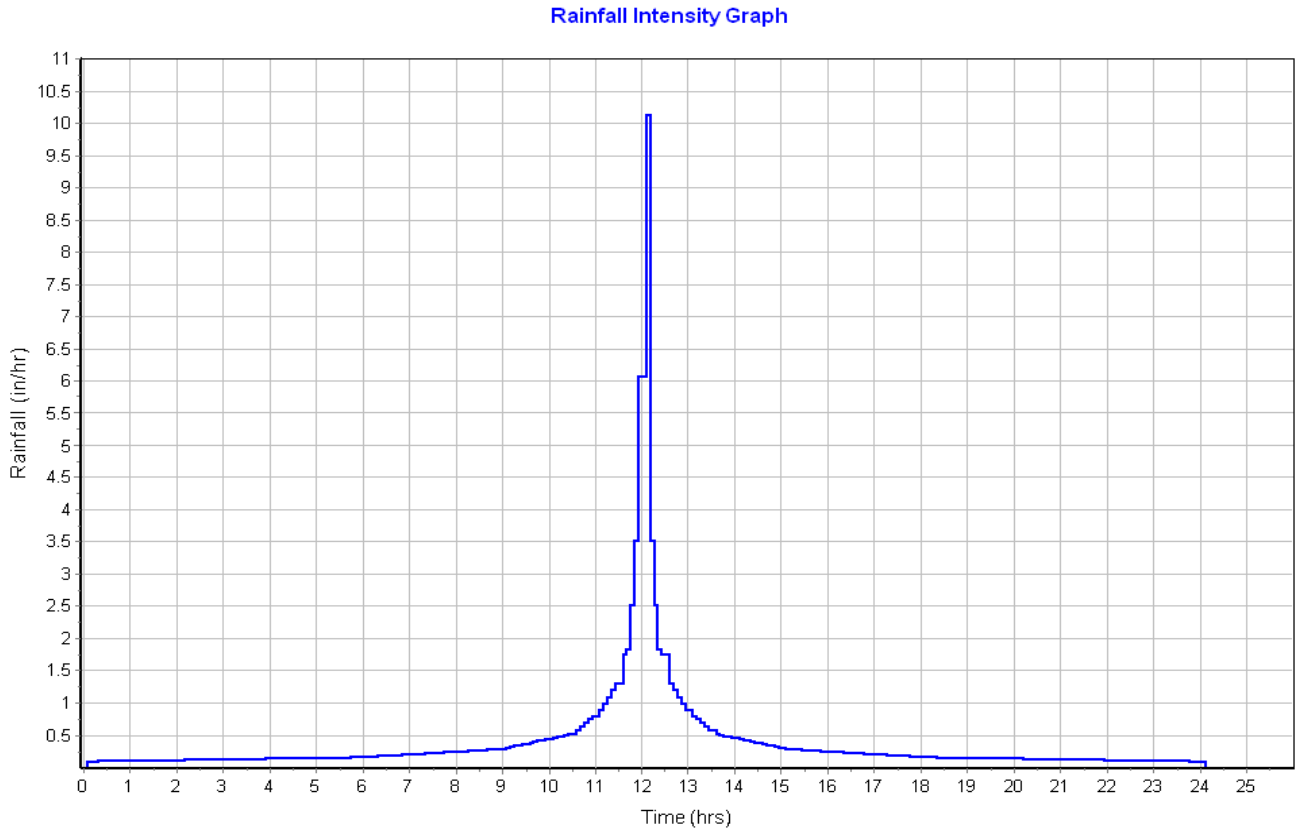
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	677	0.00	0.00
Slope (%) :	6.14	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.24	0.00	0.00
Computed Flow Time (min) :	9.10	0.00	0.00

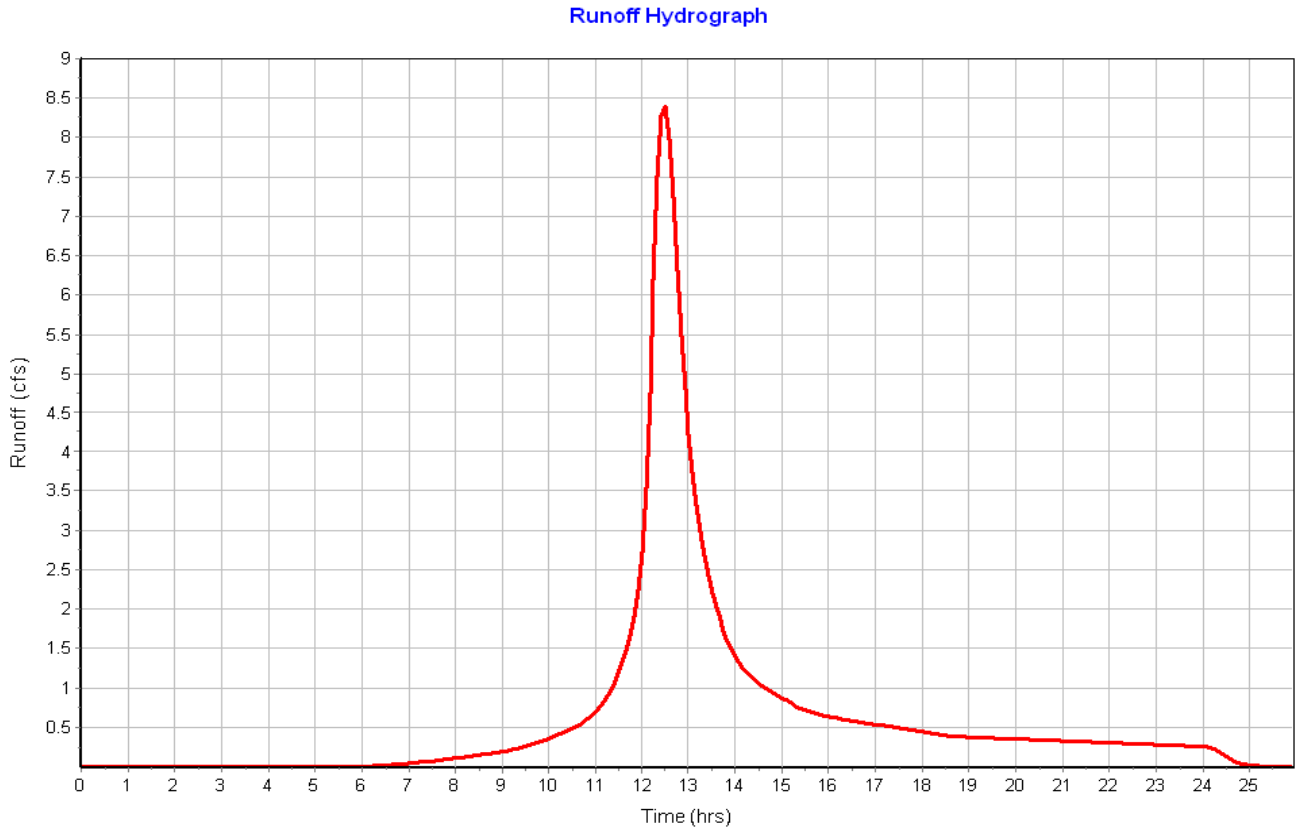
Total TOC (min) 42.07

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.35
Peak Runoff (cfs)	8.42
Weighted Curve Number	73.09
Time of Concentration (days hh:mm:ss)	0 00:42:04

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	9.20
Peak Rate Factor	484.00
Weighted Curve Number	73.58
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	5.33	C	74.00
Woods, Fair	3.87	C	73.00
Composite Area & Weighted CN	9.20		73.58

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	35.79	0.00	0.00

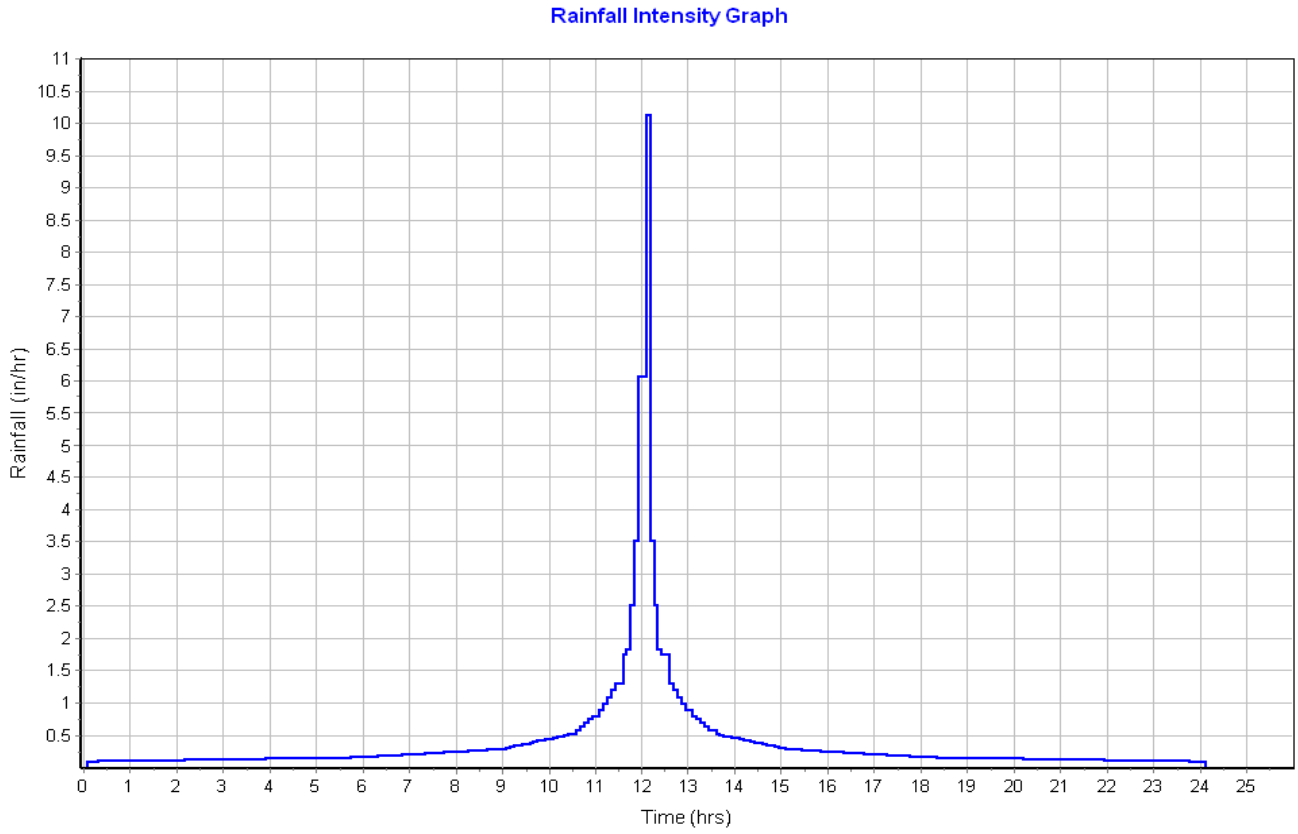
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	680.91	0.00	0.00
Slope (%) :	5	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.12	0.00	0.00
Computed Flow Time (min) :	10.13	0.00	0.00

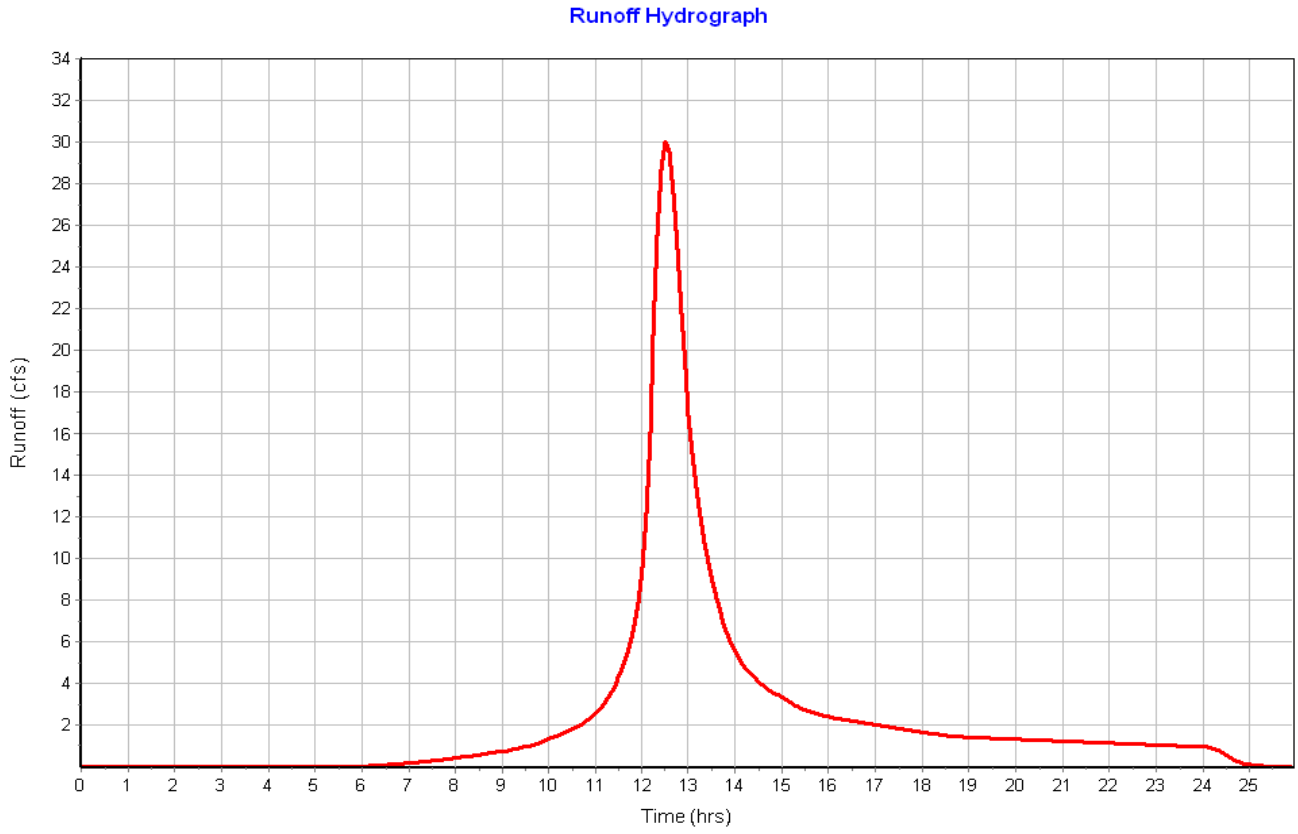
Total TOC (min) 45.92

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.42
Peak Runoff (cfs)	30.04
Weighted Curve Number	73.58
Time of Concentration (days hh:mm:ss)	0 00:45:55

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	4.36
Peak Rate Factor	484.00
Weighted Curve Number	73.02
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	4.29	C	73.00
> 75% grass cover, Good	0.07	C	74.00
Composite Area & Weighted CN	4.36		73.02

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	2.23	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	49.43	0.00	0.00

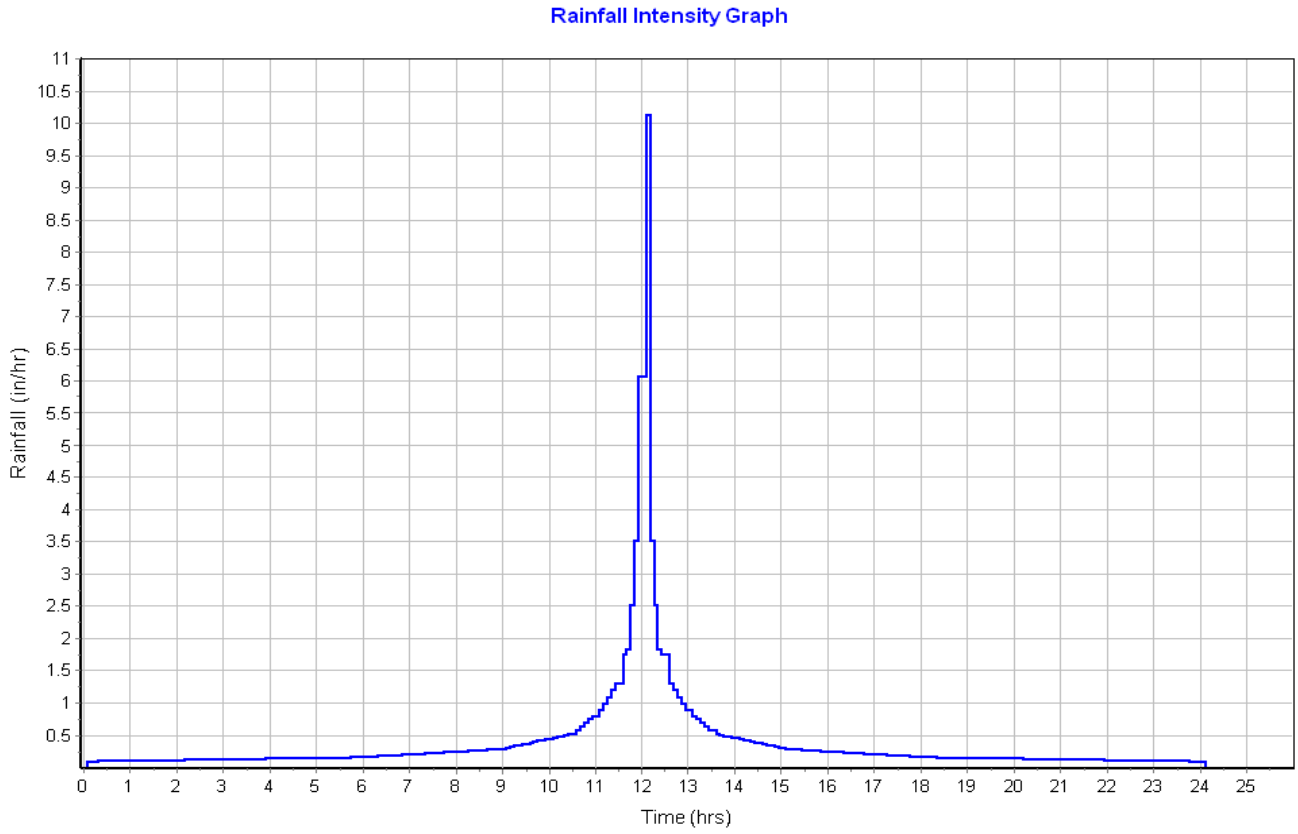
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	330	0.00	0.00
Slope (%) :	2.23	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.75	0.00	0.00
Computed Flow Time (min) :	7.33	0.00	0.00

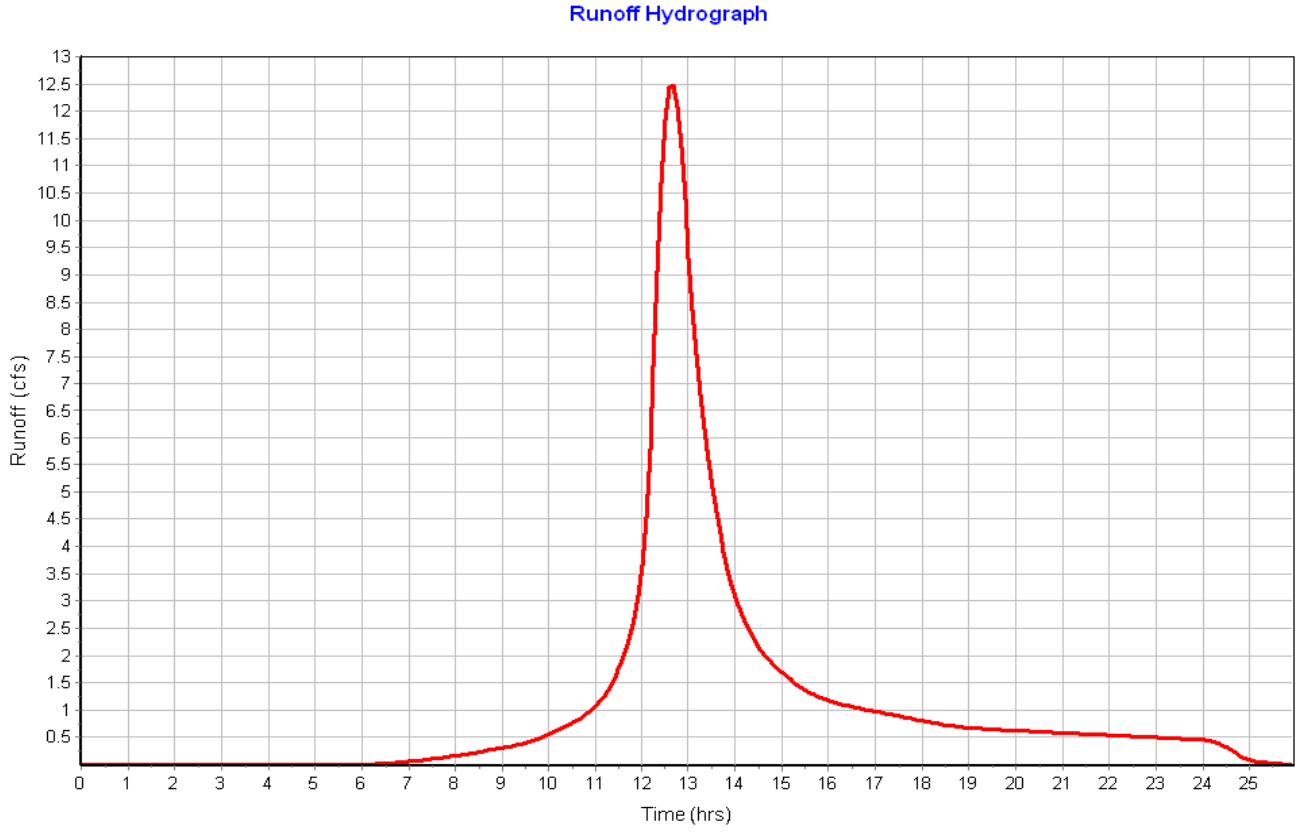
Total TOC (min) 56.77

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.35
Peak Runoff (cfs)	12.54
Weighted Curve Number	73.02
Time of Concentration (days hh:mm:ss)	0 00:56:46

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 5.21
Peak Rate Factor 484.00
Weighted Curve Number 73.69
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Woods, Fair	3.10	C	73.00
Paved parking & roofs	0.06	C	98.00
> 75% grass cover, Good	2.04	C	74.00
Composite Area & Weighted CN	5.20		73.69

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

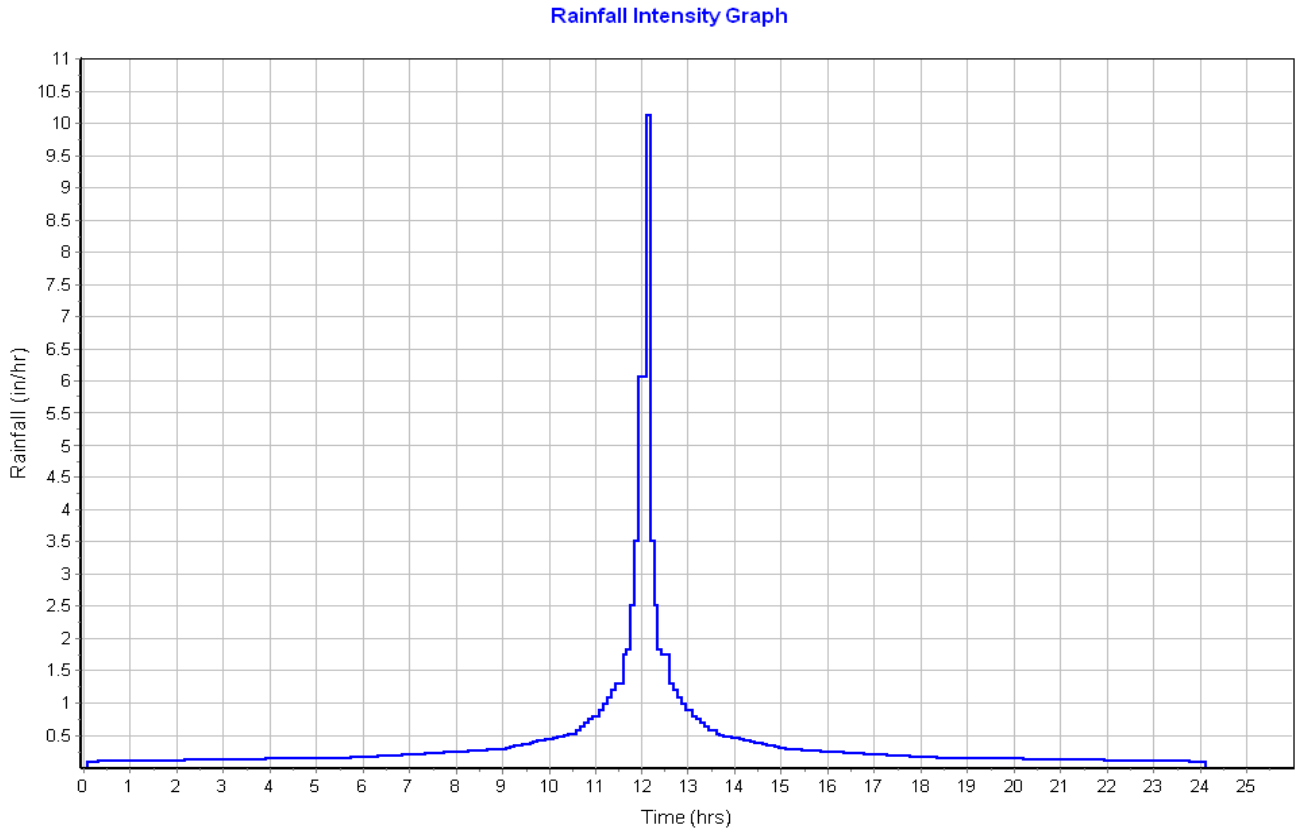
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	773	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	14.48	0.00	0.00

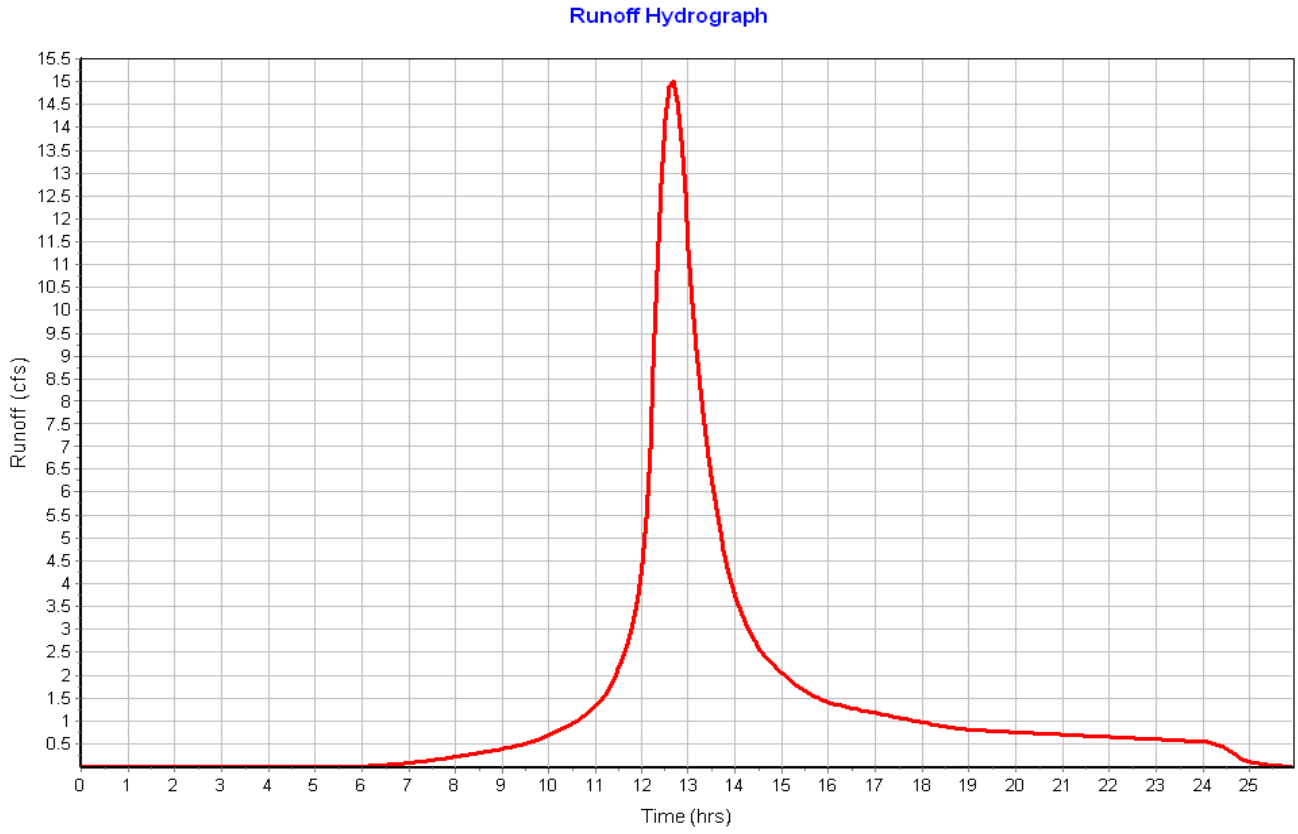
Total TOC (min) 57.42

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.43
Peak Runoff (cfs) 15.05
Weighted Curve Number 73.69
Time of Concentration (days hh:mm:ss) 0 00:57:25

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	4.48
Peak Rate Factor	484.00
Weighted Curve Number	73.88
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.81	C	74.00
Woods, Fair	0.34	C	73.00
Brush, Good	0.25	C	65.00
Paved parking & roofs	0.09	C	98.00
Composite Area & Weighted CN	4.49		73.88

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	3.17	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	42.95	0.00	0.00

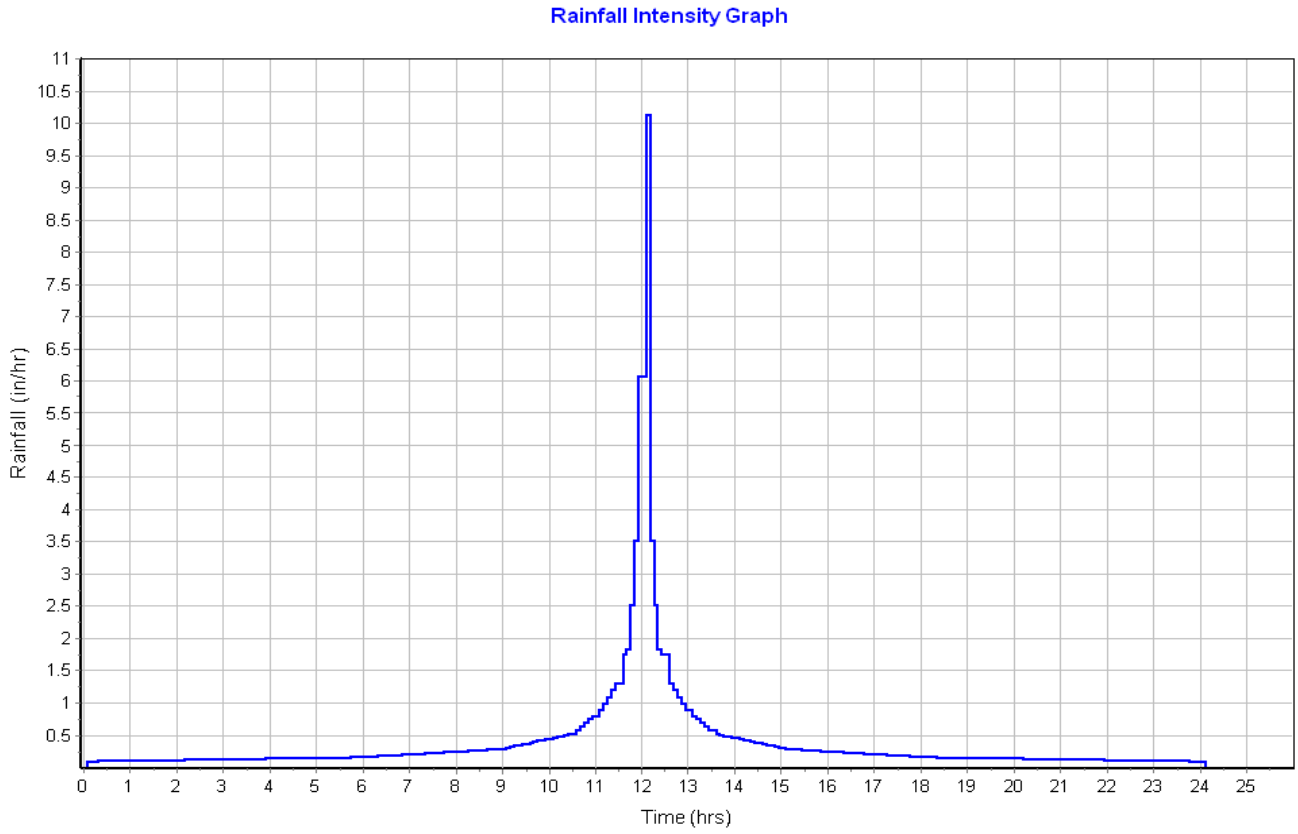
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	808	0.00	0.00
Slope (%) :	3.17	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	0.89	0.00	0.00
Computed Flow Time (min) :	15.13	0.00	0.00

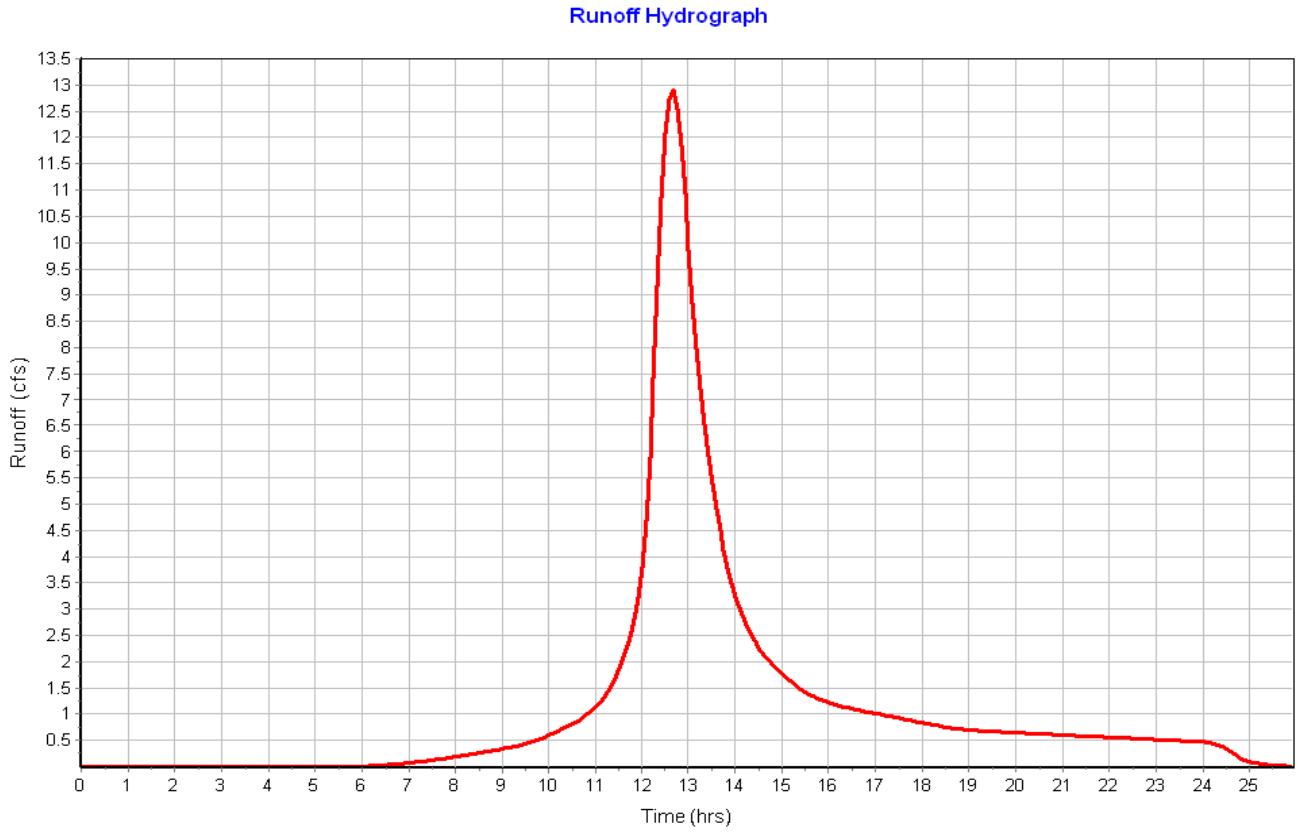
Total TOC (min) 58.08

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.46
Peak Runoff (cfs)	12.90
Weighted Curve Number	73.88
Time of Concentration (days hh:mm:ss)	0 00:58:05

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	5.44
Peak Rate Factor	484.00
Weighted Curve Number	73.62
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	3.36	C	74.00
Woods, Fair	2.08	C	73.00
Composite Area & Weighted CN	5.44		73.62

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	4.7	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.14	0.00	0.00
Computed Flow Time (min) :	36.69	0.00	0.00

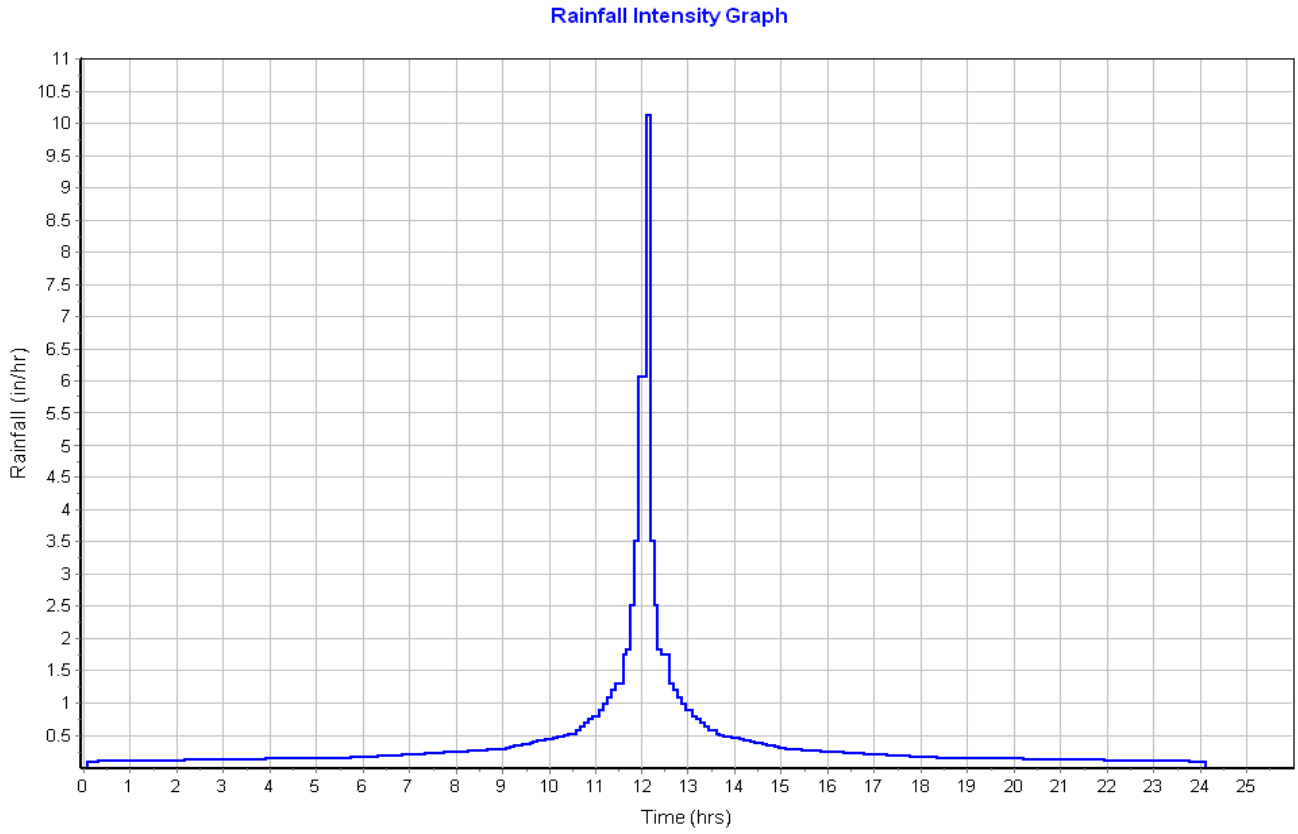
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	682.79	0.00	0.00
Slope (%) :	4.7	0.00	0.00
Surface Type :	Woodland	Unpaved	Unpaved
Velocity (ft/sec) :	1.08	0.00	0.00
Computed Flow Time (min) :	10.54	0.00	0.00

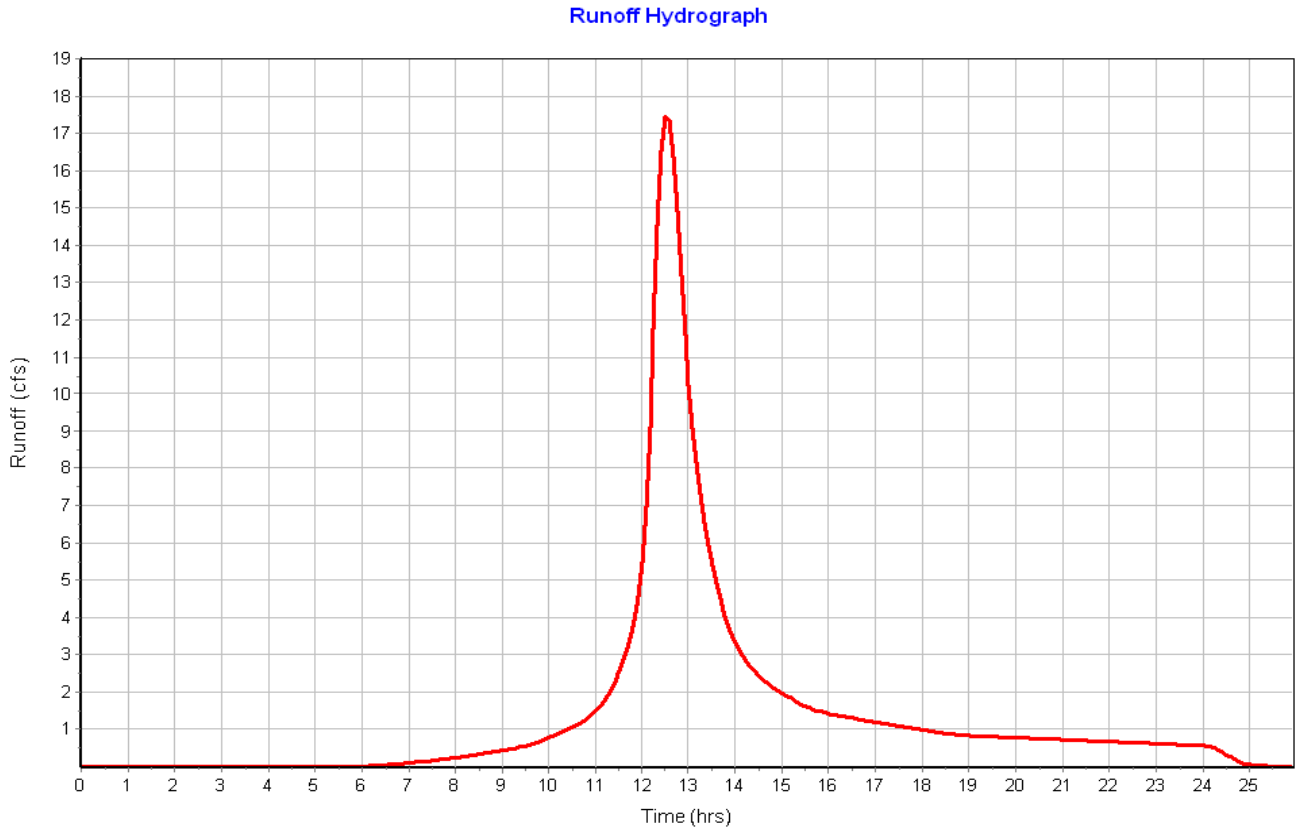
Total TOC (min) 47.22

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.42
Peak Runoff (cfs)	17.52
Weighted Curve Number	73.62
Time of Concentration (days hh:mm:ss)	0 00:47:13

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	3.74
Peak Rate Factor	484.00
Weighted Curve Number	73.61
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	2.29	C	74.00
Woods, Fair	1.46	C	73.00
Composite Area & Weighted CN	3.75		73.61

Time of Concentration

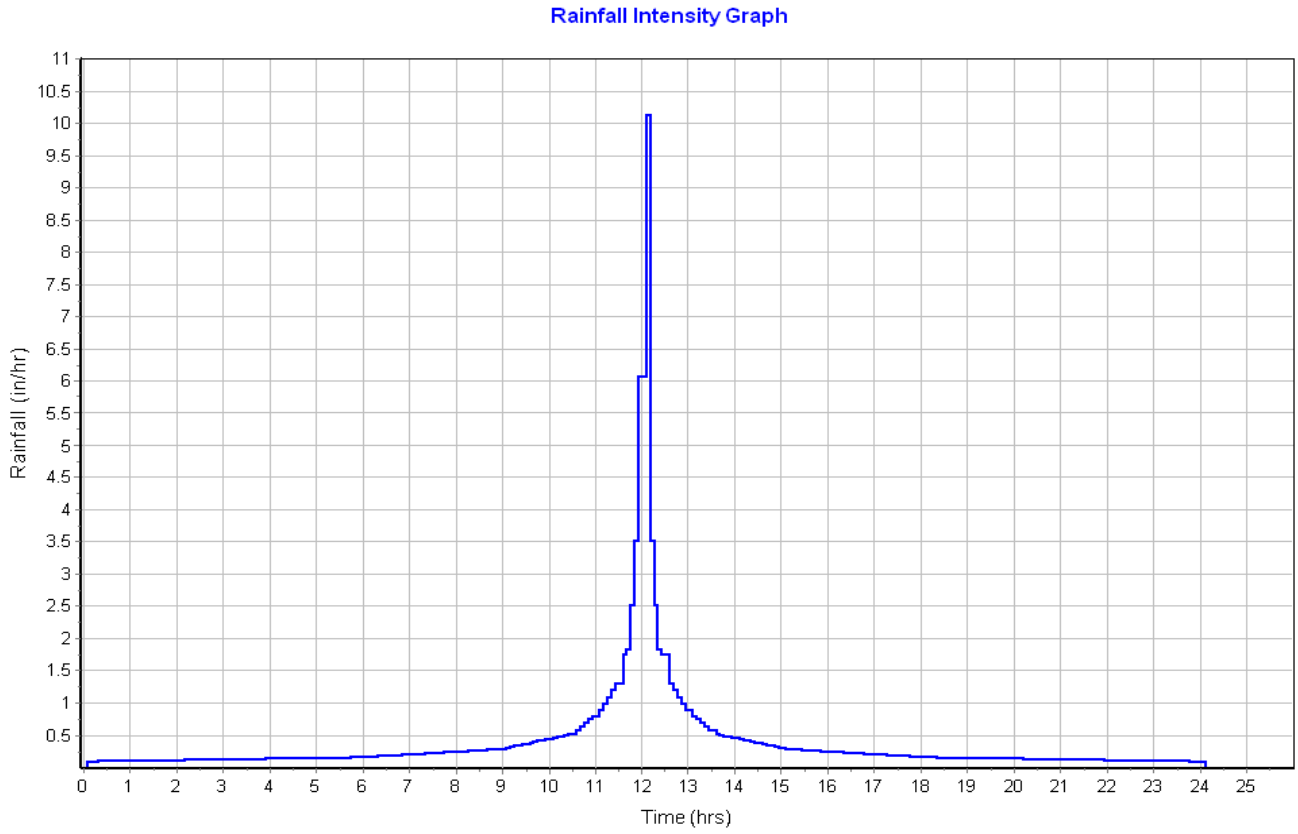
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.4	0.00	0.00
Flow Length (ft) :	300	0.00	0.00
Slope (%) :	1.5	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	57.93	0.00	0.00

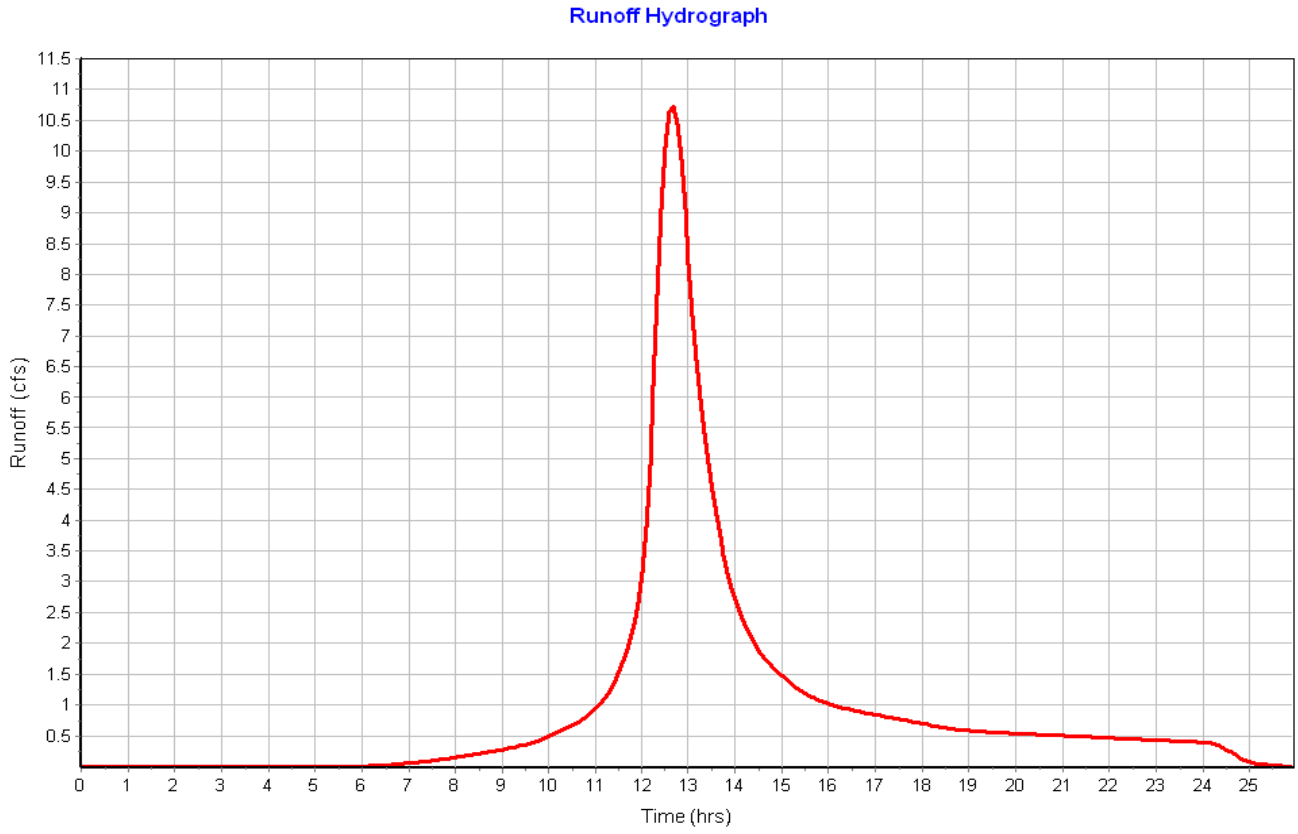
Total TOC (min) 57.93

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.42
Peak Runoff (cfs)	10.75
Weighted Curve Number	73.61
Time of Concentration (days hh:mm:ss)	0 00:57:56

Subbasin : Sub-08





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-01	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00
2	DMH-02	231.15	238.00	6.85	0.00	-231.15	0.00	-238.00	0.00	0.00
3	DMH-03	229.00	236.00	7.00	0.00	-229.00	0.00	-236.00	0.00	0.00
4	DMH-04	228.50	237.00	8.50	0.00	-228.50	0.00	-237.00	0.00	0.00
5	DMH-05	228.00	242.00	14.00	0.00	-228.00	0.00	-242.00	0.00	0.00
6	DMH-06	241.00	247.00	6.00	0.00	-241.00	0.00	-247.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-01	2.00	0.00	245.39	4.39	0.00	1.61	245.00	4.00	0 12:10	0 00:00	0.00	0.00
2	DMH-02	1.99	0.00	235.70	4.55	0.00	2.30	235.15	4.00	0 12:10	0 00:00	0.00	0.00
3	DMH-03	6.82	0.00	233.65	4.65	0.00	2.35	232.71	3.71	0 12:25	0 00:00	0.00	0.00
4	DMH-04	5.74	0.00	233.10	4.60	0.00	3.90	232.19	3.69	0 12:31	0 00:00	0.00	0.00
5	DMH-05	8.18	0.00	229.87	1.87	0.00	12.13	229.24	1.24	0 12:10	0 00:00	0.00	0.00
6	DMH-06	3.81	0.00	245.64	4.64	0.00	1.36	245.03	4.03	0 12:10	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-109	21.15	226.15	5.15	226.00	5.00	0.15	0.7100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-110	34.00	226.00	5.00	225.75	3.75	0.25	0.7400	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-114	102.82	222.00	5.00	220.00	1.00	2.00	1.9500	CIRCULAR	24.000	24.000	0.0200	0.5000	0.5000	0.0000	0.00	No	1
4	Link-115	237.93	221.00	4.00	217.15	6.15	3.85	1.6200	CIRCULAR	12.000	12.000	0.0200	0.5000	0.5000	0.0000	0.00	No	1
5	Link-28	42.00	214.65	4.00	212.00	0.00	2.65	6.3100	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-29	40.00	202.65	4.00	202.00	0.00	0.65	1.6300	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-30	215.00	210.15	0.50	207.00	4.00	3.15	1.4700	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-31	17.51	245.15	4.00	245.00	4.00	0.15	0.8600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
9	Link-32	24.09	245.15	4.00	245.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
10	Link-33	139.54	245.00	4.00	235.15	4.00	9.85	7.0600	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-34	76.23	235.15	4.00	233.15	4.15	2.00	2.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
12	Link-35	24.01	233.15	233.15	233.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
13	Link-36	15.56	233.15	233.15	233.00	4.00	0.15	0.9600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
14	Link-37	38.28	234.50	3.35	233.15	4.15	1.35	3.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
15	Link-38	32.64	232.50	3.50	232.00	3.50	0.50	1.5300	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
16	Link-39	18.32	233.15	233.15	233.00	4.50	0.15	0.8200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
17	Link-40	10.99	233.15	233.15	233.00	4.50	0.15	1.3600	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
18	Link-41	130.94	232.00	3.50	230.00	2.00	2.00	1.5300	CIRCULAR	18.000	18.000	0.0200	2.0000	0.8000	0.0000	0.00	No	1
19	Link-42	23.74	245.15	4.00	245.00	4.00	0.15	0.6300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
20	Link-43	19.02	245.15	4.00	245.00	4.00	0.15	0.7900	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
21	Link-44	100.67	245.00	4.00	239.15	11.15	5.85	5.8100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.8000	0.0000	0.00	No	1
22	Link-45	245.00	229.00	1.00	220.00	1.00	9.00	3.6700	CIRCULAR	18.000	18.000	0.0200	0.0200	0.5000	0.0000	0.00	No	1
23	Link-62	33.00	217.15	6.15	216.75	3.75	0.40	1.2100	CIRCULAR	24.000	24.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
24	Link-63	52.00	217.15	6.15	216.75	3.75	0.40	0.7700	CIRCULAR	18.000	18.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
25	Link-77	67.00	207.65	4.00	207.00	1.00	0.65	0.9700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
26	Link-78	47.00	207.65	4.00	207.00	1.00	0.65	1.3800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-109	2.45	0 12:10	1.95	1.26	3.24	0.11	0.92	0.92	0.00		> CAPACITY
2	Link-110	3.15	0 12:10	5.85	0.54	3.51	0.16	0.75	0.51	0.00		Calculated
3	Link-114	15.70	0 12:36	20.51	0.77	6.68	0.26	1.40	0.70	0.00		Calculated
4	Link-115	3.48	0 12:11	2.95	1.18	4.68	0.85	0.97	0.97	0.00		> CAPACITY
5	Link-28	7.38	0 12:33	17.15	0.43	8.68	0.08	0.73	0.49	0.00		Calculated
6	Link-29	5.72	0 12:53	8.70	0.66	4.90	0.14	0.94	0.63	0.00		Calculated
7	Link-30	6.23	0 12:12	8.26	0.75	5.05	0.71	0.97	0.66	0.00		Calculated
8	Link-31	0.65	0 12:10	2.14	0.30	2.13	0.14	0.41	0.41	0.00		Calculated
9	Link-32	1.36	0 12:10	1.83	0.74	2.79	0.14	0.59	0.59	0.00		Calculated
10	Link-33	1.99	0 12:10	6.15	0.32	5.48	0.42	0.47	0.47	0.00		Calculated
11	Link-34	1.97	0 12:10	3.75	0.53	4.62	0.28	0.53	0.53	0.00		Calculated
12	Link-35	0.61	0 12:25	1.83	0.33	1.59	0.25	0.49	0.49	0.00		Calculated
13	Link-36	0.65	0 12:25	2.27	0.29	1.68	0.15	0.49	0.49	0.00		Calculated
14	Link-37	6.42	0 12:25	12.82	0.50	6.34	0.10	0.84	0.56	0.00		Calculated
15	Link-38	5.56	0 12:25	8.45	0.66	3.96	0.14	1.11	0.75	0.00		Calculated
16	Link-39	0.00	0 00:00	2.10	0.00	0.00		0.04	0.05	0.00		Calculated
17	Link-40	0.25	0 12:31	2.71	0.09	1.97	0.09	0.22	0.22	0.00		Calculated
18	Link-41	5.69	0 12:31	8.44	0.67	4.55	0.48	0.98	0.67	0.00		Calculated
19	Link-42	0.84	0 12:10	1.84	0.45	2.86	0.14	0.61	0.61	0.00		Calculated
20	Link-43	2.97	0 12:10	2.06	1.45	4.10	0.08	0.87	0.87	0.00		> CAPACITY
21	Link-44	3.78	0 12:10	5.58	0.68	7.36	0.23	0.62	0.62	0.00		Calculated
22	Link-45	8.12	0 12:10	13.09	0.62	7.70	0.53	0.84	0.58	0.00		Calculated
23	Link-62	6.01	0 12:10	16.19	0.37	4.41	0.12	0.90	0.45	0.00		Calculated
24	Link-63	2.58	0 12:10	5.99	0.43	3.36	0.26	0.67	0.45	0.00		Calculated
25	Link-77	2.33	0 12:10	2.28	1.02	3.51	0.32	0.78	0.79	0.00		> CAPACITY
26	Link-78	1.15	0 12:10	2.72	0.42	3.22	0.24	0.46	0.47	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 215.00
Max (Rim) Elevation (ft) 218.00
Max (Rim) Offset (ft) 3.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -215.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

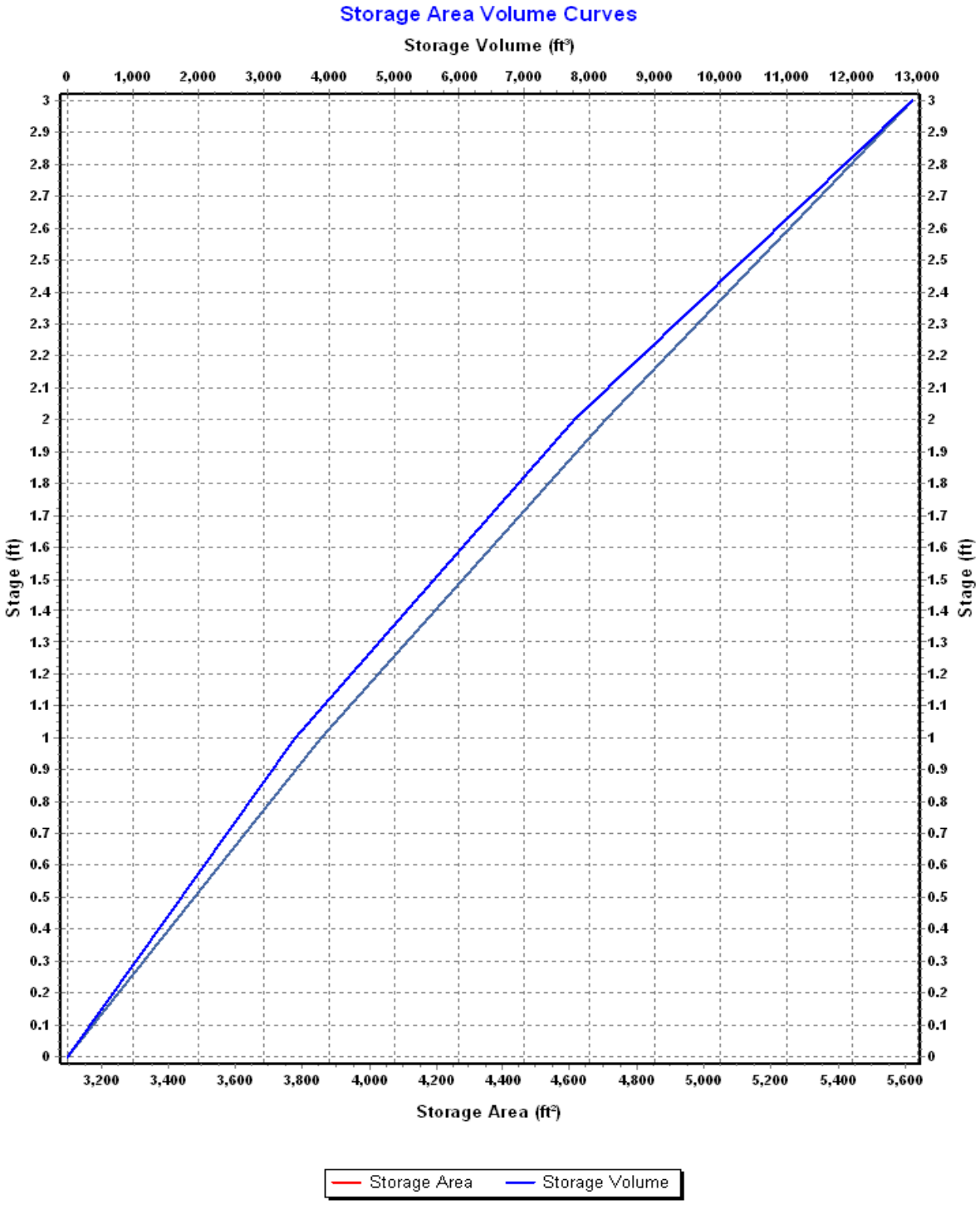
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	3100	0.000
1	3855	3477.50
2	4709	7759.50
3	5621	12924.50


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
13,000
Stage (ft)
3
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3,200
3,400
3,600
3,800
4,000
4,200
4,400
4,600
4,800
5,000
5,200
5,400
5,600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice3	Side Flow	No	217.50	2.50	5.00	0.25	0.61
2	Orifice4	Trapezoidal	No	217.50	2.50	5.00	0.25	3.33
3	Weir-02	Trapezoidal	No	217.80	2.80	30.00	0.20	3.33
4	Weir-03	Trapezoidal	No	217.75	2.75	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-03	Side	CIRCULAR	No	3.00			216.20	0.61

Output Summary Results

Peak Inflow (cfs)	14.88
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	14.81
Peak Exfiltration Flow Rate (cfm)	2.10
Max HGL Elevation Attained (ft)	217.98
Max HGL Depth Attained (ft)	2.98
Average HGL Elevation Attained (ft)	217.40
Average HGL Depth Attained (ft)	2.4
Time of Max HGL Occurrence (days hh:mm)	0 12:33
Total Exfiltration Volume (1000-ft³)	2.231
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	217.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

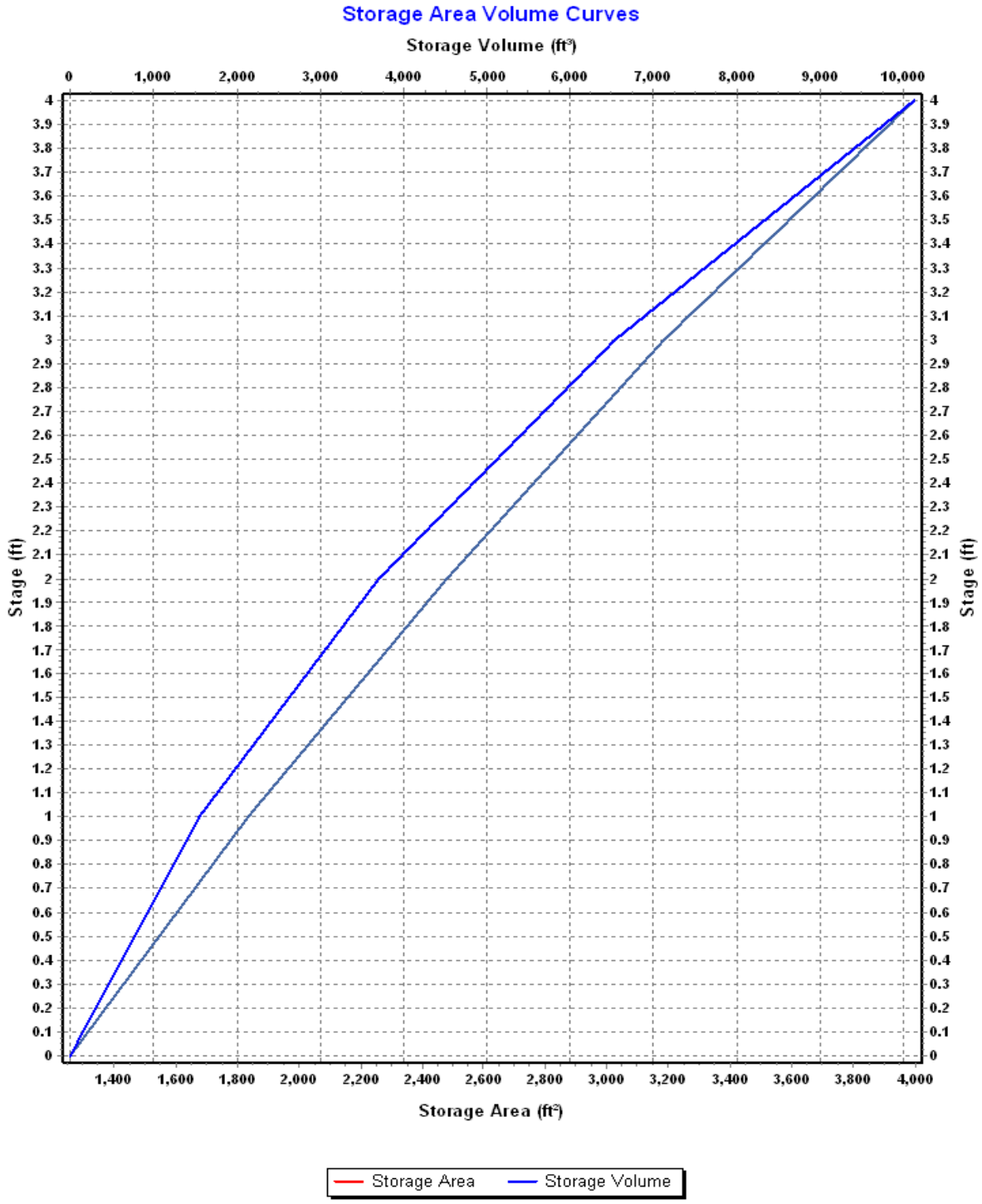
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1257	0.000
1	1833	1545.00
2	2480	3701.50
3	3184	6533.50
4	3997	10124.00


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
Stage (ft)
Storage Area (ft²)
1,400
1,600
1,800
2,000
2,200
2,400
2,600
2,800
3,000
3,200
3,400
3,600
3,800
4,000
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-06	Trapezoidal	No	216.90	3.90	20.00	0.10	3.33
2	Weir-07	Trapezoidal	No	216.50	3.50	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-04	Side	CIRCULAR	No	3.00			214.00	0.61

Output Summary Results

Peak Inflow (cfs)	8.59
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	8.03
Peak Exfiltration Flow Rate (cfm)	1.50
Max HGL Elevation Attained (ft)	216.99
Max HGL Depth Attained (ft)	3.99
Average HGL Elevation Attained (ft)	216.36
Average HGL Depth Attained (ft)	3.36
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	1.624
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	203.00
Max (Rim) Elevation (ft)	206.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

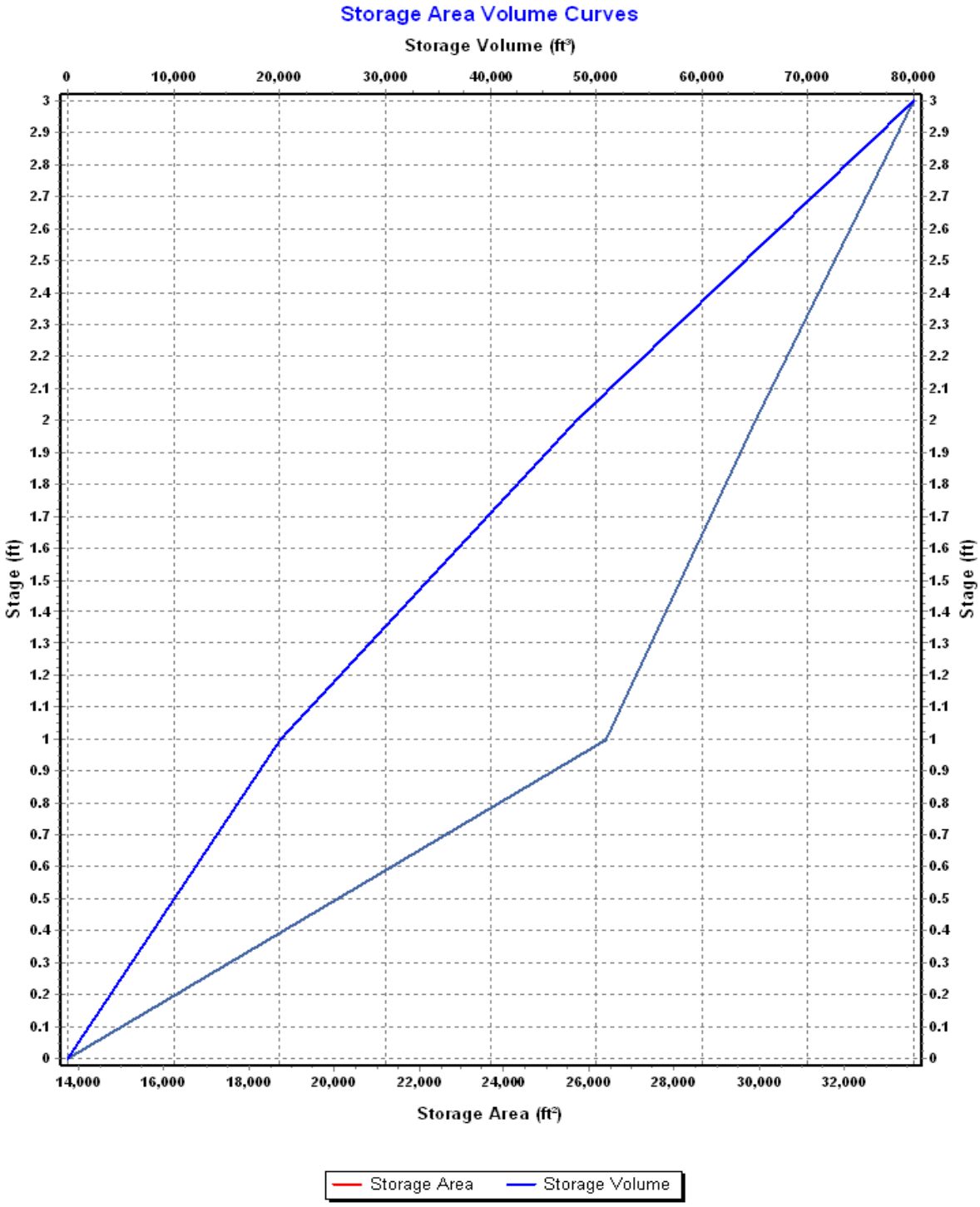
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	13751	0.000
1	26384	20067.50
2	29915	48217.00
3	33625	79987.00


Storage Area Volume Curves
Storage Volume (ft³)
0
10,000
20,000
30,000
40,000
50,000
60,000
70,000
80,000
Stage (ft)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
2.9
3
14,000
16,000
18,000
20,000
22,000
24,000
26,000
28,000
30,000
32,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-09	Trapezoidal	No	204.75	1.75	8.00	0.25	3.33
2	Weir-10	Trapezoidal	No	205.00	2.00	30.00	0.20	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-05	Side	CIRCULAR	No	3.00			203.75	0.61

Output Summary Results

Peak Inflow (cfs)	15.60
Peak Lateral Inflow (cfs)	10.72
Peak Outflow (cfs)	14.27
Peak Exfiltration Flow Rate (cfm)	11.49
Max HGL Elevation Attained (ft)	205.19
Max HGL Depth Attained (ft)	2.19
Average HGL Elevation Attained (ft)	204.58
Average HGL Depth Attained (ft)	1.58
Time of Max HGL Occurrence (days hh:mm)	0 12:53
Total Exfiltration Volume (1000-ft³)	12.128
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

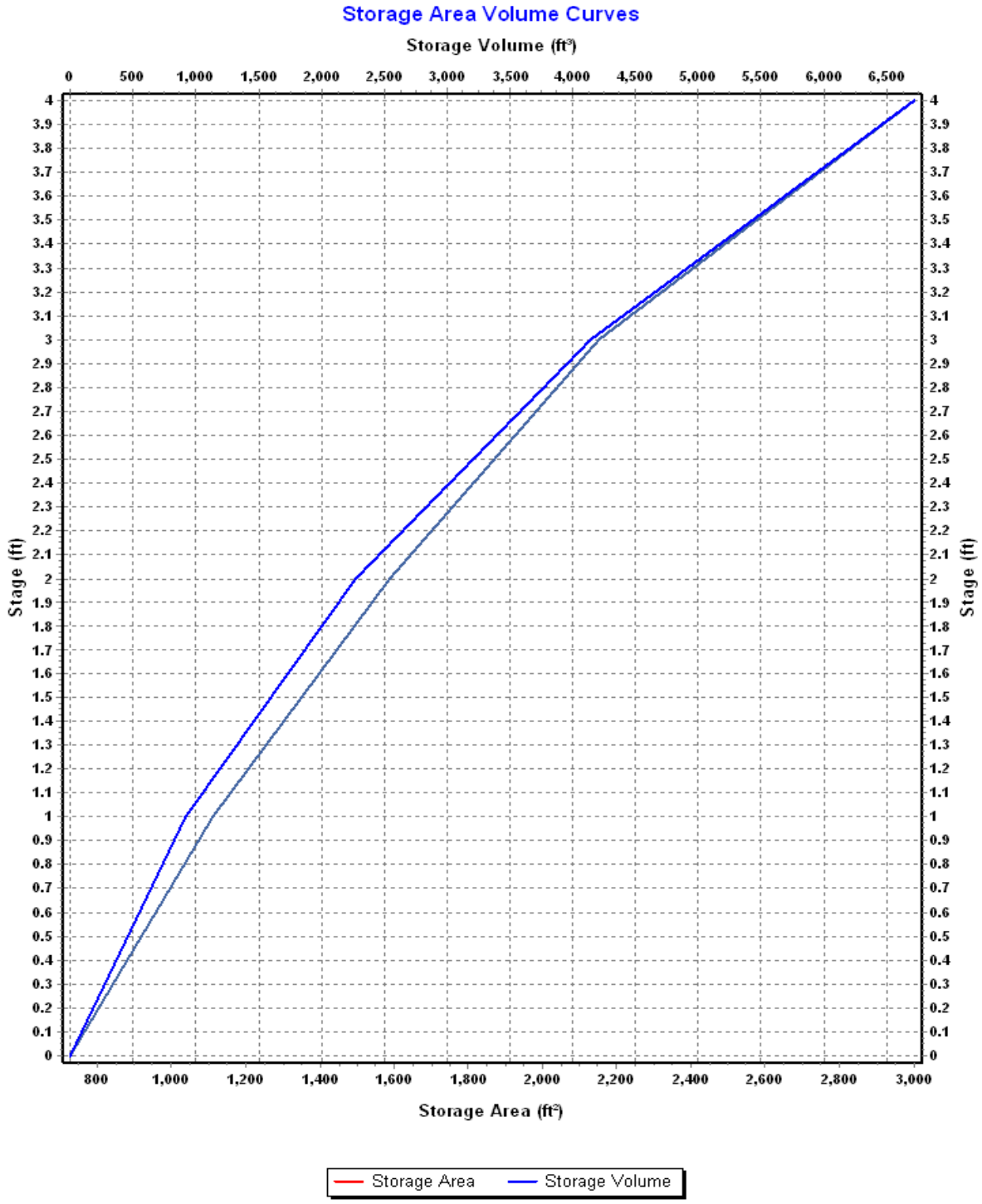
Input Data

Invert Elevation (ft)	222.00
Max (Rim) Elevation (ft)	226.00
Max (Rim) Offset (ft)	4.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-222.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	728	0.000
1	1112	920.00
2	1589	2270.50
3	2153	4141.50
4	3001	6718.50


Storage Area Volume Curves
Storage Volume (ft³)
0 500 1,000 1,500 2,000 2,500 3,000 3,500 4,000 4,500 5,000 5,500 6,000 6,500
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4
800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400 2,600 2,800 3,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Orifice2	Trapezoidal	No	225.00	3.00	5.00	0.25	3.33
2	OrificeforOCS	Side Flow	No	225.00	3.00	5.00	0.25	0.61
3	Weir-17	Trapezoidal	No	225.50	3.50	20.00	0.50	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-02	Side	CIRCULAR	No	3.00			223.00	0.61

Output Summary Results

Peak Inflow (cfs)	19.26
Peak Lateral Inflow (cfs)	17.77
Peak Outflow (cfs)	19.20
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	225.83
Max HGL Depth Attained (ft)	3.83
Average HGL Elevation Attained (ft)	225.08
Average HGL Depth Attained (ft)	3.08
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	231.15
Max (Rim) Elevation (ft)	238.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-231.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	6.42
Peak Lateral Inflow (cfs)	6.42
Peak Outflow (cfs)	6.42
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	235.42
Max HGL Depth Attained (ft)	4.27
Average HGL Elevation Attained (ft)	234.57
Average HGL Depth Attained (ft)	3.42
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.37
Peak Lateral Inflow (cfs)	1.37
Peak Outflow (cfs)	1.36
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.85
Max HGL Depth Attained (ft)	4.7
Average HGL Elevation Attained (ft)	245.24
Average HGL Depth Attained (ft)	4.09
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.65
Peak Lateral Inflow (cfs)	0.65
Peak Outflow (cfs)	0.65
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.58
Max HGL Depth Attained (ft)	4.43
Average HGL Elevation Attained (ft)	245.17
Average HGL Depth Attained (ft)	4.02
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.97
Peak Lateral Inflow (cfs)	0.72
Peak Outflow (cfs)	0.01
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	233.22
Max HGL Depth Attained (ft)	233.22
Average HGL Elevation Attained (ft)	175.33
Average HGL Depth Attained (ft)	175.33
Time of Max HGL Occurrence (days hh:mm)	0 17:23
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.79
Peak Lateral Inflow (cfs)	0.52
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	208.53
Max HGL Depth Attained (ft)	208.53
Average HGL Elevation Attained (ft)	149.07
Average HGL Depth Attained (ft)	149.07
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.43
Peak Lateral Inflow (cfs)	1.43
Peak Outflow (cfs)	0.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	233.38
Max HGL Depth Attained (ft)	233.38
Average HGL Elevation Attained (ft)	193.32
Average HGL Depth Attained (ft)	193.32
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-08

Input Data

Invert Elevation (ft)	0.00
Max (Rim) Elevation (ft)	236.00
Max (Rim) Offset (ft)	236.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.65
Peak Lateral Inflow (cfs)	0.65
Peak Outflow (cfs)	0.00
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	162.17
Max HGL Depth Attained (ft)	162.17
Average HGL Elevation Attained (ft)	115.27
Average HGL Depth Attained (ft)	115.27
Time of Max HGL Occurrence (days hh:mm)	1 00:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-09

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.85
Peak Lateral Inflow (cfs)	0.85
Peak Outflow (cfs)	0.84
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	245.74
Max HGL Depth Attained (ft)	4.59
Average HGL Elevation Attained (ft)	245.19
Average HGL Depth Attained (ft)	4.04
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-10

Input Data

Invert Elevation (ft)	241.15
Max (Rim) Elevation (ft)	248.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-241.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.00
Peak Lateral Inflow (cfs)	1.24
Peak Outflow (cfs)	2.97
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	246.40
Max HGL Depth Attained (ft)	5.25
Average HGL Elevation Attained (ft)	245.29
Average HGL Depth Attained (ft)	4.14
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-15

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	229.00
Max (Rim) Offset (ft)	8.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.46
Peak Lateral Inflow (cfs)	2.46
Peak Outflow (cfs)	2.45
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	227.20
Max HGL Depth Attained (ft)	6.2
Average HGL Elevation Attained (ft)	226.18
Average HGL Depth Attained (ft)	5.18
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-16

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	229.00
Max (Rim) Offset (ft)	8.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.17
Peak Lateral Inflow (cfs)	1.02
Peak Outflow (cfs)	3.15
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	226.84
Max HGL Depth Attained (ft)	5.84
Average HGL Elevation Attained (ft)	226.06
Average HGL Depth Attained (ft)	5.06
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-17

Input Data

Invert Elevation (ft)	211.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	9.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.61
Peak Lateral Inflow (cfs)	1.43
Peak Outflow (cfs)	2.58
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	217.89
Max HGL Depth Attained (ft)	6.89
Average HGL Elevation Attained (ft)	217.21
Average HGL Depth Attained (ft)	6.21
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-18

Input Data

Invert Elevation (ft)	211.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	9.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-211.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	6.02
Peak Lateral Inflow (cfs)	2.56
Peak Outflow (cfs)	6.01
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	218.10
Max HGL Depth Attained (ft)	7.1
Average HGL Elevation Attained (ft)	217.54
Average HGL Depth Attained (ft)	6.54
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-19

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.39
Peak Lateral Inflow (cfs)	2.39
Peak Outflow (cfs)	2.33
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	208.58
Max HGL Depth Attained (ft)	4.93
Average HGL Elevation Attained (ft)	207.77
Average HGL Depth Attained (ft)	4.12
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-20

Input Data

Invert Elevation (ft)	203.65
Max (Rim) Elevation (ft)	210.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-203.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.17
Peak Lateral Inflow (cfs)	1.17
Peak Outflow (cfs)	1.15
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	208.13
Max HGL Depth Attained (ft)	4.48
Average HGL Elevation Attained (ft)	207.70
Average HGL Depth Attained (ft)	4.05
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP01

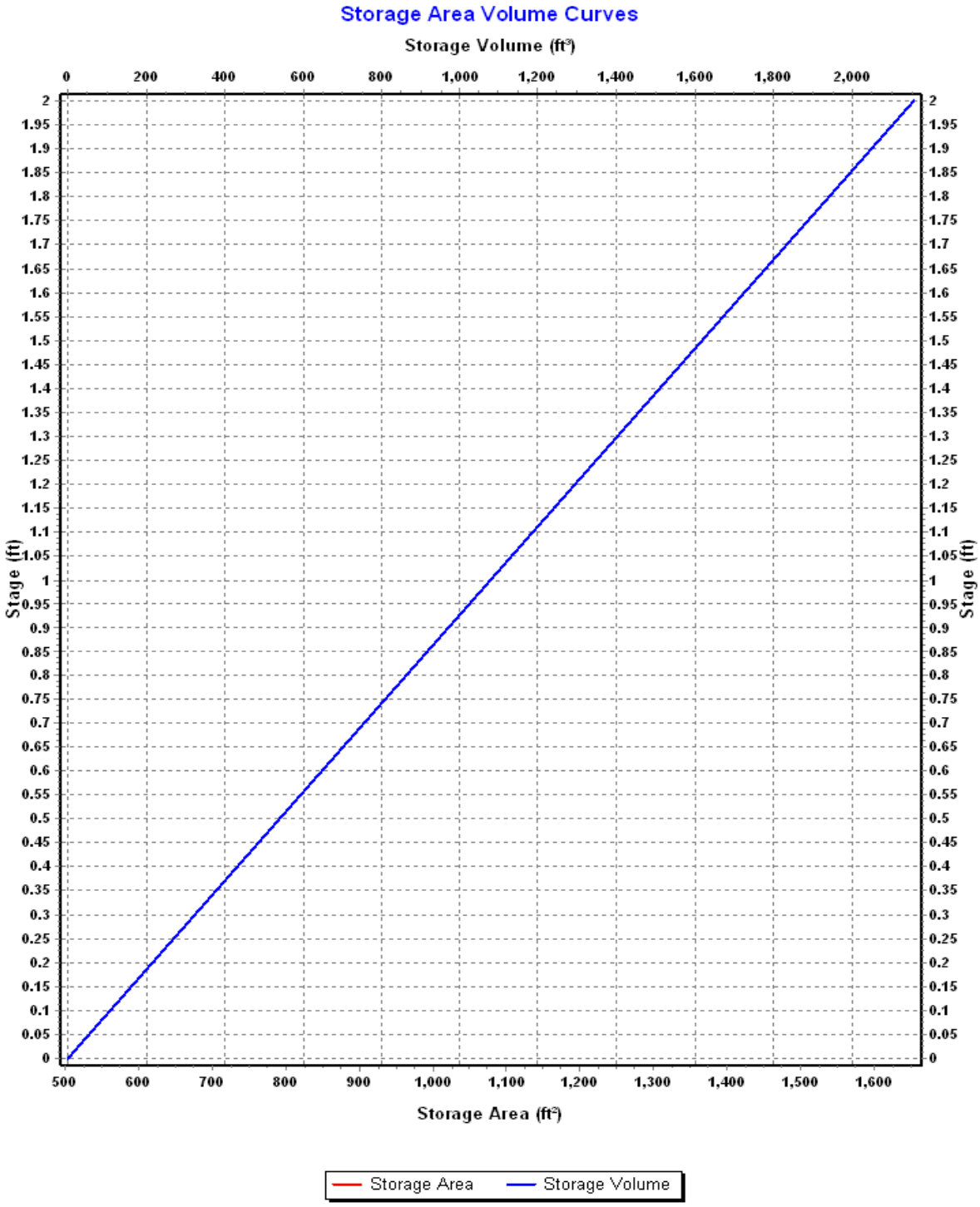
Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	220.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	504	0.000
2	1653	2157.00


Storage Area Volume Curves
Storage Volume (ft³)
0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Storage Area (ft²)
500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600
Storage Area
Storage Volume

Storage Node : Forebay_BMP01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	219.50	0.50	40.00	0.50	3.33

Output Summary Results

Peak Inflow (cfs)	14.88
Peak Lateral Inflow (cfs)	8.39
Peak Outflow (cfs)	14.88
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	219.73
Max HGL Depth Attained (ft)	0.73
Average HGL Elevation Attained (ft)	219.54
Average HGL Depth Attained (ft)	0.54
Time of Max HGL Occurrence (days hh:mm)	0 12:32
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Forebay_BMP03

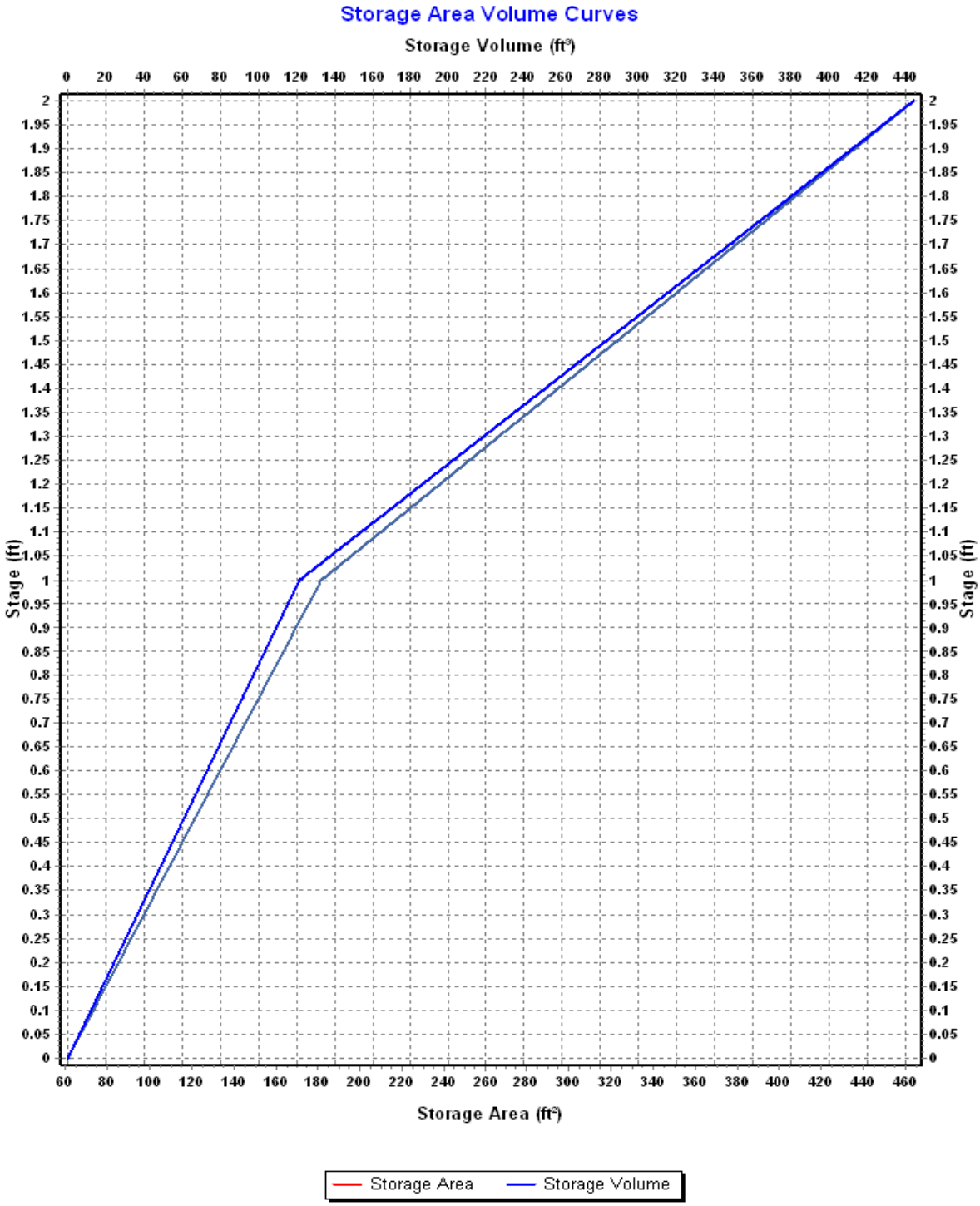
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay_BMP03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	61	0.000
1	182	121.50
2	464	444.50


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Forebay_BMP03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	207.00	1.00	50.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	3.48
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	3.48
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.08
Max HGL Depth Attained (ft)	1.08
Average HGL Elevation Attained (ft)	206.99
Average HGL Depth Attained (ft)	0.99
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	210.65
Max (Rim) Elevation (ft)	217.75
Max (Rim) Offset (ft)	7.10
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-210.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	7.38
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	7.38
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	215.42
Max HGL Depth Attained (ft)	4.77
Average HGL Elevation Attained (ft)	214.55
Average HGL Depth Attained (ft)	3.9
Time of Max HGL Occurrence (days hh:mm)	0 12:33
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	209.65
Max (Rim) Elevation (ft)	216.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-209.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	6.24
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	6.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	211.16
Max HGL Depth Attained (ft)	1.51
Average HGL Elevation Attained (ft)	210.58
Average HGL Depth Attained (ft)	0.93
Time of Max HGL Occurrence (days hh:mm)	0 12:12
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	198.65
Max (Rim) Elevation (ft)	204.75
Max (Rim) Offset (ft)	6.10
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-198.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	5.72
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	5.72
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	203.65
Max HGL Depth Attained (ft)	5
Average HGL Elevation Attained (ft)	202.29
Average HGL Depth Attained (ft)	3.64
Time of Max HGL Occurrence (days hh:mm)	0 12:53
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	217.00
Max (Rim) Elevation (ft)	225.50
Max (Rim) Offset (ft)	8.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-217.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	19.20
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	19.19
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	223.49
Max HGL Depth Attained (ft)	6.49
Average HGL Elevation Attained (ft)	221.57
Average HGL Depth Attained (ft)	4.57
Time of Max HGL Occurrence (days hh:mm)	0 12:36
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber01

Input Data

Invert Elevation (ft)	213.00
Max (Rim) Elevation (ft)	215.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-213.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-19	Trapezoidal	No	214.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	214.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	214.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber02

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-20	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	220.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber03

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-21	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	217.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber04

Input Data

Invert Elevation (ft)	219.00
Max (Rim) Elevation (ft)	221.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-219.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-22	Trapezoidal	No	220.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	220.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	220.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber05

Input Data

Invert Elevation (ft)	221.00
Max (Rim) Elevation (ft)	223.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-221.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-23	Trapezoidal	No	222.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	222.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	222.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber06

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-24	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	224.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber07

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-25	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	233.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber08

Input Data

Invert Elevation (ft)	233.00
Max (Rim) Elevation (ft)	235.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-233.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-27	Trapezoidal	No	234.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	234.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	234.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber09

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-26	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	229.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber10

Input Data

Invert Elevation (ft)	216.00
Max (Rim) Elevation (ft)	218.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-216.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-44	Trapezoidal	No	217.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	217.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	217.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber11

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-43	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	221.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber12

Input Data

Invert Elevation (ft)	220.00
Max (Rim) Elevation (ft)	222.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-220.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-42	Trapezoidal	No	221.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	221.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	221.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber13

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-47	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	229.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber14

Input Data

Invert Elevation (ft)	232.00
Max (Rim) Elevation (ft)	234.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-232.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-46	Trapezoidal	No	233.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	233.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	233.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber15

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-41	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	224.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber16

Input Data

Invert Elevation (ft)	223.00
Max (Rim) Elevation (ft)	225.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-223.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-40	Trapezoidal	No	224.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	224.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	224.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber17

Input Data

Invert Elevation (ft)	228.00
Max (Rim) Elevation (ft)	230.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-228.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-39	Trapezoidal	No	229.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	229.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	229.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber18

Input Data

Invert Elevation (ft)	242.00
Max (Rim) Elevation (ft)	244.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-242.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-45	Trapezoidal	No	243.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	243.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	243.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber19

Input Data

Invert Elevation (ft)	252.00
Max (Rim) Elevation (ft)	254.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-252.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-31	Trapezoidal	No	253.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	253.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	253.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber20

Input Data

Invert Elevation (ft)	269.00
Max (Rim) Elevation (ft)	271.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-269.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-32	Trapezoidal	No	270.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	270.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	270.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber21

Input Data

Invert Elevation (ft)	270.00
Max (Rim) Elevation (ft)	272.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-270.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-33	Trapezoidal	No	271.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	271.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	271.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber22

Input Data

Invert Elevation (ft)	264.00
Max (Rim) Elevation (ft)	266.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-264.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-34	Trapezoidal	No	265.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	265.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	265.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber23

Input Data

Invert Elevation (ft)	250.00
Max (Rim) Elevation (ft)	252.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-250.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-35	Trapezoidal	No	251.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	251.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	251.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber24

Input Data

Invert Elevation (ft)	243.00
Max (Rim) Elevation (ft)	245.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-243.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-36	Trapezoidal	No	244.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	244.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	244.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber25

Input Data

Invert Elevation (ft)	238.00
Max (Rim) Elevation (ft)	240.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-238.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-37	Trapezoidal	No	239.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	239.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	239.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Roof_Chamber26

Input Data

Invert Elevation (ft)	230.00
Max (Rim) Elevation (ft)	232.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-230.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-38	Trapezoidal	No	231.75	1.75	70.00	1.00	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.59
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	231.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	231.71
Average HGL Depth Attained (ft)	1.71
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.033
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Wetland

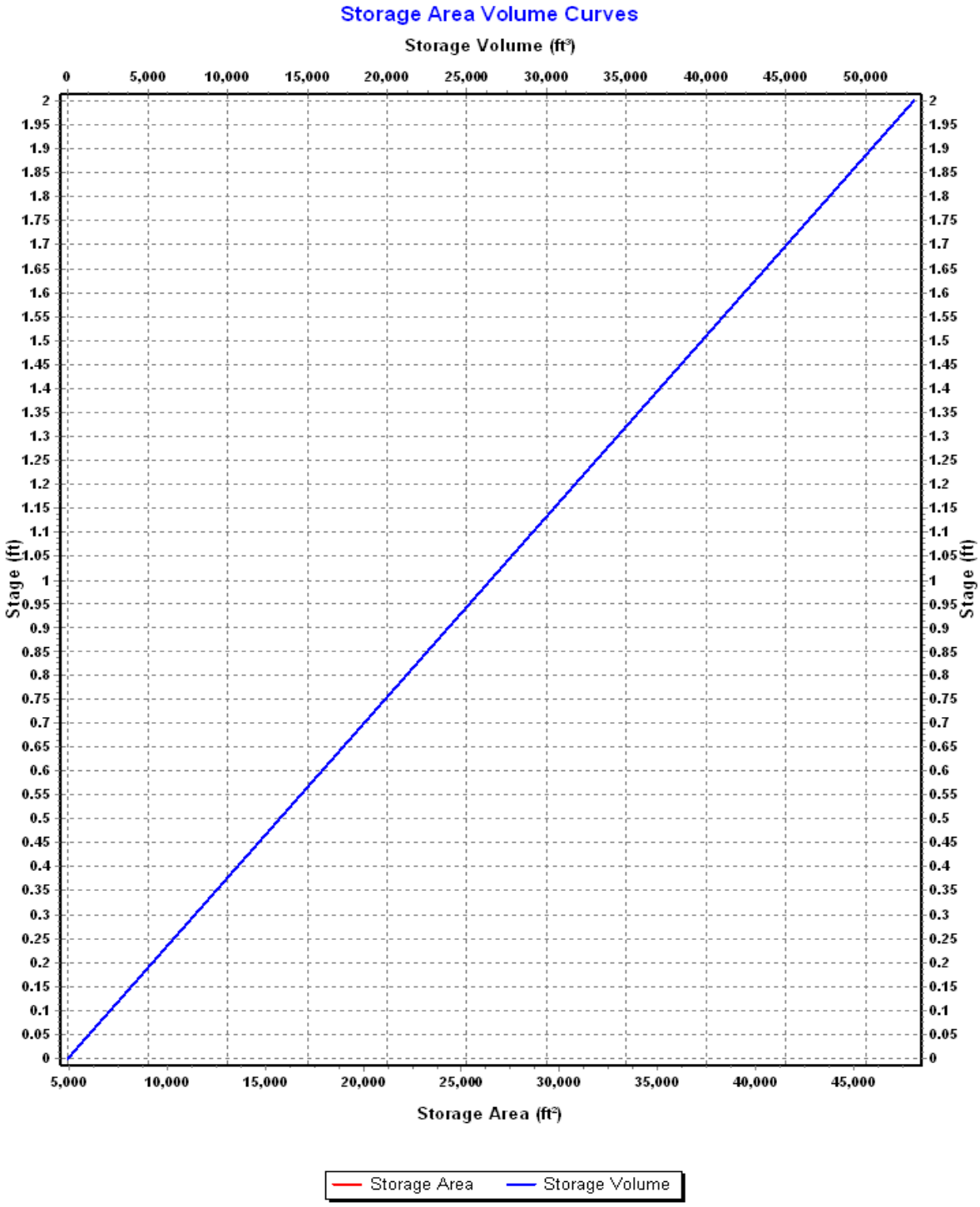
Input Data

Invert Elevation (ft)	206.00
Max (Rim) Elevation (ft)	208.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-206.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Wetland

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	4965	0.000
2	48025	52990.00


Storage Area Volume Curves
Storage Volume (ft³)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
Stage (ft)
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Wetland (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	207.75	1.75	250.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	28.24
Peak Lateral Inflow (cfs)	27.89
Peak Outflow (cfs)	28.15
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	207.85
Max HGL Depth Attained (ft)	1.85
Average HGL Elevation Attained (ft)	207.52
Average HGL Depth Attained (ft)	1.52
Time of Max HGL Occurrence (days hh:mm)	0 12:45
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

SSA Model Inputs and Outputs

for

Scenario 2

Existing Conditions

Output List

- Model Schematic with Labels
- 2-year SCS Type III
- 2-year NOAA Atlas 14
- 2-year NOAA Atlas 14+
- 100-year SCS Type III
- 100-year NOAA Atlas 14
- 100-year NOAA Atlas 14+


CB-01
Sub-03
CB-02
Sub-04
Out-03
Sub-05
Sub-06
CB-03
CB-04
Out-04
Out-01
Sub-01
Sub-07
Sub-08
Sub-02
Out-02
Sub-09
Sub-10
Out-05
Stor-06
Stor-07
Out-06
Sub-11
Sub-12
Out-08
Stor-08
Stor-09
Out-07

Project Description

File Name ..... Scenario 2 - Existing Conditions.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	12
Nodes	16
Junctions	0
Outfalls	8
Flow Diversions	0
Inlets	0
Storage Nodes	8
Links	8
Channels	0
Pipes	8
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.85	484.00	74.22	3.10	0.98	0.83	0.90	0 00:02:24
2	Sub-02	0.66	484.00	74.02	3.10	0.97	0.64	0.70	0 00:02:06
3	Sub-03	0.06	484.00	98.00	3.10	2.85	0.18	0.17	0 00:01:36
4	Sub-04	0.06	484.00	98.00	3.10	2.85	0.16	0.15	0 00:01:36
5	Sub-05	0.08	484.00	98.00	3.10	2.86	0.24	0.22	0 00:02:40
6	Sub-06	0.09	484.00	98.00	3.10	2.86	0.25	0.23	0 00:02:40
7	Sub-07	0.07	484.00	98.00	3.10	2.86	0.20	0.18	0 00:02:17
8	Sub-08	0.07	484.00	98.00	3.10	2.86	0.21	0.20	0 00:02:16
9	Sub-09	0.08	484.00	98.00	3.10	2.86	0.23	0.20	0 00:02:26
10	Sub-10	0.08	484.00	98.00	3.10	2.86	0.22	0.20	0 00:02:24
11	Sub-11	0.08	484.00	98.00	3.10	2.86	0.22	0.20	0 00:02:04
12	Sub-12	0.07	484.00	98.00	3.10	2.86	0.21	0.18	0 00:02:04

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					0.87	112.00					
2	Out-02	Outfall	112.00					0.68	112.00					
3	Out-03	Outfall	112.00					0.31	112.00					
4	Out-04	Outfall	112.00					0.83	112.00					
5	Out-05	Outfall	112.00					0.20	112.00					
6	Out-06	Outfall	112.00					0.20	112.00					
7	Out-07	Outfall	112.00					0.18	112.00					
8	Out-08	Outfall	112.00					0.20	112.00					
9	CB-01	Storage Node	113.15	120.00	0.00		1000.00	0.17	117.38				0.00	0.00
10	CB-02	Storage Node	113.00	120.00	0.00		1000.00	0.31	117.15				0.00	0.00
11	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.40	116.50				0.00	0.00
12	CB-04	Storage Node	112.00	119.00	0.00		1000.00	0.83	116.30				0.00	0.00
13	Stor-06	Storage Node	111.35	118.20	0.00		1000.00	0.20	115.48				0.00	0.00
14	Stor-07	Storage Node	111.35	118.20	0.00		1000.00	0.20	115.48				0.00	0.00
15	Stor-08	Storage Node	108.65	115.50	0.00		1000.00	0.20	112.85				0.00	0.00
16	Stor-09	Storage Node	108.65	115.50	0.00		1000.00	0.18	112.83				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	CB-02	24.65	117.15	117.00	0.6100	12.000	0.0200	0.17	1.81	0.09	1.52	0.20	0.20	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	31.63	117.00	115.00	6.3200	18.000	0.0200	0.31	17.17	0.02	3.61	0.14	0.10	0.00	Calculated
3	Link-03	Pipe	CB-03	CB-04	21.33	116.15	116.00	0.7000	12.000	0.0200	0.40	1.94	0.21	1.82	0.32	0.32	0.00	Calculated
4	Link-04	Pipe	CB-04	Out-04	18.20	116.00	115.00	5.4900	12.000	0.0200	0.83	5.43	0.15	4.55	0.28	0.28	0.00	Calculated
5	Link-05	Pipe	Stor-06	Out-05	32.12	115.35	113.00	7.3200	12.000	0.0200	0.20	6.26	0.03	3.56	0.12	0.12	0.00	Calculated
6	Link-06	Pipe	Stor-07	Out-06	34.11	115.35	113.00	6.8900	12.000	0.0200	0.20	6.08	0.03	3.48	0.13	0.13	0.00	Calculated
7	Link-07	Pipe	Stor-08	Out-08	31.14	112.65	112.25	1.2800	12.000	0.0200	0.20	2.62	0.08	1.93	0.19	0.19	0.00	Calculated
8	Link-08	Pipe	Stor-09	Out-07	26.16	112.65	112.25	1.5300	12.000	0.0200	0.18	2.86	0.06	1.96	0.18	0.18	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.85
Peak Rate Factor 484.00
Weighted Curve Number 74.22
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.82	C	74.00
Paved roads with curbs & sewers	0.01	C	98.00
Brush, Good	0.01	C	65.00
Composite Area & Weighted CN	0.84		74.22

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

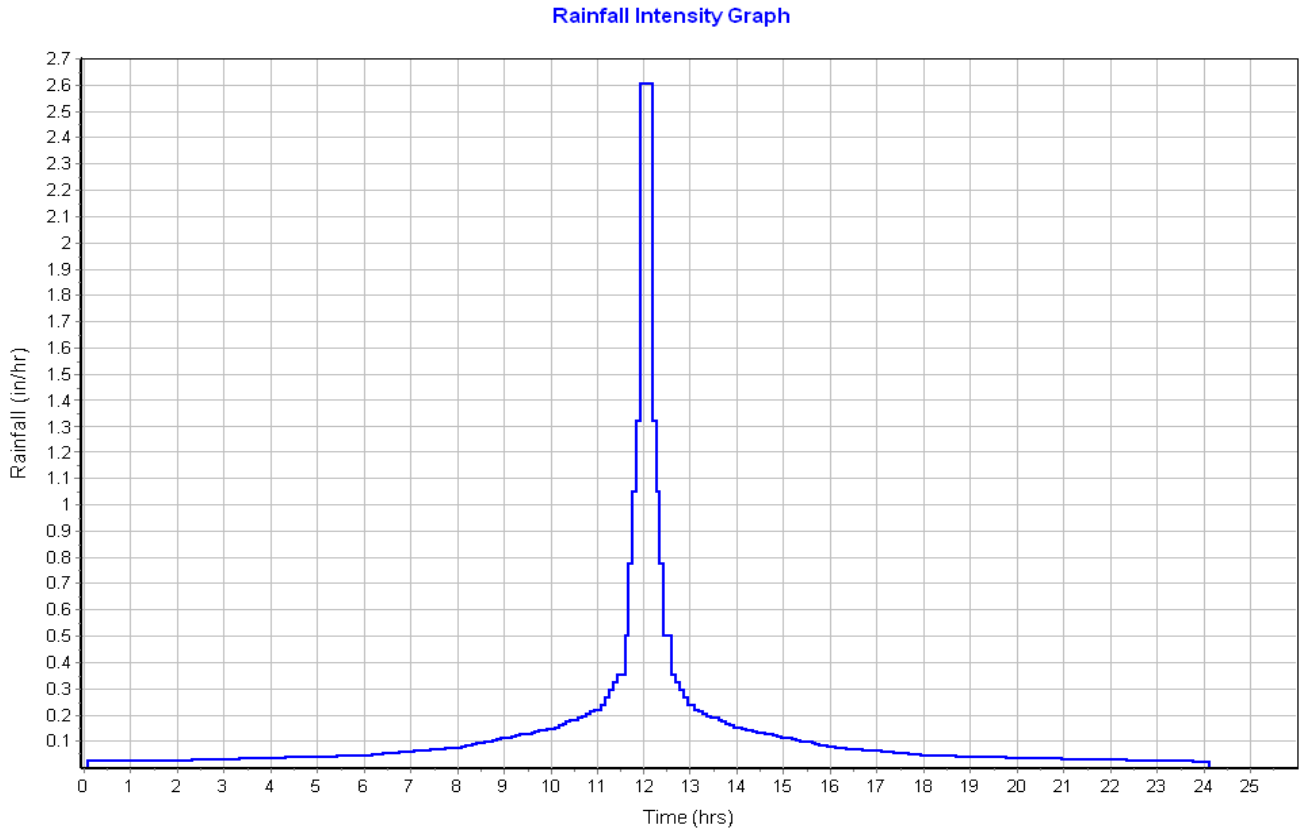
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	16.67	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	2.41	0.00	0.00

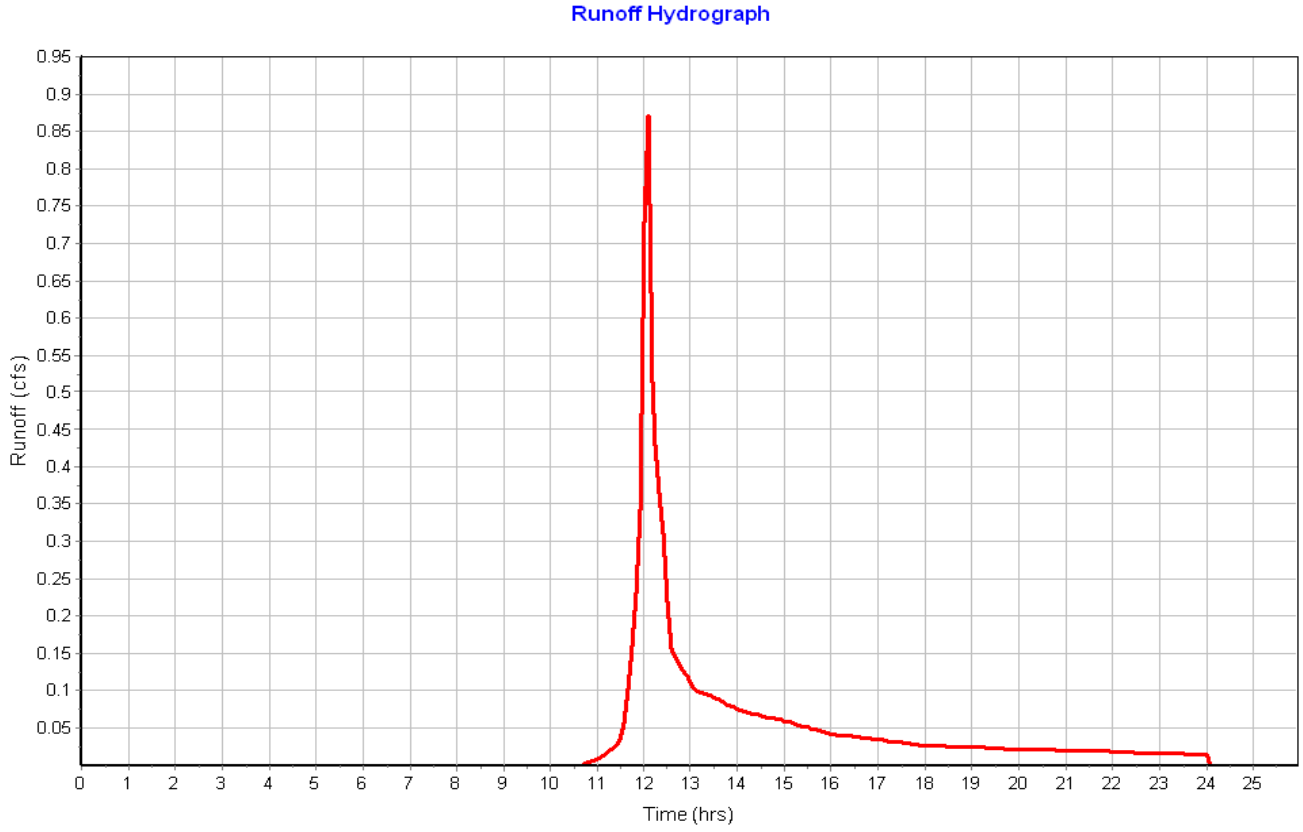
Total TOC (min) 2.41

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	0.98
Peak Runoff (cfs)	0.90
Weighted Curve Number	74.22
Time of Concentration (days hh:mm:ss)	0 00:02:25

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.66
Peak Rate Factor 484.00
Weighted Curve Number 74.02
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.60	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.65		74.02

Time of Concentration

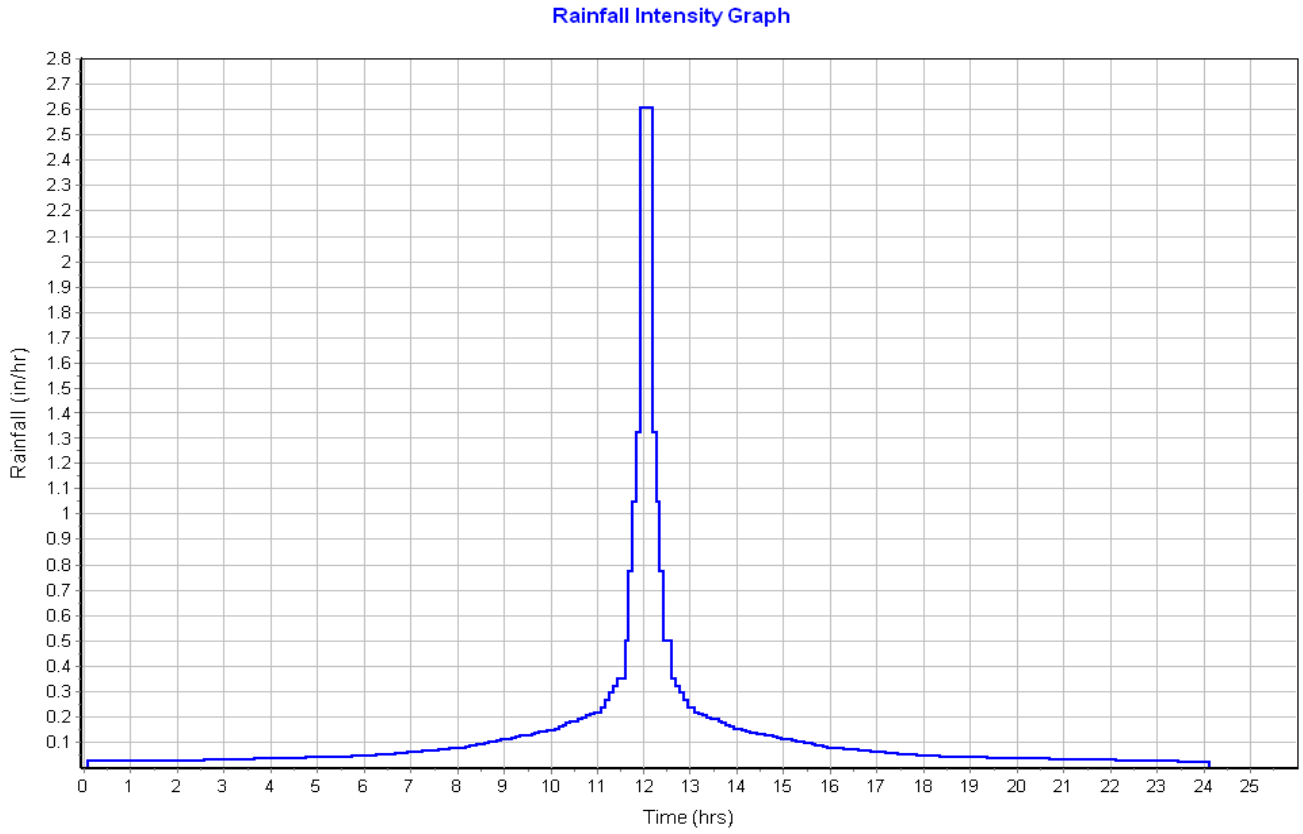
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

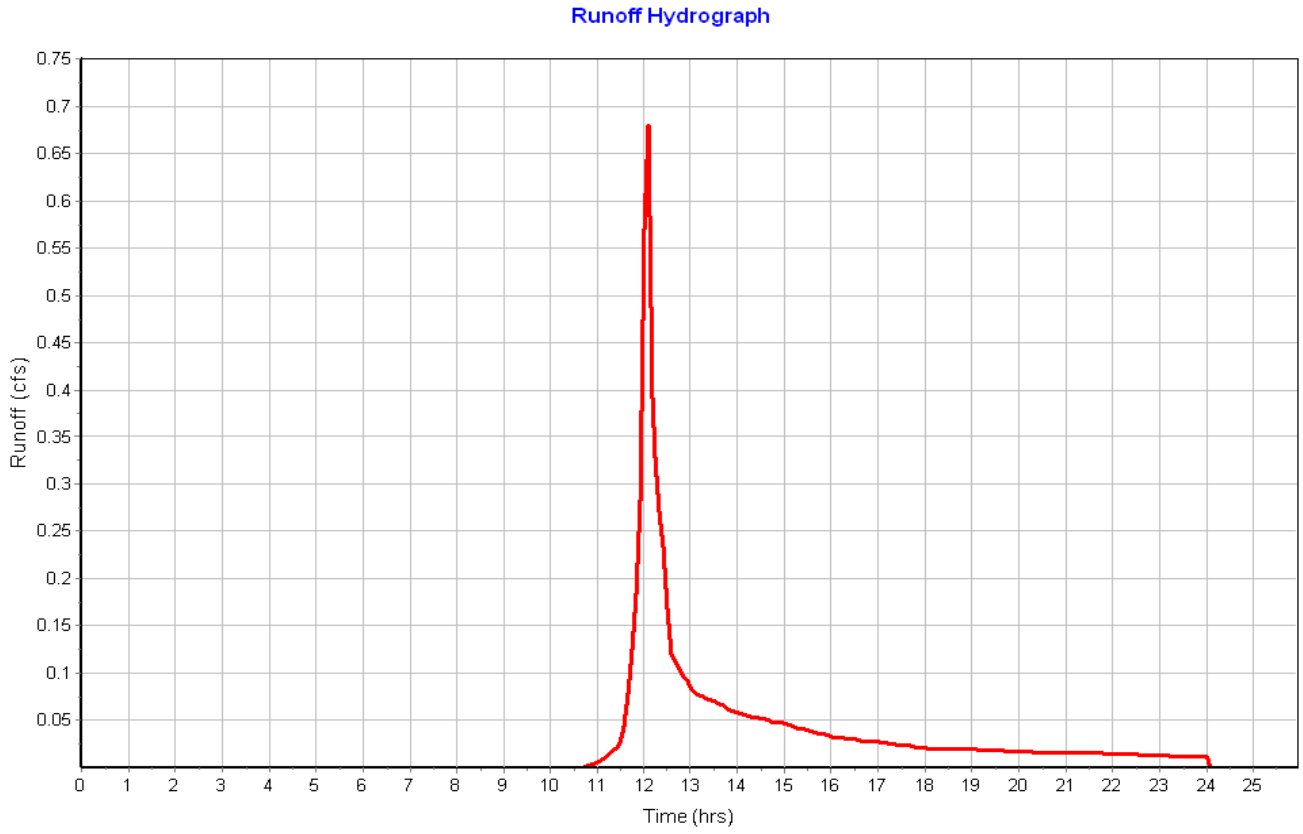
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.97
Peak Runoff (cfs) 0.70
Weighted Curve Number 74.02
Time of Concentration (days hh:mm:ss) 0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.70	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

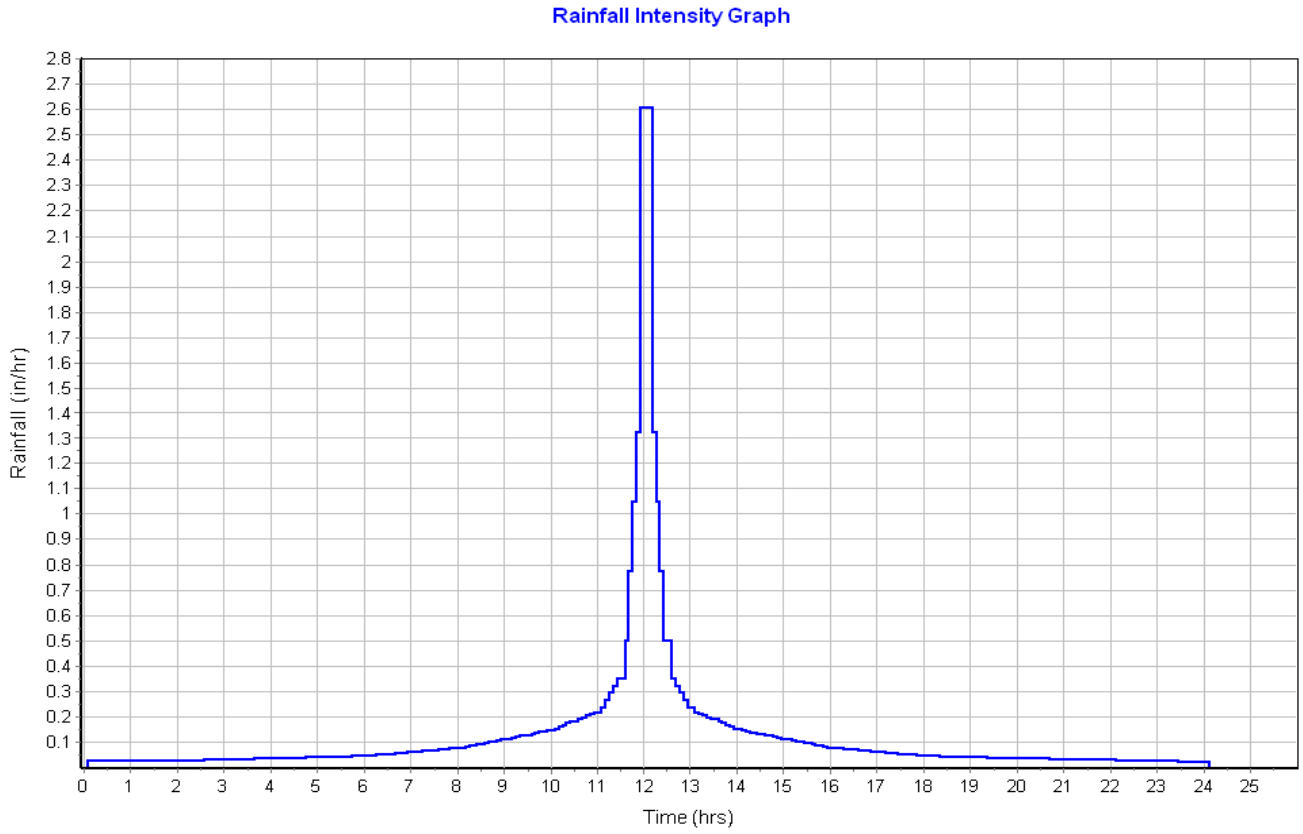
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.15	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

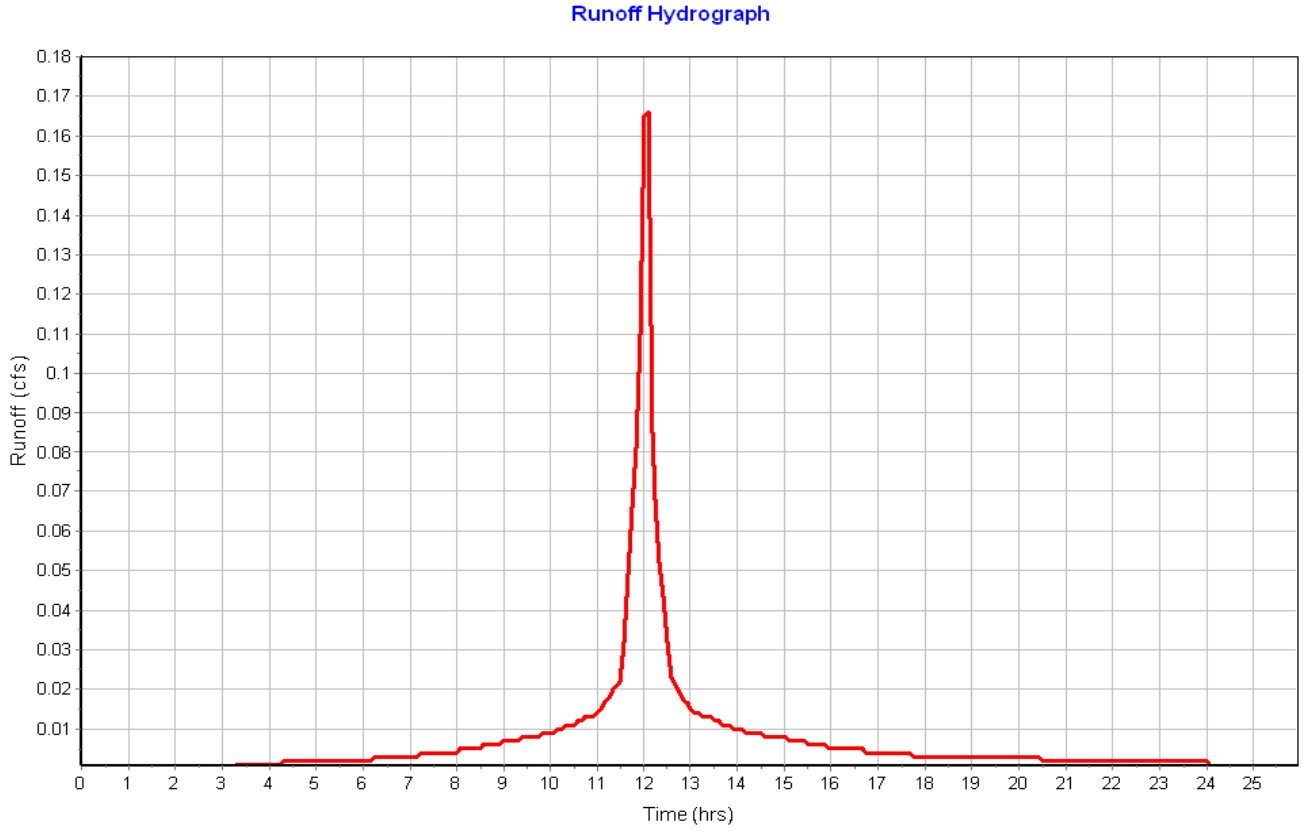
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.17
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:36

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	10.78	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

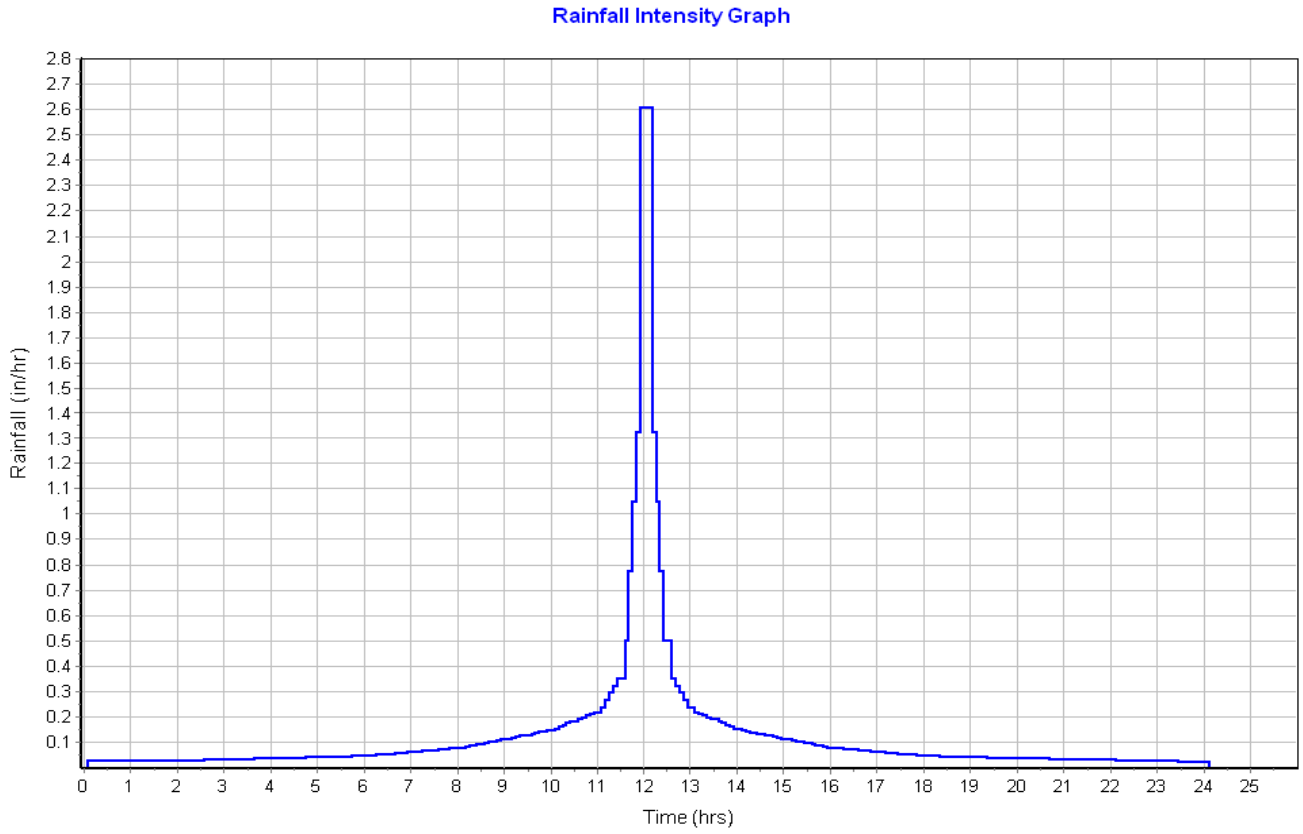
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	182.17	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.50	0.00	0.00

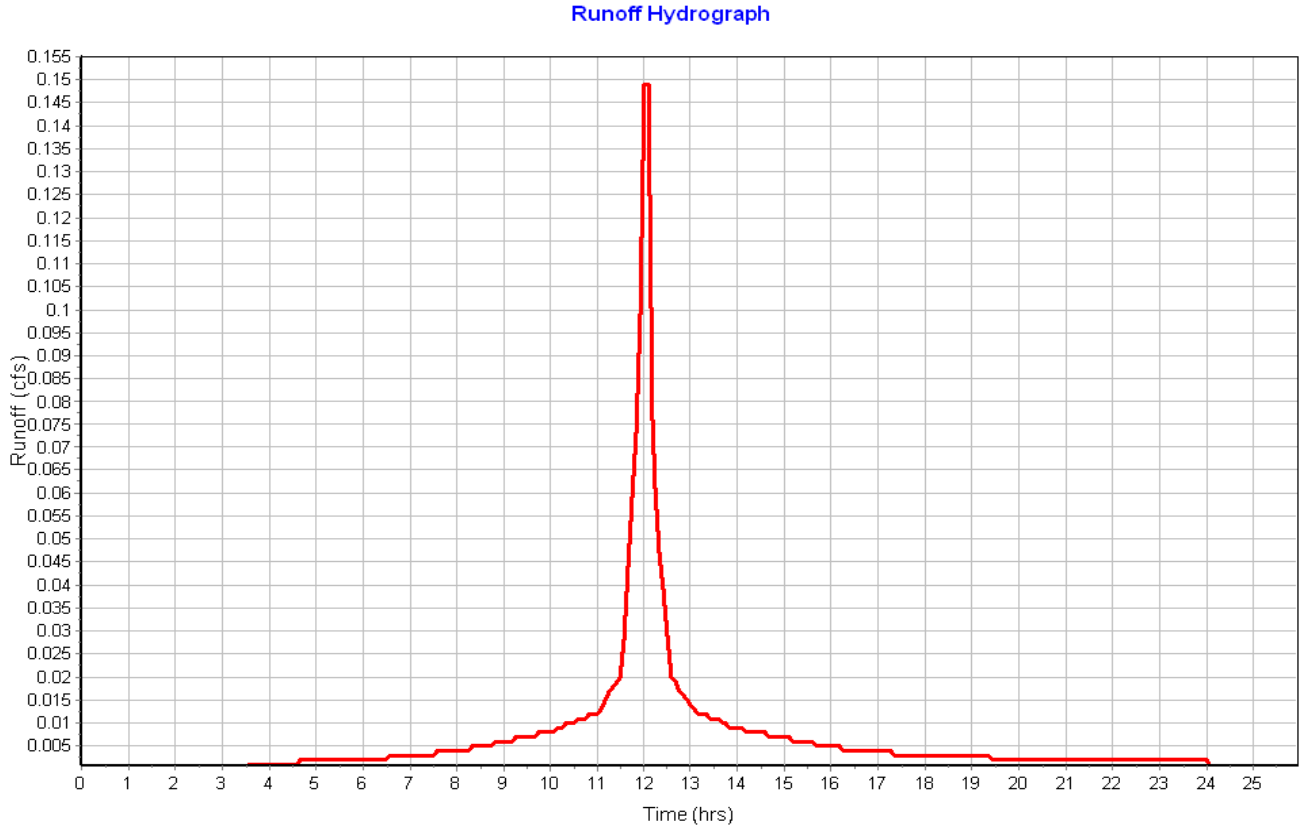
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:36

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

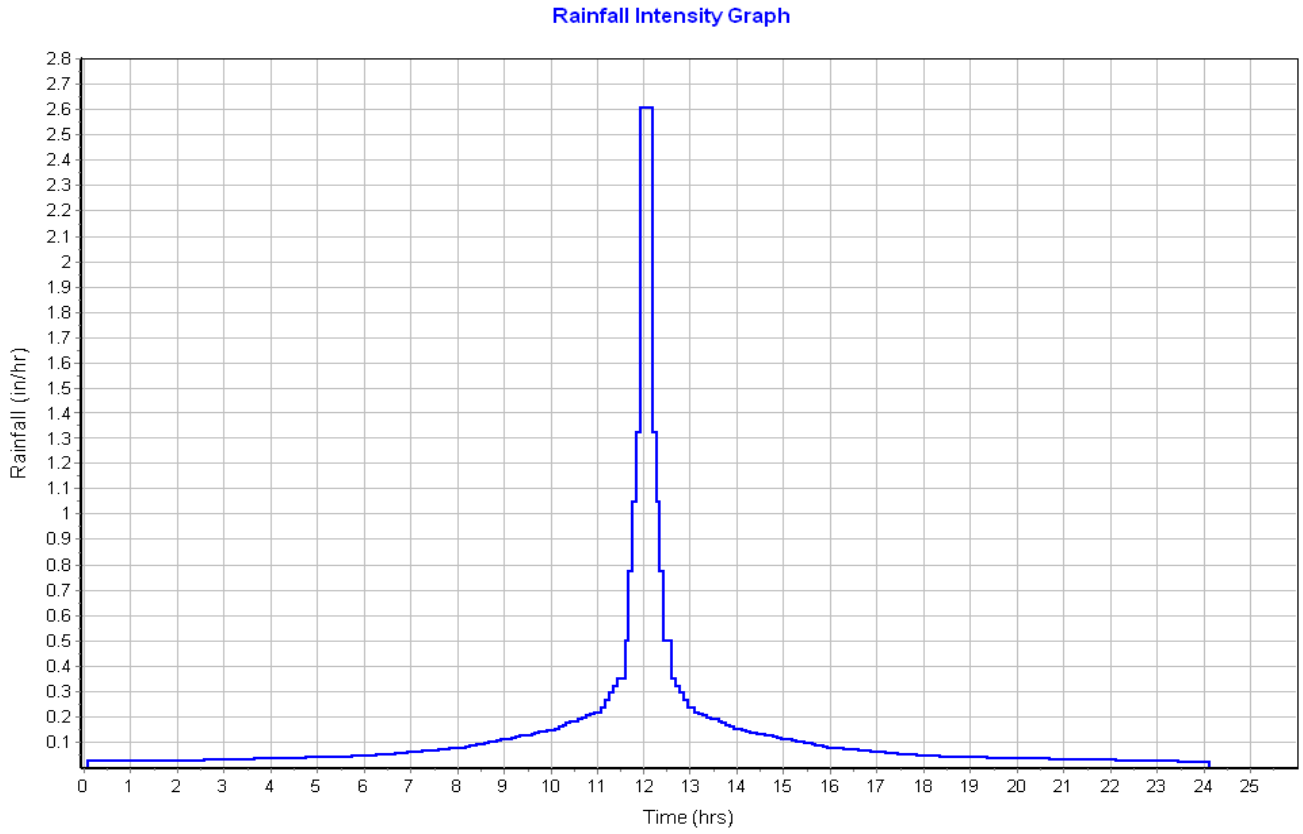
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.21	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

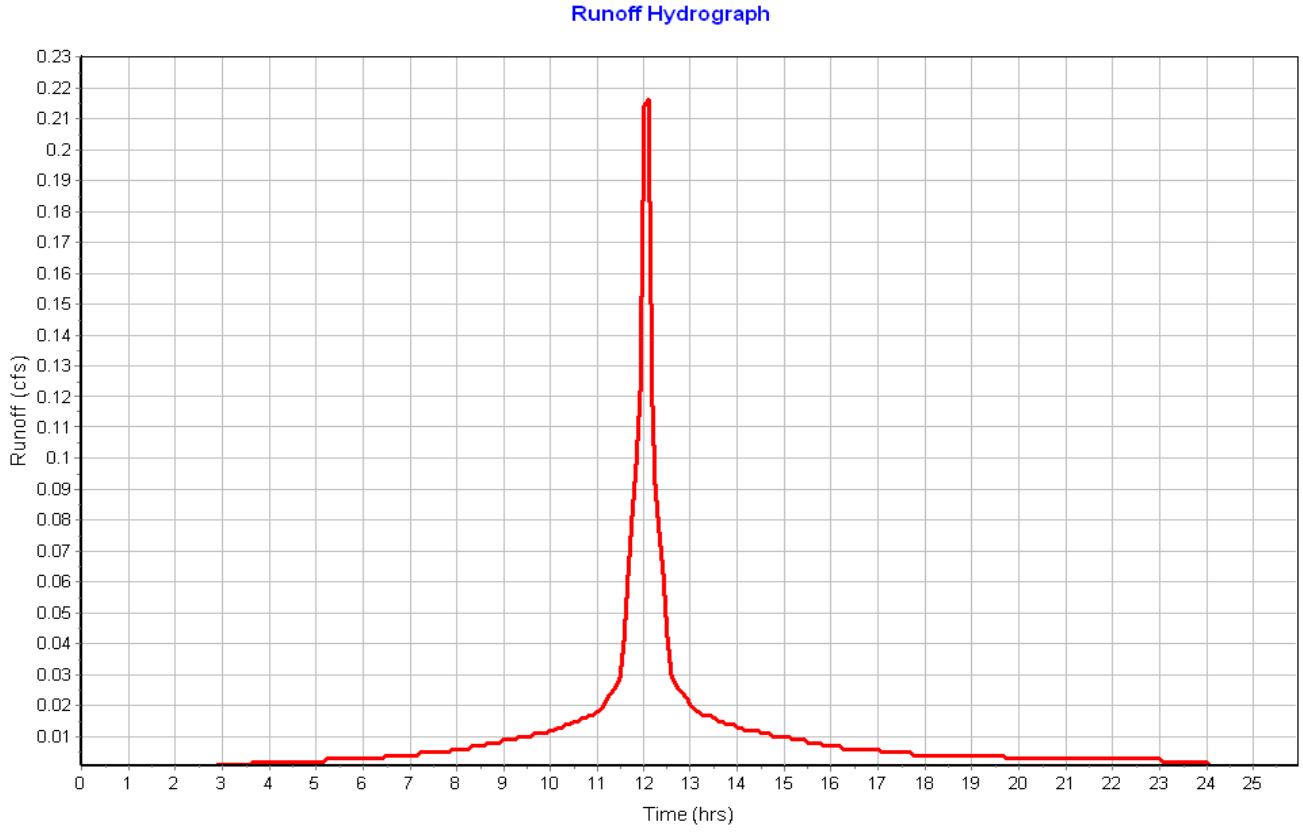
Total TOC (min) 2.68

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.22
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:41

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.2	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

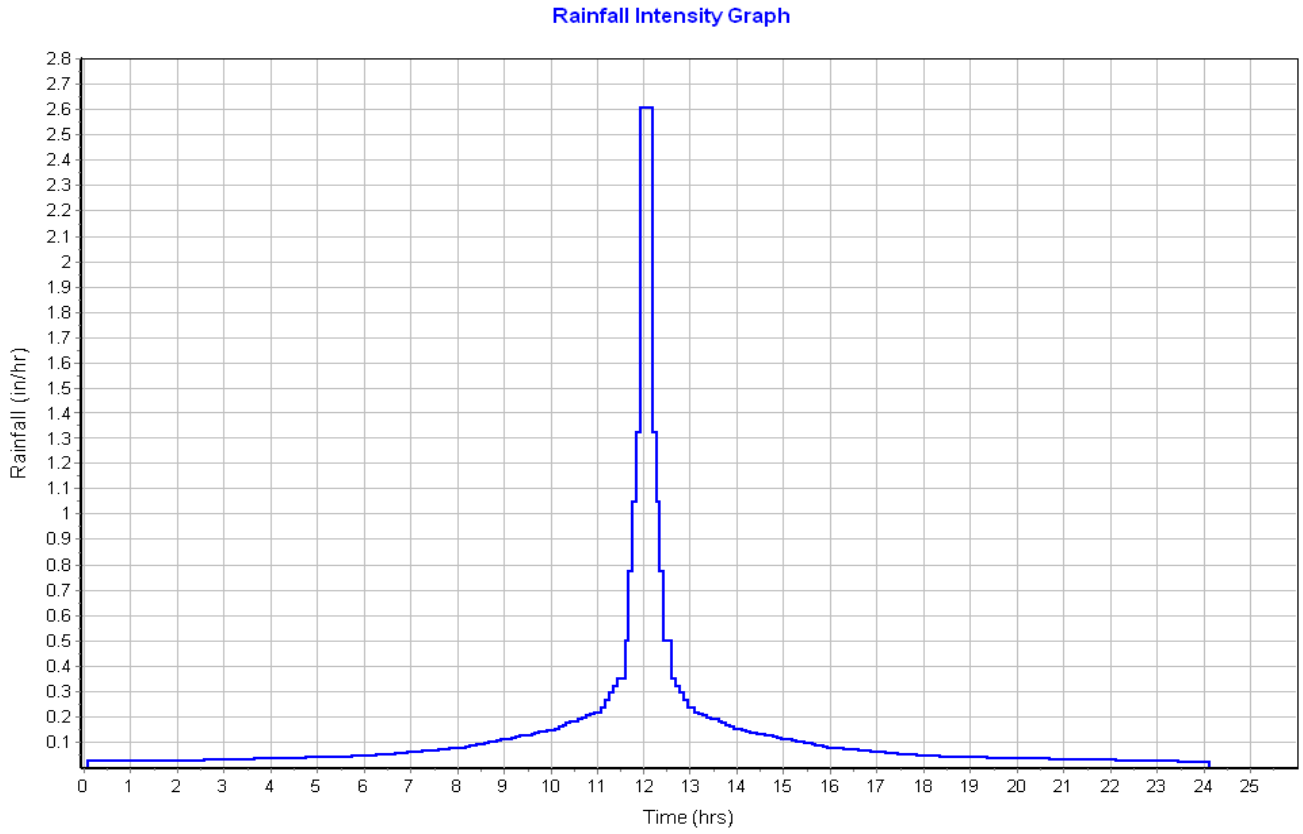
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.1	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

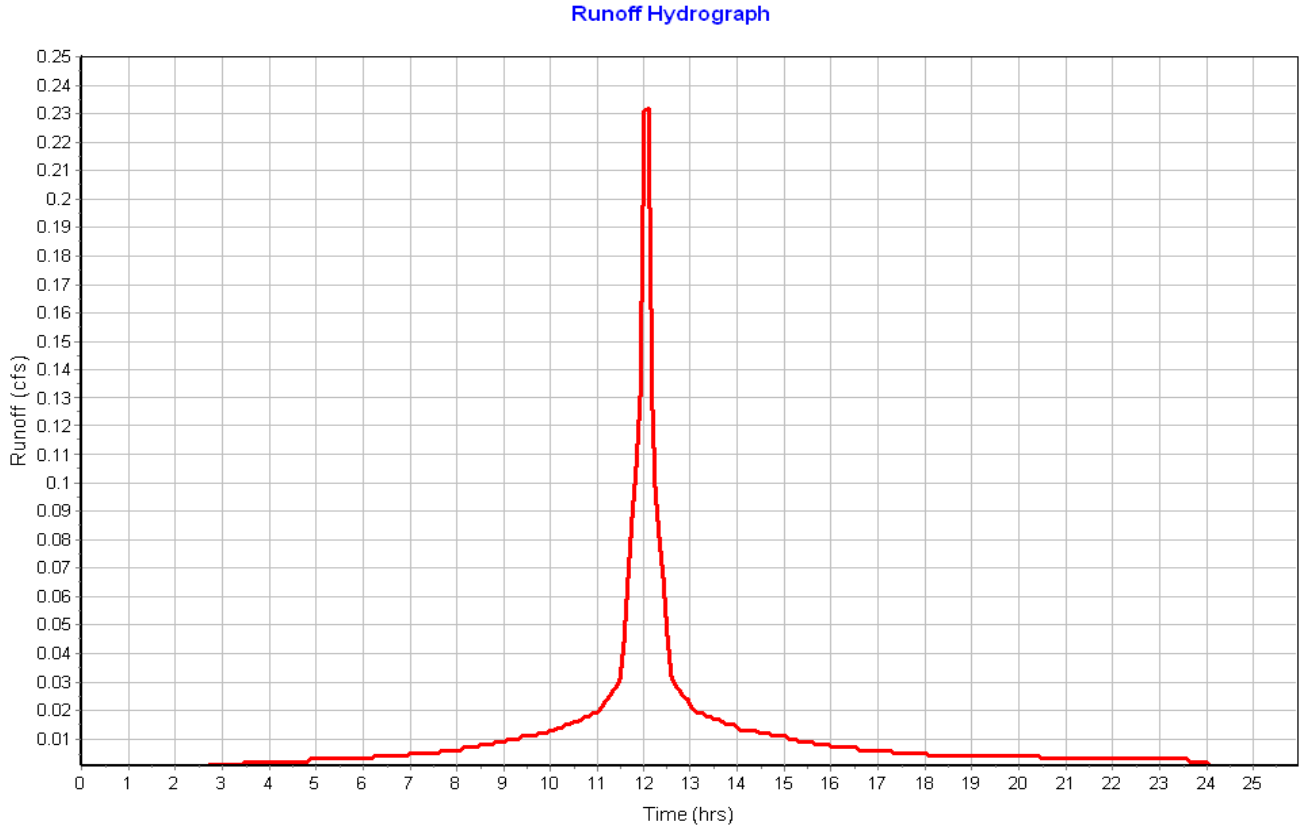
Total TOC (min) 2.67

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.23
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:40

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.81	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

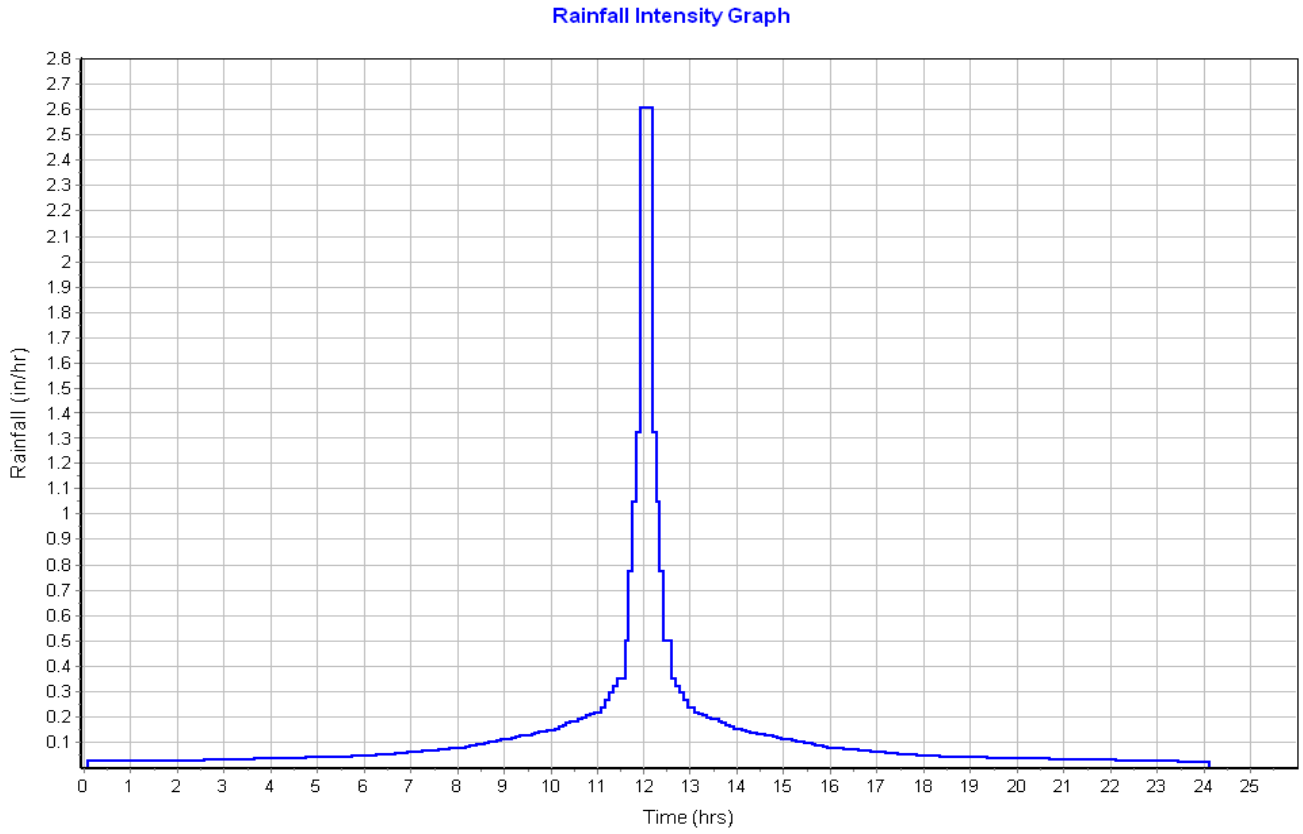
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.28	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

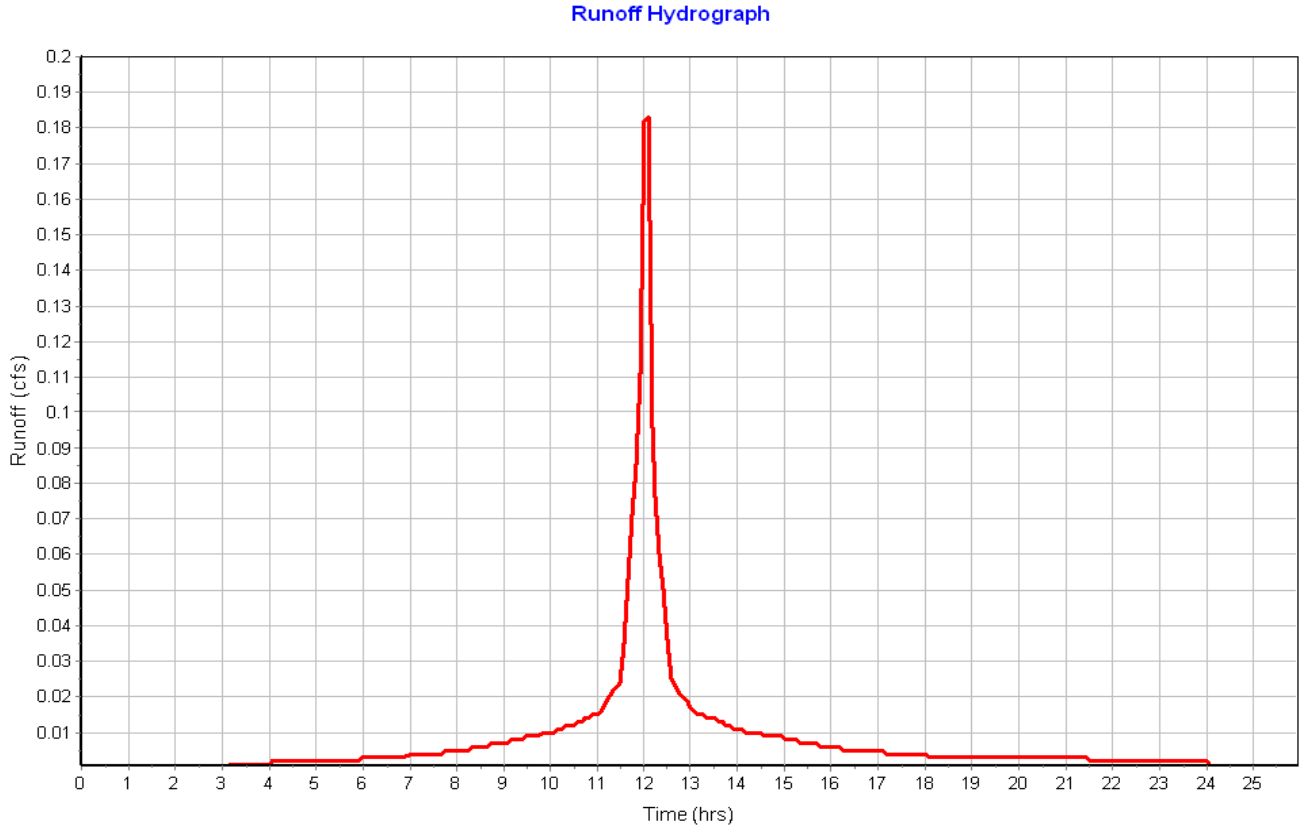
Total TOC (min) 2.29

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.18
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:17

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.8	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

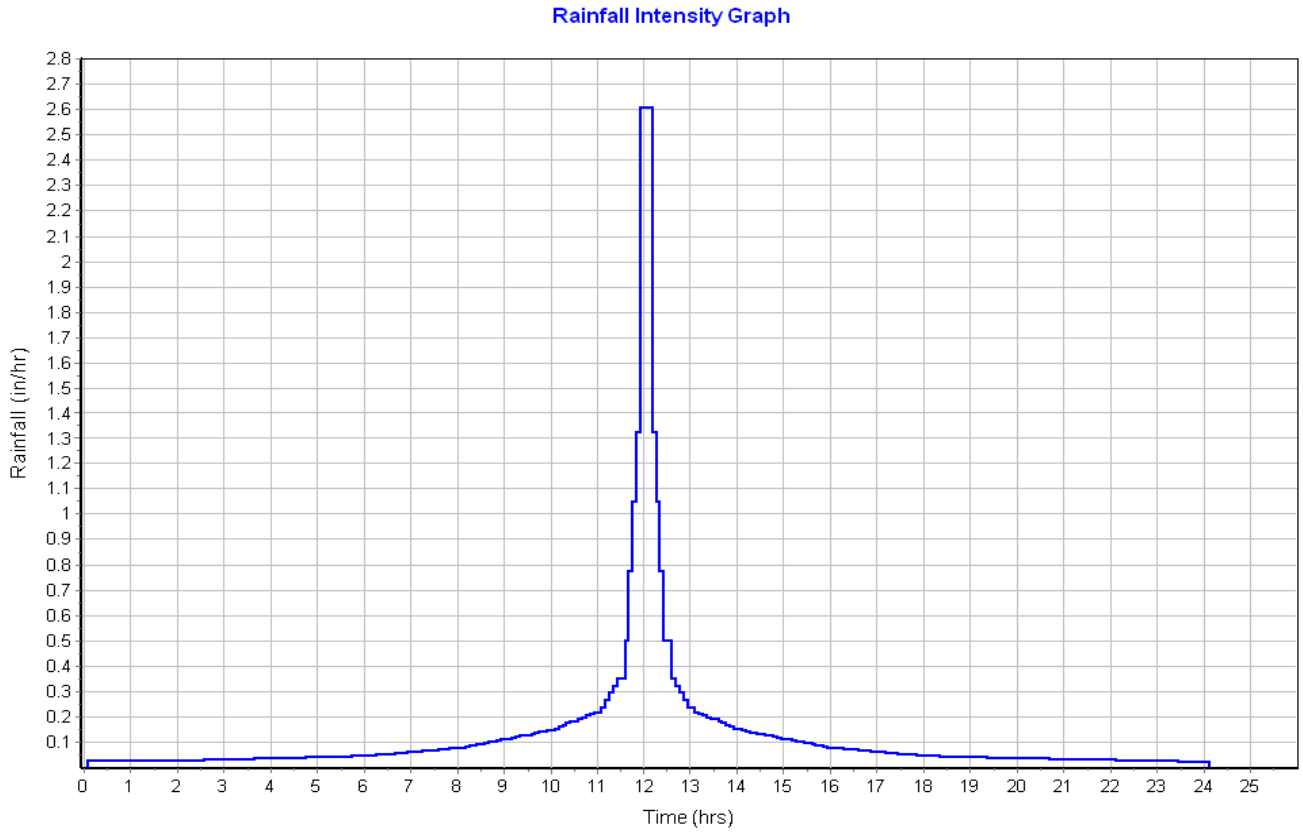
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.8	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

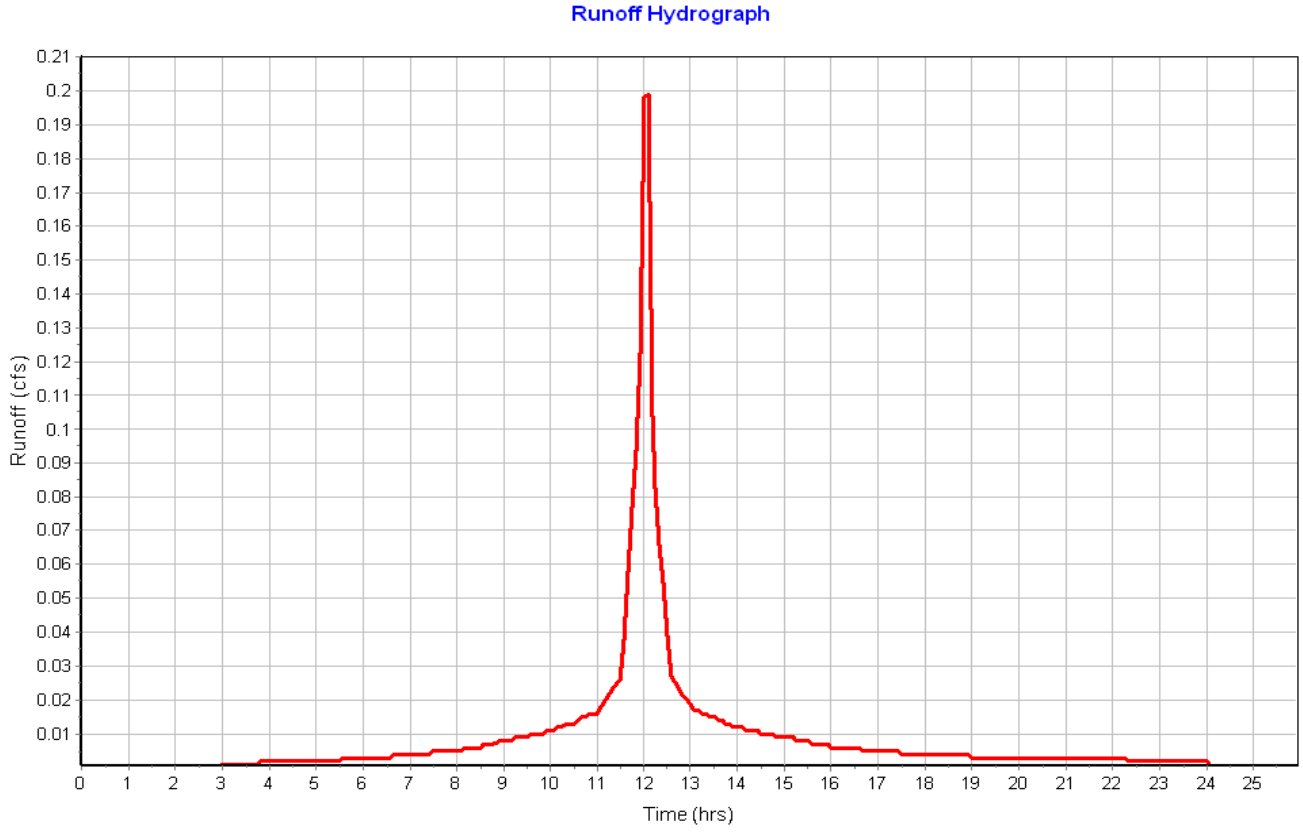
Total TOC (min) 2.27

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.20
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:16

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.07	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

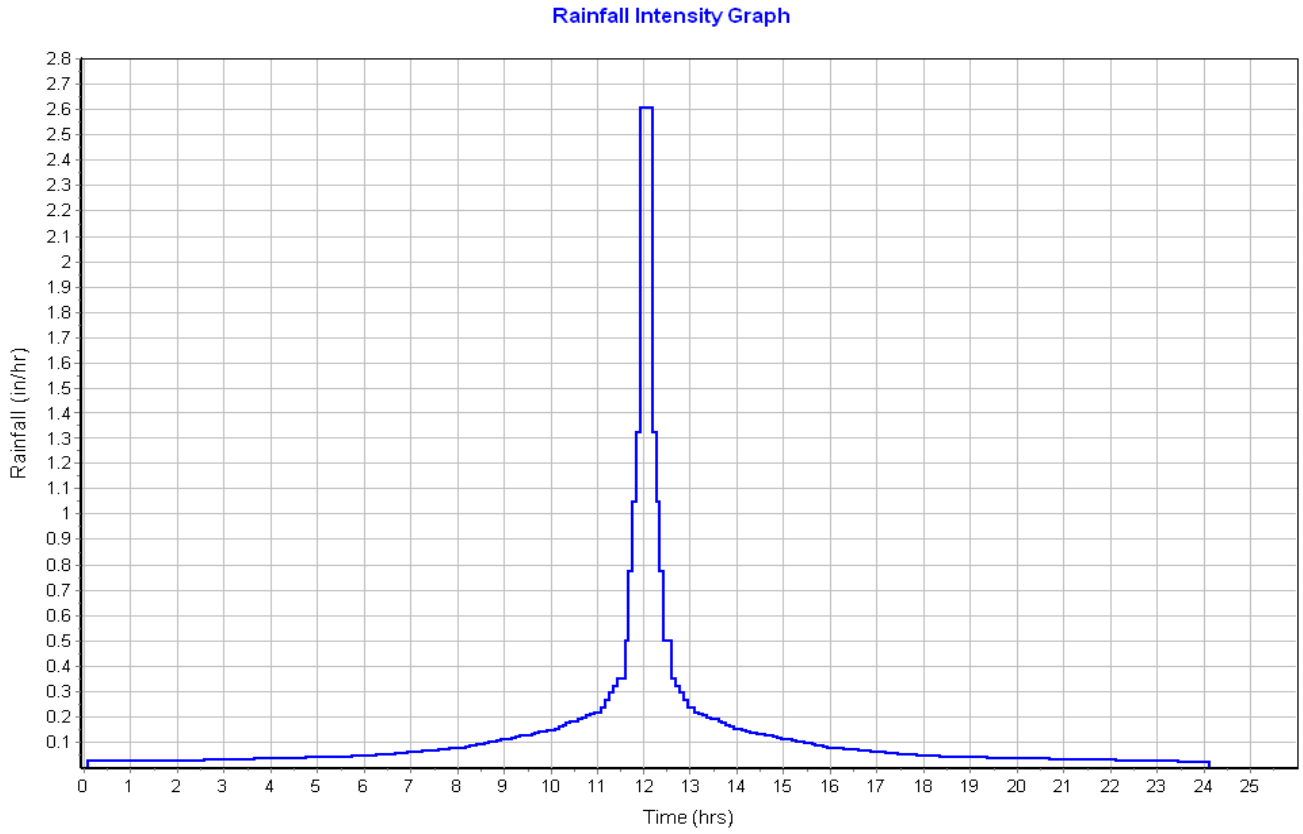
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	282.36	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.32	0.00	0.00

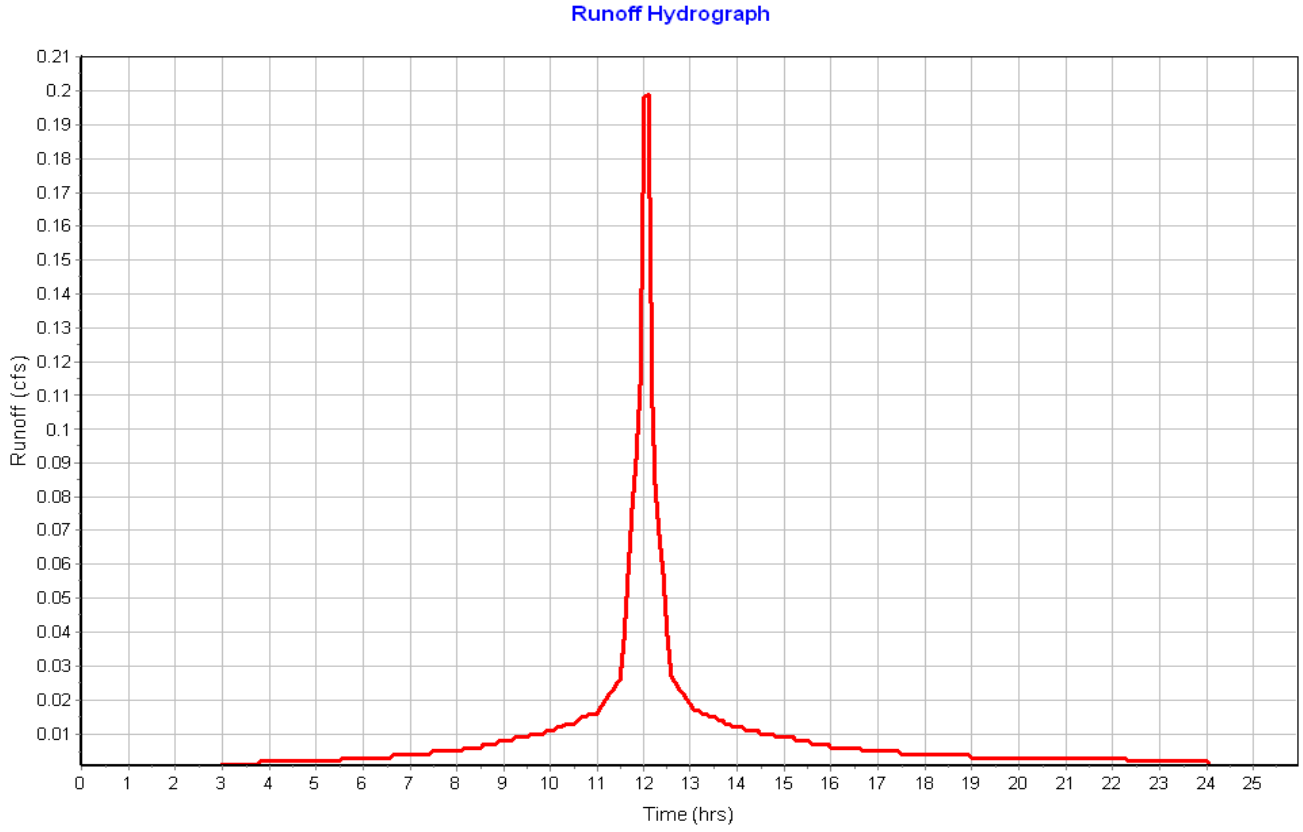
Total TOC (min) 2.44

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.20
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:26

Subbasin : Sub-09





Subbasin : Sub-10

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

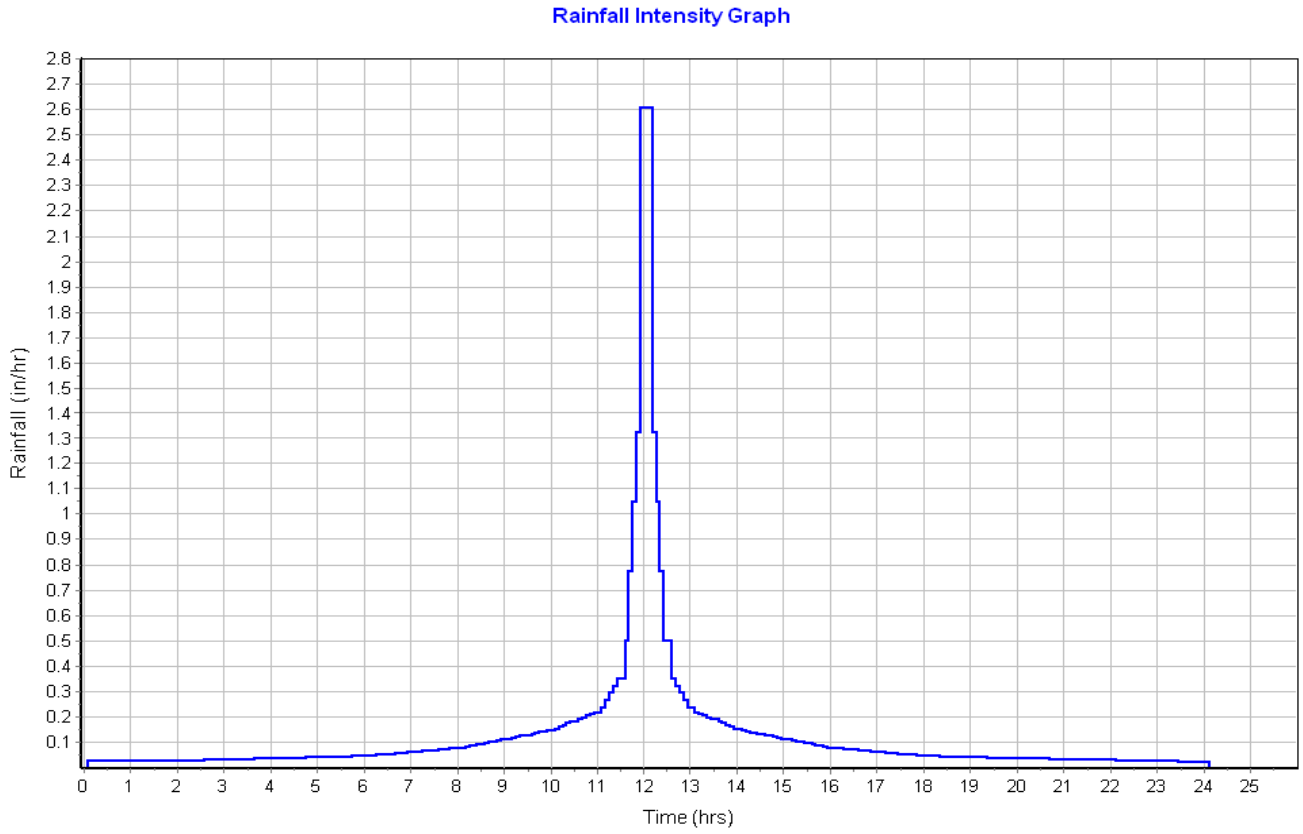
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	277.83	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.28	0.00	0.00

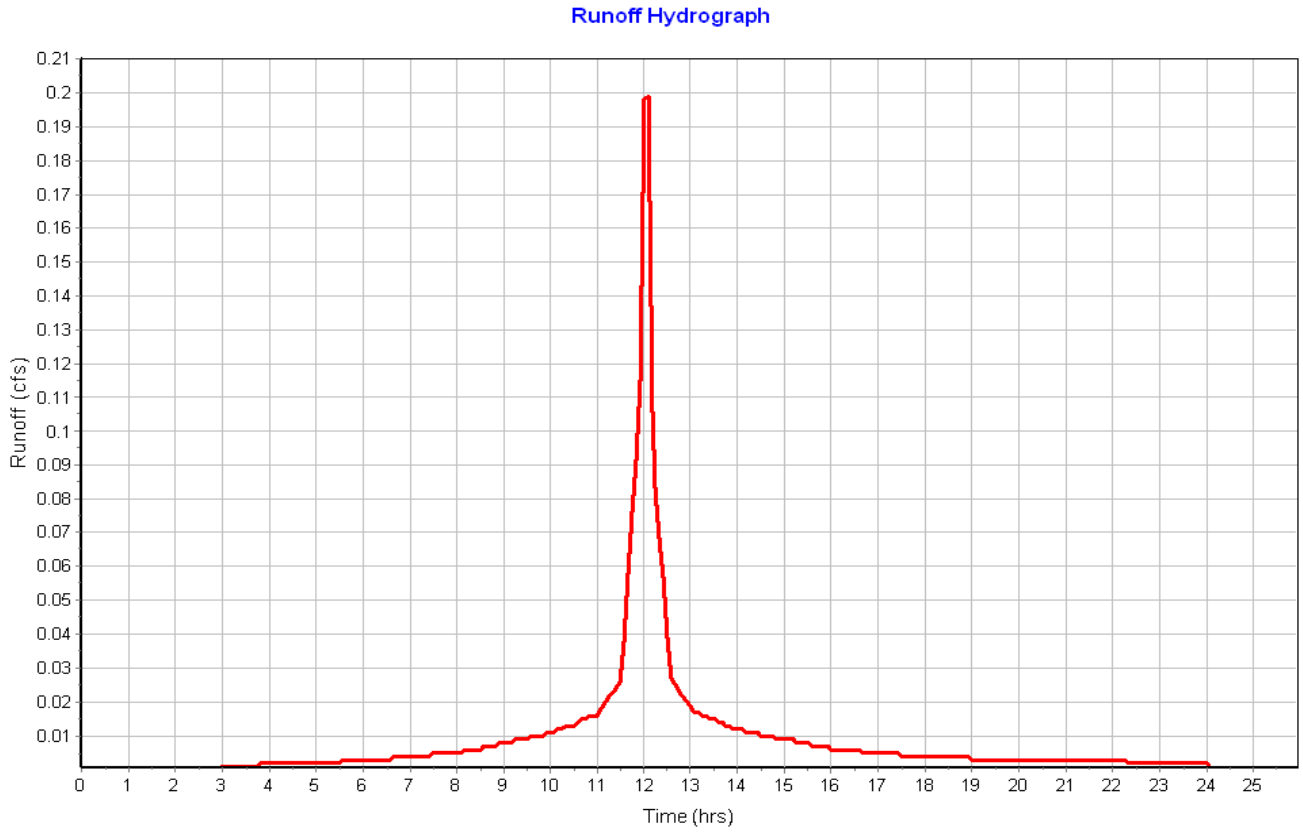
Total TOC (min) 2.40

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.20
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:24

Subbasin : Sub-10





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15.58	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.78	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

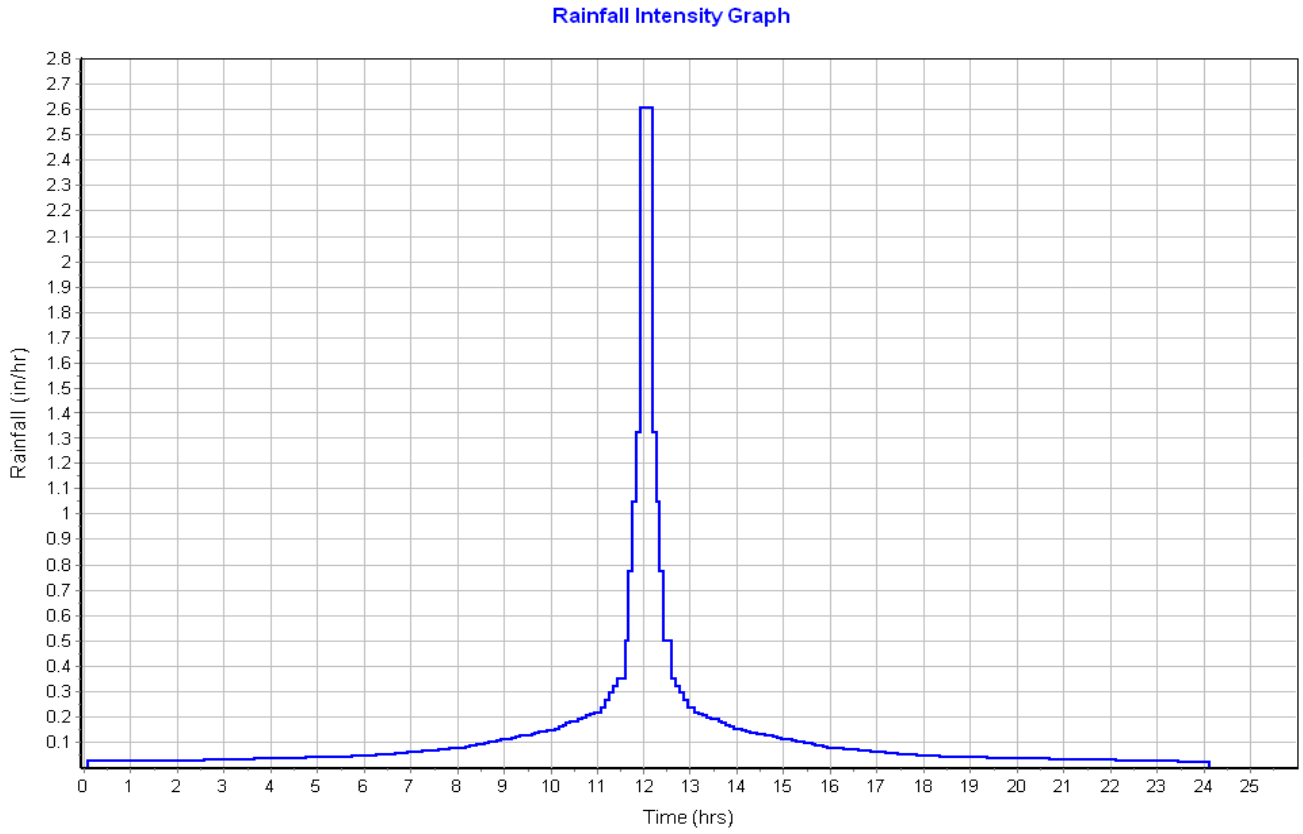
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.15	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.93	0.00	0.00

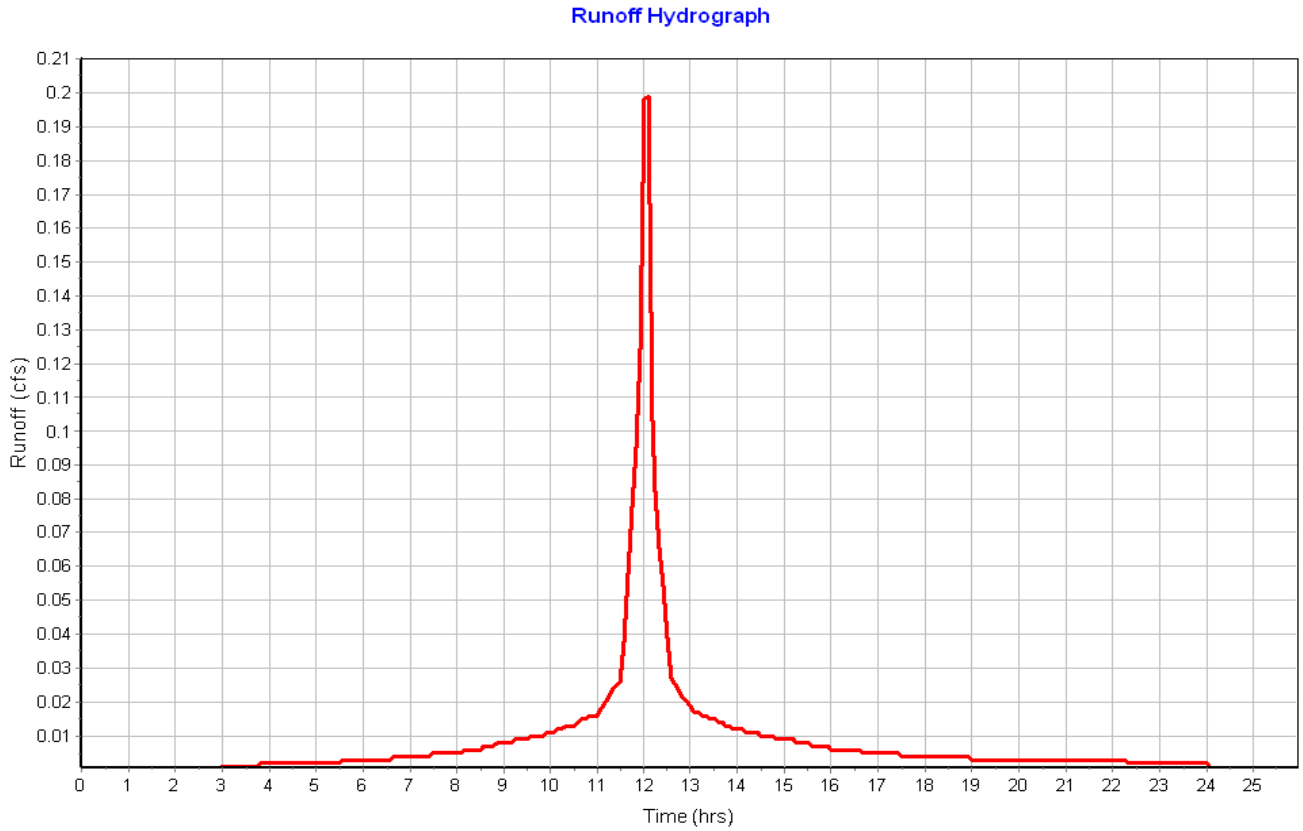
Total TOC (min) 2.08

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.20
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:05

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.73	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

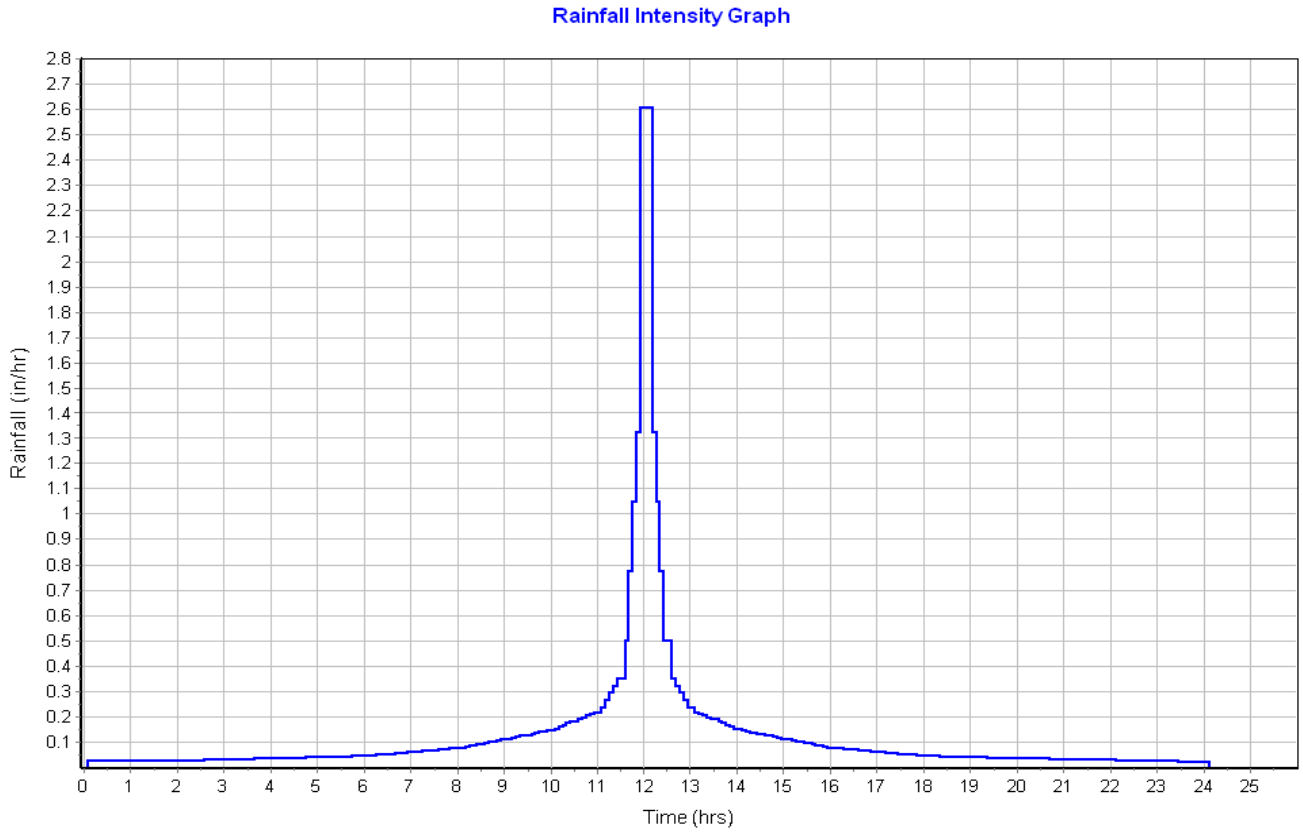
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	256.83	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.95	0.00	0.00

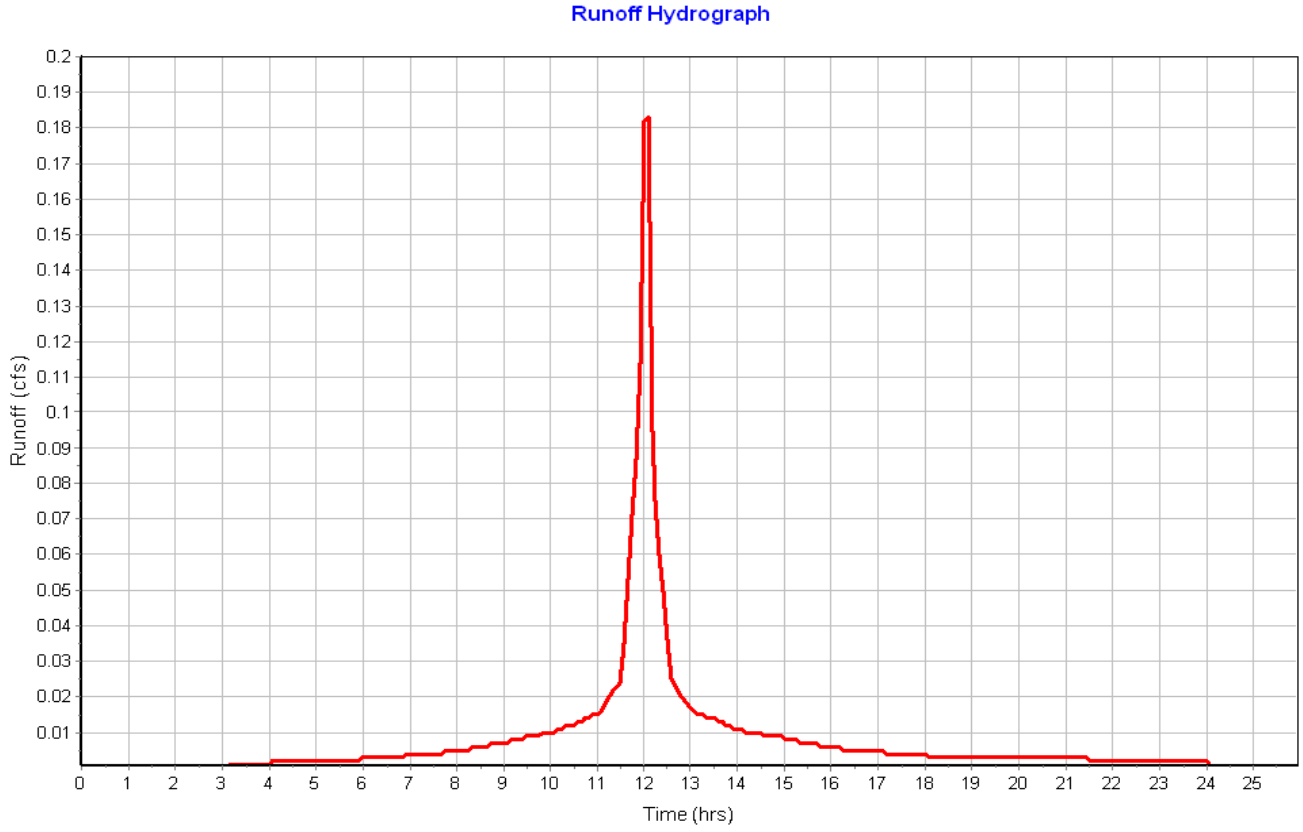
Total TOC (min) 2.07

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.18
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:04

Subbasin : Sub-12





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	24.65	117.15	4.00	117.00	4.00	0.15	0.6100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	31.63	117.00	4.00	115.00	3.00	2.00	6.3200	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	21.33	116.15	4.00	116.00	4.00	0.15	0.7000	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
4	Link-04	18.20	116.00	4.00	115.00	3.00	1.00	5.4900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
5	Link-05	32.12	115.35	4.00	113.00	1.00	2.35	7.3200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
6	Link-06	34.11	115.35	4.00	113.00	1.00	2.35	6.8900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
7	Link-07	31.14	112.65	4.00	112.25	0.25	0.40	1.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
8	Link-08	26.16	112.65	4.00	112.25	0.25	0.40	1.5300	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.17	0 12:10	1.81	0.09	1.52	0.27	0.20	0.20	0.00		Calculated
2	Link-02	0.31	0 12:10	17.17	0.02	3.61	0.15	0.14	0.10	0.00		Calculated
3	Link-03	0.40	0 12:10	1.94	0.21	1.82	0.20	0.32	0.32	0.00		Calculated
4	Link-04	0.83	0 12:10	5.43	0.15	4.55	0.07	0.28	0.28	0.00		Calculated
5	Link-05	0.20	0 12:10	6.26	0.03	3.56	0.15	0.12	0.12	0.00		Calculated
6	Link-06	0.20	0 12:10	6.08	0.03	3.48	0.16	0.13	0.13	0.00		Calculated
7	Link-07	0.20	0 12:10	2.62	0.08	1.93	0.27	0.19	0.19	0.00		Calculated
8	Link-08	0.18	0 12:10	2.86	0.06	1.96	0.22	0.18	0.18	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.17
Peak Lateral Inflow (cfs)	0.17
Peak Outflow (cfs)	0.17
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.38
Max HGL Depth Attained (ft)	4.23
Average HGL Elevation Attained (ft)	116.43
Average HGL Depth Attained (ft)	3.28
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.31
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.31
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.15
Max HGL Depth Attained (ft)	4.15
Average HGL Elevation Attained (ft)	116.22
Average HGL Depth Attained (ft)	3.22
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.40
Peak Lateral Inflow (cfs)	0.40
Peak Outflow (cfs)	0.40
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.50
Max HGL Depth Attained (ft)	4.35
Average HGL Elevation Attained (ft)	115.65
Average HGL Depth Attained (ft)	3.5
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.83
Peak Lateral Inflow (cfs)	0.43
Peak Outflow (cfs)	0.83
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.30
Max HGL Depth Attained (ft)	4.3
Average HGL Elevation Attained (ft)	115.51
Average HGL Depth Attained (ft)	3.51
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.20
Peak Lateral Inflow (cfs)	0.20
Peak Outflow (cfs)	0.20
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.48
Max HGL Depth Attained (ft)	4.13
Average HGL Elevation Attained (ft)	114.66
Average HGL Depth Attained (ft)	3.31
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-07

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.20
Peak Lateral Inflow (cfs)	0.20
Peak Outflow (cfs)	0.20
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.48
Max HGL Depth Attained (ft)	4.13
Average HGL Elevation Attained (ft)	114.66
Average HGL Depth Attained (ft)	3.31
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-08

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.20
Peak Lateral Inflow (cfs)	0.20
Peak Outflow (cfs)	0.20
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.85
Max HGL Depth Attained (ft)	4.2
Average HGL Elevation Attained (ft)	111.98
Average HGL Depth Attained (ft)	3.33
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-09

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.18
Peak Lateral Inflow (cfs)	0.18
Peak Outflow (cfs)	0.18
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.83
Max HGL Depth Attained (ft)	4.18
Average HGL Elevation Attained (ft)	111.94
Average HGL Depth Attained (ft)	3.29
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 2 - Existing Conditions.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	12
Nodes	16
Junctions	0
Outfalls	8
Flow Diversions	0
Inlets	0
Storage Nodes	8
Links	8
Channels	0
Pipes	8
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.85	484.00	74.22	3.21	1.06	0.89	1.19	0 00:02:24
2	Sub-02	0.66	484.00	74.02	3.21	1.05	0.69	0.93	0 00:02:06
3	Sub-03	0.06	484.00	98.00	3.21	2.97	0.18	0.21	0 00:01:36
4	Sub-04	0.06	484.00	98.00	3.21	2.97	0.17	0.19	0 00:01:36
5	Sub-05	0.08	484.00	98.00	3.21	2.97	0.25	0.28	0 00:02:40
6	Sub-06	0.09	484.00	98.00	3.21	2.97	0.26	0.30	0 00:02:40
7	Sub-07	0.07	484.00	98.00	3.21	2.97	0.21	0.23	0 00:02:17
8	Sub-08	0.07	484.00	98.00	3.21	2.97	0.22	0.26	0 00:02:16
9	Sub-09	0.08	484.00	98.00	3.21	2.97	0.24	0.26	0 00:02:26
10	Sub-10	0.08	484.00	98.00	3.21	2.97	0.23	0.26	0 00:02:24
11	Sub-11	0.08	484.00	98.00	3.21	2.97	0.22	0.26	0 00:02:04
12	Sub-12	0.07	484.00	98.00	3.21	2.97	0.22	0.24	0 00:02:04

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					1.14	112.00					
2	Out-02	Outfall	112.00					0.89	112.00					
3	Out-03	Outfall	112.00					0.40	112.00					
4	Out-04	Outfall	112.00					1.05	112.00					
5	Out-05	Outfall	112.00					0.25	112.00					
6	Out-06	Outfall	112.00					0.25	112.00					
7	Out-07	Outfall	112.00					0.23	112.00					
8	Out-08	Outfall	112.00					0.25	112.00					
9	CB-01	Storage Node	113.15	120.00	0.00		1000.00	0.21	117.41				0.00	0.00
10	CB-02	Storage Node	113.00	120.00	0.00		1000.00	0.40	117.16				0.00	0.00
11	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.51	116.54				0.00	0.00
12	CB-04	Storage Node	112.00	119.00	0.00		1000.00	1.05	116.35				0.00	0.00
13	Stor-06	Storage Node	111.35	118.20	0.00		1000.00	0.25	115.49				0.00	0.00
14	Stor-07	Storage Node	111.35	118.20	0.00		1000.00	0.25	115.49				0.00	0.00
15	Stor-08	Storage Node	108.65	115.50	0.00		1000.00	0.26	112.87				0.00	0.00
16	Stor-09	Storage Node	108.65	115.50	0.00		1000.00	0.23	112.85				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	CB-02	24.65	117.15	117.00	0.6100	12.000	0.0200	0.21	1.81	0.12	1.62	0.22	0.22	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	31.63	117.00	115.00	6.3200	18.000	0.0200	0.40	17.17	0.02	3.80	0.16	0.11	0.00	Calculated
3	Link-03	Pipe	CB-03	CB-04	21.33	116.15	116.00	0.7000	12.000	0.0200	0.50	1.94	0.26	1.91	0.37	0.37	0.00	Calculated
4	Link-04	Pipe	CB-04	Out-04	18.20	116.00	115.00	5.4900	12.000	0.0200	1.05	5.43	0.19	4.81	0.32	0.32	0.00	Calculated
5	Link-05	Pipe	Stor-06	Out-05	32.12	115.35	113.00	7.3200	12.000	0.0200	0.25	6.26	0.04	3.80	0.14	0.14	0.00	Calculated
6	Link-06	Pipe	Stor-07	Out-06	34.11	115.35	113.00	6.8900	12.000	0.0200	0.25	6.08	0.04	3.73	0.14	0.14	0.00	Calculated
7	Link-07	Pipe	Stor-08	Out-08	31.14	112.65	112.25	1.2800	12.000	0.0200	0.25	2.62	0.10	2.05	0.21	0.21	0.00	Calculated
8	Link-08	Pipe	Stor-09	Out-07	26.16	112.65	112.25	1.5300	12.000	0.0200	0.23	2.86	0.08	2.10	0.20	0.20	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.85
Peak Rate Factor 484.00
Weighted Curve Number 74.22
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.82	C	74.00
Paved roads with curbs & sewers	0.01	C	98.00
Brush, Good	0.01	C	65.00
Composite Area & Weighted CN	0.84		74.22

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

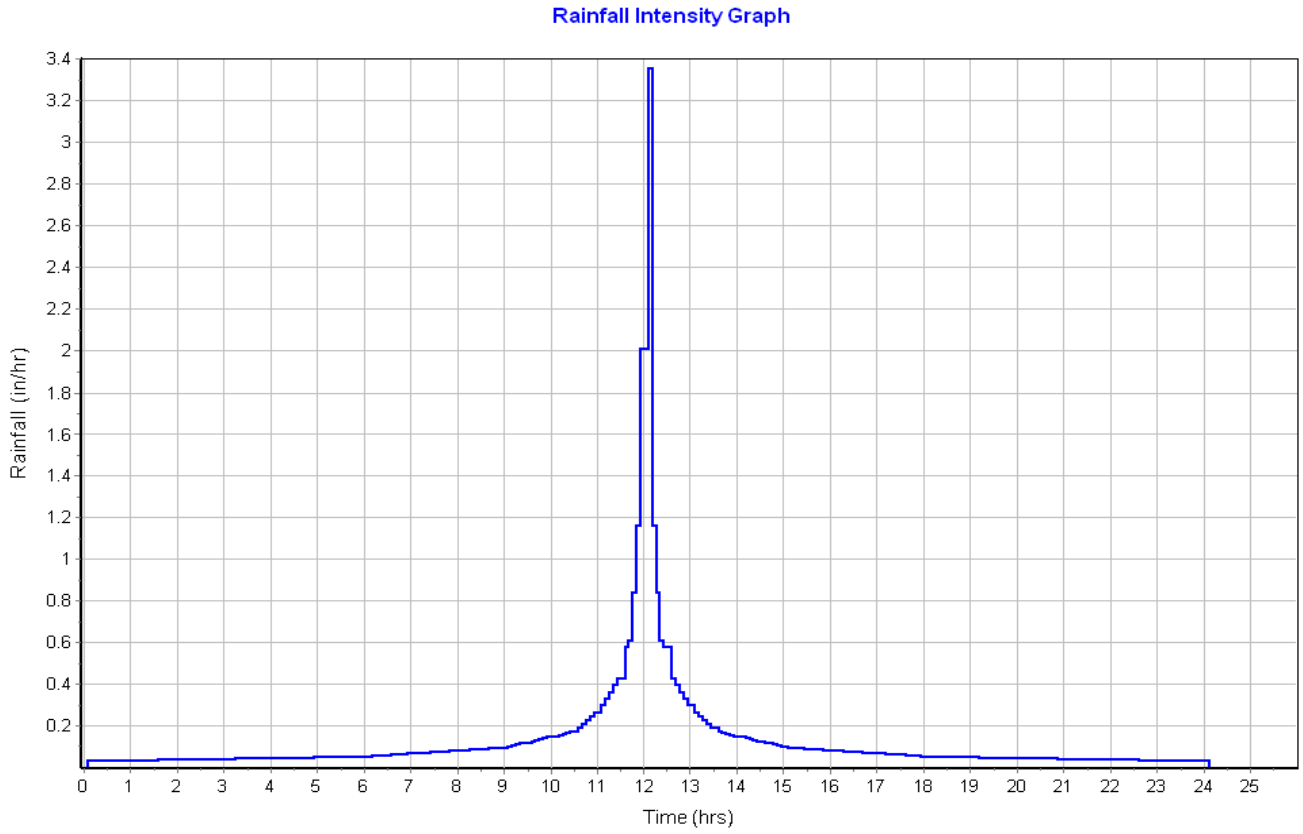
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	16.67	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	2.41	0.00	0.00

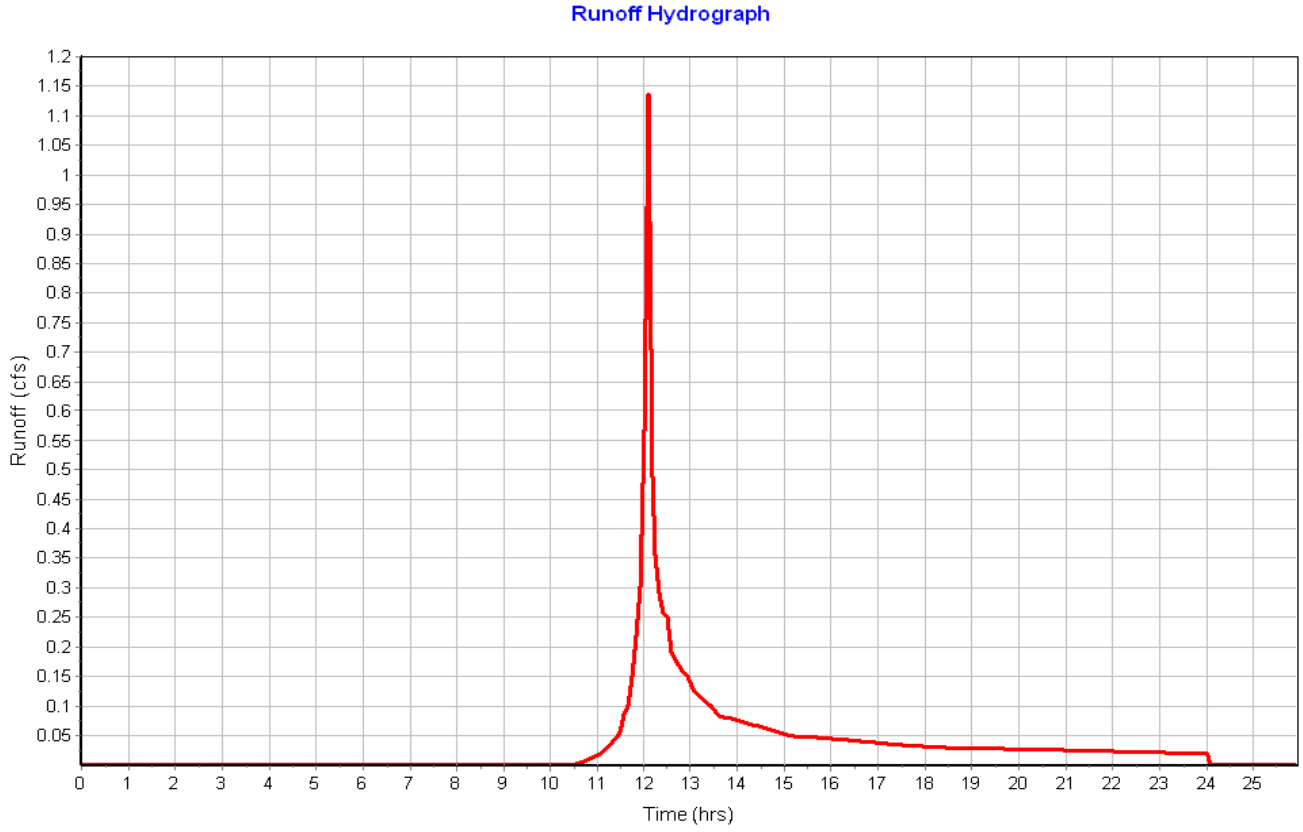
Total TOC (min) 2.41

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.06
Peak Runoff (cfs)	1.19
Weighted Curve Number	74.22
Time of Concentration (days hh:mm:ss)	0 00:02:25

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.66
Peak Rate Factor	484.00
Weighted Curve Number	74.02
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.60	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.65		74.02

Time of Concentration

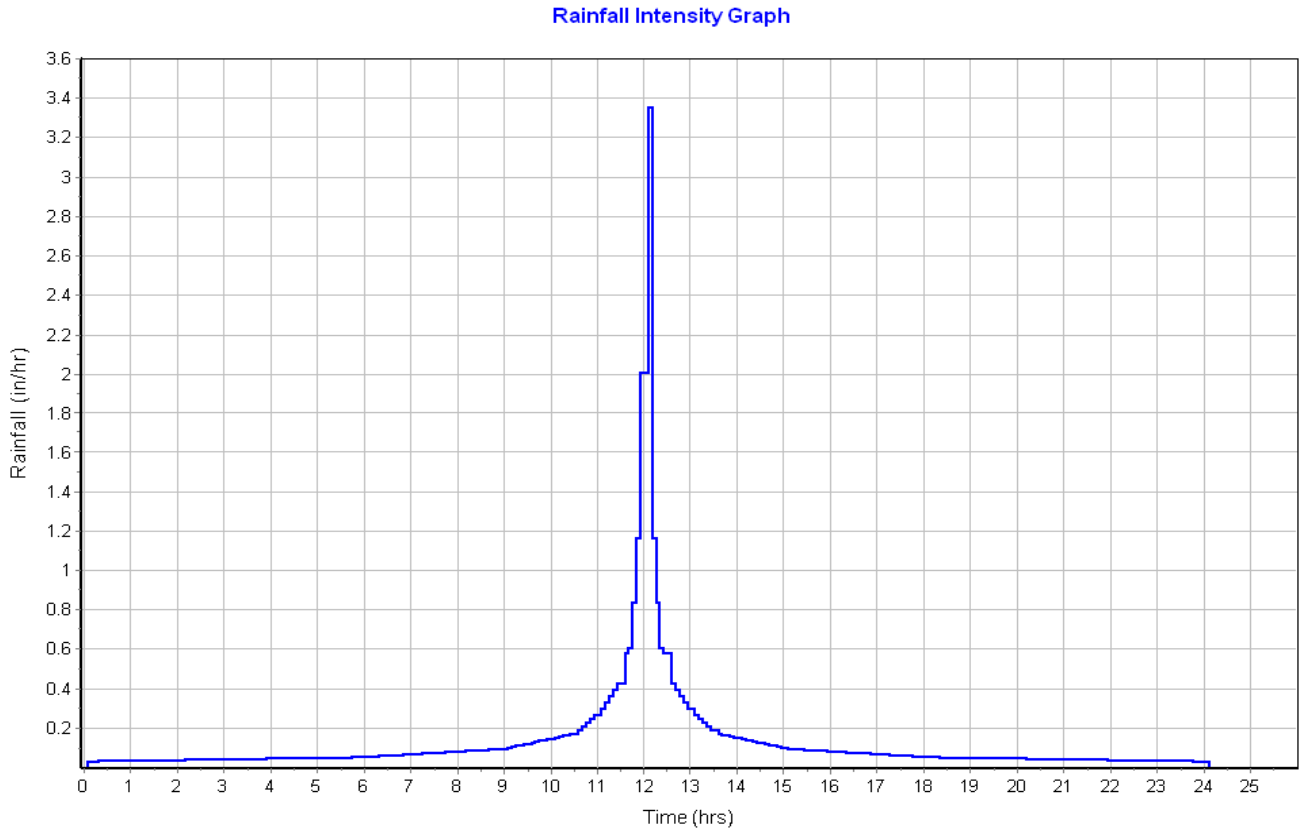
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

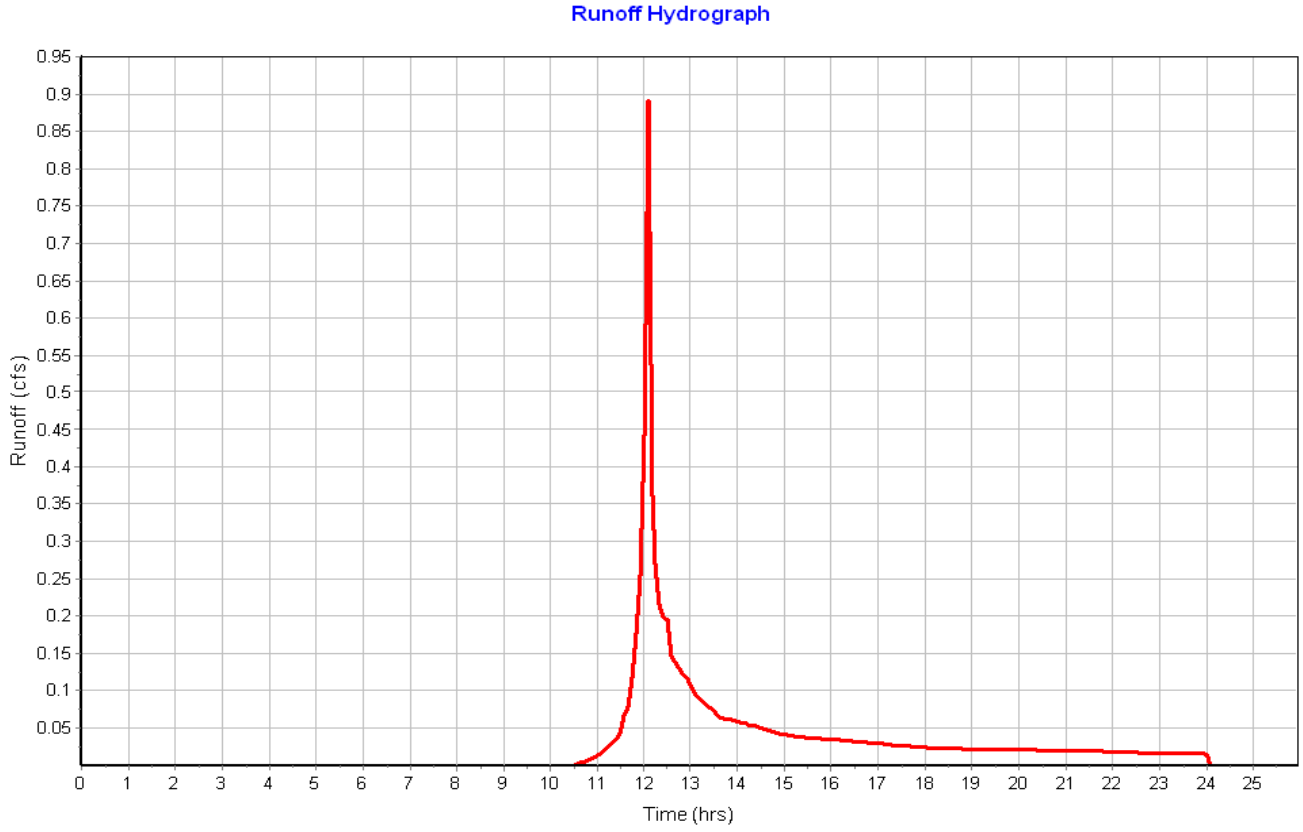
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.05
Peak Runoff (cfs)	0.93
Weighted Curve Number	74.02
Time of Concentration (days hh:mm:ss)	0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.70	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

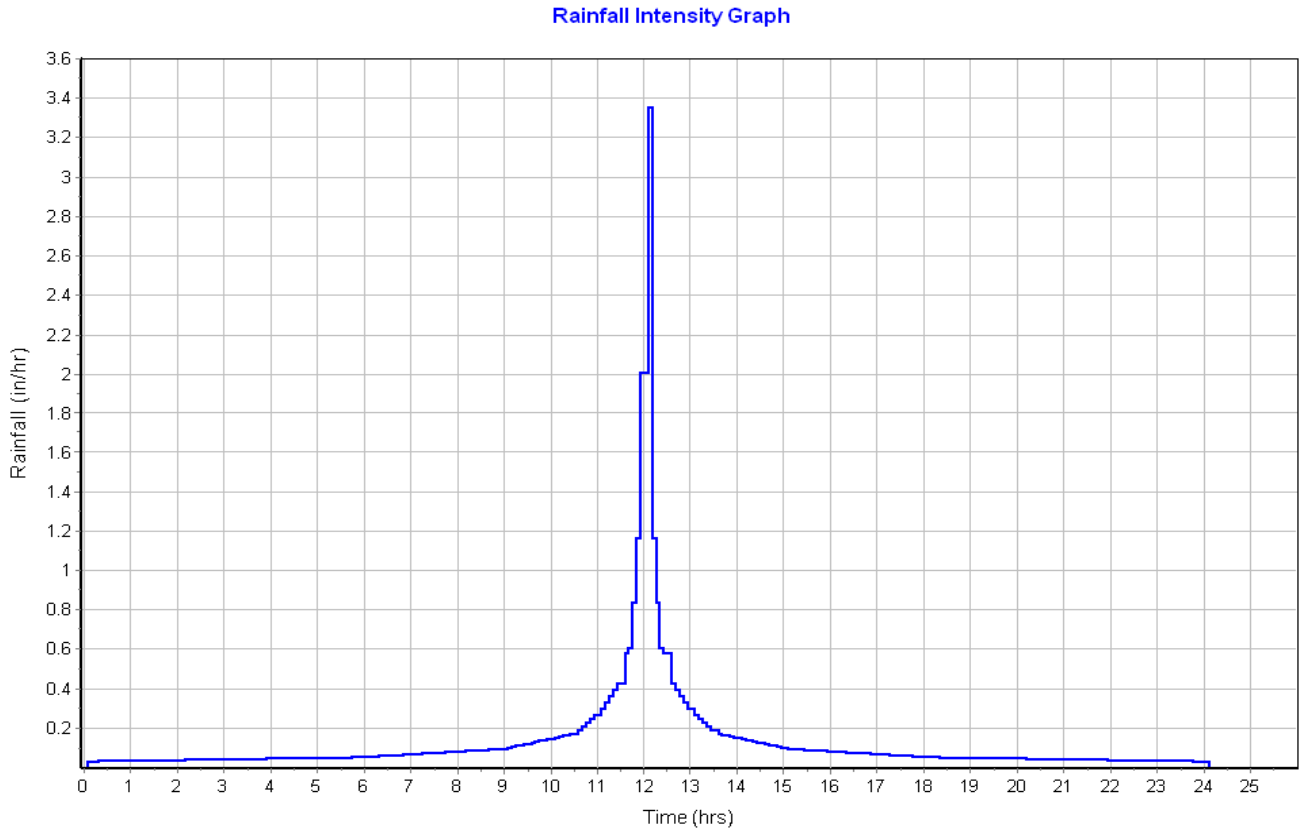
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.15	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

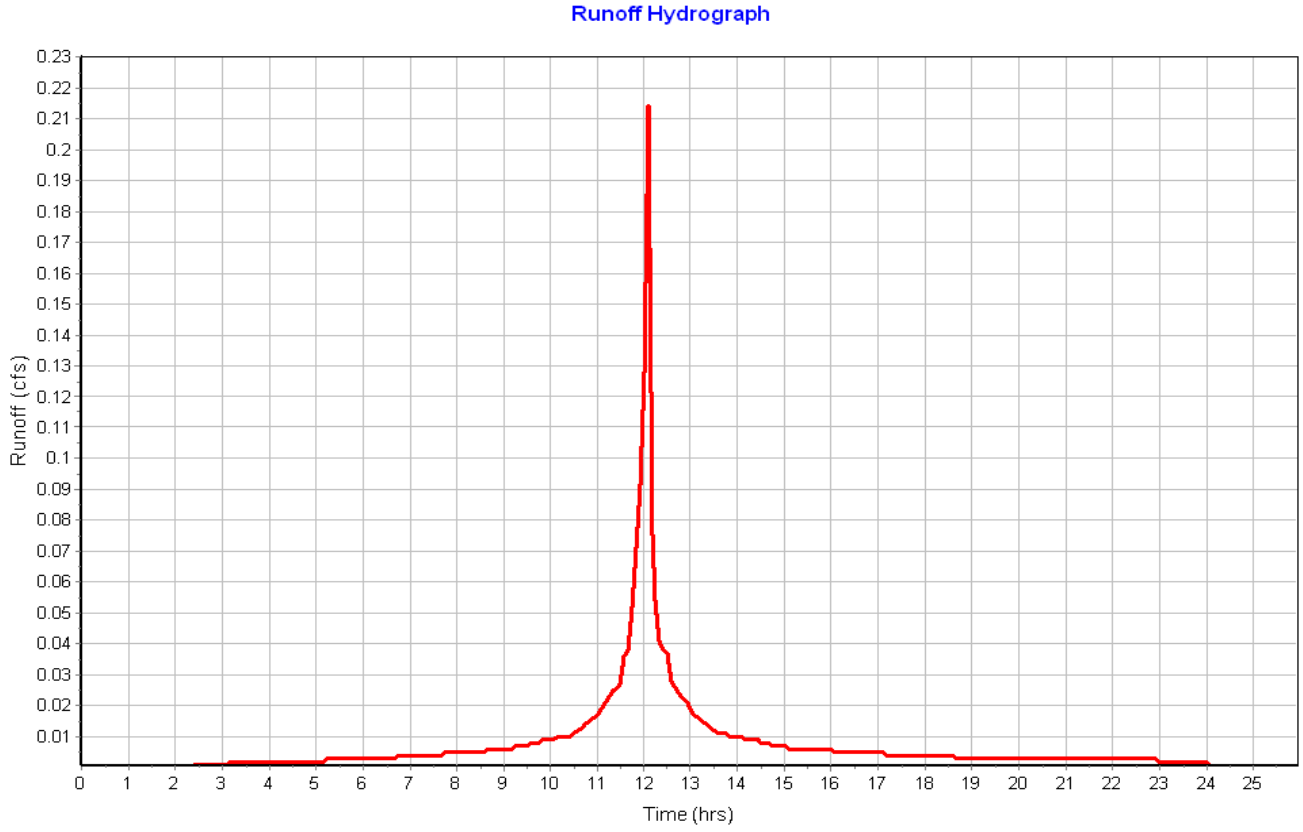
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.21
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:36

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	10.78	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

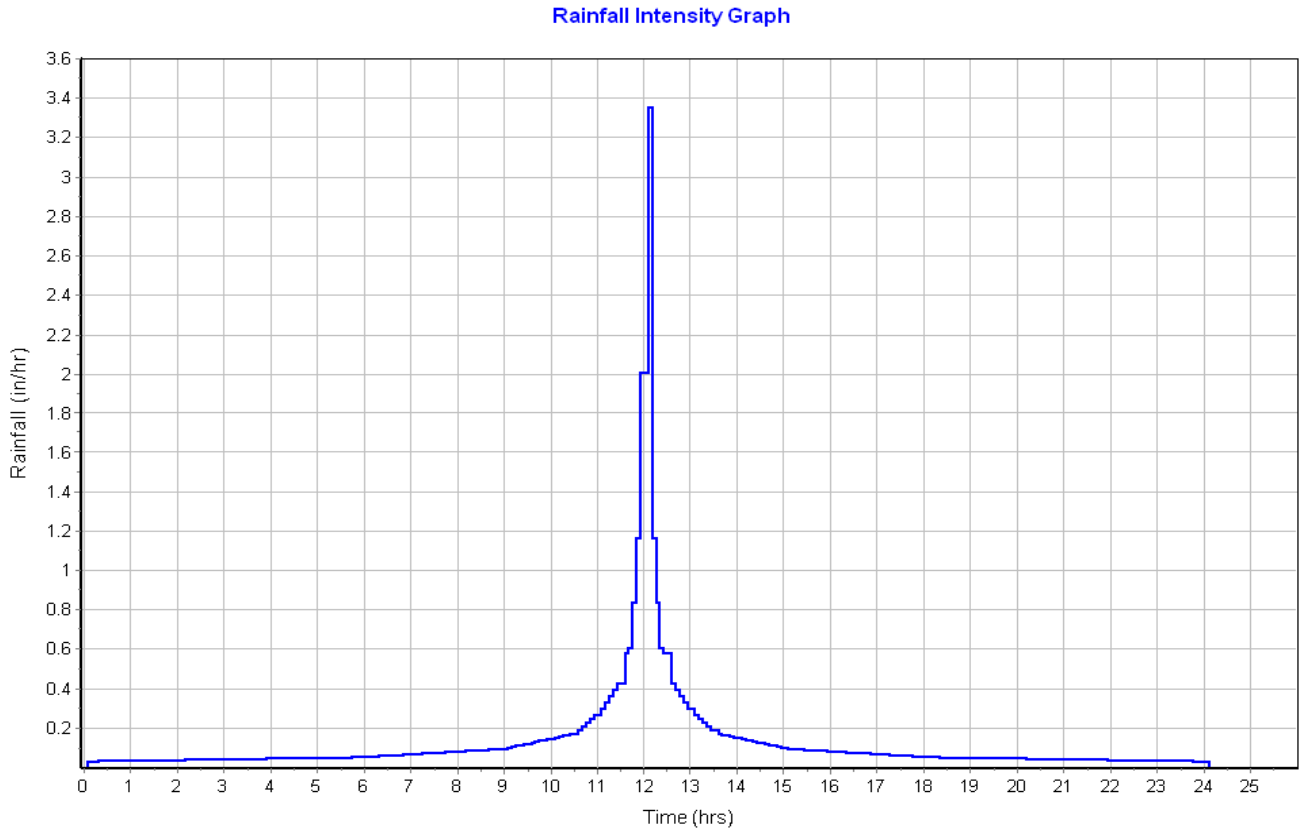
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	182.17	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.50	0.00	0.00

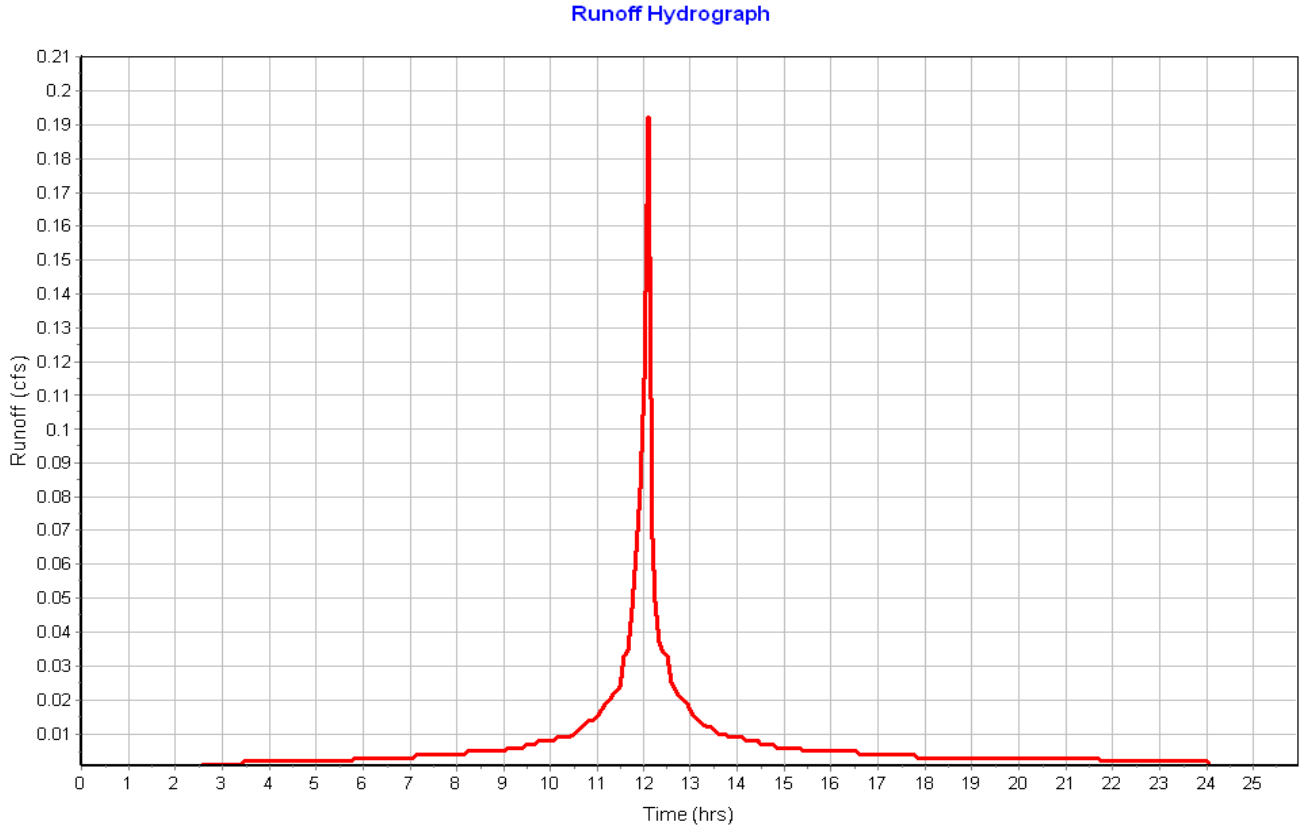
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

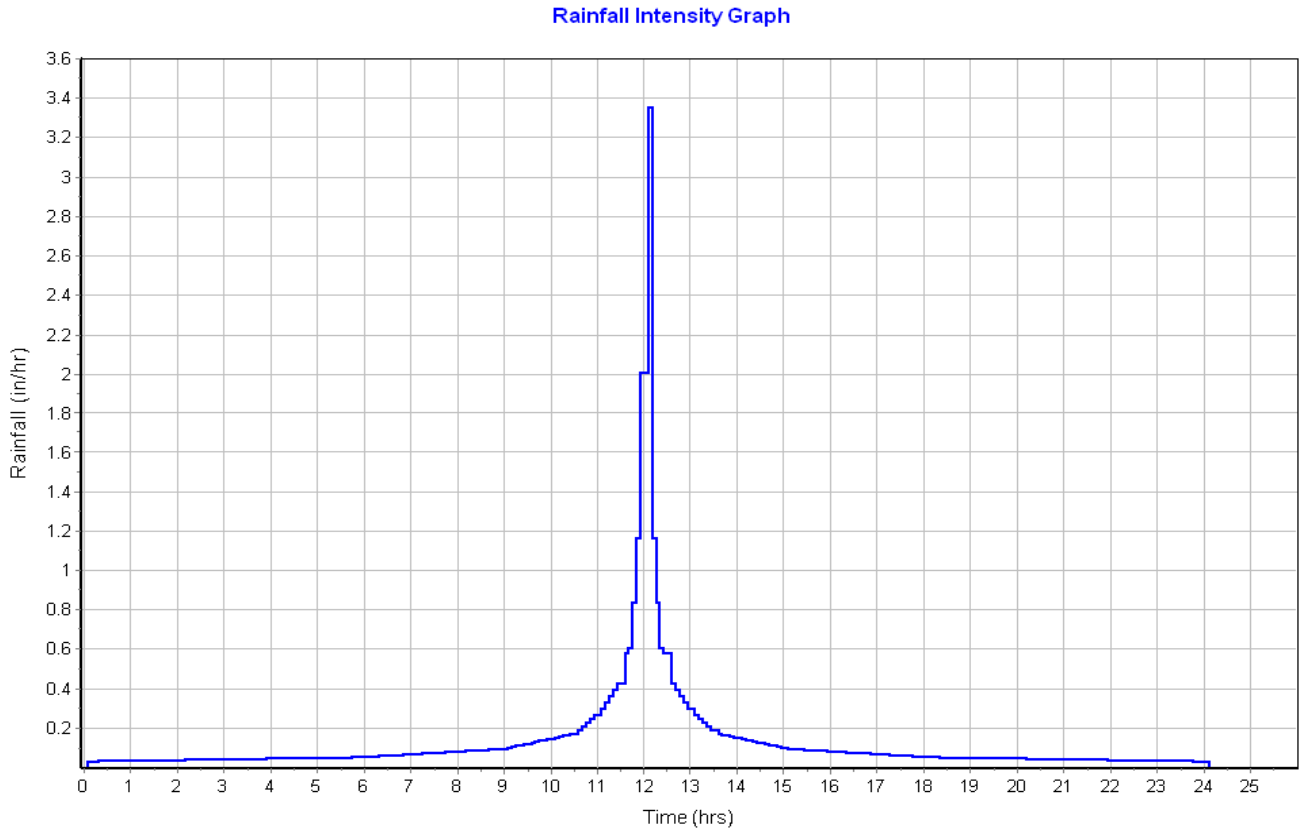
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.21	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

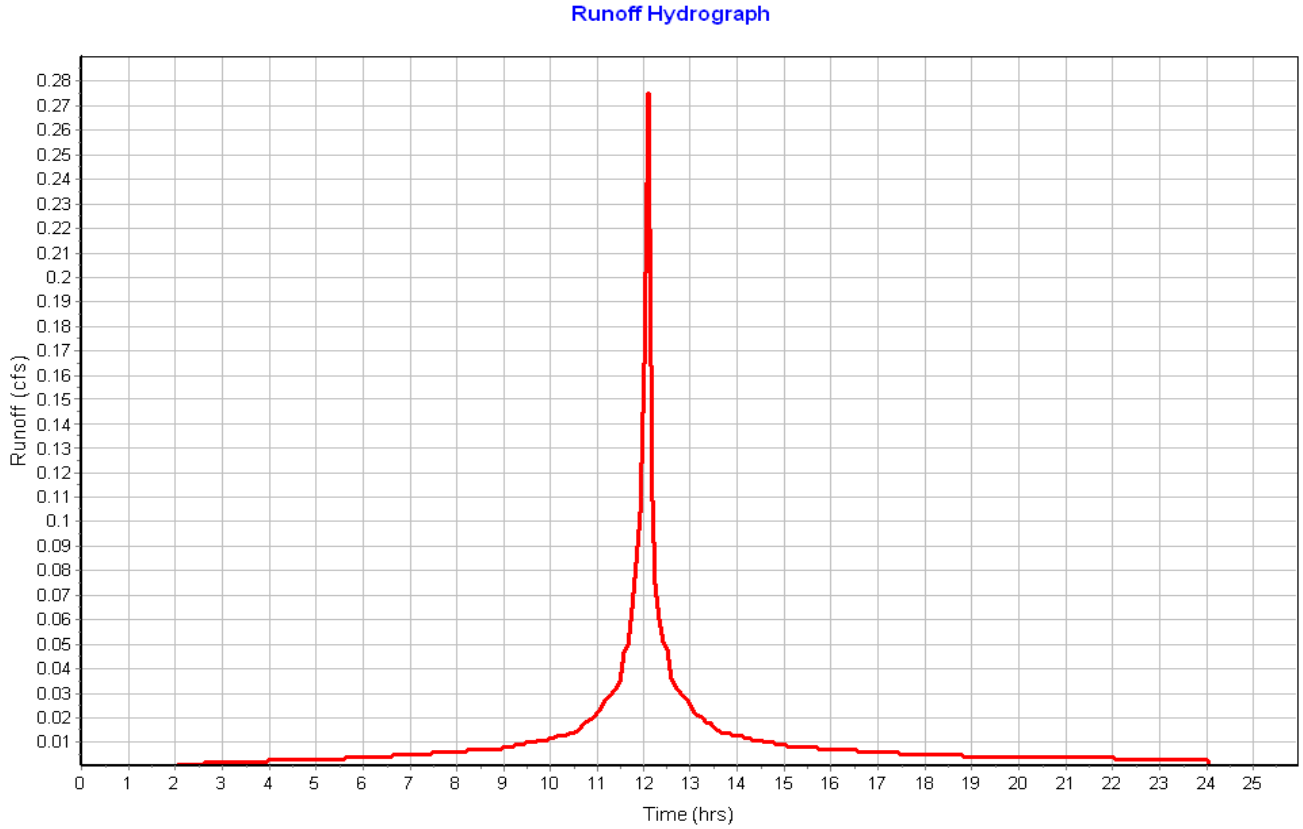
Total TOC (min) 2.68

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.28
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:41

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.2	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

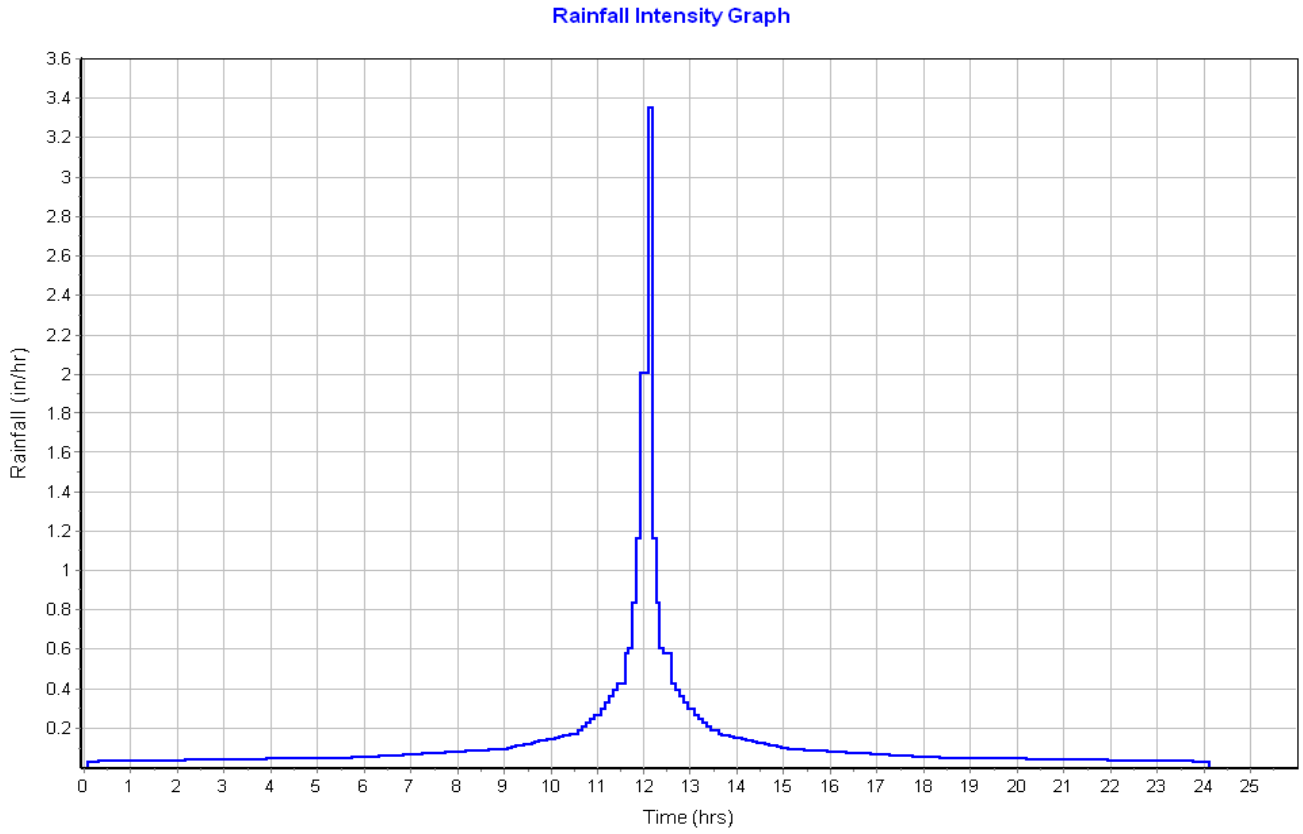
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.1	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

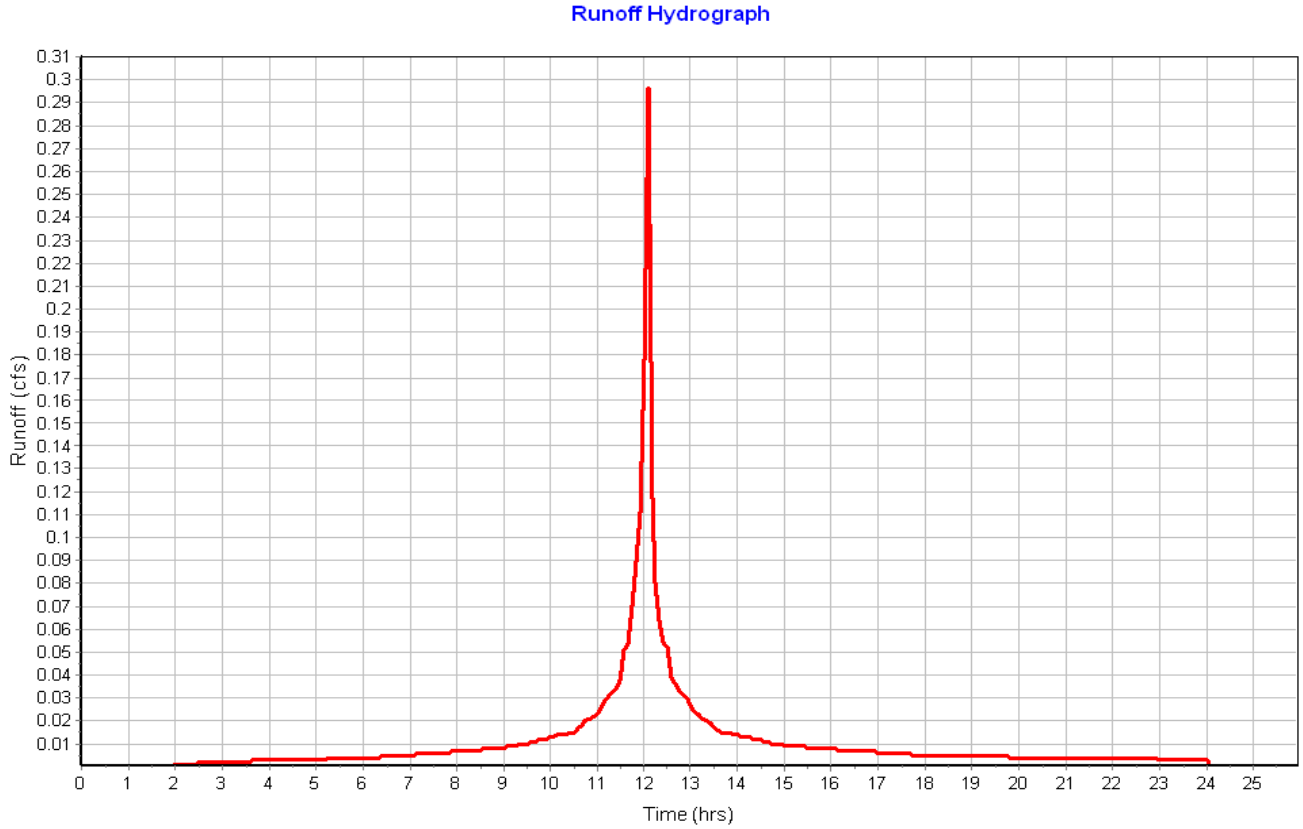
Total TOC (min) 2.67

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.30
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:40

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.81	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

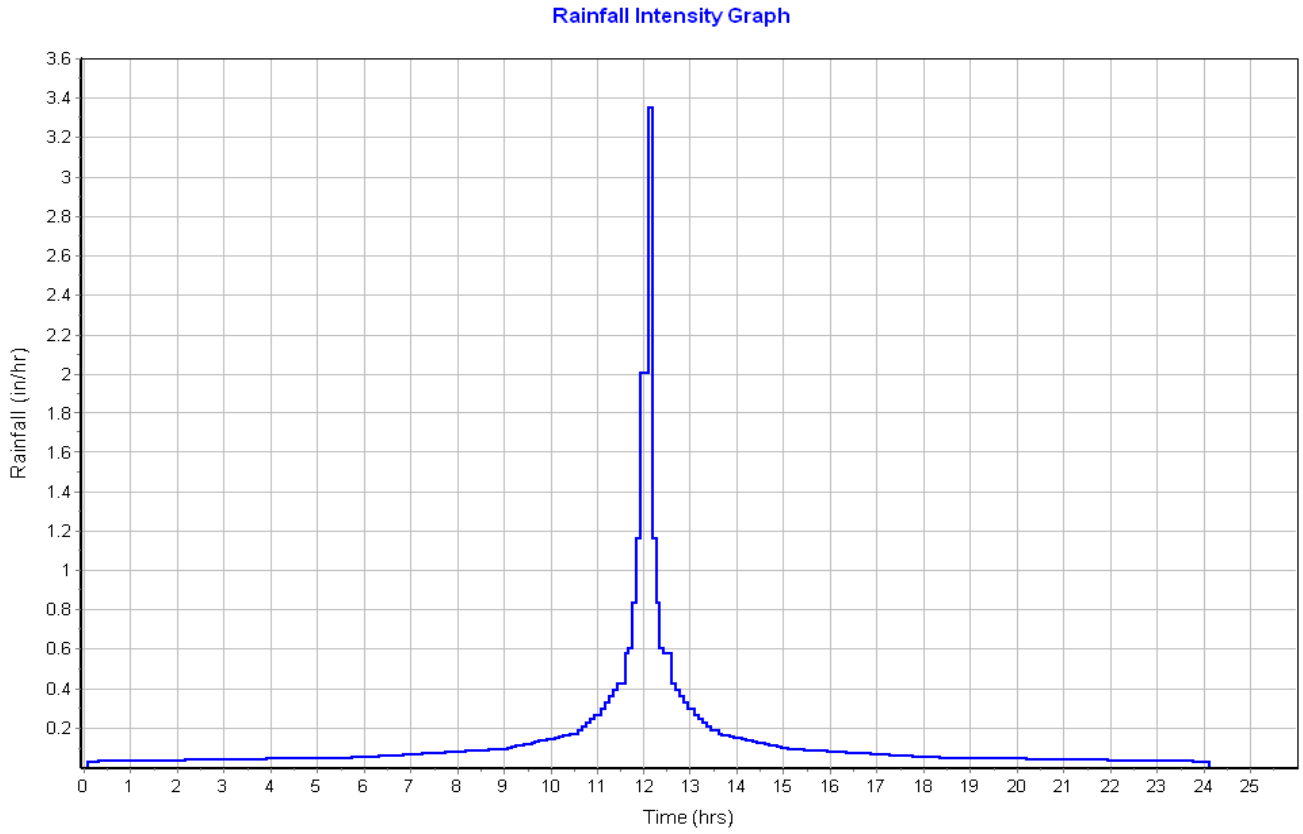
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.28	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

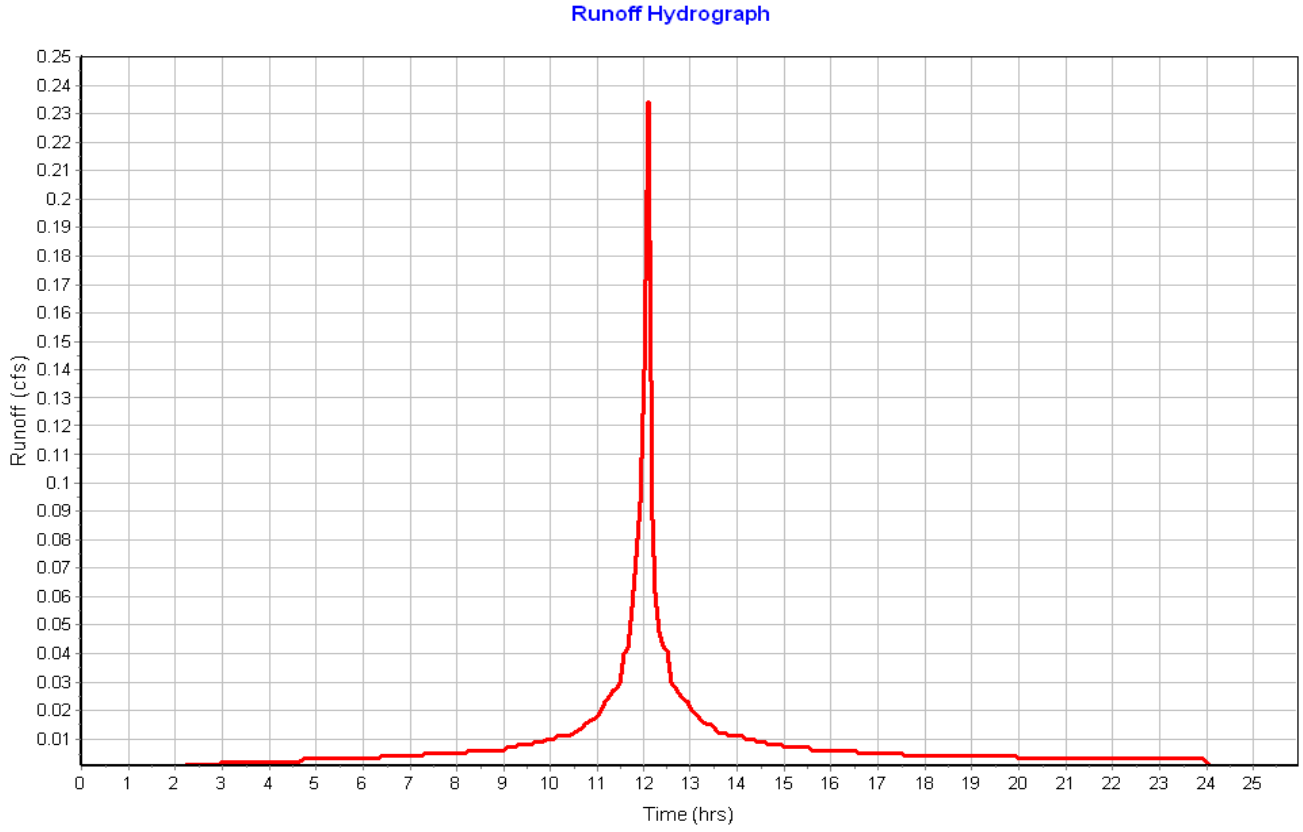
Total TOC (min) 2.29

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.23
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:17

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.8	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

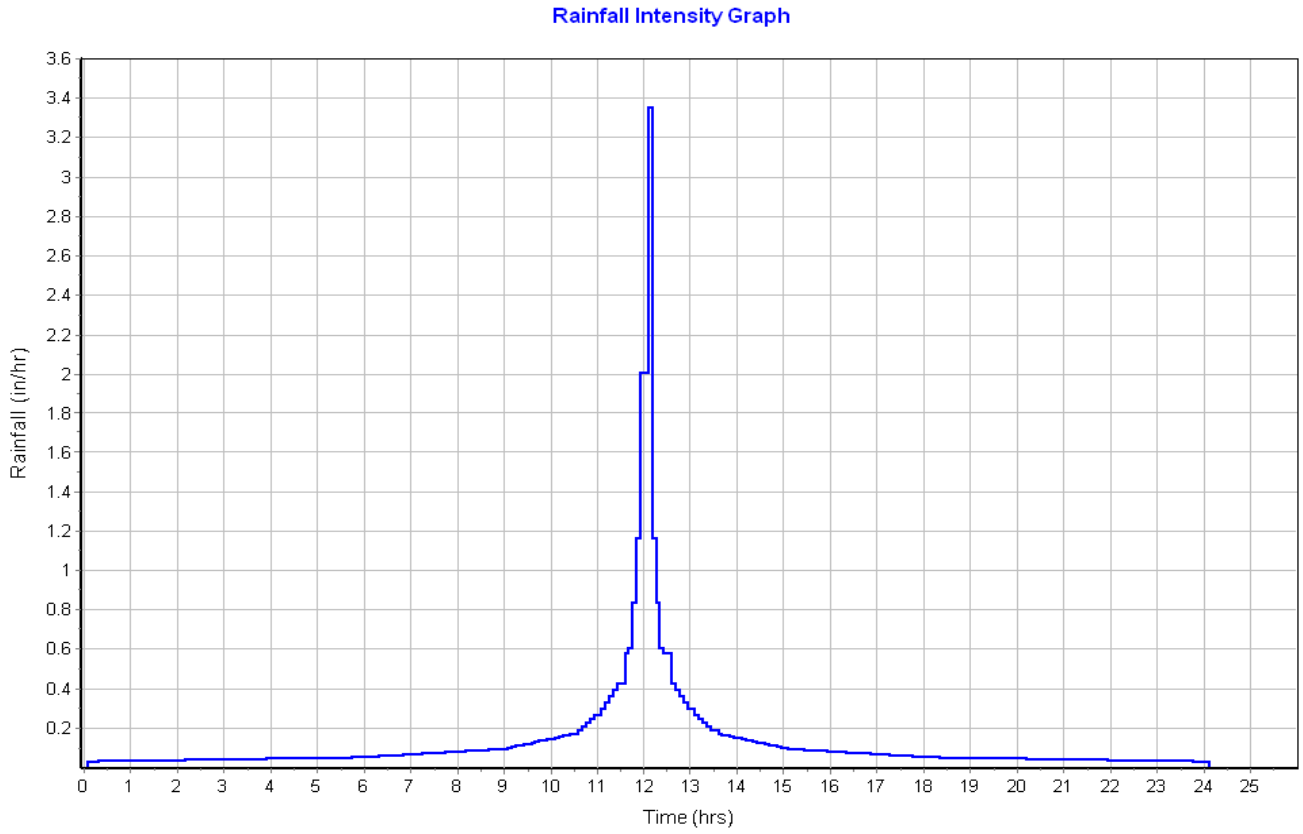
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.8	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

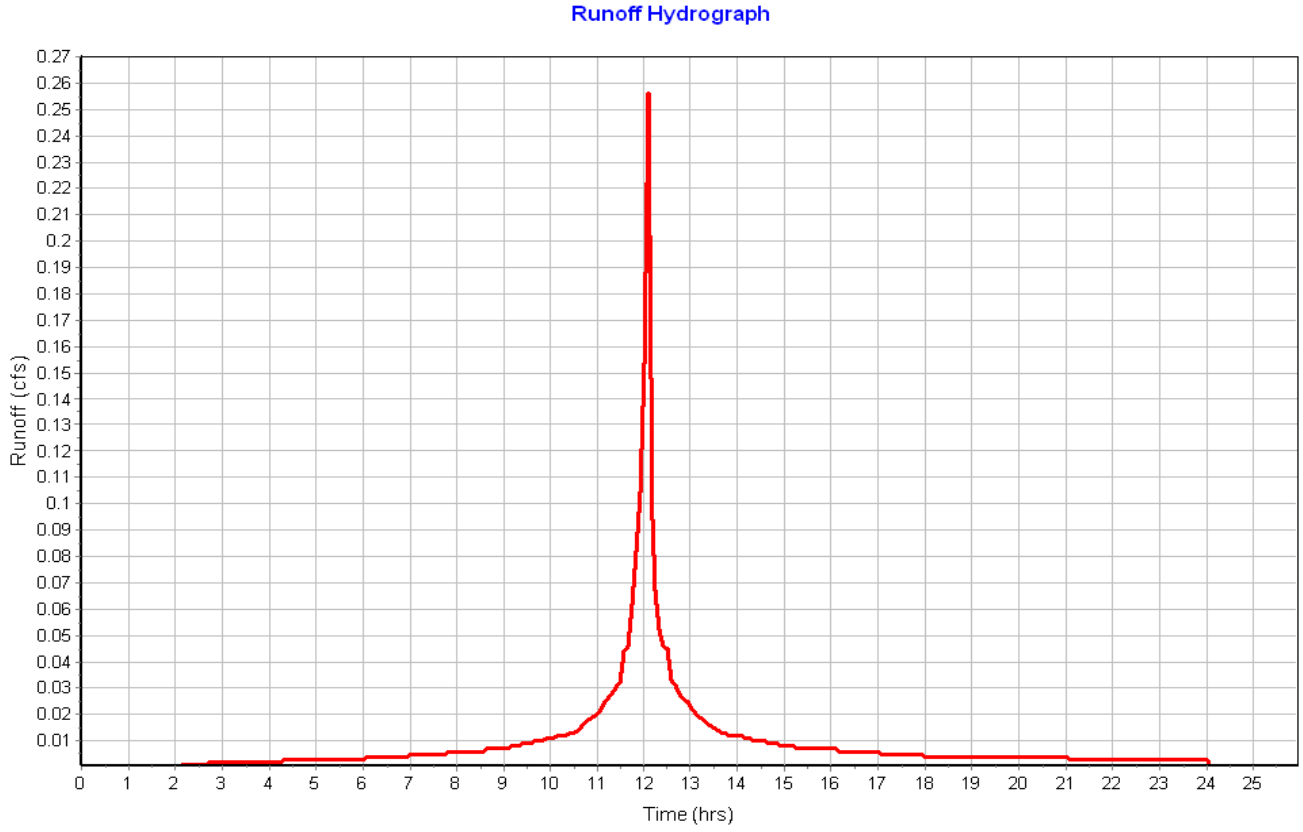
Total TOC (min) 2.27

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.26
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:16

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.07	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

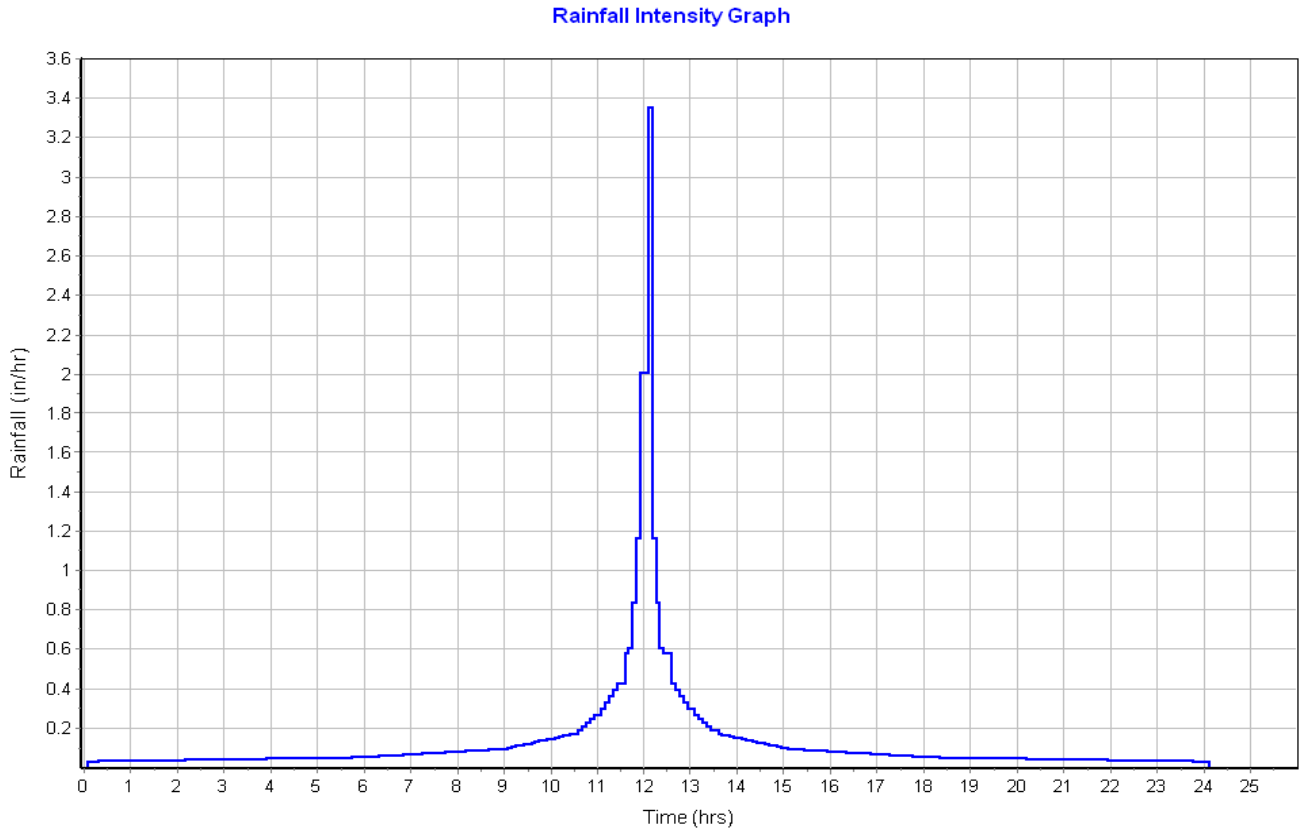
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	282.36	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.32	0.00	0.00

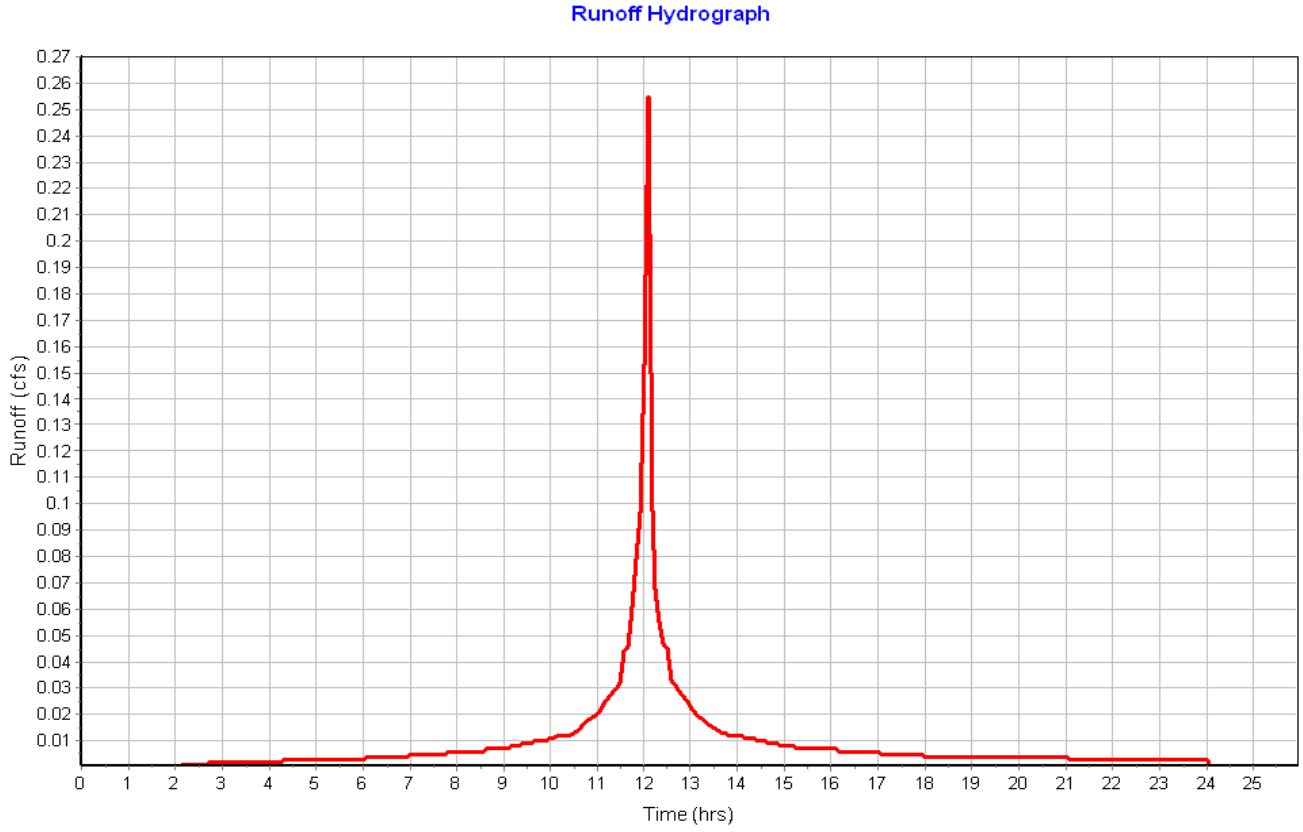
Total TOC (min) 2.44

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.26
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:26

Subbasin : Sub-09





Subbasin : Sub-10

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

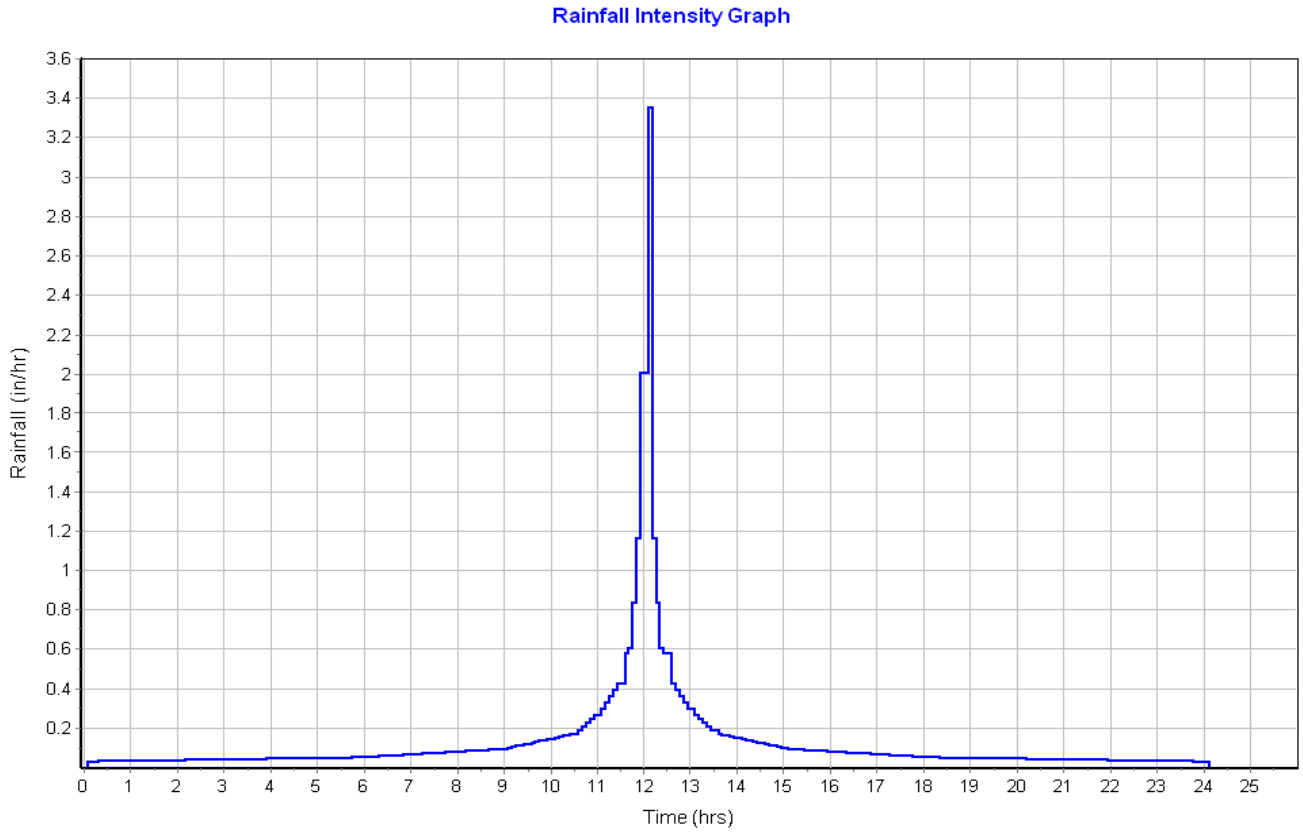
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	277.83	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.28	0.00	0.00

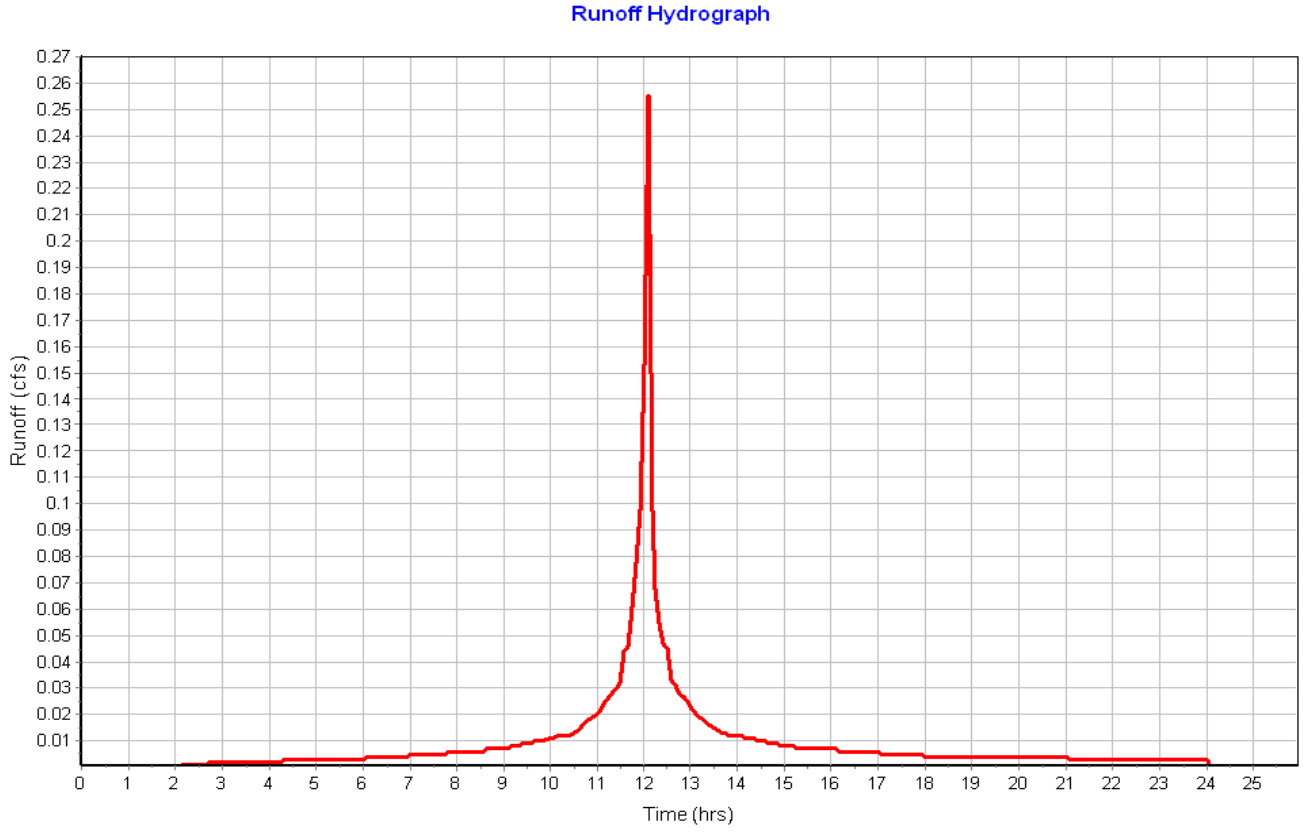
Total TOC (min) 2.40

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.26
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:24

Subbasin : Sub-10





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15.58	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.78	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

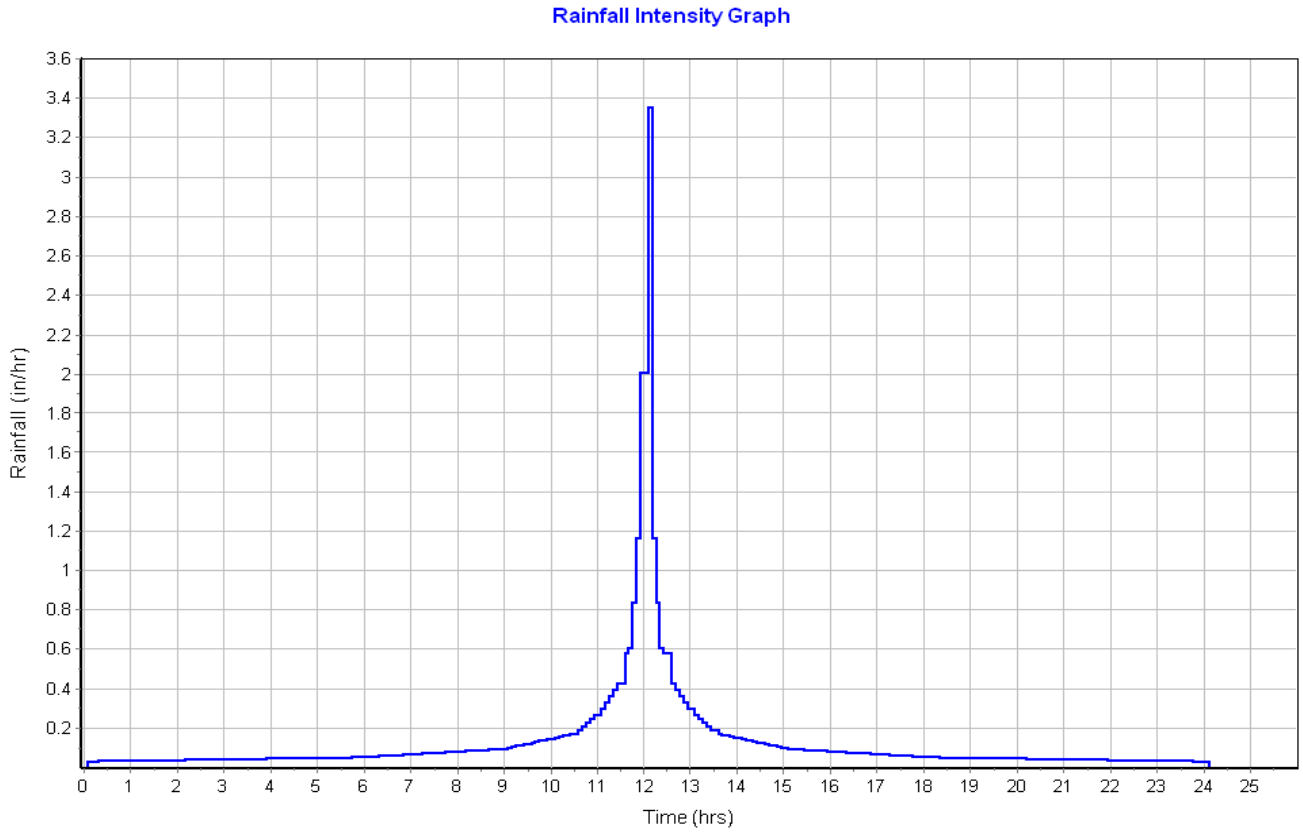
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.15	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.93	0.00	0.00

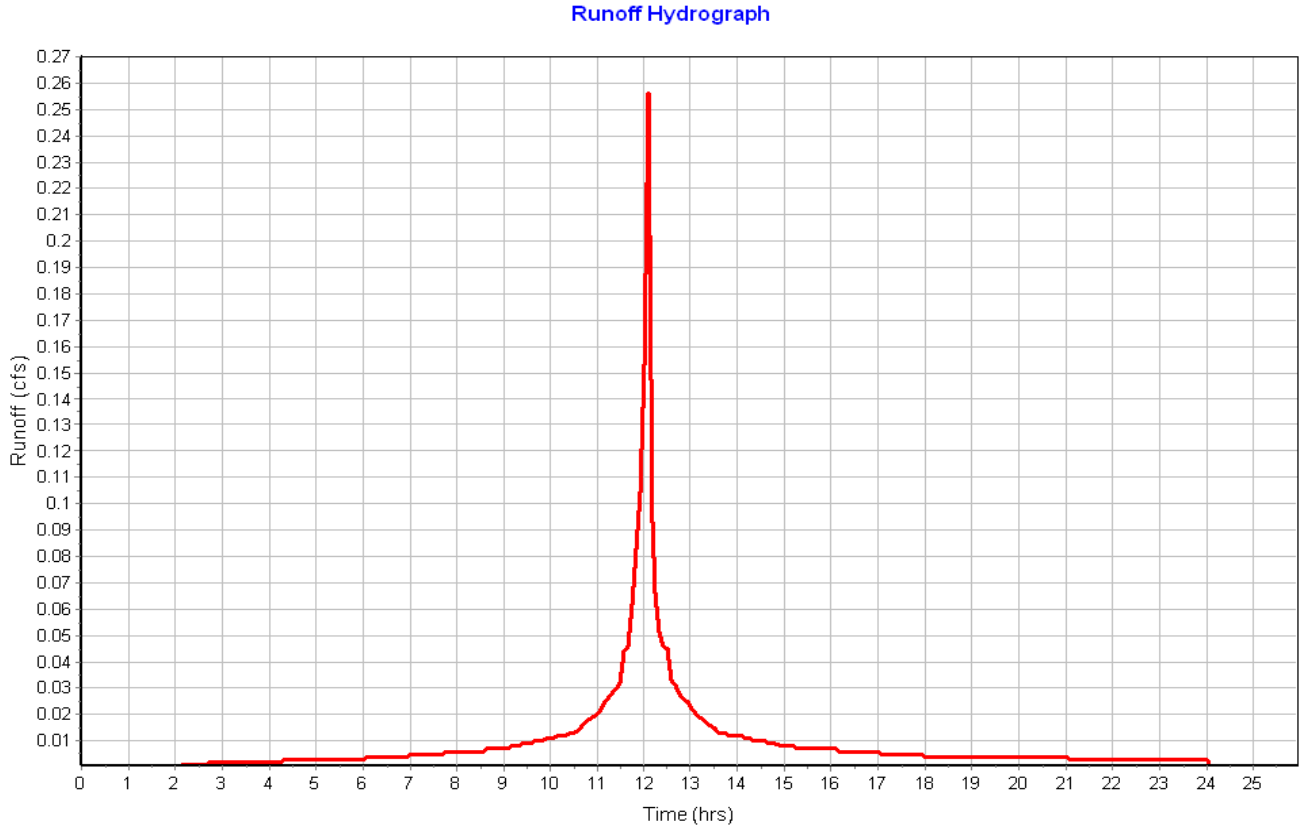
Total TOC (min) 2.08

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.26
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:05

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.73	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

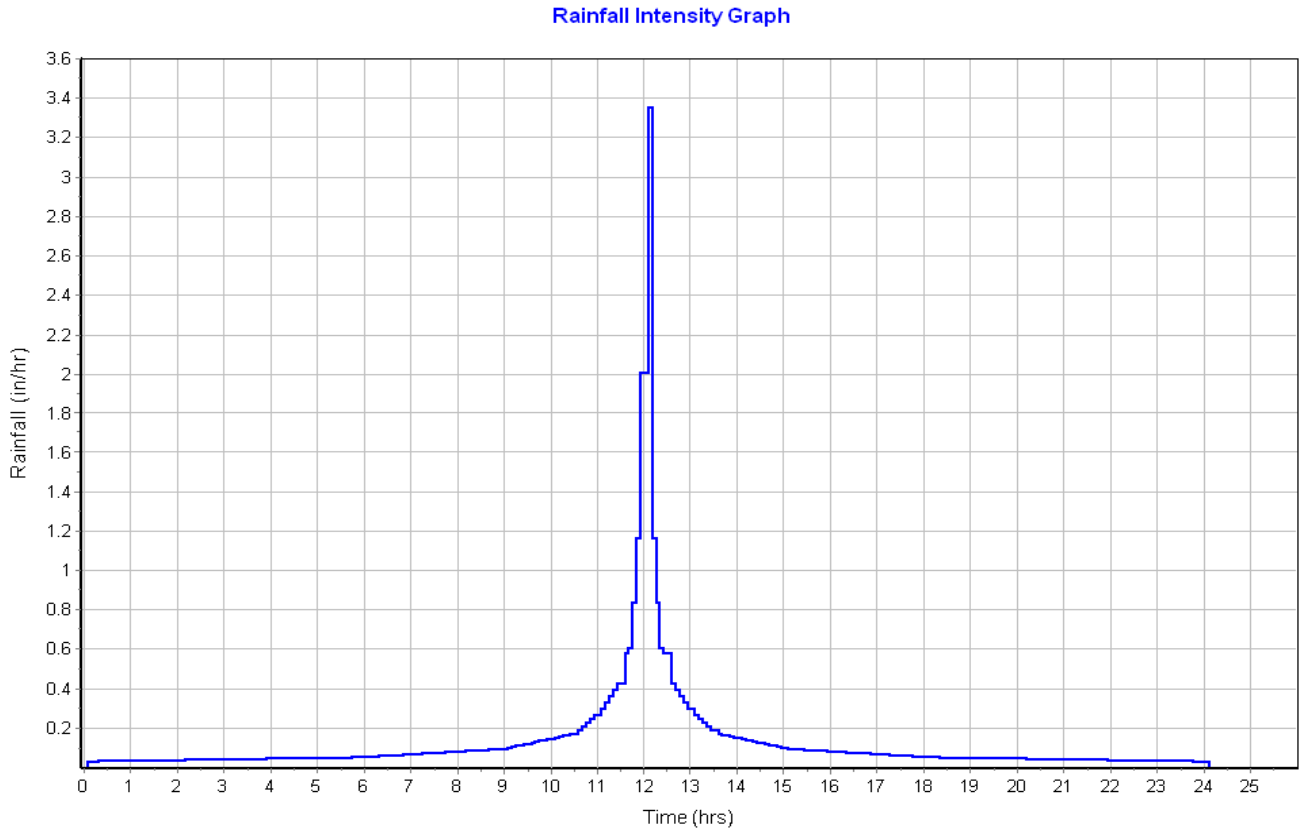
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	256.83	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.95	0.00	0.00

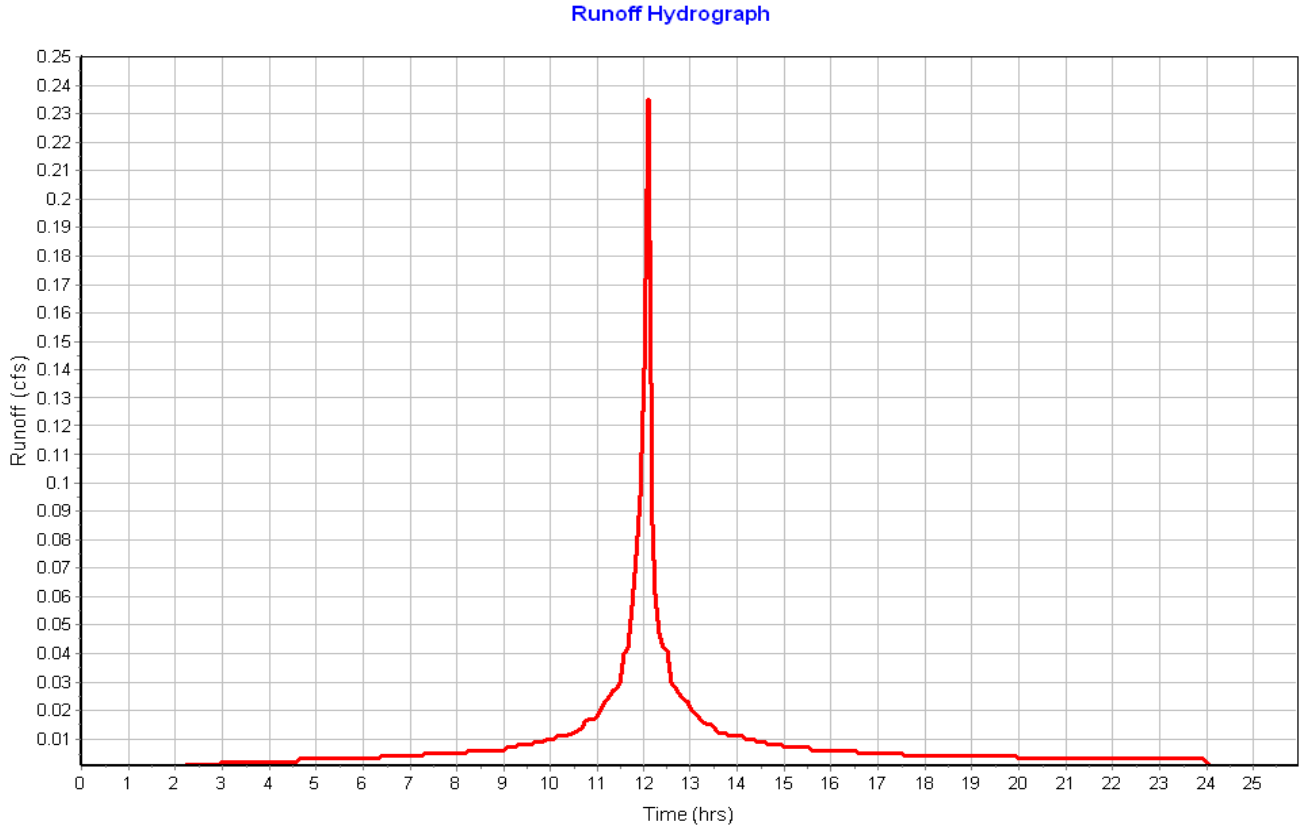
Total TOC (min) 2.07

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.24
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:04

Subbasin : Sub-12





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	24.65	117.15	4.00	117.00	4.00	0.15	0.6100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	31.63	117.00	4.00	115.00	3.00	2.00	6.3200	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	21.33	116.15	4.00	116.00	4.00	0.15	0.7000	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
4	Link-04	18.20	116.00	4.00	115.00	3.00	1.00	5.4900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
5	Link-05	32.12	115.35	4.00	113.00	1.00	2.35	7.3200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
6	Link-06	34.11	115.35	4.00	113.00	1.00	2.35	6.8900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
7	Link-07	31.14	112.65	4.00	112.25	0.25	0.40	1.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
8	Link-08	26.16	112.65	4.00	112.25	0.25	0.40	1.5300	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.21	0 12:10	1.81	0.12	1.62	0.25	0.22	0.22	0.00		Calculated
2	Link-02	0.40	0 12:10	17.17	0.02	3.80	0.14	0.16	0.11	0.00		Calculated
3	Link-03	0.50	0 12:10	1.94	0.26	1.91	0.19	0.37	0.37	0.00		Calculated
4	Link-04	1.05	0 12:10	5.43	0.19	4.81	0.06	0.32	0.32	0.00		Calculated
5	Link-05	0.25	0 12:10	6.26	0.04	3.80	0.14	0.14	0.14	0.00		Calculated
6	Link-06	0.25	0 12:10	6.08	0.04	3.73	0.15	0.14	0.14	0.00		Calculated
7	Link-07	0.25	0 12:10	2.62	0.10	2.05	0.25	0.21	0.21	0.00		Calculated
8	Link-08	0.23	0 12:10	2.86	0.08	2.10	0.21	0.20	0.20	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.41
Max HGL Depth Attained (ft)	4.26
Average HGL Elevation Attained (ft)	116.50
Average HGL Depth Attained (ft)	3.35
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.40
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.40
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.16
Max HGL Depth Attained (ft)	4.16
Average HGL Elevation Attained (ft)	116.29
Average HGL Depth Attained (ft)	3.29
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.51
Peak Lateral Inflow (cfs)	0.51
Peak Outflow (cfs)	0.50
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.54
Max HGL Depth Attained (ft)	4.39
Average HGL Elevation Attained (ft)	115.74
Average HGL Depth Attained (ft)	3.59
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.05
Peak Lateral Inflow (cfs)	0.55
Peak Outflow (cfs)	1.05
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.35
Max HGL Depth Attained (ft)	4.35
Average HGL Elevation Attained (ft)	115.59
Average HGL Depth Attained (ft)	3.59
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.25
Peak Lateral Inflow (cfs)	0.25
Peak Outflow (cfs)	0.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.49
Max HGL Depth Attained (ft)	4.14
Average HGL Elevation Attained (ft)	114.73
Average HGL Depth Attained (ft)	3.38
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-07

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.25
Peak Lateral Inflow (cfs)	0.25
Peak Outflow (cfs)	0.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.49
Max HGL Depth Attained (ft)	4.14
Average HGL Elevation Attained (ft)	114.73
Average HGL Depth Attained (ft)	3.38
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-08

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.26
Peak Lateral Inflow (cfs)	0.26
Peak Outflow (cfs)	0.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.87
Max HGL Depth Attained (ft)	4.22
Average HGL Elevation Attained (ft)	112.05
Average HGL Depth Attained (ft)	3.4
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-09

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.85
Max HGL Depth Attained (ft)	4.2
Average HGL Elevation Attained (ft)	112.02
Average HGL Depth Attained (ft)	3.37
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 2 - Existing Conditions.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins.....	12
Nodes.....	16
Junctions	0
Outfalls	8
Flow Diversions	0
Inlets	0
Storage Nodes	8
Links.....	8
Channels	0
Pipes	8
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.85	484.00	74.22	3.50	1.25	1.06	1.42	0 00:02:24
2	Sub-02	0.66	484.00	74.02	3.50	1.24	0.81	1.10	0 00:02:06
3	Sub-03	0.06	484.00	98.00	3.50	3.26	0.20	0.23	0 00:01:36
4	Sub-04	0.06	484.00	98.00	3.50	3.26	0.18	0.21	0 00:01:36
5	Sub-05	0.08	484.00	98.00	3.50	3.26	0.27	0.30	0 00:02:40
6	Sub-06	0.09	484.00	98.00	3.50	3.26	0.28	0.33	0 00:02:40
7	Sub-07	0.07	484.00	98.00	3.50	3.26	0.23	0.26	0 00:02:17
8	Sub-08	0.07	484.00	98.00	3.50	3.26	0.24	0.28	0 00:02:16
9	Sub-09	0.08	484.00	98.00	3.50	3.26	0.26	0.28	0 00:02:26
10	Sub-10	0.08	484.00	98.00	3.50	3.26	0.25	0.28	0 00:02:24
11	Sub-11	0.08	484.00	98.00	3.50	3.26	0.25	0.28	0 00:02:04
12	Sub-12	0.07	484.00	98.00	3.50	3.26	0.24	0.26	0 00:02:04

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					1.36	112.00					
2	Out-02	Outfall	112.00					1.06	112.00					
3	Out-03	Outfall	112.00					0.43	112.00					
4	Out-04	Outfall	112.00					1.15	112.00					
5	Out-05	Outfall	112.00					0.28	112.00					
6	Out-06	Outfall	112.00					0.28	112.00					
7	Out-07	Outfall	112.00					0.25	112.00					
8	Out-08	Outfall	112.00					0.27	112.00					
9	CB-01	Storage Node	113.15	120.00	0.00		1000.00	0.23	117.42				0.00	0.00
10	CB-02	Storage Node	113.00	120.00	0.00		1000.00	0.44	117.17				0.00	0.00
11	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.56	116.56				0.00	0.00
12	CB-04	Storage Node	112.00	119.00	0.00		1000.00	1.15	116.36				0.00	0.00
13	Stor-06	Storage Node	111.35	118.20	0.00		1000.00	0.28	115.50				0.00	0.00
14	Stor-07	Storage Node	111.35	118.20	0.00		1000.00	0.28	115.50				0.00	0.00
15	Stor-08	Storage Node	108.65	115.50	0.00		1000.00	0.28	112.88				0.00	0.00
16	Stor-09	Storage Node	108.65	115.50	0.00		1000.00	0.26	112.86				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	CB-02	24.65	117.15	117.00	0.6100	12.000	0.0200	0.23	1.81	0.13	1.66	0.23	0.23	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	31.63	117.00	115.00	6.3200	18.000	0.0200	0.43	17.17	0.03	3.87	0.17	0.11	0.00	Calculated
3	Link-03	Pipe	CB-03	CB-04	21.33	116.15	116.00	0.7000	12.000	0.0200	0.55	1.94	0.28	1.95	0.39	0.39	0.00	Calculated
4	Link-04	Pipe	CB-04	Out-04	18.20	116.00	115.00	5.4900	12.000	0.0200	1.15	5.43	0.21	4.91	0.34	0.34	0.00	Calculated
5	Link-05	Pipe	Stor-06	Out-05	32.12	115.35	113.00	7.3200	12.000	0.0200	0.28	6.26	0.04	3.90	0.15	0.15	0.00	Calculated
6	Link-06	Pipe	Stor-07	Out-06	34.11	115.35	113.00	6.8900	12.000	0.0200	0.28	6.08	0.05	3.82	0.15	0.15	0.00	Calculated
7	Link-07	Pipe	Stor-08	Out-08	31.14	112.65	112.25	1.2800	12.000	0.0200	0.27	2.62	0.10	2.10	0.22	0.22	0.00	Calculated
8	Link-08	Pipe	Stor-09	Out-07	26.16	112.65	112.25	1.5300	12.000	0.0200	0.25	2.86	0.09	2.15	0.21	0.21	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.85
Peak Rate Factor 484.00
Weighted Curve Number 74.22
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.82	C	74.00
Paved roads with curbs & sewers	0.01	C	98.00
Brush, Good	0.01	C	65.00
Composite Area & Weighted CN	0.84		74.22

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

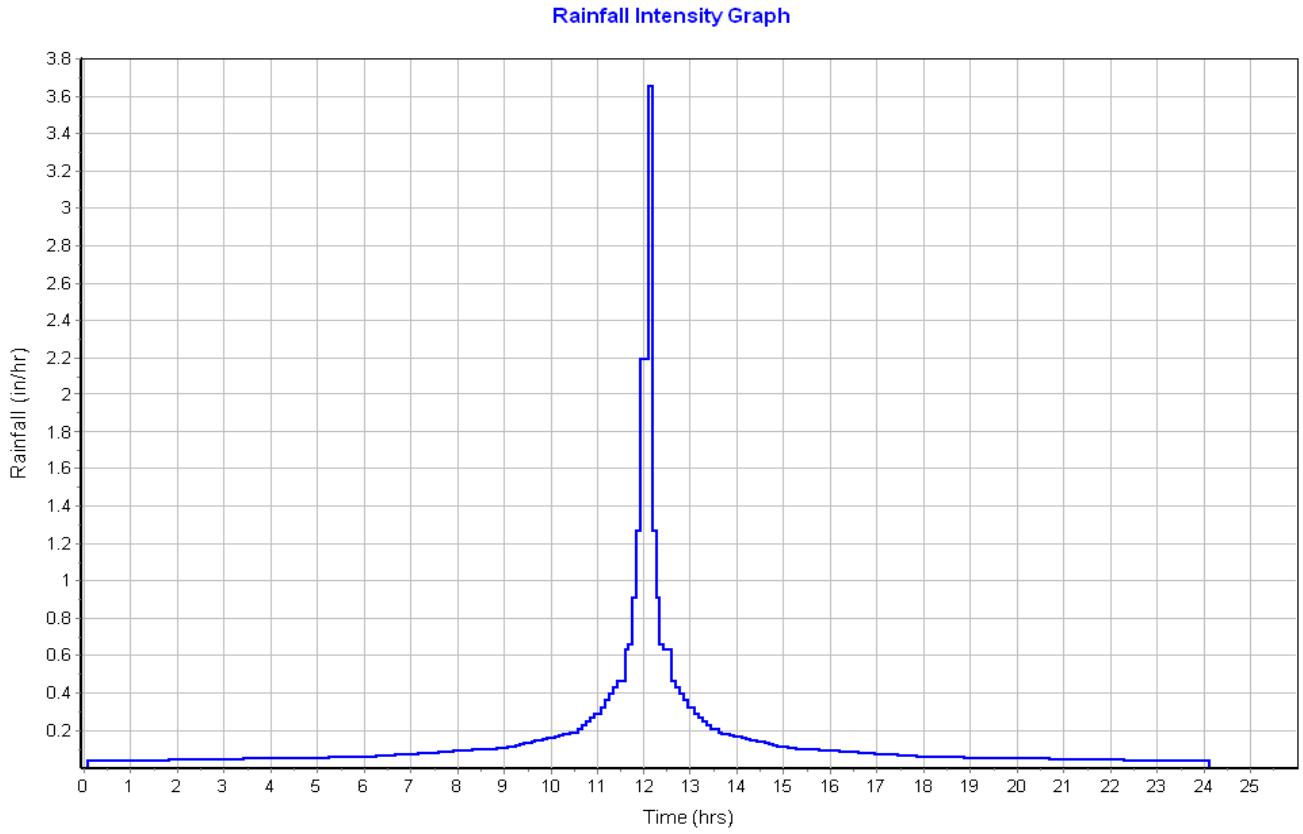
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	16.67	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	2.41	0.00	0.00

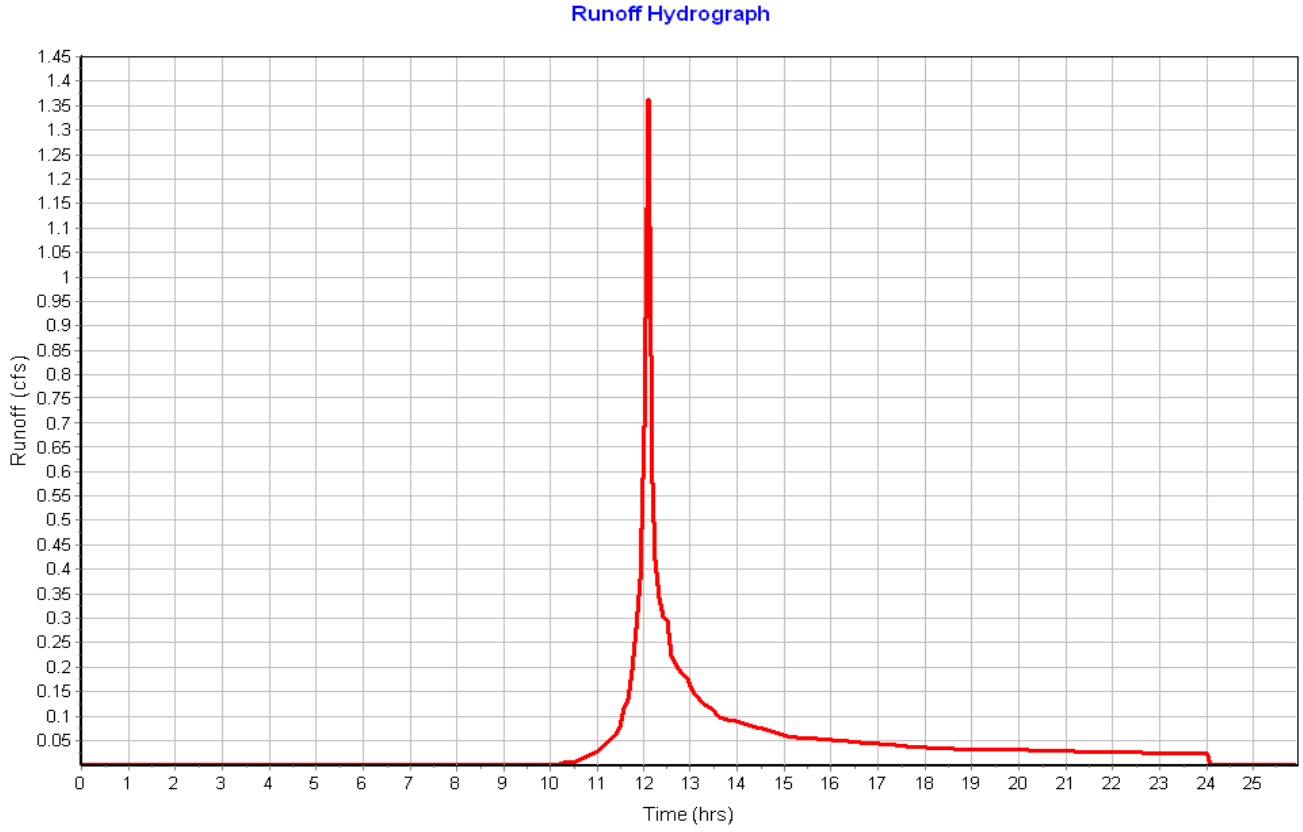
Total TOC (min) 2.41

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.25
Peak Runoff (cfs)	1.42
Weighted Curve Number	74.22
Time of Concentration (days hh:mm:ss)	0 00:02:25

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.66
Peak Rate Factor	484.00
Weighted Curve Number	74.02
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.60	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.65		74.02

Time of Concentration

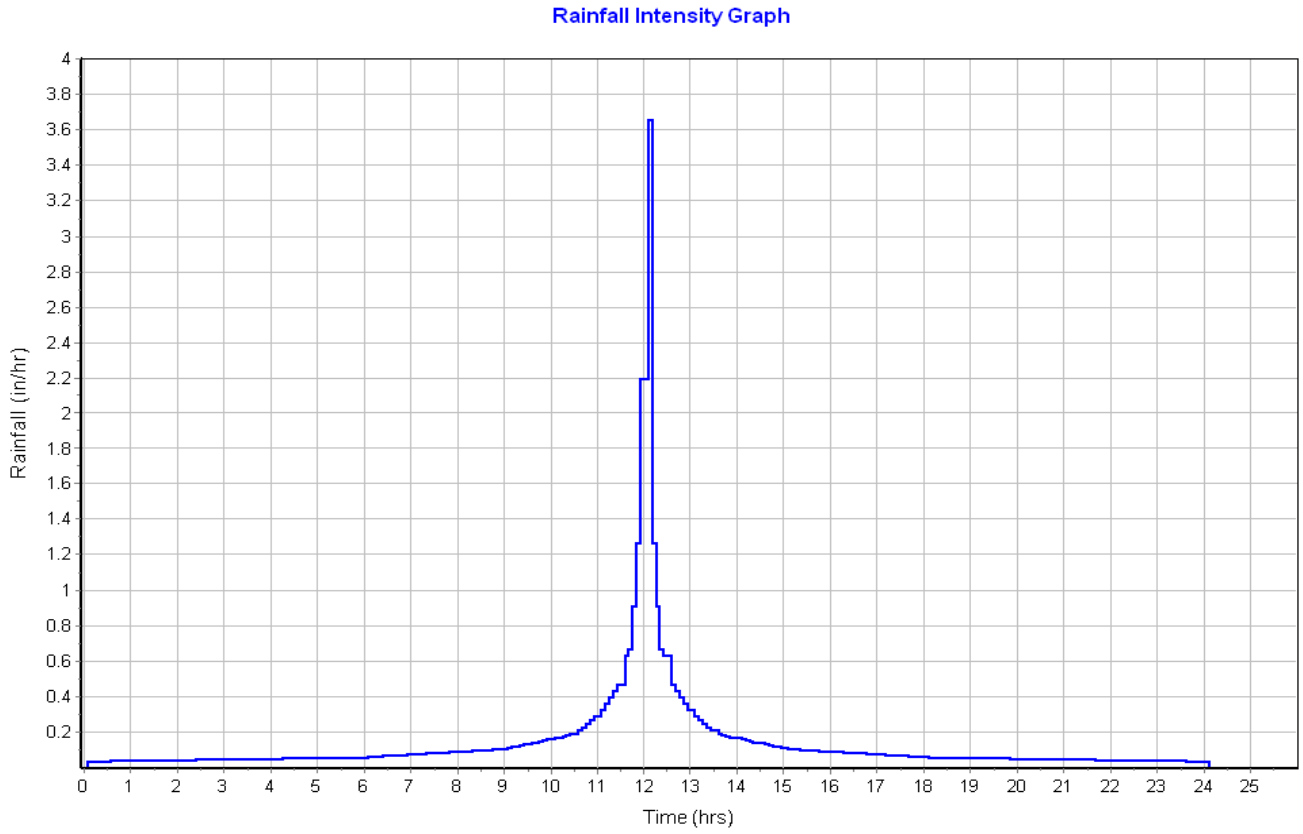
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

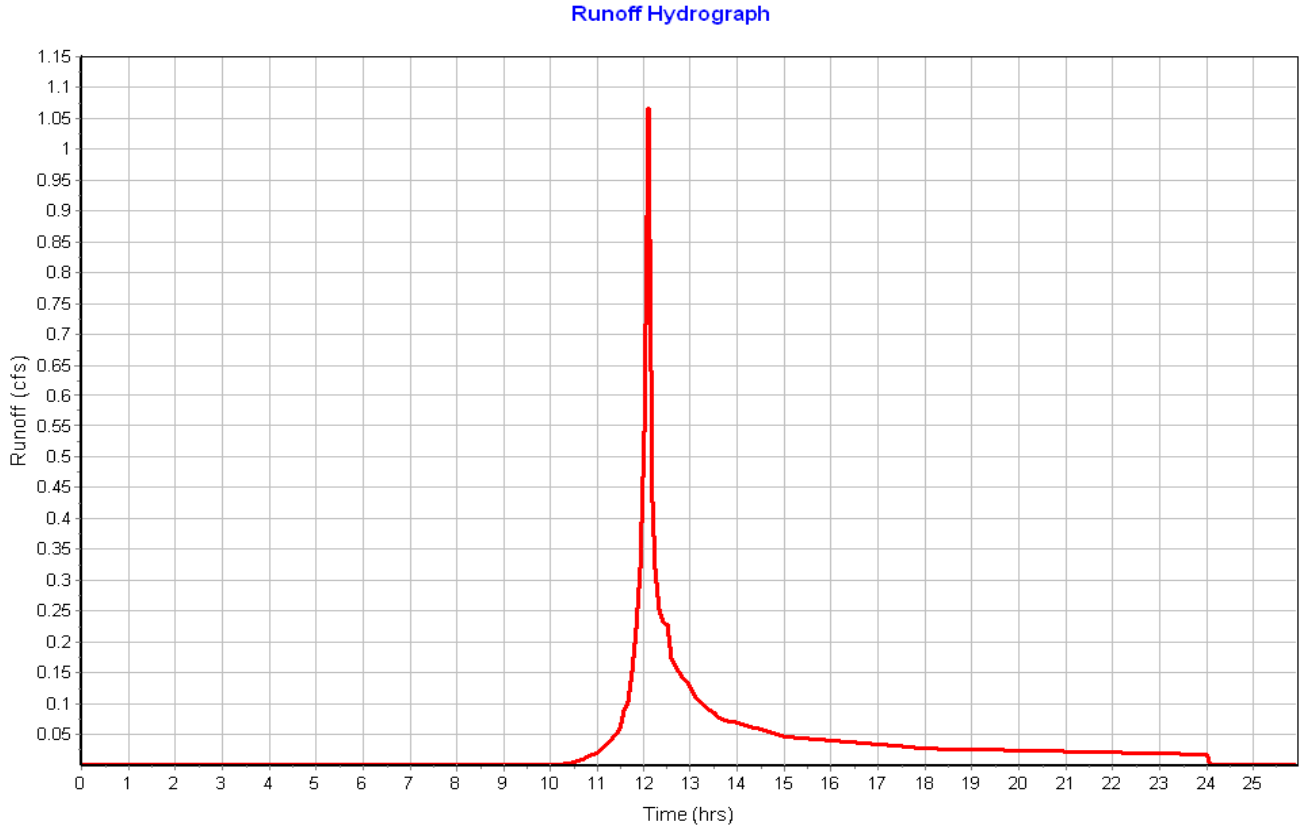
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.24
Peak Runoff (cfs)	1.10
Weighted Curve Number	74.02
Time of Concentration (days hh:mm:ss)	0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.70	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

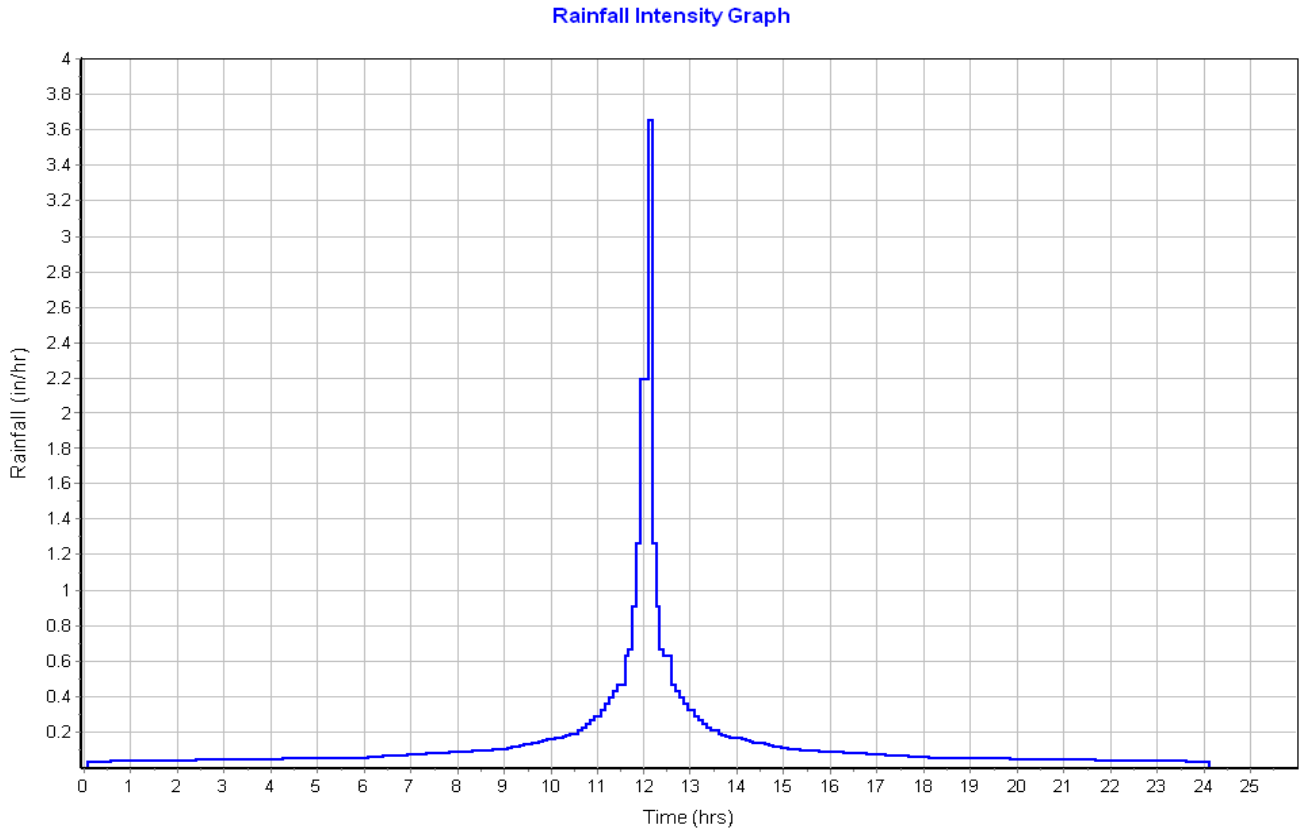
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.15	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

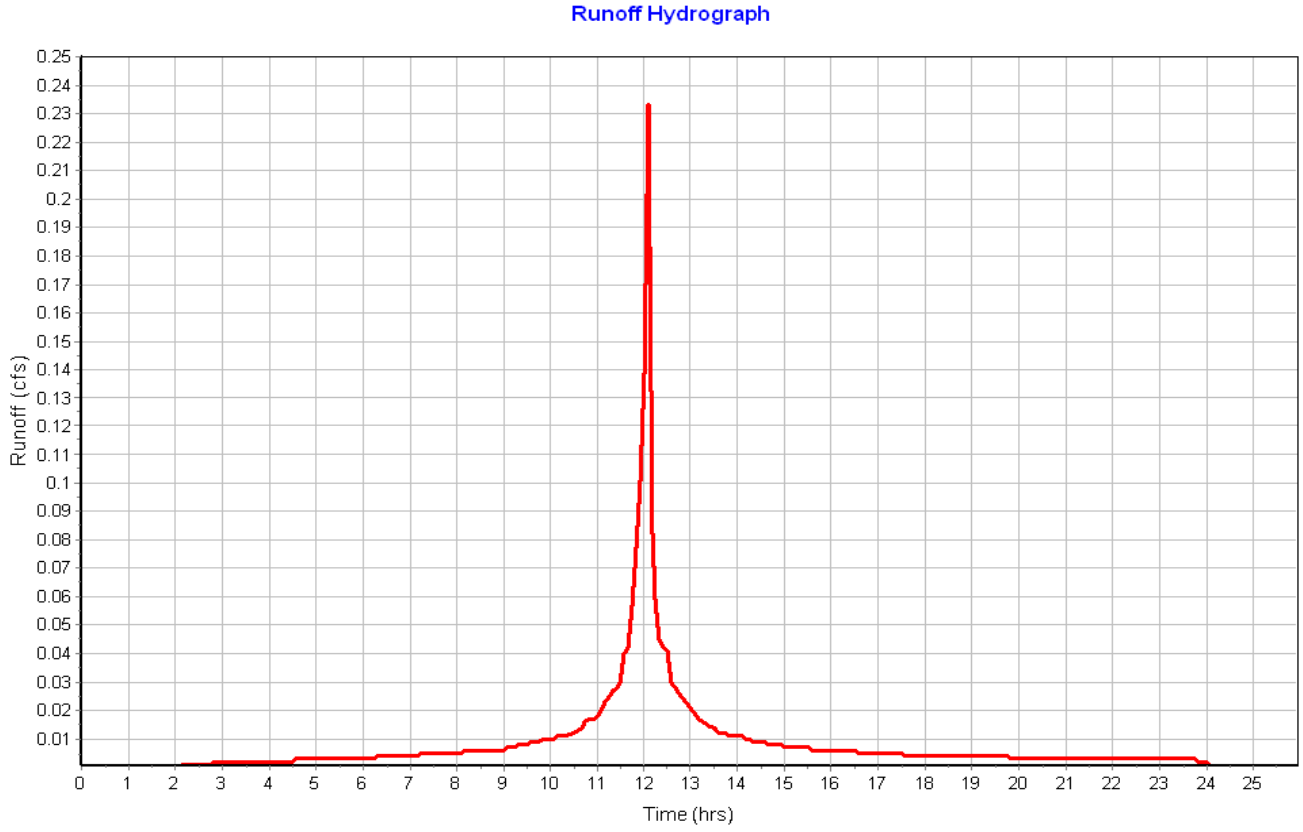
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.23
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:36

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	10.78	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

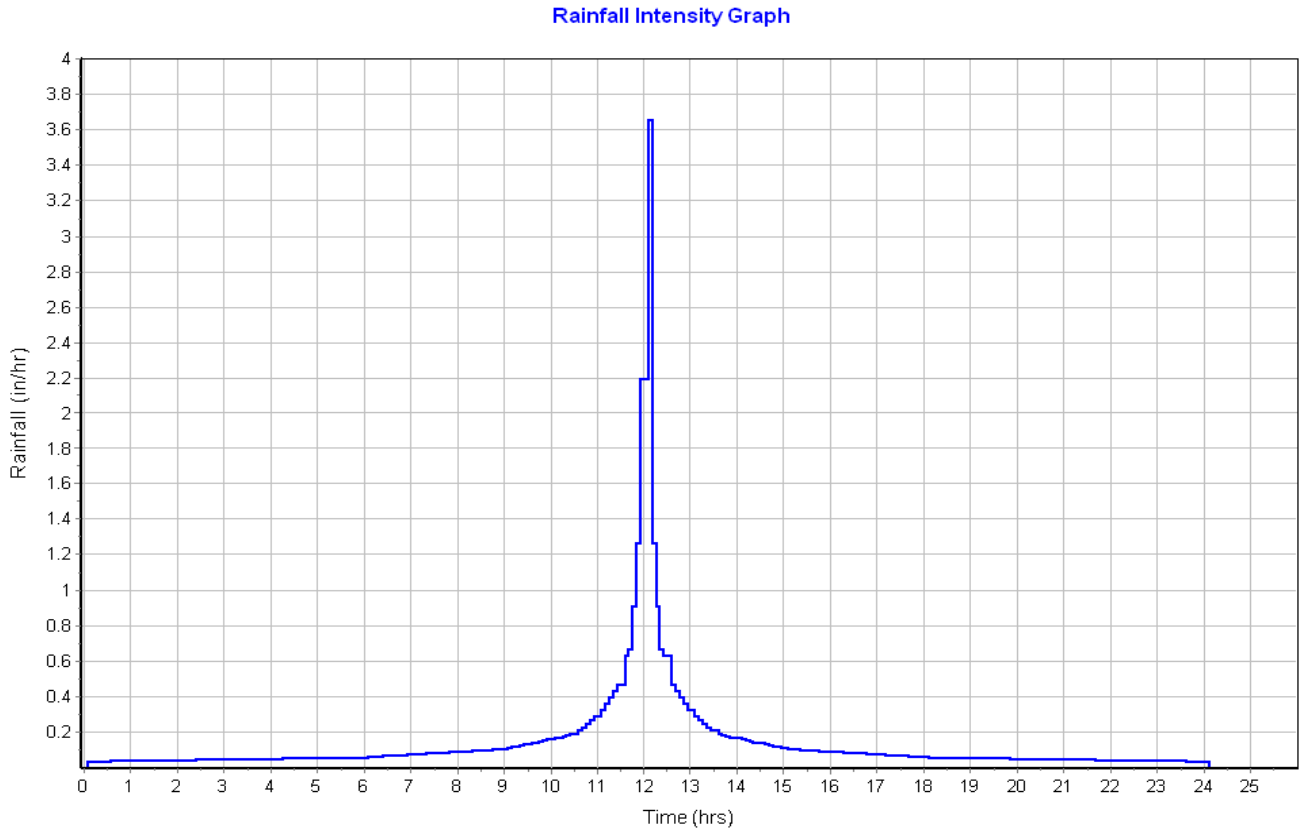
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	182.17	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.50	0.00	0.00

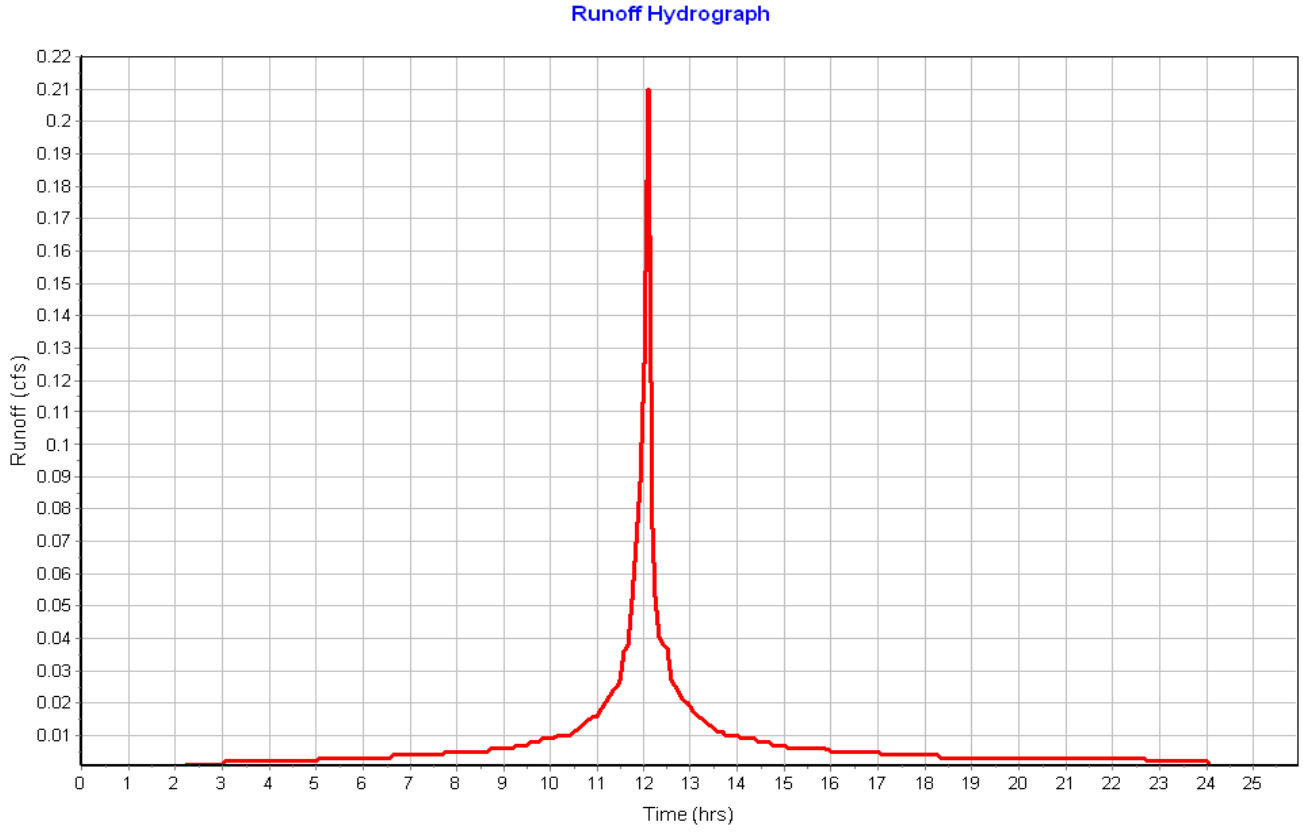
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.21
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:36

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

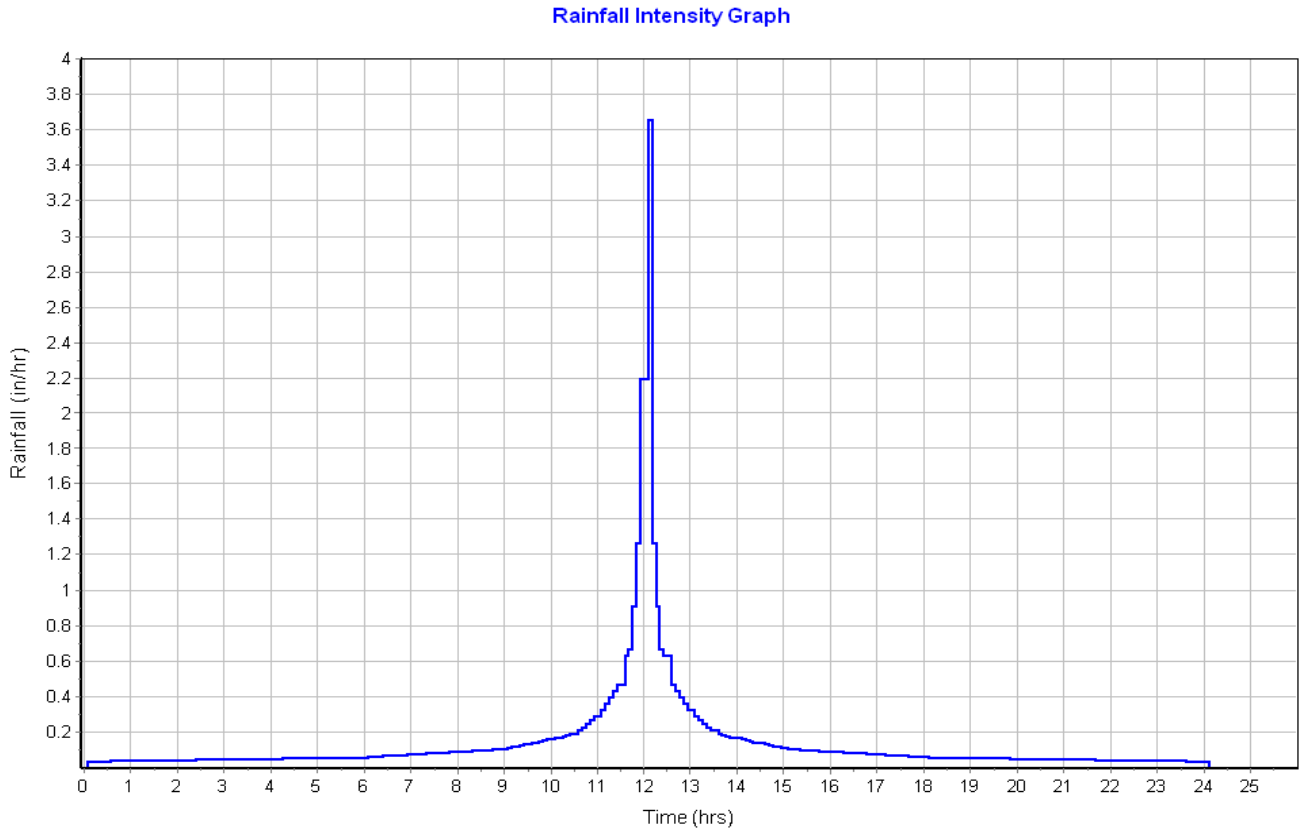
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.21	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

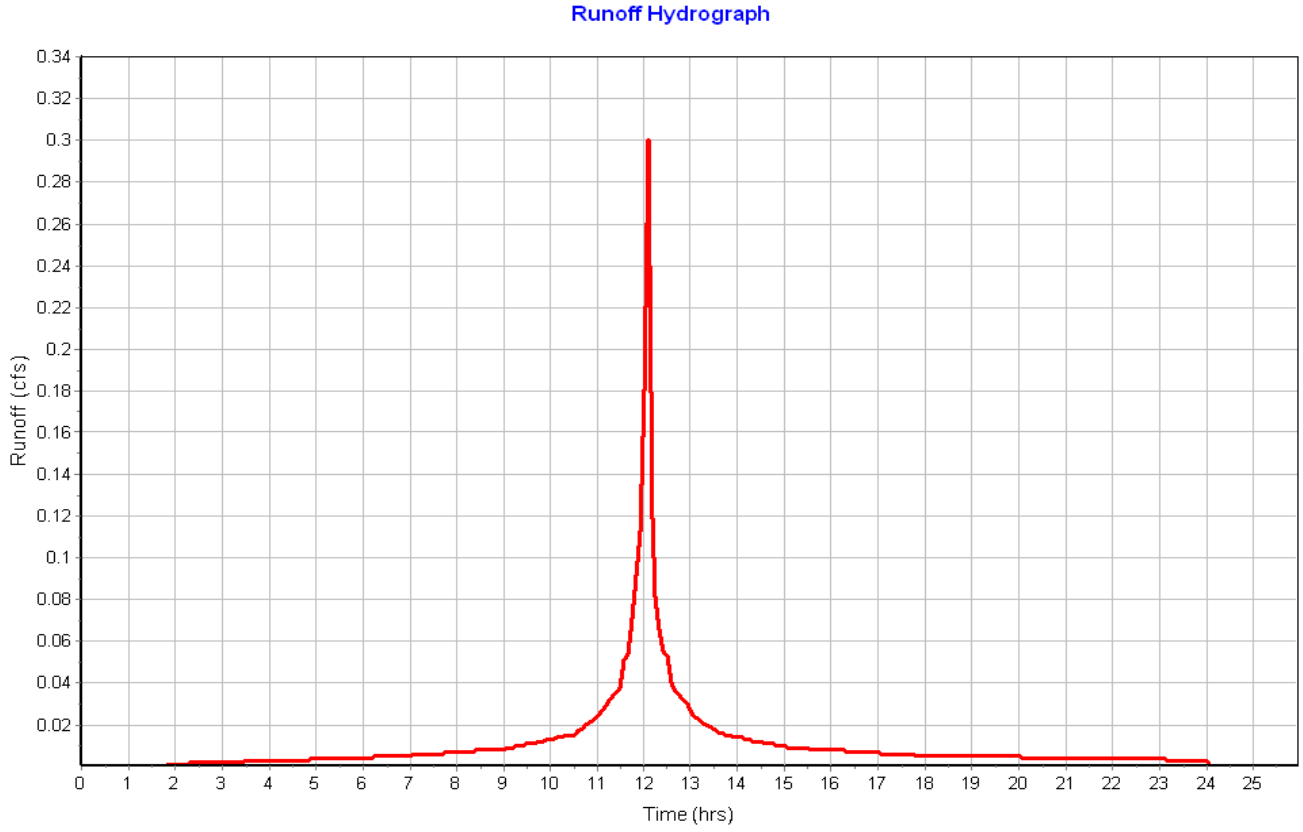
Total TOC (min) 2.68

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.30
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:41

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.2	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

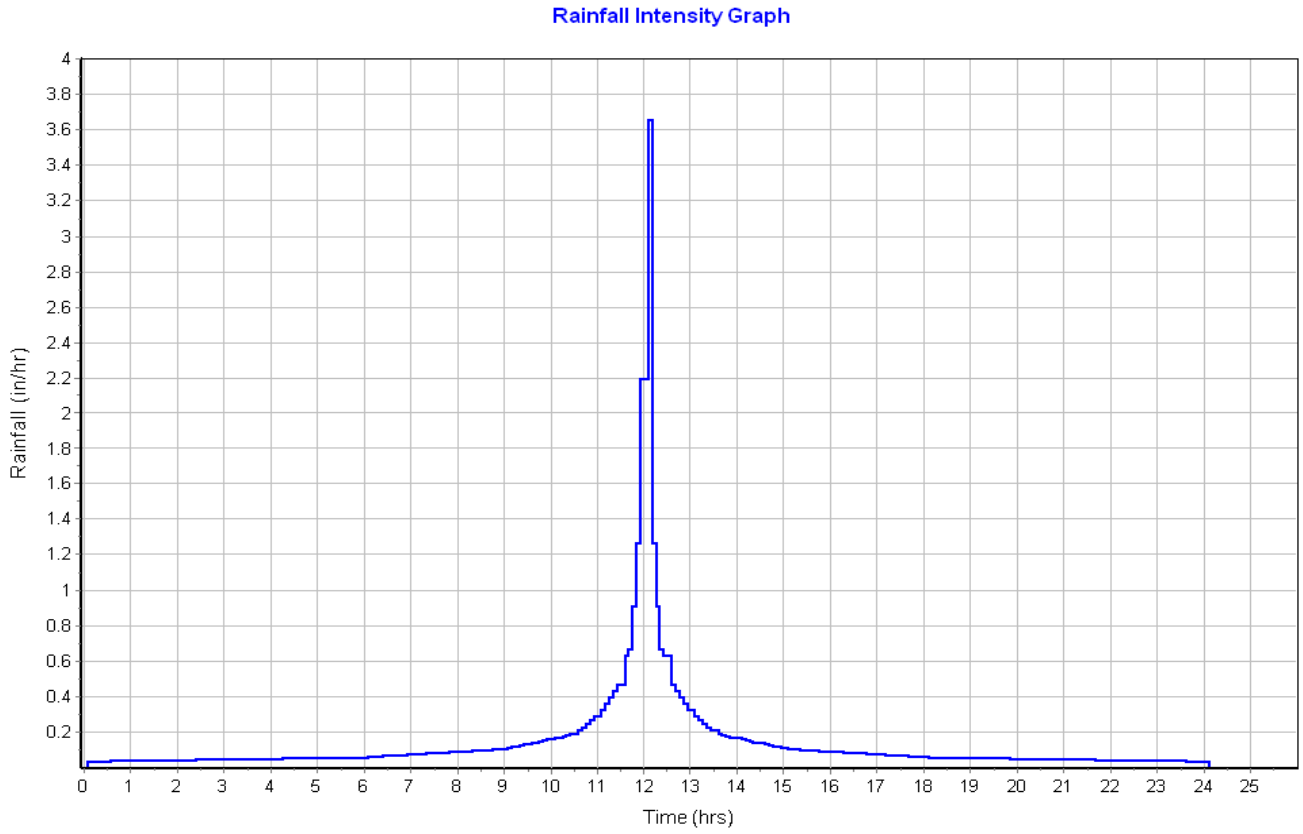
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.1	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

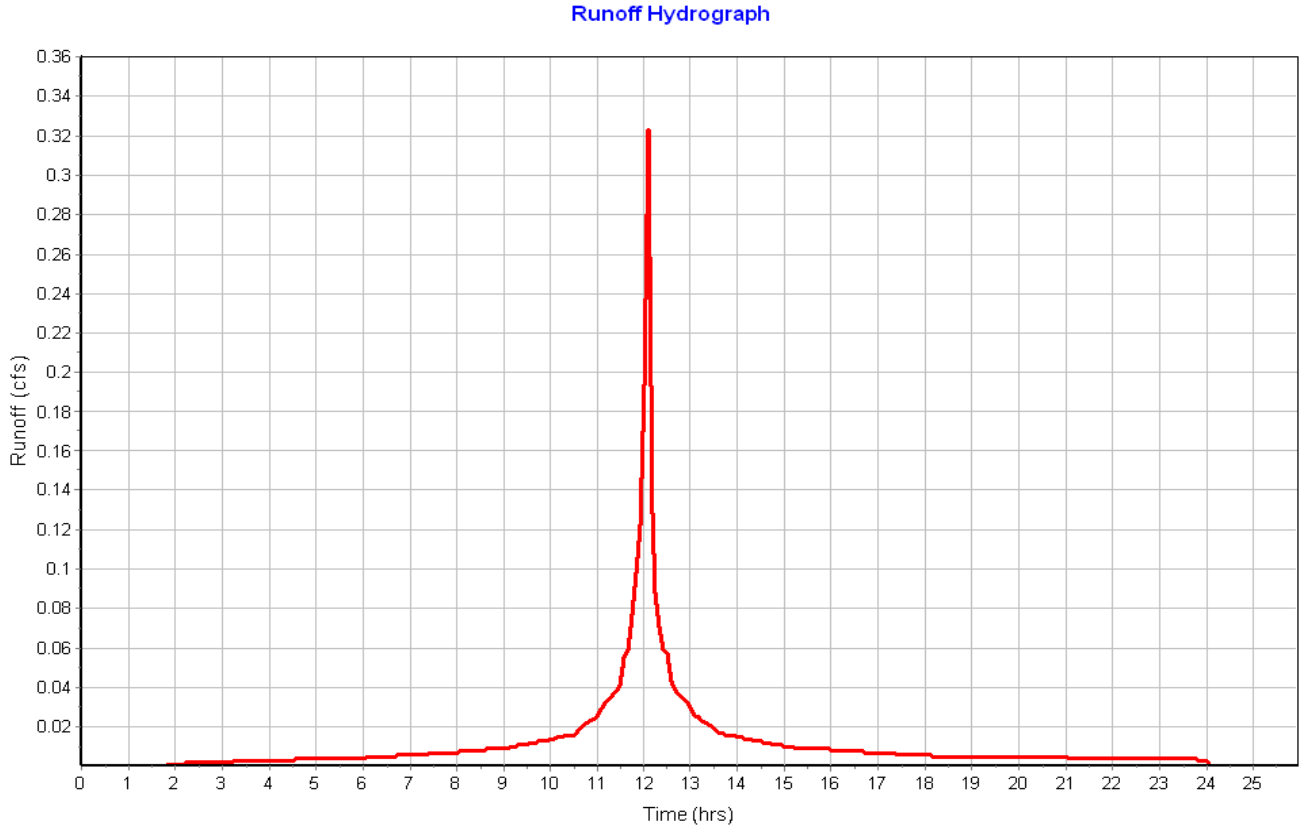
Total TOC (min) 2.67

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.33
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:40

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.81	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

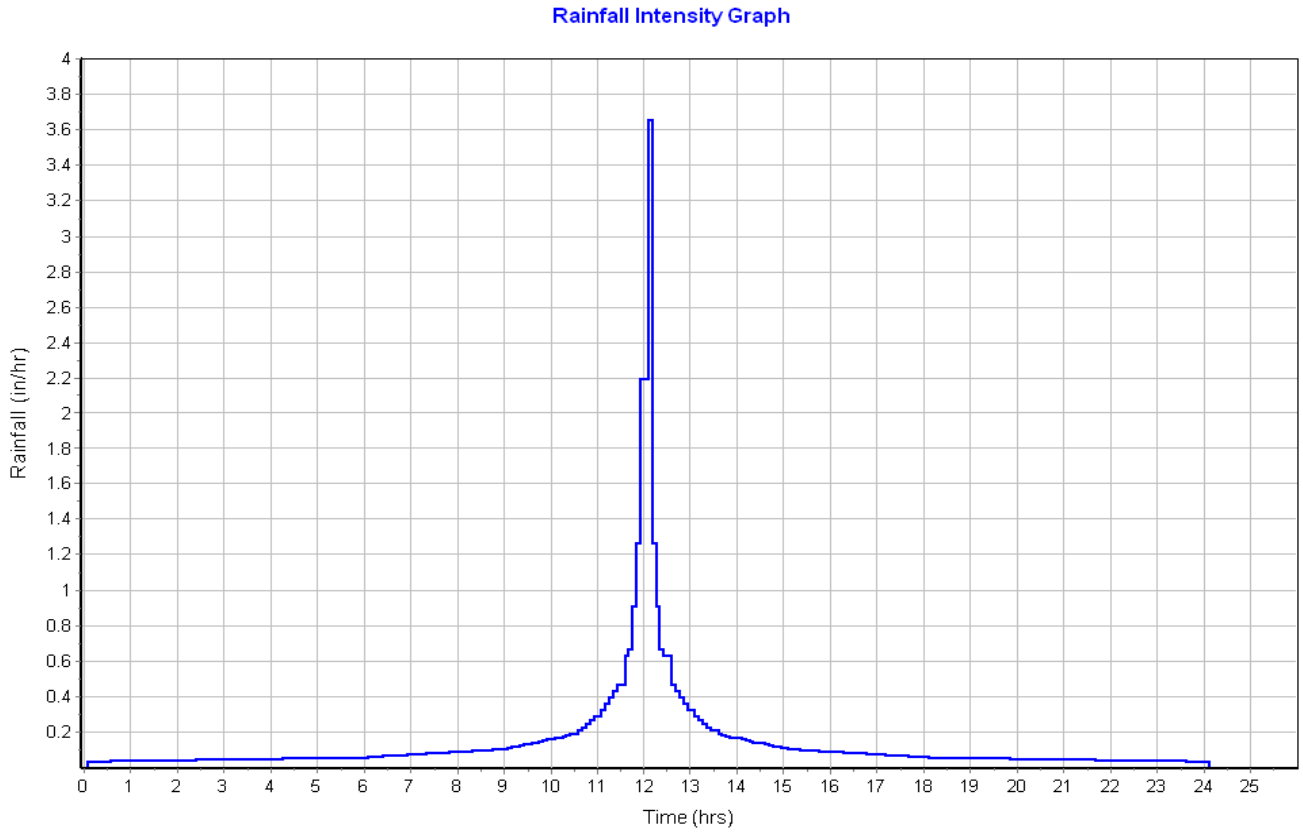
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.28	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

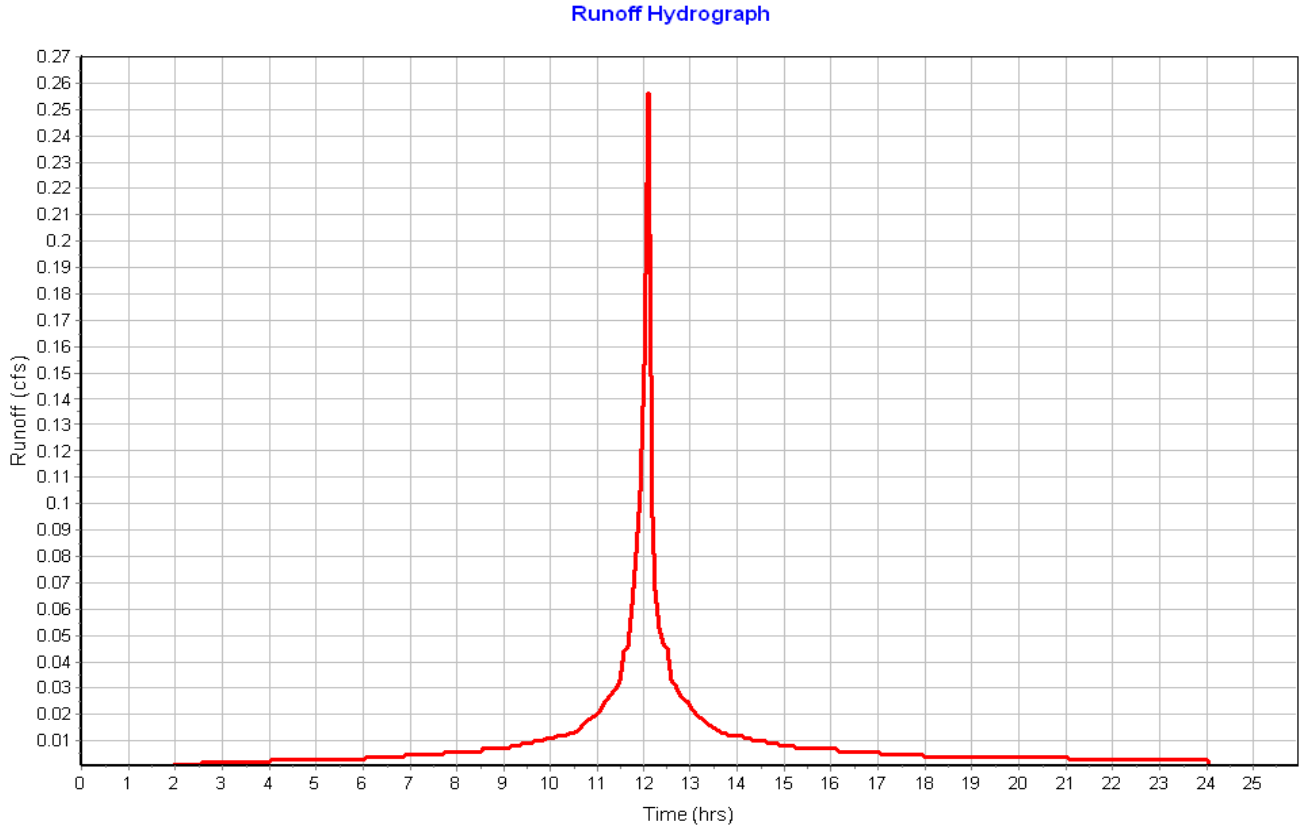
Total TOC (min) 2.29

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.26
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:17

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.8	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

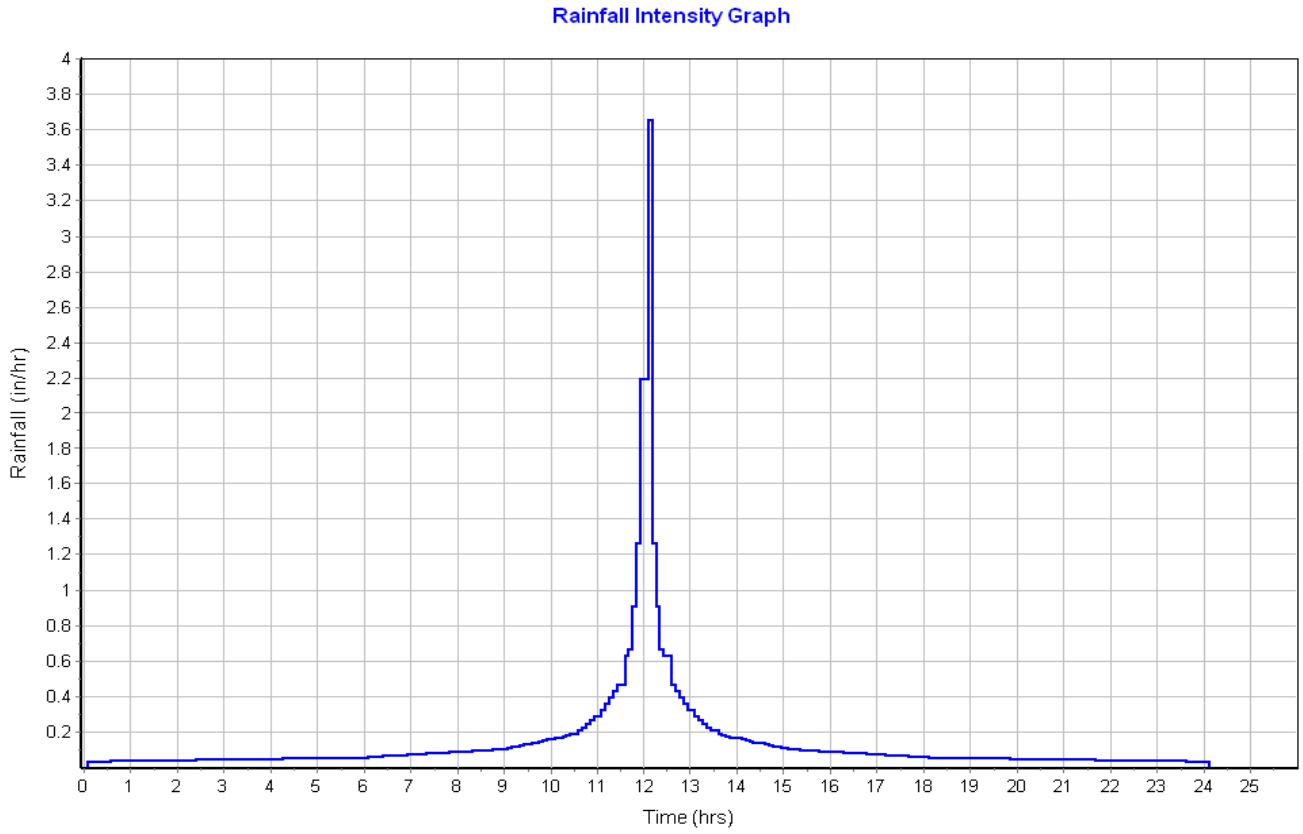
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.8	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

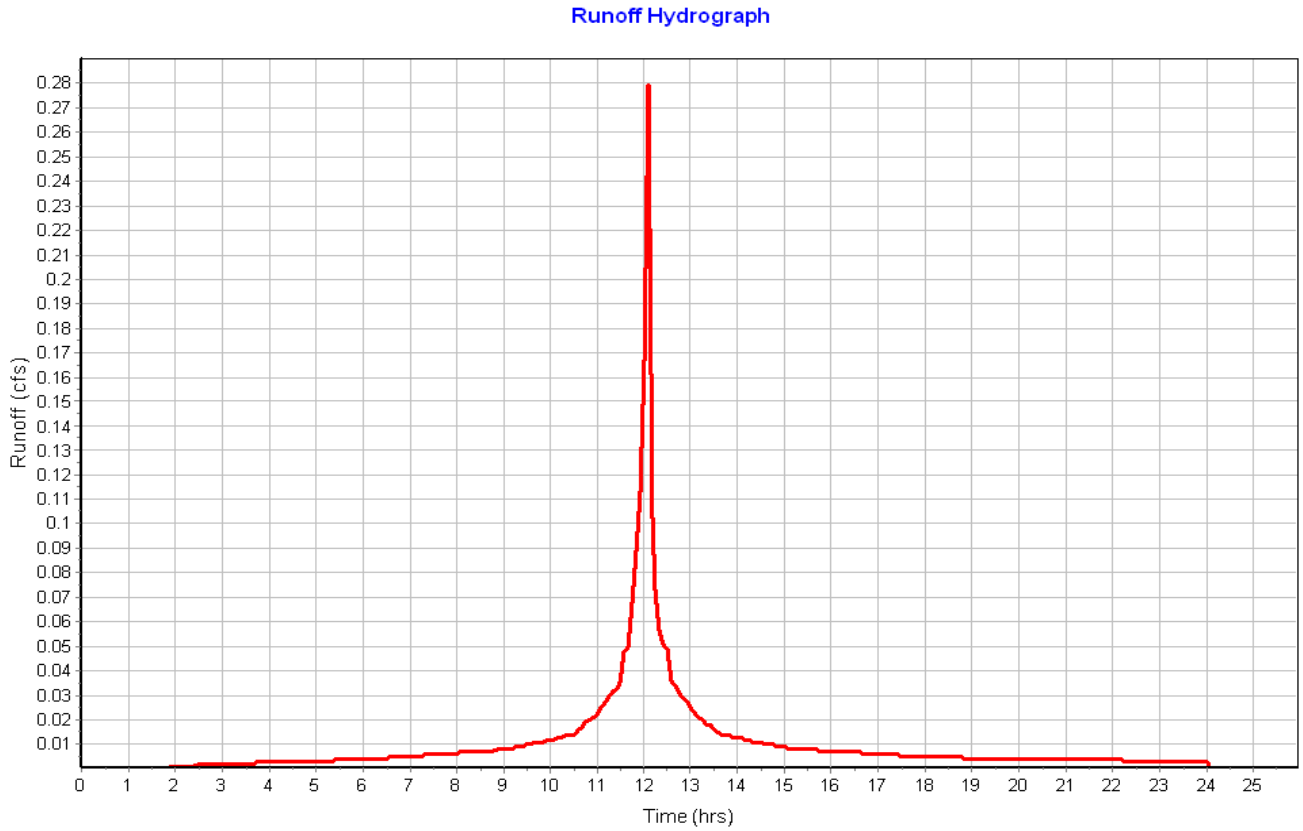
Total TOC (min) 2.27

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.28
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:16

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.07	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

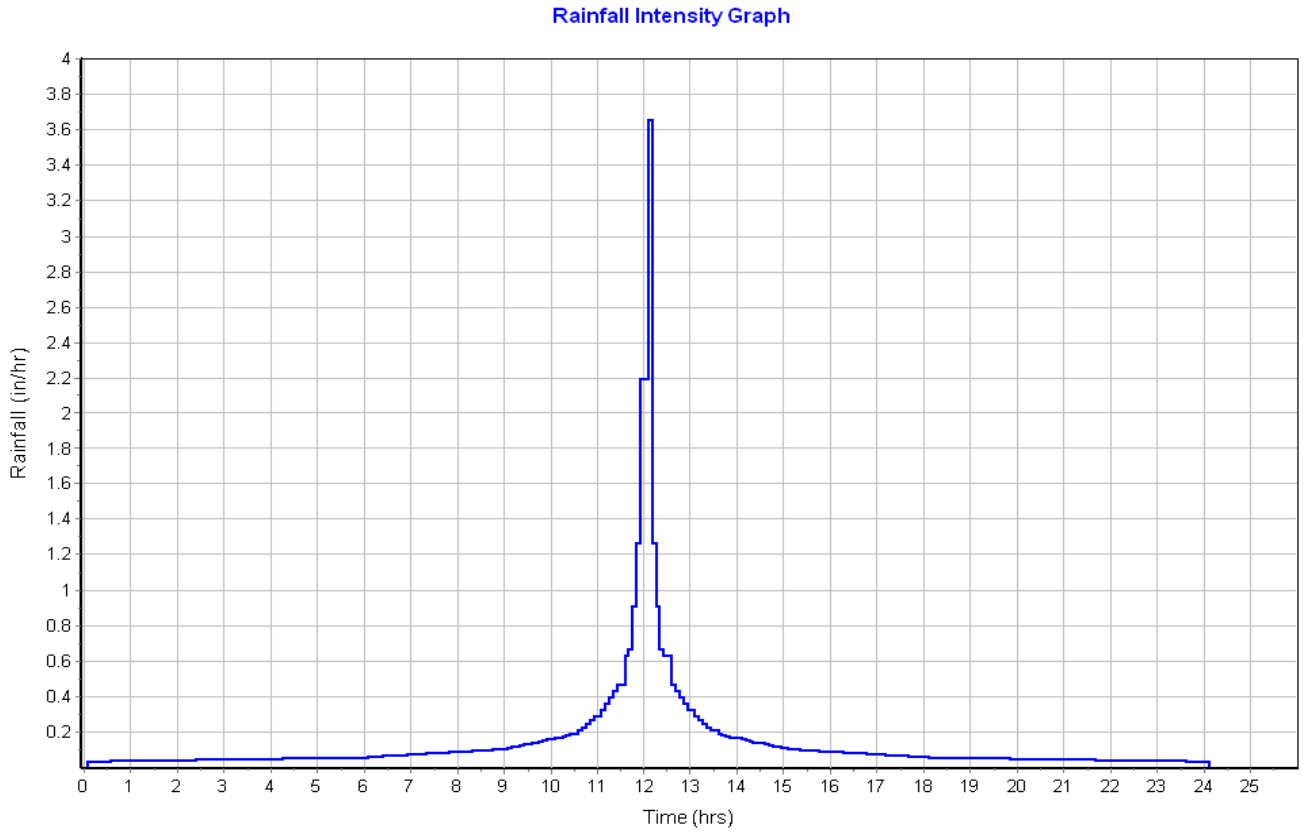
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	282.36	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.32	0.00	0.00

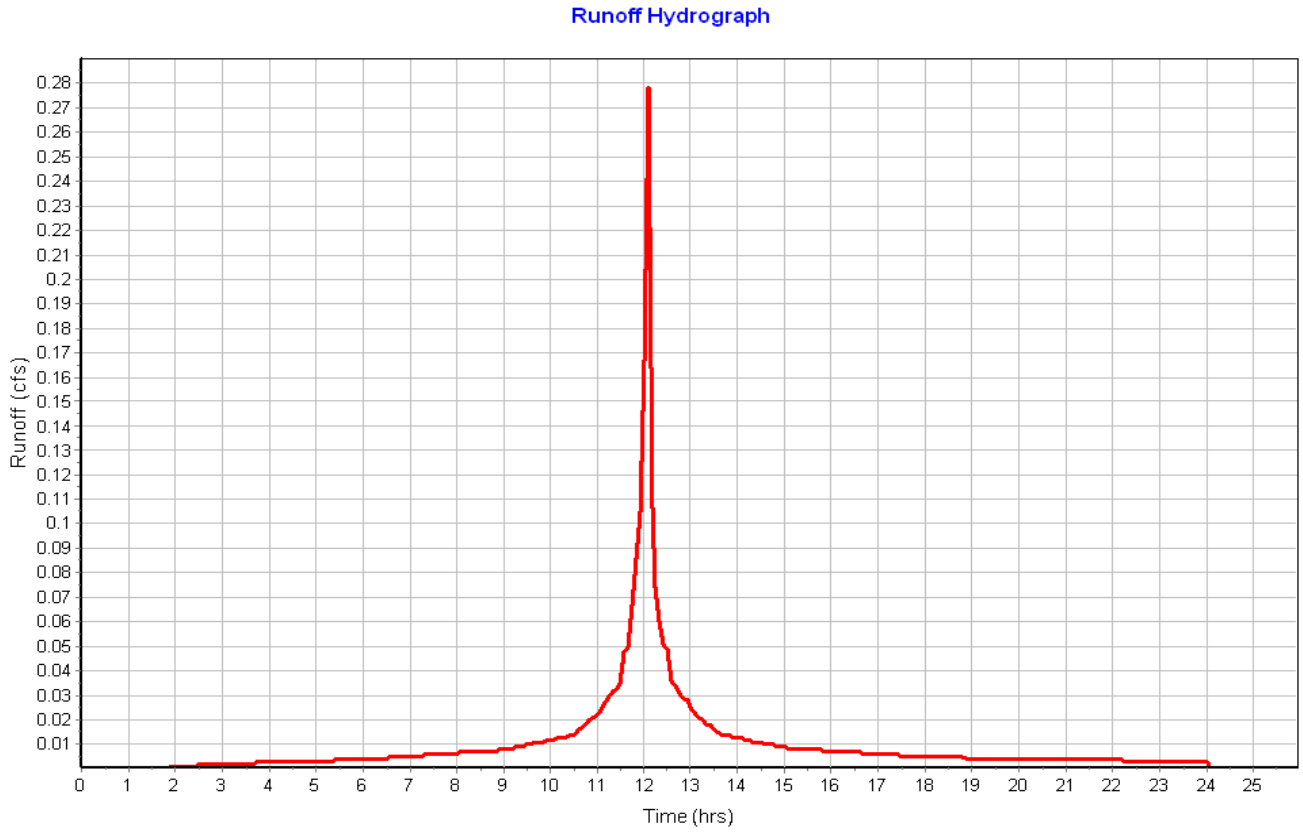
Total TOC (min) 2.44

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.28
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:26

Subbasin : Sub-09





Subbasin : Sub-10

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

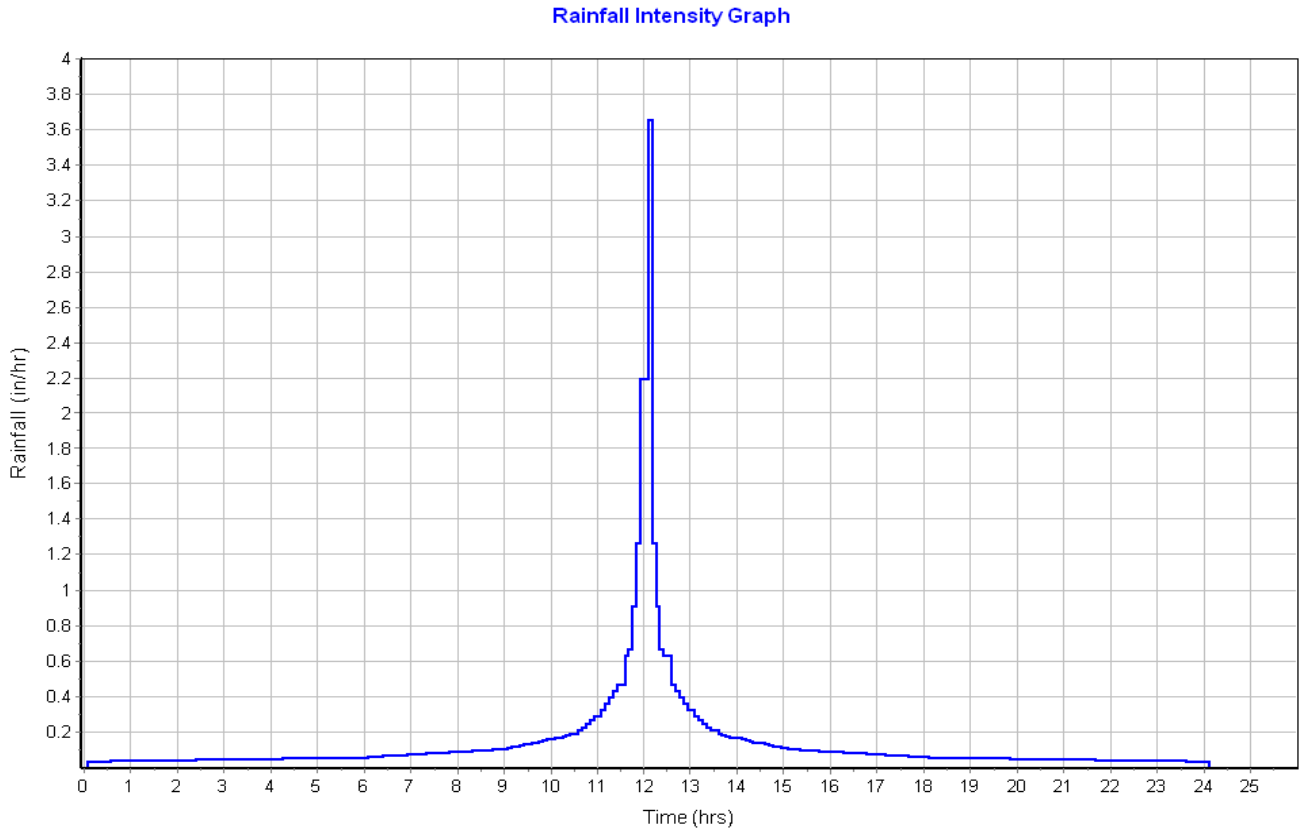
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	277.83	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.28	0.00	0.00

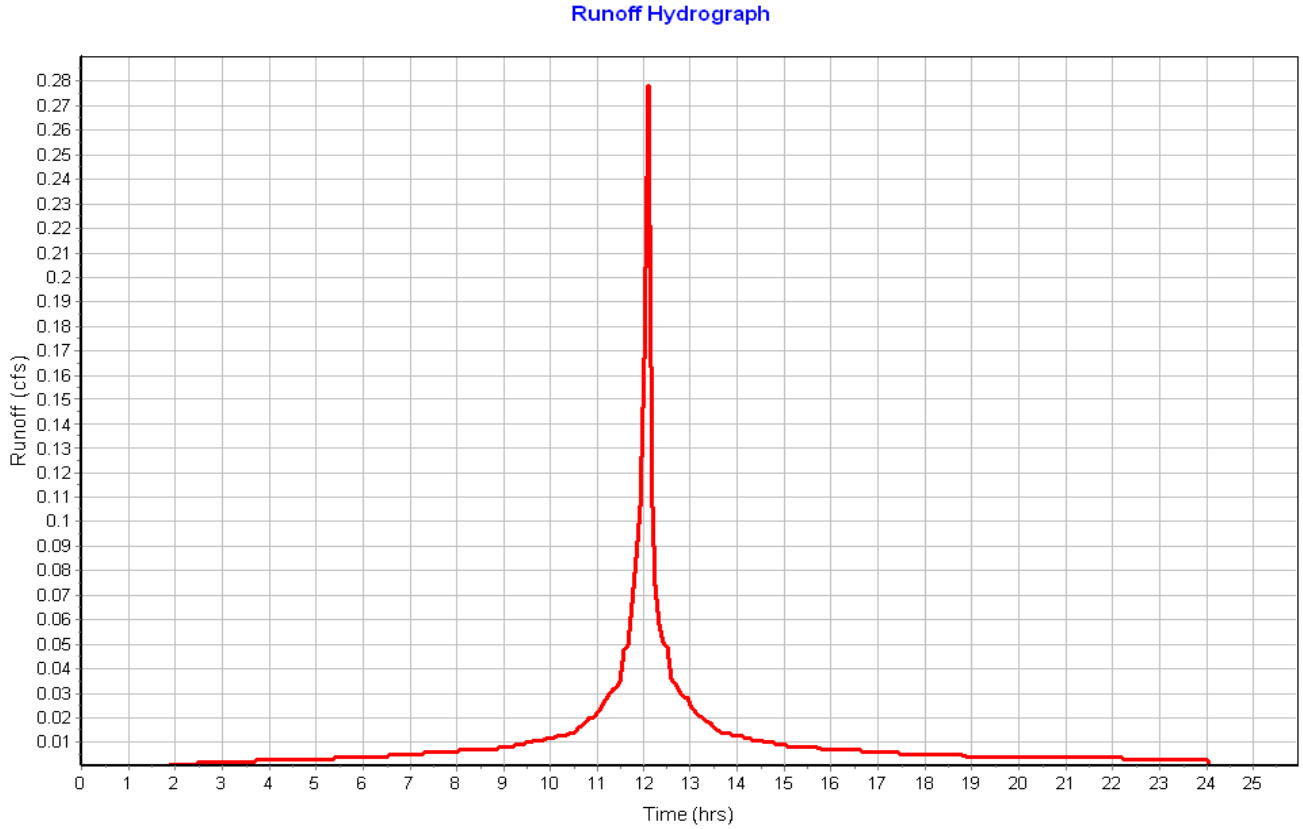
Total TOC (min) 2.40

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.28
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:24

Subbasin : Sub-10





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15.58	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.78	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

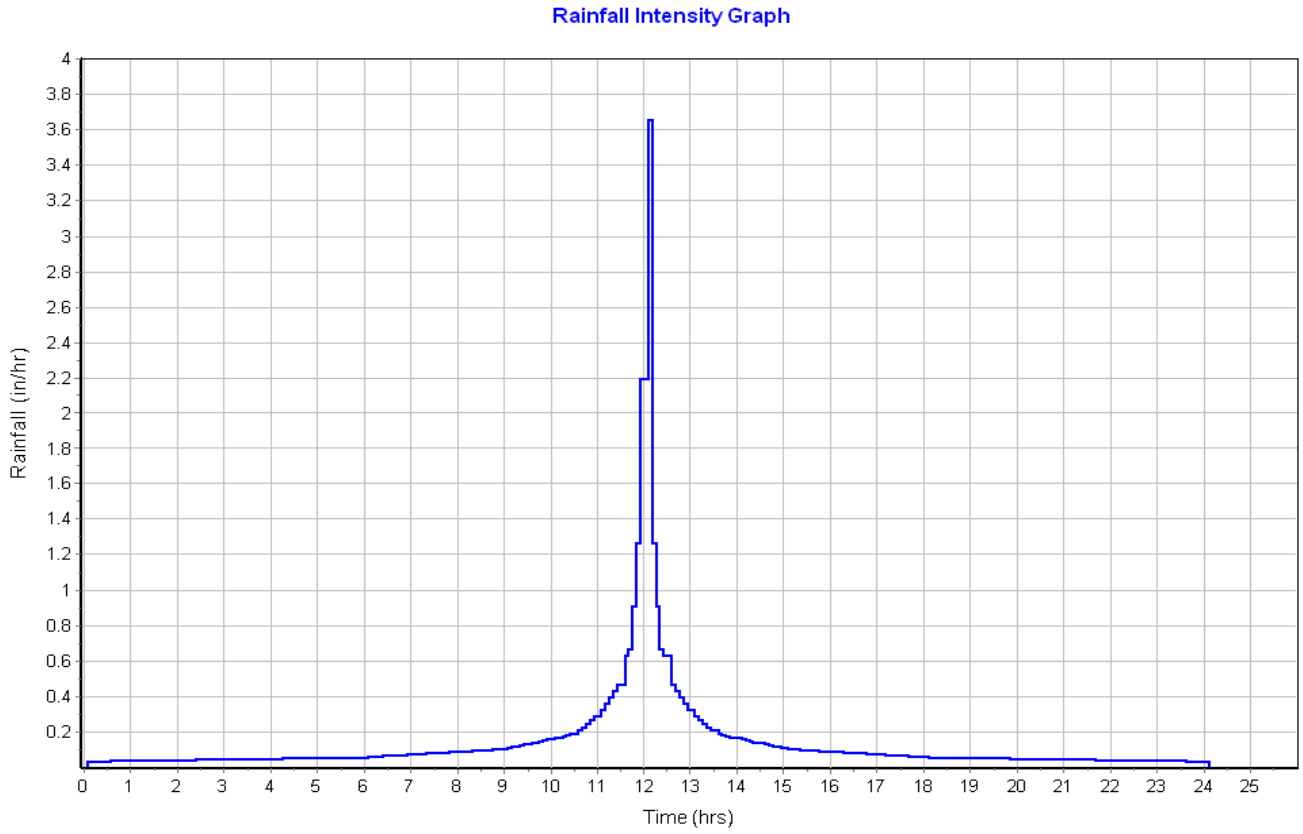
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.15	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.93	0.00	0.00

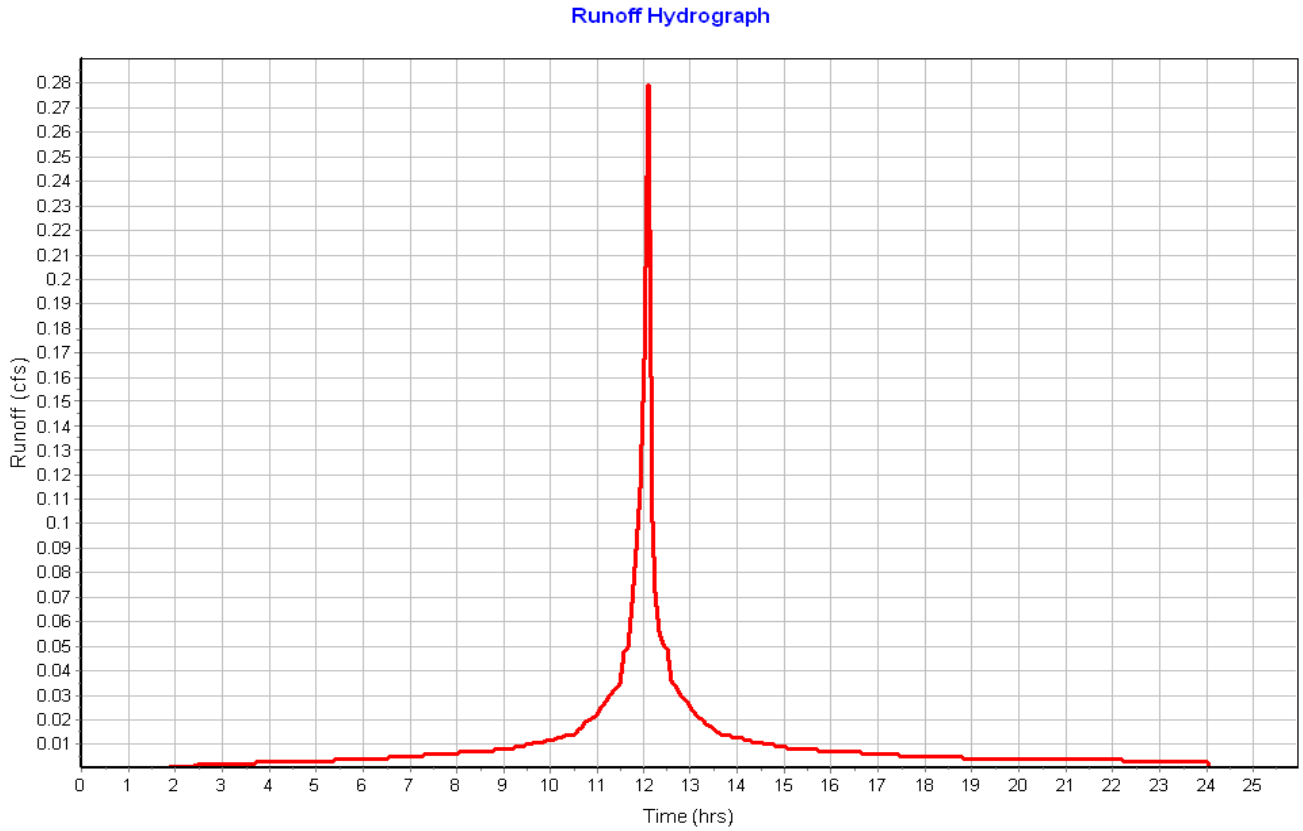
Total TOC (min) 2.08

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.28
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:05

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.73	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

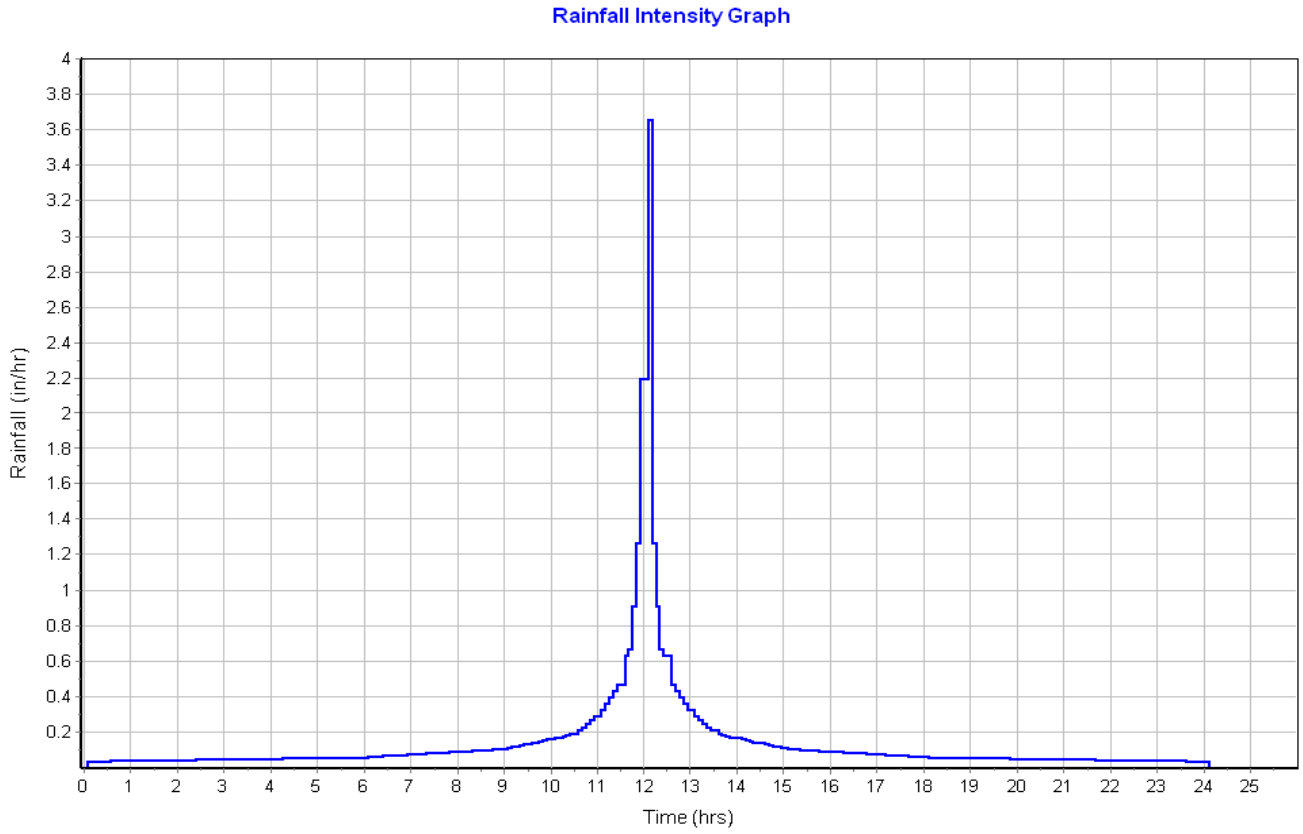
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	256.83	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.95	0.00	0.00

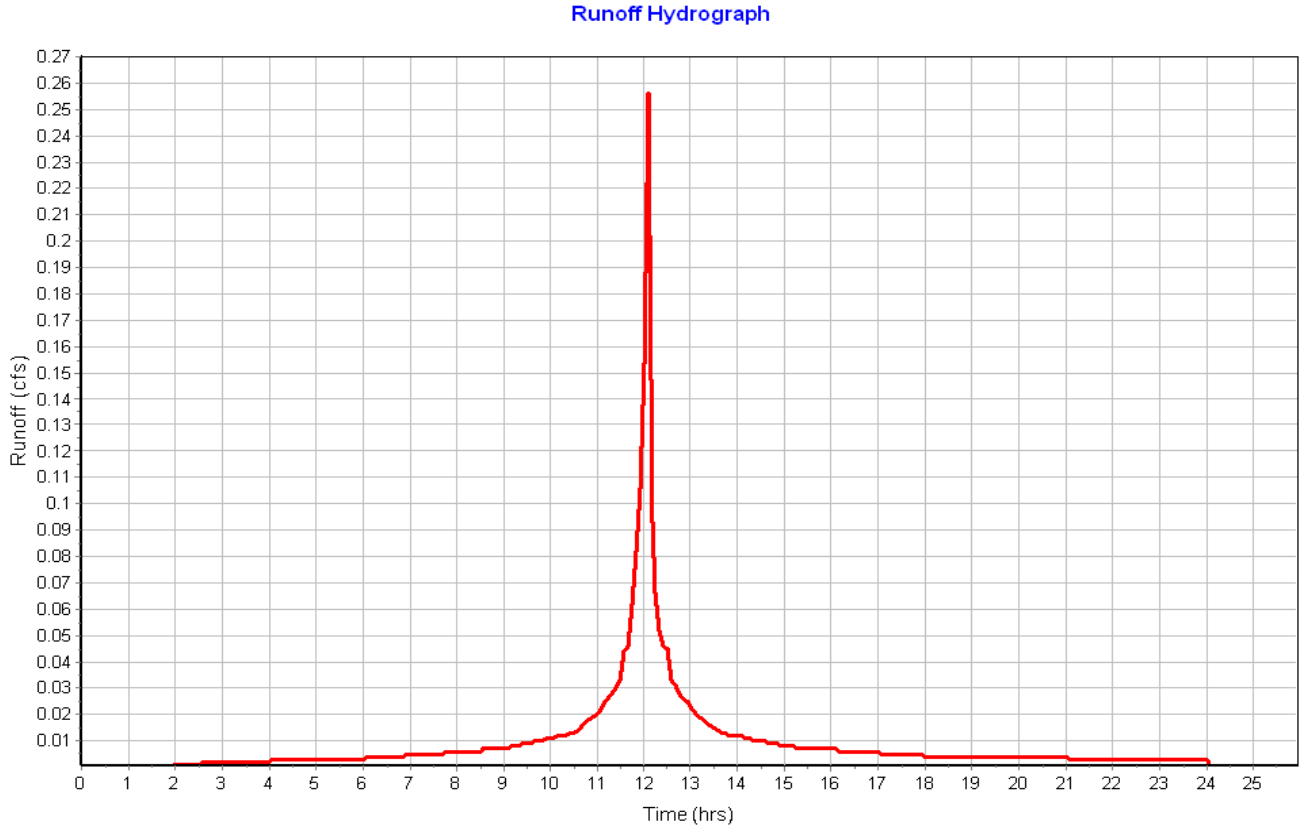
Total TOC (min) 2.07

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.26
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:04

Subbasin : Sub-12





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	24.65	117.15	4.00	117.00	4.00	0.15	0.6100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	31.63	117.00	4.00	115.00	3.00	2.00	6.3200	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	21.33	116.15	4.00	116.00	4.00	0.15	0.7000	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
4	Link-04	18.20	116.00	4.00	115.00	3.00	1.00	5.4900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
5	Link-05	32.12	115.35	4.00	113.00	1.00	2.35	7.3200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
6	Link-06	34.11	115.35	4.00	113.00	1.00	2.35	6.8900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
7	Link-07	31.14	112.65	4.00	112.25	0.25	0.40	1.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
8	Link-08	26.16	112.65	4.00	112.25	0.25	0.40	1.5300	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.23	0 12:10	1.81	0.13	1.66	0.25	0.23	0.23	0.00		Calculated
2	Link-02	0.43	0 12:10	17.17	0.03	3.87	0.14	0.17	0.11	0.00		Calculated
3	Link-03	0.55	0 12:10	1.94	0.28	1.95	0.18	0.39	0.39	0.00		Calculated
4	Link-04	1.15	0 12:10	5.43	0.21	4.91	0.06	0.34	0.34	0.00		Calculated
5	Link-05	0.28	0 12:10	6.26	0.04	3.90	0.14	0.15	0.15	0.00		Calculated
6	Link-06	0.28	0 12:10	6.08	0.05	3.82	0.15	0.15	0.15	0.00		Calculated
7	Link-07	0.27	0 12:10	2.62	0.10	2.10	0.25	0.22	0.22	0.00		Calculated
8	Link-08	0.25	0 12:10	2.86	0.09	2.15	0.20	0.21	0.21	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.42
Max HGL Depth Attained (ft)	4.27
Average HGL Elevation Attained (ft)	116.58
Average HGL Depth Attained (ft)	3.43
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.44
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.43
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.17
Max HGL Depth Attained (ft)	4.17
Average HGL Elevation Attained (ft)	116.38
Average HGL Depth Attained (ft)	3.38
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.56
Peak Lateral Inflow (cfs)	0.56
Peak Outflow (cfs)	0.55
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.56
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	115.81
Average HGL Depth Attained (ft)	3.66
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.15
Peak Lateral Inflow (cfs)	0.60
Peak Outflow (cfs)	1.15
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.36
Max HGL Depth Attained (ft)	4.36
Average HGL Elevation Attained (ft)	115.65
Average HGL Depth Attained (ft)	3.65
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.28
Peak Lateral Inflow (cfs)	0.28
Peak Outflow (cfs)	0.28
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.50
Max HGL Depth Attained (ft)	4.15
Average HGL Elevation Attained (ft)	114.80
Average HGL Depth Attained (ft)	3.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-07

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.28
Peak Lateral Inflow (cfs)	0.28
Peak Outflow (cfs)	0.28
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.50
Max HGL Depth Attained (ft)	4.15
Average HGL Elevation Attained (ft)	114.80
Average HGL Depth Attained (ft)	3.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-08

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.28
Peak Lateral Inflow (cfs)	0.28
Peak Outflow (cfs)	0.27
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.88
Max HGL Depth Attained (ft)	4.23
Average HGL Elevation Attained (ft)	112.13
Average HGL Depth Attained (ft)	3.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-09

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.26
Peak Lateral Inflow (cfs)	0.26
Peak Outflow (cfs)	0.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.86
Max HGL Depth Attained (ft)	4.21
Average HGL Elevation Attained (ft)	112.10
Average HGL Depth Attained (ft)	3.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 2 - Existing Conditions.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	12
Nodes	16
Junctions	0
Outfalls	8
Flow Diversions	0
Inlets	0
Storage Nodes	8
Links	8
Channels	0
Pipes	8
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.85	484.00	74.22	6.50	3.63	3.08	3.28	0 00:02:24
2	Sub-02	0.66	484.00	74.02	6.50	3.61	2.37	2.56	0 00:02:06
3	Sub-03	0.06	484.00	98.00	6.50	6.26	0.39	0.35	0 00:01:36
4	Sub-04	0.06	484.00	98.00	6.50	6.26	0.35	0.32	0 00:01:36
5	Sub-05	0.08	484.00	98.00	6.50	6.26	0.52	0.46	0 00:02:40
6	Sub-06	0.09	484.00	98.00	6.50	6.26	0.54	0.49	0 00:02:40
7	Sub-07	0.07	484.00	98.00	6.50	6.26	0.43	0.39	0 00:02:17
8	Sub-08	0.07	484.00	98.00	6.50	6.26	0.46	0.42	0 00:02:16
9	Sub-09	0.08	484.00	98.00	6.50	6.26	0.50	0.42	0 00:02:26
10	Sub-10	0.08	484.00	98.00	6.50	6.26	0.49	0.42	0 00:02:24
11	Sub-11	0.08	484.00	98.00	6.50	6.26	0.47	0.42	0 00:02:04
12	Sub-12	0.07	484.00	98.00	6.50	6.26	0.46	0.39	0 00:02:04

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					3.24	112.00					
2	Out-02	Outfall	112.00					2.52	112.00					
3	Out-03	Outfall	112.00					0.67	112.00					
4	Out-04	Outfall	112.00					1.76	112.00					
5	Out-05	Outfall	112.00					0.42	112.00					
6	Out-06	Outfall	112.00					0.42	112.00					
7	Out-07	Outfall	112.00					0.39	112.00					
8	Out-08	Outfall	112.00					0.42	112.00					
9	CB-01	Storage Node	113.15	120.00	0.00		1000.00	0.35	117.48				0.00	0.00
10	CB-02	Storage Node	113.00	120.00	0.00		1000.00	0.67	117.21				0.00	0.00
11	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.84	116.69				0.00	0.00
12	CB-04	Storage Node	112.00	119.00	0.00		1000.00	1.76	116.48				0.00	0.00
13	Stor-06	Storage Node	111.35	118.20	0.00		1000.00	0.42	115.53				0.00	0.00
14	Stor-07	Storage Node	111.35	118.20	0.00		1000.00	0.42	115.54				0.00	0.00
15	Stor-08	Storage Node	108.65	115.50	0.00		1000.00	0.42	112.94				0.00	0.00
16	Stor-09	Storage Node	108.65	115.50	0.00		1000.00	0.39	112.92				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	CB-02	24.65	117.15	117.00	0.6100	12.000	0.0200	0.35	1.81	0.19	1.87	0.29	0.29	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	31.63	117.00	115.00	6.3200	18.000	0.0200	0.67	17.17	0.04	4.50	0.21	0.14	0.00	Calculated
3	Link-03	Pipe	CB-03	CB-04	21.33	116.15	116.00	0.7000	12.000	0.0200	0.84	1.94	0.43	2.11	0.51	0.51	0.00	Calculated
4	Link-04	Pipe	CB-04	Out-04	18.20	116.00	115.00	5.4900	12.000	0.0200	1.76	5.43	0.32	5.38	0.43	0.43	0.00	Calculated
5	Link-05	Pipe	Stor-06	Out-05	32.12	115.35	113.00	7.3200	12.000	0.0200	0.42	6.26	0.07	4.37	0.18	0.18	0.00	Calculated
6	Link-06	Pipe	Stor-07	Out-06	34.11	115.35	113.00	6.8900	12.000	0.0200	0.42	6.08	0.07	4.30	0.18	0.18	0.00	Calculated
7	Link-07	Pipe	Stor-08	Out-08	31.14	112.65	112.25	1.2800	12.000	0.0200	0.42	2.62	0.16	2.34	0.28	0.28	0.00	Calculated
8	Link-08	Pipe	Stor-09	Out-07	26.16	112.65	112.25	1.5300	12.000	0.0200	0.39	2.86	0.13	2.41	0.26	0.26	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.85
Peak Rate Factor 484.00
Weighted Curve Number 74.22
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.82	C	74.00
Paved roads with curbs & sewers	0.01	C	98.00
Brush, Good	0.01	C	65.00
Composite Area & Weighted CN	0.84		74.22

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

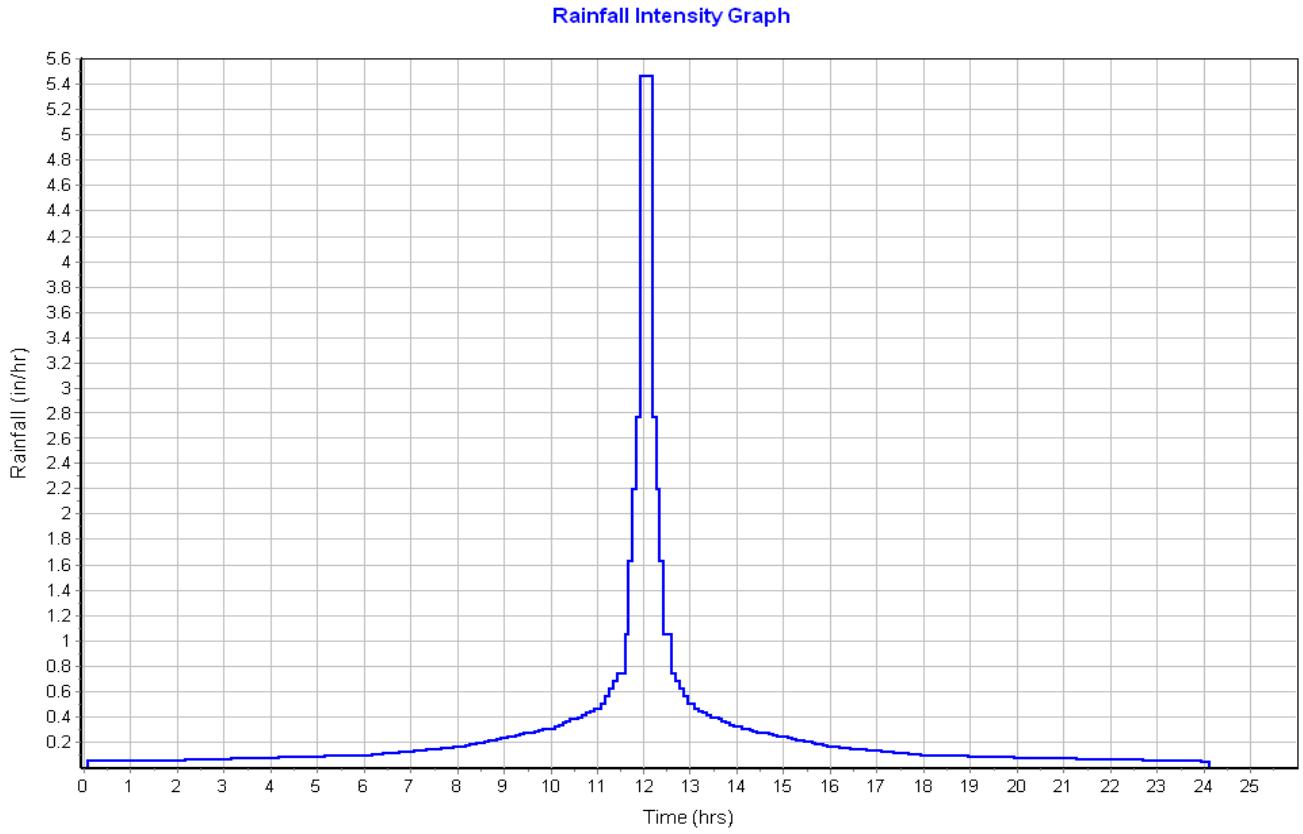
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	16.67	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	2.41	0.00	0.00

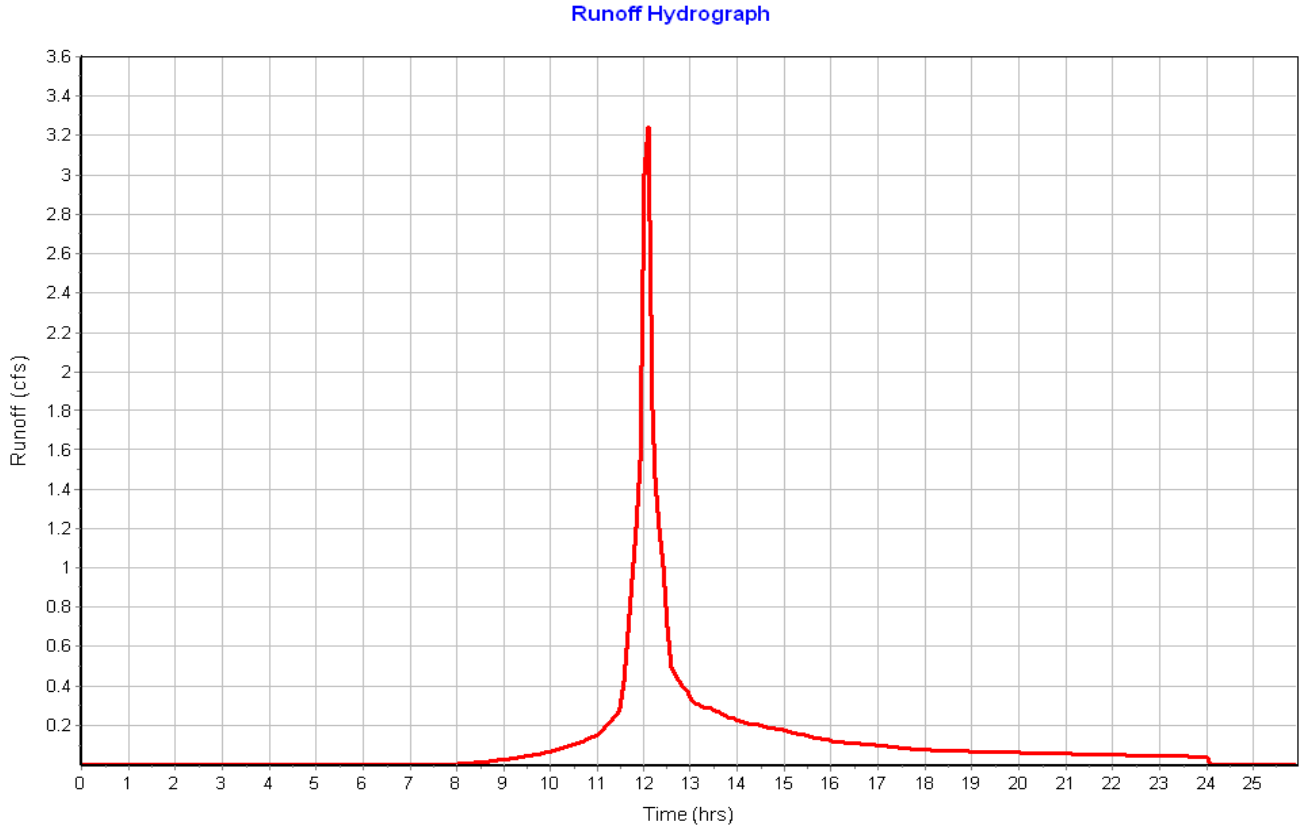
Total TOC (min) 2.41

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	3.63
Peak Runoff (cfs)	3.28
Weighted Curve Number	74.22
Time of Concentration (days hh:mm:ss)	0 00:02:25

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.66
Peak Rate Factor 484.00
Weighted Curve Number 74.02
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.60	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.65		74.02

Time of Concentration

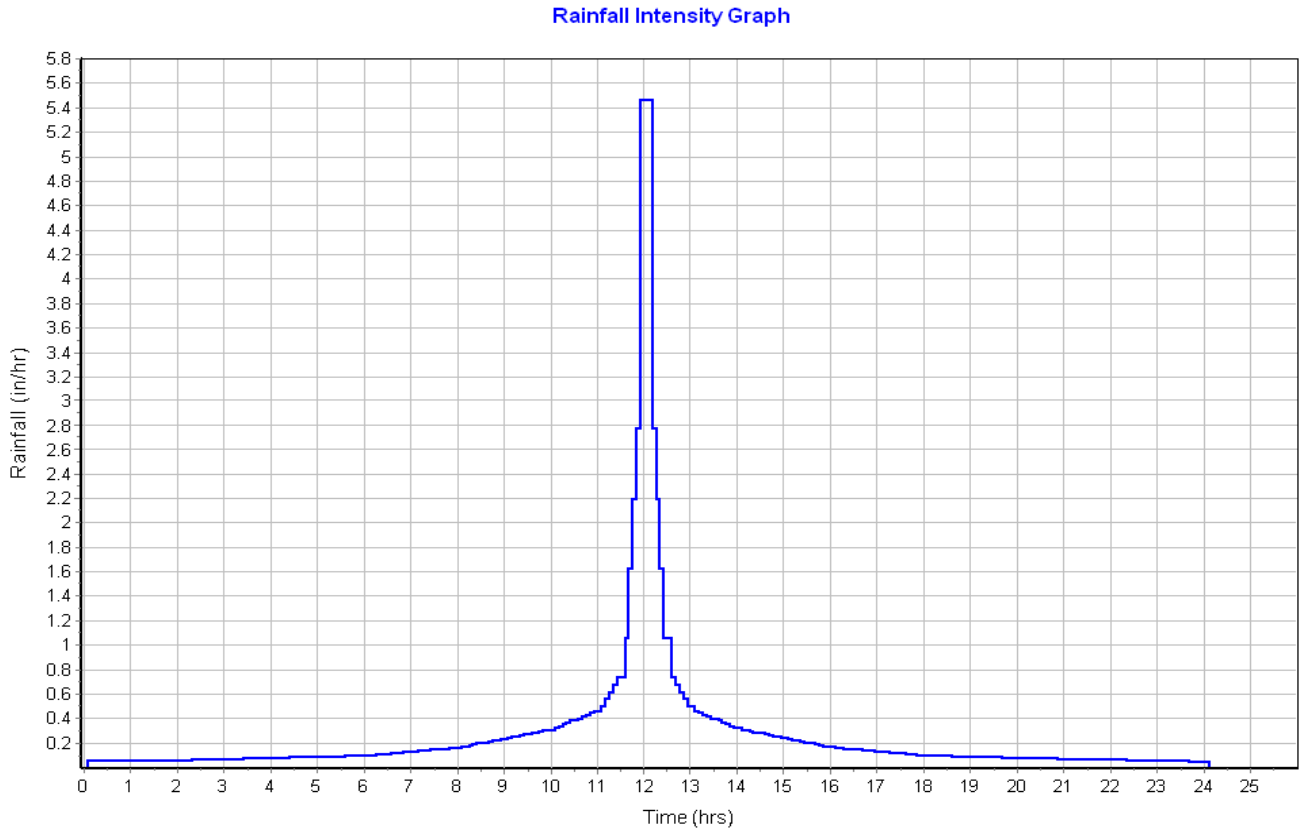
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

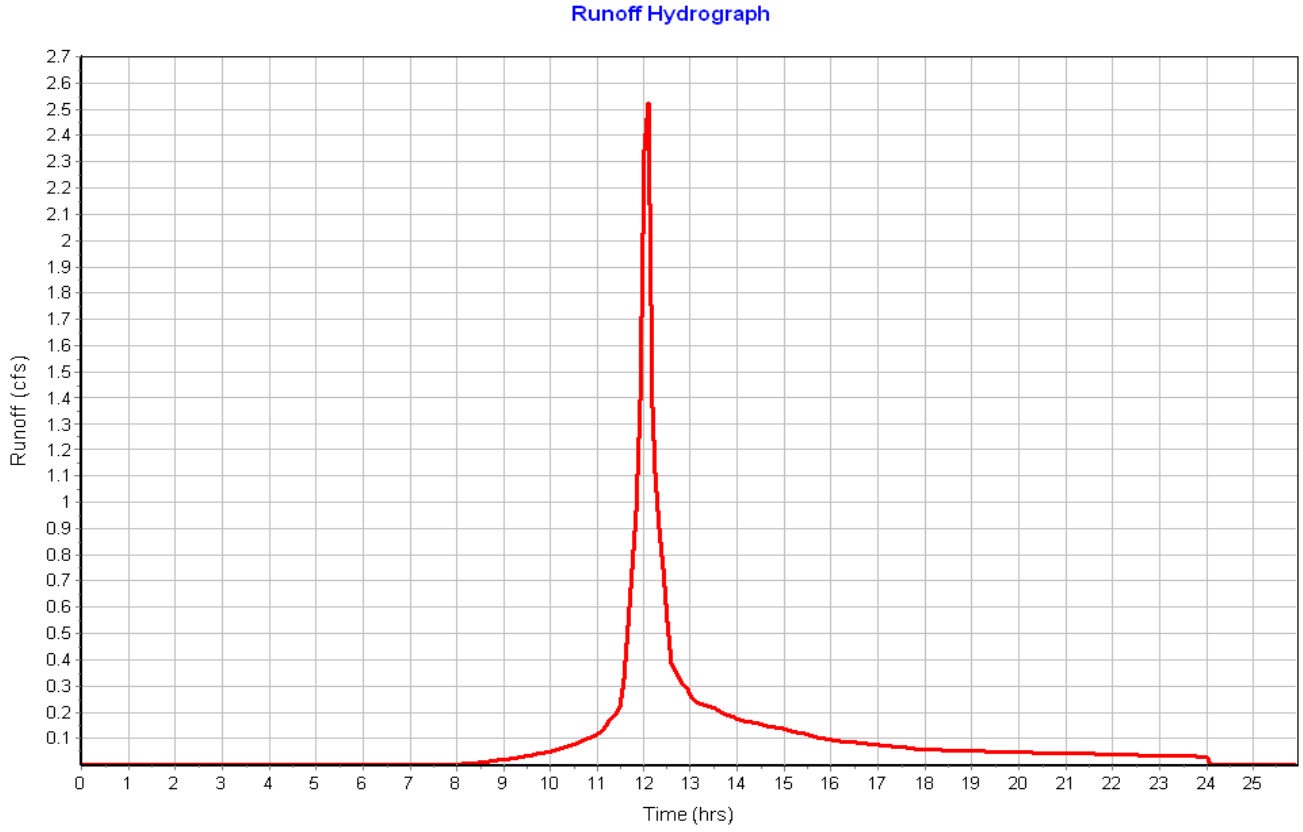
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.61
Peak Runoff (cfs) 2.56
Weighted Curve Number 74.02
Time of Concentration (days hh:mm:ss) 0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.70	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

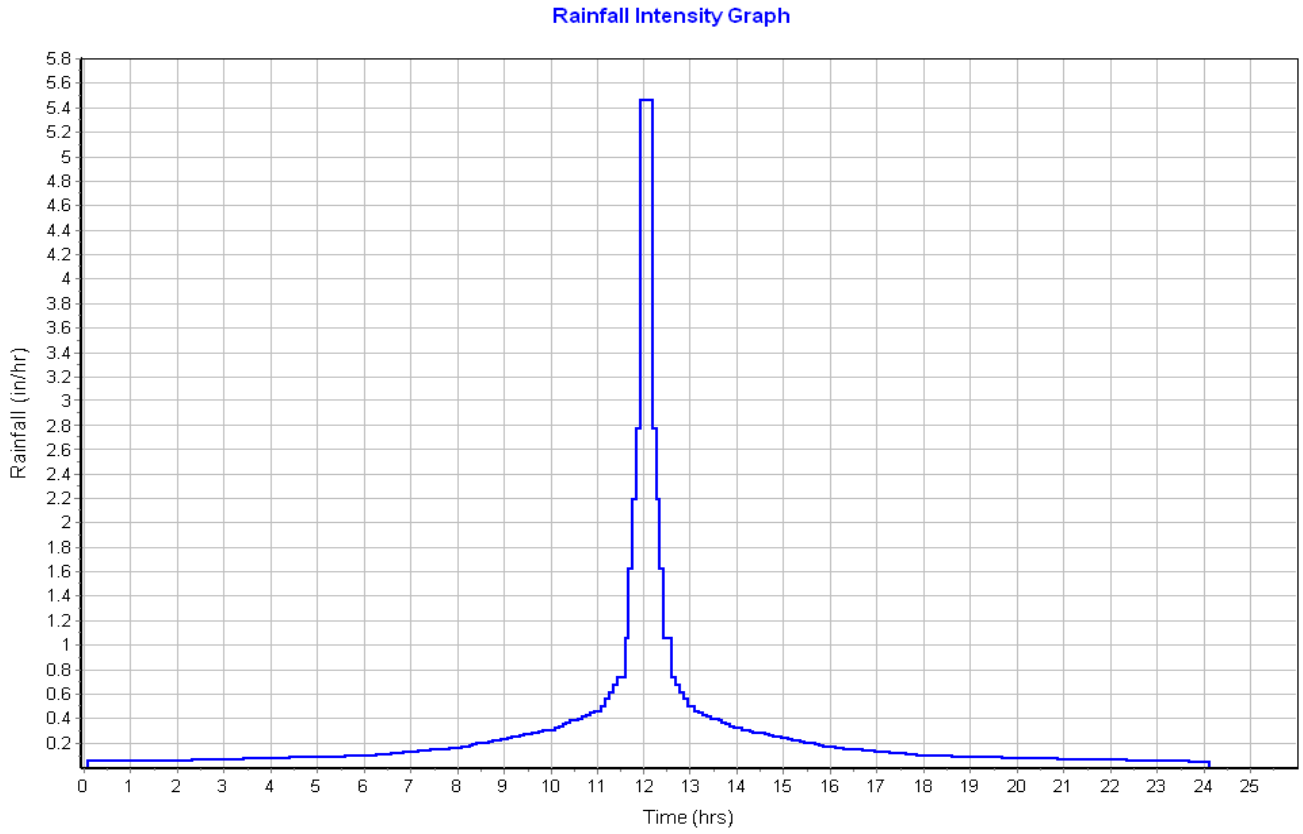
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.15	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

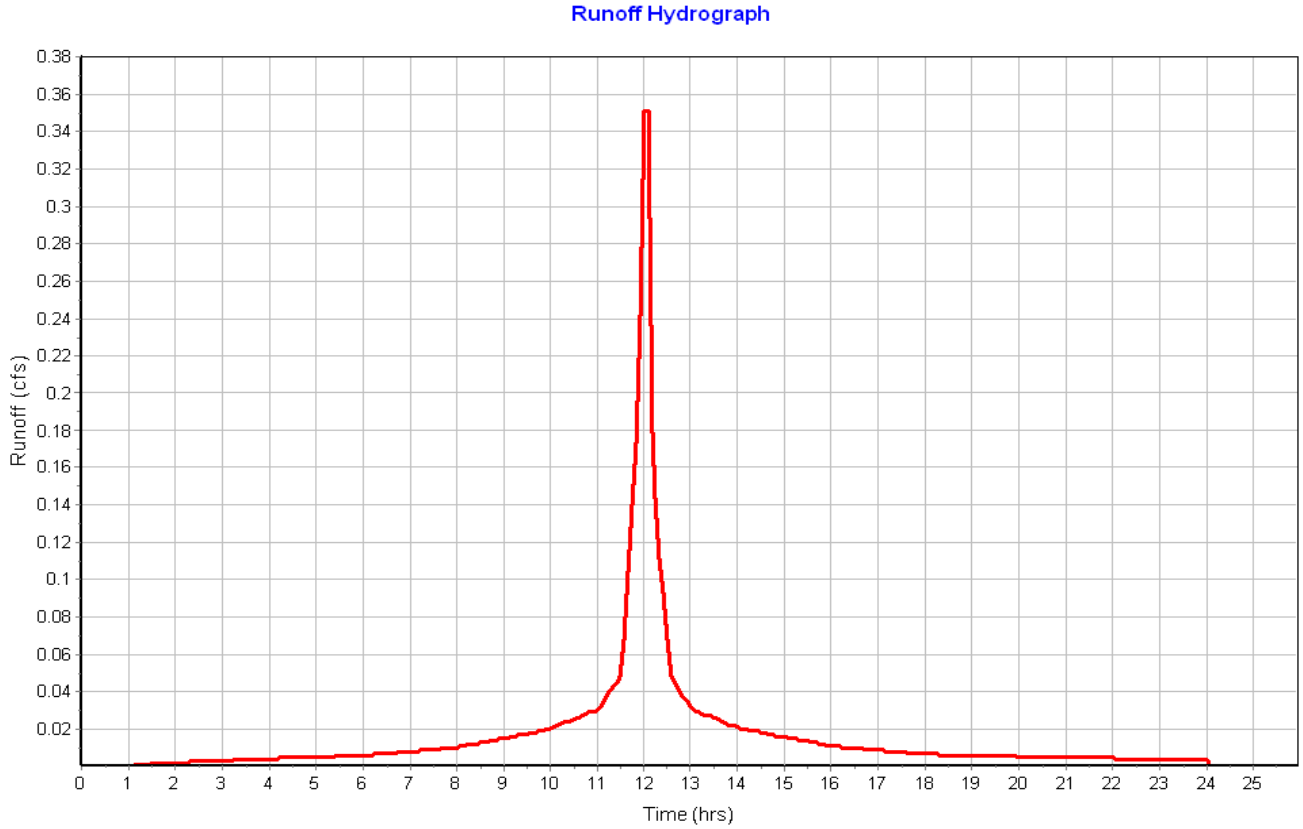
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.35
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:36

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	10.78	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

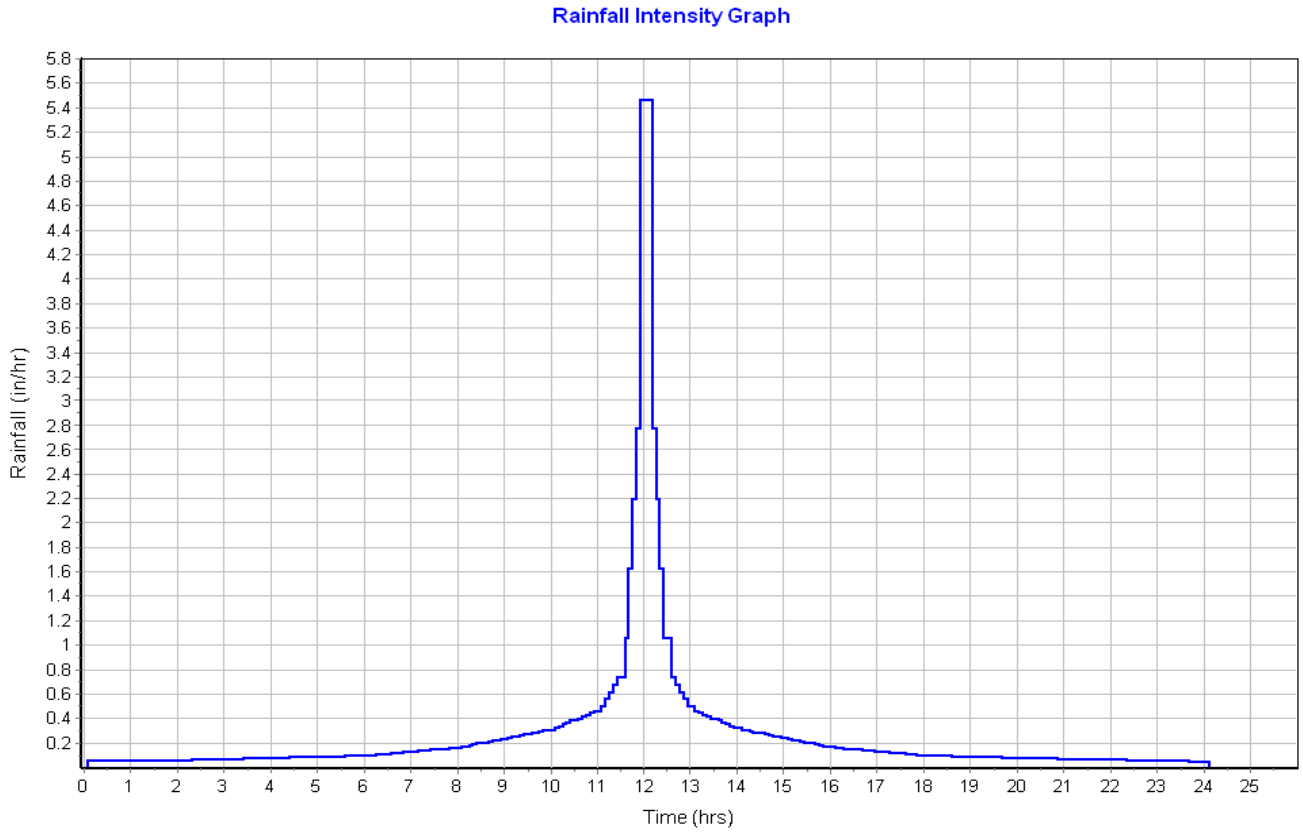
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	182.17	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.50	0.00	0.00

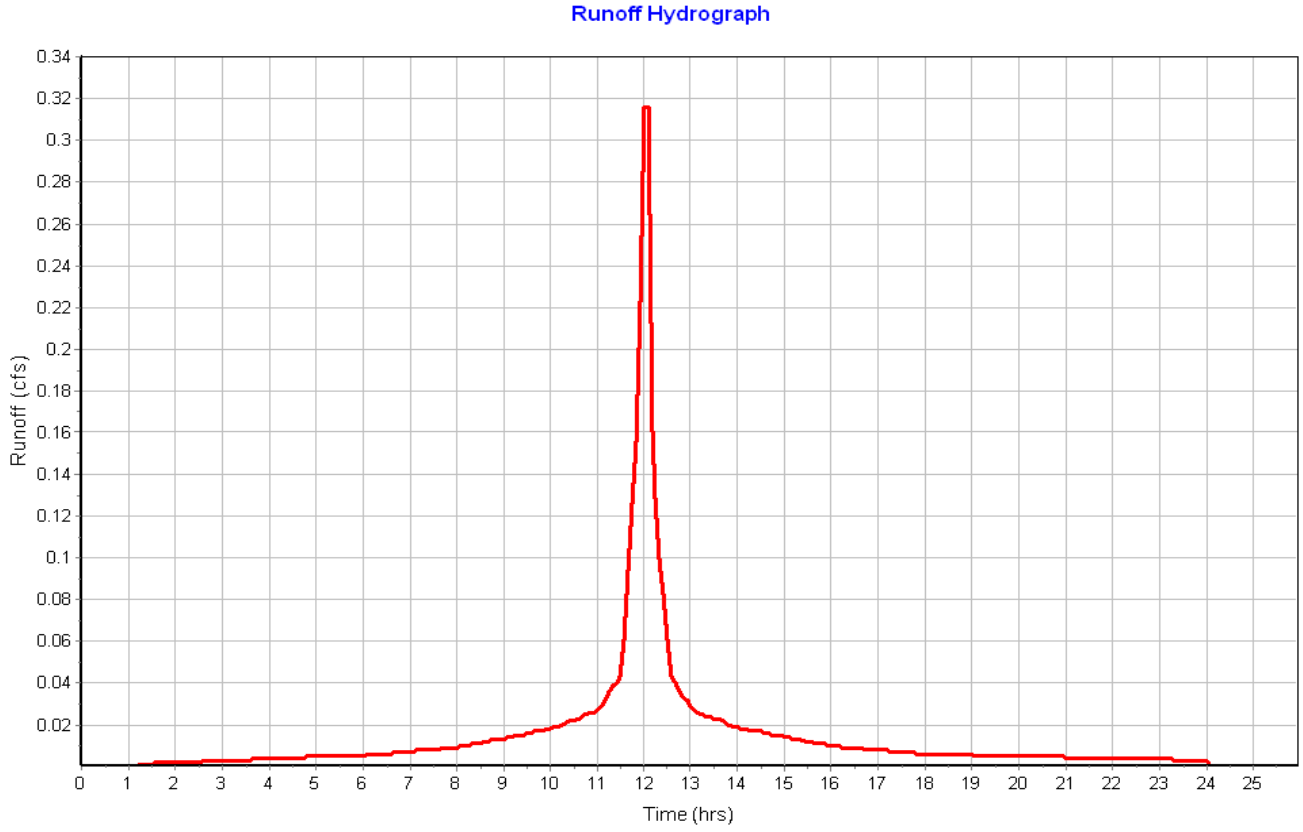
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:36

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

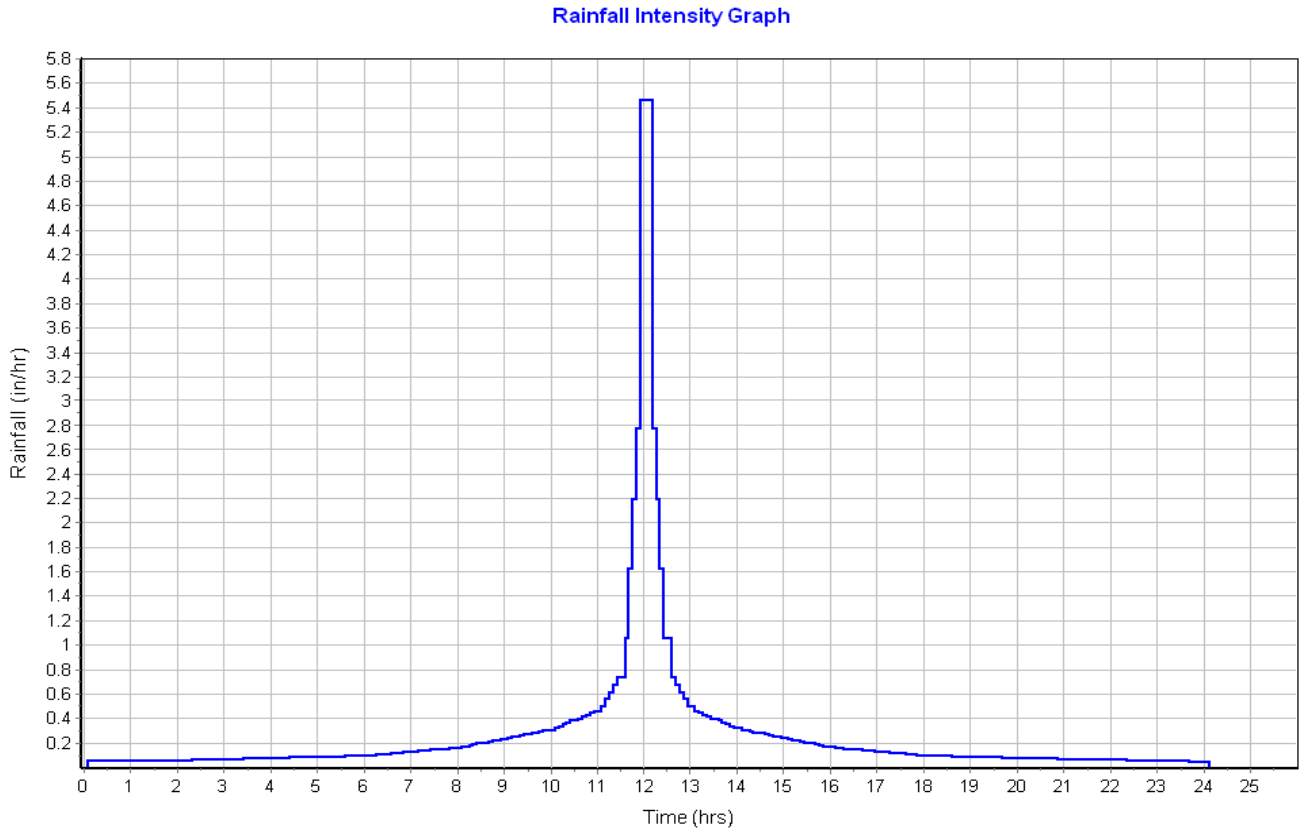
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.21	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

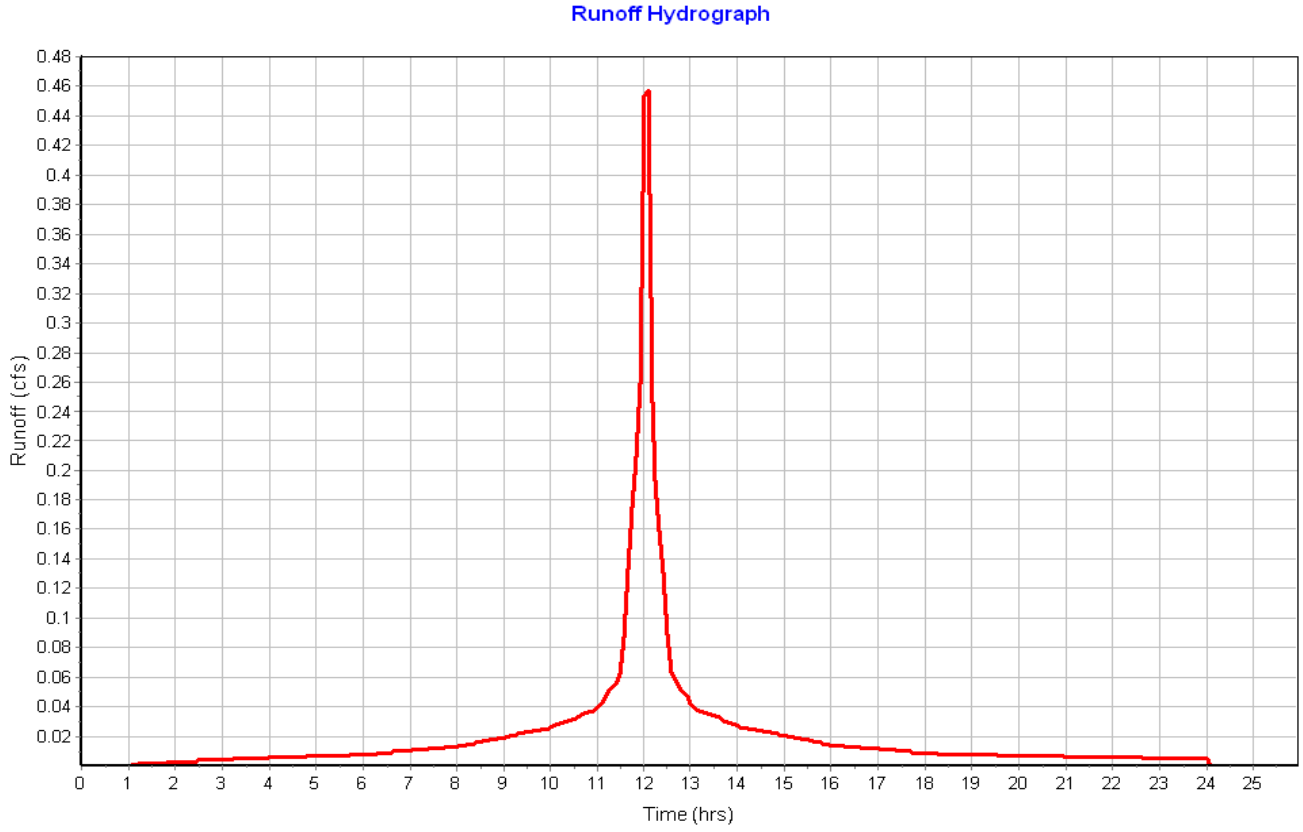
Total TOC (min) 2.68

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.46
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:41

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.2	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

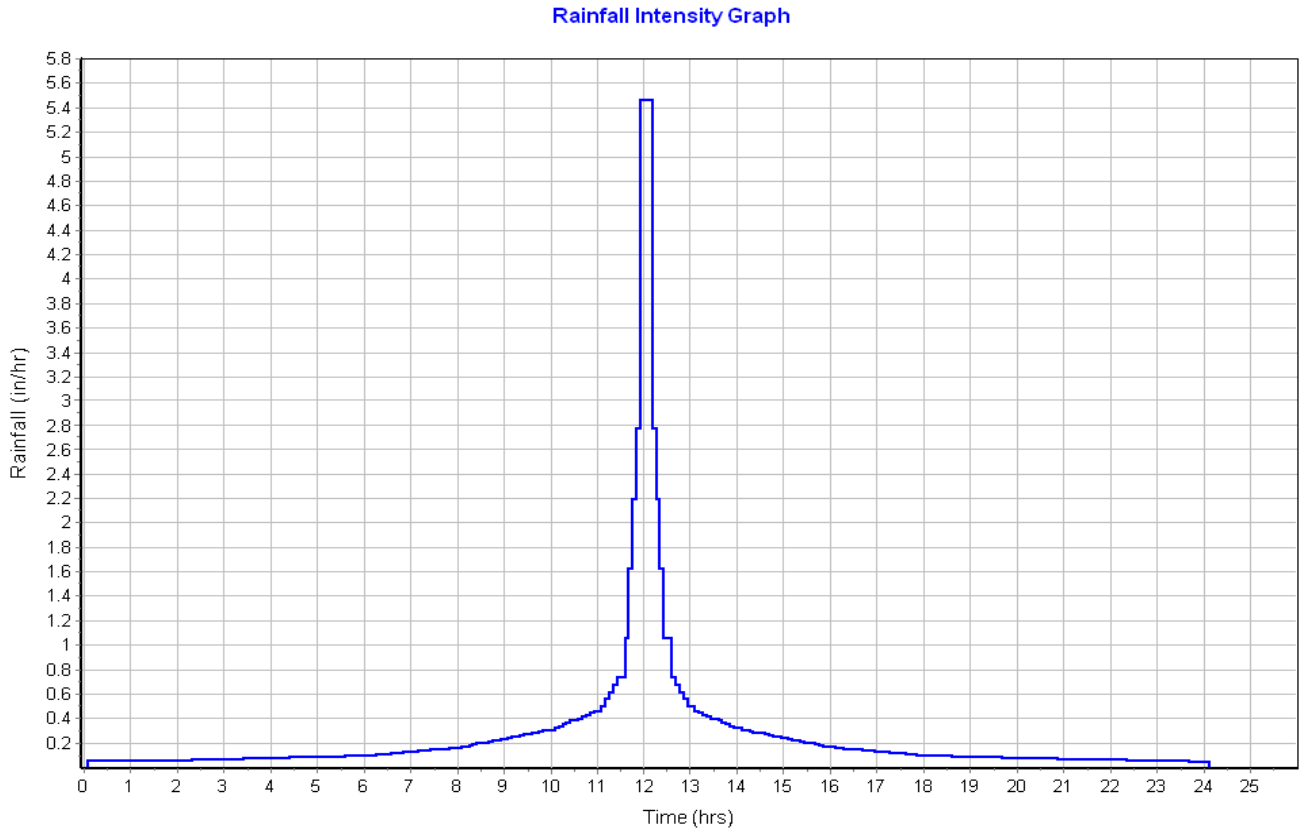
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.1	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

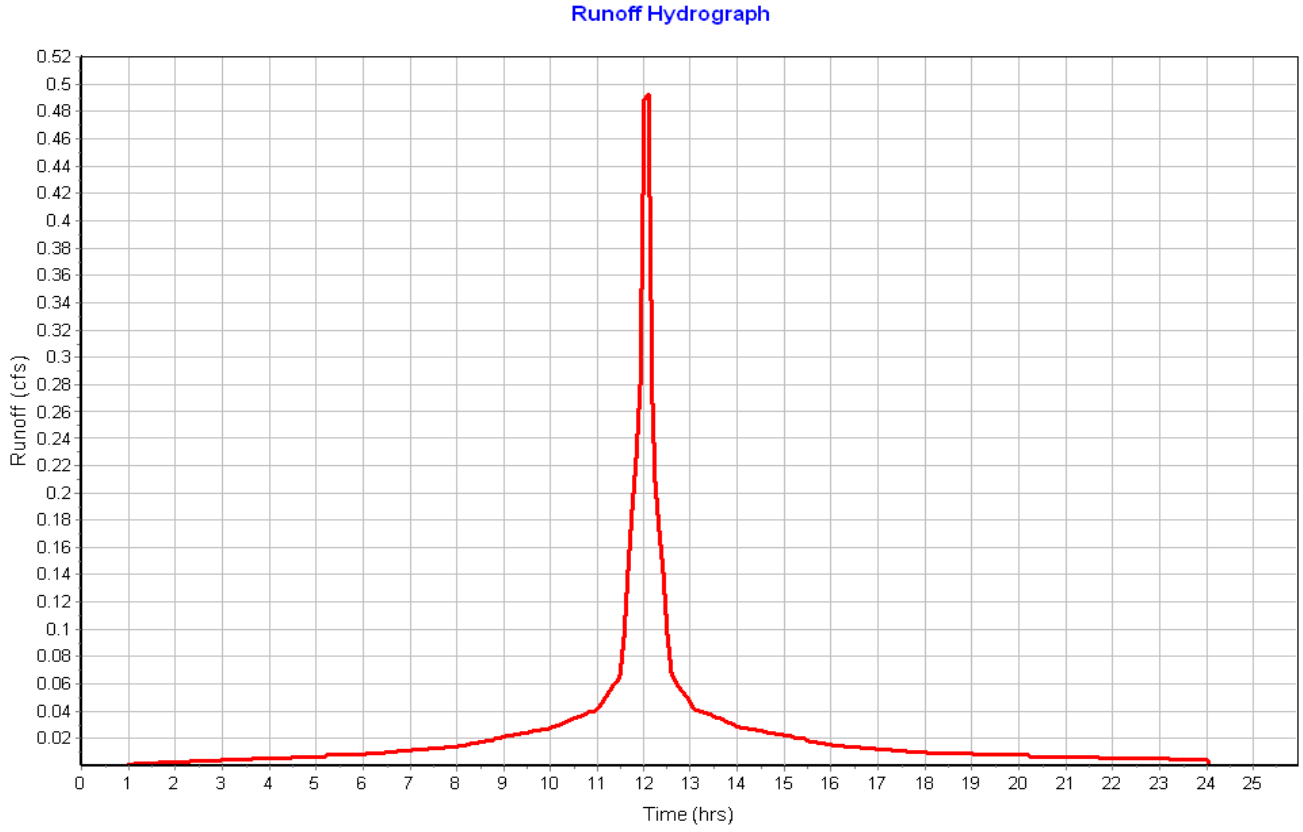
Total TOC (min) 2.67

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.49
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:40

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.81	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

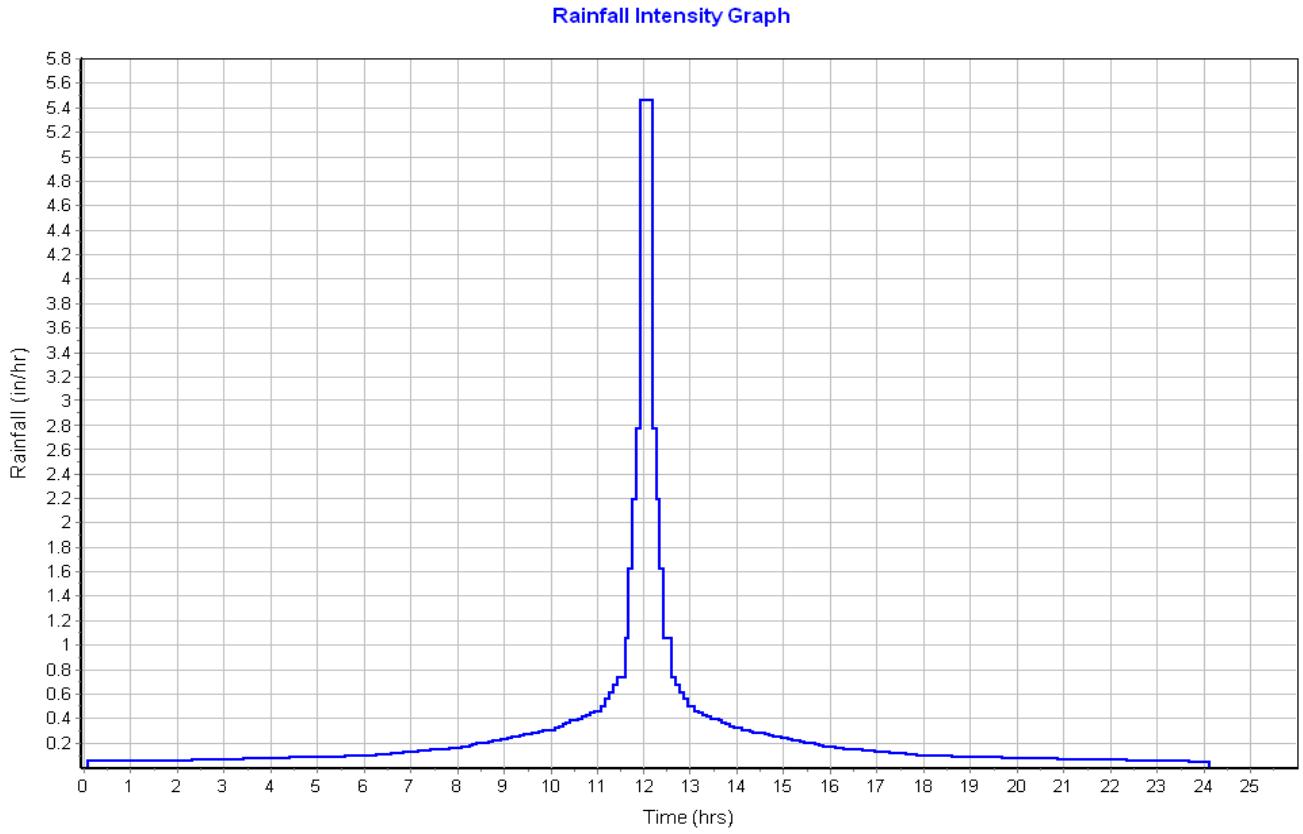
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.28	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

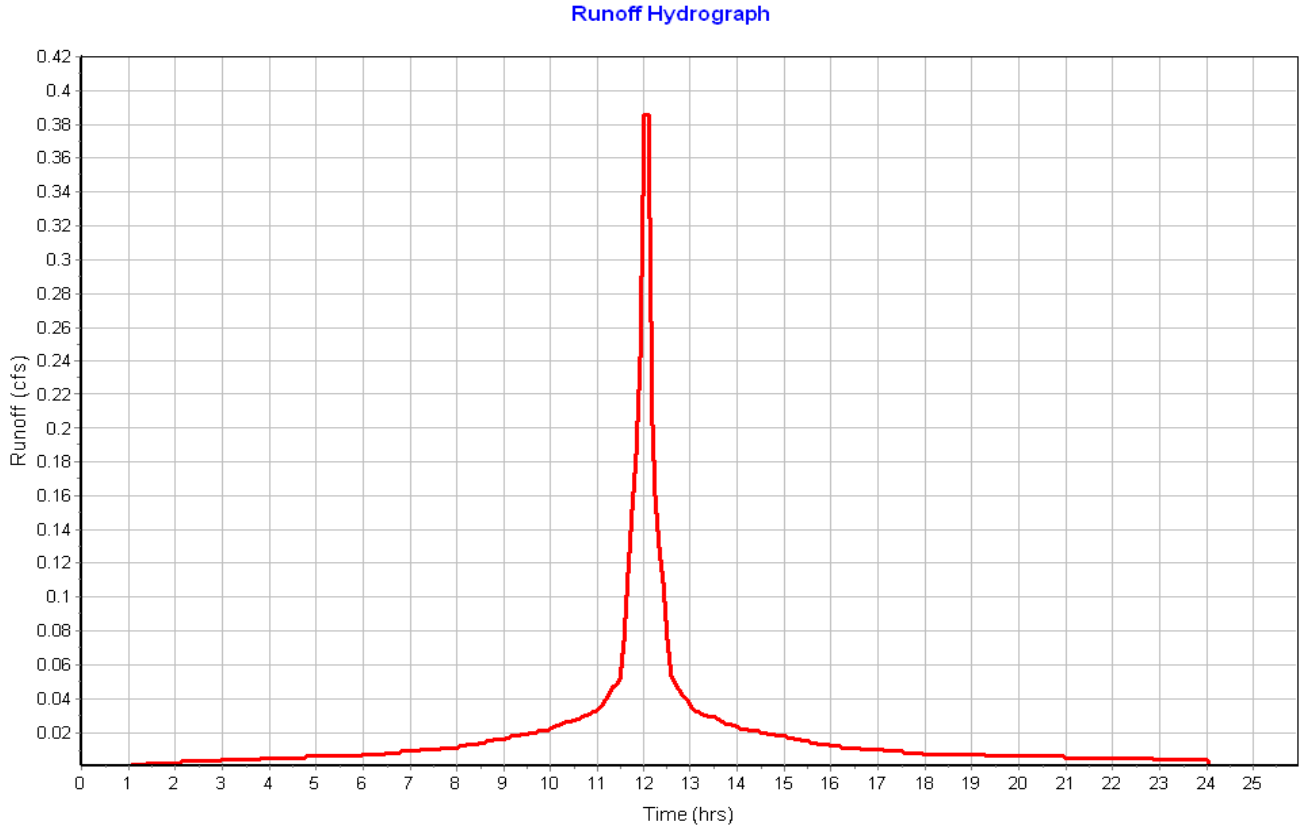
Total TOC (min) 2.29

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.39
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:17

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.8	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

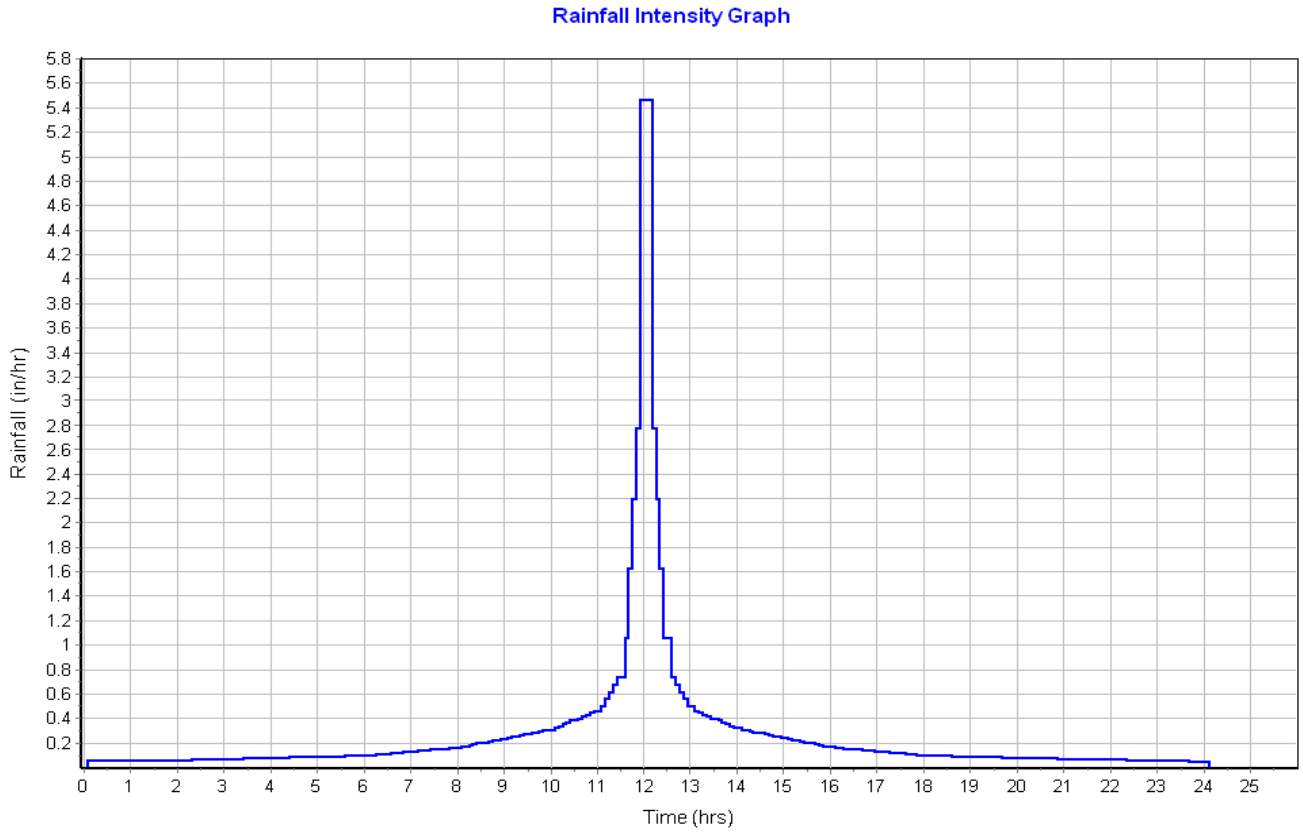
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.8	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

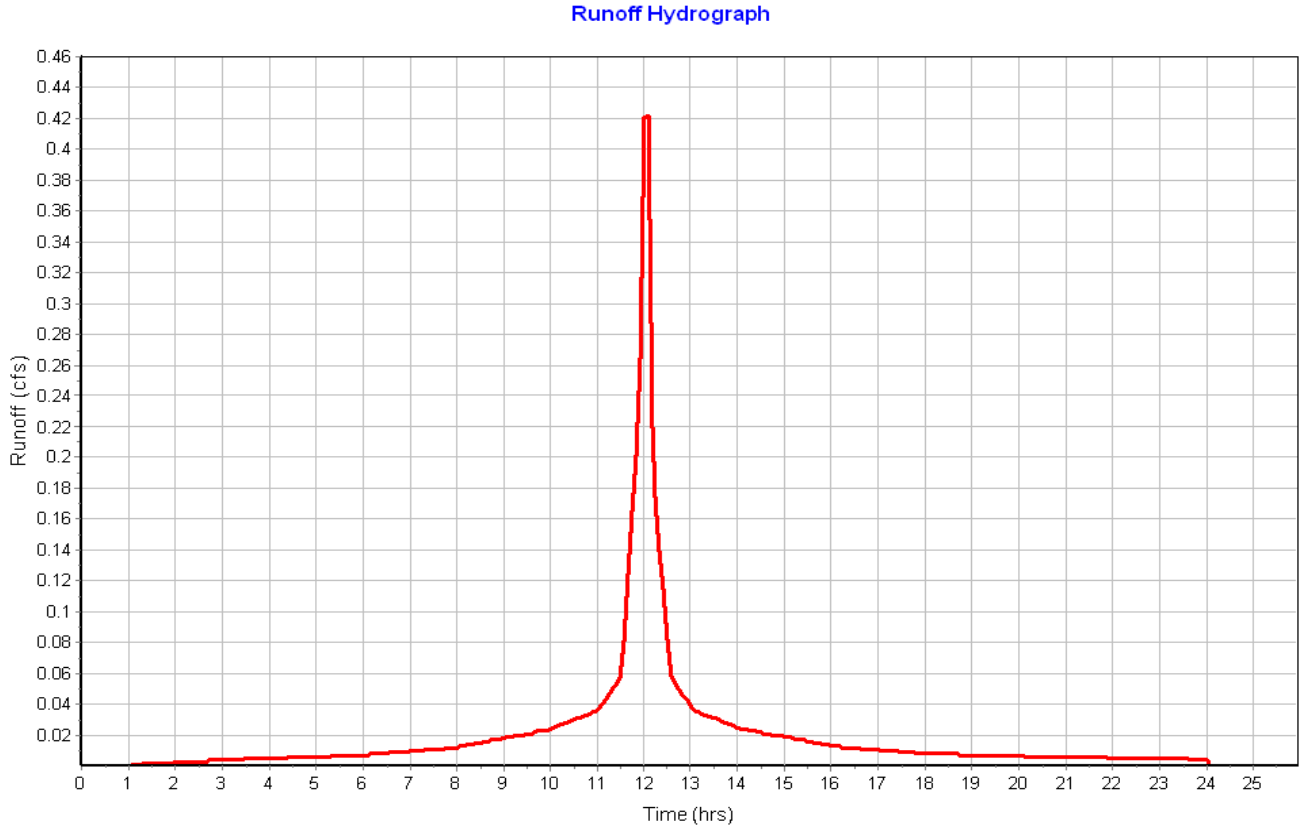
Total TOC (min) 2.27

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.42
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:16

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.07	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

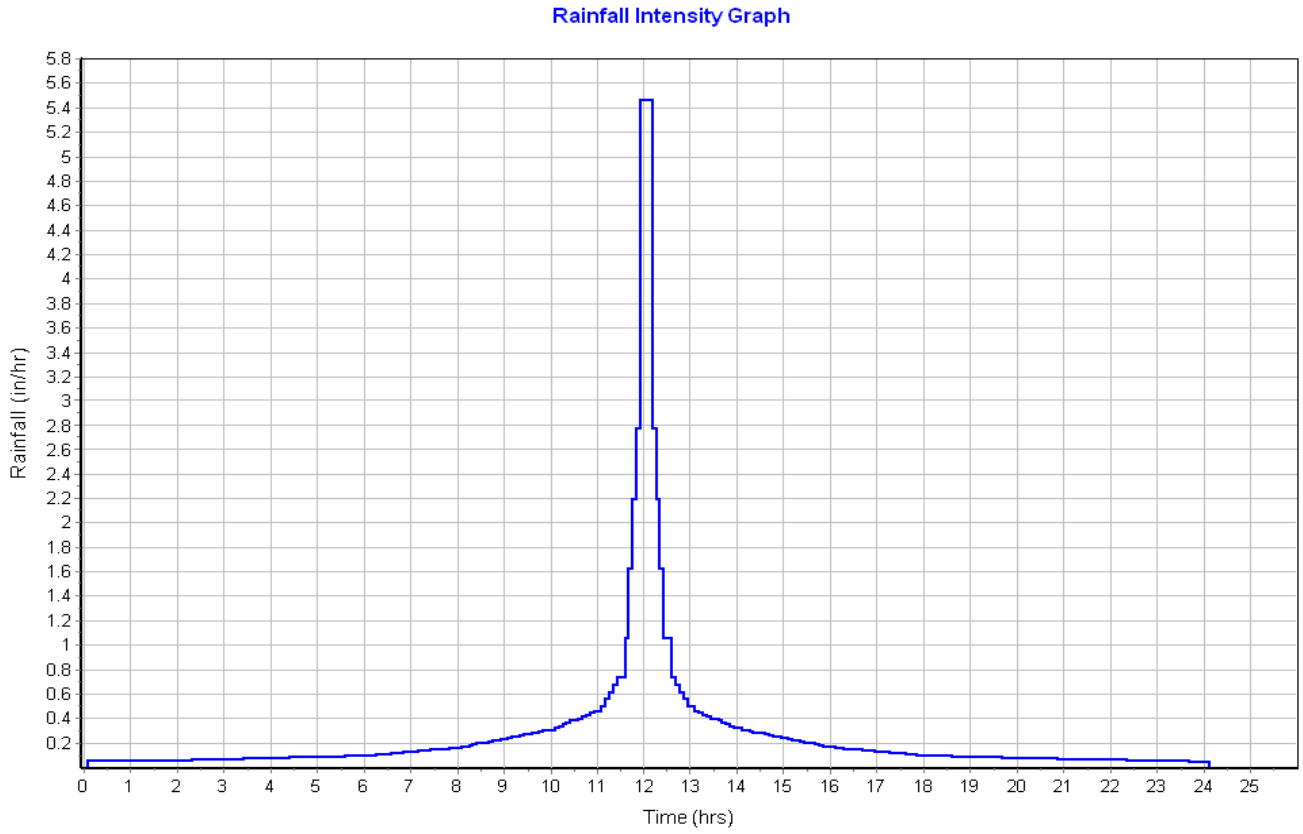
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	282.36	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.32	0.00	0.00

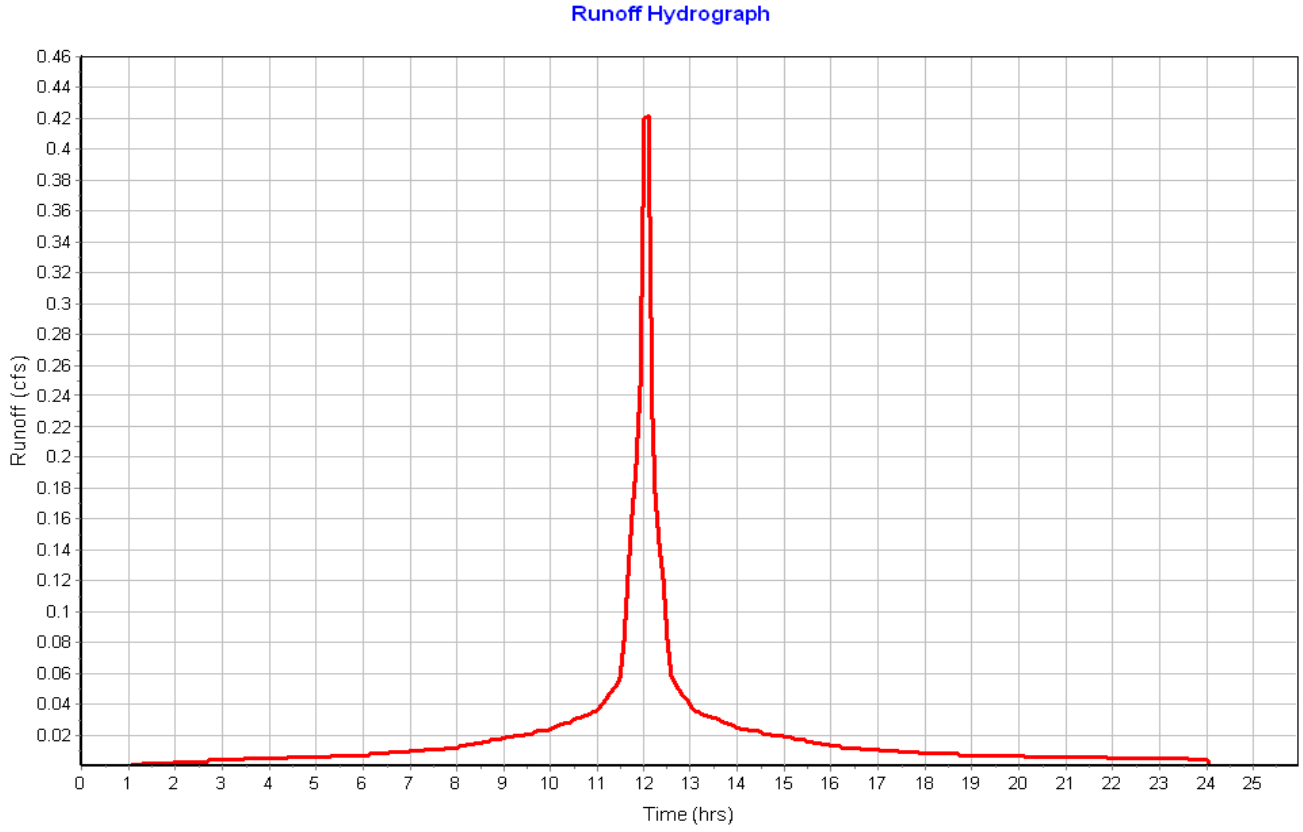
Total TOC (min) 2.44

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.42
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:26

Subbasin : Sub-09





Subbasin : Sub-10

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

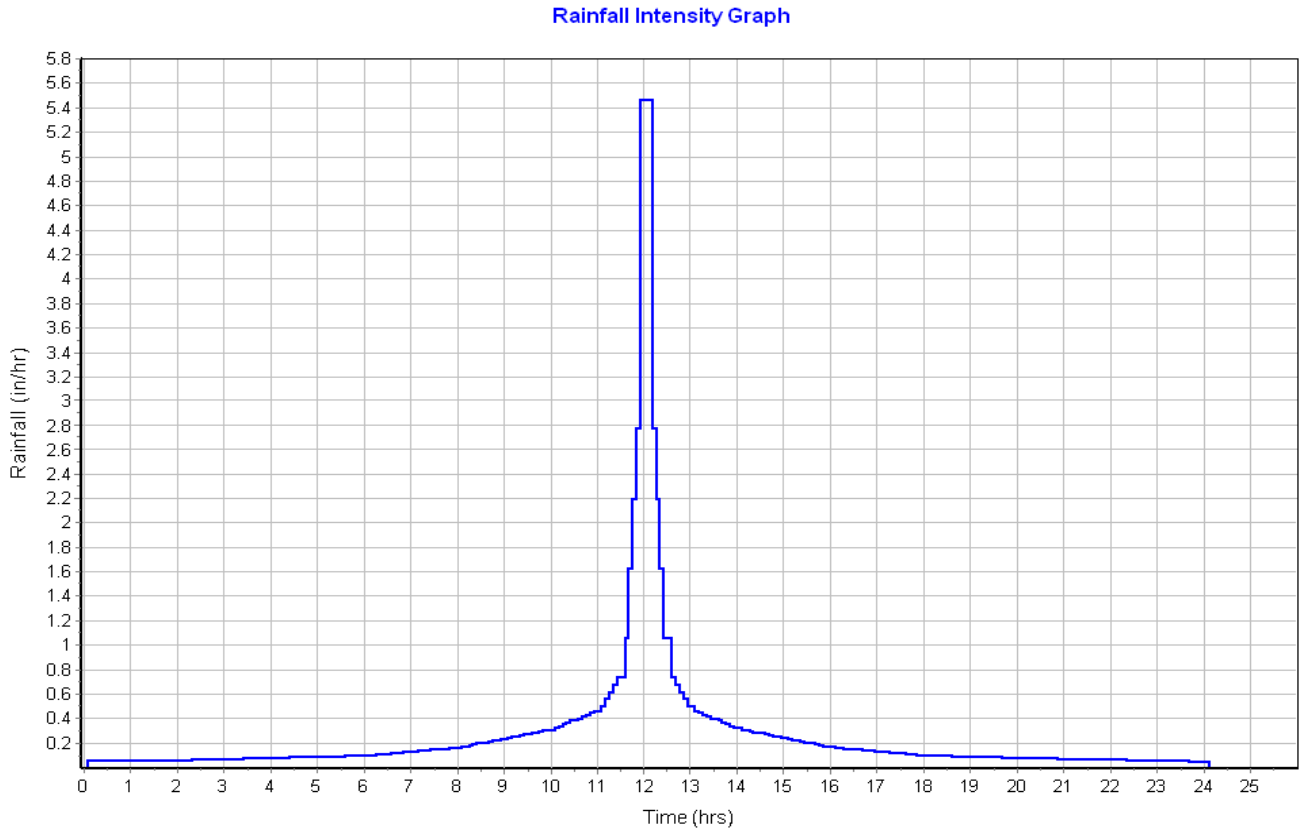
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	277.83	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.28	0.00	0.00

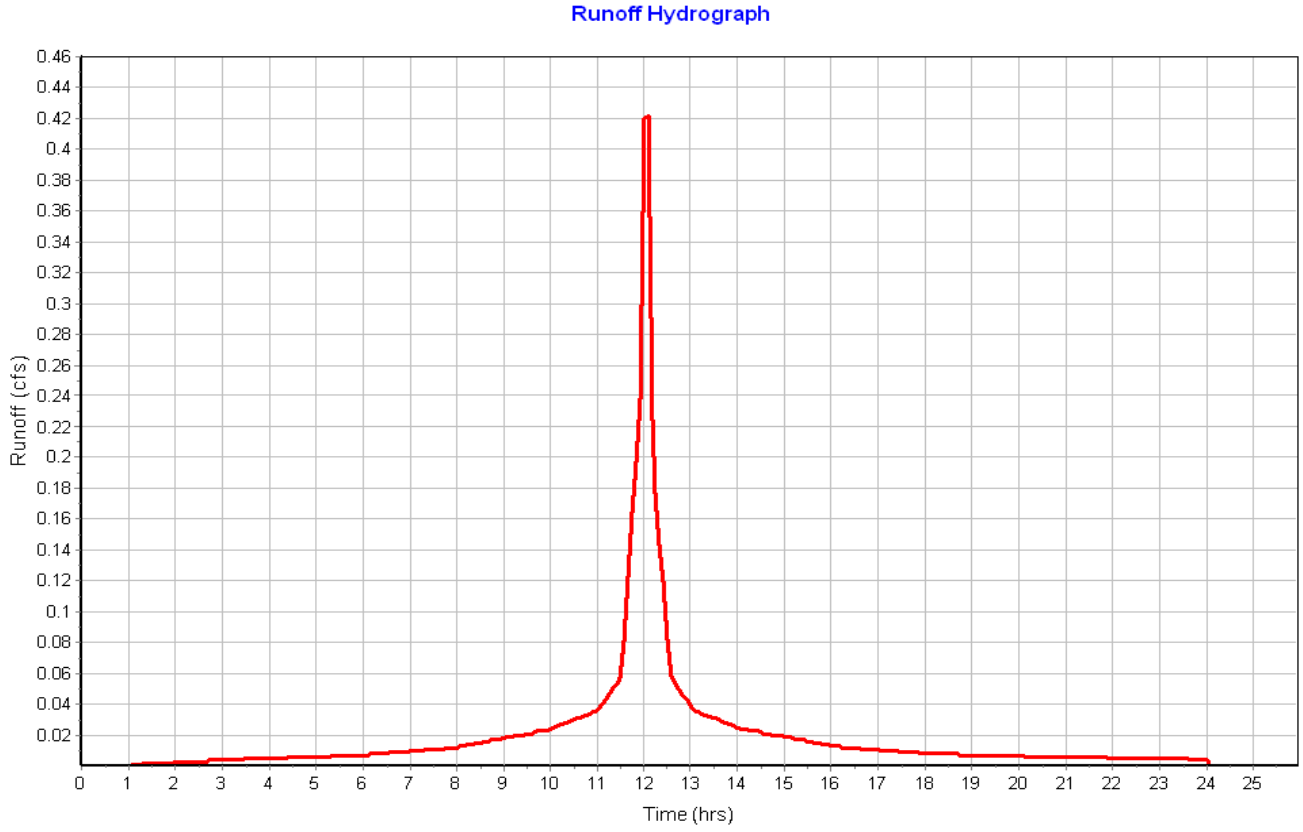
Total TOC (min) 2.40

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.42
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:24

Subbasin : Sub-10





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15.58	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.78	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

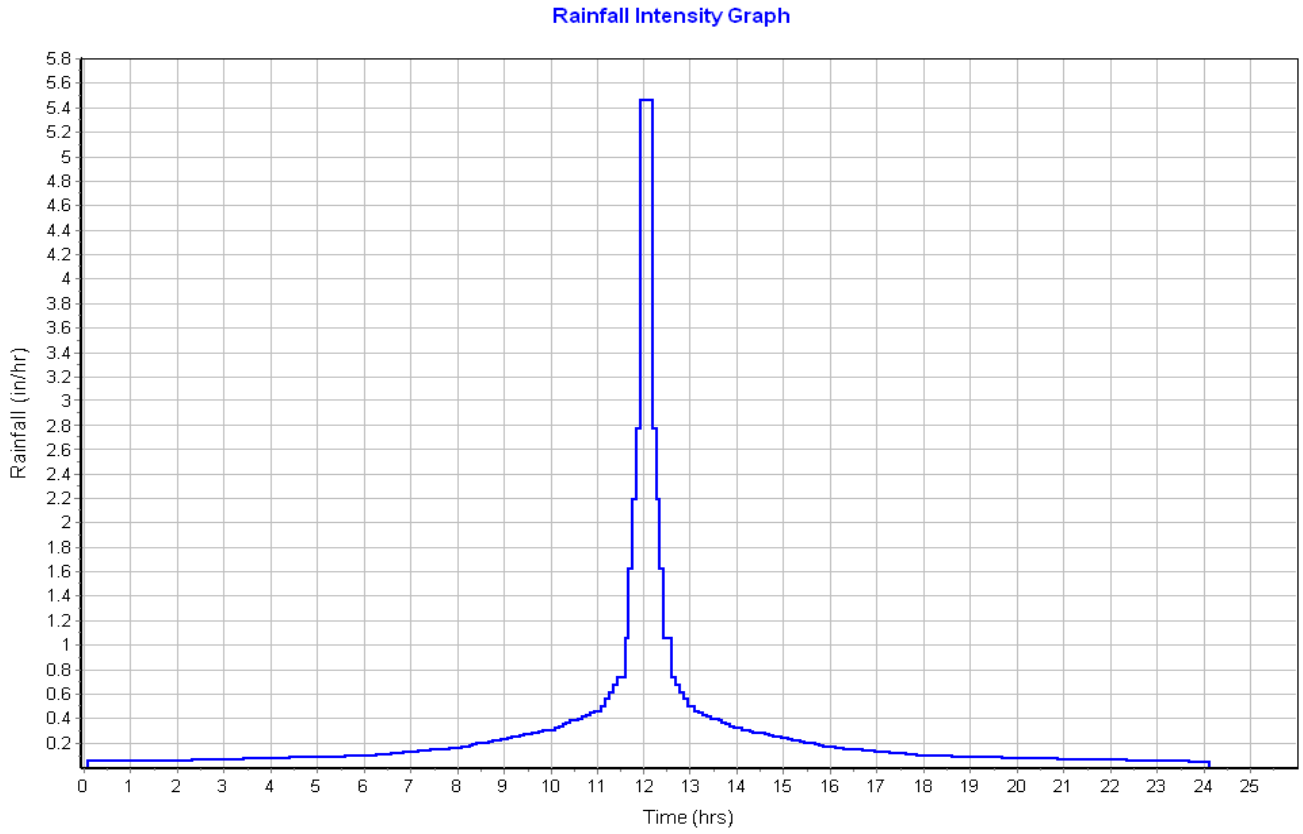
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.15	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.93	0.00	0.00

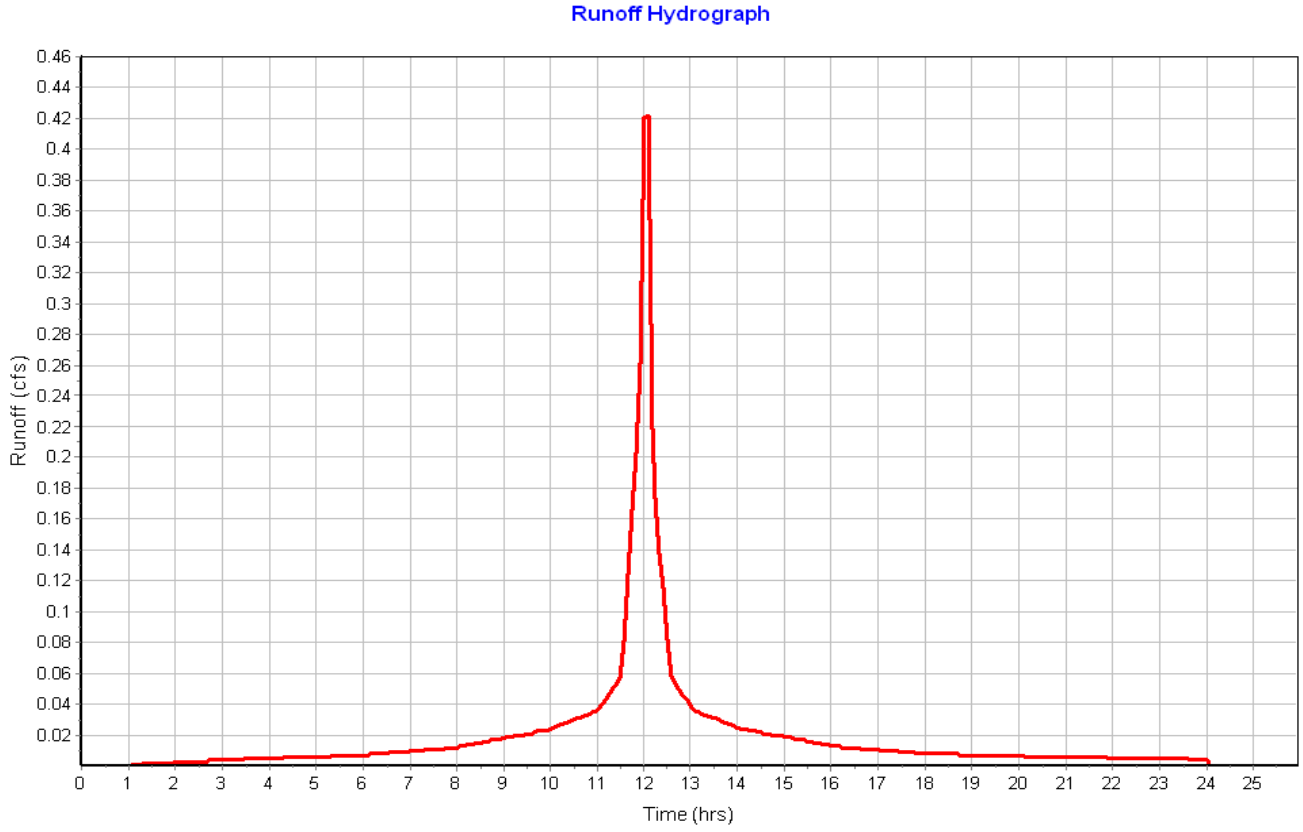
Total TOC (min) 2.08

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.42
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:05

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.73	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

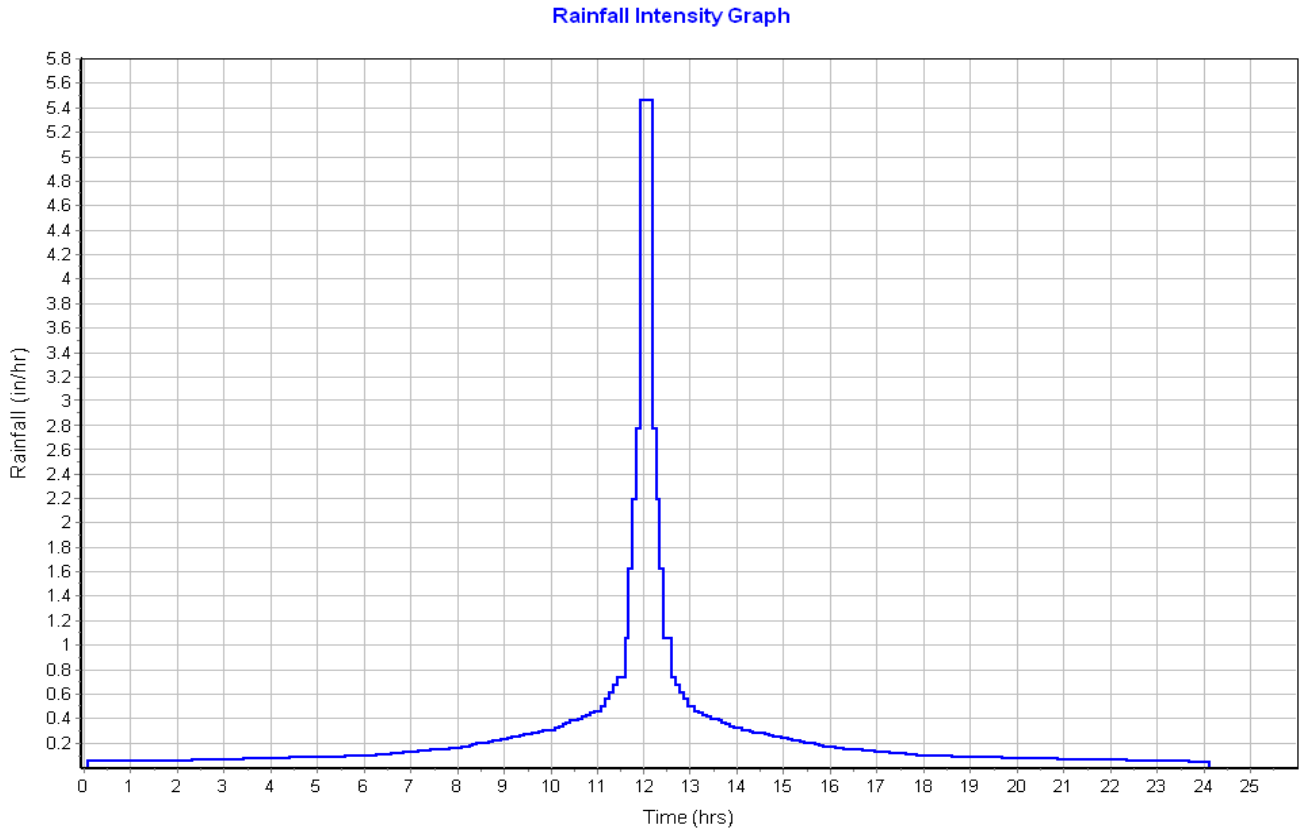
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	256.83	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.95	0.00	0.00

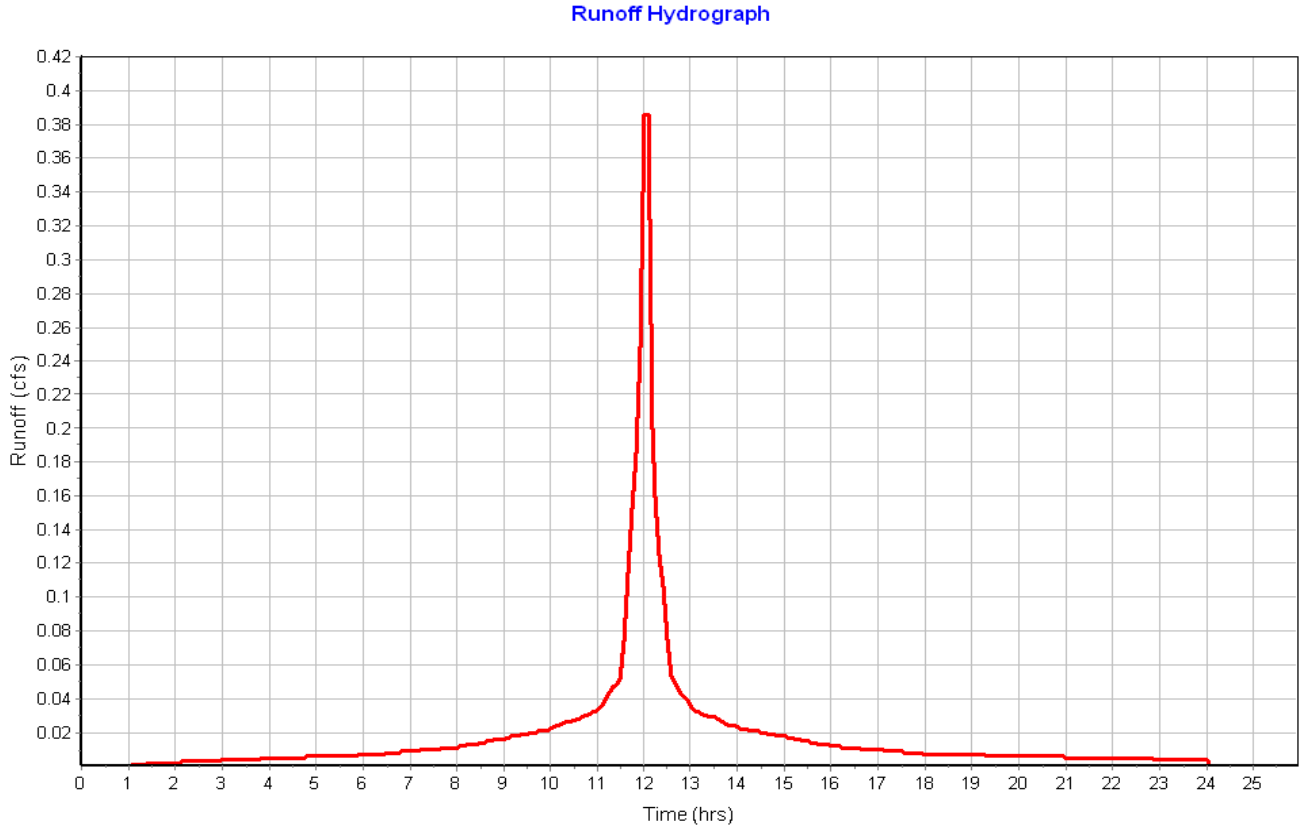
Total TOC (min) 2.07

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.39
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:04

Subbasin : Sub-12





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	24.65	117.15	4.00	117.00	4.00	0.15	0.6100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	31.63	117.00	4.00	115.00	3.00	2.00	6.3200	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	21.33	116.15	4.00	116.00	4.00	0.15	0.7000	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
4	Link-04	18.20	116.00	4.00	115.00	3.00	1.00	5.4900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
5	Link-05	32.12	115.35	4.00	113.00	1.00	2.35	7.3200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
6	Link-06	34.11	115.35	4.00	113.00	1.00	2.35	6.8900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
7	Link-07	31.14	112.65	4.00	112.25	0.25	0.40	1.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
8	Link-08	26.16	112.65	4.00	112.25	0.25	0.40	1.5300	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.35	0 12:09	1.81	0.19	1.87	0.22	0.29	0.29	0.00		Calculated
2	Link-02	0.67	0 12:09	17.17	0.04	4.50	0.12	0.21	0.14	0.00		Calculated
3	Link-03	0.84	0 12:09	1.94	0.43	2.11	0.17	0.51	0.51	0.00		Calculated
4	Link-04	1.76	0 12:10	5.43	0.32	5.38	0.06	0.43	0.43	0.00		Calculated
5	Link-05	0.42	0 12:09	6.26	0.07	4.37	0.12	0.18	0.18	0.00		Calculated
6	Link-06	0.42	0 12:09	6.08	0.07	4.30	0.13	0.18	0.18	0.00		Calculated
7	Link-07	0.42	0 12:10	2.62	0.16	2.34	0.22	0.28	0.28	0.00		Calculated
8	Link-08	0.39	0 12:09	2.86	0.13	2.41	0.18	0.26	0.26	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.35
Peak Lateral Inflow (cfs)	0.35
Peak Outflow (cfs)	0.35
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.48
Max HGL Depth Attained (ft)	4.33
Average HGL Elevation Attained (ft)	116.91
Average HGL Depth Attained (ft)	3.76
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.67
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.67
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.21
Max HGL Depth Attained (ft)	4.21
Average HGL Elevation Attained (ft)	116.70
Average HGL Depth Attained (ft)	3.7
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.84
Peak Lateral Inflow (cfs)	0.84
Peak Outflow (cfs)	0.84
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.69
Max HGL Depth Attained (ft)	4.54
Average HGL Elevation Attained (ft)	116.08
Average HGL Depth Attained (ft)	3.93
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.76
Peak Lateral Inflow (cfs)	0.91
Peak Outflow (cfs)	1.76
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.48
Max HGL Depth Attained (ft)	4.48
Average HGL Elevation Attained (ft)	115.91
Average HGL Depth Attained (ft)	3.91
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.42
Peak Lateral Inflow (cfs)	0.42
Peak Outflow (cfs)	0.42
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.53
Max HGL Depth Attained (ft)	4.18
Average HGL Elevation Attained (ft)	115.08
Average HGL Depth Attained (ft)	3.73
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-07

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.42
Peak Lateral Inflow (cfs)	0.42
Peak Outflow (cfs)	0.42
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.54
Max HGL Depth Attained (ft)	4.19
Average HGL Elevation Attained (ft)	115.08
Average HGL Depth Attained (ft)	3.73
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-08

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.42
Peak Lateral Inflow (cfs)	0.42
Peak Outflow (cfs)	0.42
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.94
Max HGL Depth Attained (ft)	4.29
Average HGL Elevation Attained (ft)	112.42
Average HGL Depth Attained (ft)	3.77
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-09

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.39
Peak Lateral Inflow (cfs)	0.39
Peak Outflow (cfs)	0.39
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.92
Max HGL Depth Attained (ft)	4.27
Average HGL Elevation Attained (ft)	112.40
Average HGL Depth Attained (ft)	3.75
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 2 - Existing Conditions (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	12
Nodes	16
Junctions	0
Outfalls	8
Flow Diversions	0
Inlets	0
Storage Nodes	8
Links	8
Channels	0
Pipes	8
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.85	484.00	74.22	7.86	4.83	4.09	5.31	0 00:02:24
2	Sub-02	0.66	484.00	74.02	7.86	4.80	3.15	4.14	0 00:02:06
3	Sub-03	0.06	484.00	98.00	7.86	7.62	0.47	0.53	0 00:01:36
4	Sub-04	0.06	484.00	98.00	7.86	7.62	0.43	0.48	0 00:01:36
5	Sub-05	0.08	484.00	98.00	7.86	7.62	0.64	0.68	0 00:02:40
6	Sub-06	0.09	484.00	98.00	7.86	7.62	0.66	0.74	0 00:02:40
7	Sub-07	0.07	484.00	98.00	7.86	7.62	0.53	0.58	0 00:02:17
8	Sub-08	0.07	484.00	98.00	7.86	7.62	0.56	0.63	0 00:02:16
9	Sub-09	0.08	484.00	98.00	7.86	7.62	0.60	0.63	0 00:02:26
10	Sub-10	0.08	484.00	98.00	7.86	7.62	0.60	0.63	0 00:02:24
11	Sub-11	0.08	484.00	98.00	7.86	7.62	0.57	0.63	0 00:02:04
12	Sub-12	0.07	484.00	98.00	7.86	7.62	0.56	0.58	0 00:02:04

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					5.21	112.00					
2	Out-02	Outfall	112.00					4.09	112.00					
3	Out-03	Outfall	112.00					0.99	112.00					
4	Out-04	Outfall	112.00					2.60	112.00					
5	Out-05	Outfall	112.00					0.63	112.00					
6	Out-06	Outfall	112.00					0.63	112.00					
7	Out-07	Outfall	112.00					0.57	112.00					
8	Out-08	Outfall	112.00					0.63	112.00					
9	CB-01	Storage Node	113.15	120.00	0.00		1000.00	0.53	117.56				0.00	0.00
10	CB-02	Storage Node	113.00	120.00	0.00		1000.00	0.99	117.26				0.00	0.00
11	CB-03	Storage Node	112.15	119.00	0.00		1000.00	1.26	116.85				0.00	0.00
12	CB-04	Storage Node	112.00	119.00	0.00		1000.00	2.61	116.62				0.00	0.00
13	Stor-06	Storage Node	111.35	118.20	0.00		1000.00	0.63	115.58				0.00	0.00
14	Stor-07	Storage Node	111.35	118.20	0.00		1000.00	0.63	115.58				0.00	0.00
15	Stor-08	Storage Node	108.65	115.50	0.00		1000.00	0.63	113.02				0.00	0.00
16	Stor-09	Storage Node	108.65	115.50	0.00		1000.00	0.58	112.98				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	CB-02	24.65	117.15	117.00	0.6100	12.000	0.0200	0.52	1.81	0.29	2.08	0.35	0.36	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	31.63	117.00	115.00	6.3200	18.000	0.0200	0.99	17.17	0.06	5.00	0.25	0.17	0.00	Calculated
3	Link-03	Pipe	CB-03	CB-04	21.33	116.15	116.00	0.7000	12.000	0.0200	1.25	1.94	0.64	2.27	0.66	0.66	0.00	Calculated
4	Link-04	Pipe	CB-04	Out-04	18.20	116.00	115.00	5.4900	12.000	0.0200	2.60	5.43	0.48	5.80	0.55	0.56	0.00	Calculated
5	Link-05	Pipe	Stor-06	Out-05	32.12	115.35	113.00	7.3200	12.000	0.0200	0.63	6.26	0.10	4.88	0.22	0.22	0.00	Calculated
6	Link-06	Pipe	Stor-07	Out-06	34.11	115.35	113.00	6.8900	12.000	0.0200	0.63	6.08	0.10	4.79	0.22	0.22	0.00	Calculated
7	Link-07	Pipe	Stor-08	Out-08	31.14	112.65	112.25	1.2800	12.000	0.0200	0.63	2.62	0.24	2.58	0.35	0.35	0.00	Calculated
8	Link-08	Pipe	Stor-09	Out-07	26.16	112.65	112.25	1.5300	12.000	0.0200	0.57	2.86	0.20	2.67	0.32	0.32	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.85
Peak Rate Factor 484.00
Weighted Curve Number 74.22
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.82	C	74.00
Paved roads with curbs & sewers	0.01	C	98.00
Brush, Good	0.01	C	65.00
Composite Area & Weighted CN	0.84		74.22

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

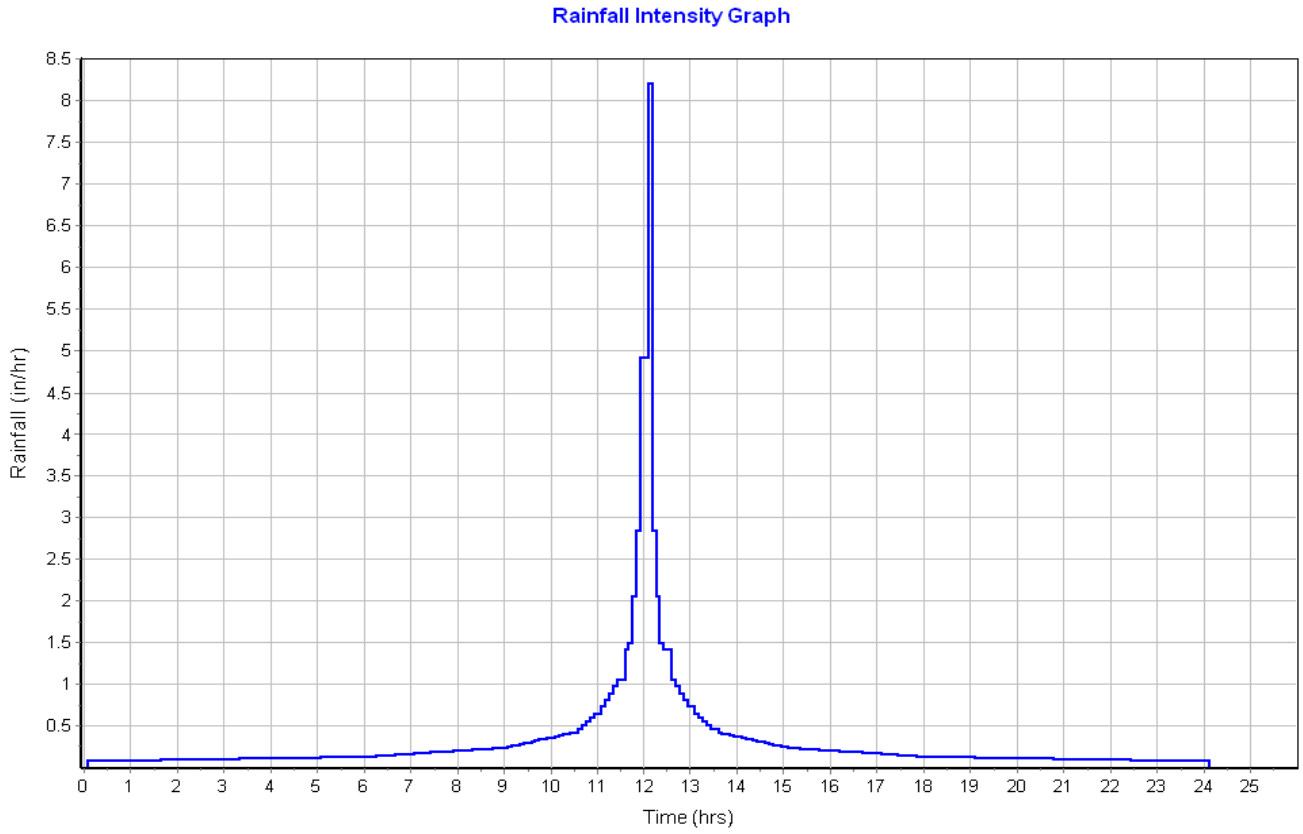
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	16.67	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	2.41	0.00	0.00

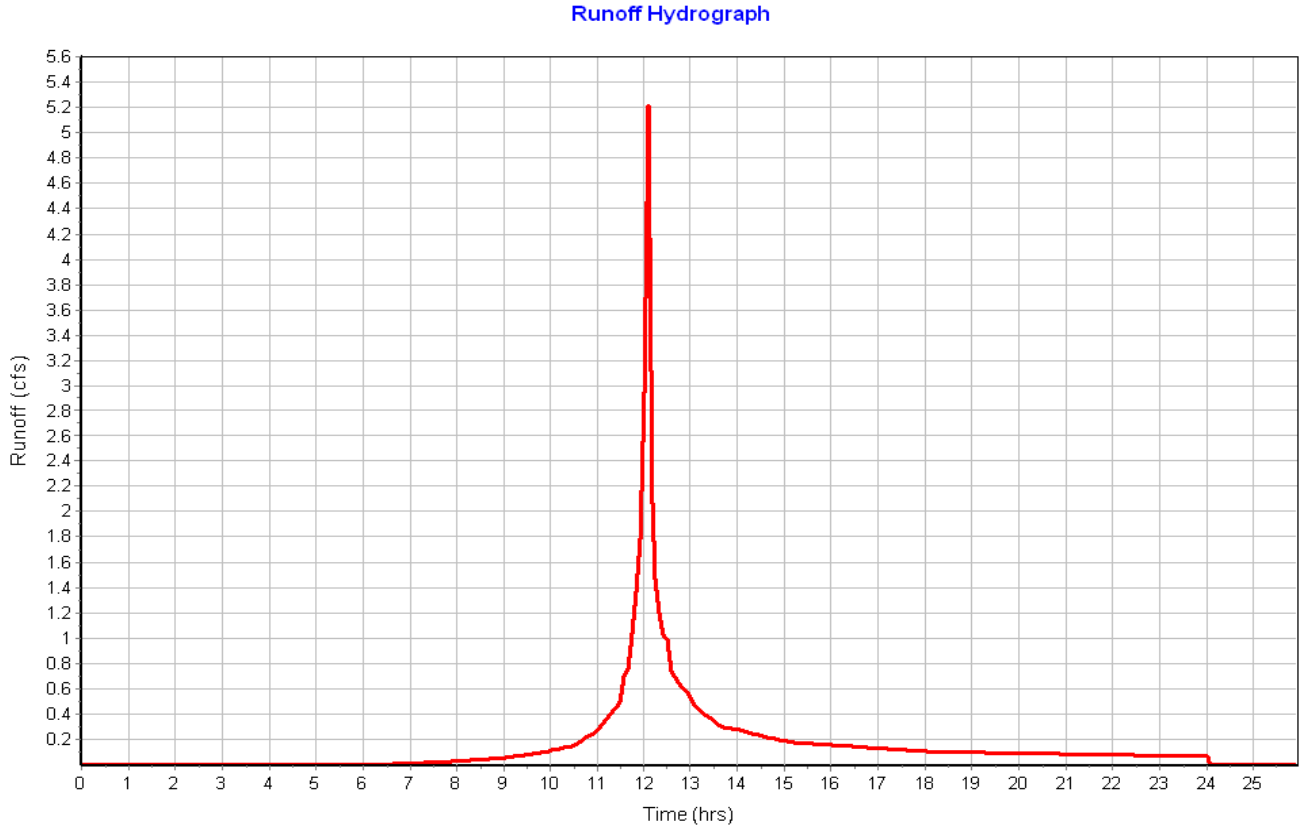
Total TOC (min) 2.41

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.83
Peak Runoff (cfs)	5.31
Weighted Curve Number	74.22
Time of Concentration (days hh:mm:ss)	0 00:02:25

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.66
Peak Rate Factor 484.00
Weighted Curve Number 74.02
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.60	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.65		74.02

Time of Concentration

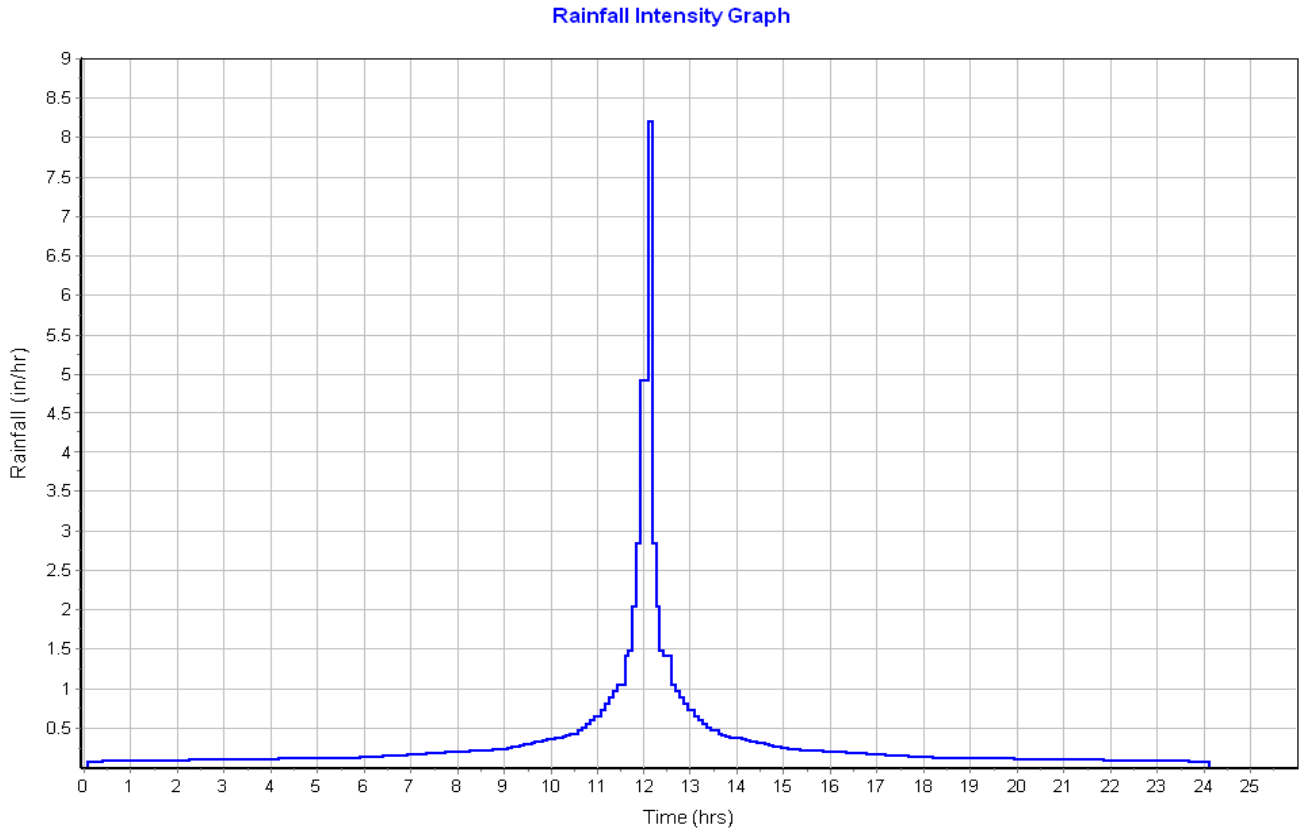
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

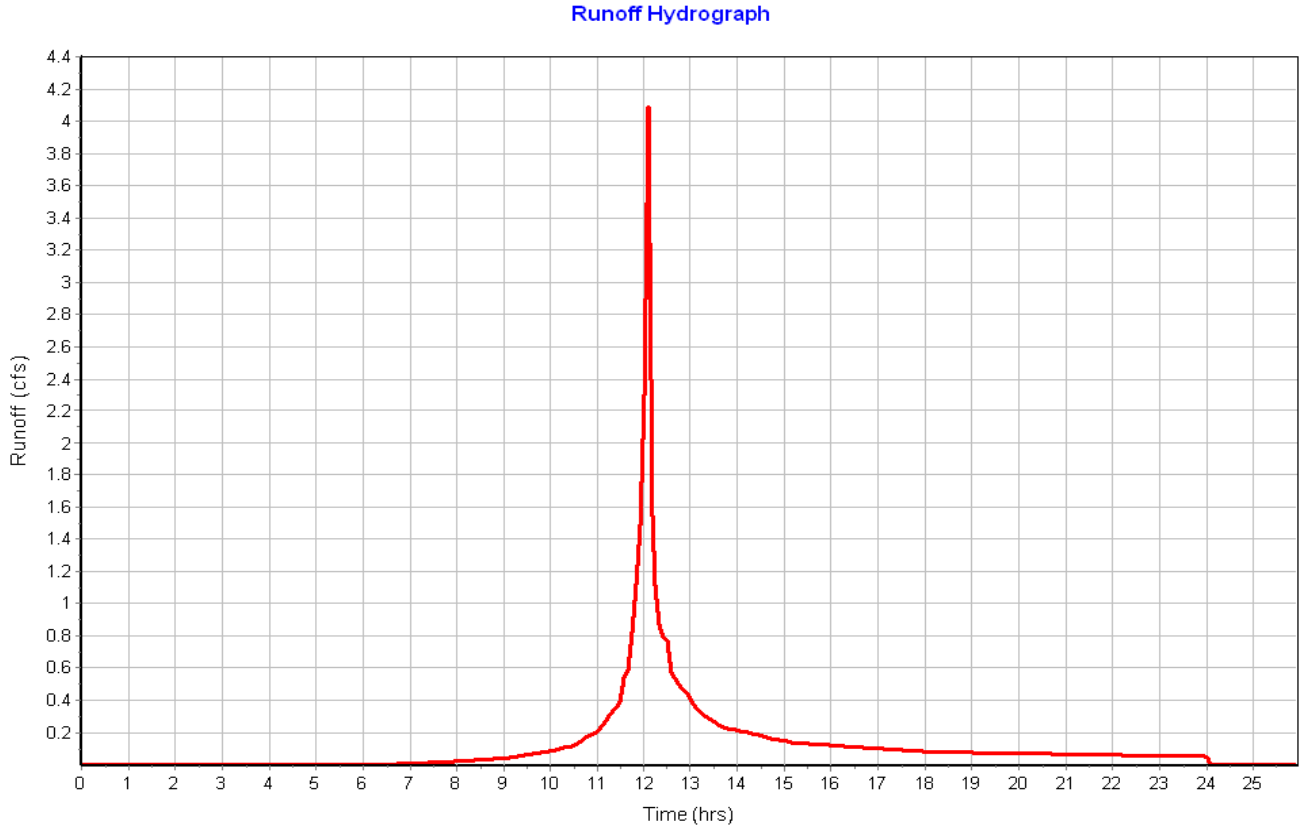
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 4.80
Peak Runoff (cfs) 4.14
Weighted Curve Number 74.02
Time of Concentration (days hh:mm:ss) 0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.70	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

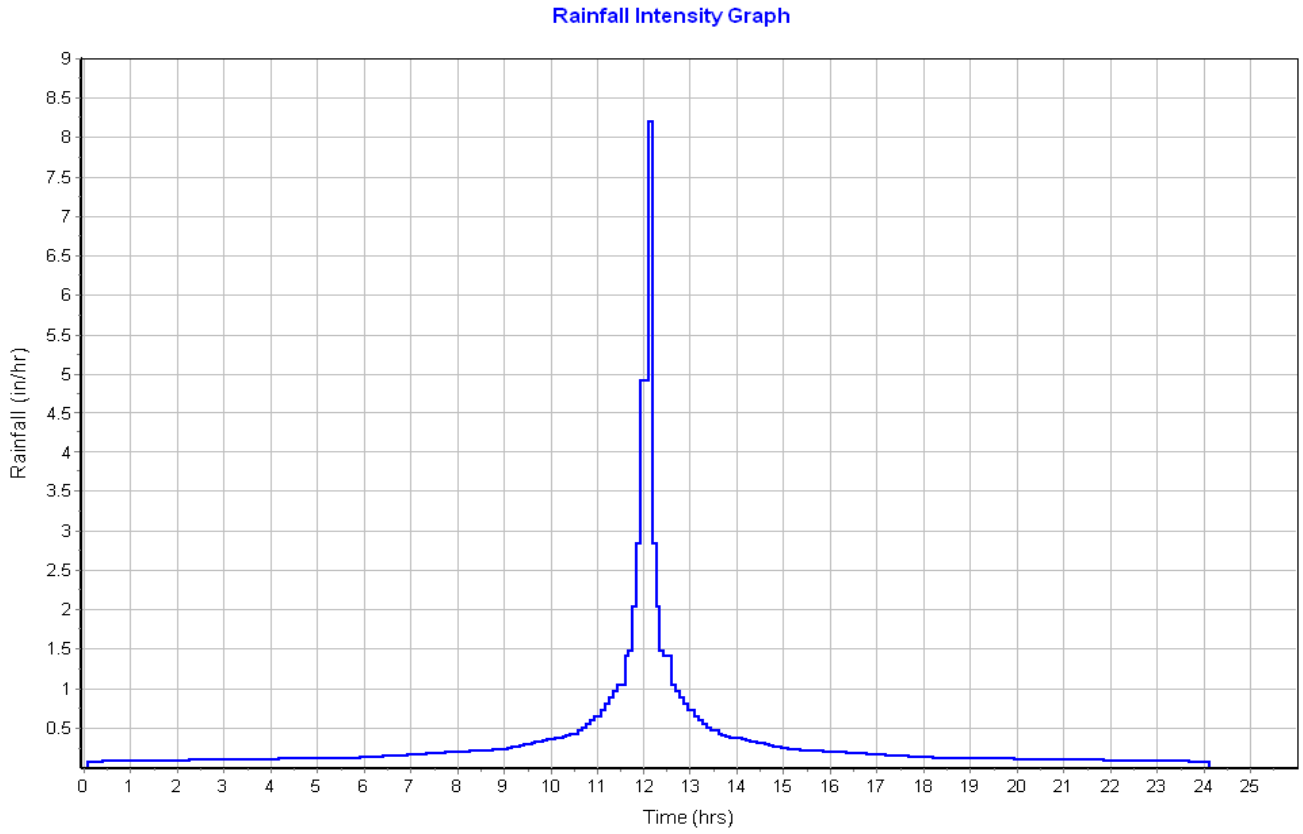
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.15	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

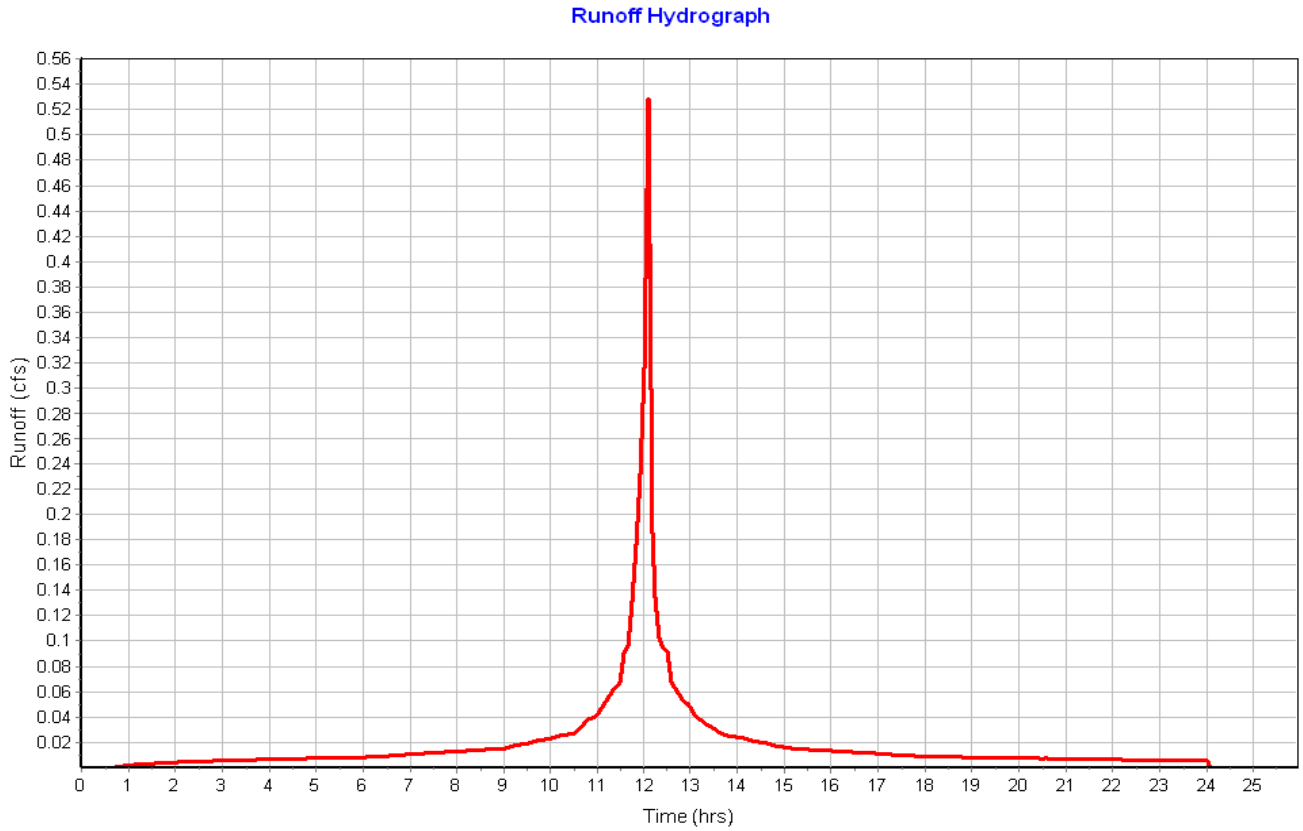
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.53
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:36

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	10.78	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

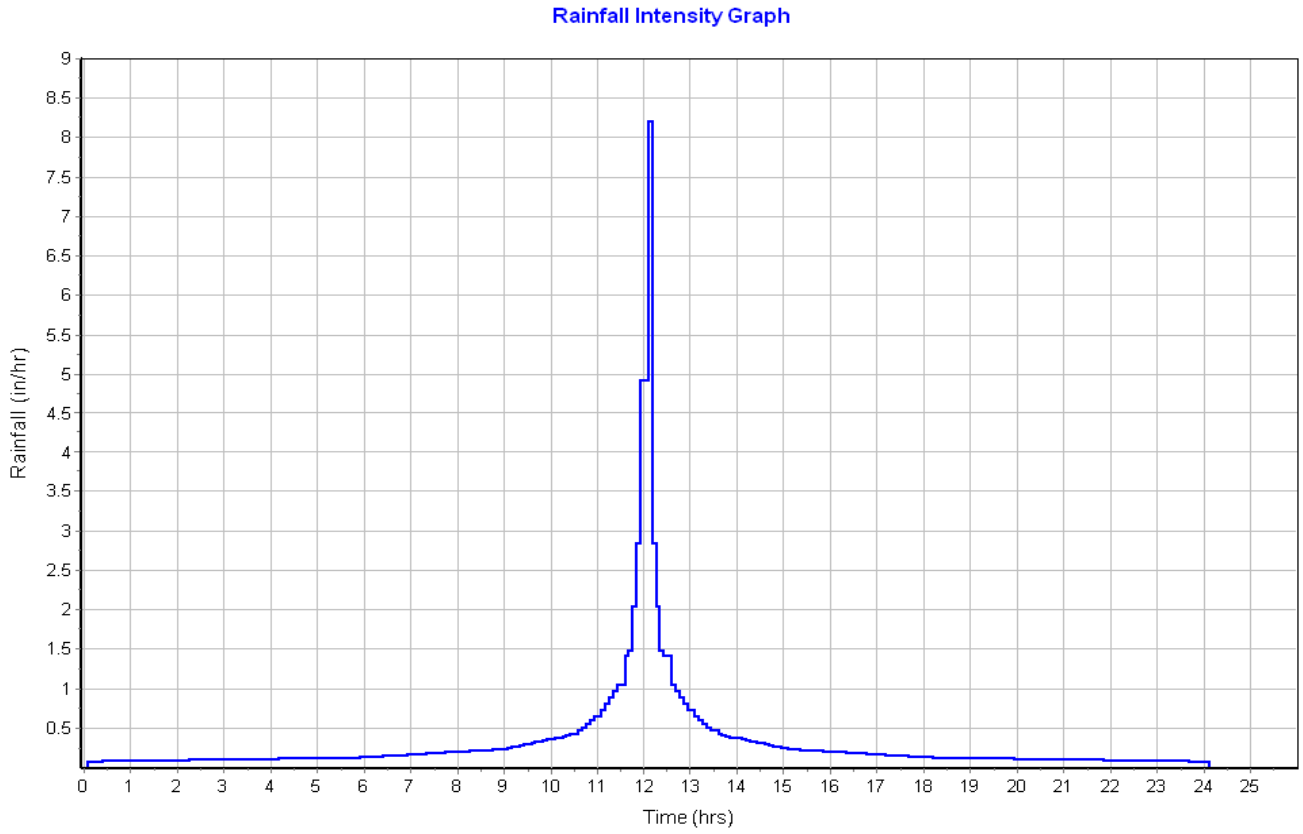
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	182.17	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.50	0.00	0.00

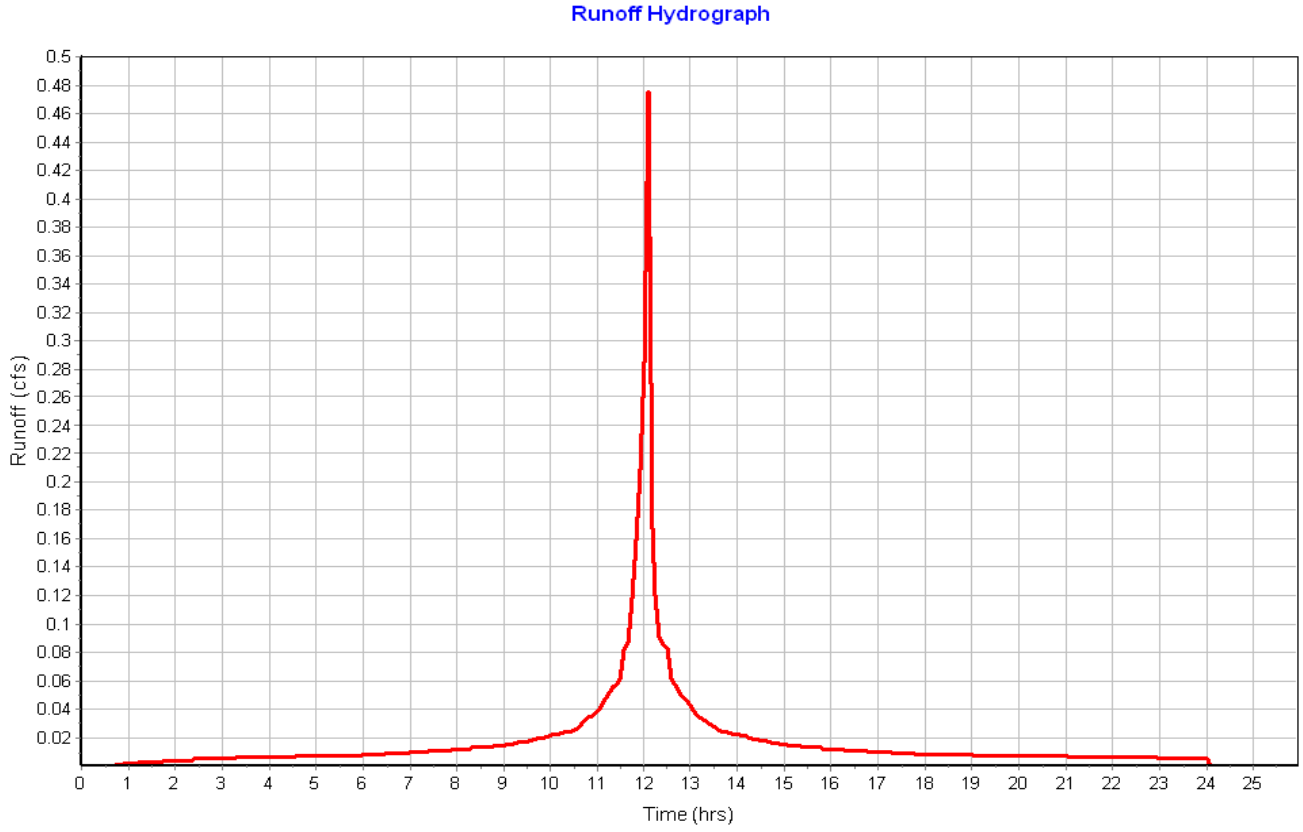
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

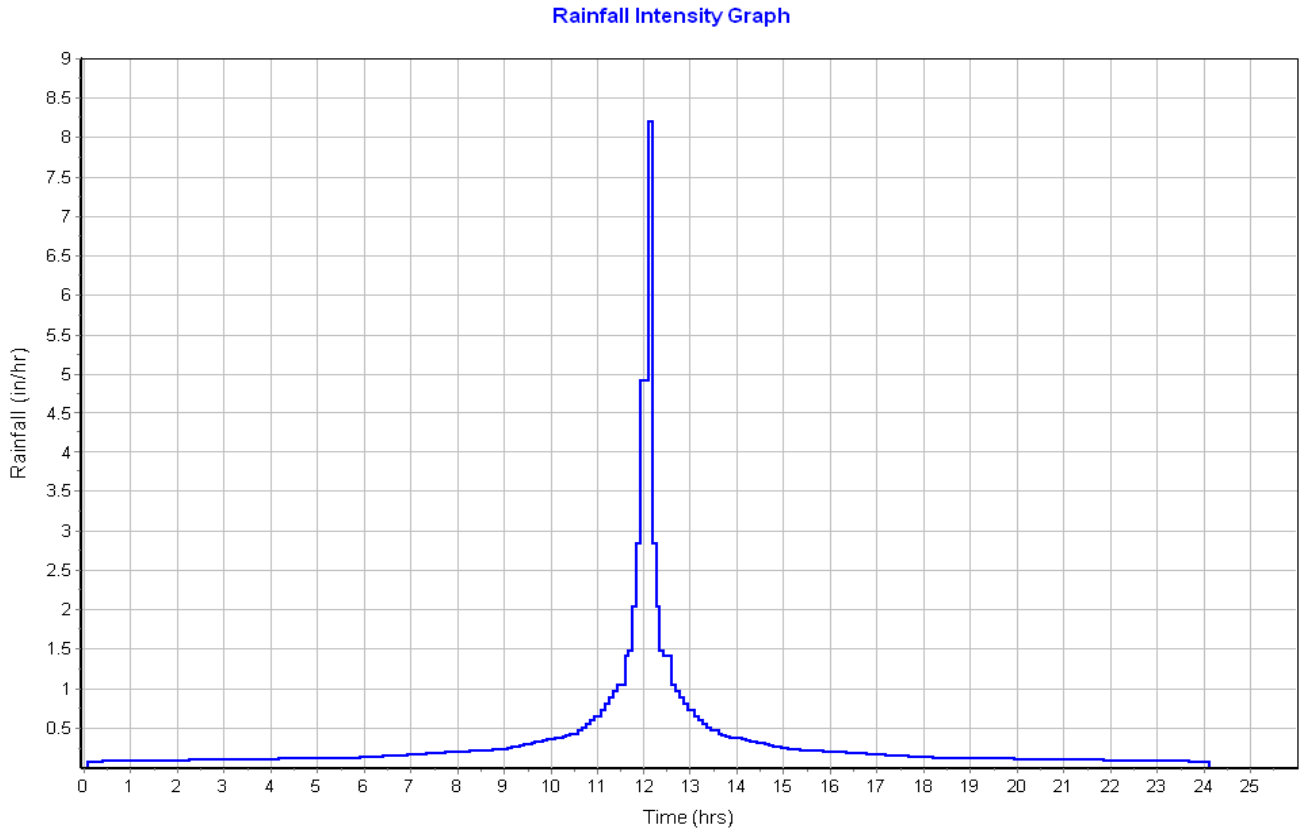
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.21	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

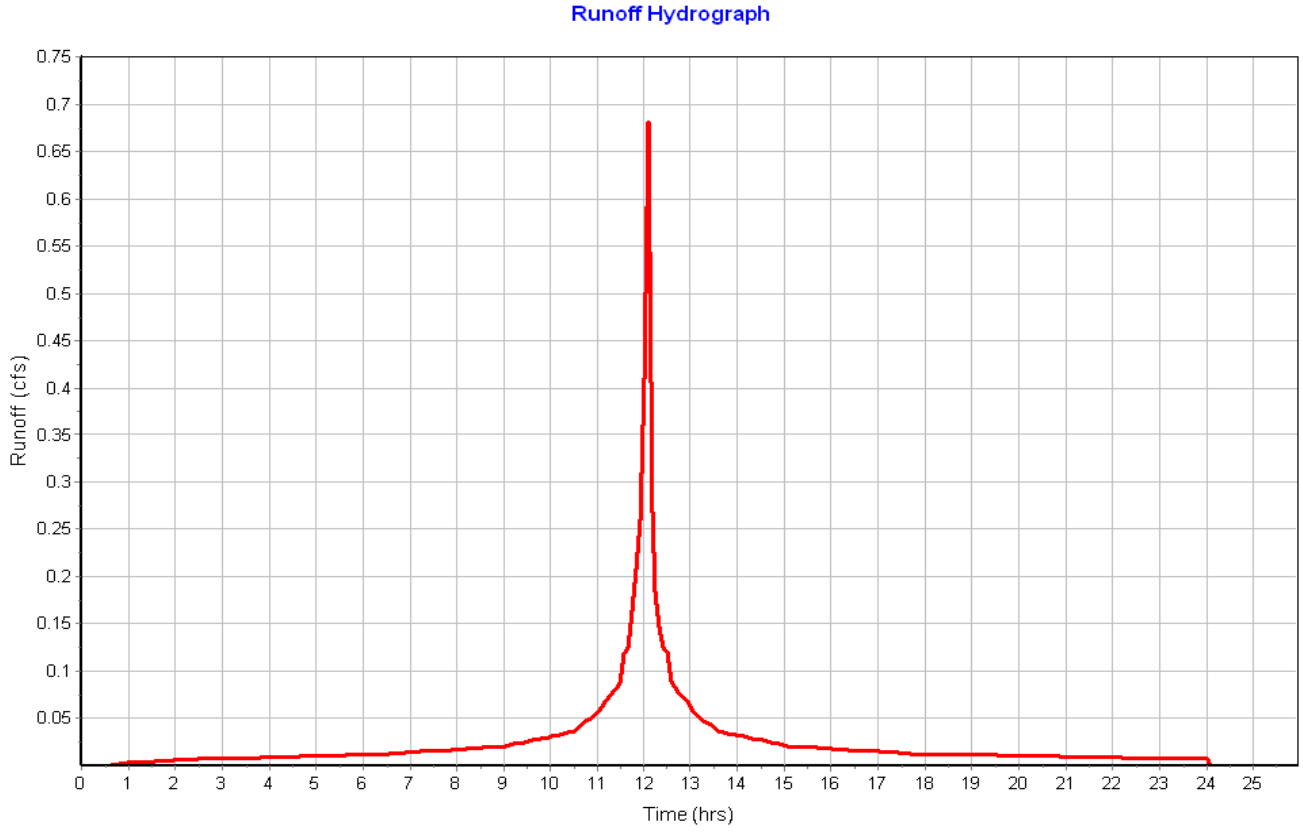
Total TOC (min) 2.68

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.68
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:41

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.2	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

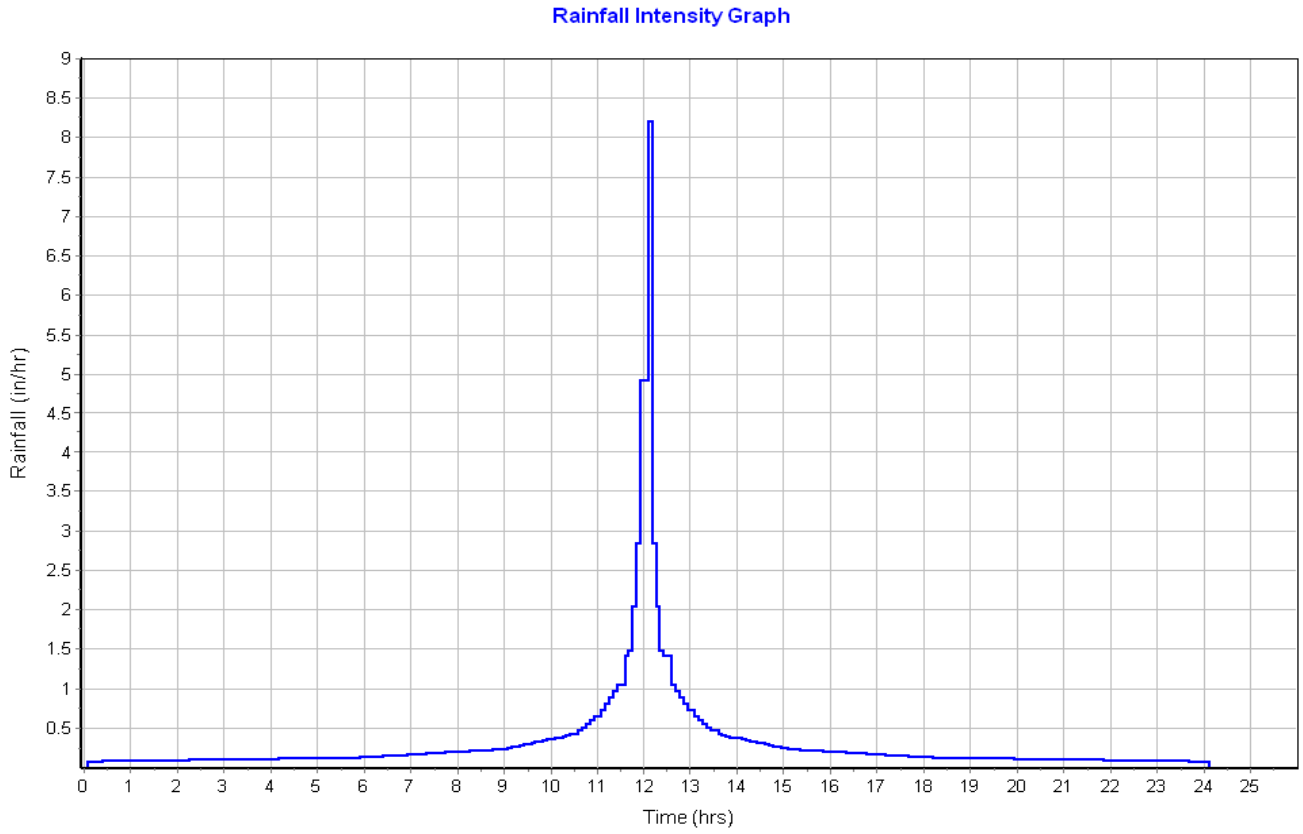
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.1	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

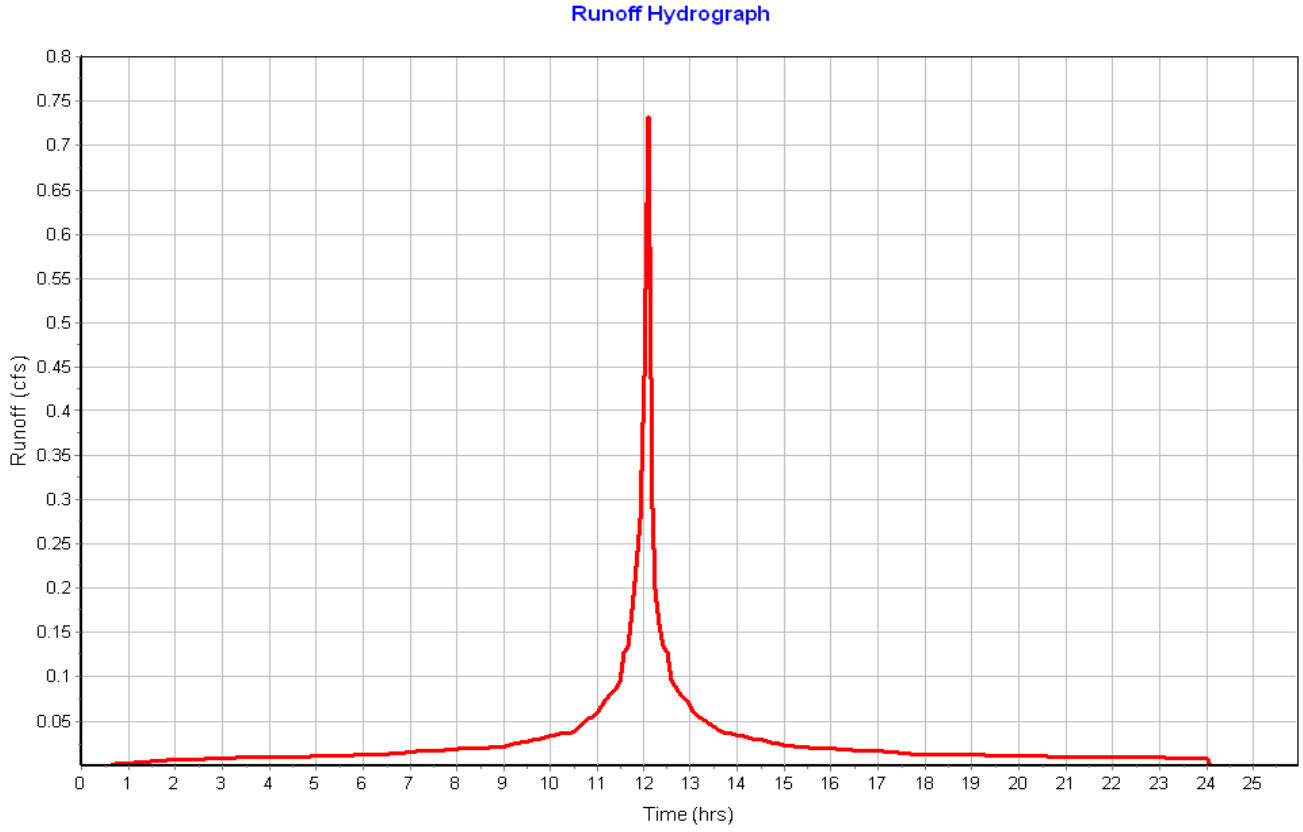
Total TOC (min) 2.67

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.74
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:40

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.81	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

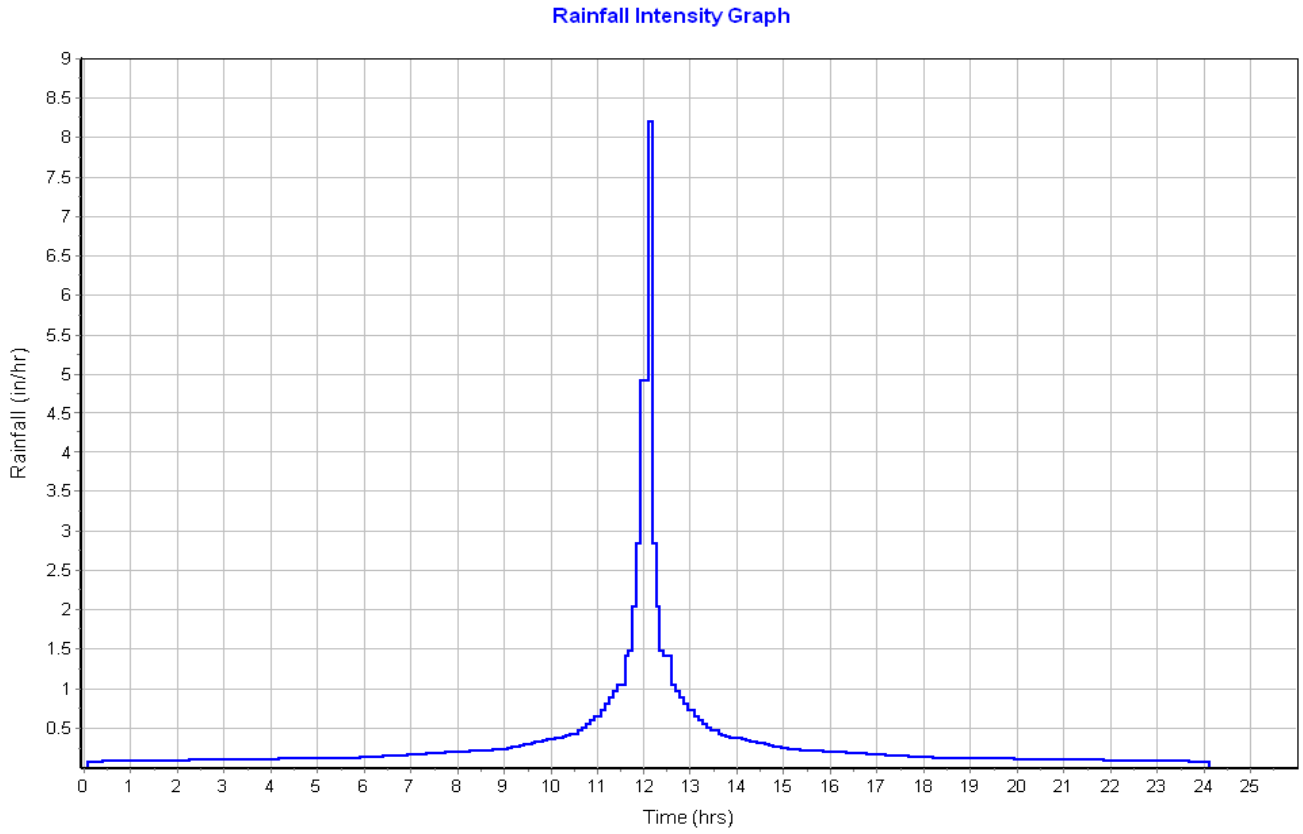
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.28	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

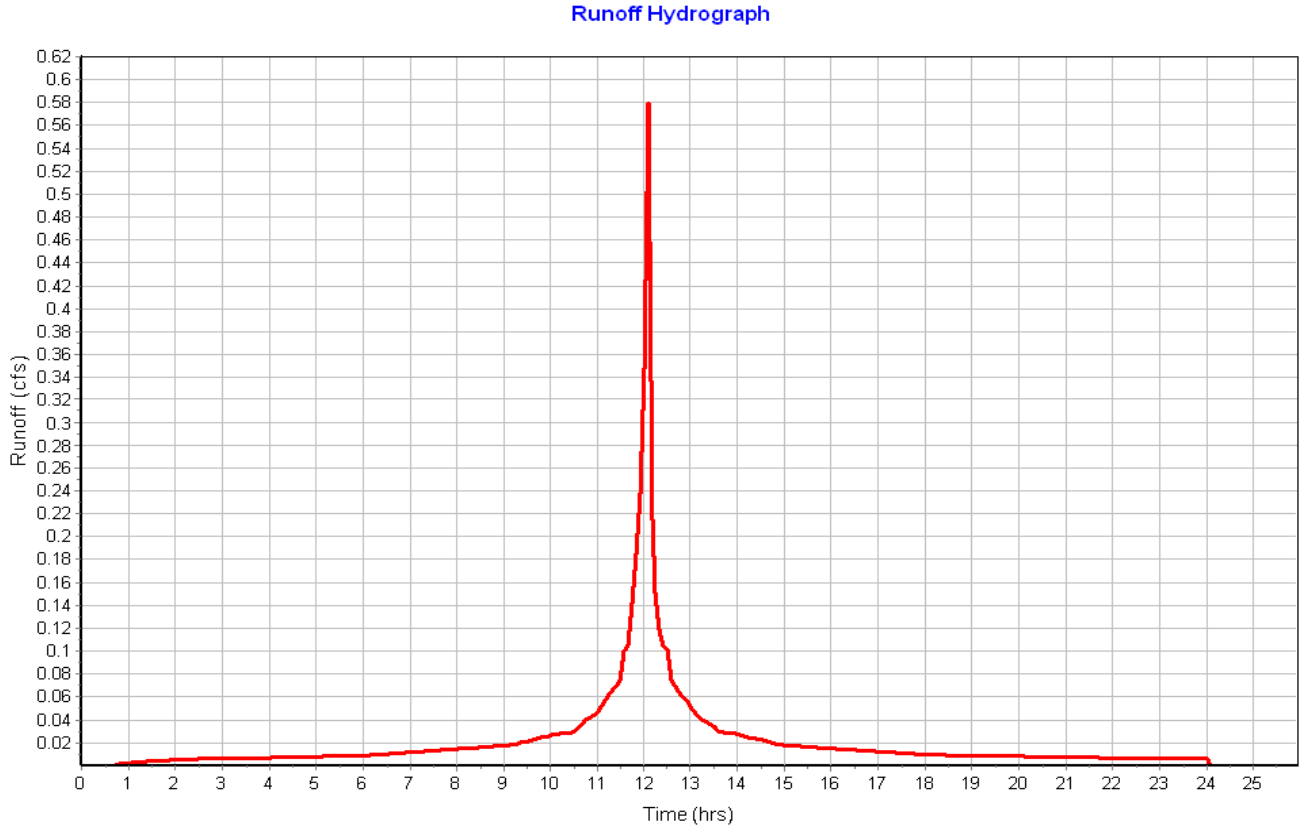
Total TOC (min) 2.29

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.58
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:17

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.8	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

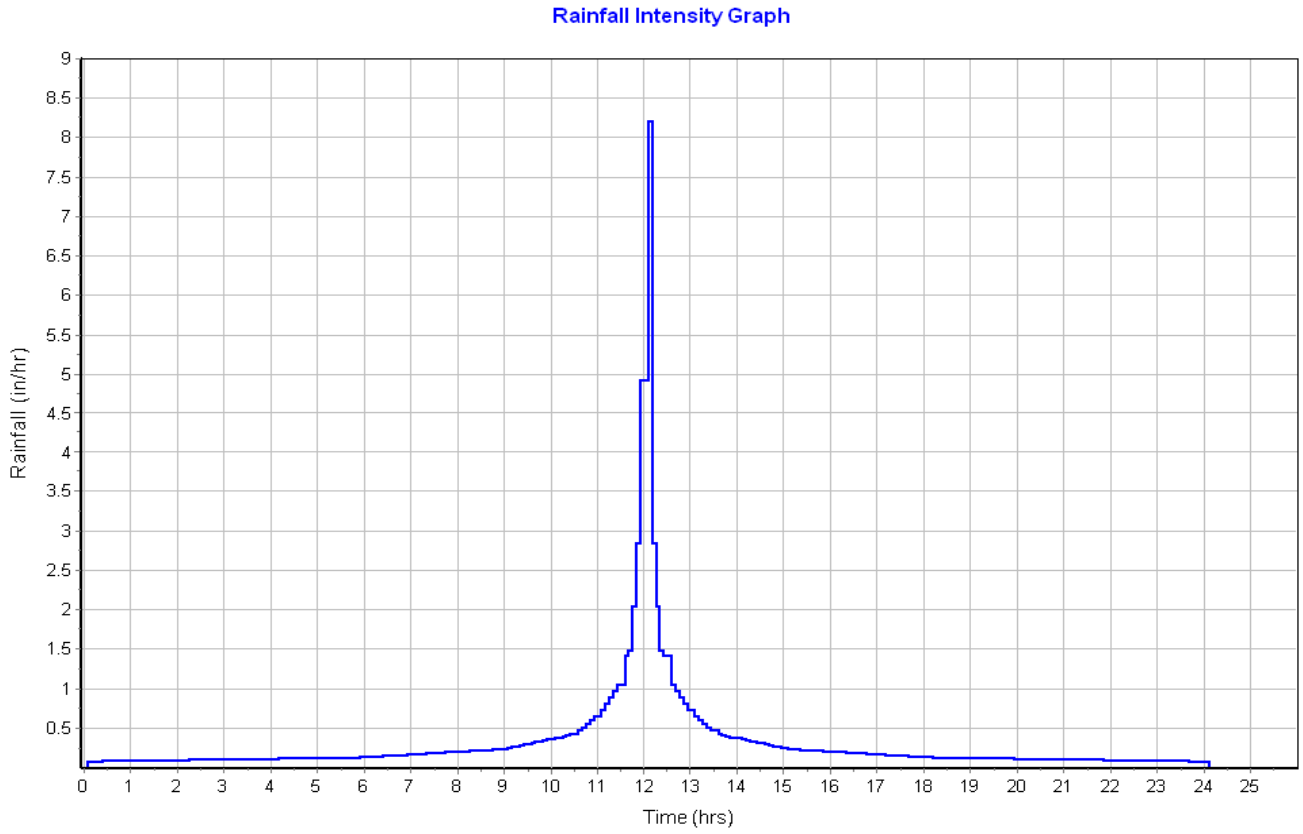
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.8	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

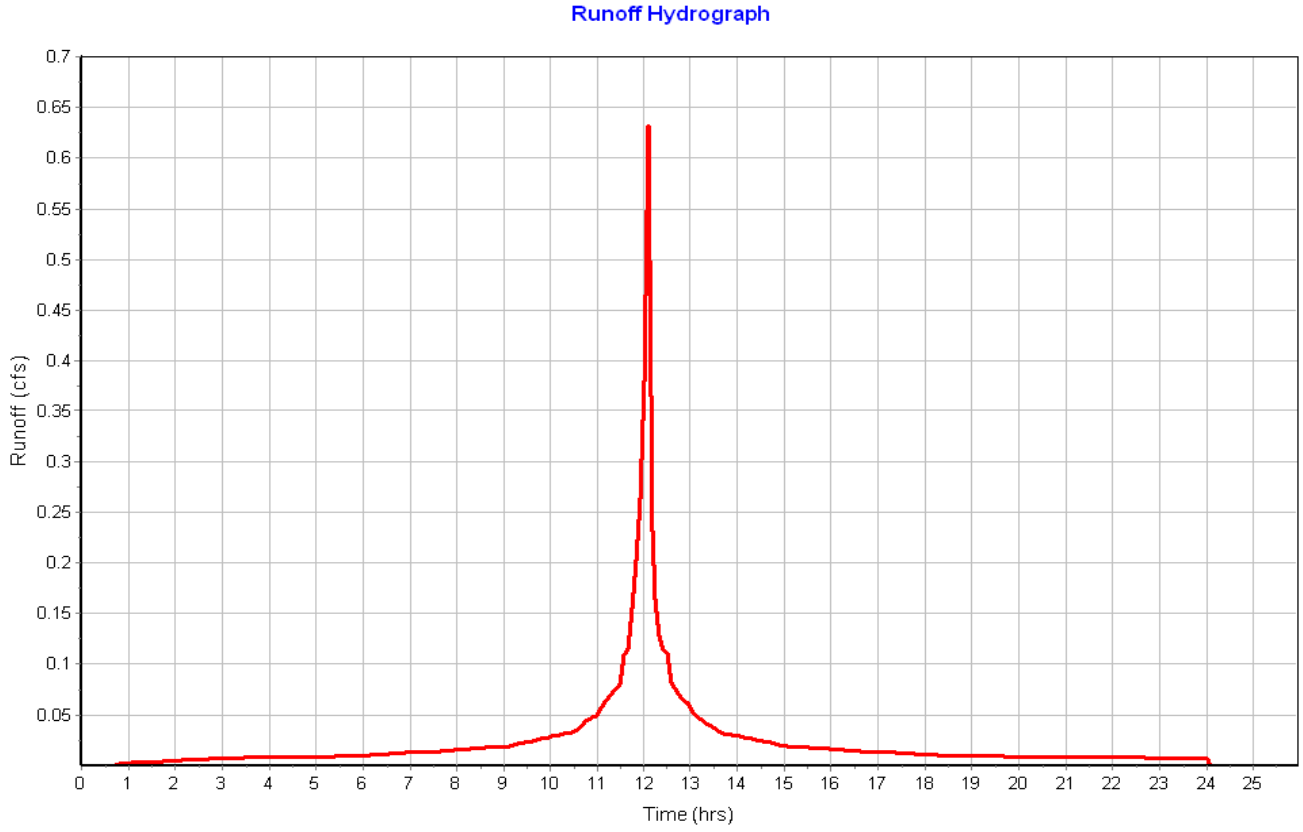
Total TOC (min) 2.27

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.63
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:16

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.07	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

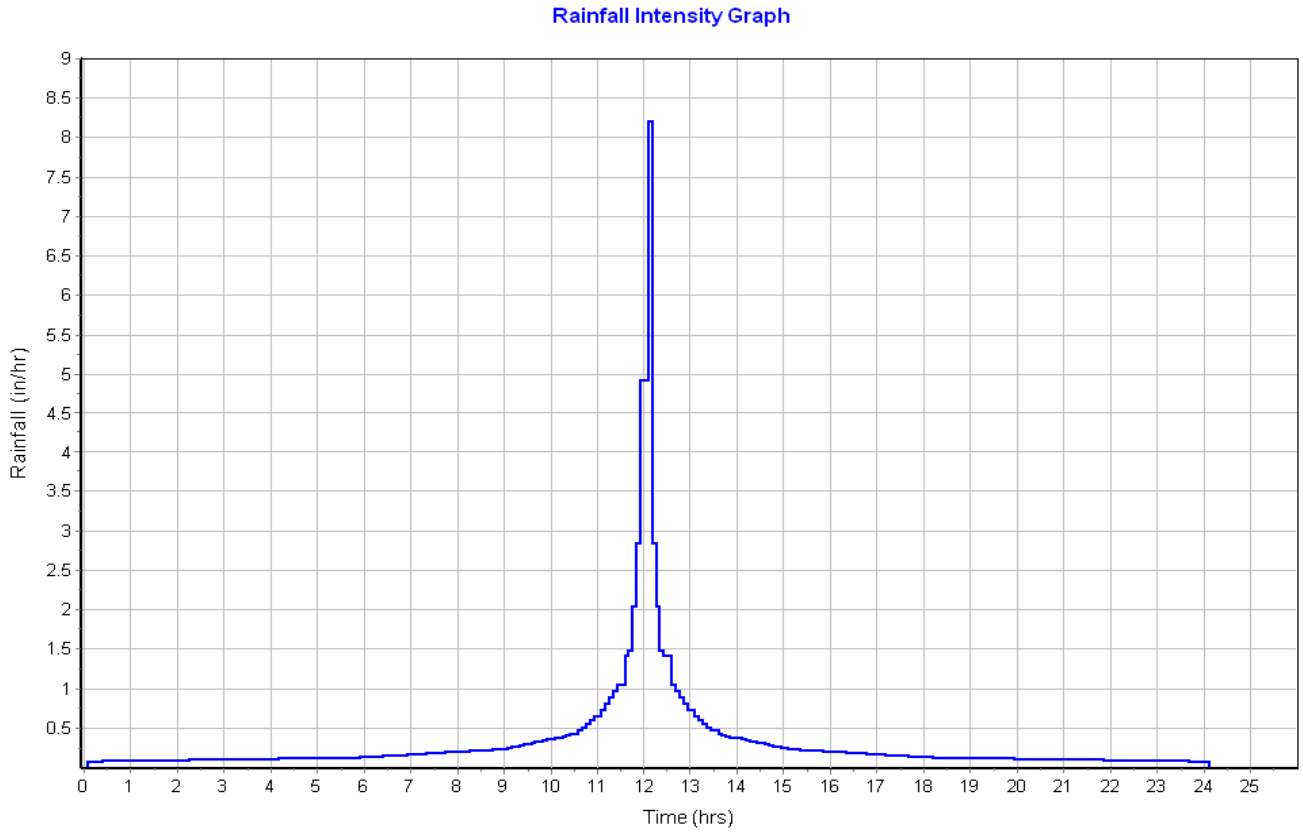
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	282.36	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.32	0.00	0.00

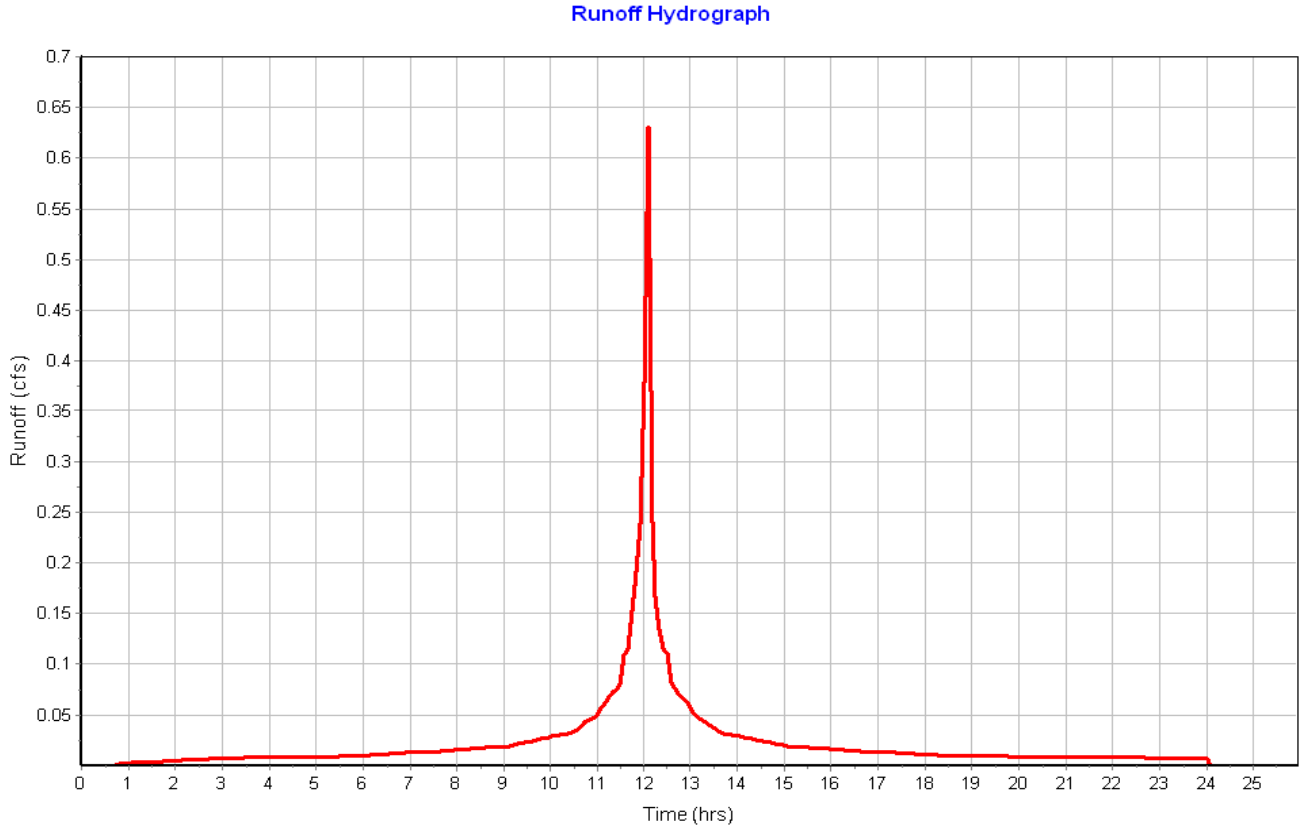
Total TOC (min) 2.44

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.63
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:26

Subbasin : Sub-09





Subbasin : Sub-10

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

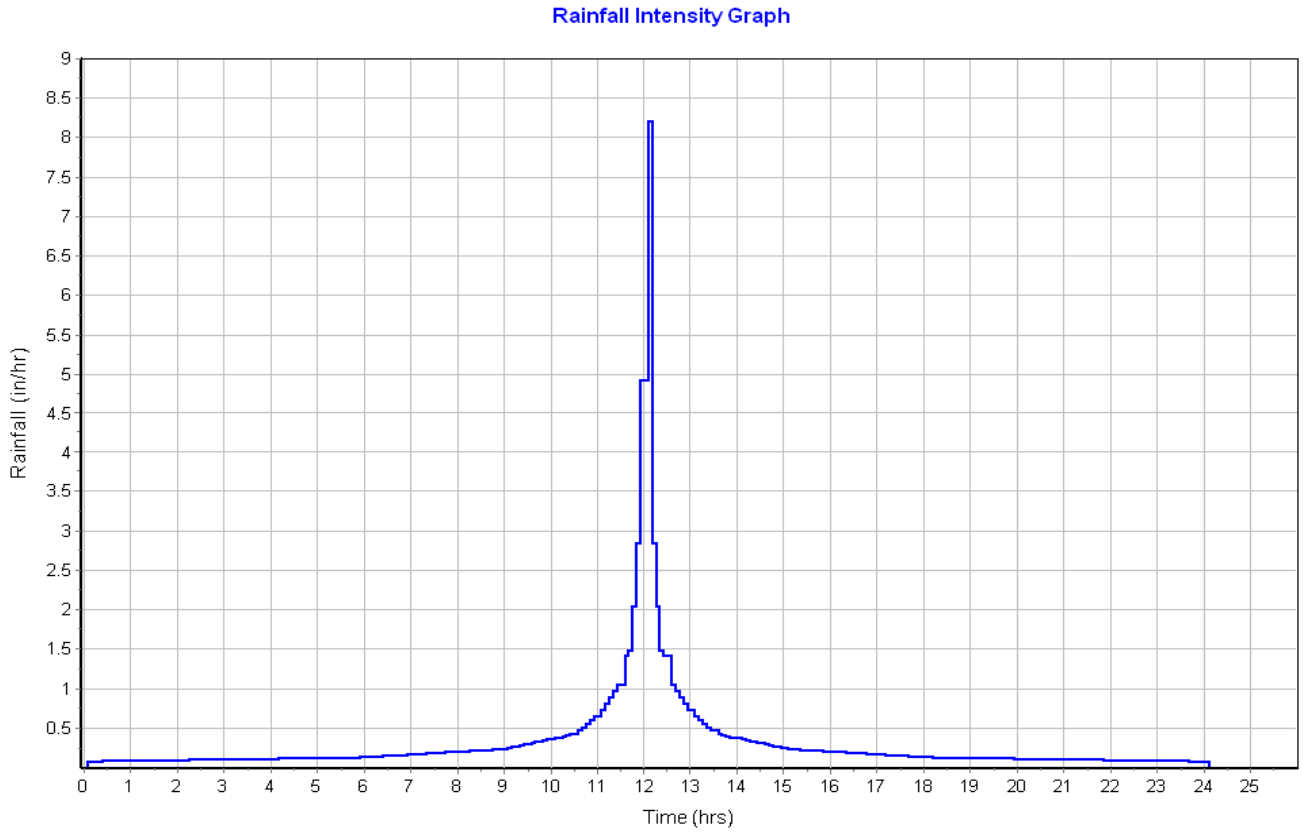
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	277.83	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.28	0.00	0.00

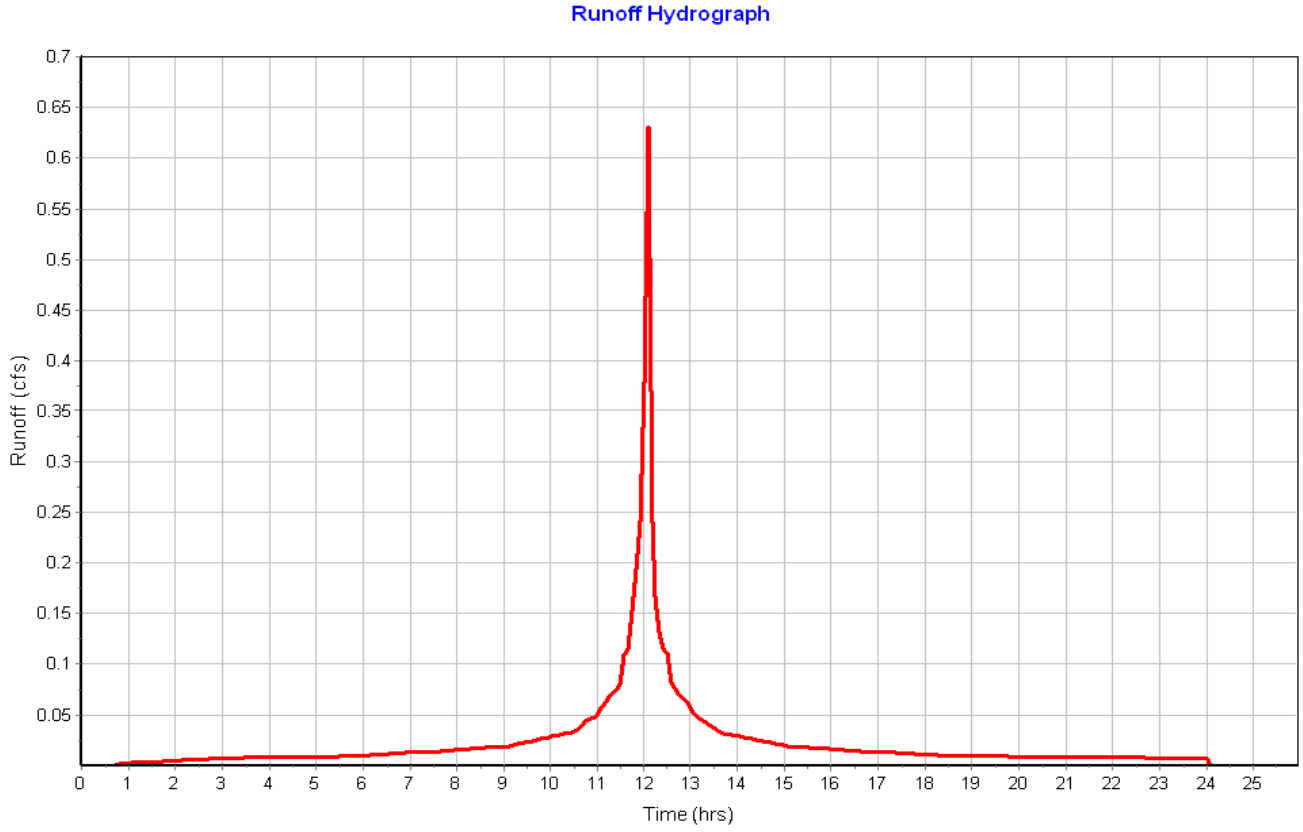
Total TOC (min) 2.40

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.63
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:24

Subbasin : Sub-10





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15.58	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.78	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

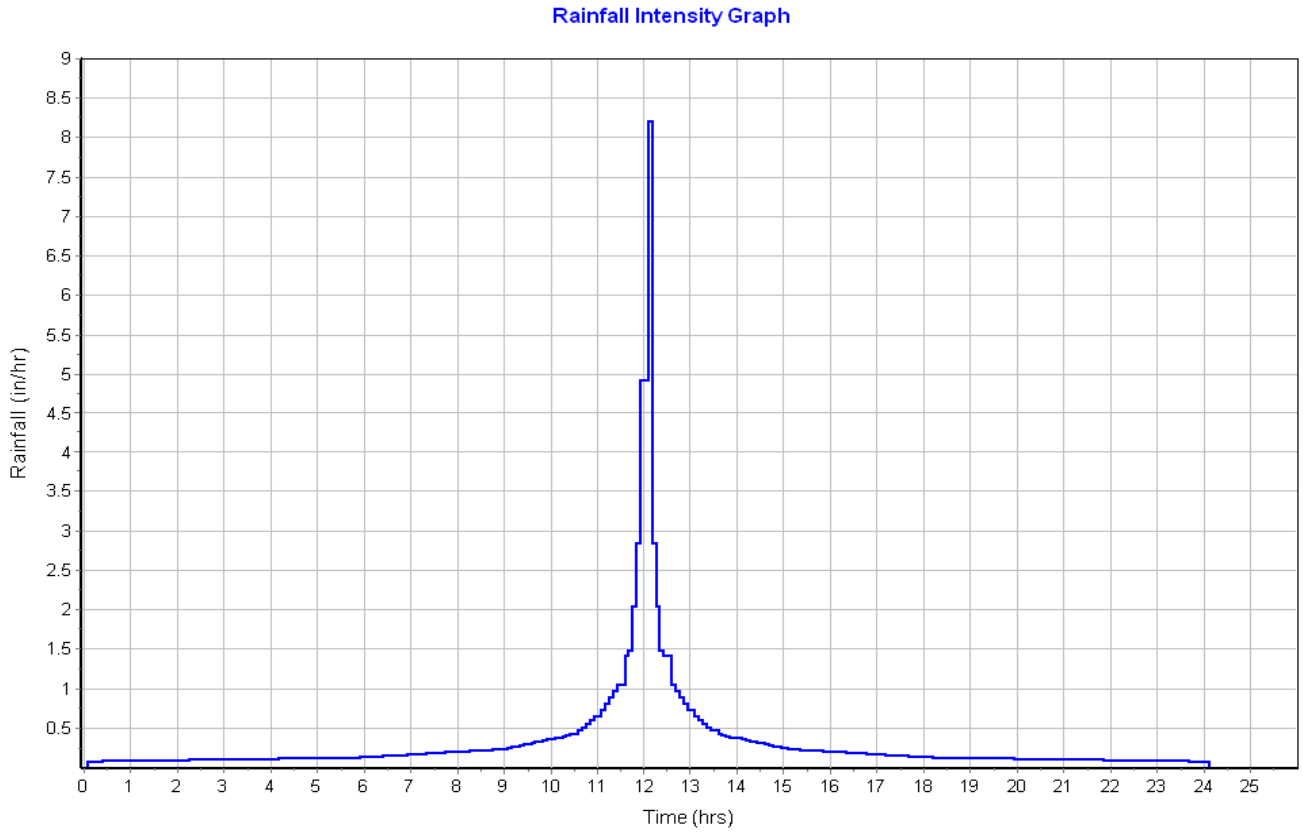
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.15	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.93	0.00	0.00

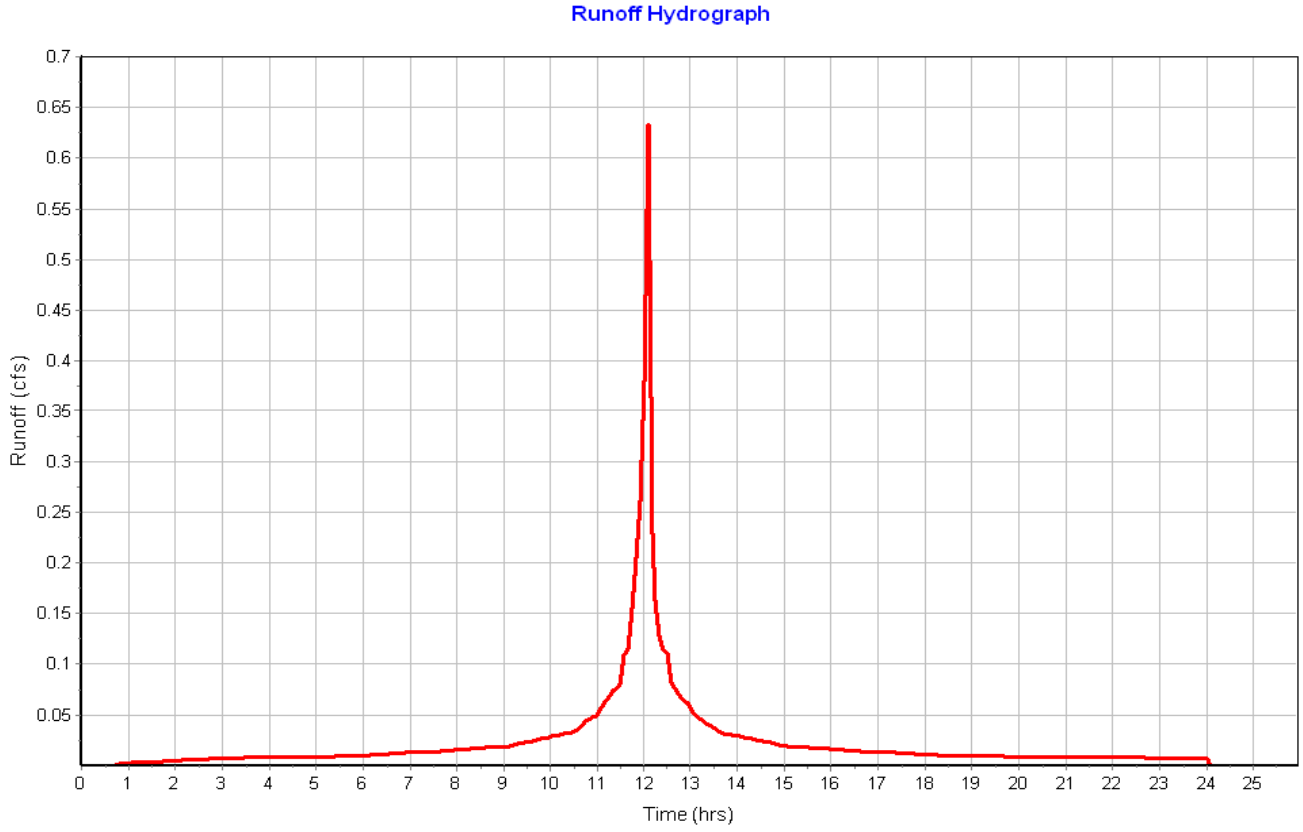
Total TOC (min) 2.08

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.63
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:05

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.73	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

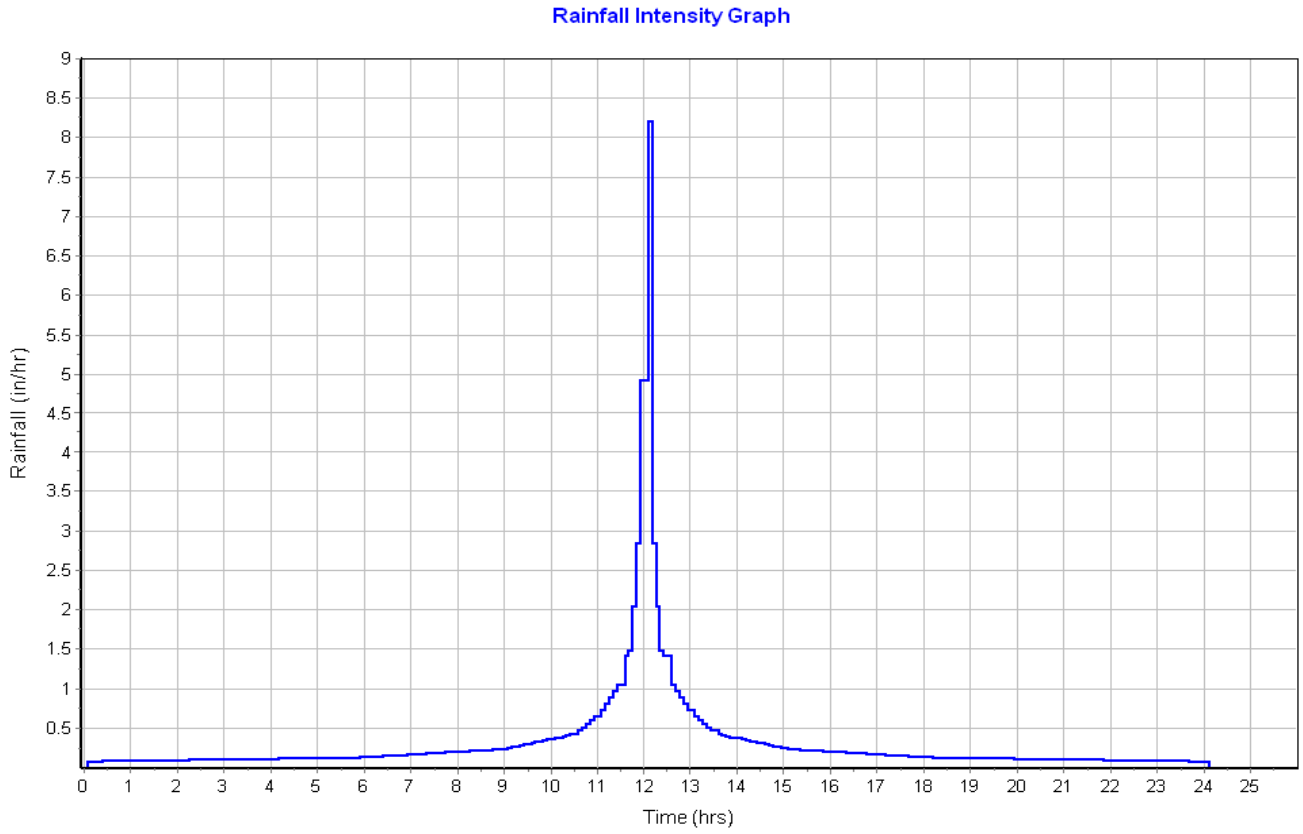
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	256.83	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.95	0.00	0.00

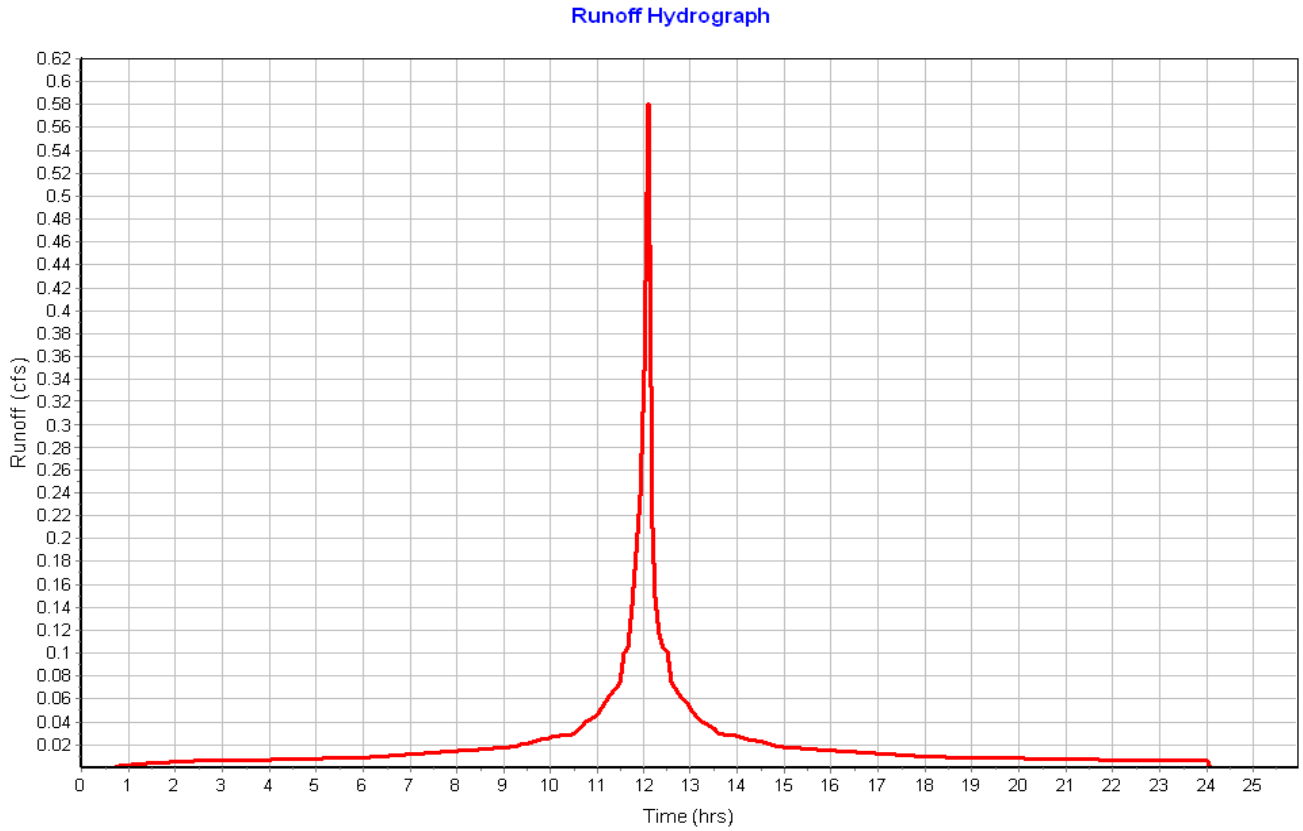
Total TOC (min) 2.07

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.58
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:04

Subbasin : Sub-12





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	24.65	117.15	4.00	117.00	4.00	0.15	0.6100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	31.63	117.00	4.00	115.00	3.00	2.00	6.3200	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	21.33	116.15	4.00	116.00	4.00	0.15	0.7000	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
4	Link-04	18.20	116.00	4.00	115.00	3.00	1.00	5.4900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
5	Link-05	32.12	115.35	4.00	113.00	1.00	2.35	7.3200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
6	Link-06	34.11	115.35	4.00	113.00	1.00	2.35	6.8900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
7	Link-07	31.14	112.65	4.00	112.25	0.25	0.40	1.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
8	Link-08	26.16	112.65	4.00	112.25	0.25	0.40	1.5300	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.52	0 12:10	1.81	0.29	2.08	0.20	0.35	0.36	0.00		Calculated
2	Link-02	0.99	0 12:10	17.17	0.06	5.00	0.11	0.25	0.17	0.00		Calculated
3	Link-03	1.25	0 12:10	1.94	0.64	2.27	0.16	0.66	0.66	0.00		Calculated
4	Link-04	2.60	0 12:10	5.43	0.48	5.80	0.05	0.55	0.56	0.00		Calculated
5	Link-05	0.63	0 12:10	6.26	0.10	4.88	0.11	0.22	0.22	0.00		Calculated
6	Link-06	0.63	0 12:10	6.08	0.10	4.79	0.12	0.22	0.22	0.00		Calculated
7	Link-07	0.63	0 12:10	2.62	0.24	2.58	0.20	0.35	0.35	0.00		Calculated
8	Link-08	0.57	0 12:10	2.86	0.20	2.67	0.16	0.32	0.32	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.53
Peak Lateral Inflow (cfs)	0.53
Peak Outflow (cfs)	0.52
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.56
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	117.06
Average HGL Depth Attained (ft)	3.91
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.99
Peak Lateral Inflow (cfs)	0.47
Peak Outflow (cfs)	0.99
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.26
Max HGL Depth Attained (ft)	4.26
Average HGL Elevation Attained (ft)	116.85
Average HGL Depth Attained (ft)	3.85
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.26
Peak Lateral Inflow (cfs)	1.26
Peak Outflow (cfs)	1.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.85
Max HGL Depth Attained (ft)	4.7
Average HGL Elevation Attained (ft)	116.19
Average HGL Depth Attained (ft)	4.04
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.61
Peak Lateral Inflow (cfs)	1.36
Peak Outflow (cfs)	2.60
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.62
Max HGL Depth Attained (ft)	4.62
Average HGL Elevation Attained (ft)	116.02
Average HGL Depth Attained (ft)	4.02
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.63
Peak Lateral Inflow (cfs)	0.63
Peak Outflow (cfs)	0.63
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.58
Max HGL Depth Attained (ft)	4.23
Average HGL Elevation Attained (ft)	115.22
Average HGL Depth Attained (ft)	3.87
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-07

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.63
Peak Lateral Inflow (cfs)	0.63
Peak Outflow (cfs)	0.63
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.58
Max HGL Depth Attained (ft)	4.23
Average HGL Elevation Attained (ft)	115.22
Average HGL Depth Attained (ft)	3.87
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-08

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.63
Peak Lateral Inflow (cfs)	0.63
Peak Outflow (cfs)	0.63
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	113.02
Max HGL Depth Attained (ft)	4.37
Average HGL Elevation Attained (ft)	112.56
Average HGL Depth Attained (ft)	3.91
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-09

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.58
Peak Lateral Inflow (cfs)	0.58
Peak Outflow (cfs)	0.57
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.98
Max HGL Depth Attained (ft)	4.33
Average HGL Elevation Attained (ft)	112.54
Average HGL Depth Attained (ft)	3.89
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 2 - Existing Conditions (2).SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	12
Nodes	16
Junctions	0
Outfalls	8
Flow Diversions	0
Inlets	0
Storage Nodes	8
Links	8
Channels	0
Pipes	8
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.85	484.00	74.22	9.70	6.50	5.51	7.03	0 00:02:24
2	Sub-02	0.66	484.00	74.02	9.70	6.47	4.25	5.49	0 00:02:06
3	Sub-03	0.06	484.00	98.00	9.70	9.46	0.58	0.65	0 00:01:36
4	Sub-04	0.06	484.00	98.00	9.70	9.46	0.53	0.59	0 00:01:36
5	Sub-05	0.08	484.00	98.00	9.70	9.46	0.79	0.85	0 00:02:40
6	Sub-06	0.09	484.00	98.00	9.70	9.46	0.82	0.91	0 00:02:40
7	Sub-07	0.07	484.00	98.00	9.70	9.46	0.66	0.72	0 00:02:17
8	Sub-08	0.07	484.00	98.00	9.70	9.46	0.70	0.78	0 00:02:16
9	Sub-09	0.08	484.00	98.00	9.70	9.46	0.75	0.78	0 00:02:26
10	Sub-10	0.08	484.00	98.00	9.70	9.46	0.74	0.78	0 00:02:24
11	Sub-11	0.08	484.00	98.00	9.70	9.46	0.71	0.78	0 00:02:04
12	Sub-12	0.07	484.00	98.00	9.70	9.46	0.70	0.72	0 00:02:04

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					6.93	112.00					
2	Out-02	Outfall	112.00					5.42	112.00					
3	Out-03	Outfall	112.00					1.22	112.00					
4	Out-04	Outfall	112.00					3.21	112.00					
5	Out-05	Outfall	112.00					0.77	112.00					
6	Out-06	Outfall	112.00					0.77	112.00					
7	Out-07	Outfall	112.00					0.71	112.00					
8	Out-08	Outfall	112.00					0.77	112.00					
9	CB-01	Storage Node	113.15	120.00	0.00		1000.00	0.65	117.61				0.00	0.00
10	CB-02	Storage Node	113.00	120.00	0.00		1000.00	1.23	117.29				0.00	0.00
11	CB-03	Storage Node	112.15	119.00	0.00		1000.00	1.55	116.97				0.00	0.00
12	CB-04	Storage Node	112.00	119.00	0.00		1000.00	3.22	116.73				0.00	0.00
13	Stor-06	Storage Node	111.35	118.20	0.00		1000.00	0.78	115.60				0.00	0.00
14	Stor-07	Storage Node	111.35	118.20	0.00		1000.00	0.78	115.61				0.00	0.00
15	Stor-08	Storage Node	108.65	115.50	0.00		1000.00	0.78	113.06				0.00	0.00
16	Stor-09	Storage Node	108.65	115.50	0.00		1000.00	0.72	113.03				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	CB-02	24.65	117.15	117.00	0.6100	12.000	0.0200	0.64	1.81	0.36	2.20	0.40	0.40	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	31.63	117.00	115.00	6.3200	18.000	0.0200	1.22	17.17	0.07	5.29	0.28	0.19	0.00	Calculated
3	Link-03	Pipe	CB-03	CB-04	21.33	116.15	116.00	0.7000	12.000	0.0200	1.54	1.94	0.79	2.36	0.77	0.77	0.00	Calculated
4	Link-04	Pipe	CB-04	Out-04	18.20	116.00	115.00	5.4900	12.000	0.0200	3.21	5.43	0.59	6.01	0.64	0.64	0.00	Calculated
5	Link-05	Pipe	Stor-06	Out-05	32.12	115.35	113.00	7.3200	12.000	0.0200	0.77	6.26	0.12	5.16	0.25	0.25	0.00	Calculated
6	Link-06	Pipe	Stor-07	Out-06	34.11	115.35	113.00	6.8900	12.000	0.0200	0.77	6.08	0.13	5.06	0.25	0.25	0.00	Calculated
7	Link-07	Pipe	Stor-08	Out-08	31.14	112.65	112.25	1.2800	12.000	0.0200	0.77	2.62	0.29	2.72	0.39	0.39	0.00	Calculated
8	Link-08	Pipe	Stor-09	Out-07	26.16	112.65	112.25	1.5300	12.000	0.0200	0.71	2.86	0.25	2.80	0.36	0.36	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.85
Peak Rate Factor 484.00
Weighted Curve Number 74.22
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.82	C	74.00
Paved roads with curbs & sewers	0.01	C	98.00
Brush, Good	0.01	C	65.00
Composite Area & Weighted CN	0.84		74.22

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

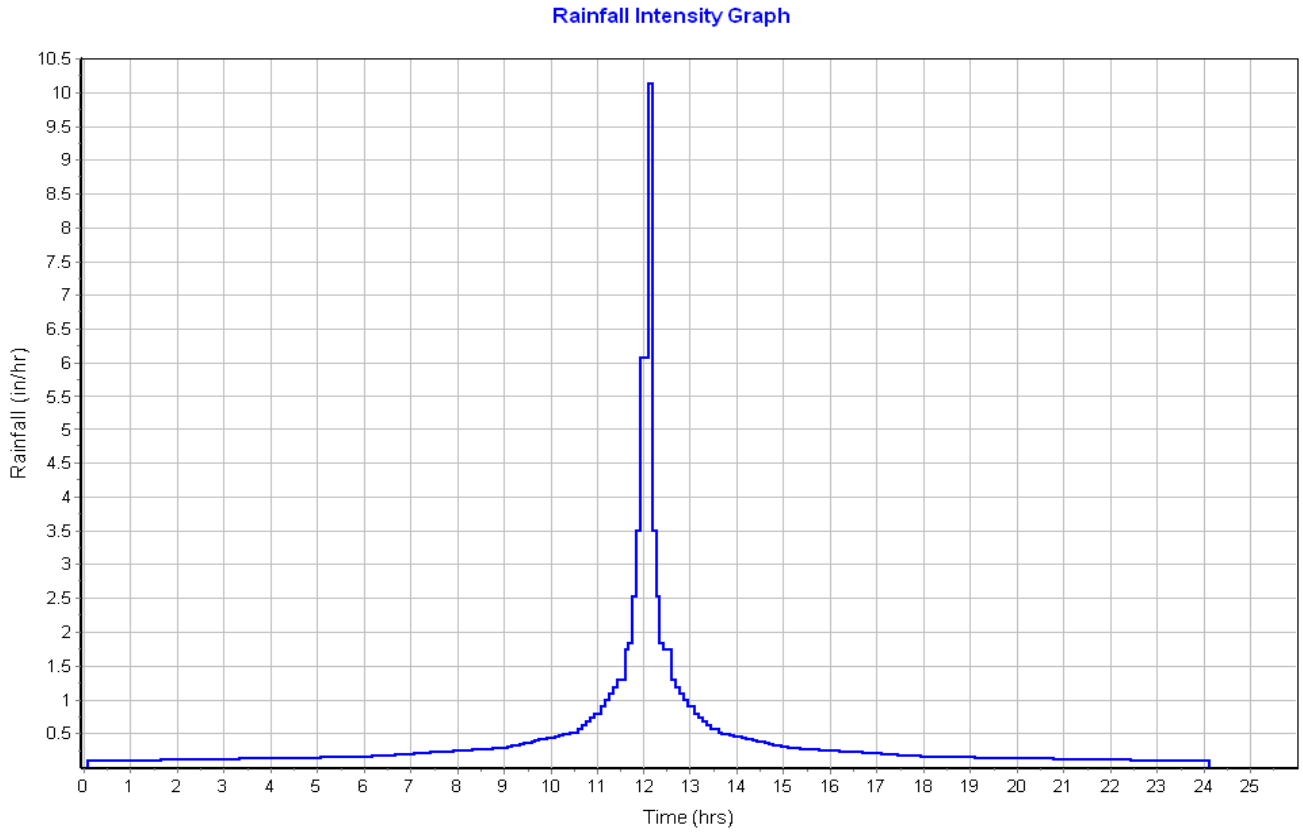
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	30	0.00	0.00
Slope (%) :	16.67	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	2.41	0.00	0.00

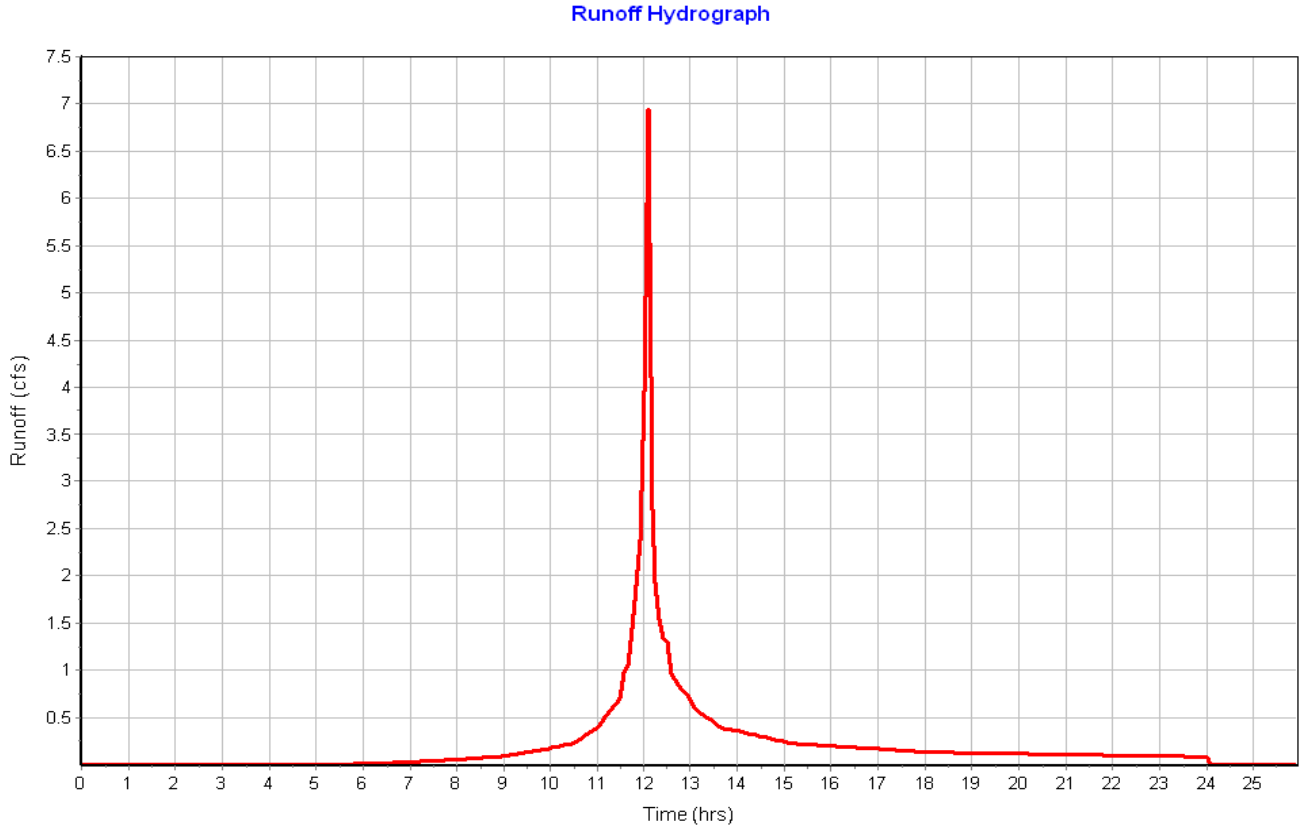
Total TOC (min) 2.41

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.50
Peak Runoff (cfs)	7.03
Weighted Curve Number	74.22
Time of Concentration (days hh:mm:ss)	0 00:02:25

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.66
Peak Rate Factor 484.00
Weighted Curve Number 74.02
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.60	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.65		74.02

Time of Concentration

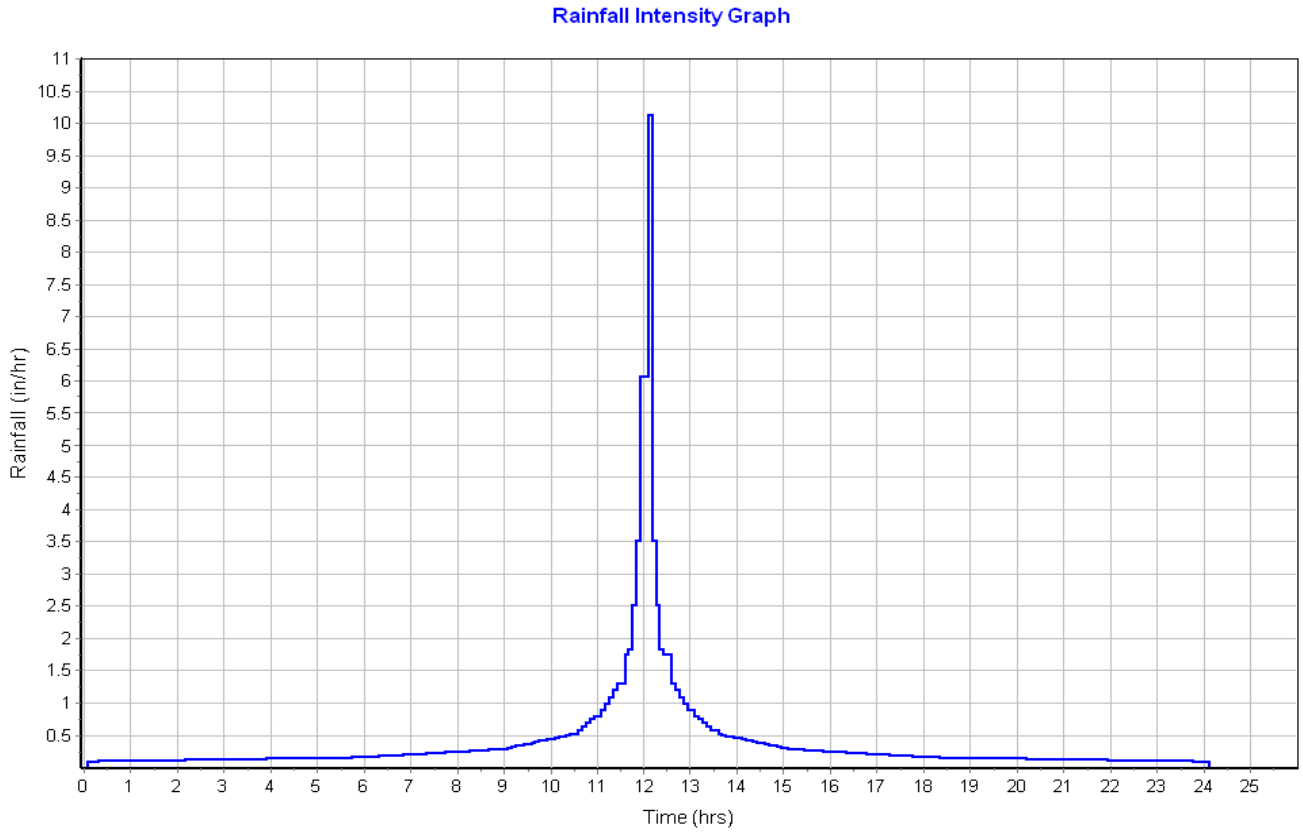
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

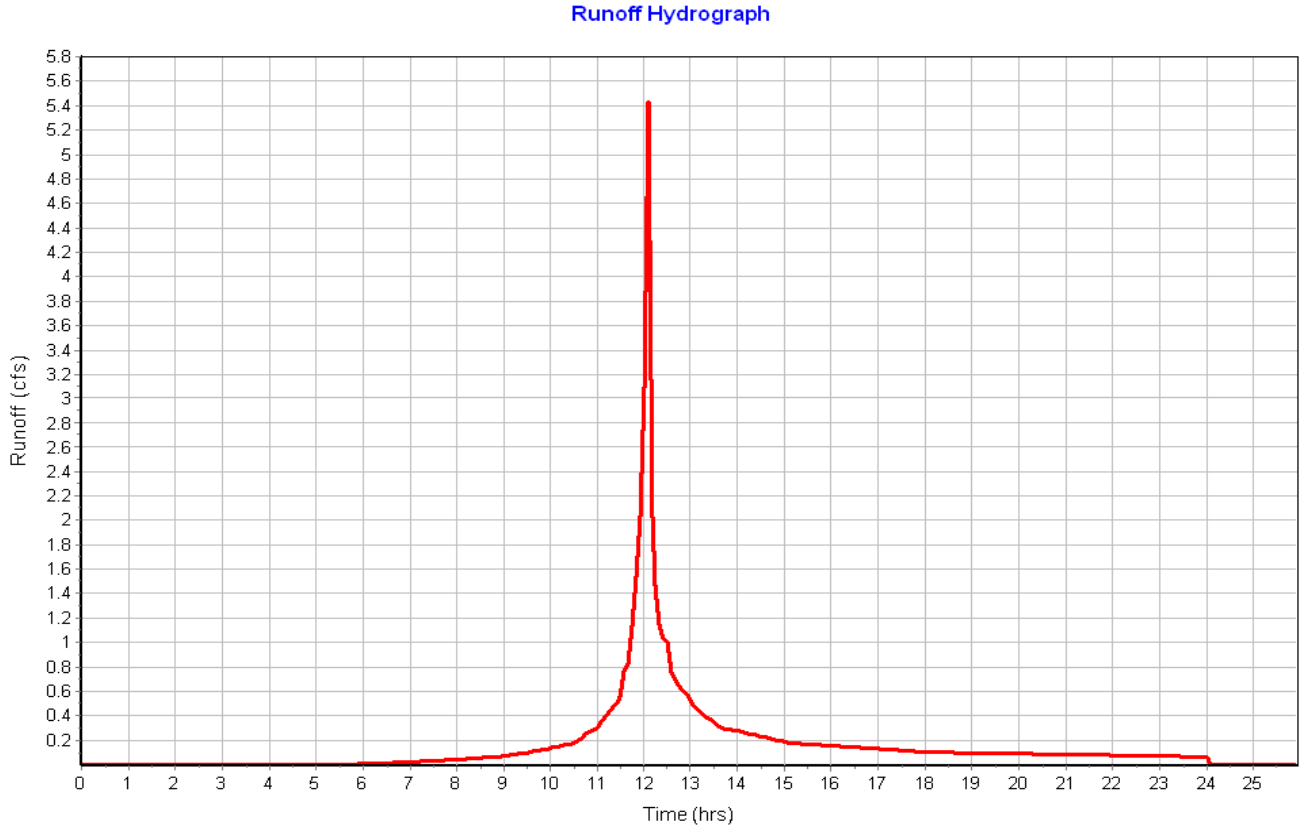
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.47
Peak Runoff (cfs) 5.49
Weighted Curve Number 74.02
Time of Concentration (days hh:mm:ss) 0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.70	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

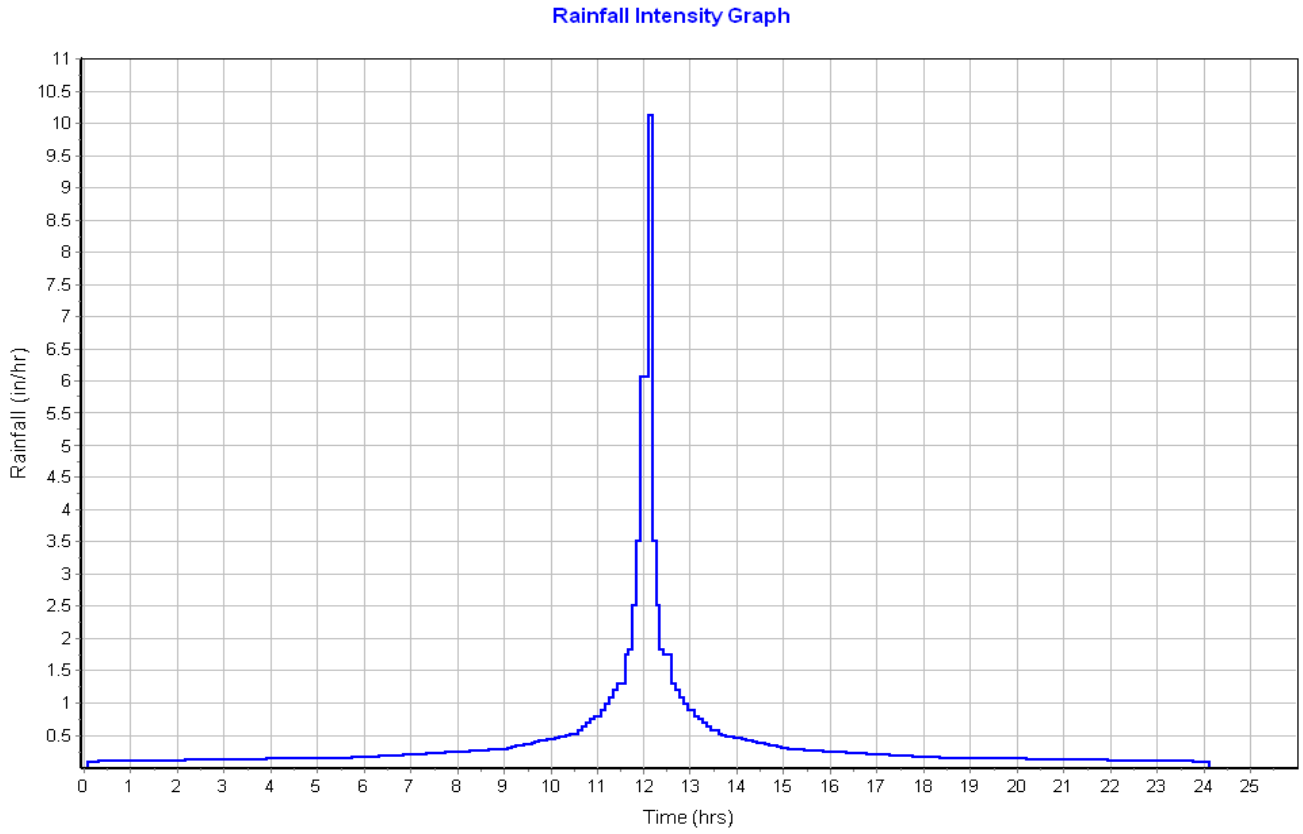
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.15	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

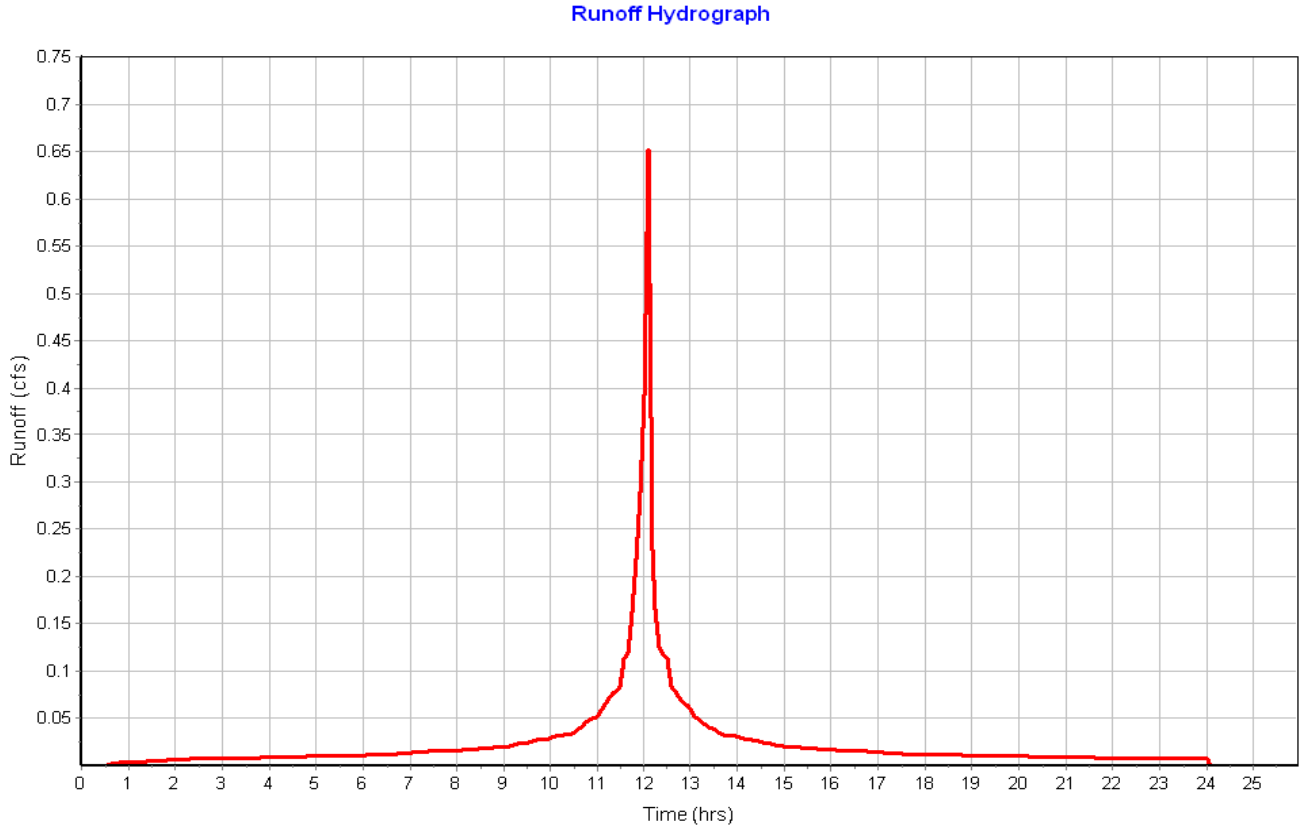
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.65
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	10.78	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

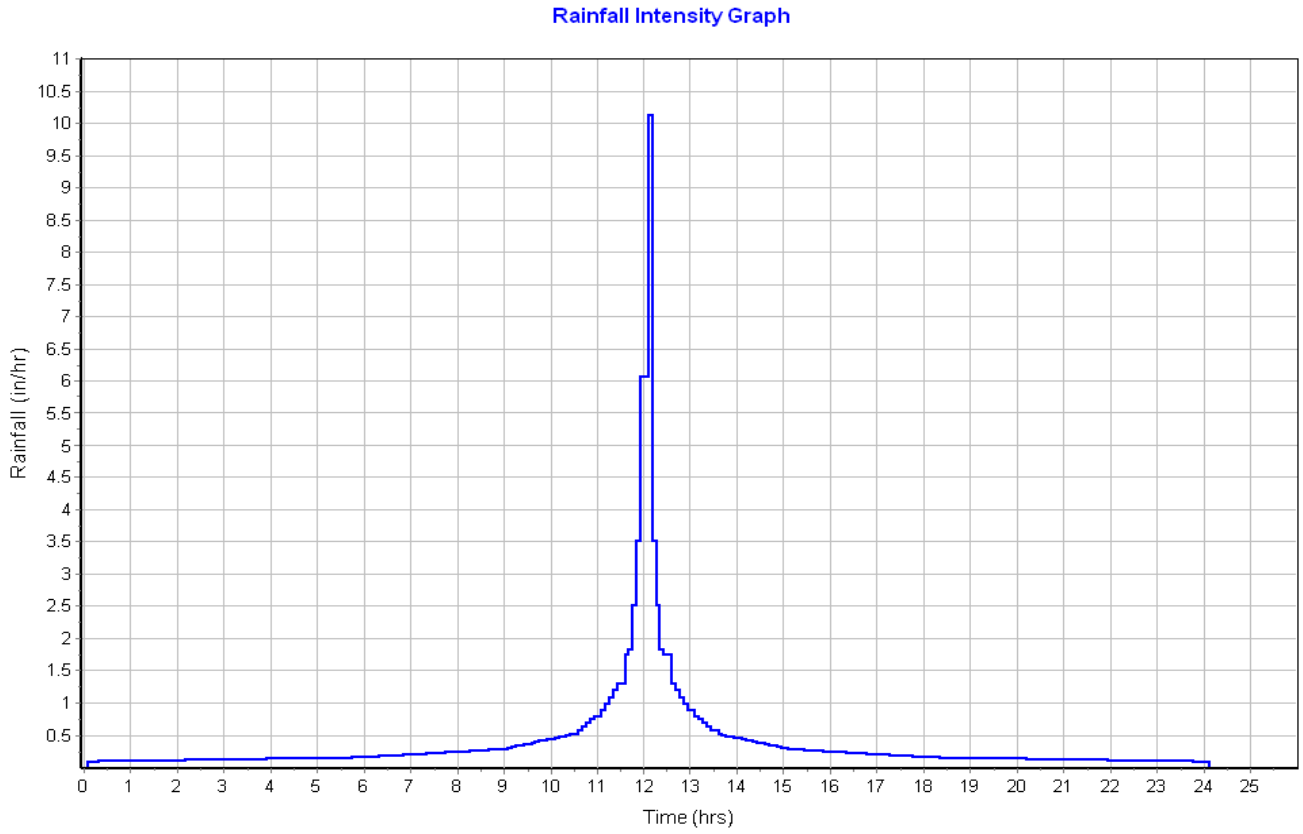
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	182.17	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.50	0.00	0.00

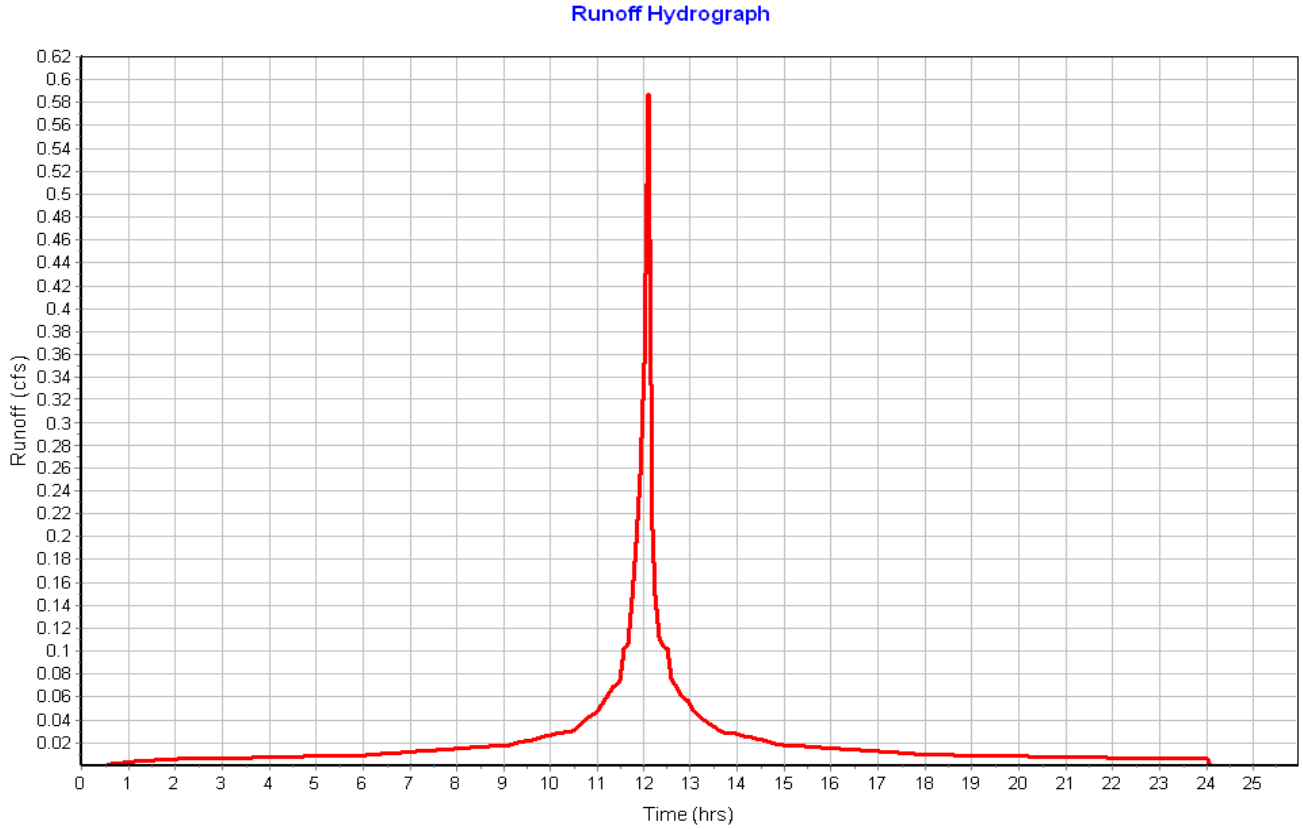
Total TOC (min) 1.60

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:36

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

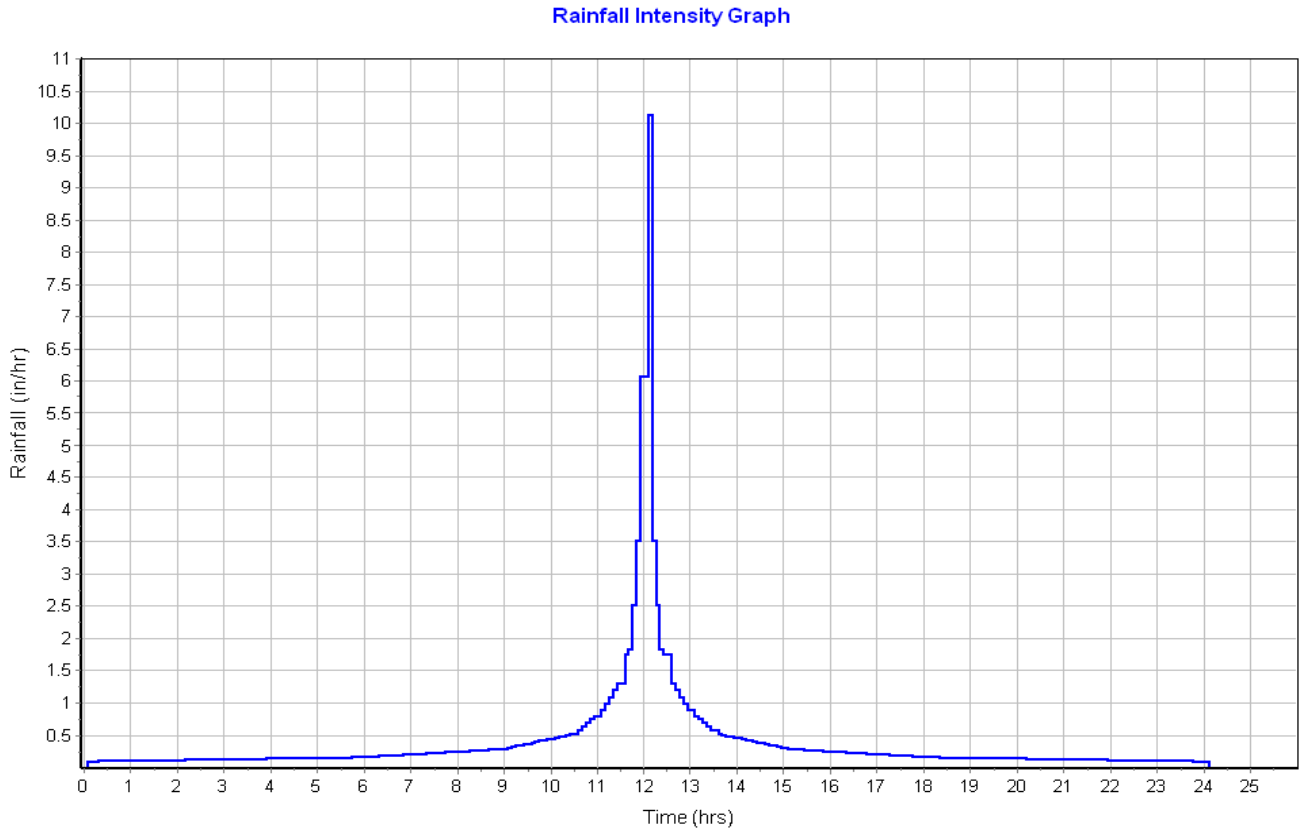
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.21	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

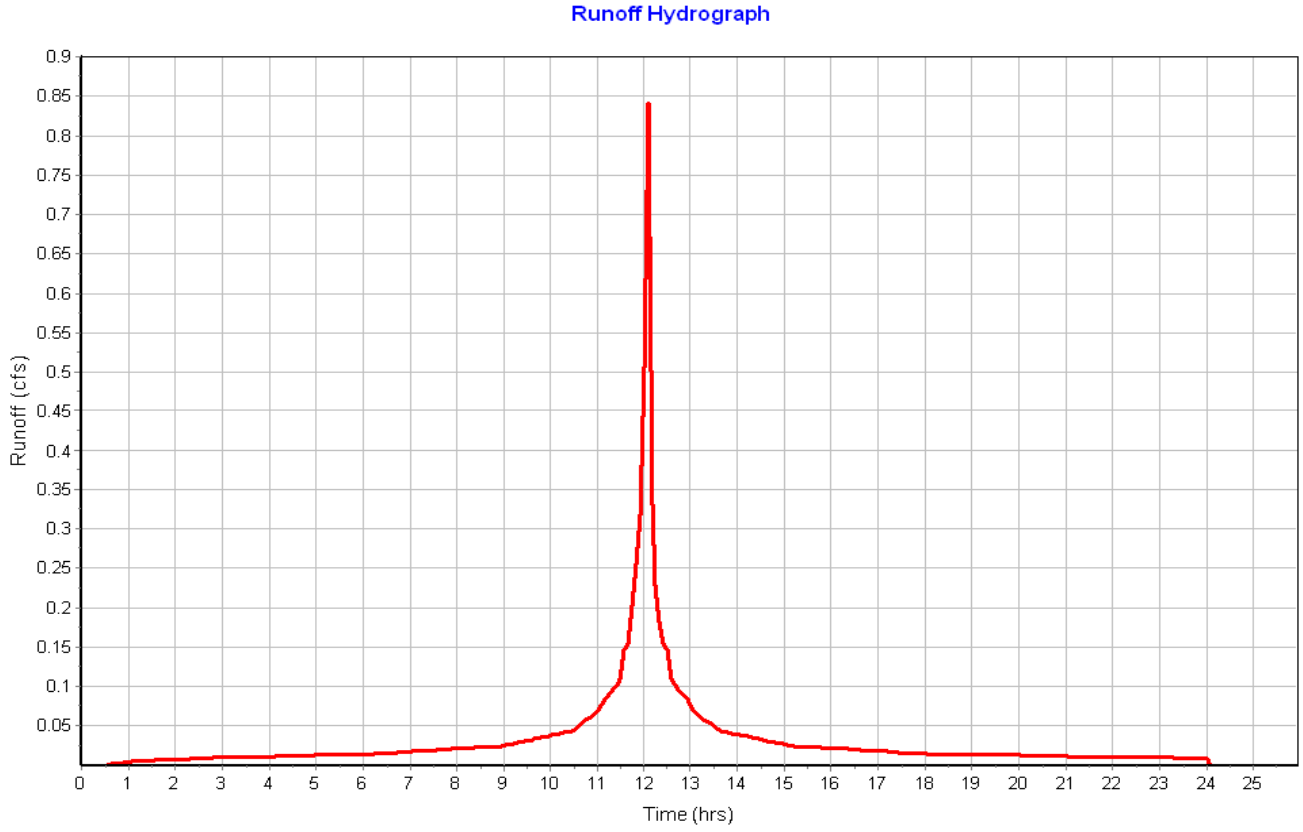
Total TOC (min) 2.68

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.85
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:41

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.2	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

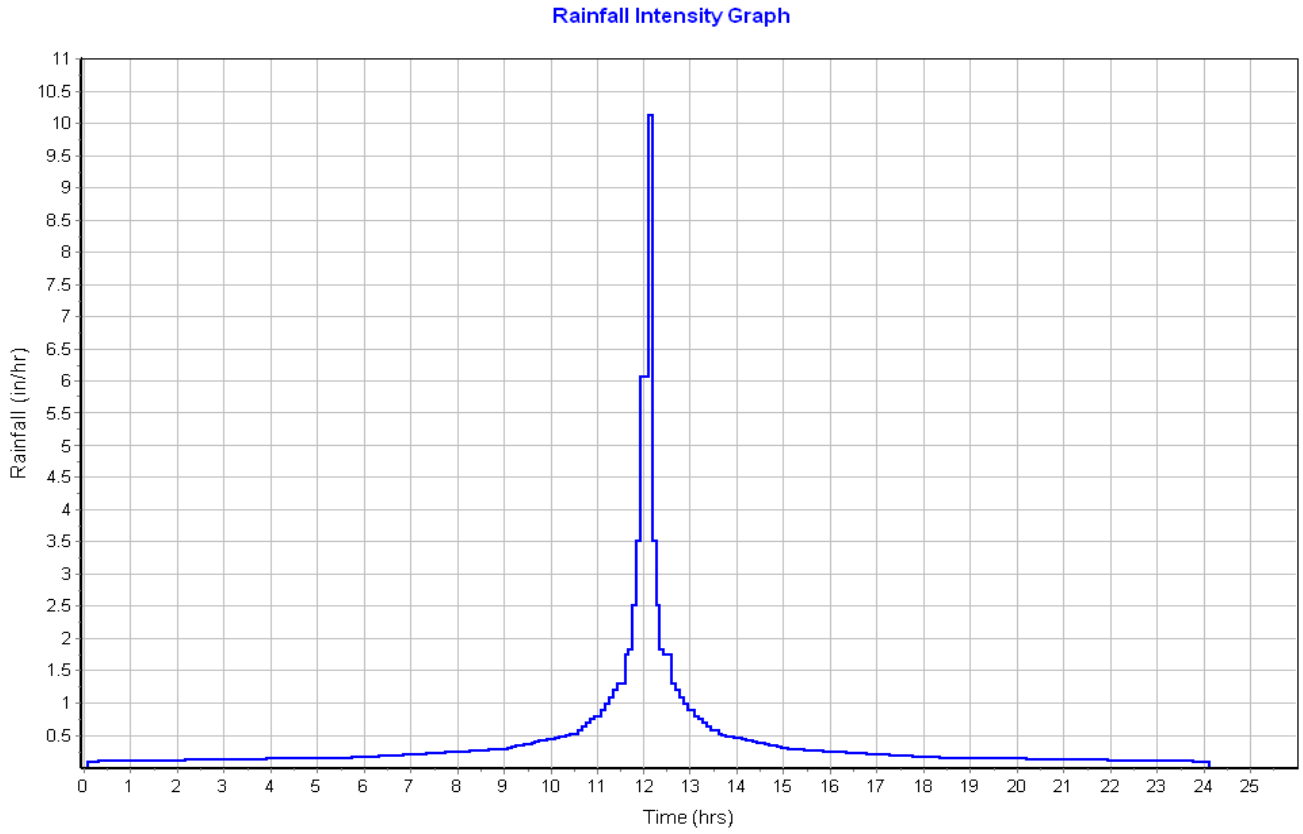
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.1	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.56	0.00	0.00

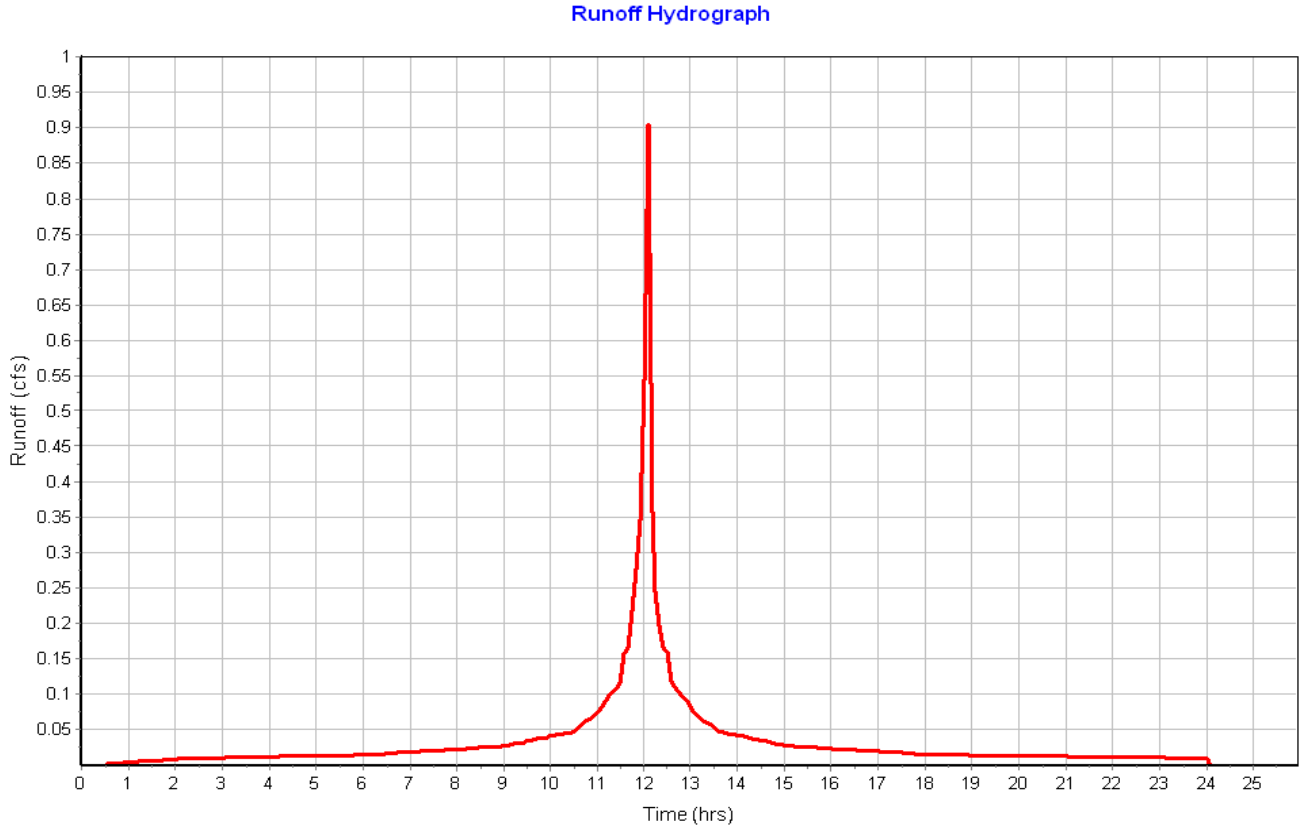
Total TOC (min) 2.67

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.91
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:40

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12.81	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

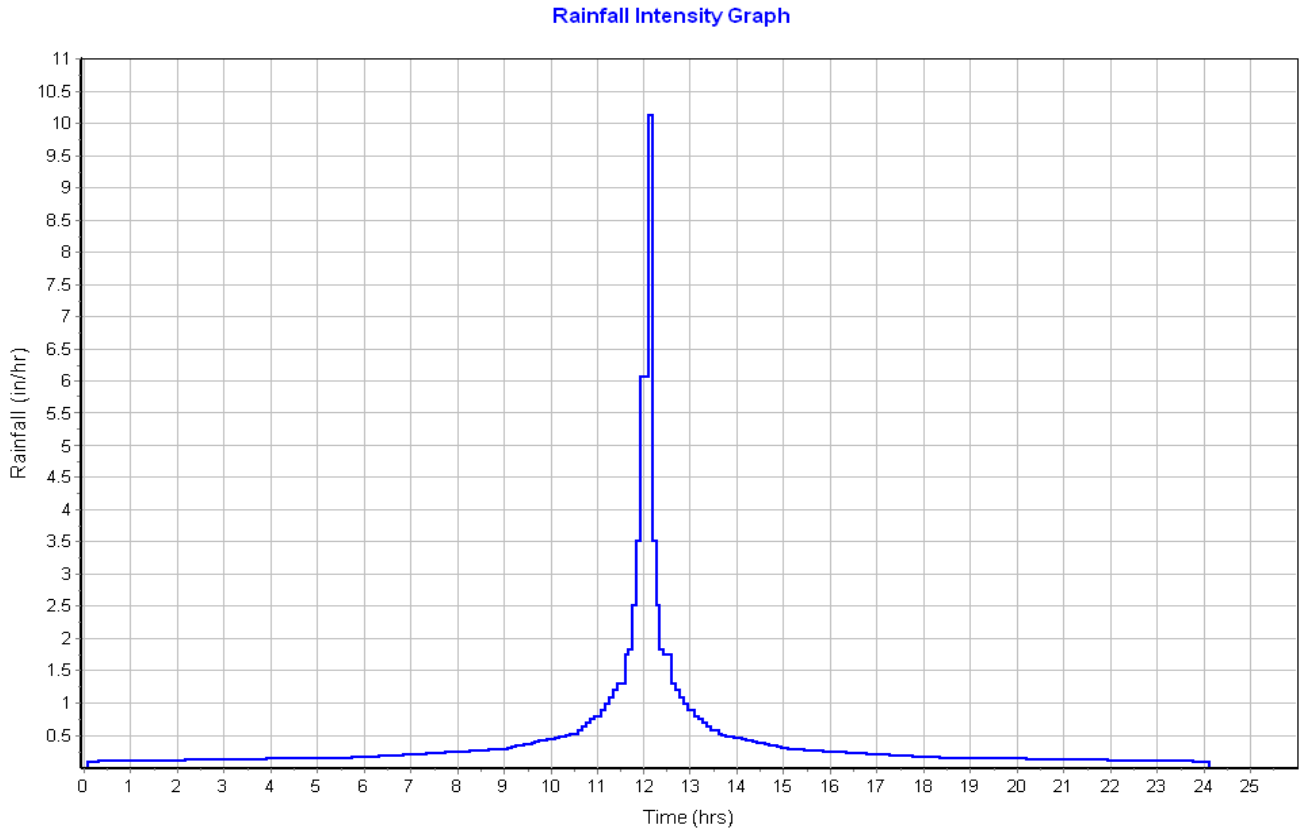
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.28	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

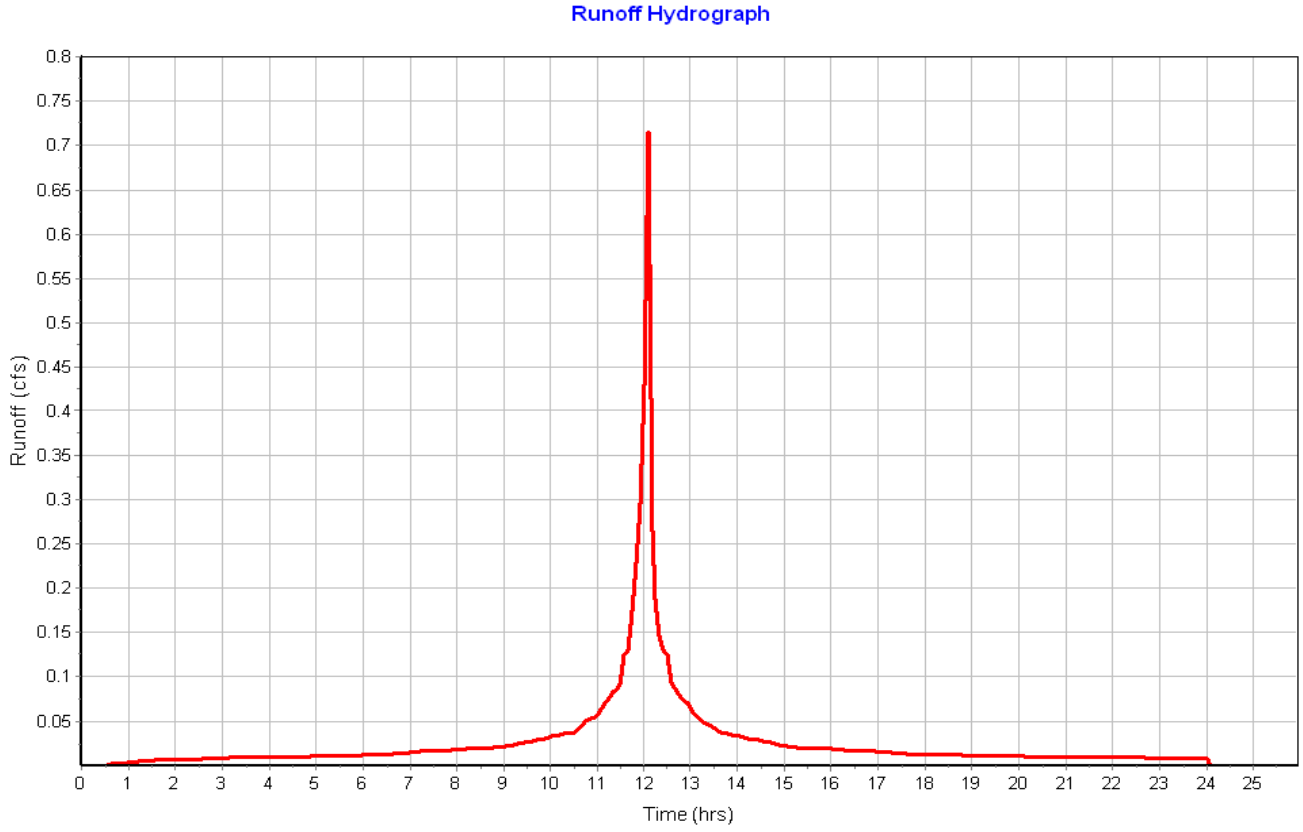
Total TOC (min) 2.29

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.72
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:17

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	11.8	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

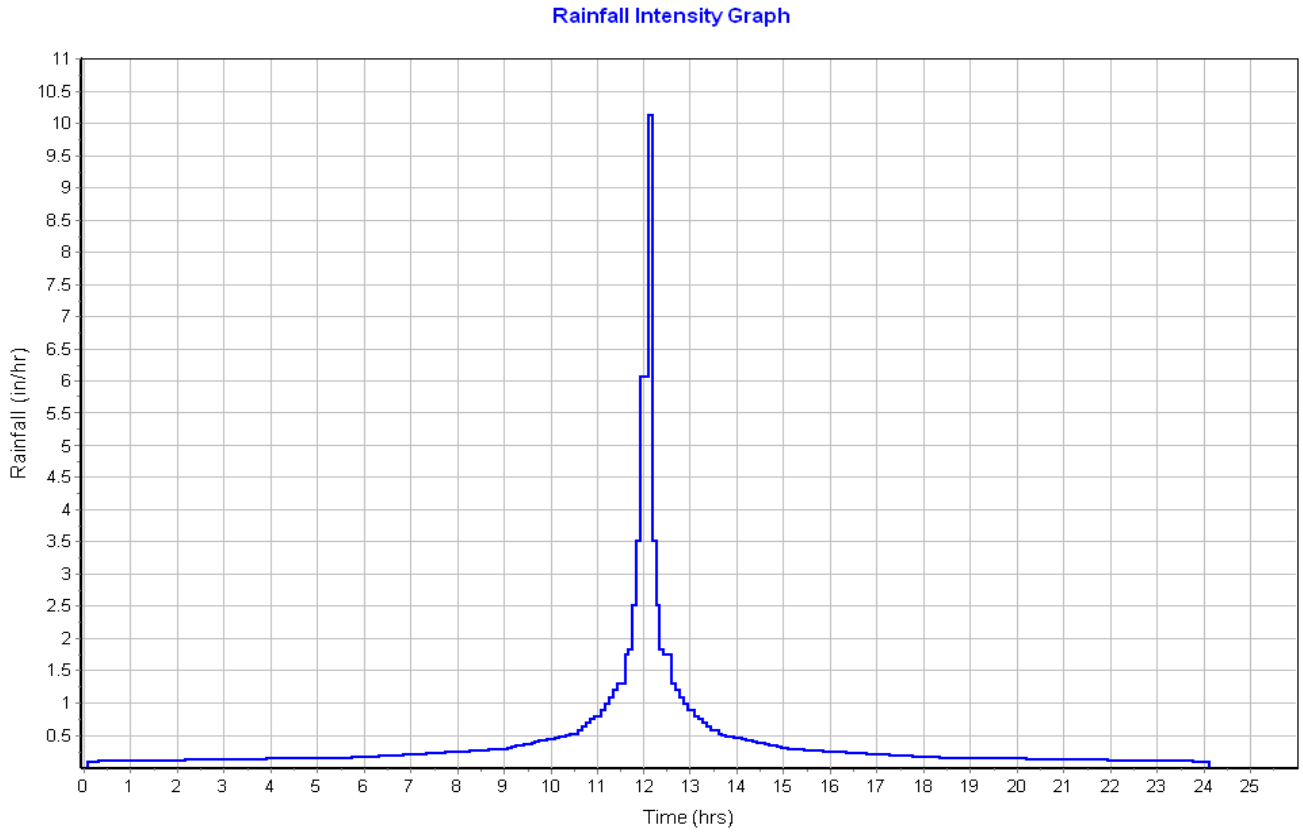
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	262.8	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

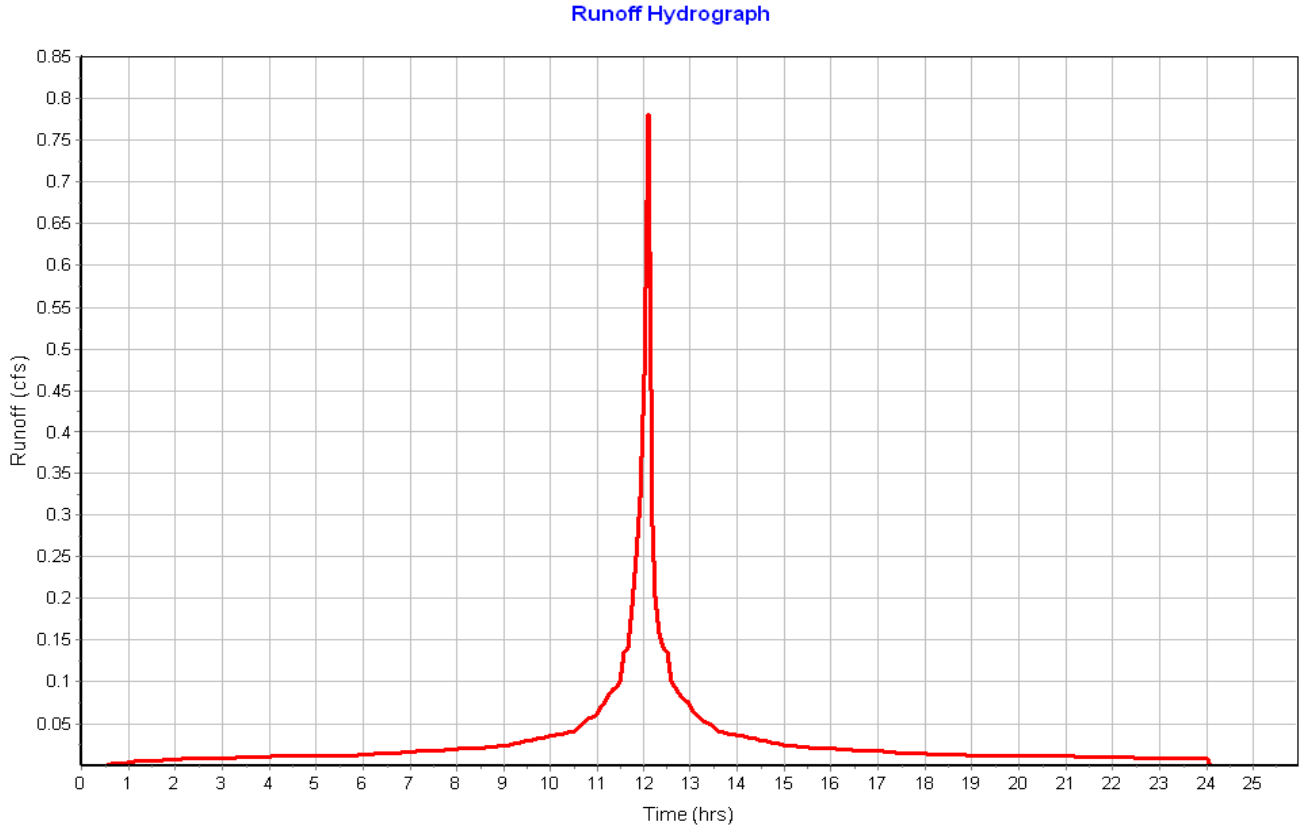
Total TOC (min) 2.27

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.78
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:16

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.07	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

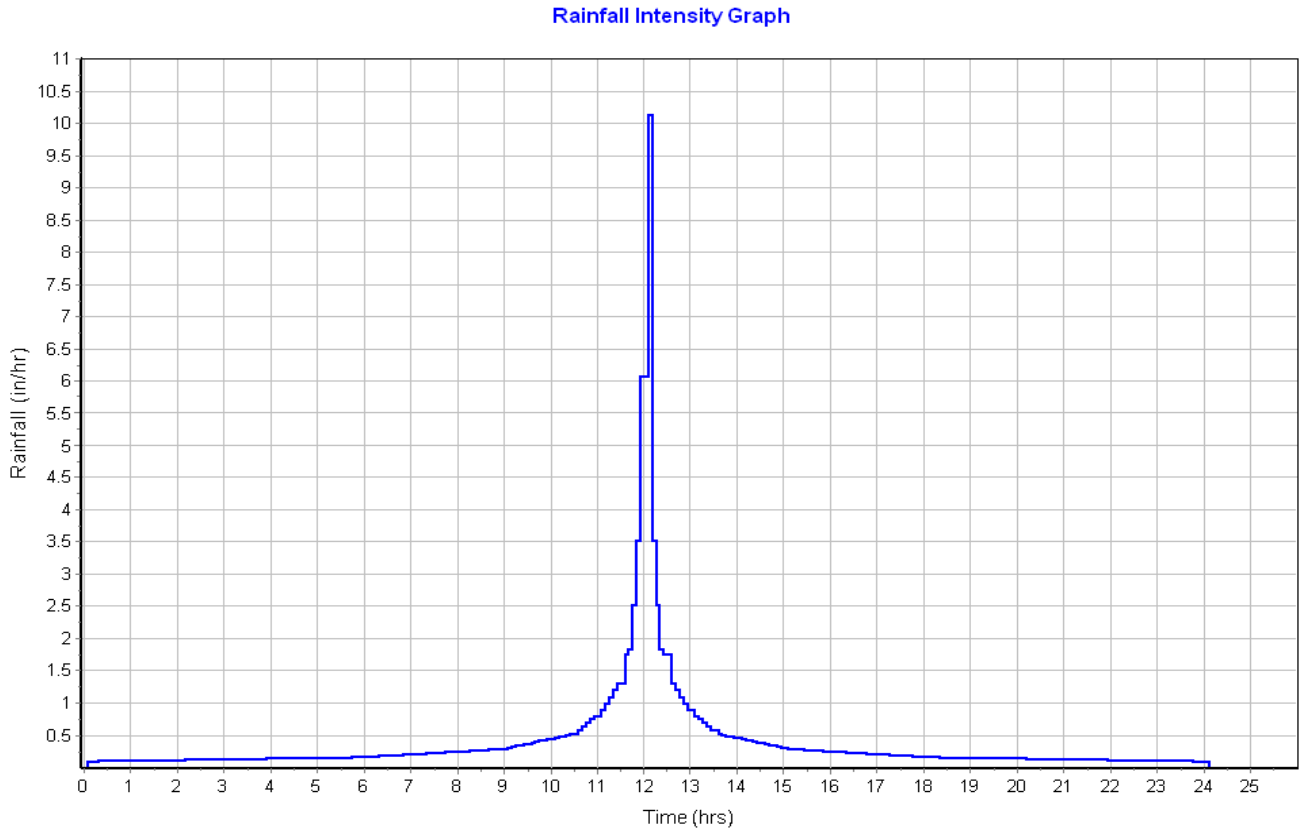
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	282.36	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.32	0.00	0.00

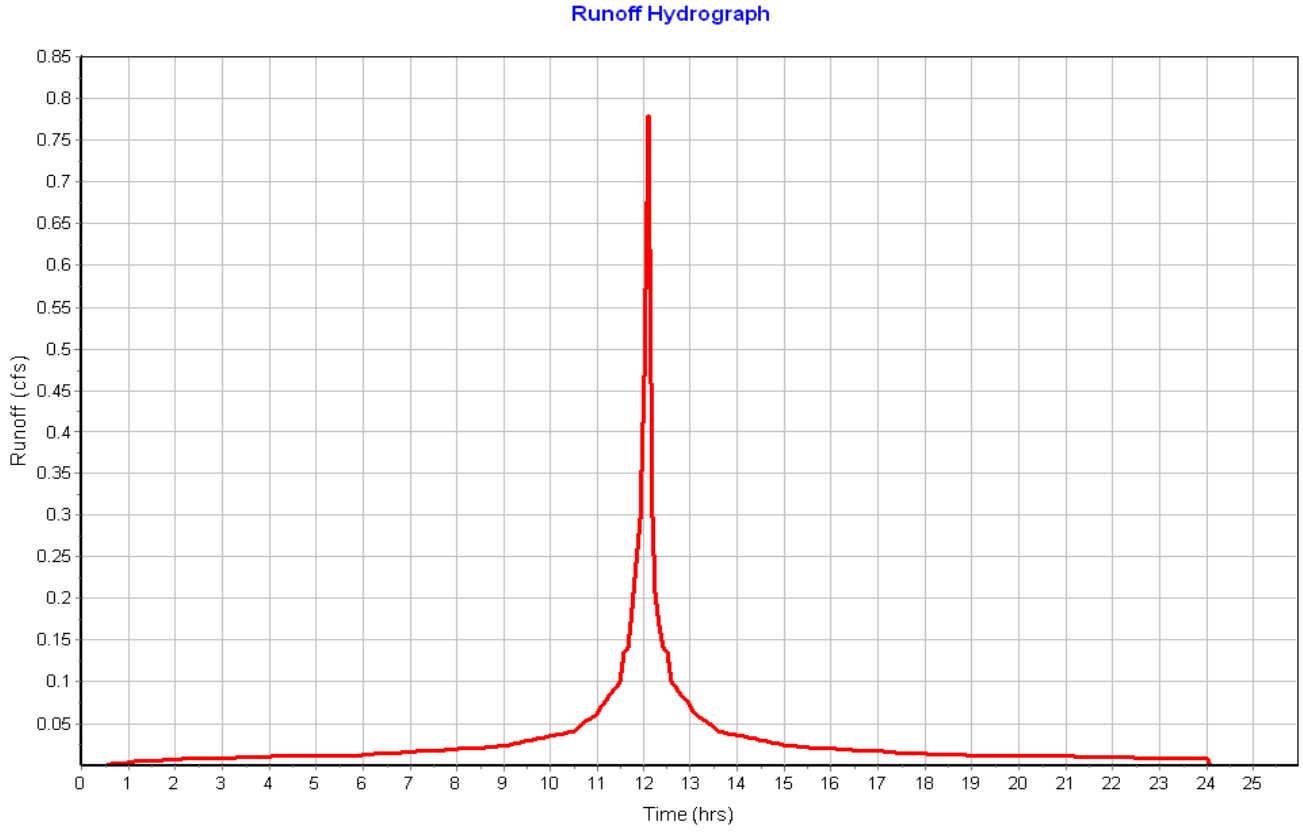
Total TOC (min) 2.44

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.78
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:26

Subbasin : Sub-09





Subbasin : Sub-10

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	12	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.69	0.00	0.00
Computed Flow Time (min) :	0.12	0.00	0.00

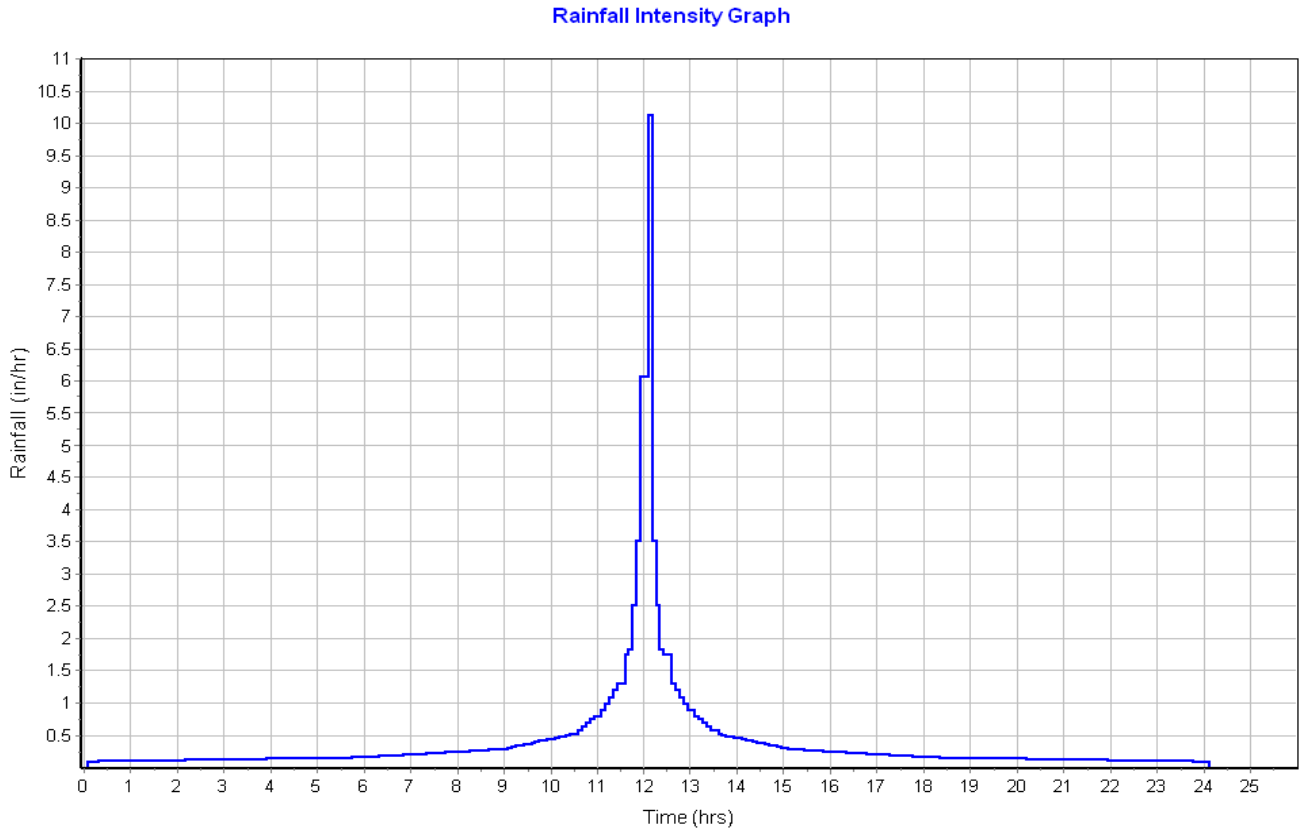
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	277.83	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.28	0.00	0.00

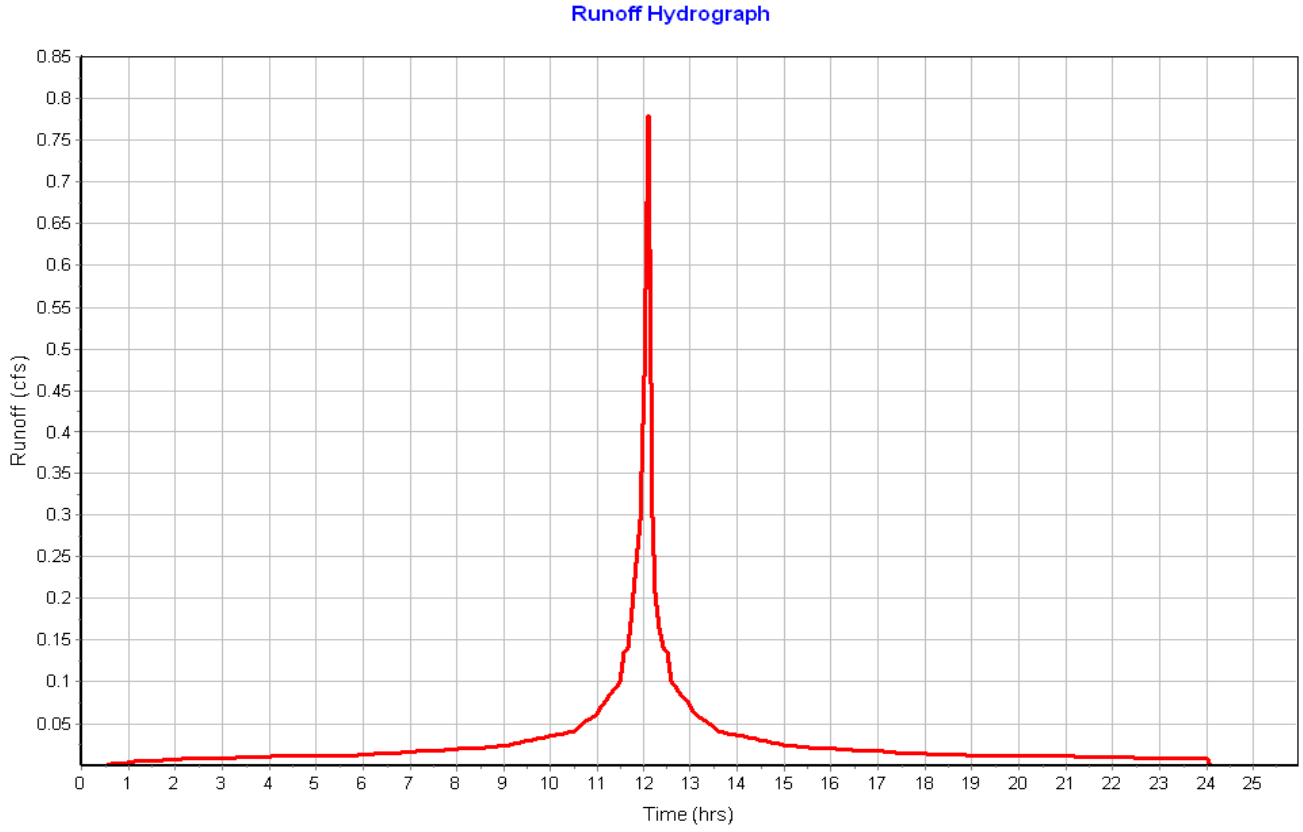
Total TOC (min) 2.40

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.78
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:24

Subbasin : Sub-10





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15.58	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.78	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

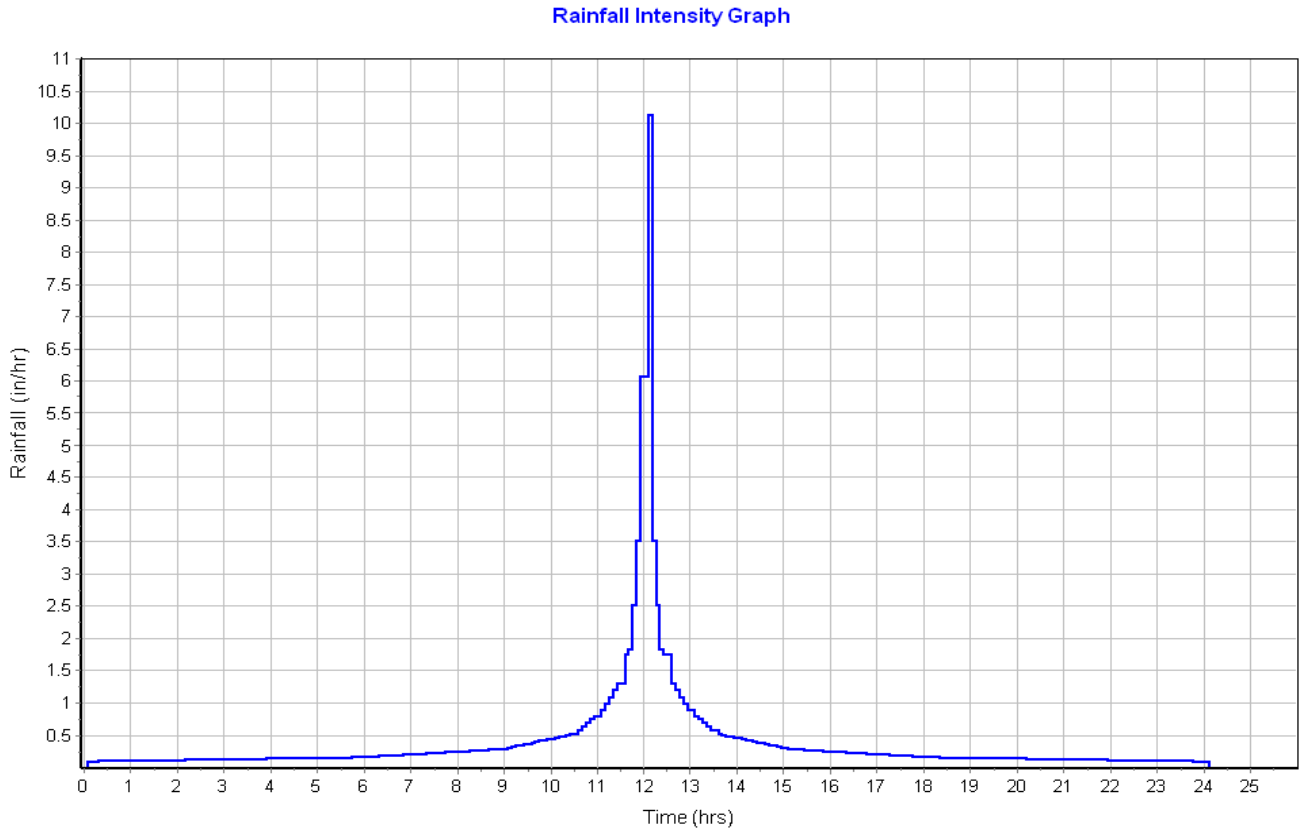
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.15	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.93	0.00	0.00

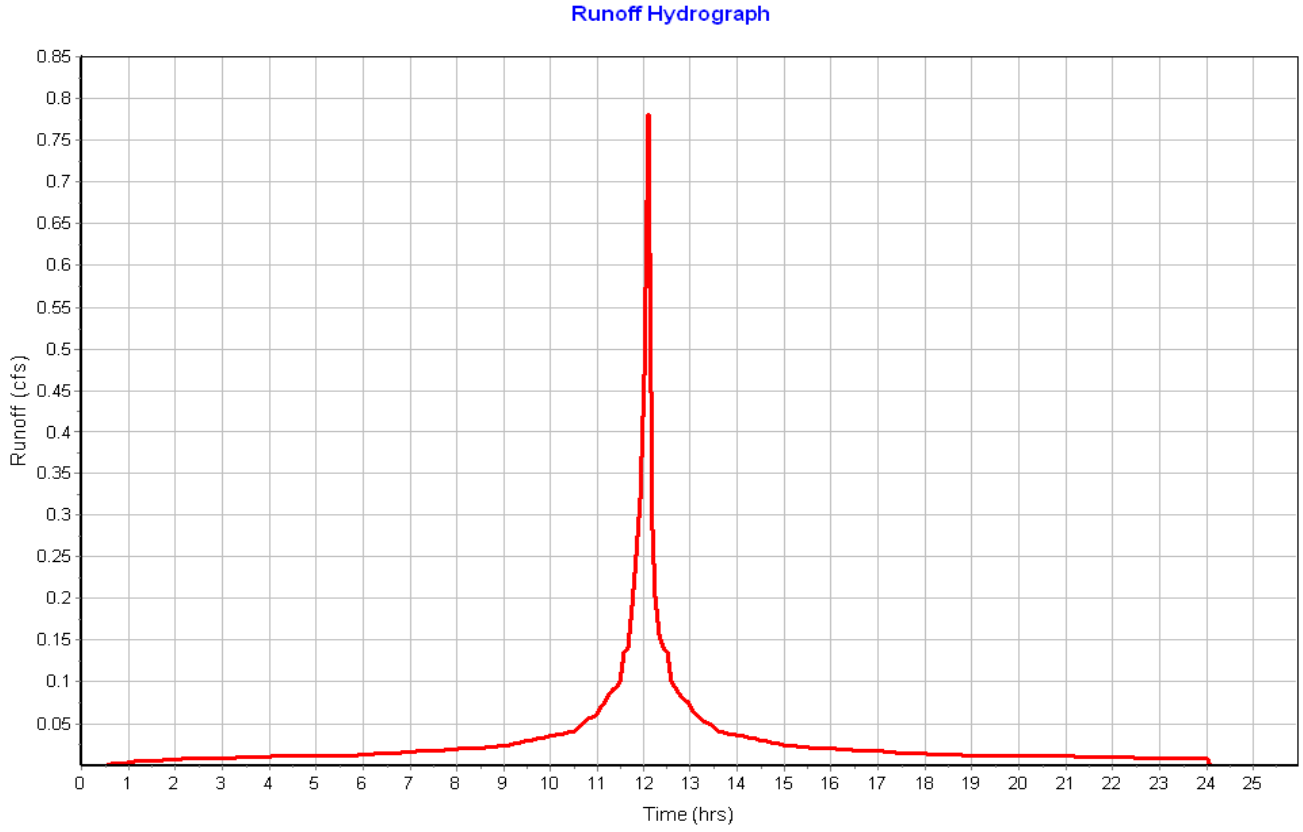
Total TOC (min) 2.08

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.78
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:05

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13.18	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.73	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

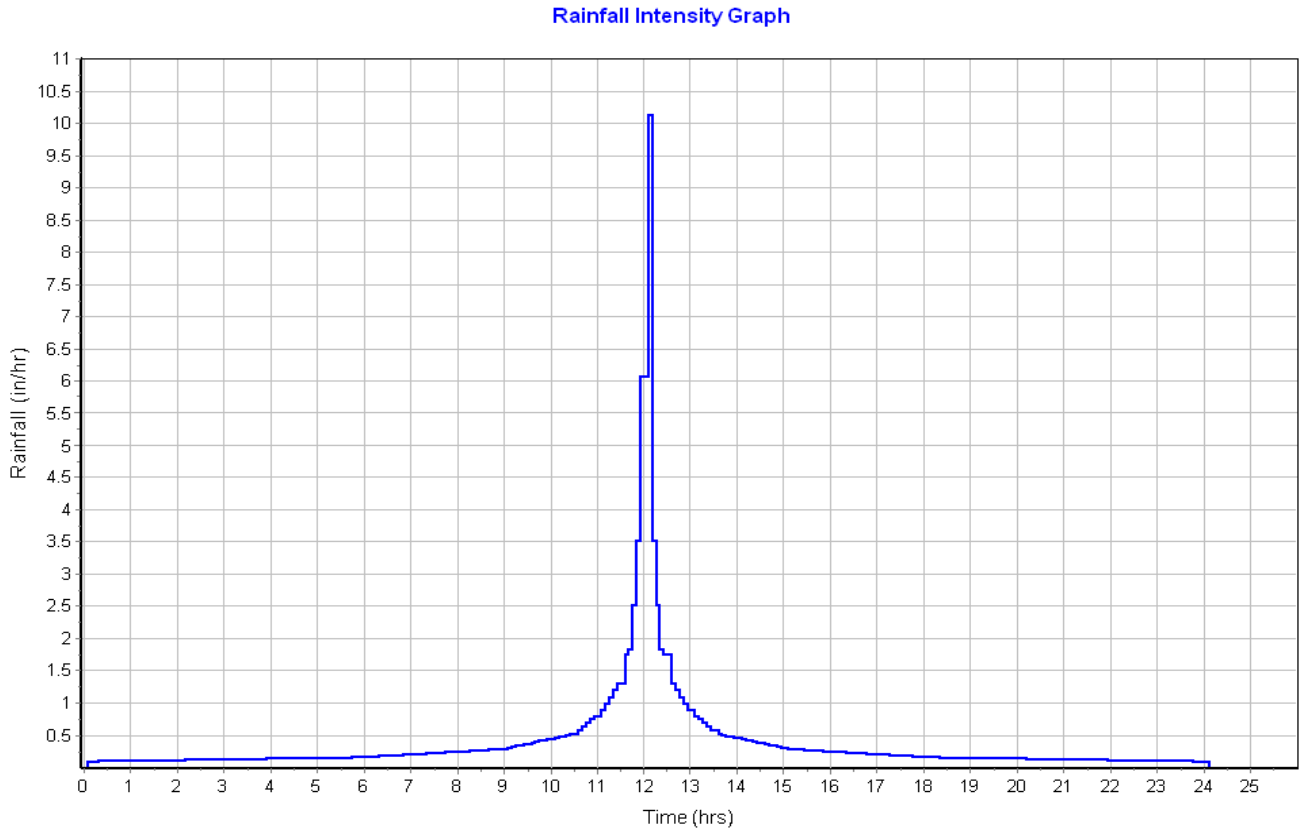
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	256.83	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.95	0.00	0.00

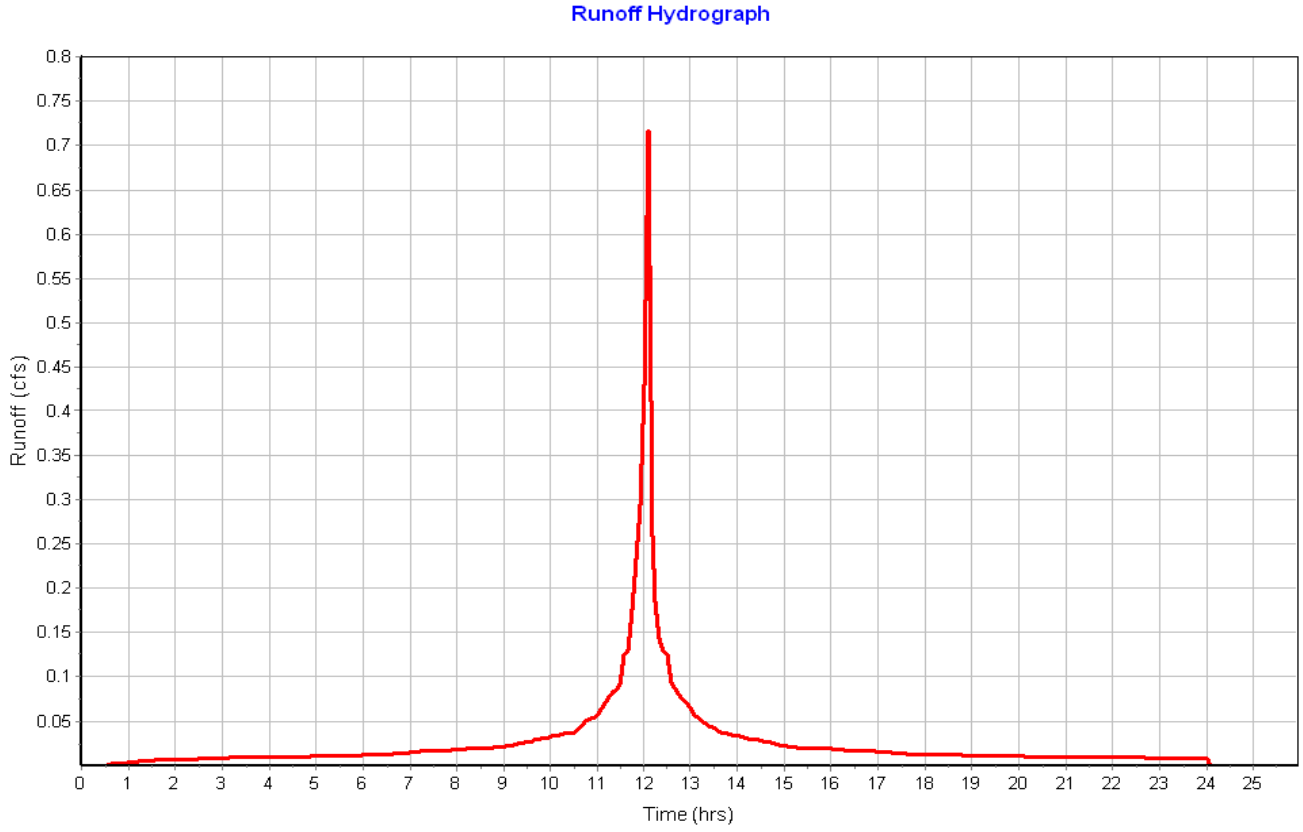
Total TOC (min) 2.07

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.72
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:04

Subbasin : Sub-12





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	24.65	117.15	4.00	117.00	4.00	0.15	0.6100	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	31.63	117.00	4.00	115.00	3.00	2.00	6.3200	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	21.33	116.15	4.00	116.00	4.00	0.15	0.7000	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
4	Link-04	18.20	116.00	4.00	115.00	3.00	1.00	5.4900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
5	Link-05	32.12	115.35	4.00	113.00	1.00	2.35	7.3200	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
6	Link-06	34.11	115.35	4.00	113.00	1.00	2.35	6.8900	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
7	Link-07	31.14	112.65	4.00	112.25	0.25	0.40	1.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
8	Link-08	26.16	112.65	4.00	112.25	0.25	0.40	1.5300	CIRCULAR	12.000	12.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.64	0 12:10	1.81	0.36	2.20	0.19	0.40	0.40	0.00		Calculated
2	Link-02	1.22	0 12:10	17.17	0.07	5.29	0.10	0.28	0.19	0.00		Calculated
3	Link-03	1.54	0 12:10	1.94	0.79	2.36	0.15	0.77	0.77	0.00		Calculated
4	Link-04	3.21	0 12:10	5.43	0.59	6.01	0.05	0.64	0.64	0.00		Calculated
5	Link-05	0.77	0 12:10	6.26	0.12	5.16	0.10	0.25	0.25	0.00		Calculated
6	Link-06	0.77	0 12:10	6.08	0.13	5.06	0.11	0.25	0.25	0.00		Calculated
7	Link-07	0.77	0 12:10	2.62	0.29	2.72	0.19	0.39	0.39	0.00		Calculated
8	Link-08	0.71	0 12:10	2.86	0.25	2.80	0.16	0.36	0.36	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.65
Peak Lateral Inflow (cfs)	0.65
Peak Outflow (cfs)	0.64
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.61
Max HGL Depth Attained (ft)	4.46
Average HGL Elevation Attained (ft)	117.13
Average HGL Depth Attained (ft)	3.98
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.23
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	1.22
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.29
Max HGL Depth Attained (ft)	4.29
Average HGL Elevation Attained (ft)	116.92
Average HGL Depth Attained (ft)	3.92
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.55
Peak Lateral Inflow (cfs)	1.55
Peak Outflow (cfs)	1.54
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.97
Max HGL Depth Attained (ft)	4.82
Average HGL Elevation Attained (ft)	116.26
Average HGL Depth Attained (ft)	4.11
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.22
Peak Lateral Inflow (cfs)	1.68
Peak Outflow (cfs)	3.21
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.73
Max HGL Depth Attained (ft)	4.73
Average HGL Elevation Attained (ft)	116.08
Average HGL Depth Attained (ft)	4.08
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.78
Peak Lateral Inflow (cfs)	0.78
Peak Outflow (cfs)	0.77
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.60
Max HGL Depth Attained (ft)	4.25
Average HGL Elevation Attained (ft)	115.28
Average HGL Depth Attained (ft)	3.93
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-07

Input Data

Invert Elevation (ft)	111.35
Max (Rim) Elevation (ft)	118.20
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.35
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.78
Peak Lateral Inflow (cfs)	0.78
Peak Outflow (cfs)	0.77
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.61
Max HGL Depth Attained (ft)	4.26
Average HGL Elevation Attained (ft)	115.28
Average HGL Depth Attained (ft)	3.93
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-08

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.78
Peak Lateral Inflow (cfs)	0.78
Peak Outflow (cfs)	0.77
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	113.06
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	112.63
Average HGL Depth Attained (ft)	3.98
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-09

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.72
Peak Lateral Inflow (cfs)	0.72
Peak Outflow (cfs)	0.71
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	113.03
Max HGL Depth Attained (ft)	4.38
Average HGL Elevation Attained (ft)	112.61
Average HGL Depth Attained (ft)	3.96
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

SSA Model Inputs and Outputs

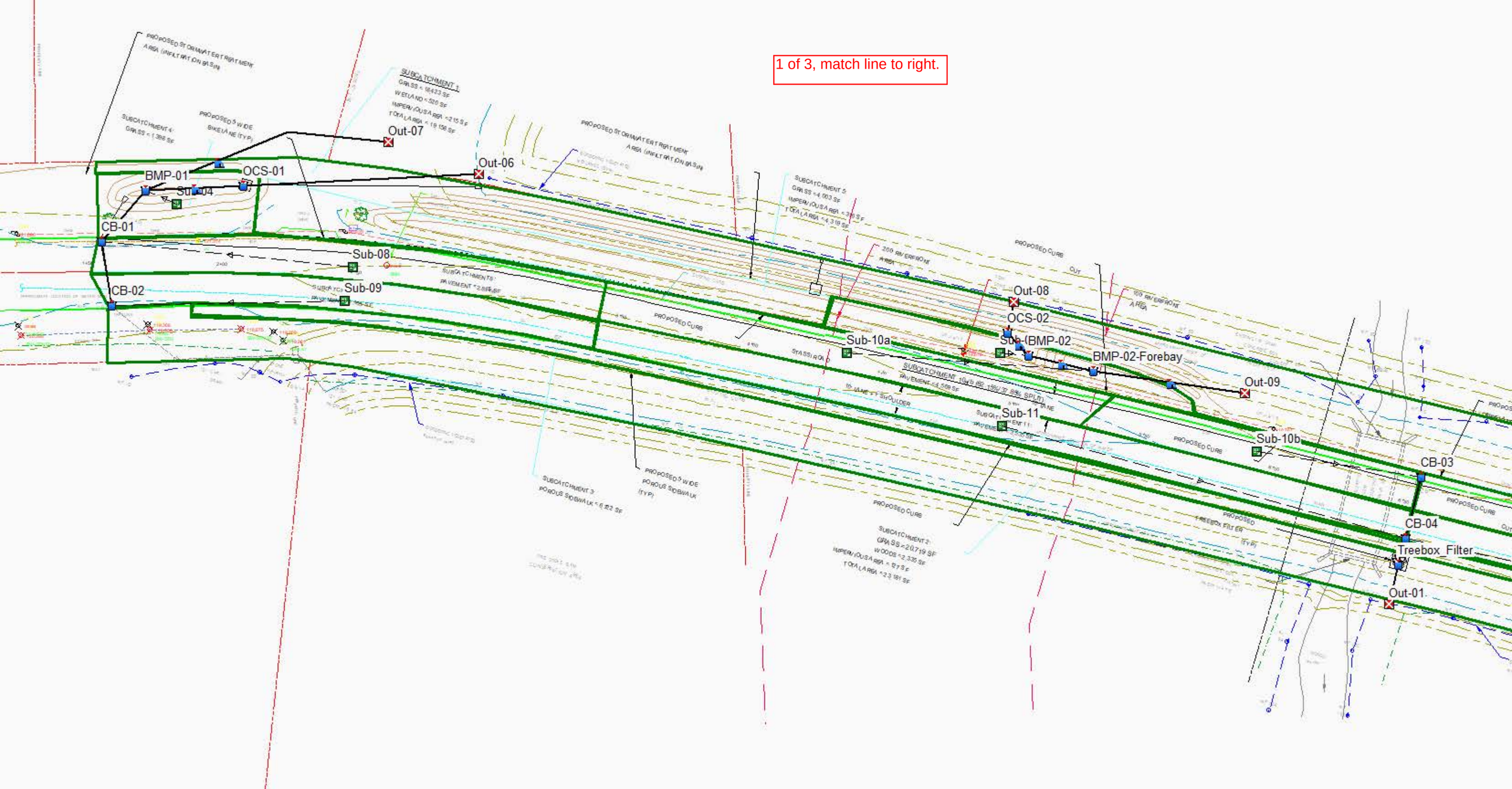
for

Scenario 2

Proposed Conditions Under Existing Regulations

Output List

- Model Schematic with Labels
- 2-year SCS Type III
- 100-year SCS Type III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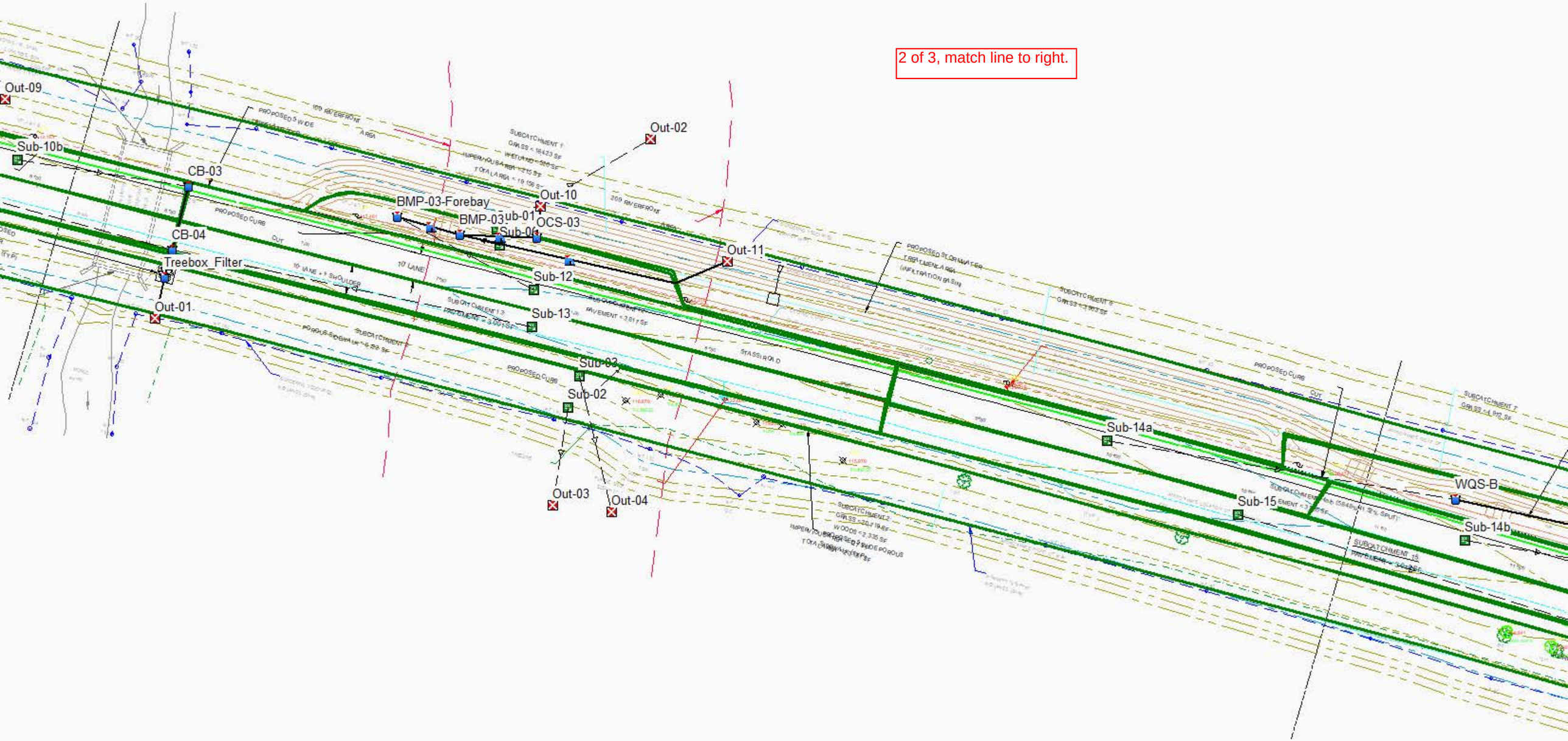
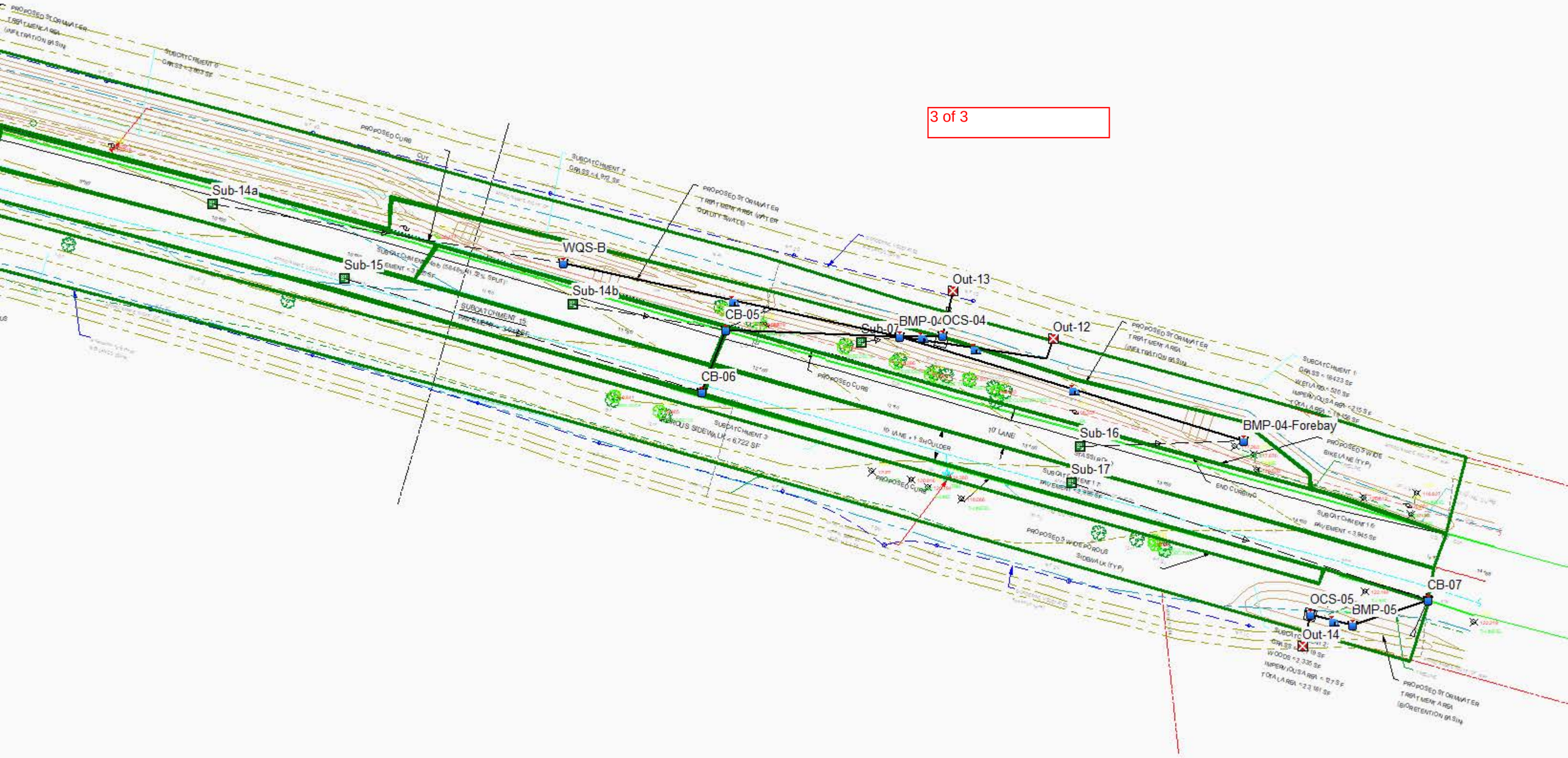
Out-07
Out-06
BMP-01
OCS-01
Sub-04
CB-01
Sub-08
Sub-09
CB-02
Sub-10a
Out-08
OCS-02
Sub-(BMP-02
BMP-02-Forebay
Out-09
Sub-11
Sub-10b
CB-03
CB-04
Treebox_Filter
Out-01


2 of 3, match line to right.
Out-09
Sub-10b
CB-03
CB-04
Treebox_Filter
Out-01
BMP-03-Forebay
BMP-03
Sub-01
Sub-06
OCS-03
Out-10
Out-02
Out-11
Sub-12
Sub-13
Sub-03
Sub-02
Out-03
Out-04
Sub-14a
Sub-15
WQS-B
Sub-14b


3 of 3
Sub-14a
Sub-15
WQS-B
Sub-14b
CB-05
CB-06
Out-13
BMP-04
OCS-04
Sub-07
Out-12
Sub-16
Sub-17
BMP-04-Forebay
CB-07
OCS-05
BMP-05
Out-14

Project Description

File Name ..... Scenario 2 - Prop Conditions (Existing Regulation).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	19
Nodes	35
Junctions	0
Outfalls	13
Flow Diversions	0
Inlets	0
Storage Nodes	22
Links	27
Channels	0
Pipes	14
Pumps	0
Orifices	0
Weirs	13
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.56	484.00	74.33	3.10	0.99	0.56	0.62	0 00:01:22
2	Sub-02	0.53	484.00	74.03	3.10	0.97	0.52	0.57	0 00:02:06
3	Sub-03	0.15	484.00	80.00	3.10	1.32	0.20	0.23	0 00:00:07
4	Sub-04	0.03	484.00	74.00	3.10	0.82	0.03	0.03	0 00:01:14
5	Sub-05	0.03	484.00	74.00	3.10	0.82	0.03	0.03	0 00:00:43
6	Sub-06	0.03	484.00	74.00	3.10	0.82	0.03	0.03	0 00:00:43
7	Sub-07	0.11	484.00	74.00	3.10	0.97	0.11	0.08	0 00:20:21
8	Sub-08	0.07	484.00	98.00	3.10	2.85	0.19	0.17	0 00:01:38
9	Sub-09	0.05	484.00	98.00	3.10	2.84	0.14	0.13	0 00:01:37
10	Sub-10a	0.06	484.00	98.00	3.10	2.85	0.18	0.17	0 00:01:43
11	Sub-10b	0.04	484.00	98.00	3.10	2.84	0.12	0.12	0 00:01:09
12	Sub-11	0.08	484.00	98.00	3.10	2.86	0.23	0.22	0 00:02:42
13	Sub-12	0.09	484.00	98.00	3.10	2.86	0.25	0.23	0 00:02:18
14	Sub-13	0.07	484.00	98.00	3.10	2.86	0.20	0.18	0 00:02:16
15	Sub-14a	0.05	484.00	98.00	3.10	2.85	0.16	0.15	0 00:01:22
16	Sub-14b	0.04	484.00	98.00	3.10	2.83	0.10	0.10	0 00:01:00
17	Sub-15	0.07	484.00	98.00	3.10	2.86	0.20	0.18	0 00:02:08
18	Sub-16	0.09	484.00	98.00	3.10	2.86	0.26	0.23	0 00:02:07
19	Sub-17	0.07	484.00	98.00	3.10	2.86	0.20	0.18	0 00:02:09

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					0.51	112.00					
2	Out-02	Outfall	112.00					0.60	112.00					
3	Out-03	Outfall	112.00					0.55	112.00					
4	Out-04	Outfall	112.00					0.22	112.00					
5	Out-06	Outfall	113.00					0.33	113.00					
6	Out-07	Outfall	115.00					0.00	115.00					
7	Out-08	Outfall	114.00					0.08	114.07					
8	Out-09	Outfall	114.00					0.00	114.00					
9	Out-10	Outfall	114.00					0.26	114.00					
10	Out-11	Outfall	114.00					0.00	114.00					
11	Out-12	Outfall	114.00					0.00	114.00					
12	Out-13	Outfall	110.00					0.67	110.00					
13	Out-14	Outfall	110.00					0.18	110.00					
14	BMP-01	Storage Node	116.50	119.00	0.00		0.00	0.33	116.95				0.00	0.00
15	BMP-02	Storage Node	118.00	119.00	0.00		0.00	0.20	118.53				0.00	0.00
16	BMP-02-Forebay	Storage Node	118.00	119.00	0.00		0.00	0.17	118.63				0.00	0.00
17	BMP-03	Storage Node	117.00	119.00	0.00		0.00	0.27	117.55				0.00	0.00
18	BMP-03-Forebay	Storage Node	117.00	119.00	0.00		0.00	0.23	117.64				0.00	0.00
19	BMP-04	Storage Node	114.00	115.00	0.00		0.00	0.71	114.59				0.00	0.00
20	BMP-04-Forebay	Storage Node	114.00	115.00	0.00		0.00	0.23	114.64				0.00	0.00
21	BMP-05	Storage Node	113.00	114.00	0.00		0.00	0.18	113.54				0.00	0.00
22	CB-01	Storage Node	113.00	120.00	0.00		1000.00	0.30	117.20				0.00	0.00
23	CB-02	Storage Node	113.15	120.00	0.00		1000.00	0.13	117.33				0.00	0.00
24	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.12	116.42				0.00	0.00
25	CB-04	Storage Node	112.00	119.00	0.00		1000.00	0.51	116.41				0.00	0.00
26	CB-05	Storage Node	111.50	118.50	0.00		1000.00	0.28	115.69				0.00	0.00
27	CB-06	Storage Node	111.65	118.50	0.00		1000.00	0.18	115.88				0.00	0.00
28	CB-07	Storage Node	108.65	115.50	0.00		1000.00	0.18	113.61				0.00	0.00
29	OCS-01	Storage Node	109.90	116.90	0.00		0.00	0.33	114.32				0.00	0.00
30	OCS-02	Storage Node	111.50	118.50	0.00		0.00	0.14	115.82				0.00	0.00
31	OCS-03	Storage Node	111.50	117.50	0.00		0.00	0.26	114.83				0.00	0.00
32	OCS-04	Storage Node	107.65	114.50	0.00		0.00	0.67	111.93				0.00	0.00
33	OCS-05	Storage Node	107.00	113.50	0.00		0.00	0.18	111.40				0.00	0.00
34	Treebox_Filter	Storage Node	112.50	119.00	0.00		0.00	0.51	116.17				0.00	0.00
35	WQS-B	Storage Node	117.00	118.00	0.00		0.00	0.15	117.53				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-04	Treebox_Filter	6.00	116.00	116.00	0.0000	12.000	0.0200	0.51	0.30	1.72	2.07	0.35	0.35	0.00	> CAPACITY
2	Link-02	Pipe	Treebox_Filter	Out-01	12.00	116.00	114.00	16.6700	12.000	0.0200	0.51	9.45	0.05	6.14	0.16	0.16	0.00	Calculated
3	Link-03	Pipe	CB-02	CB-01	24.02	117.15	117.00	0.6200	12.000	0.0200	0.13	1.83	0.07	1.24	0.19	0.19	0.00	Calculated
4	Link-05	Pipe	CB-03	CB-04	23.50	116.15	116.00	0.6400	12.000	0.0200	0.12	1.85	0.06	0.58	0.34	0.34	0.00	Calculated
5	Link-06	Pipe	CB-06	CB-05	23.47	115.65	115.50	0.6400	12.000	0.0200	0.18	1.85	0.10	1.56	0.21	0.21	0.00	Calculated
6	Link-07	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.15	1.83	0.08	1.54	0.18	0.18	0.00	Calculated
7	Link-08	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.15	1.83	0.08	1.54	0.18	0.18	0.00	Calculated
8	Link-09	Pipe	OCS-01	Out-06	88.06	114.05	113.25	0.9100	12.000	0.0200	0.33	2.21	0.15	2.10	0.25	0.25	0.00	Calculated
9	Link-10	Pipe	OCS-02	Out-08	11.34	115.75	113.00	24.2500	12.000	0.0200	0.08	9.10	0.01	3.56	0.06	0.07	0.00	Calculated
10	Link-11	Pipe	OCS-03	Out-10	11.51	114.65	114.25	3.4800	12.000	0.0200	0.26	4.32	0.06	2.88	0.17	0.17	0.00	Calculated
11	Link-12	Pipe	CB-05	BMP-04	16.00	115.50	115.00	3.1300	12.000	0.0200	0.28	4.09	0.07	2.88	0.18	0.18	0.00	Calculated
12	Link-13	Pipe	OCS-04	Out-13	16.60	111.65	111.00	3.9200	12.000	0.0200	0.67	4.58	0.15	3.95	0.27	0.27	0.00	Calculated
13	Link-14	Pipe	CB-07	BMP-05	28.55	113.15	113.00	0.5300	6.000	0.0200	0.18	0.26	0.69	1.14	0.48	0.96	0.00	Calculated
14	Link-15	Pipe	OCS-05	Out-14	11.48	111.15	111.00	1.3100	6.000	0.0200	0.18	0.42	0.43	2.05	0.23	0.46	0.00	Calculated
15	Weir-02	Weir	BMP-01	Out-07		116.50	115.00				0.00							
16	Weir-03	Weir	BMP-01	OCS-01		116.50	109.90				0.33							
17	Weir-04	Weir	BMP-02-Forebay	BMP-02		118.00	118.00				0.17							
18	Weir-05	Weir	BMP-02	OCS-02		118.00	111.50				0.14							
19	Weir-06	Weir	BMP-02-Forebay	Out-09		118.00	114.00				0.00							
20	Weir-07	Weir	BMP-03-Forebay	BMP-03		117.00	117.00				0.23							
21	Weir-08	Weir	BMP-03	OCS-03		117.00	111.50				0.26							
22	Weir-12	Weir	WQS-B	BMP-04		117.00	114.00				0.15							
23	Weir-13	Weir	BMP-04-Forebay	BMP-04		114.00	114.00				0.23							
24	Weir-14	Weir	BMP-04	Out-12		114.00	114.00				0.00							
25	Weir-15	Weir	BMP-04	OCS-04		114.00	107.65				0.67							
26	Weir-16	Weir	BMP-05	OCS-05		113.00	107.00				0.18							
27	Weir-17	Weir	BMP-03	Out-11		117.00	114.00				0.00							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.56
Peak Rate Factor 484.00
Weighted Curve Number 74.33
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.54	C	74.00
Brush, Good	0.01	C	65.00
Paved roads with curbs & sewers	0.01	C	98.00
Composite Area & Weighted CN	0.56		74.33

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

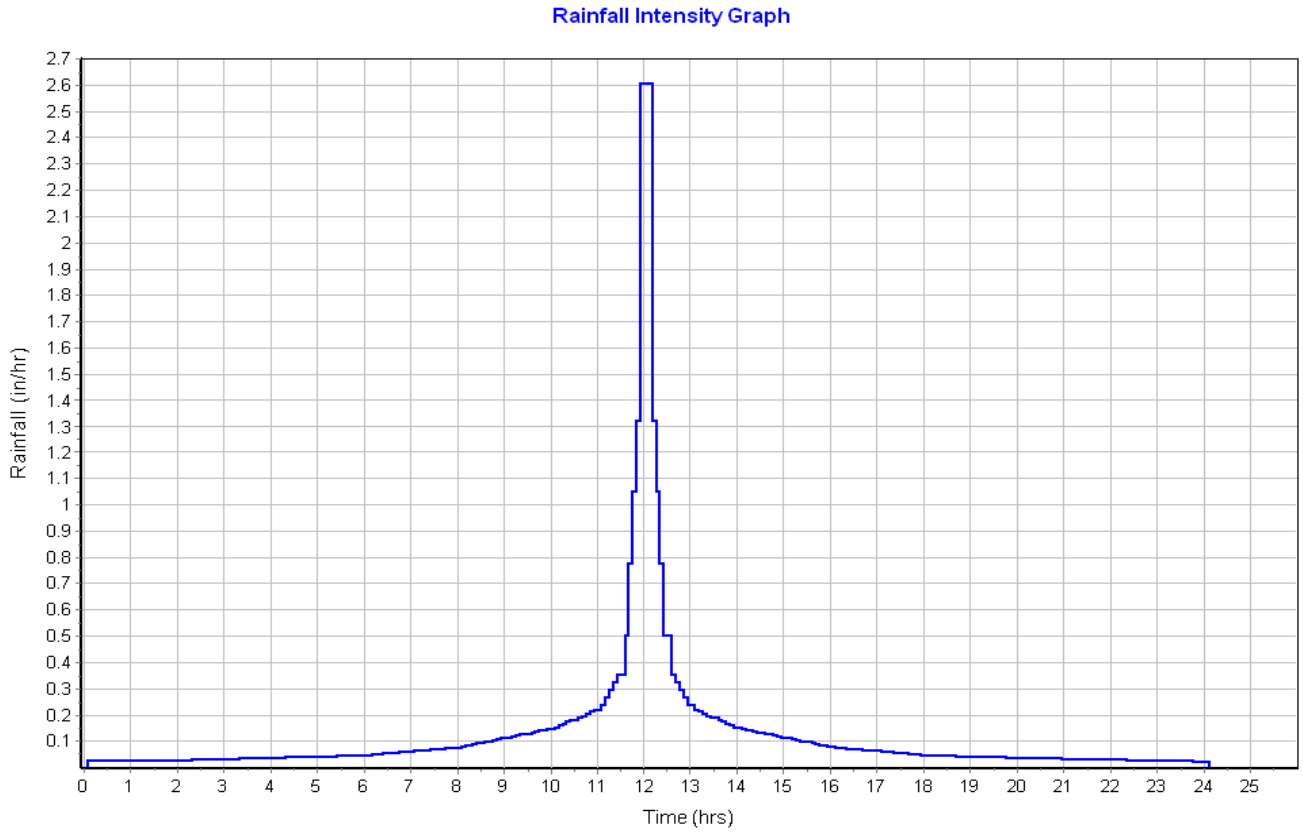
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.24	0.00	0.00
Computed Flow Time (min) :	1.38	0.00	0.00

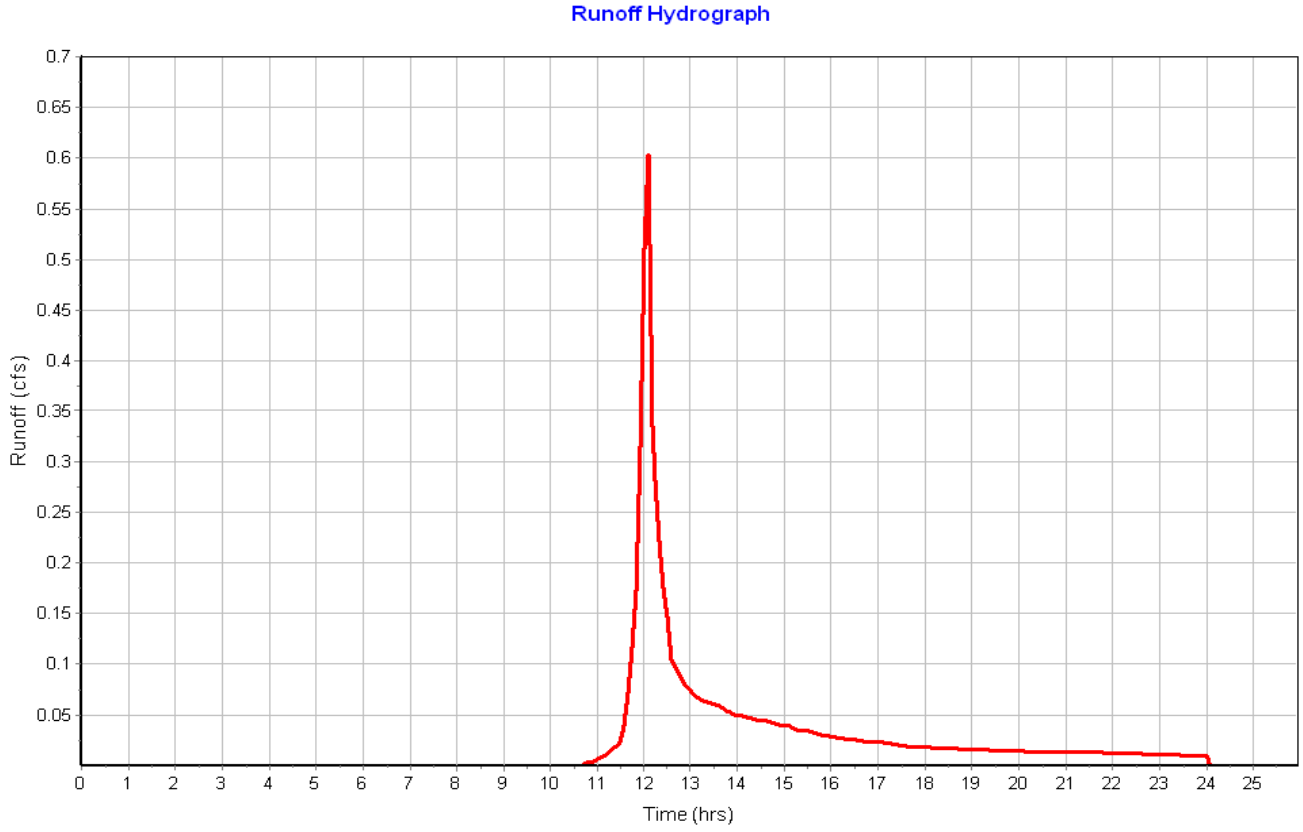
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	0.99
Peak Runoff (cfs)	0.62
Weighted Curve Number	74.33
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.53
Peak Rate Factor 484.00
Weighted Curve Number 74.03
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.48	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.53		74.03

Time of Concentration

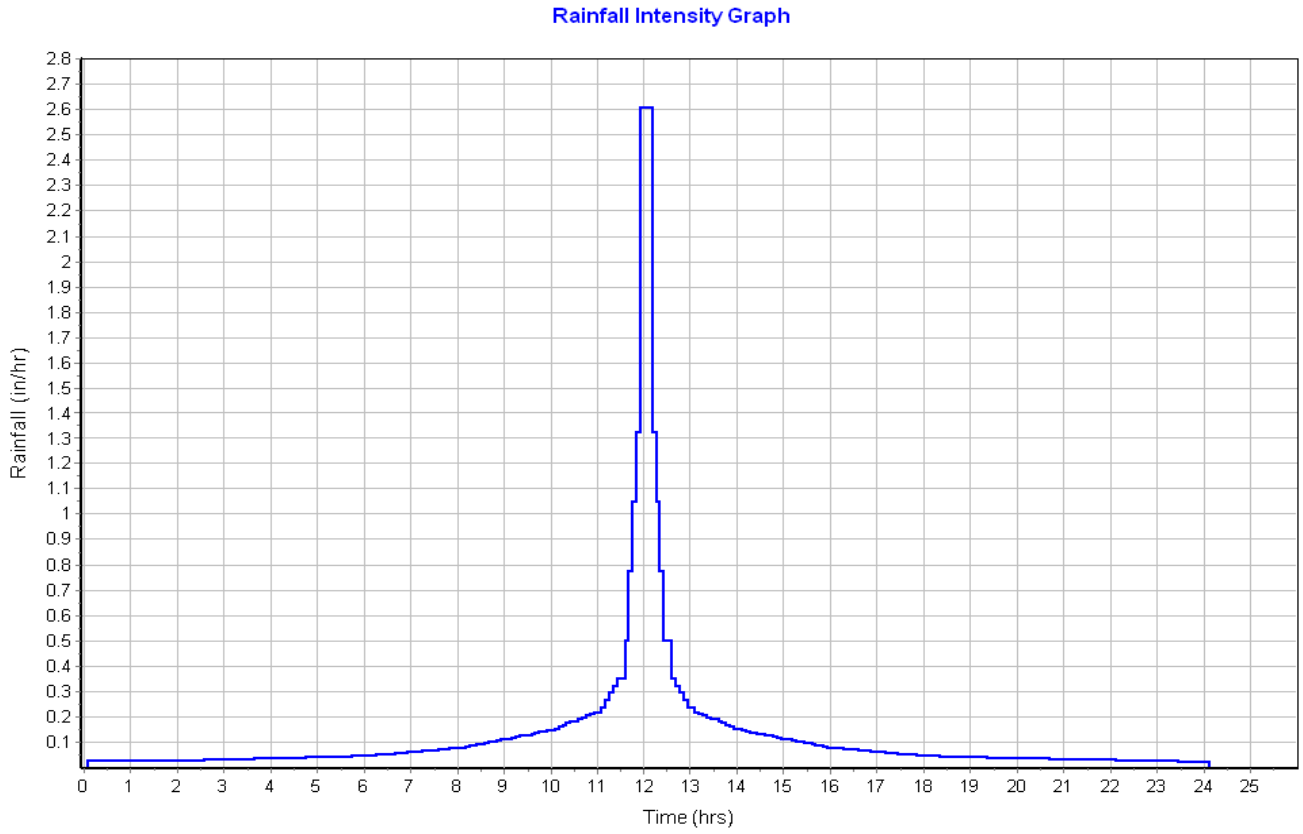
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

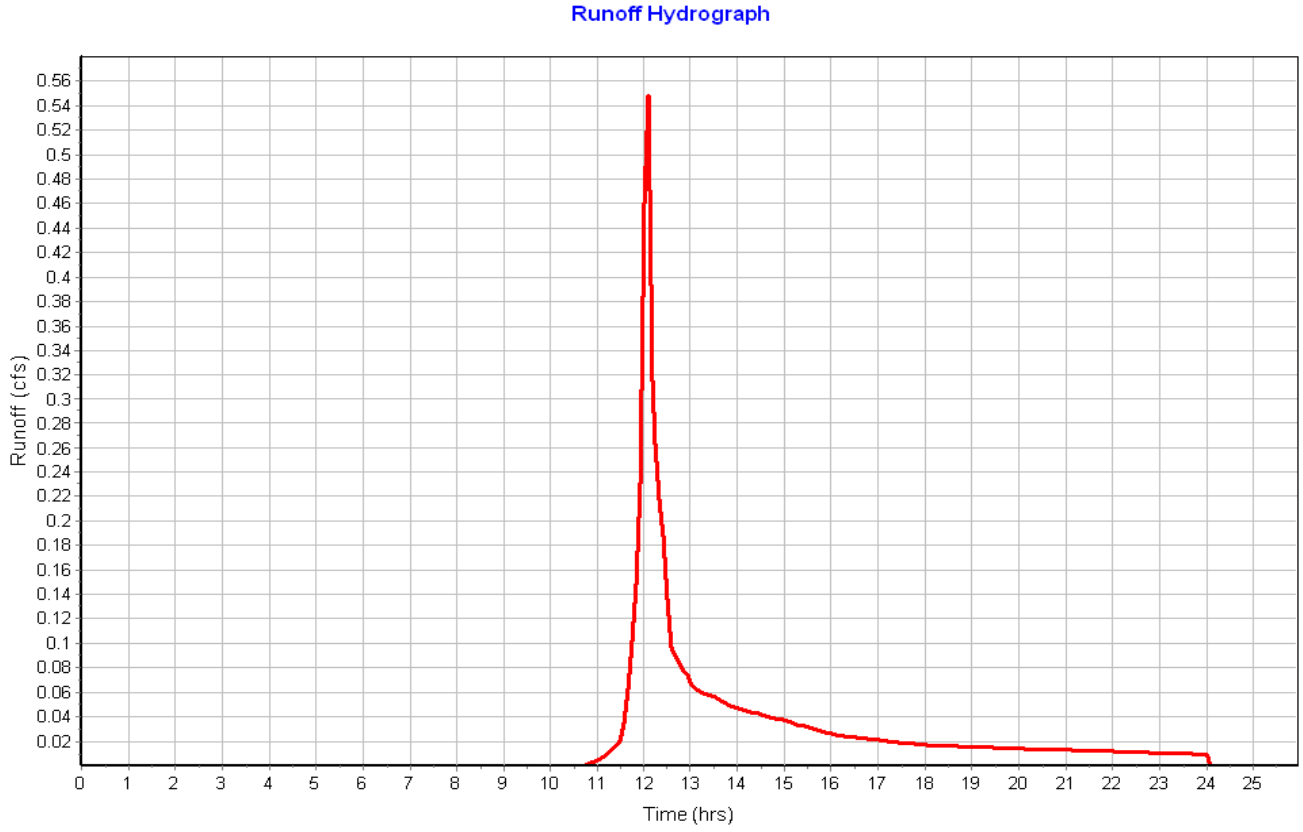
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.97
Peak Runoff (cfs) 0.57
Weighted Curve Number 74.03
Time of Concentration (days hh:mm:ss) 0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.15
Peak Rate Factor 484.00
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
PorousSidewalk	0.15	C	80.00
Composite Area & Weighted CN	0.15		80.00

Time of Concentration

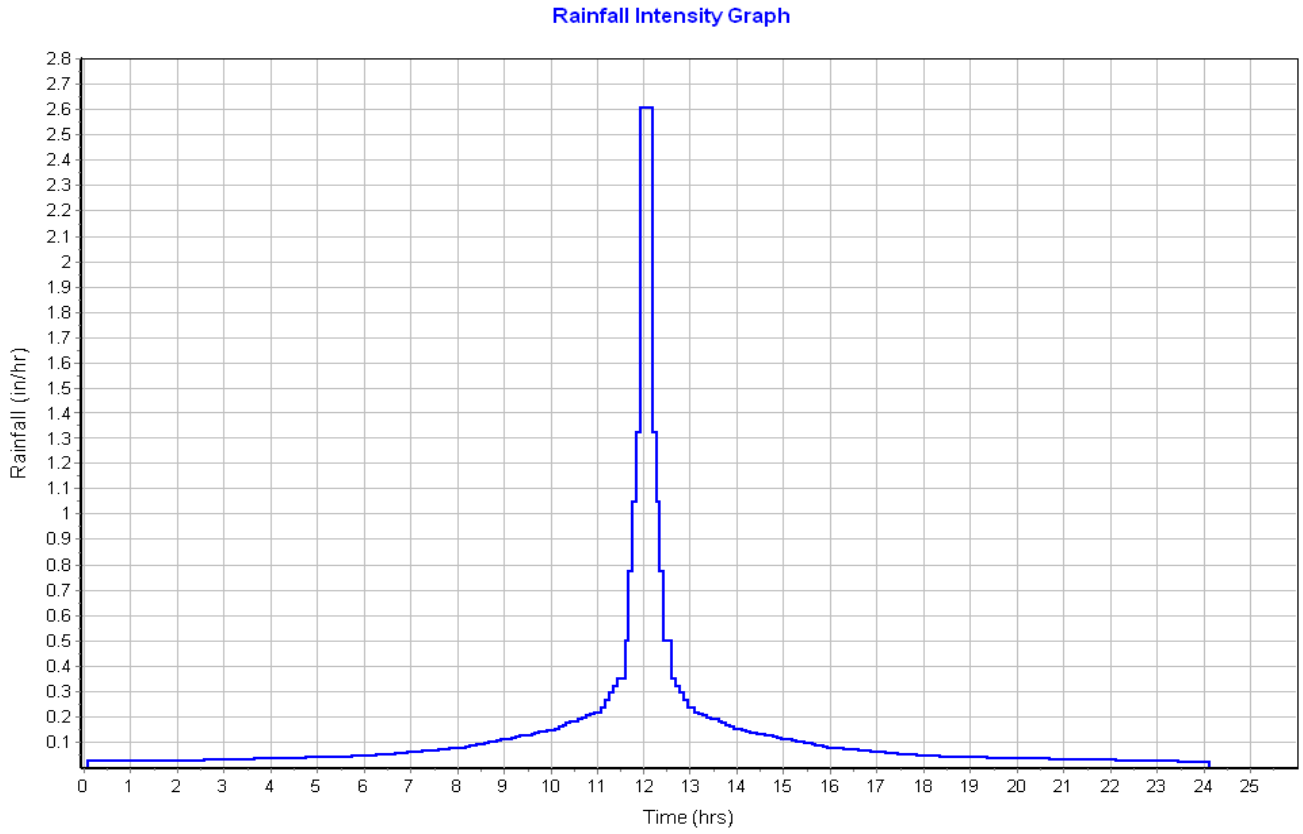
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	5	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.62	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

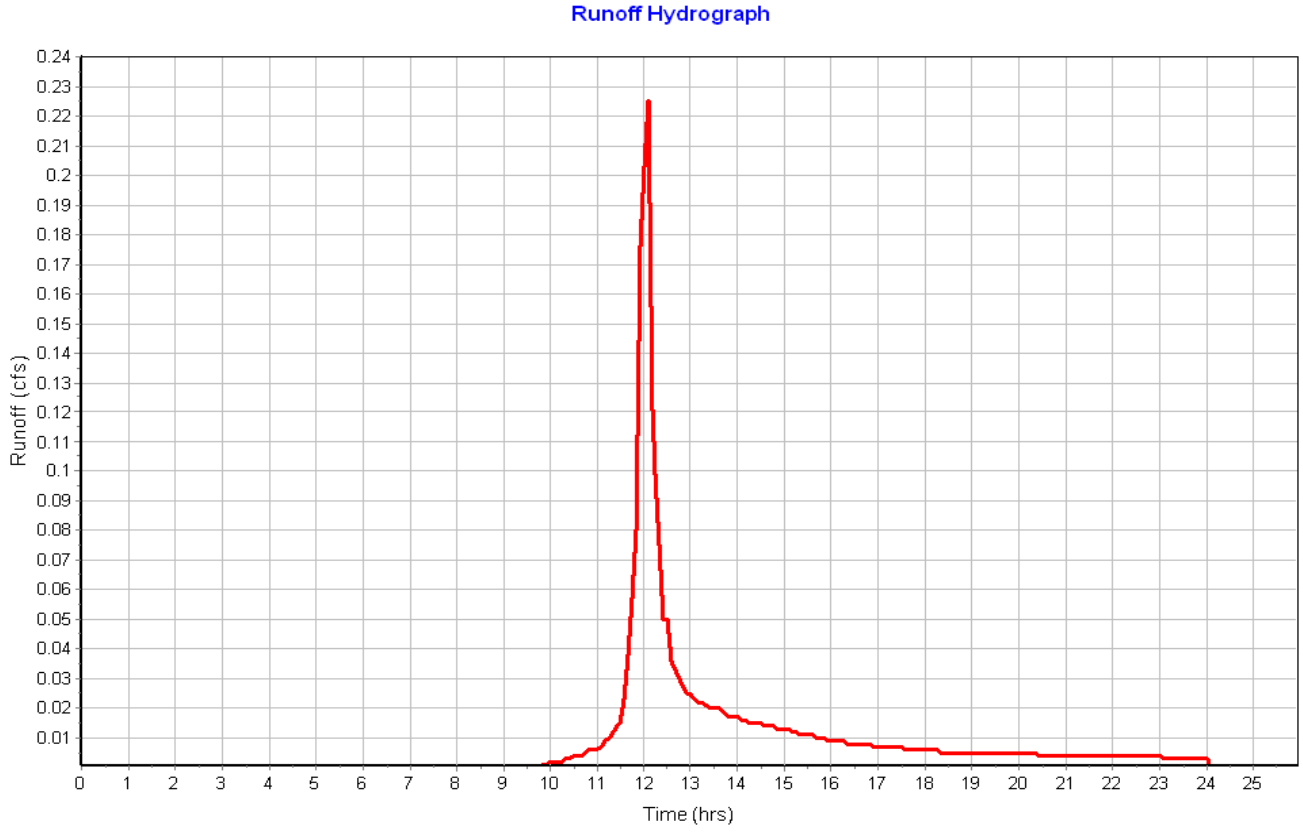
Total TOC (min) 0.13

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 1.32
Peak Runoff (cfs) 0.23
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:00:08

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

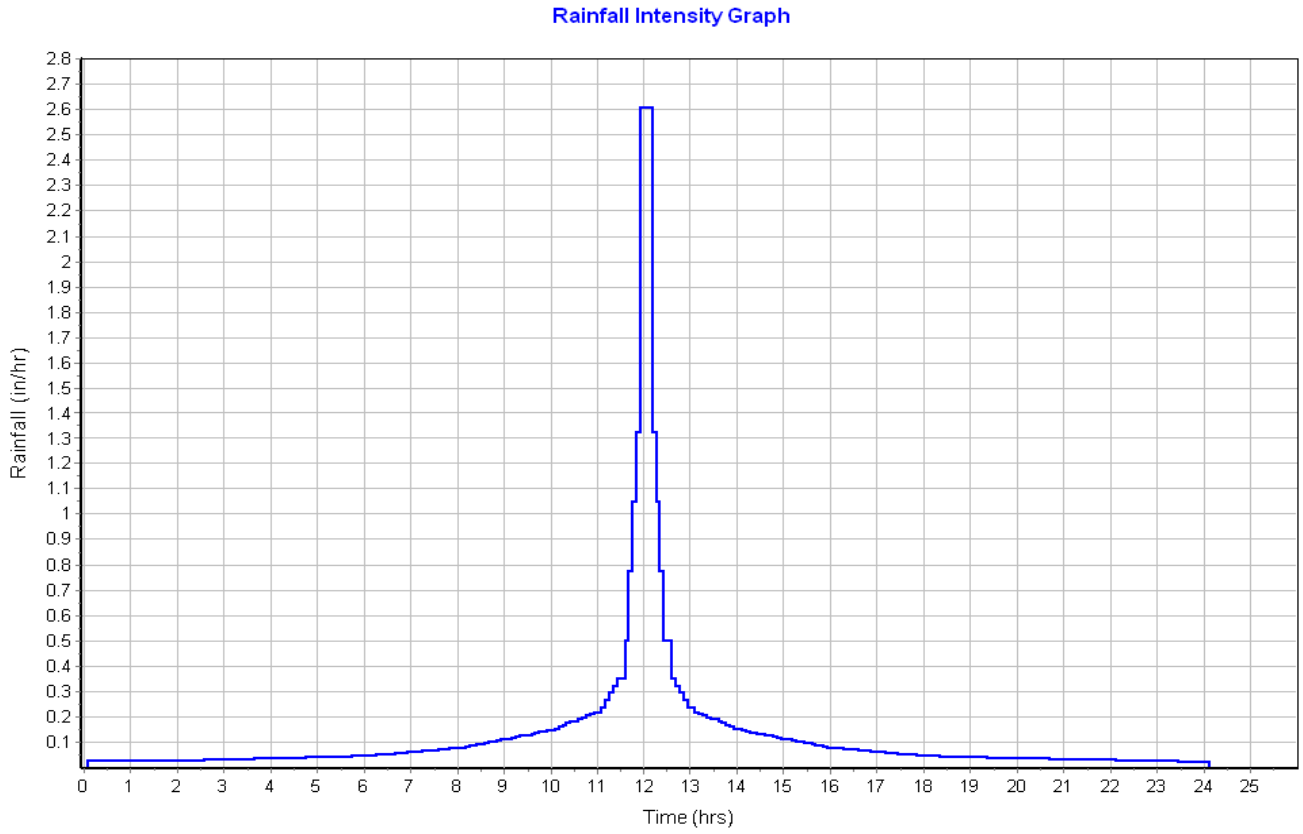
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	14.33	0.00	0.00
Slope (%) :	20	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	1.24	0.00	0.00

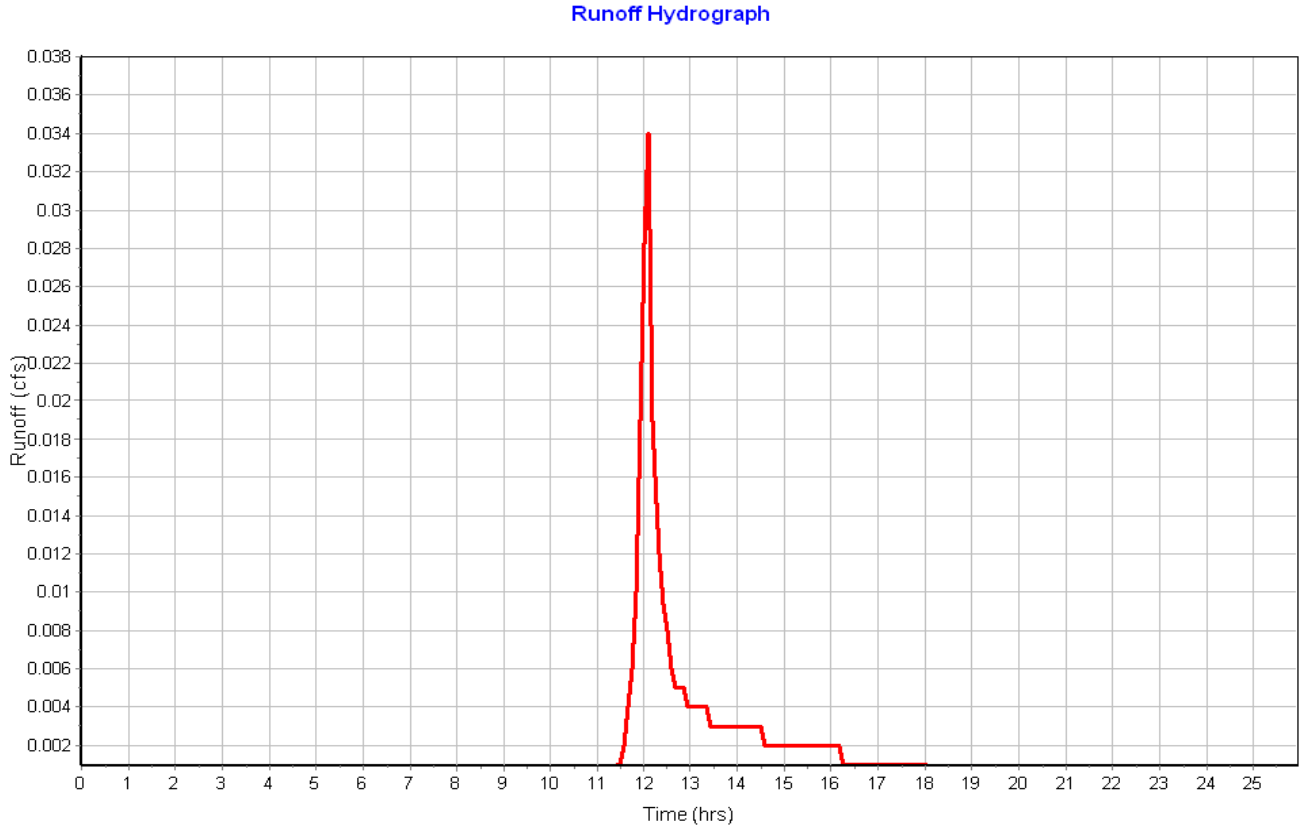
Total TOC (min) 1.24

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.82
Peak Runoff (cfs) 0.03
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:01:14

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

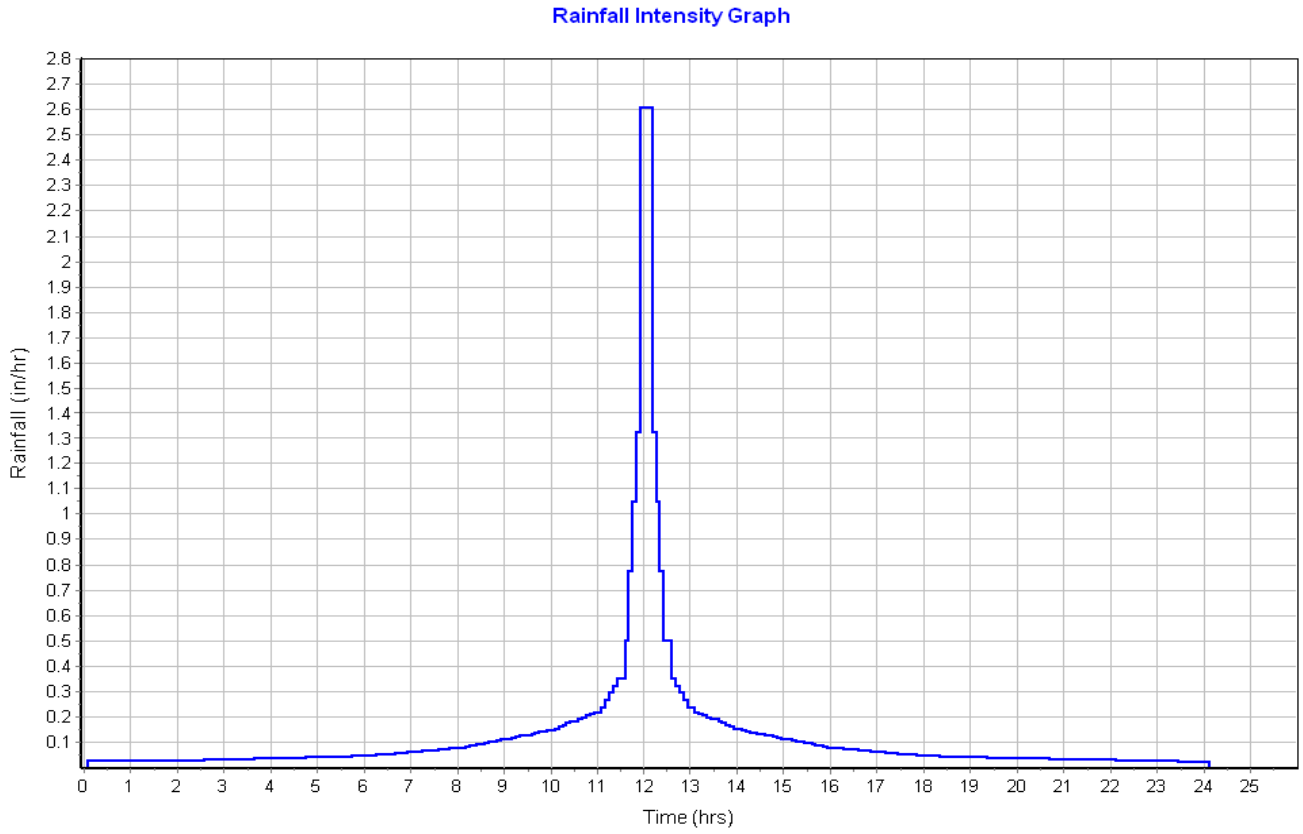
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

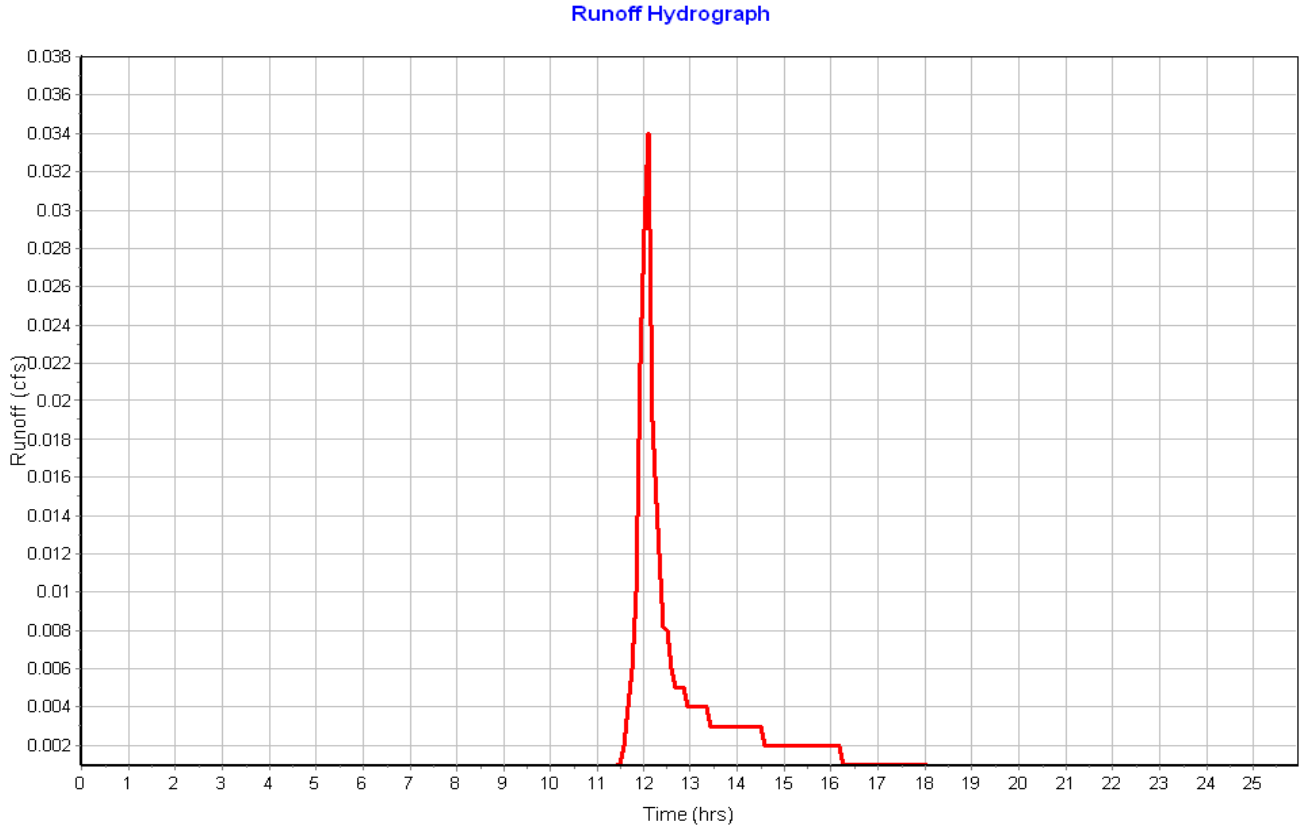
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.82
Peak Runoff (cfs) 0.03
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:00:44

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	74.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

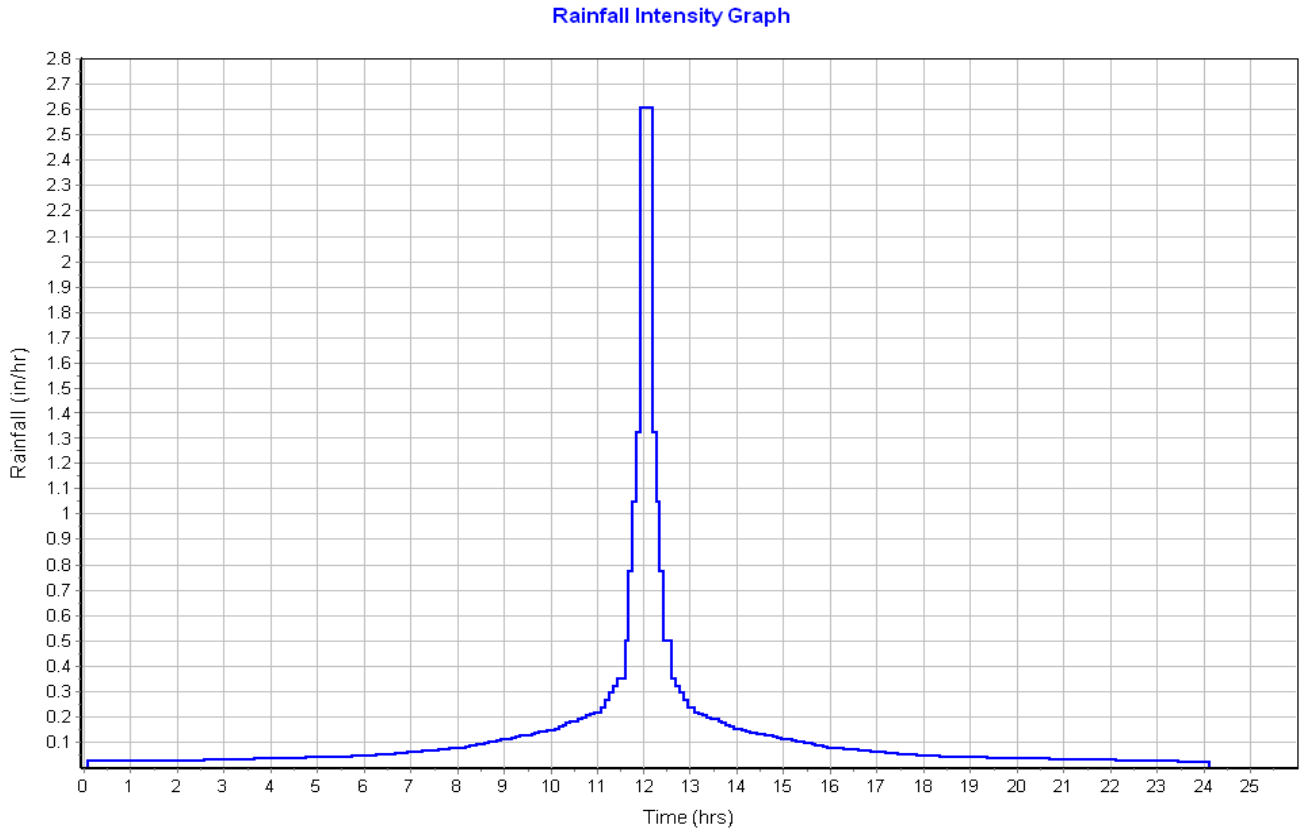
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

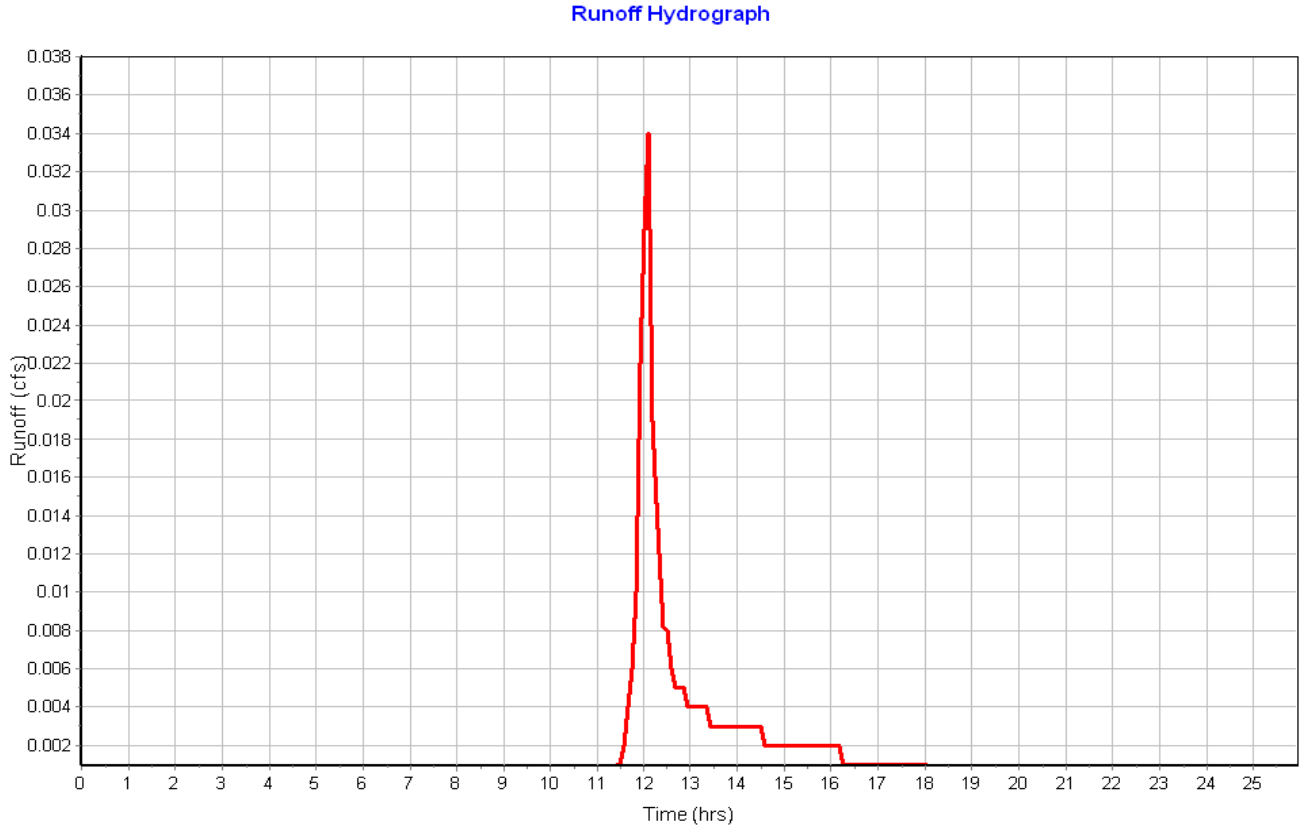
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	0.82
Peak Runoff (cfs)	0.03
Weighted Curve Number	74.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.11	C	74.00
Composite Area & Weighted CN	0.11		74.00

Time of Concentration

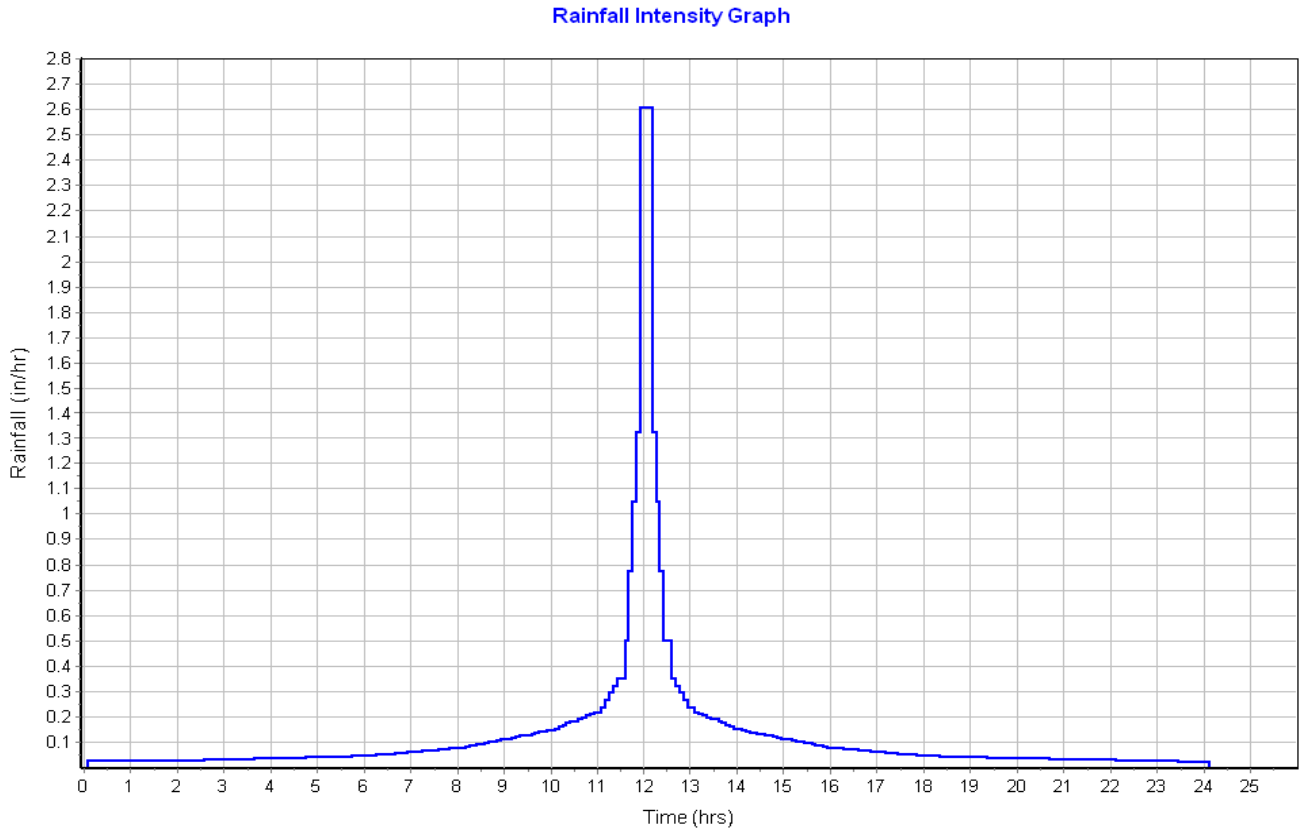
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	149.87	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	20.35	0.00	0.00

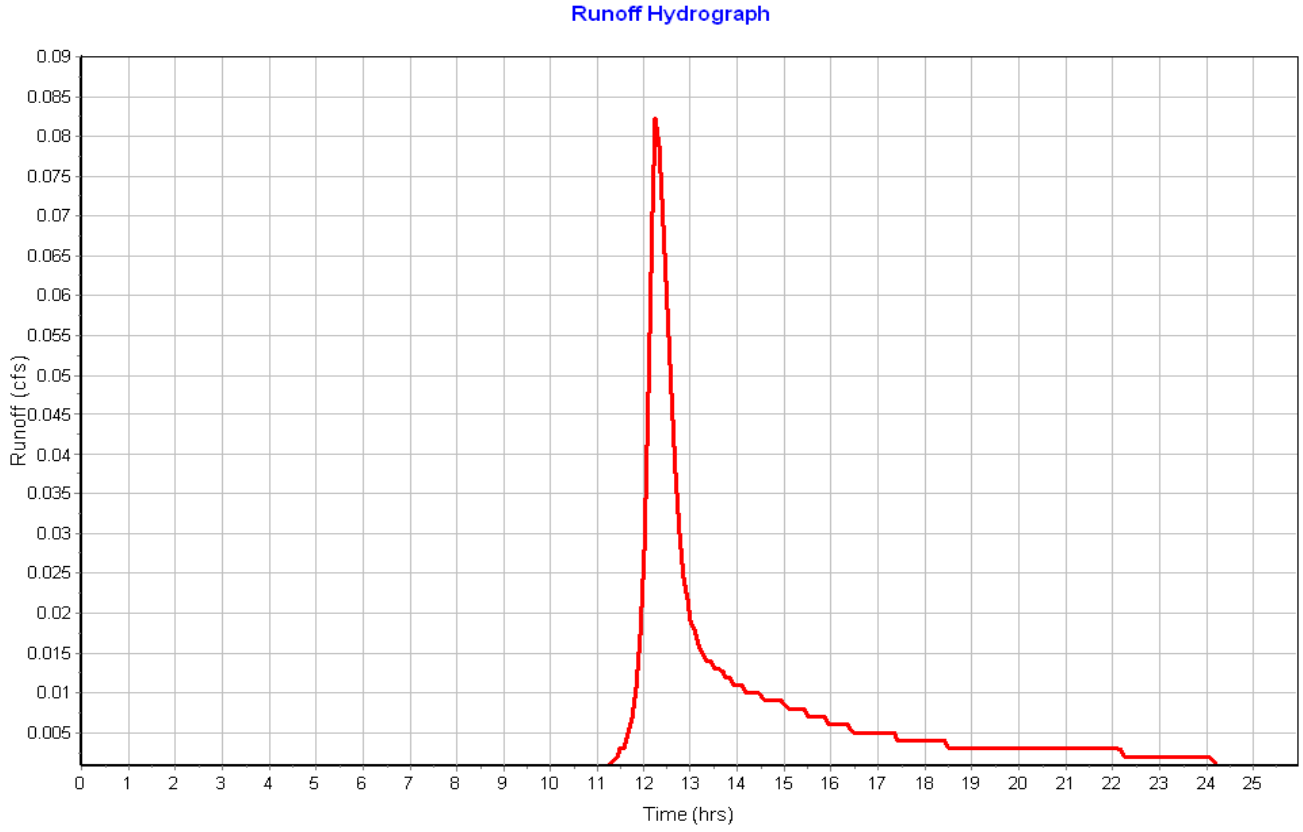
Total TOC (min) 20.35

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 0.97
Peak Runoff (cfs) 0.08
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:20:21

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.85	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

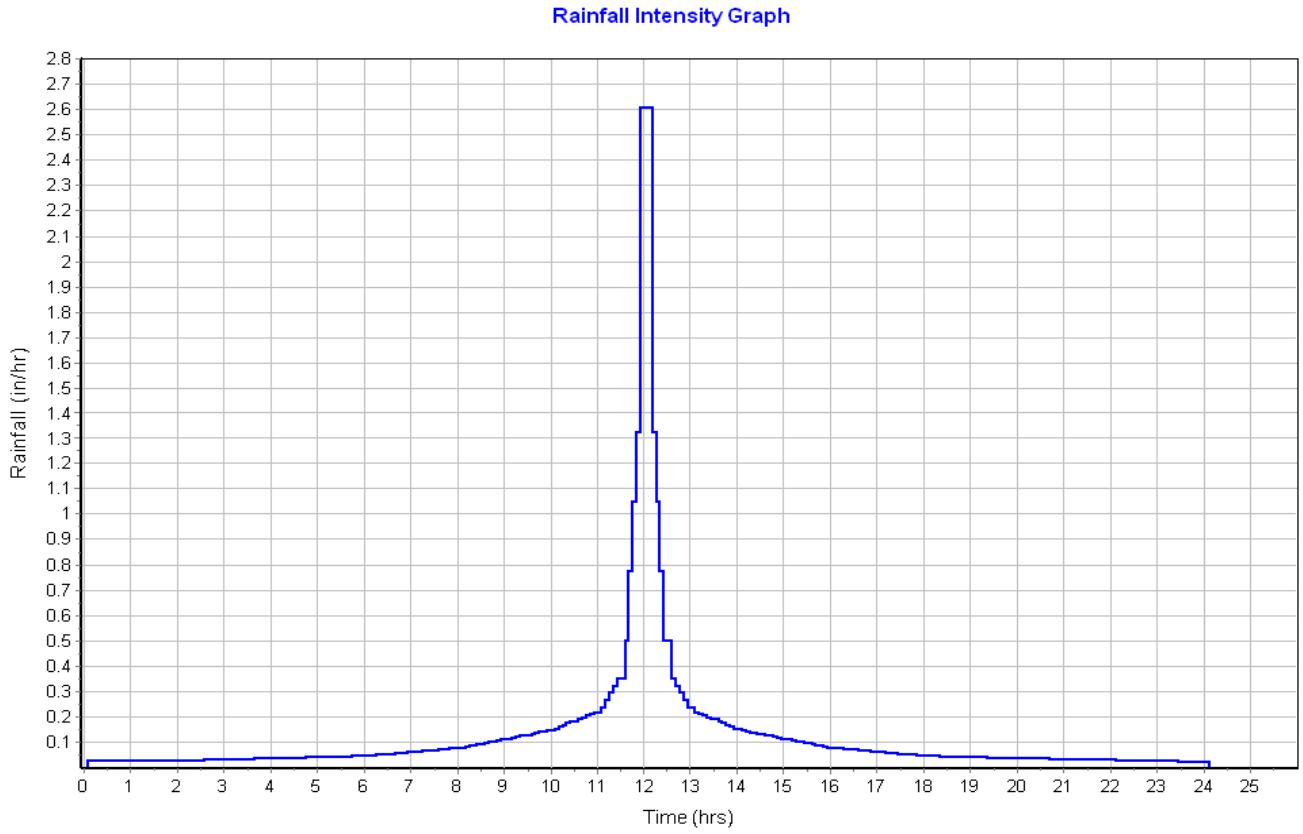
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.62	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

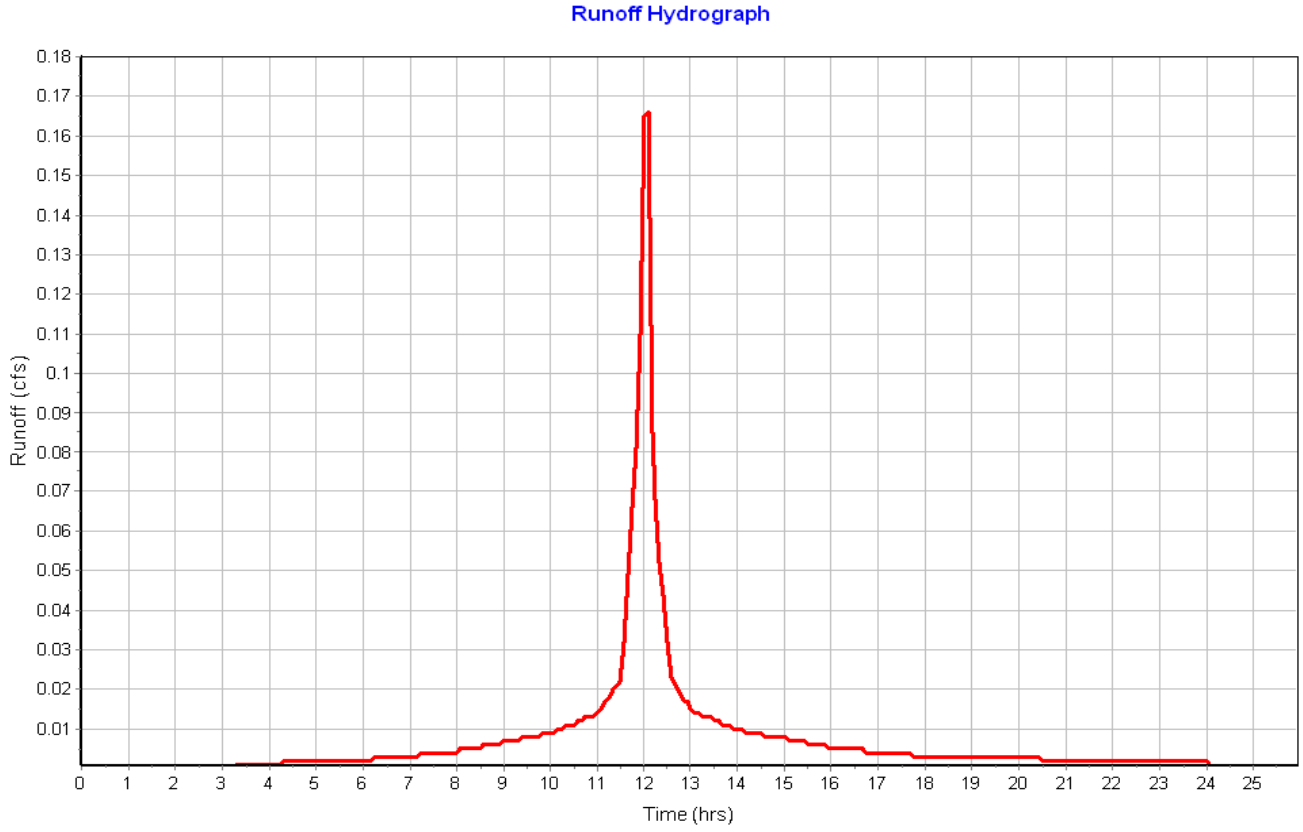
Total TOC (min) 1.64

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.17
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:38

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.01	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

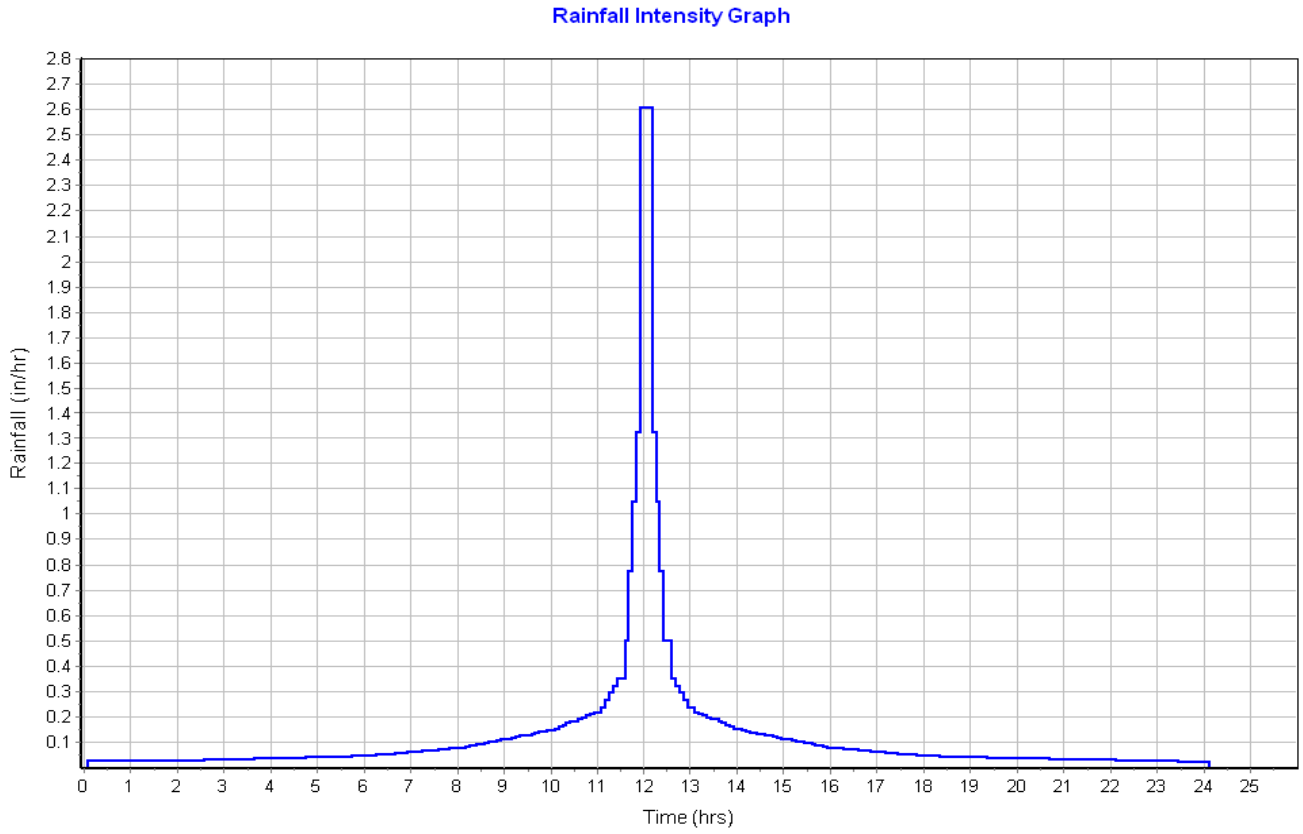
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	181.49	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.49	0.00	0.00

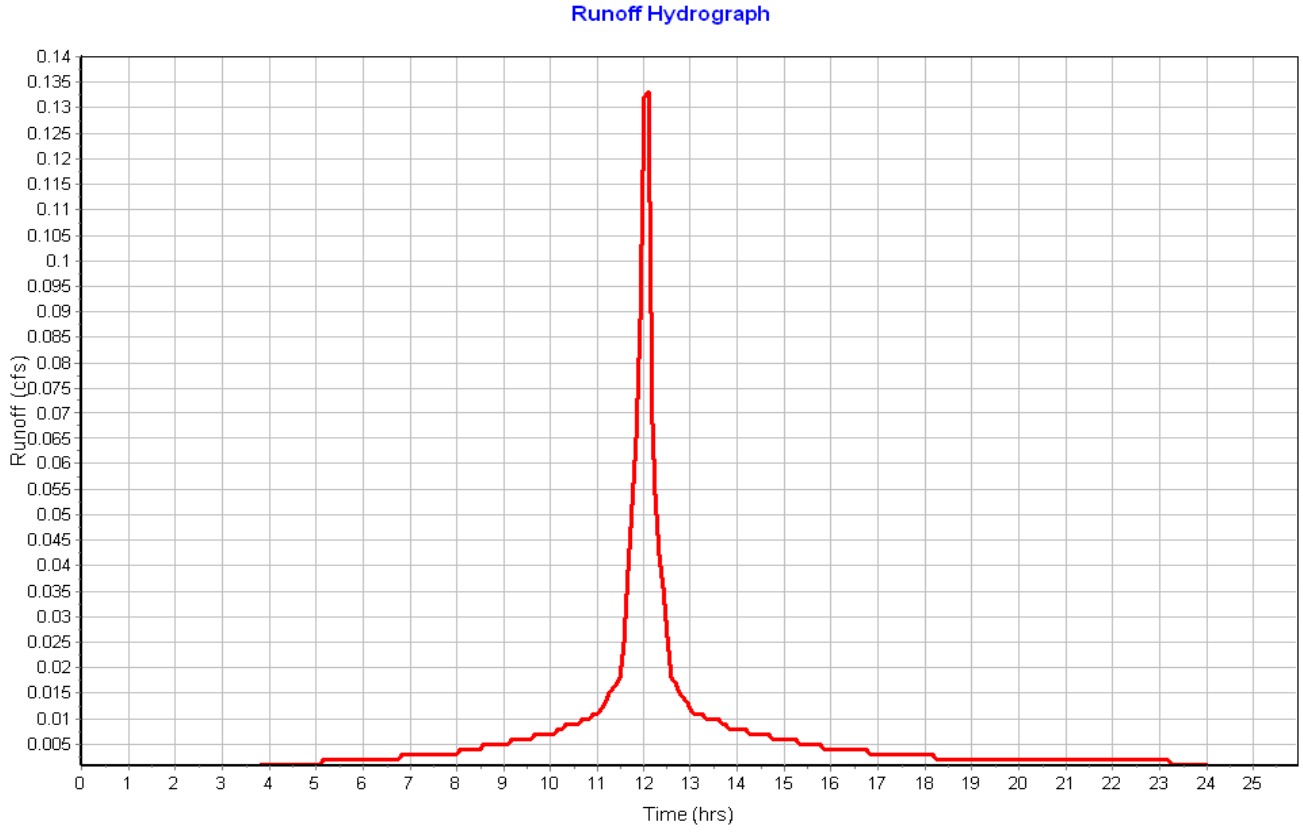
Total TOC (min) 1.62

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.84
Peak Runoff (cfs)	0.13
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:37

Subbasin : Sub-09





Subbasin : Sub-10a

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.36	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.76	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

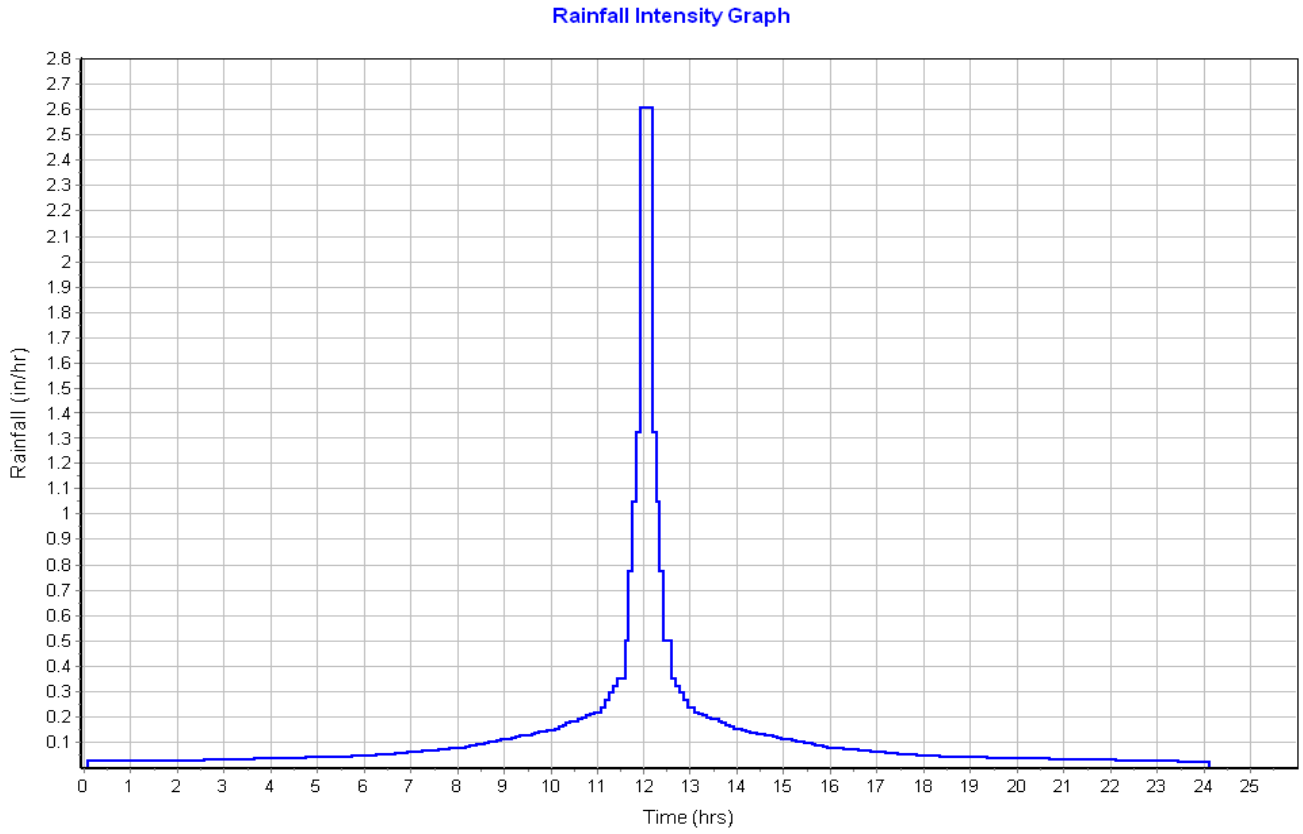
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	193.09	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.59	0.00	0.00

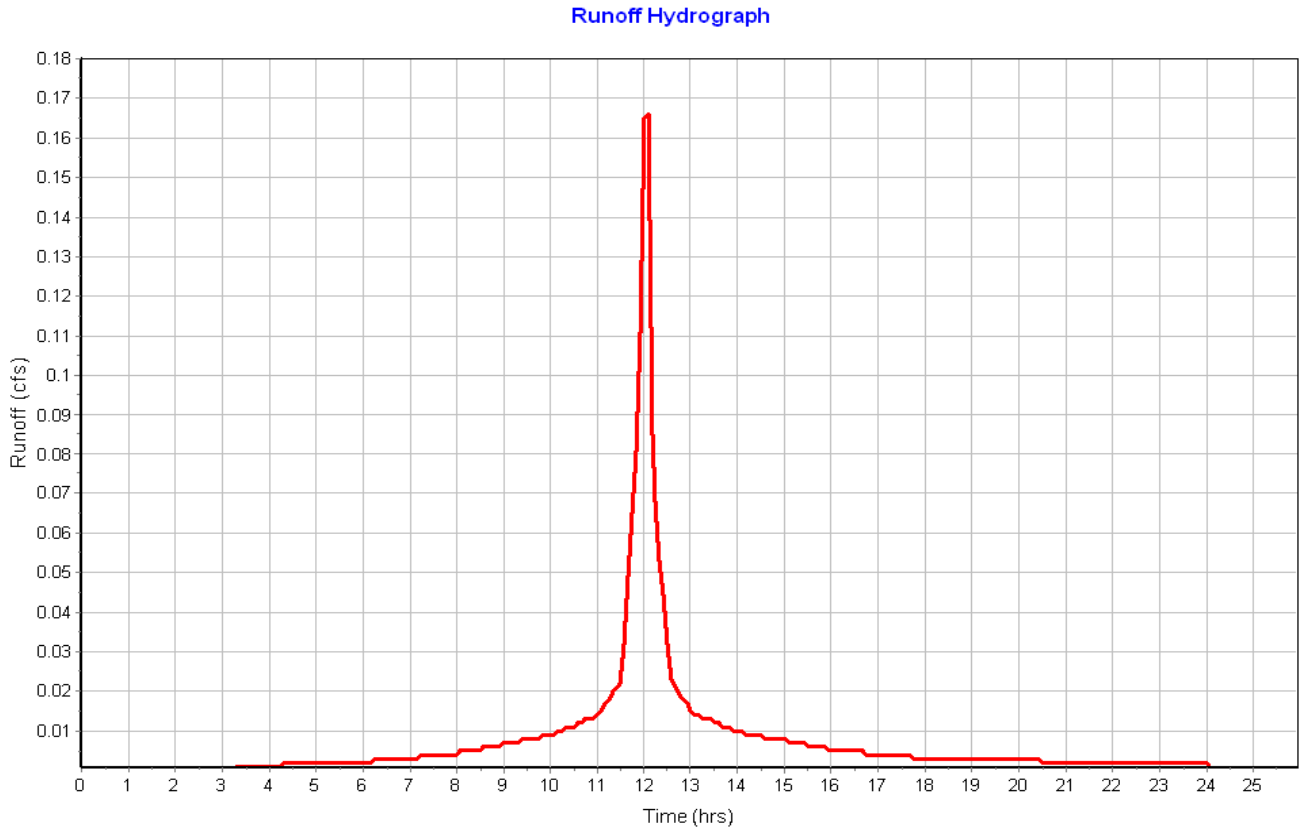
Total TOC (min) 1.72

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.85
Peak Runoff (cfs) 0.17
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:43

Subbasin : Sub-10a





Subbasin : Sub-10b

Input Data

Area (ac) 0.04
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	18.28	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.64	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

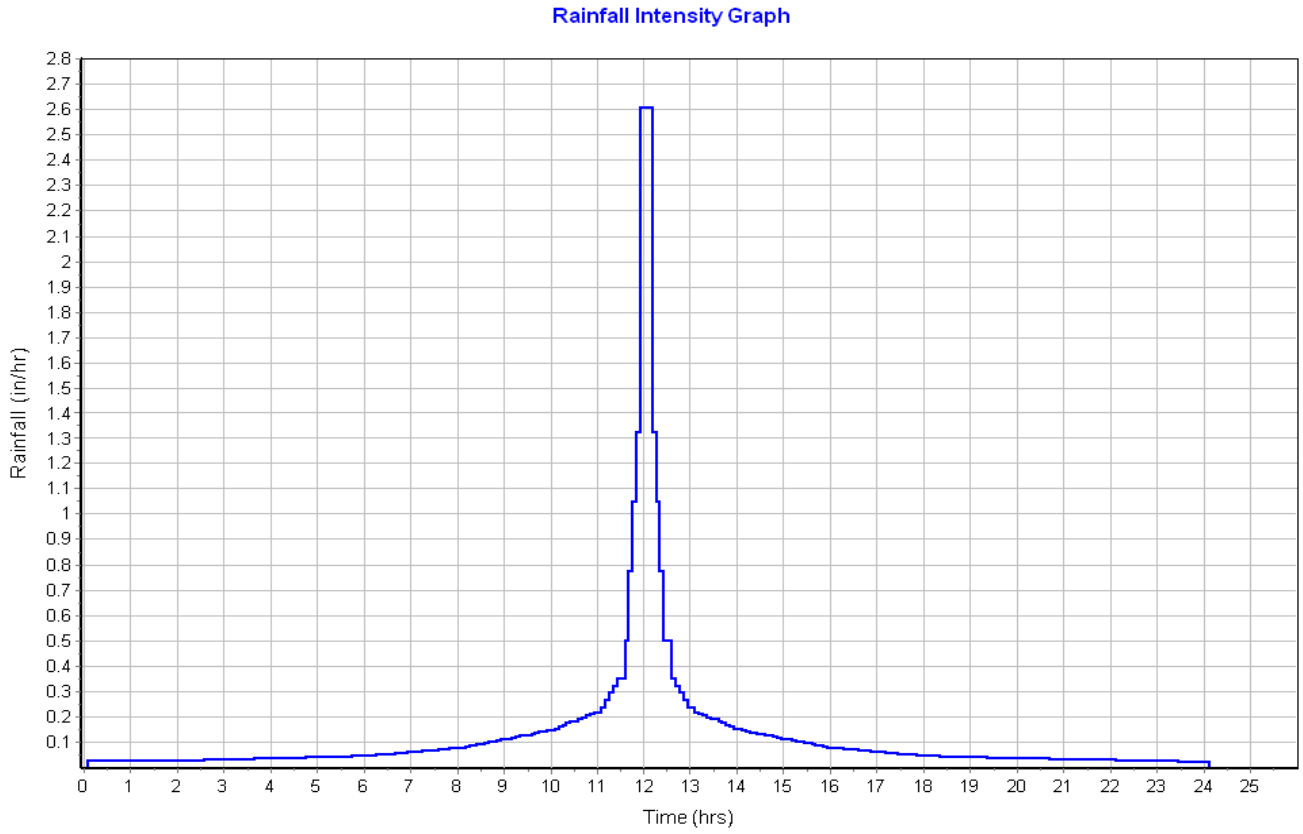
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	117.01	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	0.96	0.00	0.00

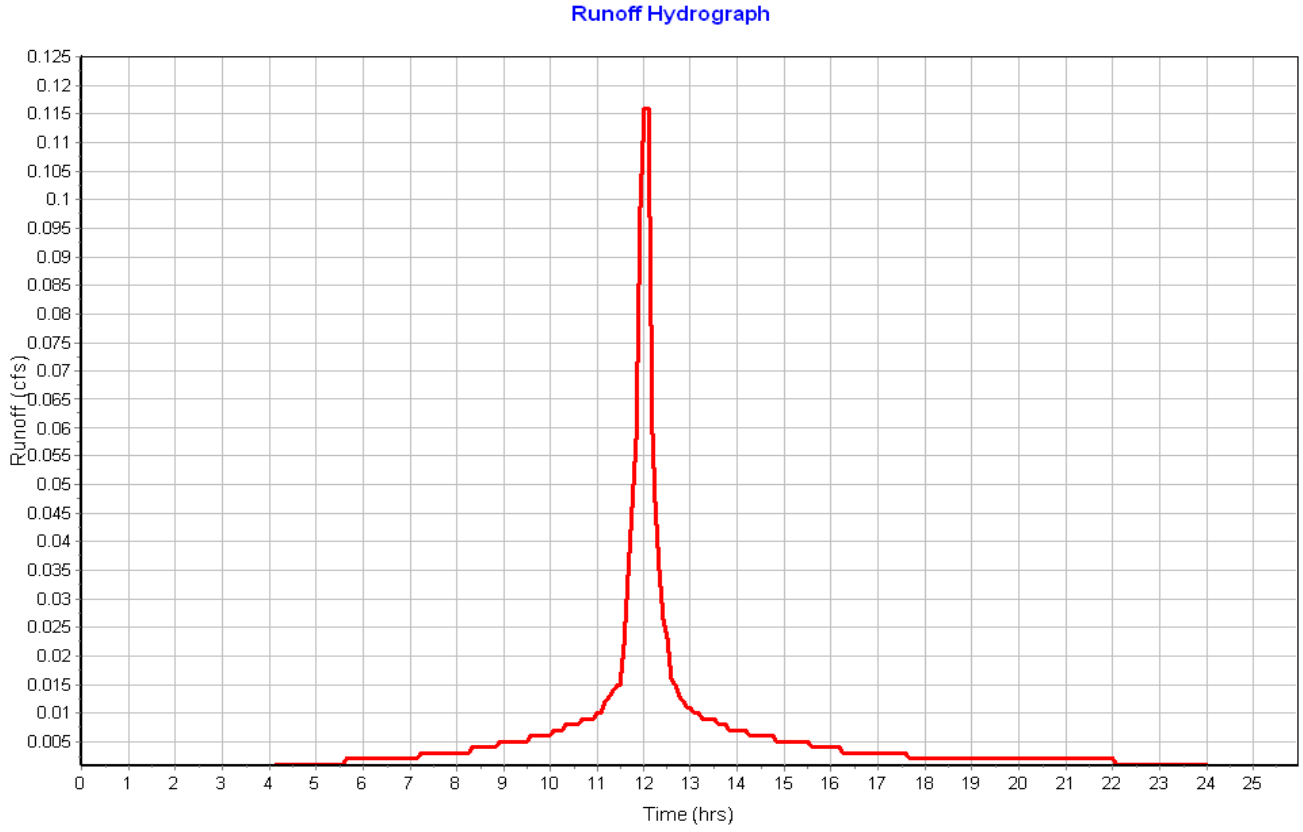
Total TOC (min) 1.15

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.84
Peak Runoff (cfs) 0.12
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:09

Subbasin : Sub-10b





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

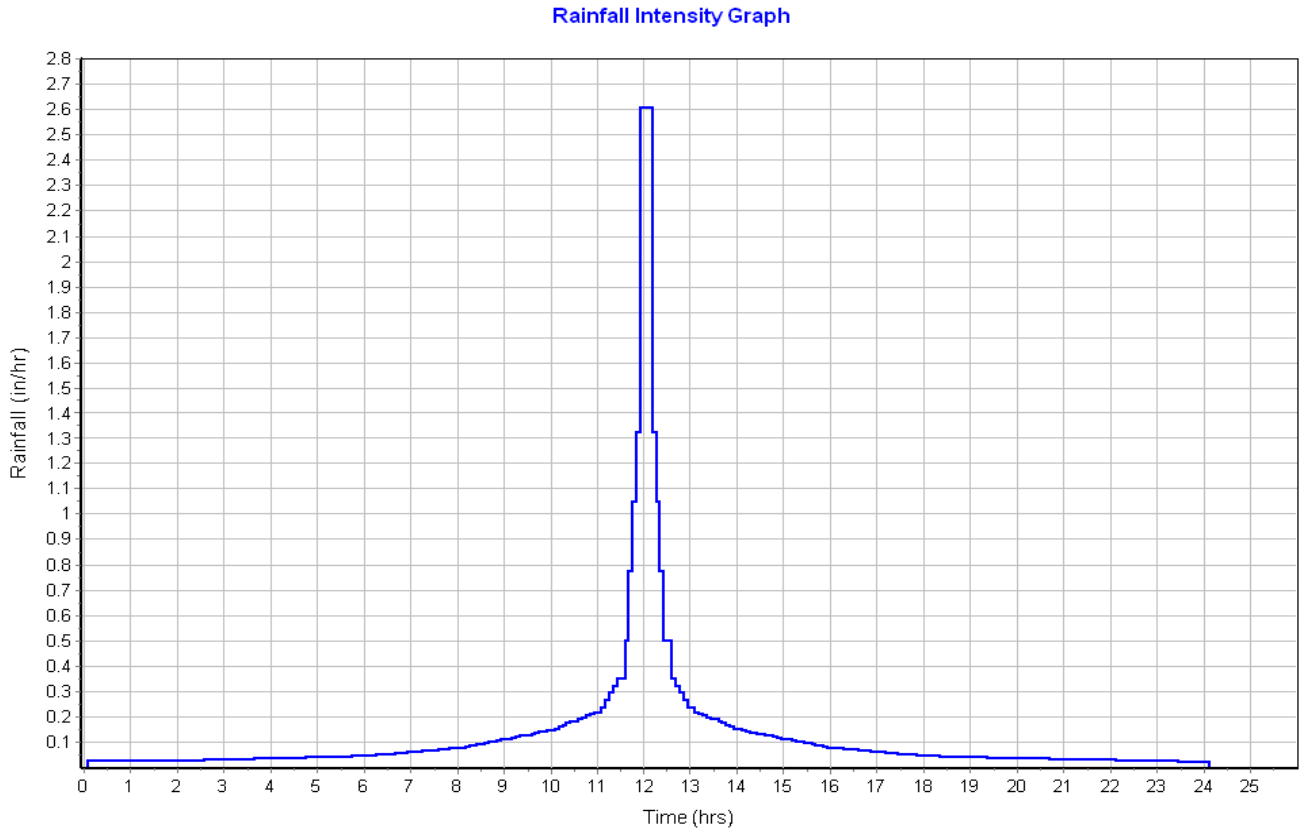
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.78	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.57	0.00	0.00

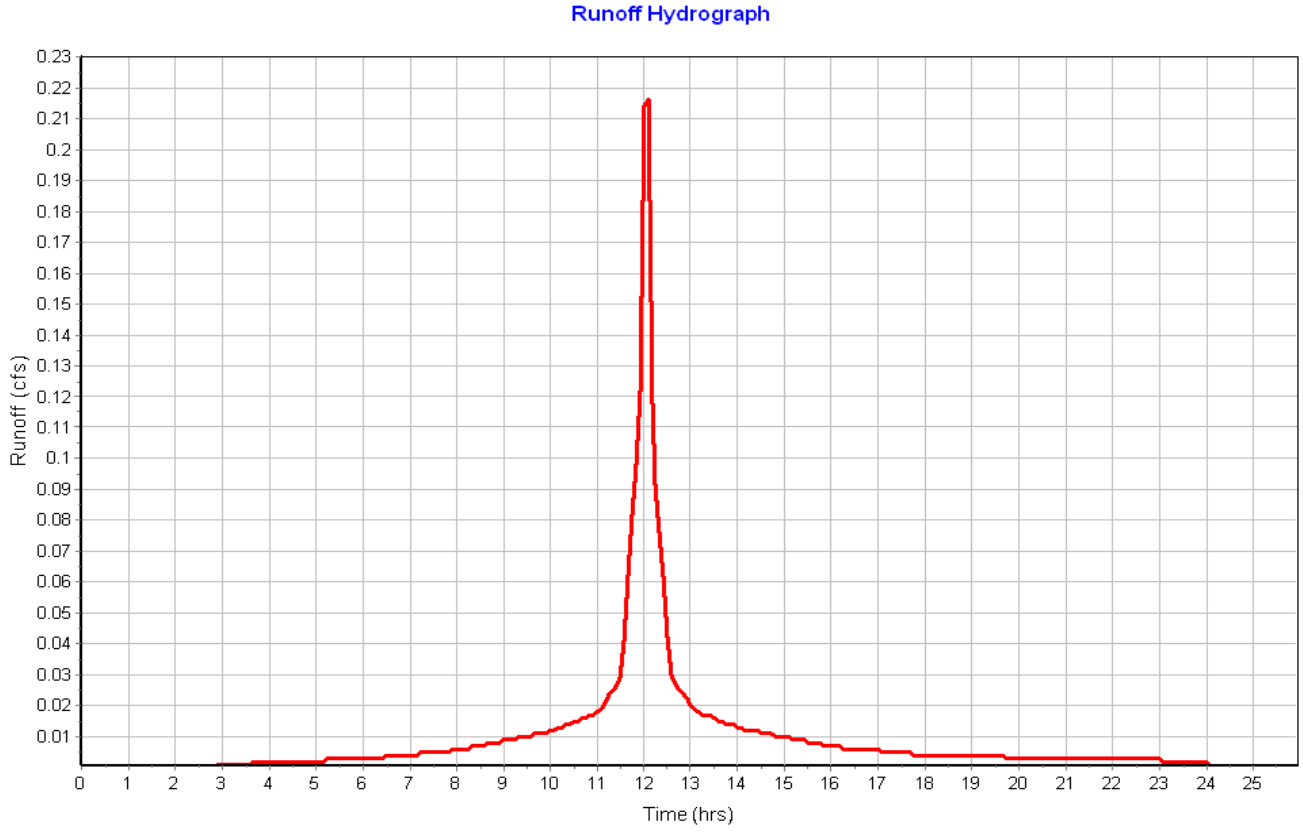
Total TOC (min) 2.70

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.22
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:42

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.77	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

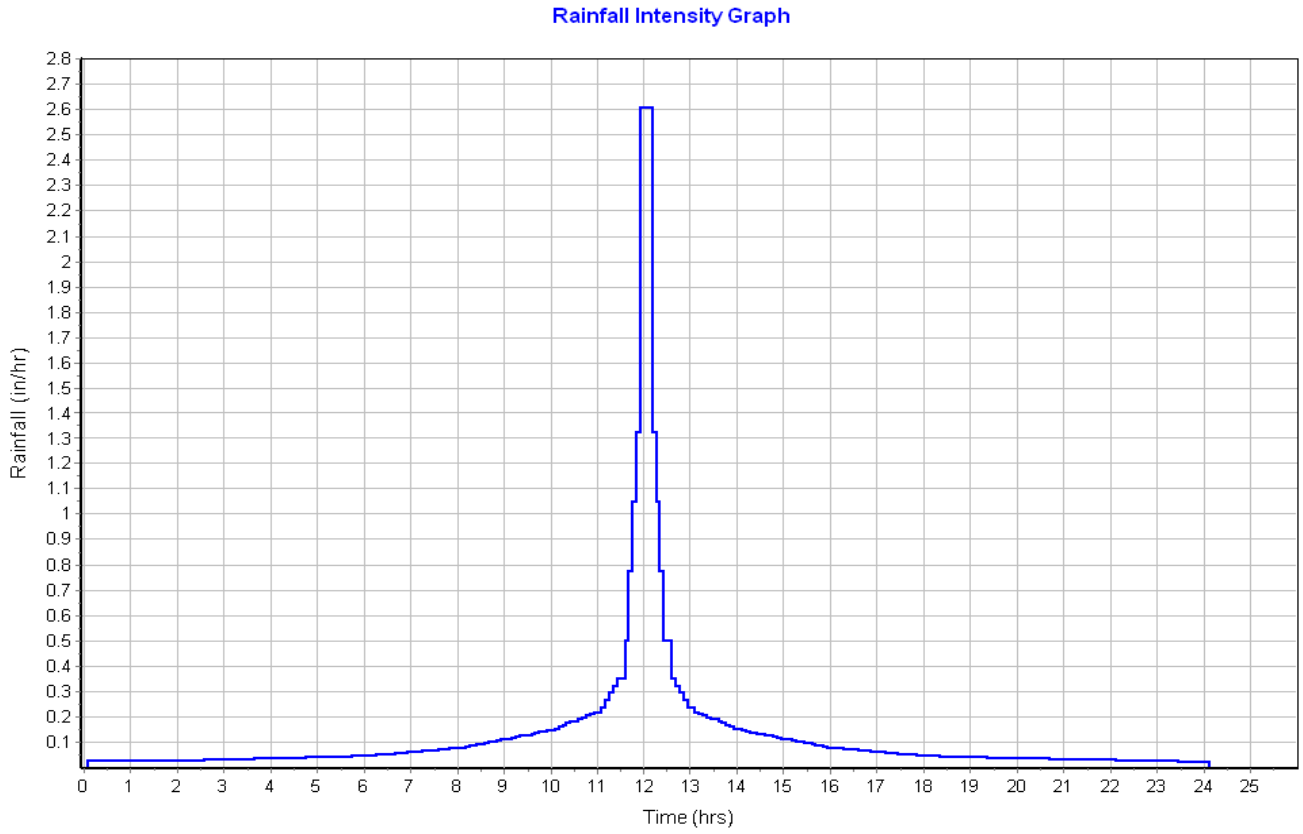
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.58	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

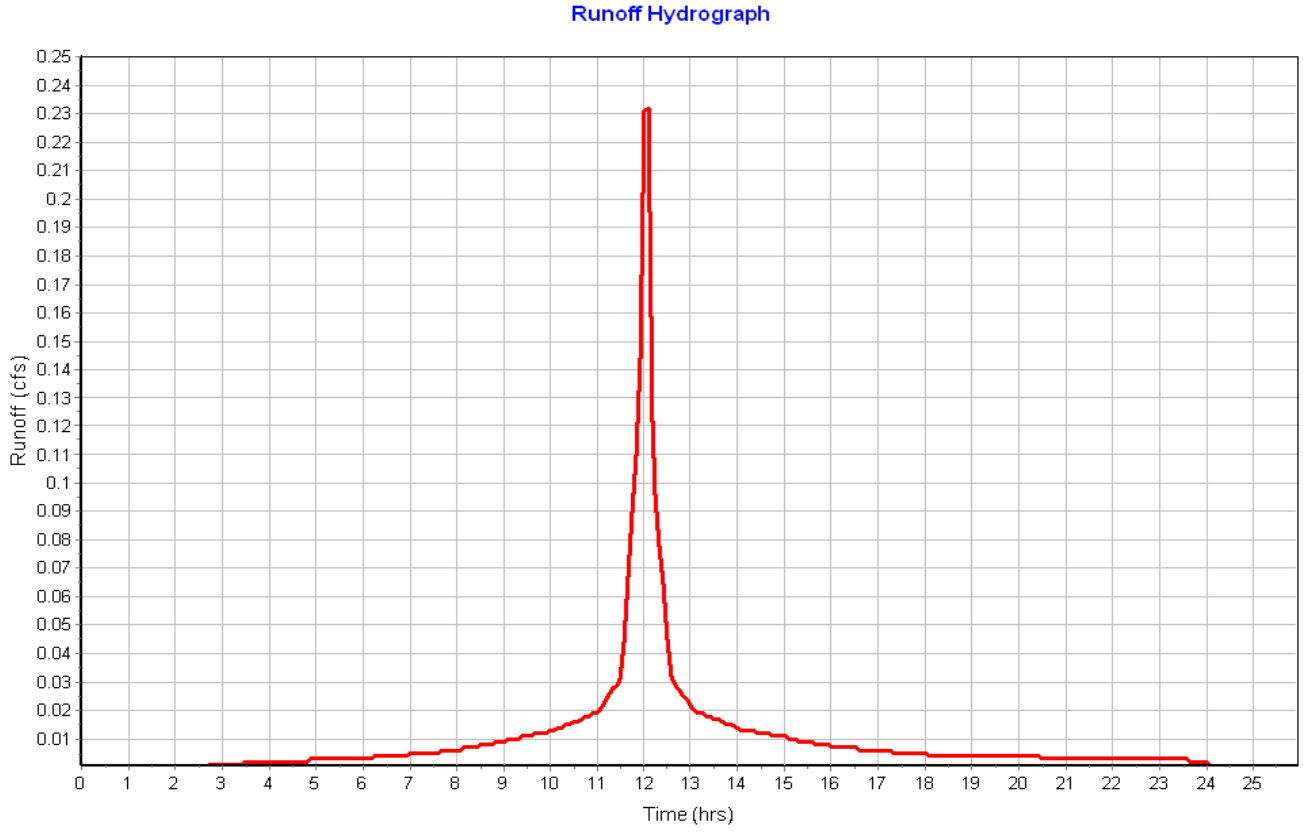
Total TOC (min) 2.31

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.23
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:19

Subbasin : Sub-12





Subbasin : Sub-13

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	11.16	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

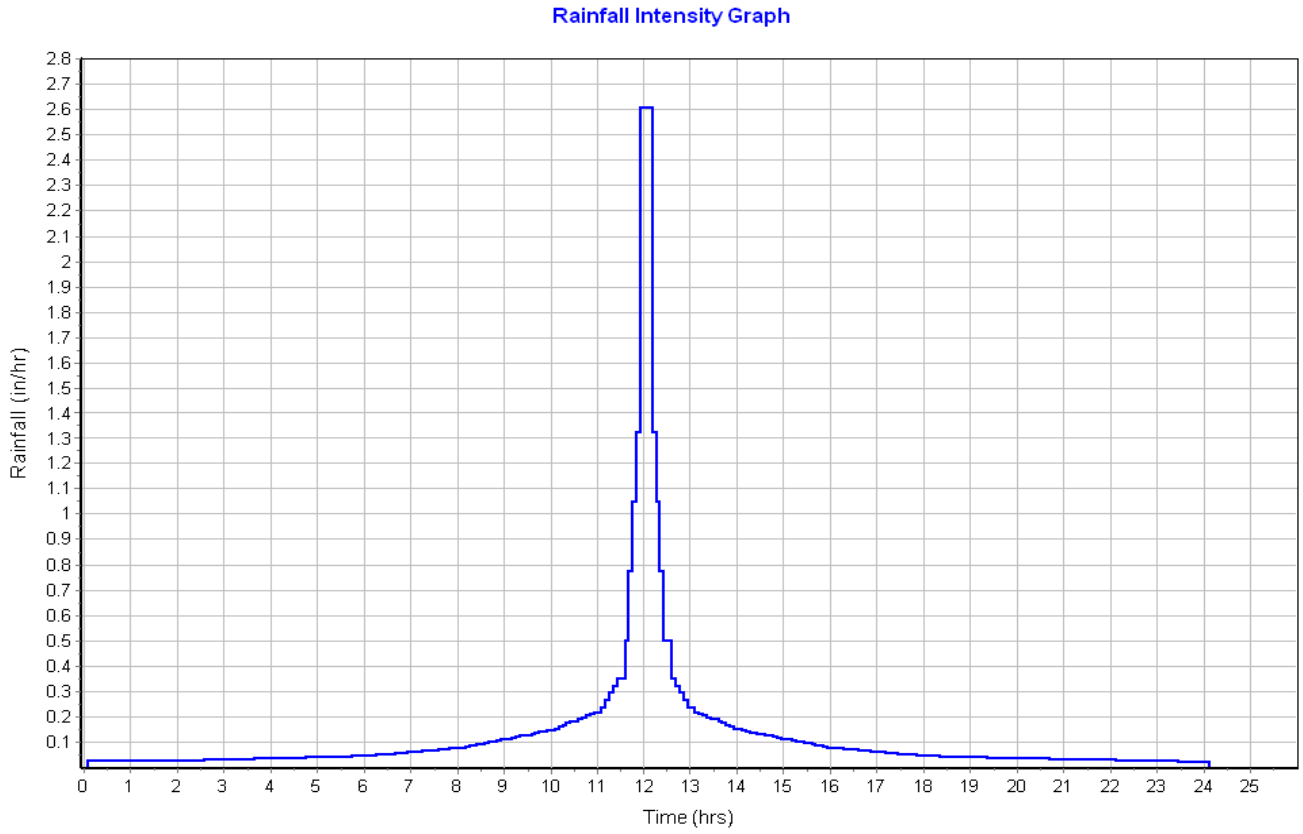
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.75	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.17	0.00	0.00

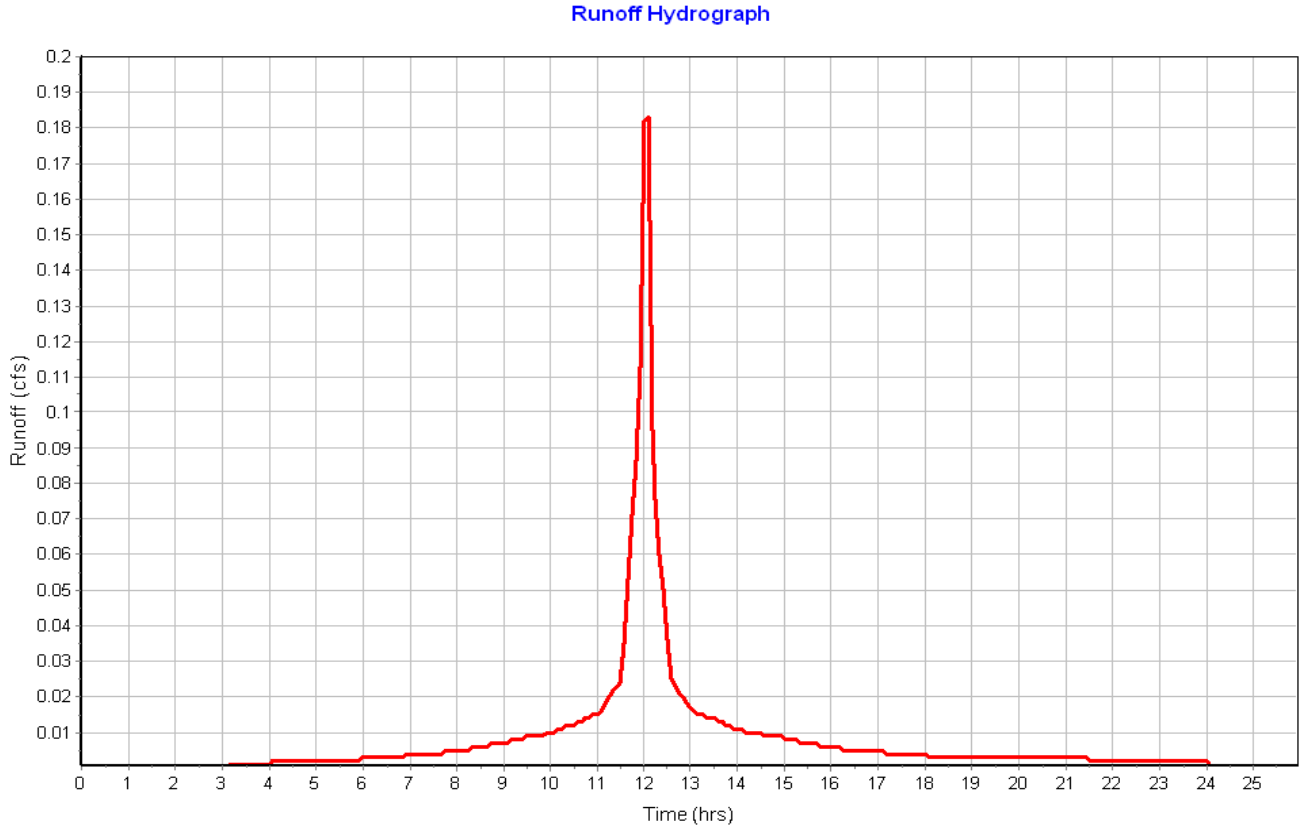
Total TOC (min) 2.28

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.18
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:17

Subbasin : Sub-13





Subbasin : Sub-14a

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.73	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

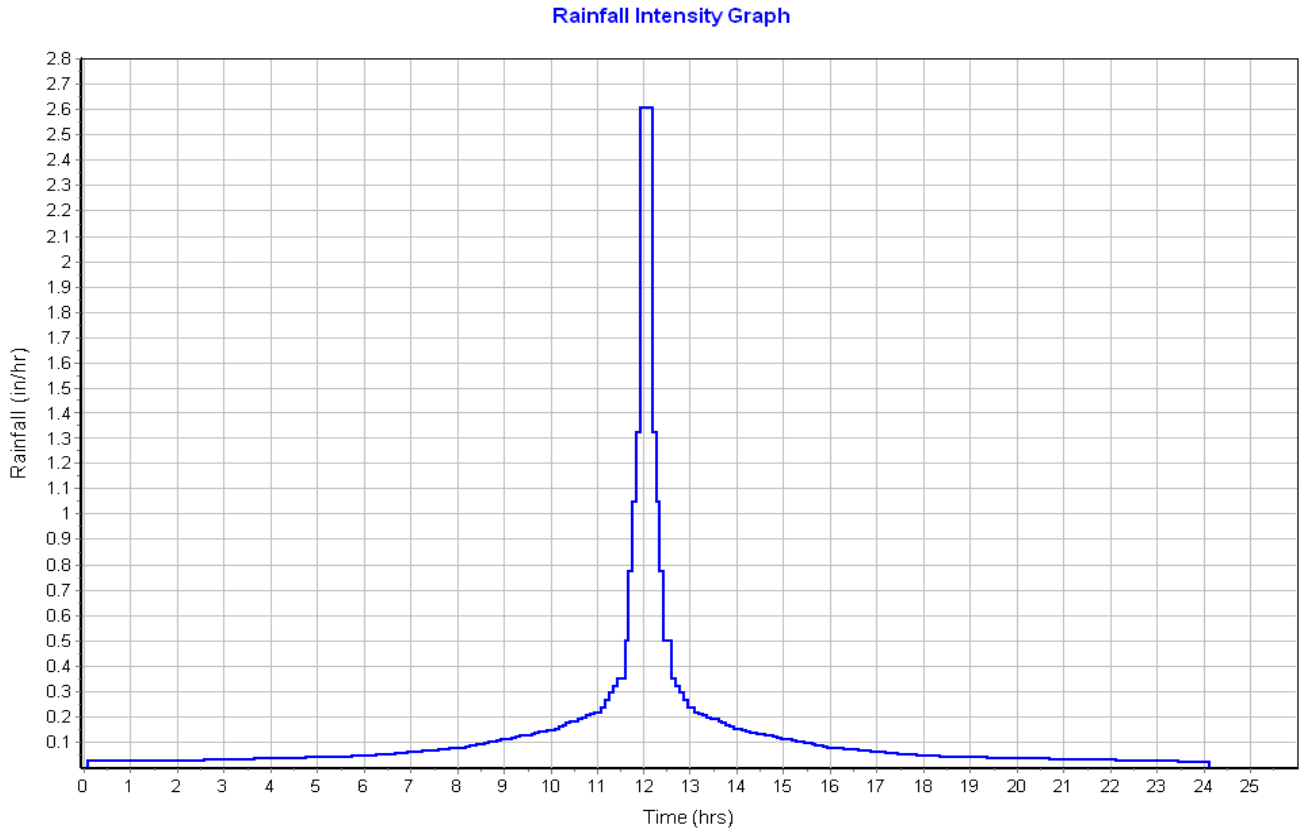
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	160.67	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.22	0.00	0.00

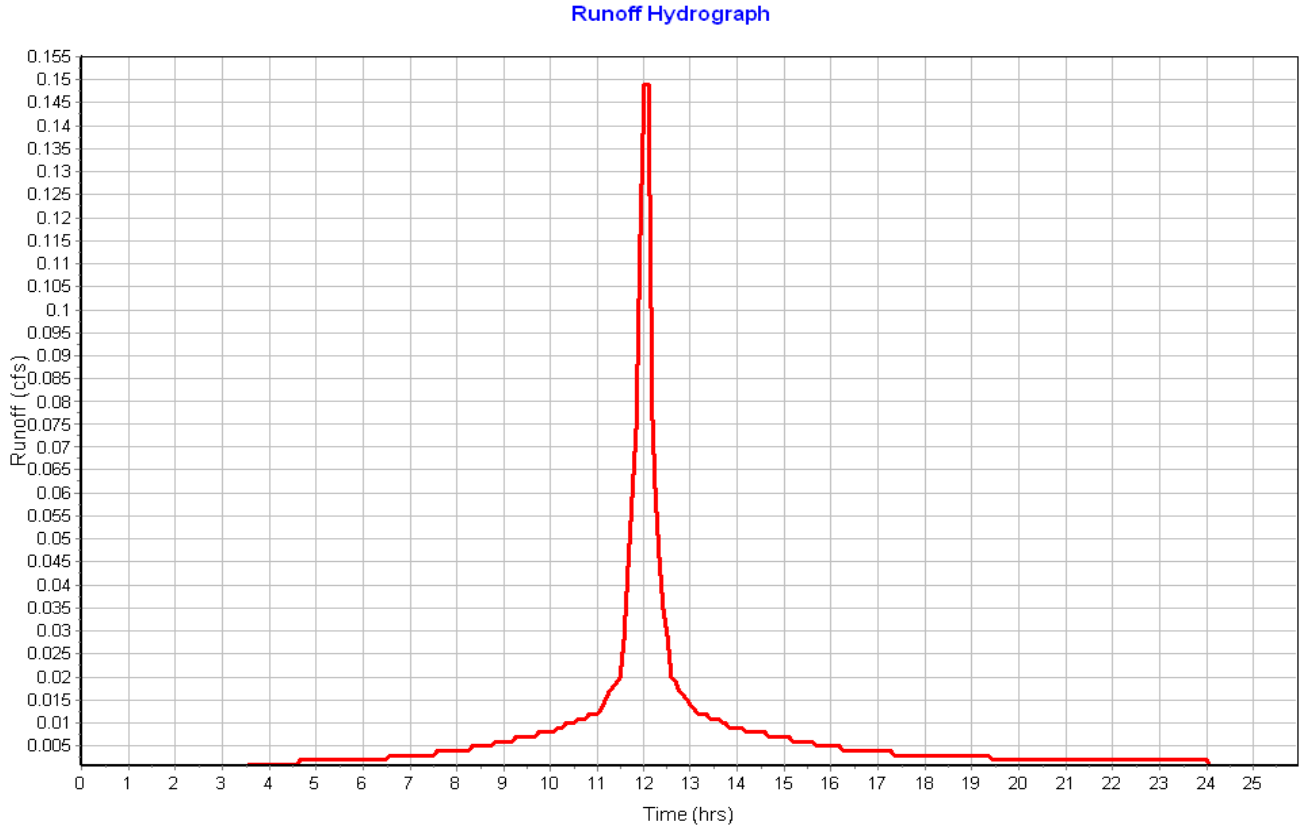
Total TOC (min) 1.37

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.15
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-14a





Subbasin : Sub-14b

Input Data

Area (ac)	0.04
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.60	0.00	0.00
Computed Flow Time (min) :	0.17	0.00	0.00

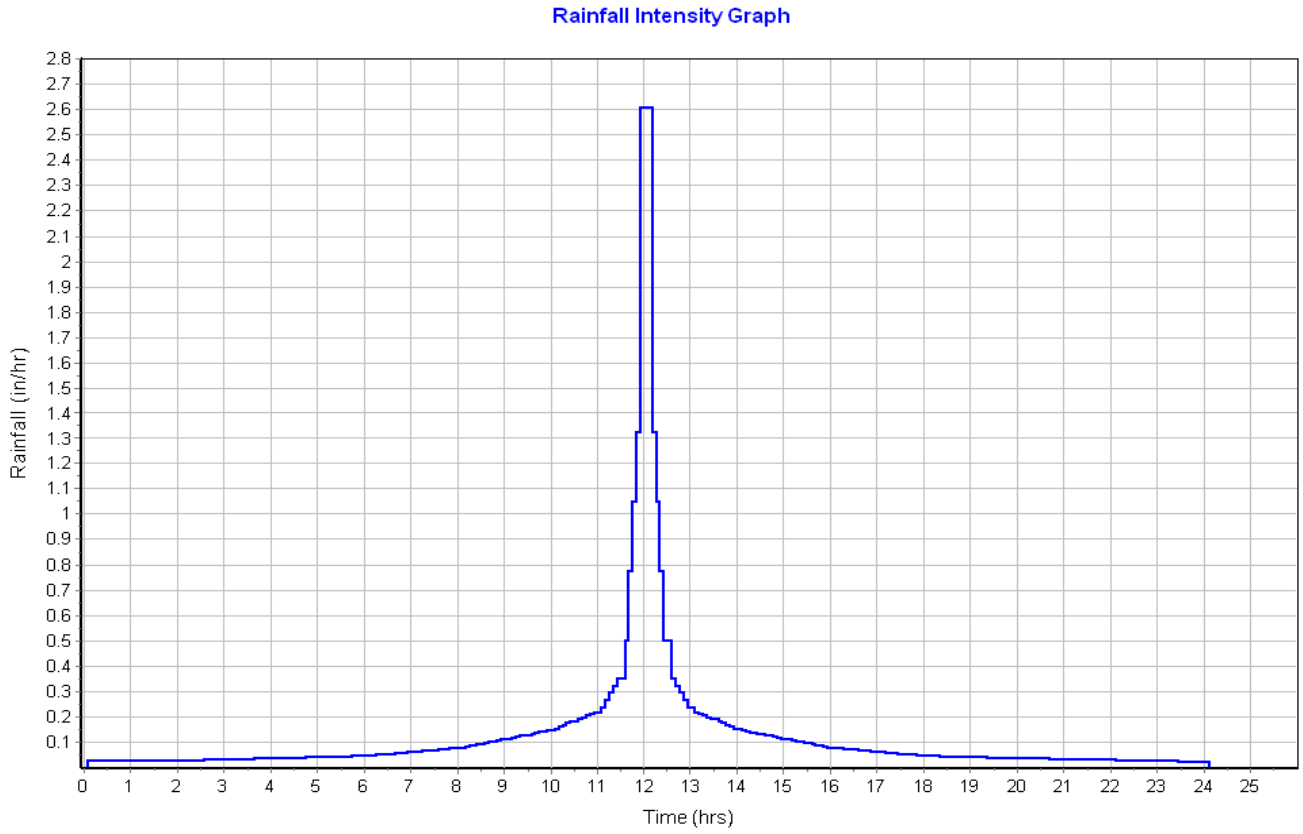
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	106.79	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	0.84	0.00	0.00

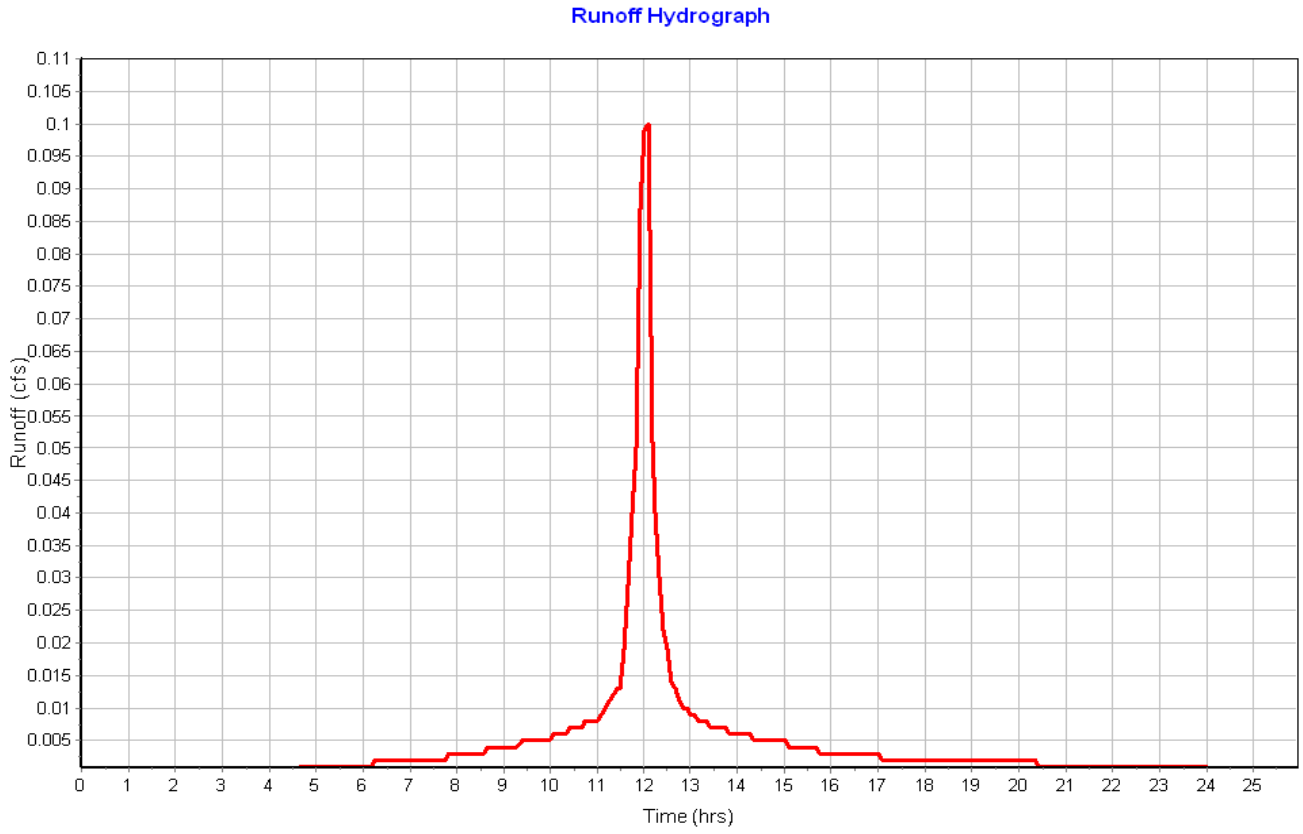
Total TOC (min) 1.00

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.83
Peak Runoff (cfs)	0.10
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:00

Subbasin : Sub-14b





Subbasin : Sub-15

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

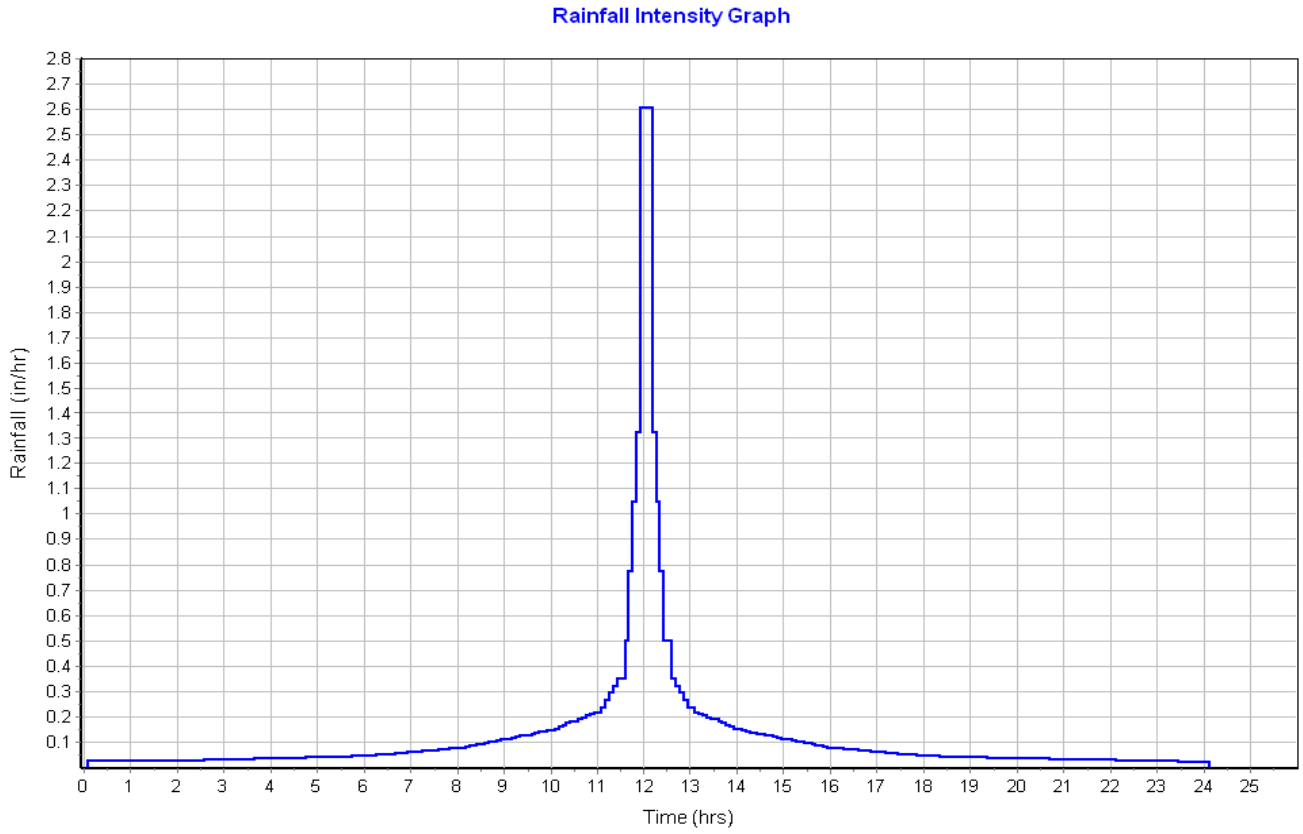
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	265.51	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.01	0.00	0.00

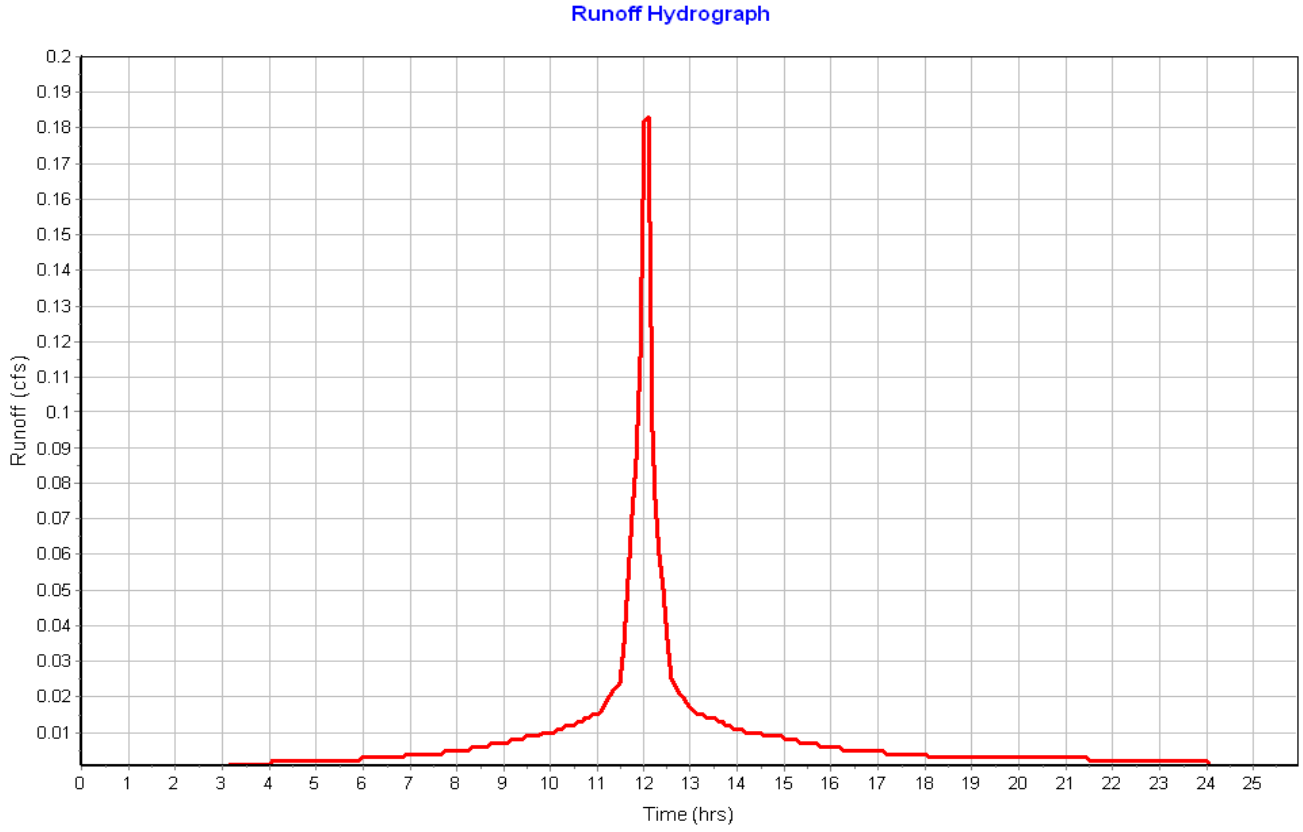
Total TOC (min) 2.14

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.18
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:08

Subbasin : Sub-15





Subbasin : Sub-16

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	22.46	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.92	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

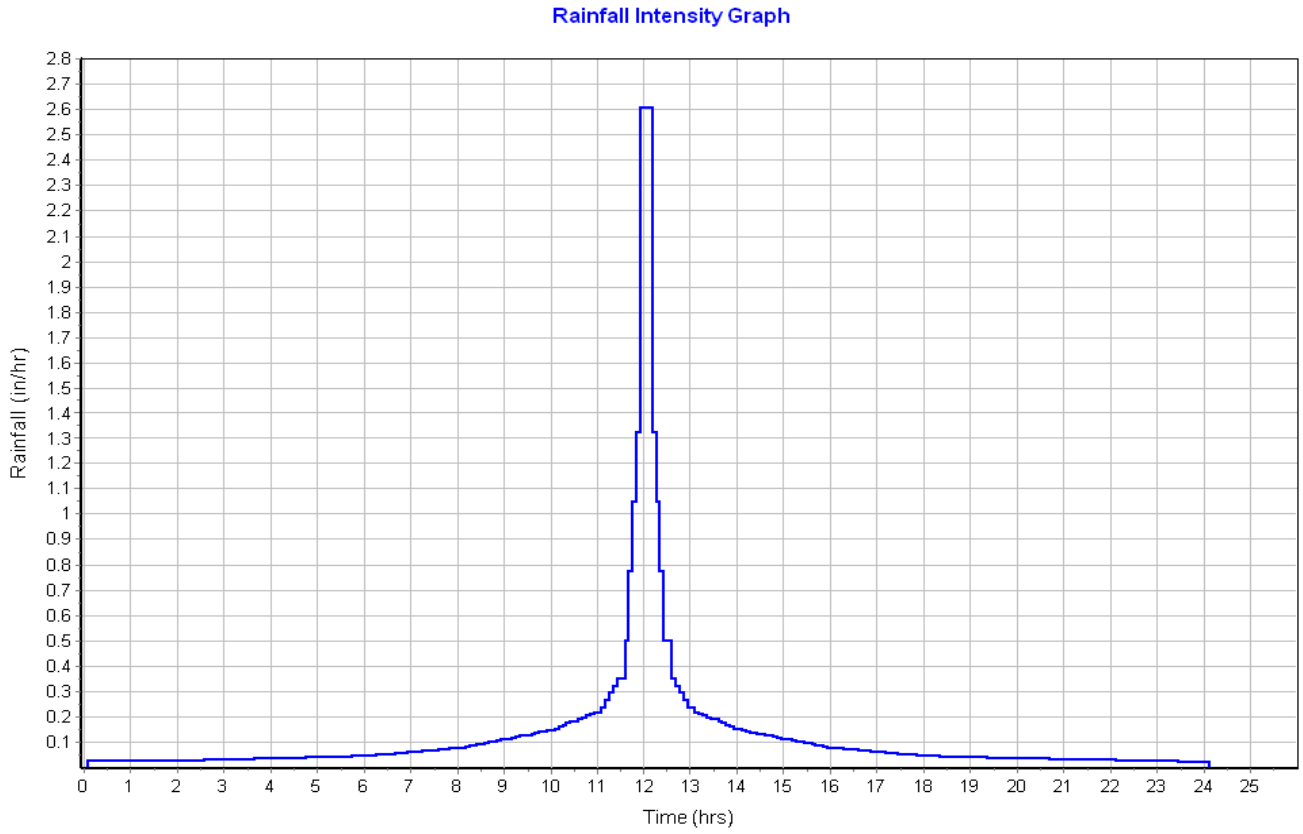
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.75	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.94	0.00	0.00

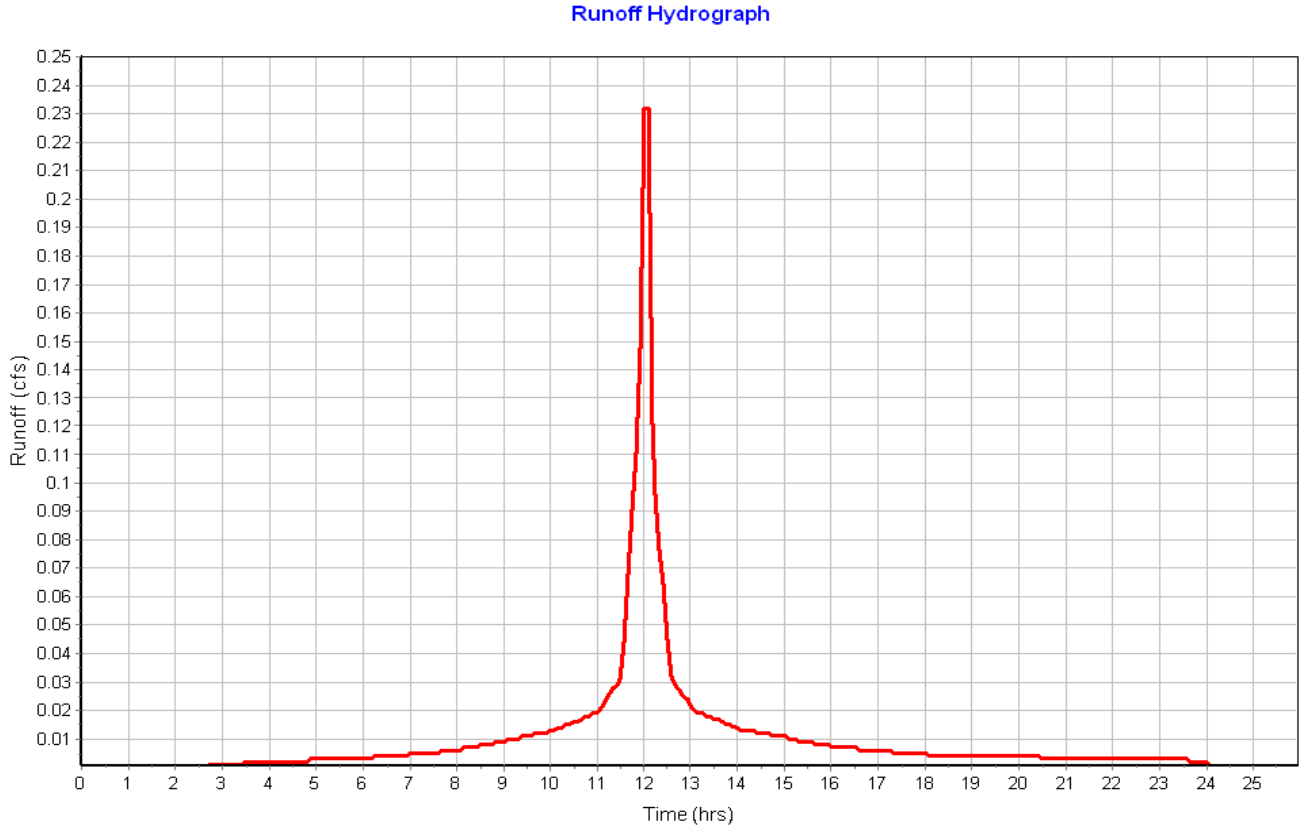
Total TOC (min) 2.13

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.23
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:08

Subbasin : Sub-16





Subbasin : Sub-17

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

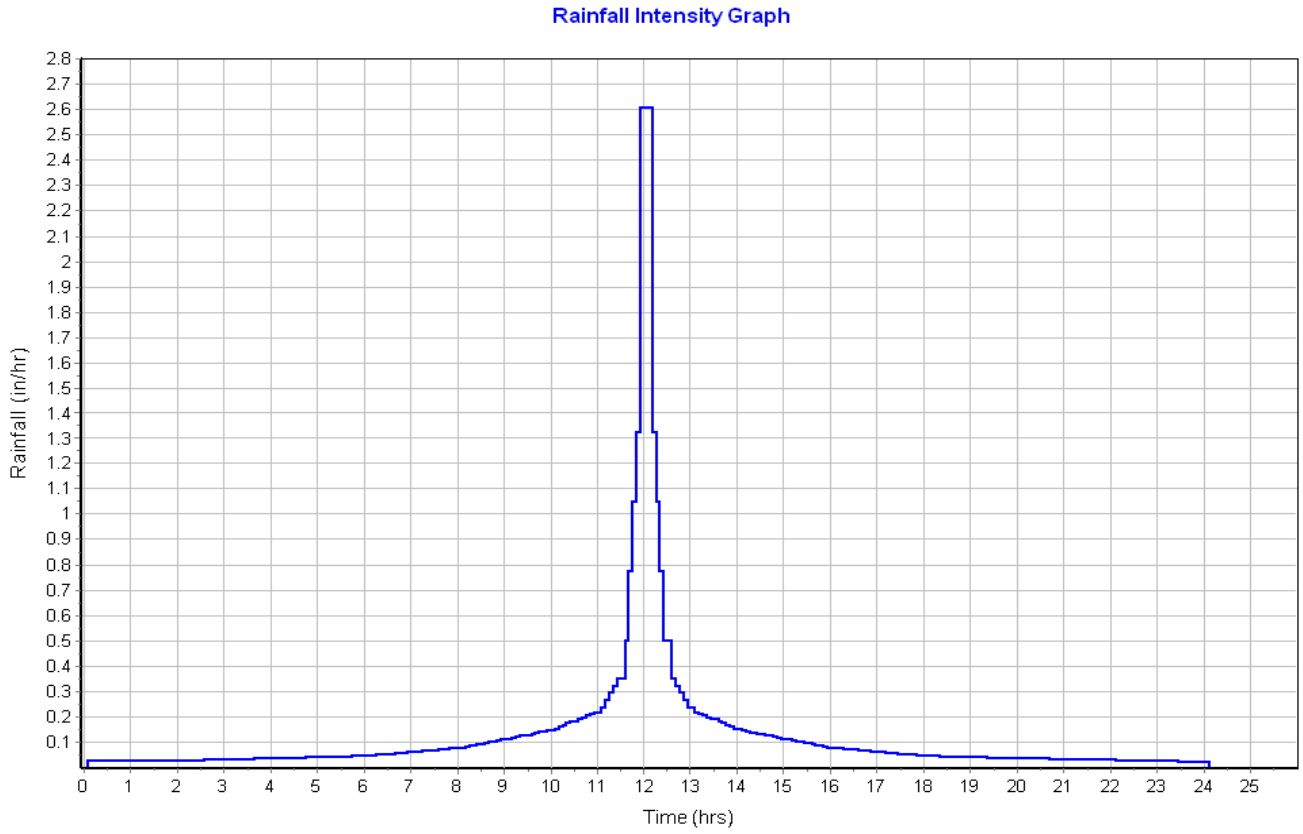
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	267.21	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.02	0.00	0.00

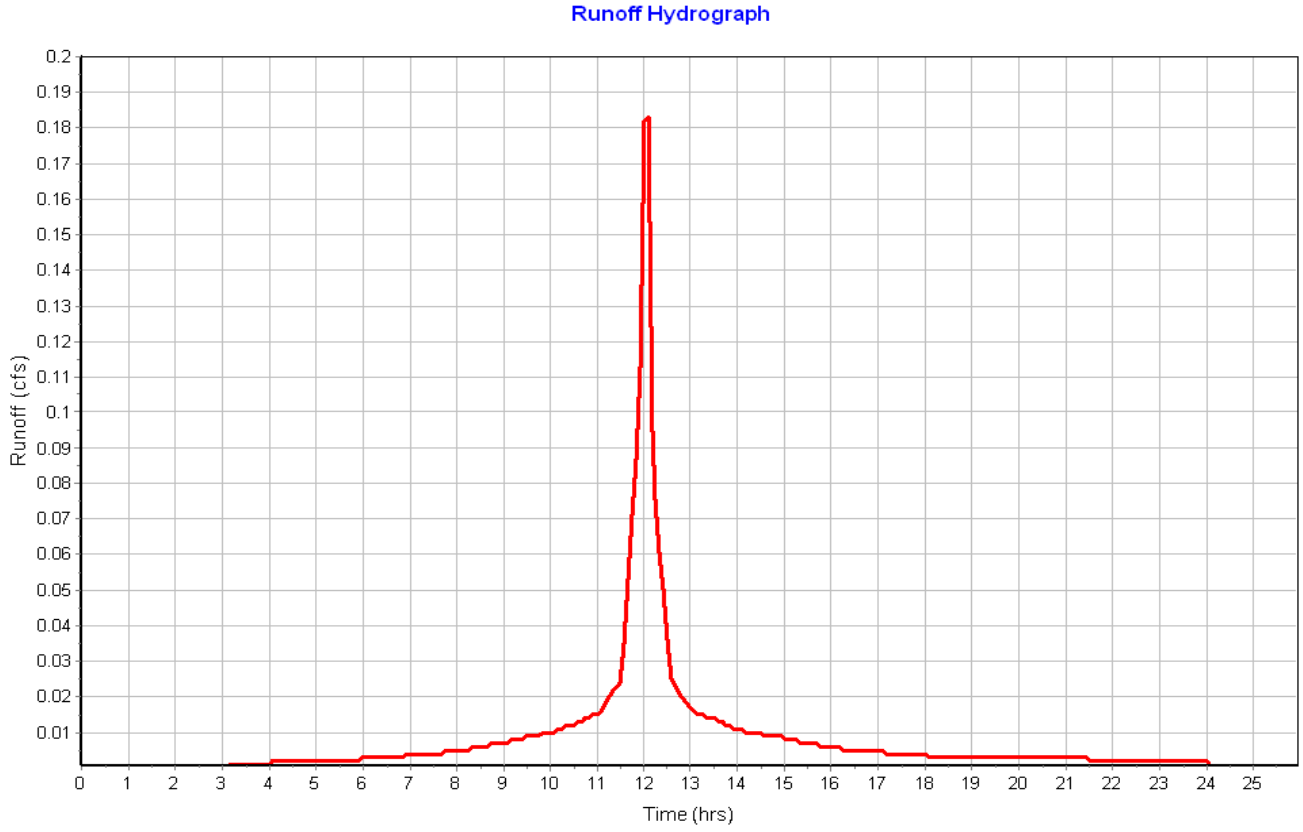
Total TOC (min) 2.15

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.86
Peak Runoff (cfs) 0.18
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:09

Subbasin : Sub-17





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	6.00	116.00	4.00	116.00	3.50	0.00	0.0000	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-02	12.00	116.00	3.50	114.00	2.00	2.00	16.6700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-03	24.02	117.15	4.00	117.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-05	23.50	116.15	4.00	116.00	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
5	Link-06	23.47	115.65	4.00	115.50	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-07	16.00	117.00	4.00	116.90	0.40	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-08	16.00	117.00	4.00	116.90	0.40	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-09	88.06	114.05	4.15	113.25	0.25	0.80	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
9	Link-10	11.34	115.75	4.25	113.00	-1.00	2.75	24.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
10	Link-11	11.51	114.65	3.15	114.25	0.25	0.40	3.4800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-12	16.00	115.50	4.00	115.00	1.00	0.50	3.1300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
12	Link-13	16.60	111.65	4.00	111.00	1.00	0.65	3.9200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
13	Link-14	28.55	113.15	4.50	113.00	0.00	0.15	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
14	Link-15	11.48	111.15	4.15	111.00	1.00	0.15	1.3100	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		(min)		
1	Link-01	0.51	0 12:10	0.30	1.72	2.07	0.05	0.35	0.35	0.00		> CAPACITY
2	Link-02	0.51	0 12:10	9.45	0.05	6.14	0.03	0.16	0.16	0.00		Calculated
3	Link-03	0.13	0 12:10	1.83	0.07	1.24	0.32	0.19	0.19	0.00		Calculated
4	Link-05	0.12	0 12:10	1.85	0.06	0.58	0.68	0.34	0.34	0.00		Calculated
5	Link-06	0.18	0 12:10	1.85	0.10	1.56	0.25	0.21	0.21	0.00		Calculated
6	Link-07	0.15	0 12:10	1.83	0.08	1.54	0.17	0.18	0.18	0.00		Calculated
7	Link-08	0.15	0 12:10	1.83	0.08	1.54	0.17	0.18	0.18	0.00		Calculated
8	Link-09	0.33	0 12:10	2.21	0.15	2.10	0.70	0.25	0.25	0.00		Calculated
9	Link-10	0.08	0 12:21	9.10	0.01	3.56	0.05	0.06	0.07	0.00		Calculated
10	Link-11	0.26	0 12:10	4.32	0.06	2.88	0.07	0.17	0.17	0.00		Calculated
11	Link-12	0.28	0 12:10	4.09	0.07	2.88	0.09	0.18	0.18	0.00		Calculated
12	Link-13	0.67	0 12:11	4.58	0.15	3.95	0.07	0.27	0.27	0.00		Calculated
13	Link-14	0.18	0 12:10	0.26	0.69	1.14	0.42	0.48	0.96	0.00		Calculated
14	Link-15	0.18	0 12:10	0.42	0.43	2.05	0.09	0.23	0.46	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 116.50
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 2.50
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -116.50
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

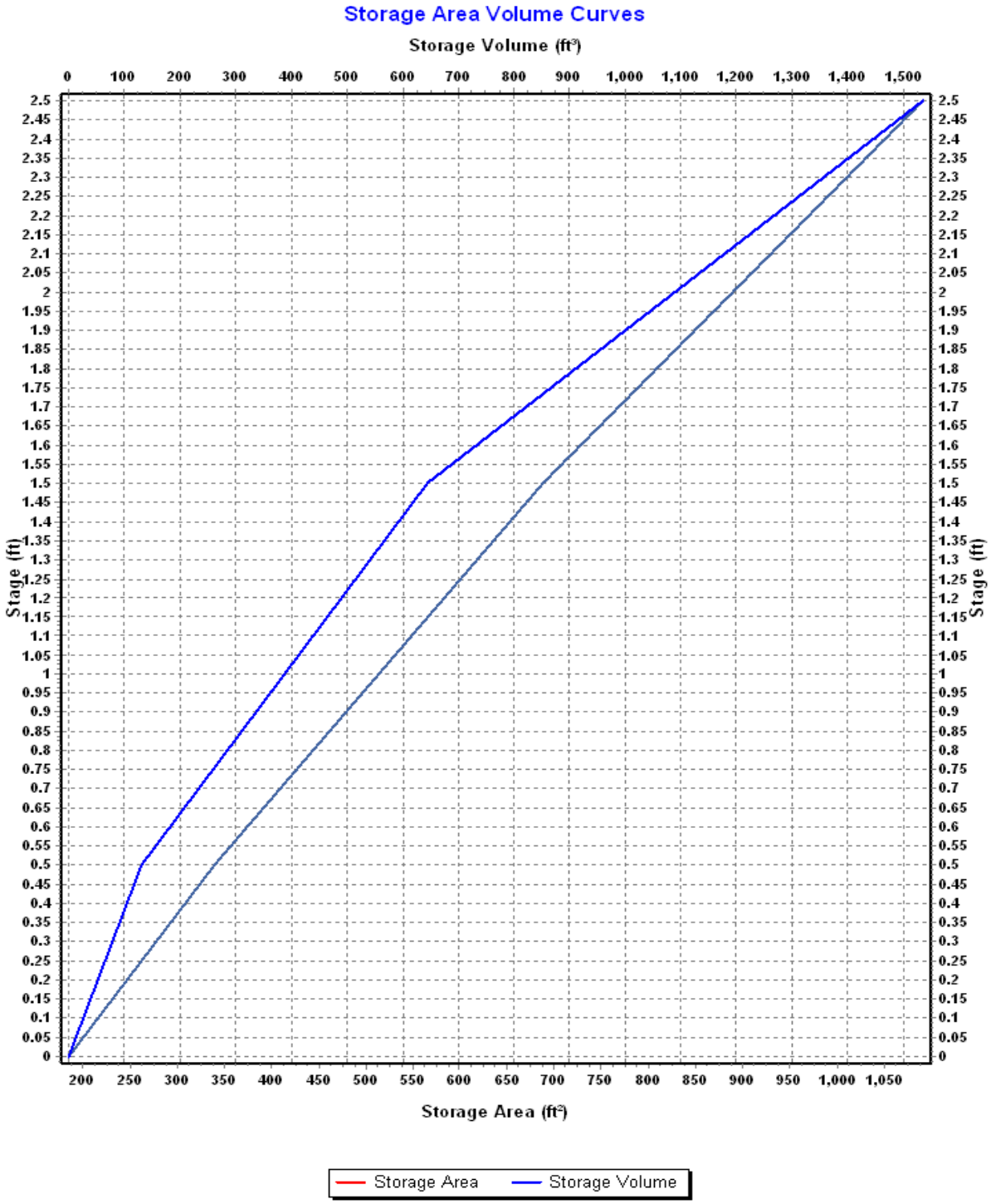
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	185	0.000
0.5	339	131.00
1.5	689	645.00
2.5	1091	1535.00


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500
Stage (ft)
2.5 2.45 2.4 2.35 2.3 2.25 2.2 2.15 2.1 2.05 2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-02	Trapezoidal	No	119.00	2.50	20.00	0.25	3.33
2	Weir-03	Trapezoidal	No	116.90	0.40	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.33
Peak Lateral Inflow (cfs)	0.03
Peak Outflow (cfs)	0.33
Peak Exfiltration Flow Rate (cfm)	0.12
Max HGL Elevation Attained (ft)	116.95
Max HGL Depth Attained (ft)	0.45
Average HGL Elevation Attained (ft)	116.84
Average HGL Depth Attained (ft)	0.34
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.116
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

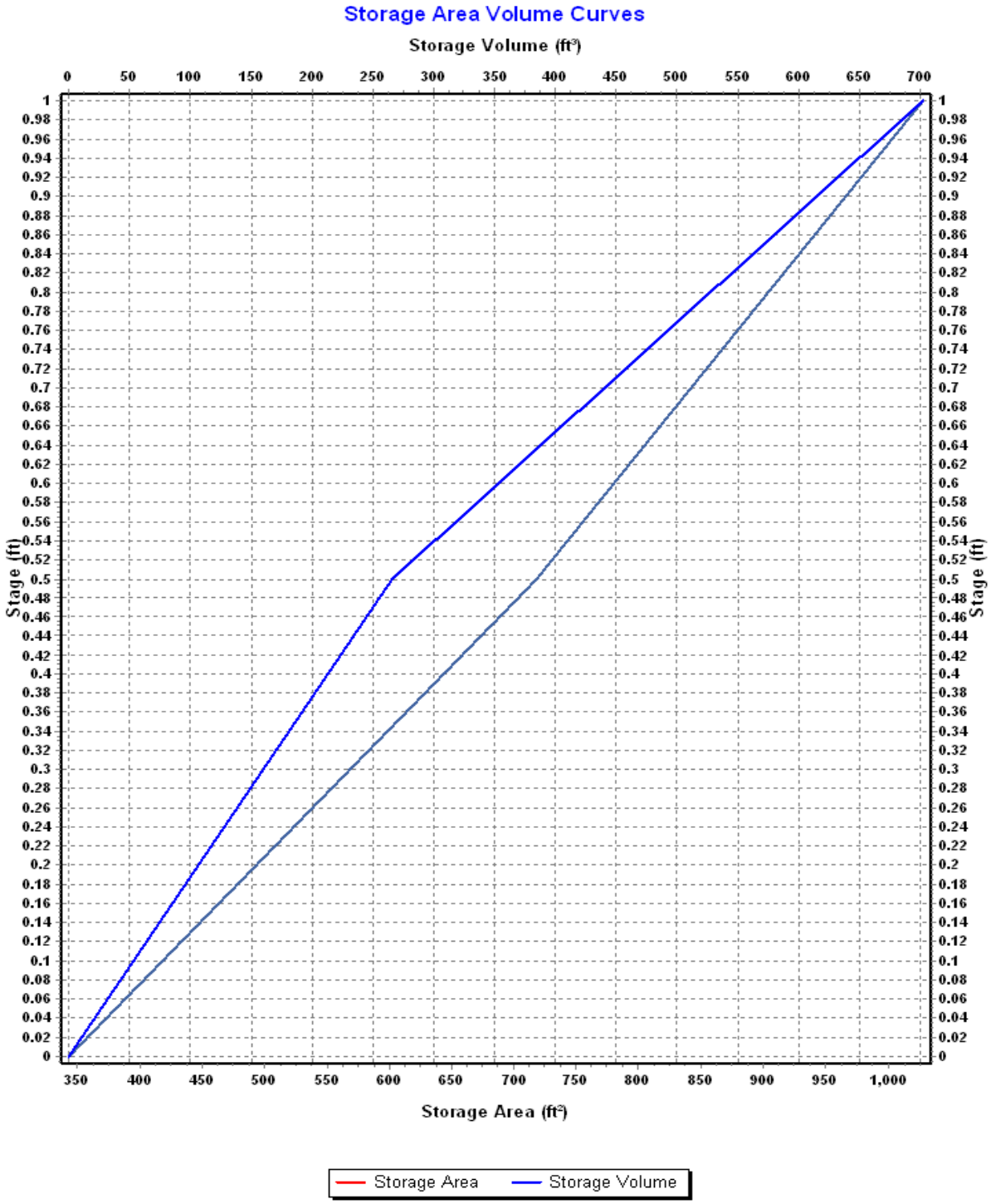
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	343	0.000
.5	718	265.25
1	1028	701.75


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-05	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.20
Peak Lateral Inflow (cfs)	0.03
Peak Outflow (cfs)	0.14
Peak Exfiltration Flow Rate (cfm)	0.28
Max HGL Elevation Attained (ft)	118.53
Max HGL Depth Attained (ft)	0.53
Average HGL Elevation Attained (ft)	118.34
Average HGL Depth Attained (ft)	0.34
Time of Max HGL Occurrence (days hh:mm)	0 12:13
Total Exfiltration Volume (1000-ft³)	0.252
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02-Forebay

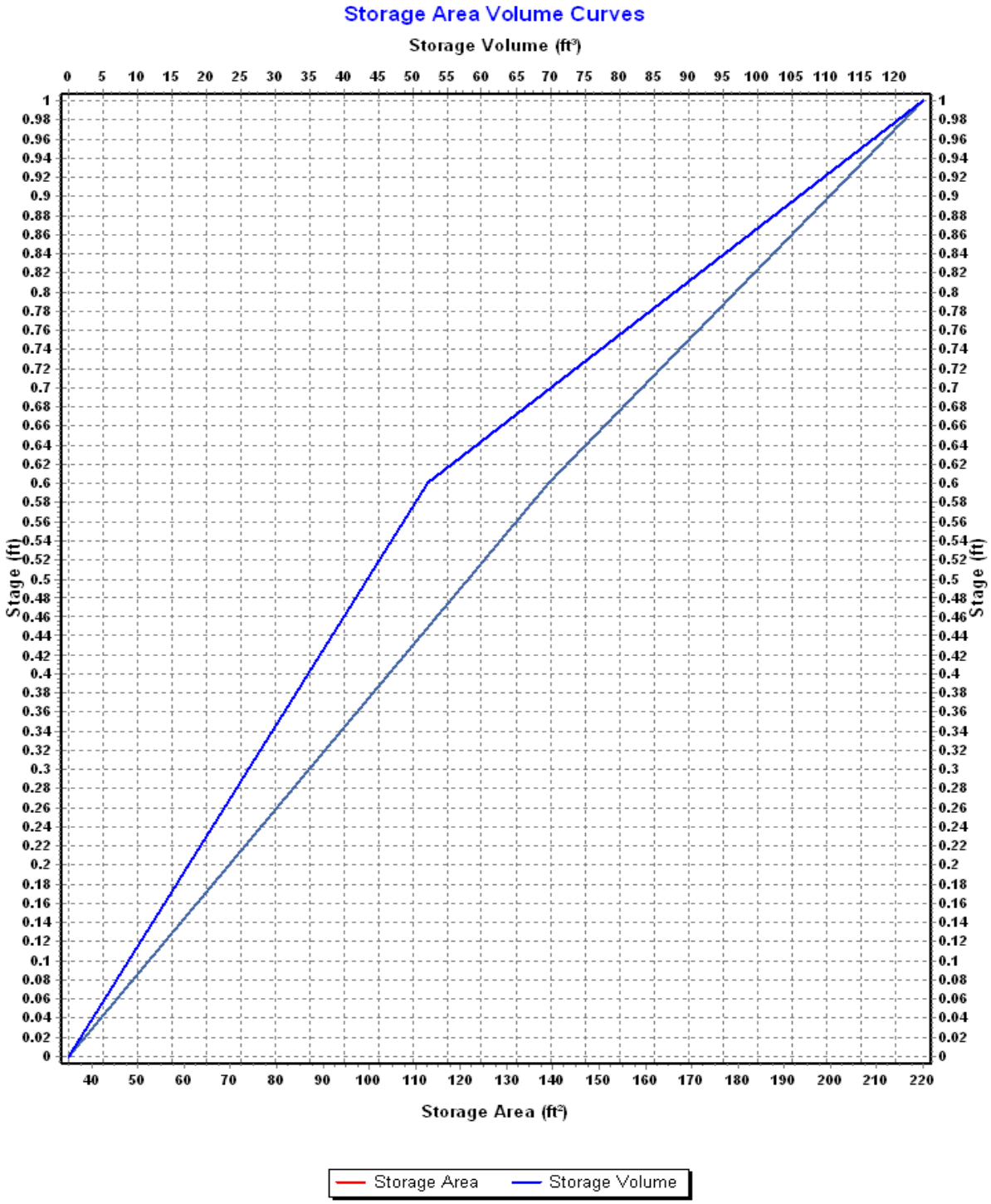
Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-02 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	35	0.000
.6	139	52.20
1	220	124.00


Storage Area Volume Curves
Storage Volume (ft³)
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	118.60	0.60	8.00	0.50	3.33
2	Weir-06	Trapezoidal	No	118.75	0.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.17
Peak Lateral Inflow (cfs)	0.17
Peak Outflow (cfs)	0.17
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.63
Max HGL Depth Attained (ft)	0.63
Average HGL Elevation Attained (ft)	118.58
Average HGL Depth Attained (ft)	0.58
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

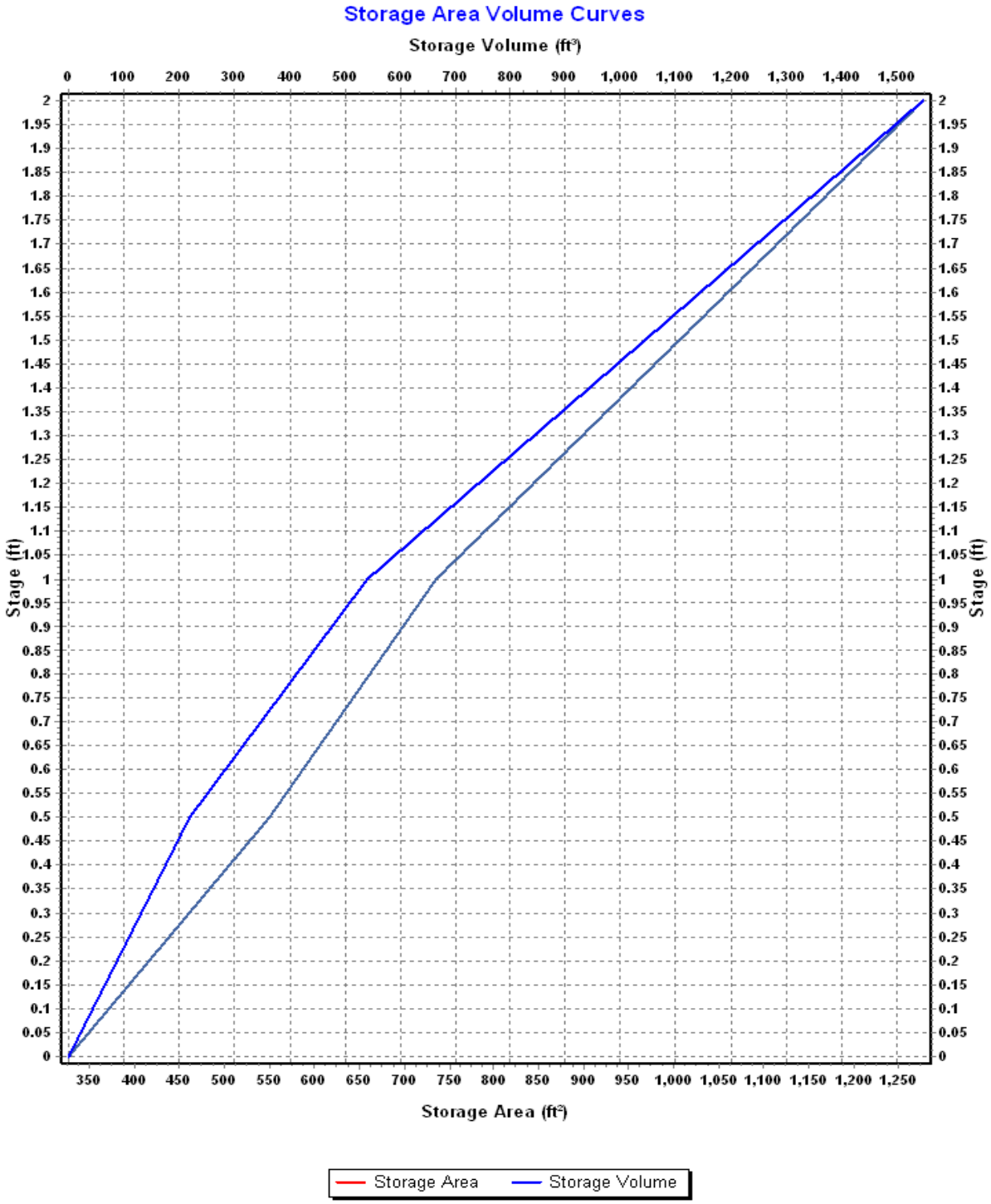
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	327	0.000
0.5	550	219.25
1	736	540.75
2	1277	1547.25


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050 1,100 1,150 1,200 1,250
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33
2	Weir-17	Trapezoidal	No	118.75	1.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.27
Peak Lateral Inflow (cfs)	0.03
Peak Outflow (cfs)	0.26
Peak Exfiltration Flow Rate (cfm)	0.21
Max HGL Elevation Attained (ft)	117.55
Max HGL Depth Attained (ft)	0.55
Average HGL Elevation Attained (ft)	117.37
Average HGL Depth Attained (ft)	0.37
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.200
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03-Forebay

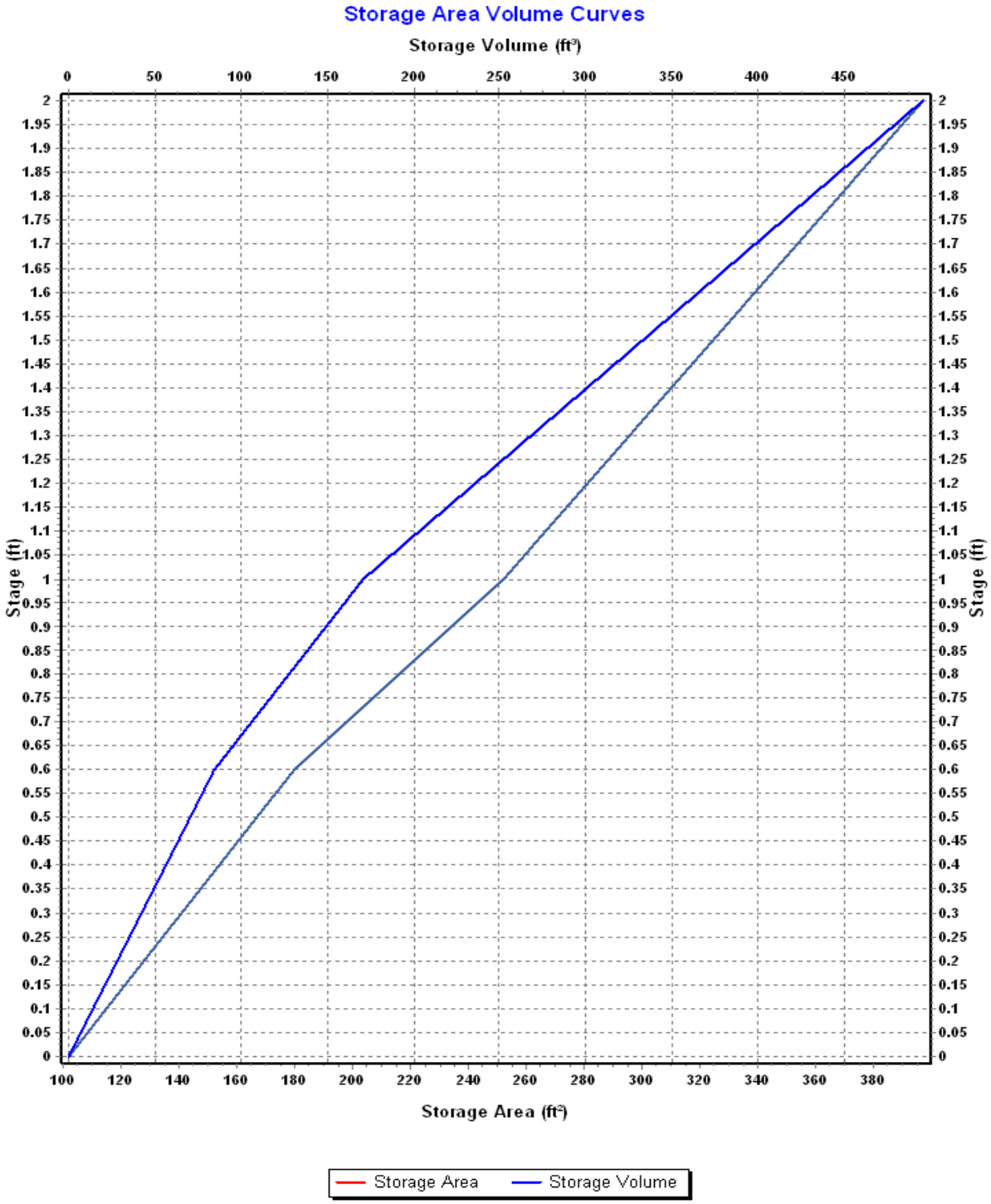
Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-03 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	102	0.000
0.6	180	84.60
1	252	171.00
2	397	495.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450
Stage (ft)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1 1.05 1.1 1.15 1.2 1.25 1.3 1.35 1.4 1.45 1.5 1.55 1.6 1.65 1.7 1.75 1.8 1.85 1.9 1.95 2
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-07	Trapezoidal	No	117.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.64
Max HGL Depth Attained (ft)	0.64
Average HGL Elevation Attained (ft)	117.58
Average HGL Depth Attained (ft)	0.58
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

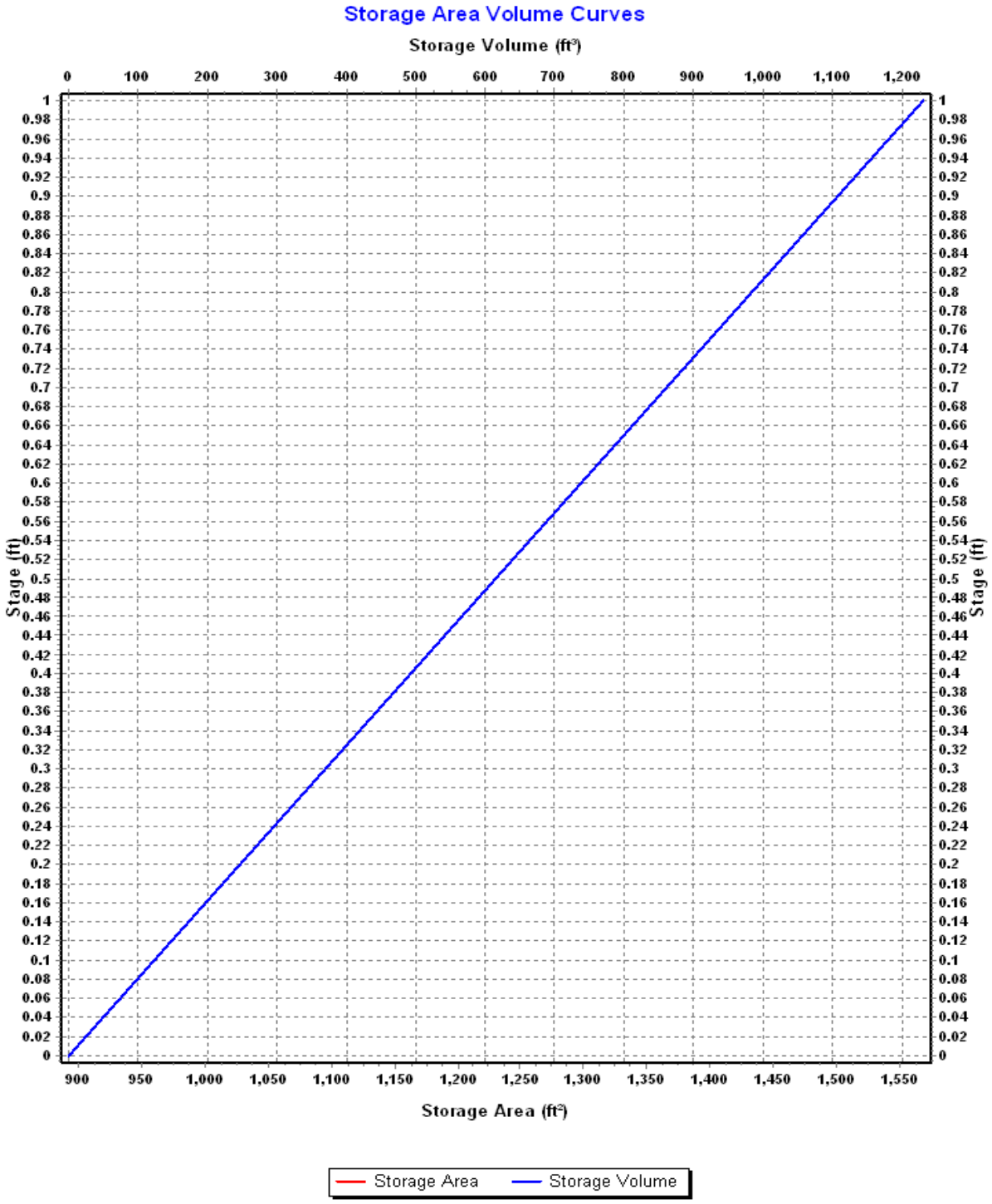
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	892	0.000
1	1569	1230.50


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200
Stage (ft)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46 0.48 0.5 0.52 0.54 0.56 0.58 0.6 0.62 0.64 0.66 0.68 0.7 0.72 0.74 0.76 0.78 0.8 0.82 0.84 0.86 0.88 0.9 0.92 0.94 0.96 0.98 1
900 950 1,000 1,050 1,100 1,150 1,200 1,250 1,300 1,350 1,400 1,450 1,500 1,550
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-14	Trapezoidal	No	114.60	0.60	10.00	0.25	3.33
2	Weir-15	Trapezoidal	No	114.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.71
Peak Lateral Inflow (cfs)	0.08
Peak Outflow (cfs)	0.67
Peak Exfiltration Flow Rate (cfm)	0.48
Max HGL Elevation Attained (ft)	114.59
Max HGL Depth Attained (ft)	0.59
Average HGL Elevation Attained (ft)	114.34
Average HGL Depth Attained (ft)	0.34
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.446
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04-Forebay

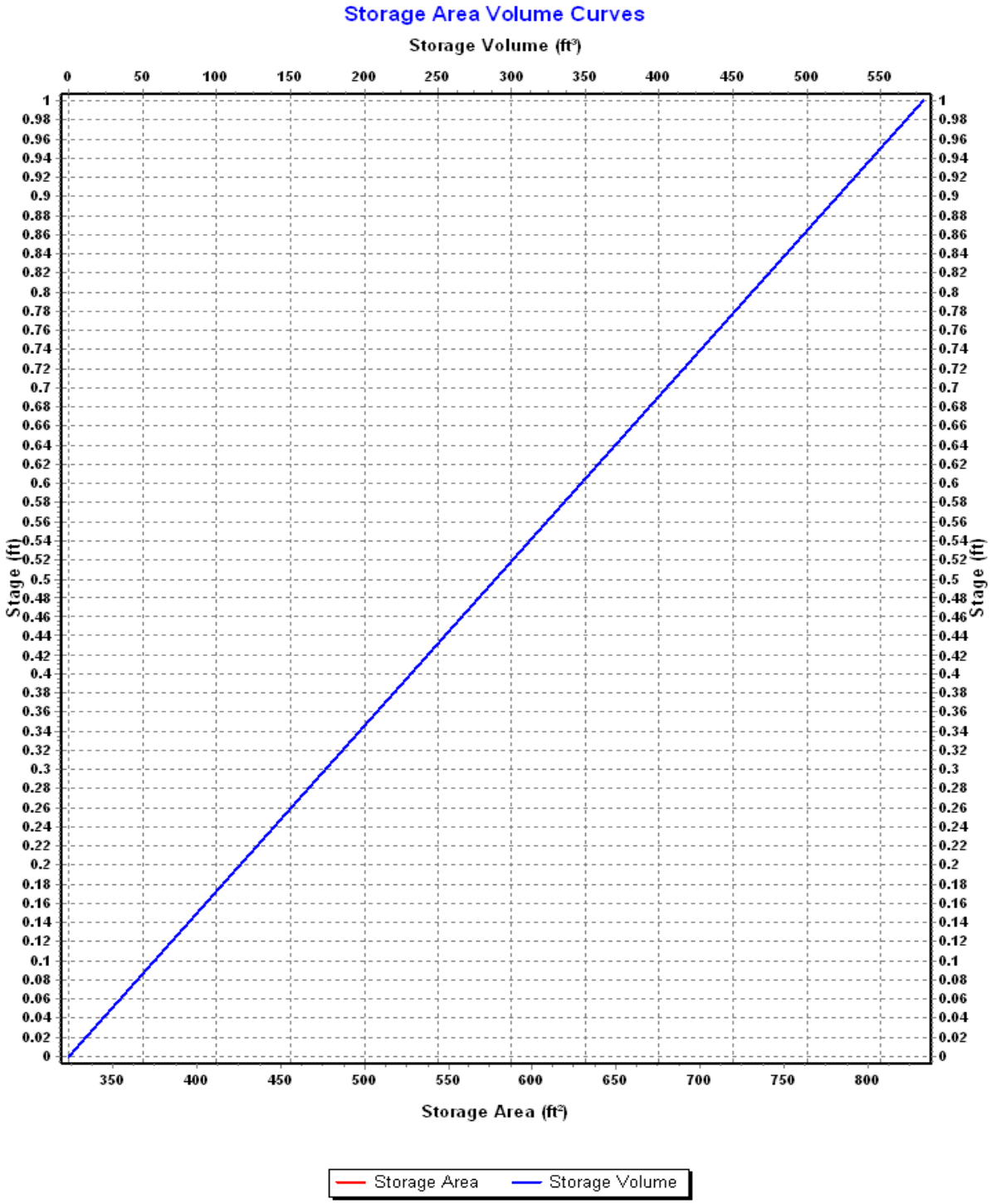
Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	324	0.000
1	833	578.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
350 400 450 500 550 600 650 700 750 800
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-13	Trapezoidal	No	114.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.64
Max HGL Depth Attained (ft)	0.64
Average HGL Elevation Attained (ft)	114.50
Average HGL Depth Attained (ft)	0.5
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-05

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	114.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

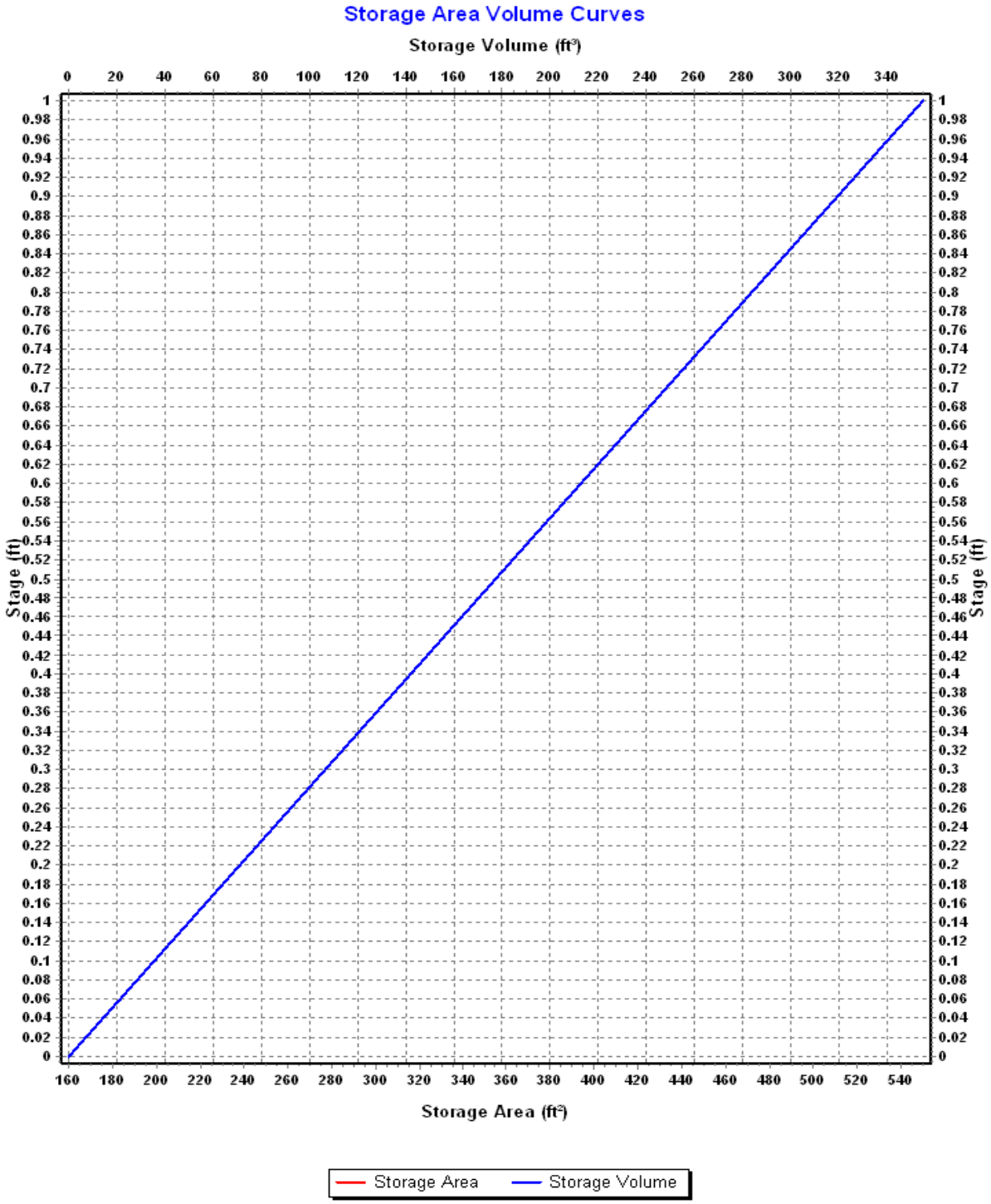
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-05

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	160	0.000
1	550	355.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-05 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	113.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.18
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.18
Peak Exfiltration Flow Rate (cfm)	0.14
Max HGL Elevation Attained (ft)	113.54
Max HGL Depth Attained (ft)	0.54
Average HGL Elevation Attained (ft)	113.39
Average HGL Depth Attained (ft)	0.39
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.129
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.30
Peak Lateral Inflow (cfs)	0.17
Peak Outflow (cfs)	0.30
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.20
Max HGL Depth Attained (ft)	4.2
Average HGL Elevation Attained (ft)	116.88
Average HGL Depth Attained (ft)	3.88
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.13
Peak Lateral Inflow (cfs)	0.13
Peak Outflow (cfs)	0.13
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.33
Max HGL Depth Attained (ft)	4.18
Average HGL Elevation Attained (ft)	116.97
Average HGL Depth Attained (ft)	3.82
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.12
Peak Lateral Inflow (cfs)	0.12
Peak Outflow (cfs)	0.12
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.42
Max HGL Depth Attained (ft)	4.27
Average HGL Elevation Attained (ft)	115.93
Average HGL Depth Attained (ft)	3.78
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.51
Peak Lateral Inflow (cfs)	0.40
Peak Outflow (cfs)	0.51
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.41
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	115.99
Average HGL Depth Attained (ft)	3.99
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.28
Peak Lateral Inflow (cfs)	0.10
Peak Outflow (cfs)	0.28
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.69
Max HGL Depth Attained (ft)	4.19
Average HGL Elevation Attained (ft)	115.30
Average HGL Depth Attained (ft)	3.8
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	111.65
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.18
Peak Lateral Inflow (cfs)	0.18
Peak Outflow (cfs)	0.18
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.88
Max HGL Depth Attained (ft)	4.23
Average HGL Elevation Attained (ft)	115.54
Average HGL Depth Attained (ft)	3.89
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.18
Peak Lateral Inflow (cfs)	0.18
Peak Outflow (cfs)	0.18
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	113.61
Max HGL Depth Attained (ft)	4.96
Average HGL Elevation Attained (ft)	113.20
Average HGL Depth Attained (ft)	4.55
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	109.90
Max (Rim) Elevation (ft)	116.90
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-109.90
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.33
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.33
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.32
Max HGL Depth Attained (ft)	4.42
Average HGL Elevation Attained (ft)	112.81
Average HGL Depth Attained (ft)	2.91
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.14
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.08
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.82
Max HGL Depth Attained (ft)	4.32
Average HGL Elevation Attained (ft)	113.80
Average HGL Depth Attained (ft)	2.3
Time of Max HGL Occurrence (days hh:mm)	0 12:21
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	117.50
Max (Rim) Offset (ft)	6.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.26
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.26
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.83
Max HGL Depth Attained (ft)	3.33
Average HGL Elevation Attained (ft)	113.38
Average HGL Depth Attained (ft)	1.88
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	107.65
Max (Rim) Elevation (ft)	114.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.67
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.67
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	111.93
Max HGL Depth Attained (ft)	4.28
Average HGL Elevation Attained (ft)	109.99
Average HGL Depth Attained (ft)	2.34
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	107.00
Max (Rim) Elevation (ft)	113.50
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.18
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.18
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	111.40
Max HGL Depth Attained (ft)	4.4
Average HGL Elevation Attained (ft)	109.53
Average HGL Depth Attained (ft)	2.53
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Treebox_Filter

Input Data

Invert Elevation (ft)	112.50
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Output Summary Results

Peak Inflow (cfs)	0.51
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.51
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	116.17
Max HGL Depth Attained (ft)	3.67
Average HGL Elevation Attained (ft)	115.70
Average HGL Depth Attained (ft)	3.2
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.021
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-B

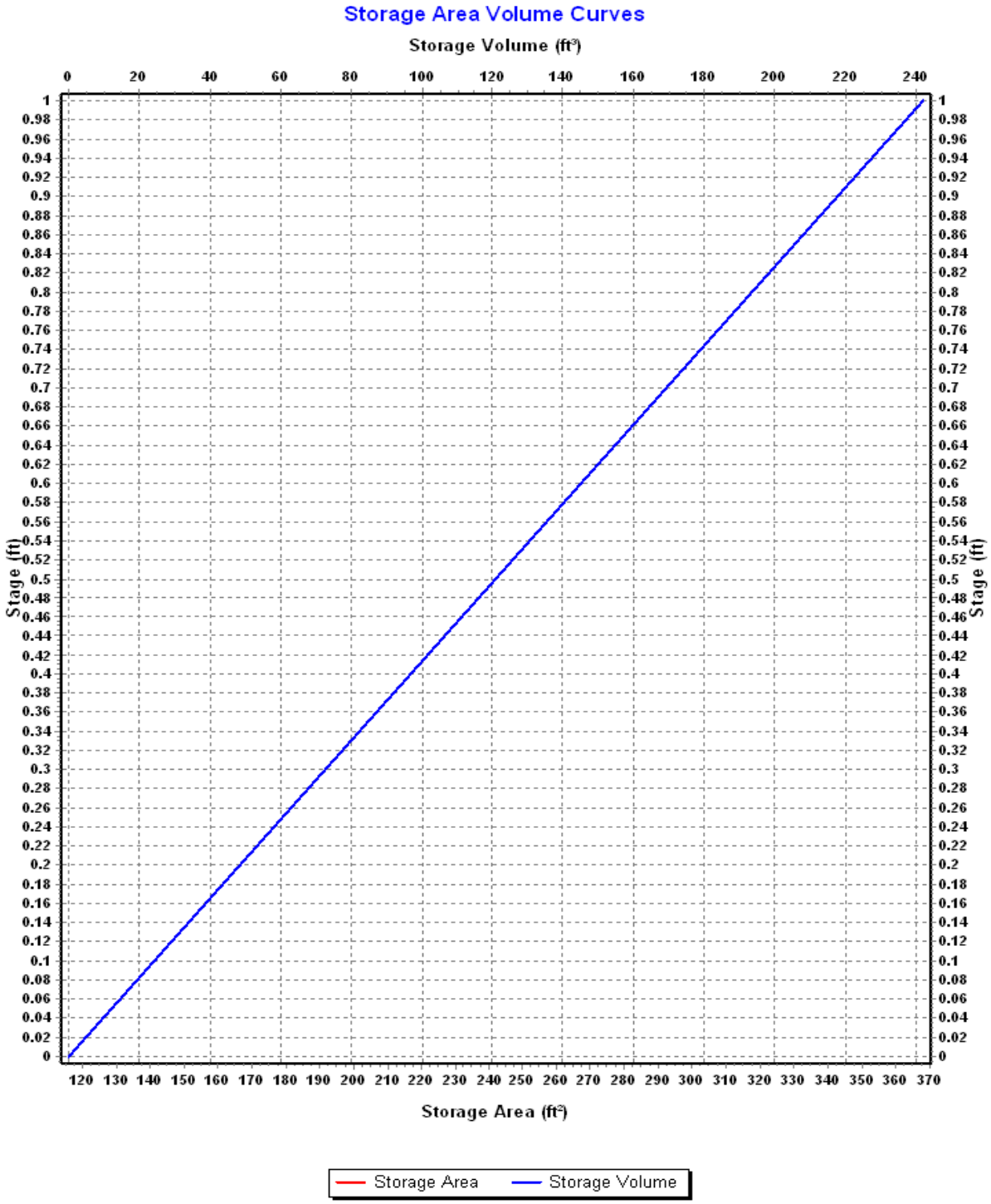
Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	118.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : WQS-B

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	116	0.000
1	368	242.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240
Stage (ft)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46 0.48 0.5 0.52 0.54 0.56 0.58 0.6 0.62 0.64 0.66 0.68 0.7 0.72 0.74 0.76 0.78 0.8 0.82 0.84 0.86 0.88 0.9 0.92 0.94 0.96 0.98 1
Stage (ft)
Storage Area (ft²)
120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370
Storage Area
Storage Volume

Storage Node : WQS-B (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-12	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.53
Max HGL Depth Attained (ft)	0.53
Average HGL Elevation Attained (ft)	117.47
Average HGL Depth Attained (ft)	0.47
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 2 - Prop Conditions (Existing Regulation).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	19
Nodes	35
Junctions	0
Outfalls	13
Flow Diversions	0
Inlets	0
Storage Nodes	22
Links	27
Channels	0
Pipes	14
Pumps	0
Orifices	0
Weirs	13
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.56	484.00	74.33	6.50	3.64	2.04	2.21	0 00:01:22
2	Sub-02	0.53	484.00	74.03	6.50	3.61	1.92	2.06	0 00:02:06
3	Sub-03	0.15	484.00	80.00	6.50	4.23	0.65	0.69	0 00:00:07
4	Sub-04	0.03	484.00	74.00	6.50	3.59	0.12	0.12	0 00:01:14
5	Sub-05	0.03	484.00	74.00	6.50	3.59	0.12	0.13	0 00:00:43
6	Sub-06	0.03	484.00	74.00	6.50	3.59	0.12	0.13	0 00:00:43
7	Sub-07	0.11	484.00	74.00	6.50	3.61	0.41	0.33	0 00:20:21
8	Sub-08	0.07	484.00	98.00	6.50	6.26	0.41	0.35	0 00:01:38
9	Sub-09	0.05	484.00	98.00	6.50	6.26	0.30	0.28	0 00:01:37
10	Sub-10a	0.06	484.00	98.00	6.50	6.26	0.40	0.35	0 00:01:43
11	Sub-10b	0.04	484.00	98.00	6.50	6.25	0.26	0.25	0 00:01:09
12	Sub-11	0.08	484.00	98.00	6.50	6.26	0.51	0.46	0 00:02:42
13	Sub-12	0.09	484.00	98.00	6.50	6.26	0.55	0.49	0 00:02:18
14	Sub-13	0.07	484.00	98.00	6.50	6.26	0.43	0.39	0 00:02:16
15	Sub-14a	0.05	484.00	98.00	6.50	6.26	0.34	0.32	0 00:01:22
16	Sub-14b	0.04	484.00	98.00	6.50	6.25	0.22	0.21	0 00:01:00
17	Sub-15	0.07	484.00	98.00	6.50	6.26	0.43	0.39	0 00:02:08
18	Sub-16	0.09	484.00	98.00	6.50	6.26	0.57	0.49	0 00:02:07
19	Sub-17	0.07	484.00	98.00	6.50	6.26	0.43	0.39	0 00:02:09

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					1.09	112.00					
2	Out-02	Outfall	112.00					2.19	112.00					
3	Out-03	Outfall	112.00					2.03	112.00					
4	Out-04	Outfall	112.00					0.68	112.00					
5	Out-06	Outfall	113.00					0.75	113.00					
6	Out-07	Outfall	115.00					0.00	115.00					
7	Out-08	Outfall	114.00					0.47	114.15					
8	Out-09	Outfall	114.00					0.00	114.00					
9	Out-10	Outfall	114.00					0.61	114.00					
10	Out-11	Outfall	114.00					0.00	114.00					
11	Out-12	Outfall	114.00					0.24	114.00					
12	Out-13	Outfall	110.00					1.37	110.00					
13	Out-14	Outfall	110.00					0.38	110.00					
14	BMP-01	Storage Node	116.50	119.00	0.00		0.00	0.76	116.99				0.00	0.00
15	BMP-02	Storage Node	118.00	119.00	0.00		0.00	0.47	118.57				0.00	0.00
16	BMP-02-Forebay	Storage Node	118.00	119.00	0.00		0.00	0.35	118.66				0.00	0.00
17	BMP-03	Storage Node	117.00	119.00	0.00		0.00	0.62	117.58				0.00	0.00
18	BMP-03-Forebay	Storage Node	117.00	119.00	0.00		0.00	0.49	117.67				0.00	0.00
19	BMP-04	Storage Node	114.00	115.00	0.00		0.00	1.63	114.64				0.00	0.00
20	BMP-04-Forebay	Storage Node	114.00	115.00	0.00		0.00	0.49	114.68				0.00	0.00
21	BMP-05	Storage Node	113.00	114.00	0.00		0.00	0.39	113.56				0.00	0.00
22	CB-01	Storage Node	113.00	120.00	0.00		1000.00	0.63	117.30				0.00	0.00
23	CB-02	Storage Node	113.15	120.00	0.00		1000.00	0.28	117.43				0.00	0.00
24	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.25	116.61				0.00	0.00
25	CB-04	Storage Node	112.00	119.00	0.00		1000.00	1.09	116.60				0.00	0.00
26	CB-05	Storage Node	111.50	118.50	0.00		1000.00	0.60	115.78				0.00	0.00
27	CB-06	Storage Node	111.65	118.50	0.00		1000.00	0.39	115.98				0.00	0.00
28	CB-07	Storage Node	108.65	115.50	0.00		1000.00	0.39	113.92				0.00	0.00
29	OCS-01	Storage Node	109.90	116.90	0.00		0.00	0.75	114.47				0.00	0.00
30	OCS-02	Storage Node	111.50	118.50	0.00		0.00	0.47	115.91				0.00	0.00
31	OCS-03	Storage Node	111.50	117.50	0.00		0.00	0.61	114.93				0.00	0.00
32	OCS-04	Storage Node	107.65	114.50	0.00		0.00	1.37	112.07				0.00	0.00
33	OCS-05	Storage Node	107.00	113.50	0.00		0.00	0.38	111.56				0.00	0.00
34	Treebox_Filter	Storage Node	112.50	119.00	0.00		0.00	1.09	116.25				0.00	0.00
35	WQS-B	Storage Node	117.00	118.00	0.00		0.00	0.32	117.55				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-04	Treebox_Filter	6.00	116.00	116.00	0.0000	12.000	0.0200	1.09	0.30	3.64	2.64	0.52	0.52	0.00	> CAPACITY
2	Link-02	Pipe	Treebox_Filter	Out-01	12.00	116.00	114.00	16.6700	12.000	0.0200	1.09	9.45	0.12	7.45	0.24	0.24	0.00	Calculated
3	Link-03	Pipe	CB-02	CB-01	24.02	117.15	117.00	0.6200	12.000	0.0200	0.28	1.83	0.15	1.51	0.29	0.29	0.00	Calculated
4	Link-05	Pipe	CB-03	CB-04	23.50	116.15	116.00	0.6400	12.000	0.0200	0.25	1.85	0.13	0.67	0.53	0.53	0.00	Calculated
5	Link-06	Pipe	CB-06	CB-05	23.47	115.65	115.50	0.6400	12.000	0.0200	0.39	1.85	0.21	1.91	0.30	0.30	0.00	Calculated
6	Link-07	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.32	1.83	0.17	1.91	0.26	0.26	0.00	Calculated
7	Link-08	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.32	1.83	0.17	1.91	0.26	0.26	0.00	Calculated
8	Link-09	Pipe	OCS-01	Out-06	88.06	114.05	113.25	0.9100	12.000	0.0200	0.75	2.21	0.34	2.63	0.39	0.39	0.00	Calculated
9	Link-10	Pipe	OCS-02	Out-08	11.34	115.75	113.00	24.2500	12.000	0.0200	0.47	9.10	0.05	5.81	0.16	0.16	0.00	Calculated
10	Link-11	Pipe	OCS-03	Out-10	11.51	114.65	114.25	3.4800	12.000	0.0200	0.61	4.32	0.14	3.62	0.27	0.27	0.00	Calculated
11	Link-12	Pipe	CB-05	BMP-04	16.00	115.50	115.00	3.1300	12.000	0.0200	0.60	4.09	0.15	3.52	0.27	0.27	0.00	Calculated
12	Link-13	Pipe	OCS-04	Out-13	16.60	111.65	111.00	3.9200	12.000	0.0200	1.37	4.58	0.30	4.71	0.40	0.40	0.00	Calculated
13	Link-14	Pipe	CB-07	BMP-05	28.55	113.15	113.00	0.5300	6.000	0.0200	0.39	0.26	1.46	1.97	0.50	1.00	17.00	SURCHARGED
14	Link-15	Pipe	OCS-05	Out-14	11.48	111.15	111.00	1.3100	6.000	0.0200	0.38	0.42	0.92	2.51	0.36	0.73	0.00	Calculated
15	Weir-02	Weir	BMP-01	Out-07		116.50	115.00				0.00							
16	Weir-03	Weir	BMP-01	OCS-01		116.50	109.90				0.75							
17	Weir-04	Weir	BMP-02-Forebay	BMP-02		118.00	118.00				0.35							
18	Weir-05	Weir	BMP-02	OCS-02		118.00	111.50				0.47							
19	Weir-06	Weir	BMP-02-Forebay	Out-09		118.00	114.00				0.00							
20	Weir-07	Weir	BMP-03-Forebay	BMP-03		117.00	117.00				0.49							
21	Weir-08	Weir	BMP-03	OCS-03		117.00	111.50				0.61							
22	Weir-12	Weir	WQS-B	BMP-04		117.00	114.00				0.32							
23	Weir-13	Weir	BMP-04-Forebay	BMP-04		114.00	114.00				0.49							
24	Weir-14	Weir	BMP-04	Out-12		114.00	114.00				0.24							
25	Weir-15	Weir	BMP-04	OCS-04		114.00	107.65				1.37							
26	Weir-16	Weir	BMP-05	OCS-05		113.00	107.00				0.38							
27	Weir-17	Weir	BMP-03	Out-11		117.00	114.00				0.00							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.56
Peak Rate Factor 484.00
Weighted Curve Number 74.33
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.54	C	74.00
Brush, Good	0.01	C	65.00
Paved roads with curbs & sewers	0.01	C	98.00
Composite Area & Weighted CN	0.56		74.33

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

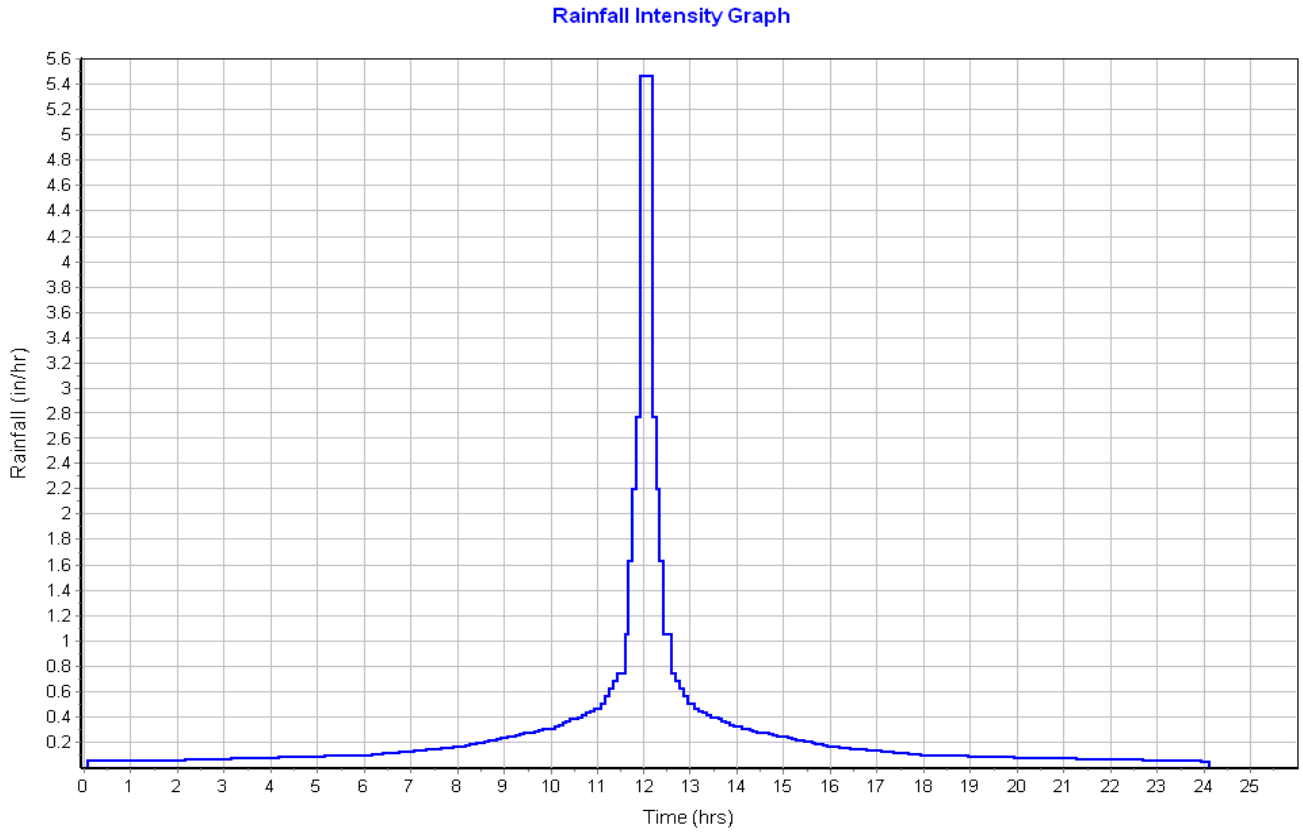
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.24	0.00	0.00
Computed Flow Time (min) :	1.38	0.00	0.00

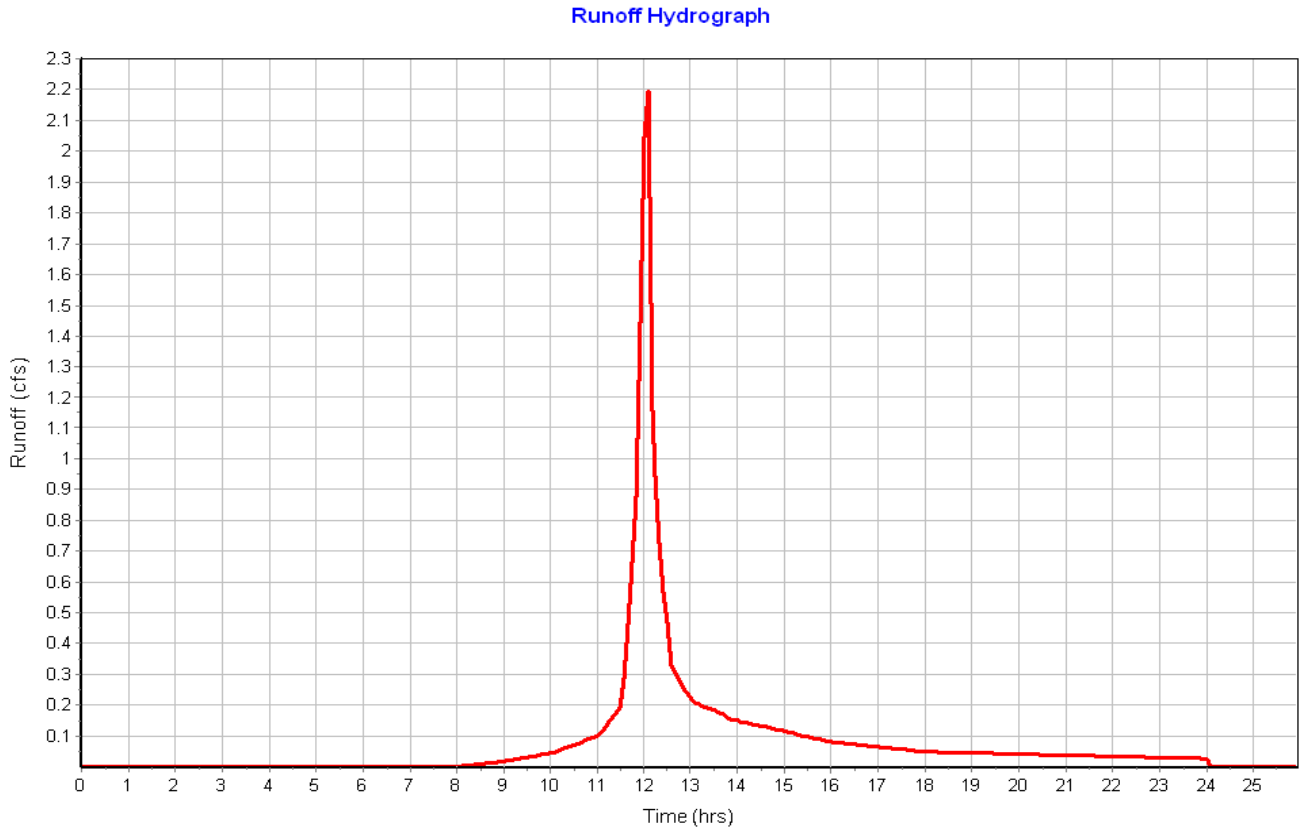
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	3.64
Peak Runoff (cfs)	2.21
Weighted Curve Number	74.33
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.53
Peak Rate Factor 484.00
Weighted Curve Number 74.03
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.48	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.53		74.03

Time of Concentration

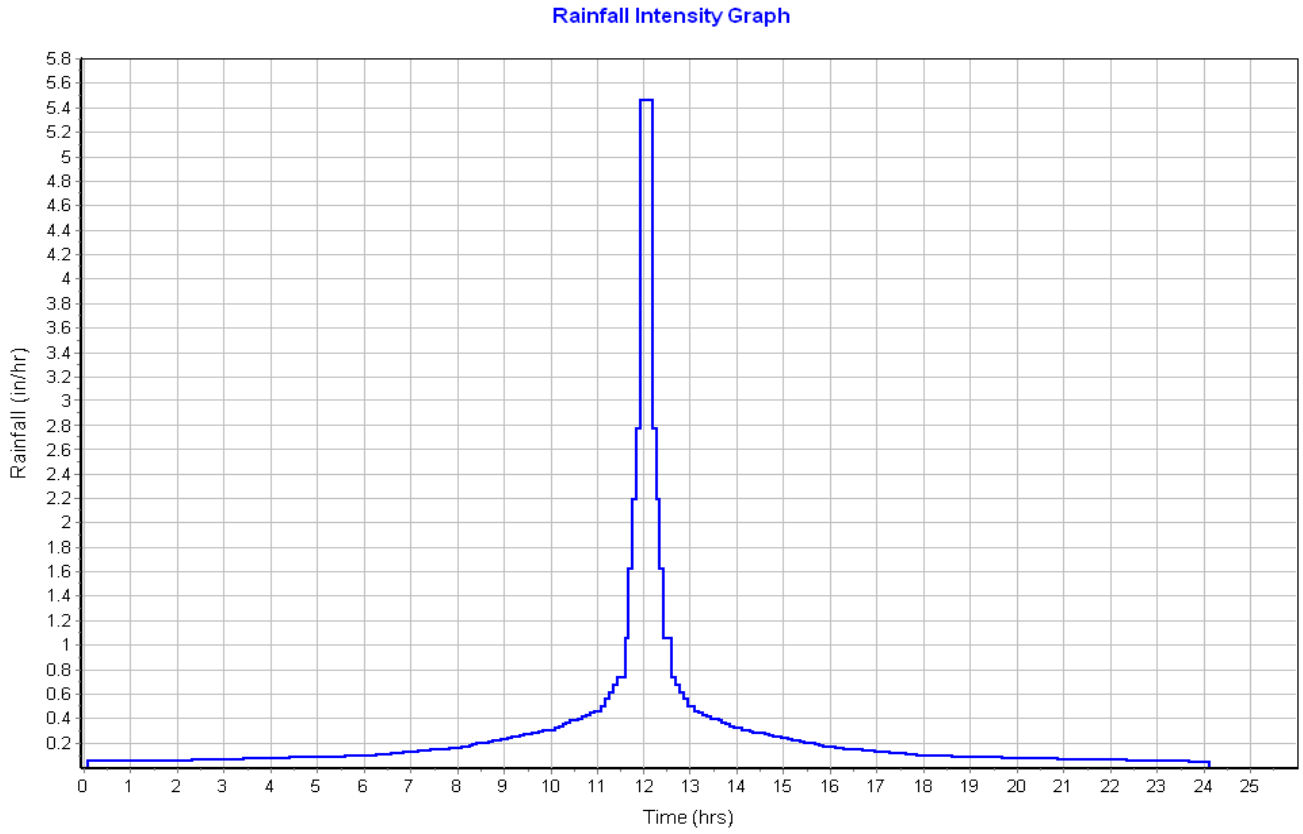
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

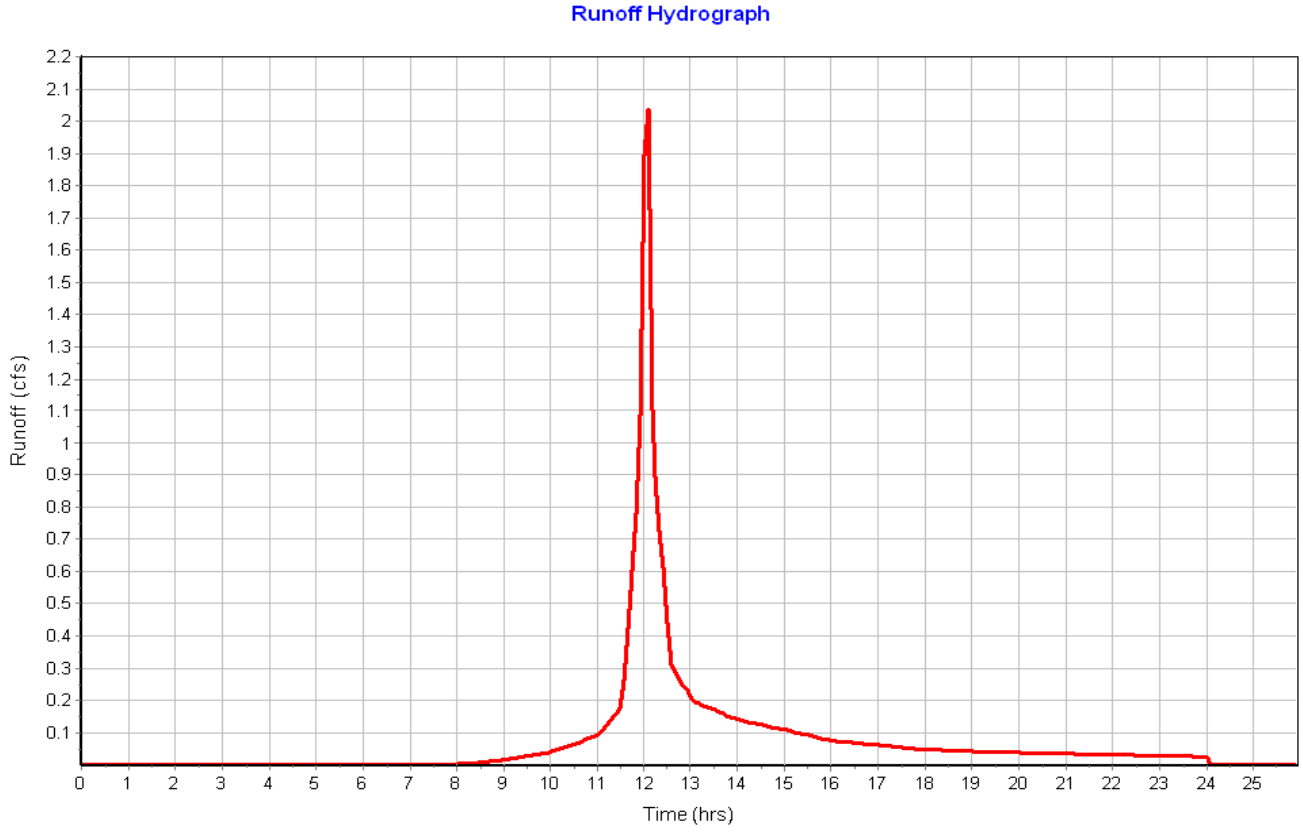
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.61
Peak Runoff (cfs) 2.06
Weighted Curve Number 74.03
Time of Concentration (days hh:mm:ss) 0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.15
Peak Rate Factor 484.00
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
PorousSidewalk	0.15	C	80.00
Composite Area & Weighted CN	0.15		80.00

Time of Concentration

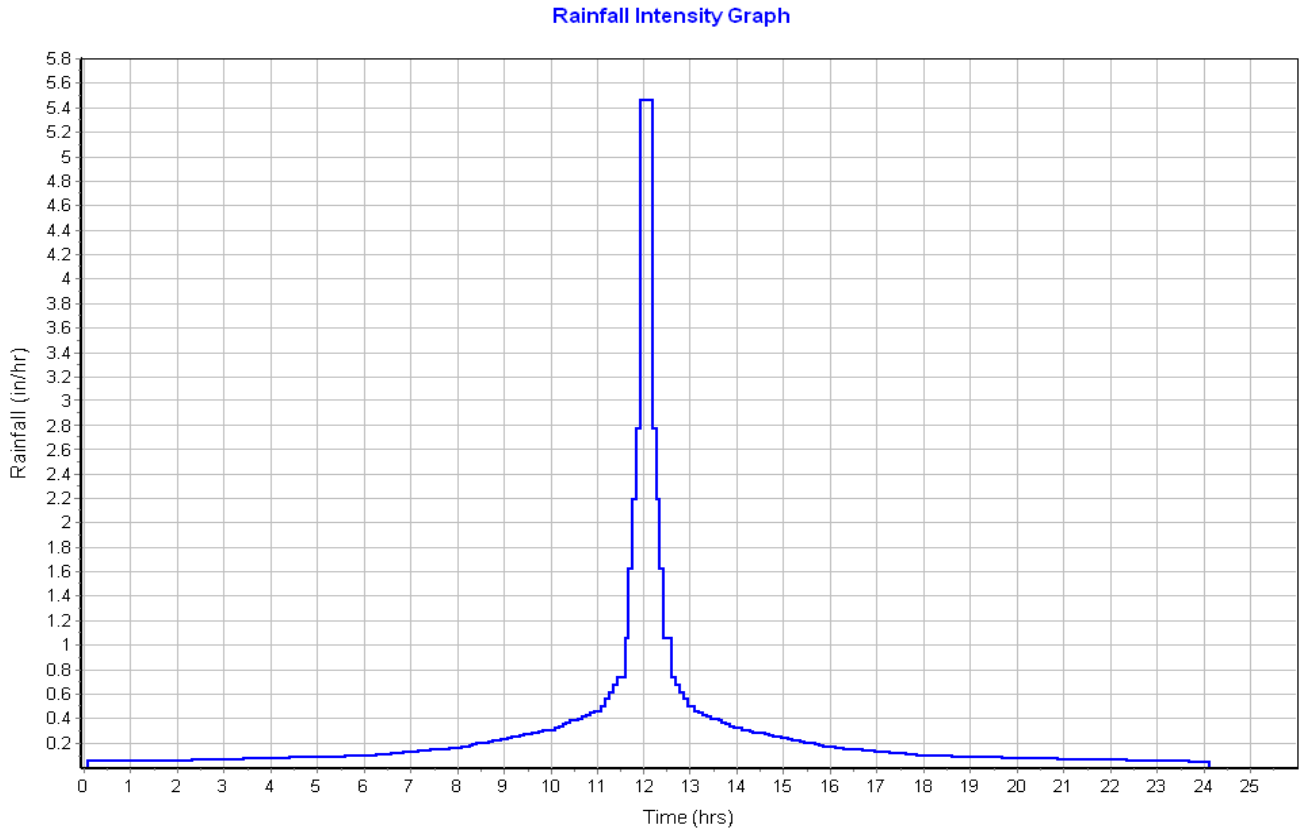
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	5	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.62	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

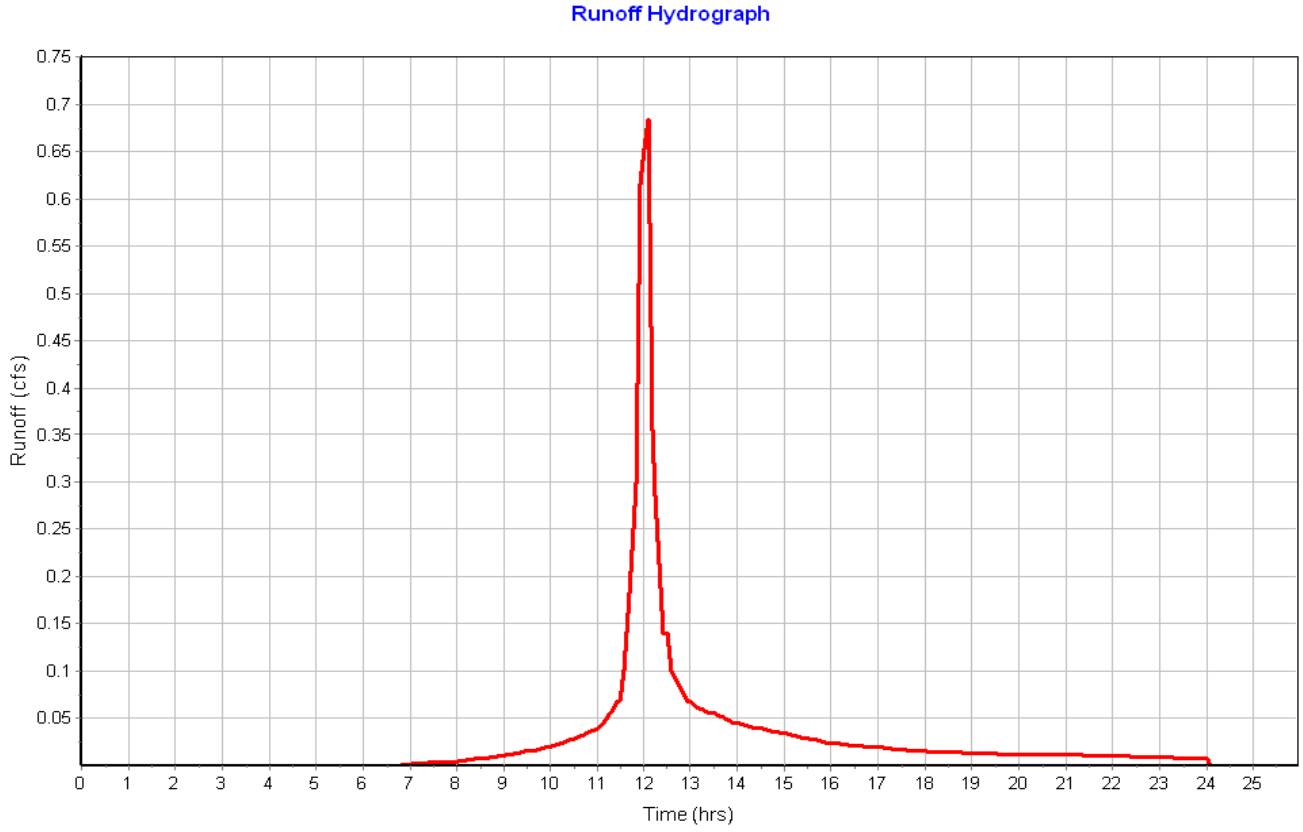
Total TOC (min) 0.13

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 4.23
Peak Runoff (cfs) 0.69
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:00:08

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

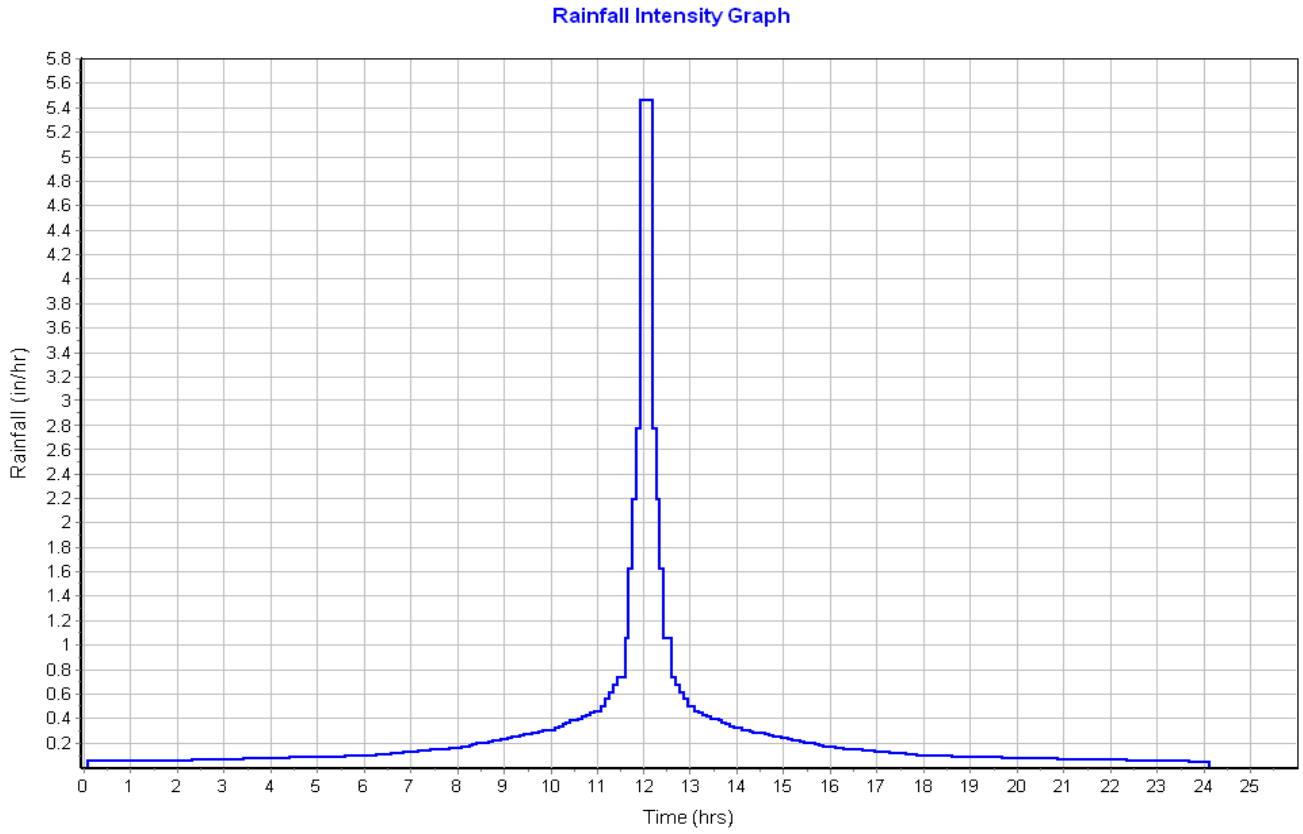
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	14.33	0.00	0.00
Slope (%) :	20	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	1.24	0.00	0.00

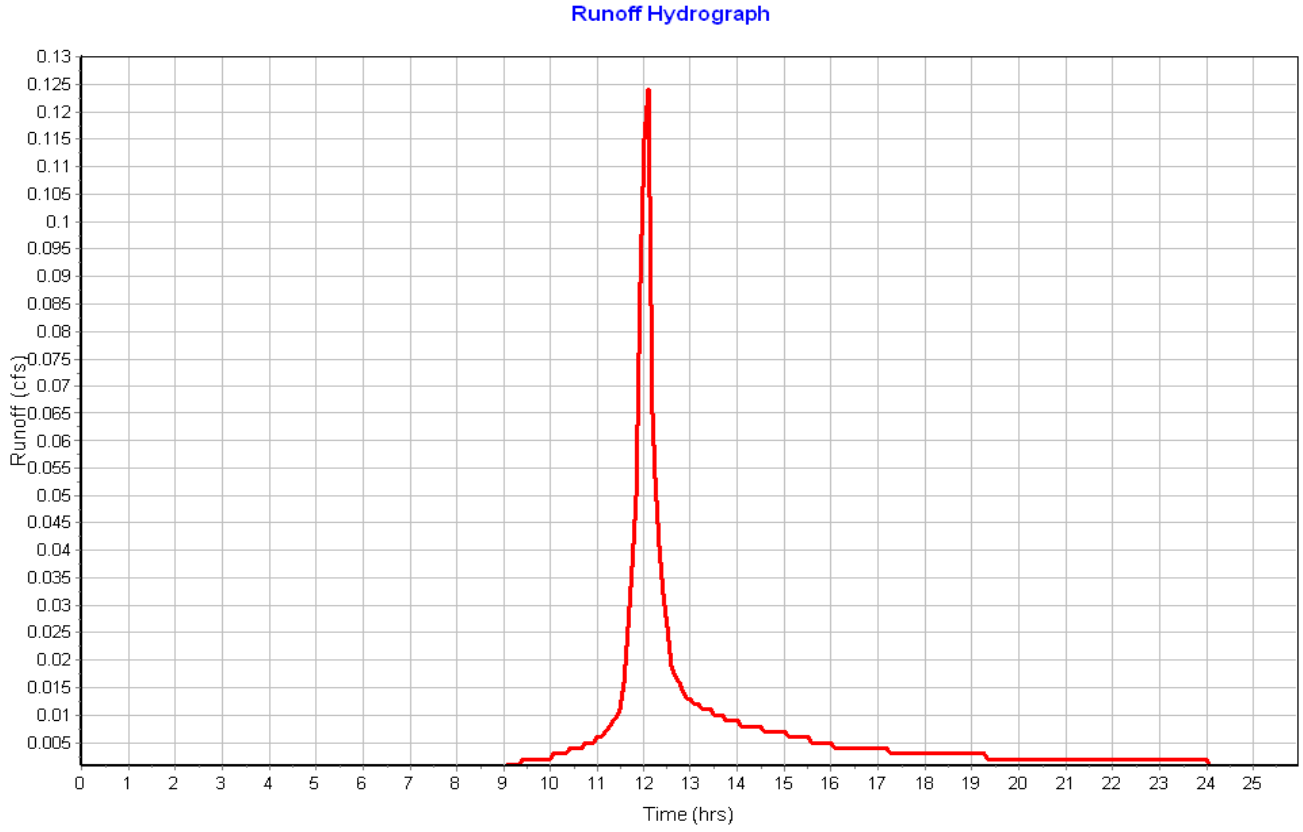
Total TOC (min) 1.24

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.59
Peak Runoff (cfs) 0.12
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:01:14

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	74.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

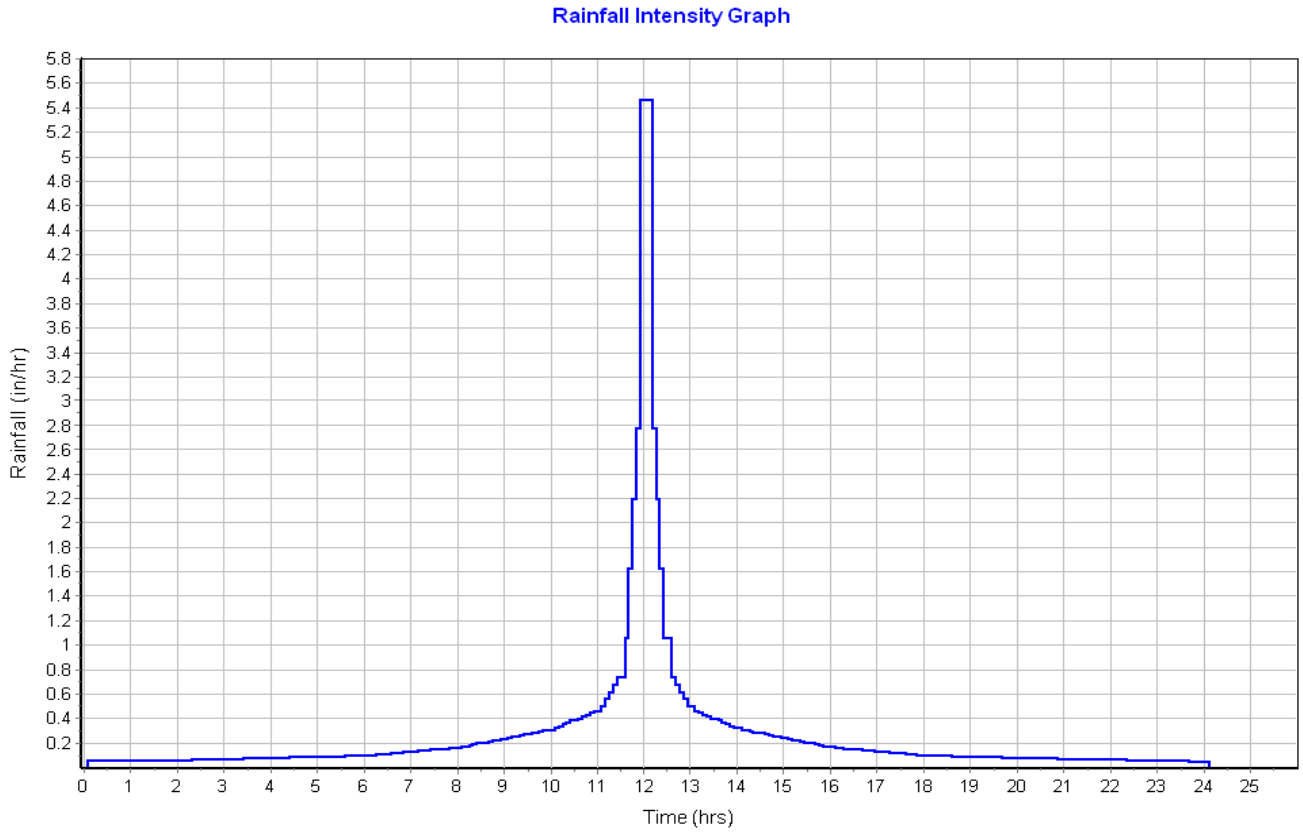
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

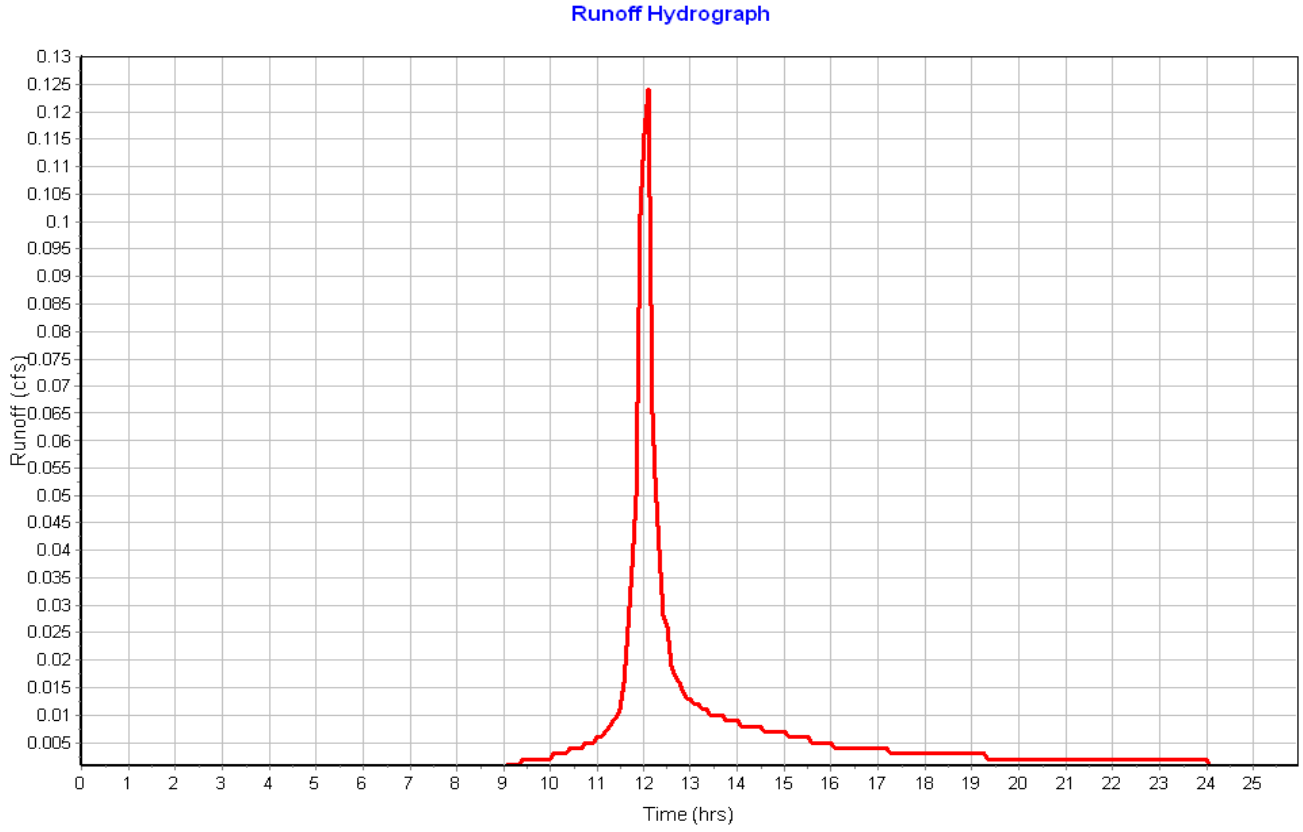
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	3.59
Peak Runoff (cfs)	0.13
Weighted Curve Number	74.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

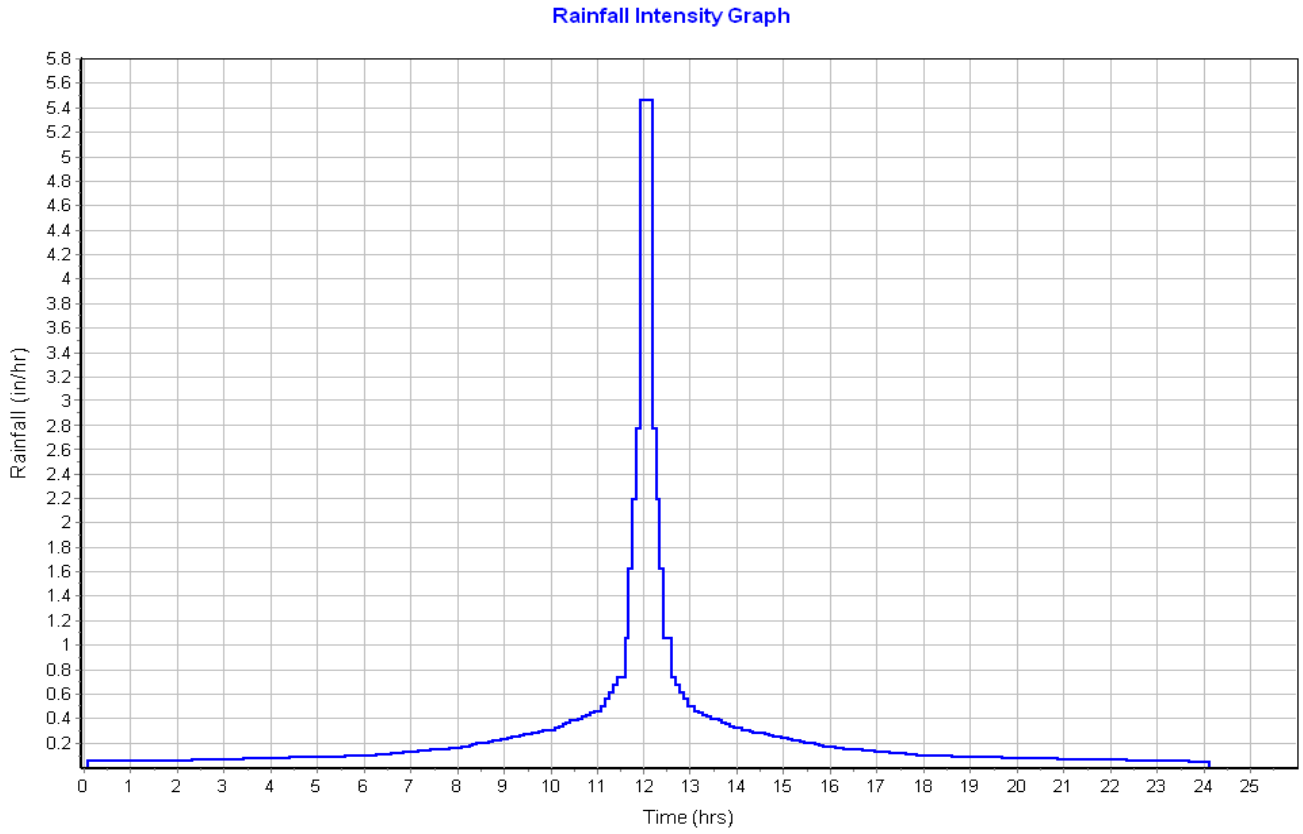
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

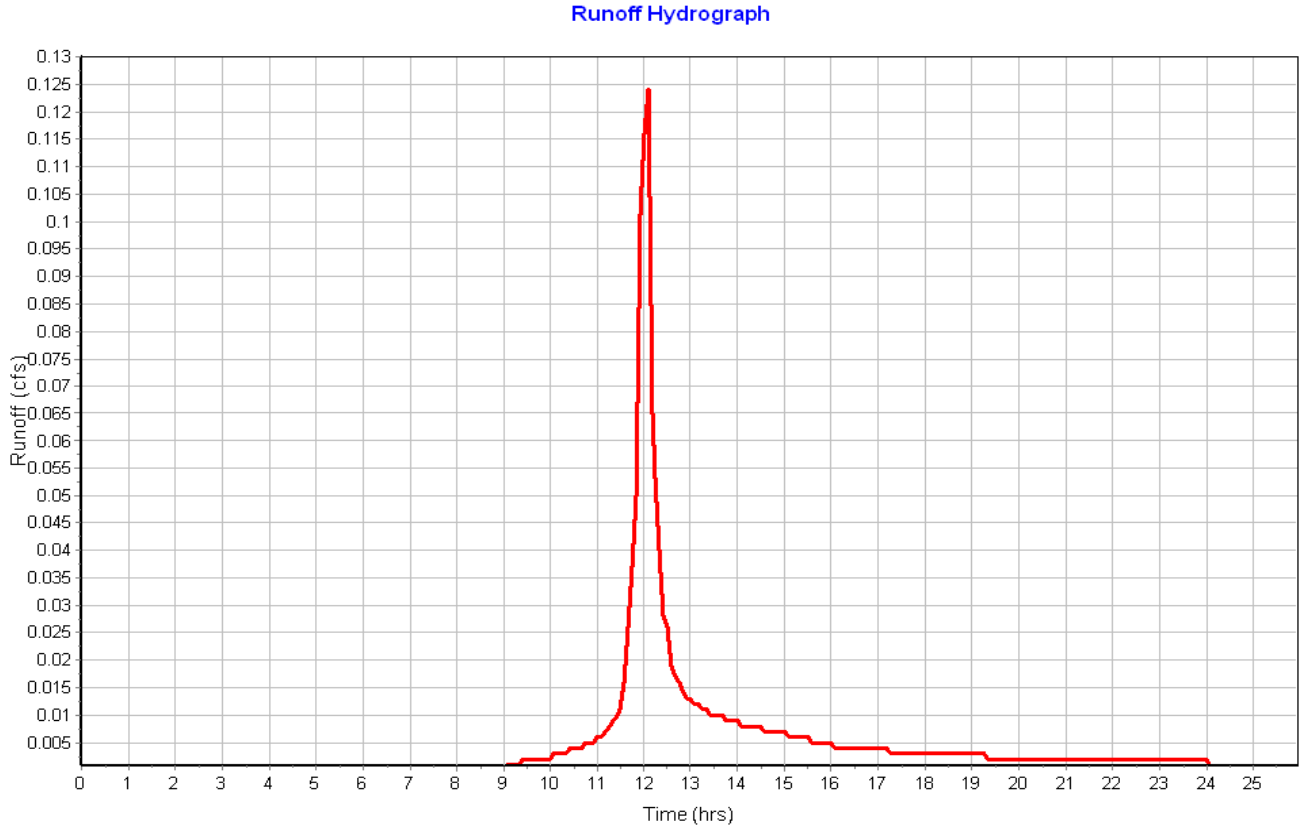
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 3.59
Peak Runoff (cfs) 0.13
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:00:44

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.11	C	74.00
Composite Area & Weighted CN	0.11		74.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	149.87	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	20.35	0.00	0.00

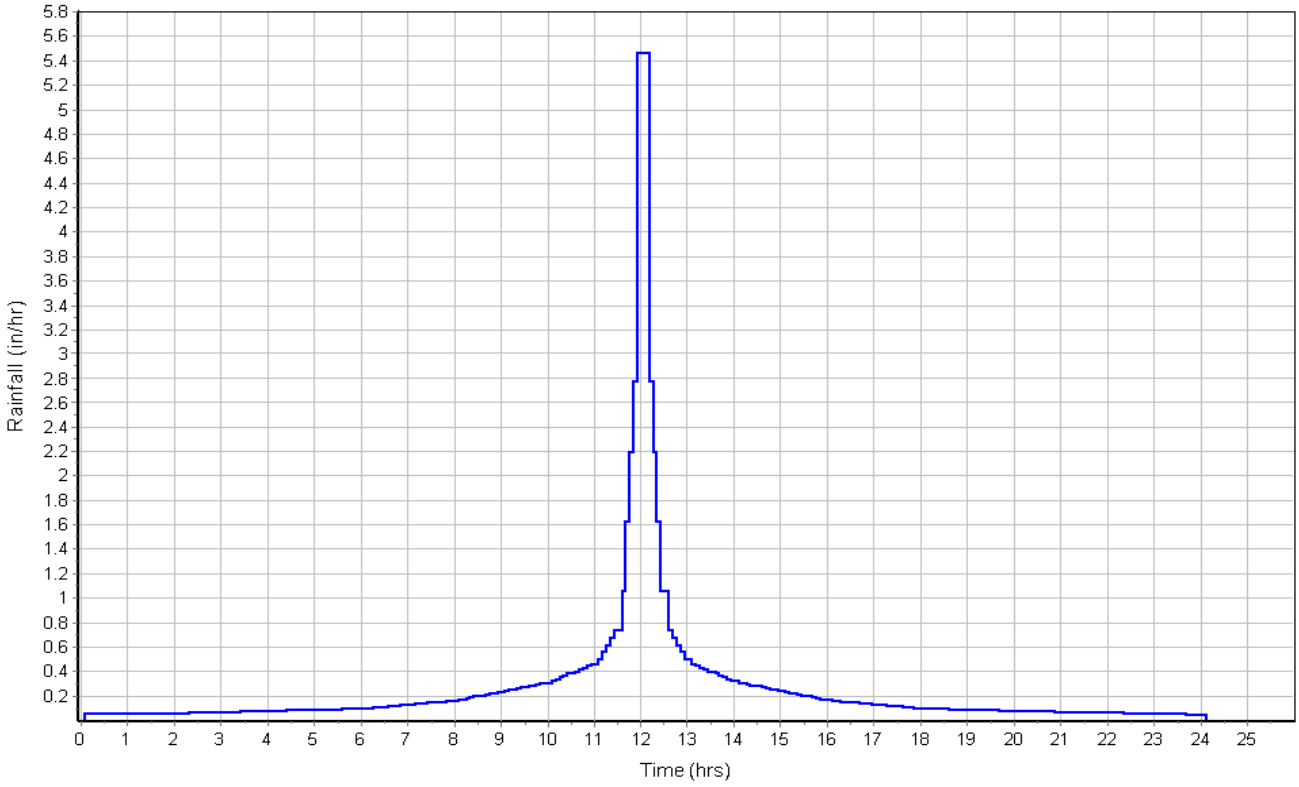
Total TOC (min) 20.35

Subbasin Runoff Results

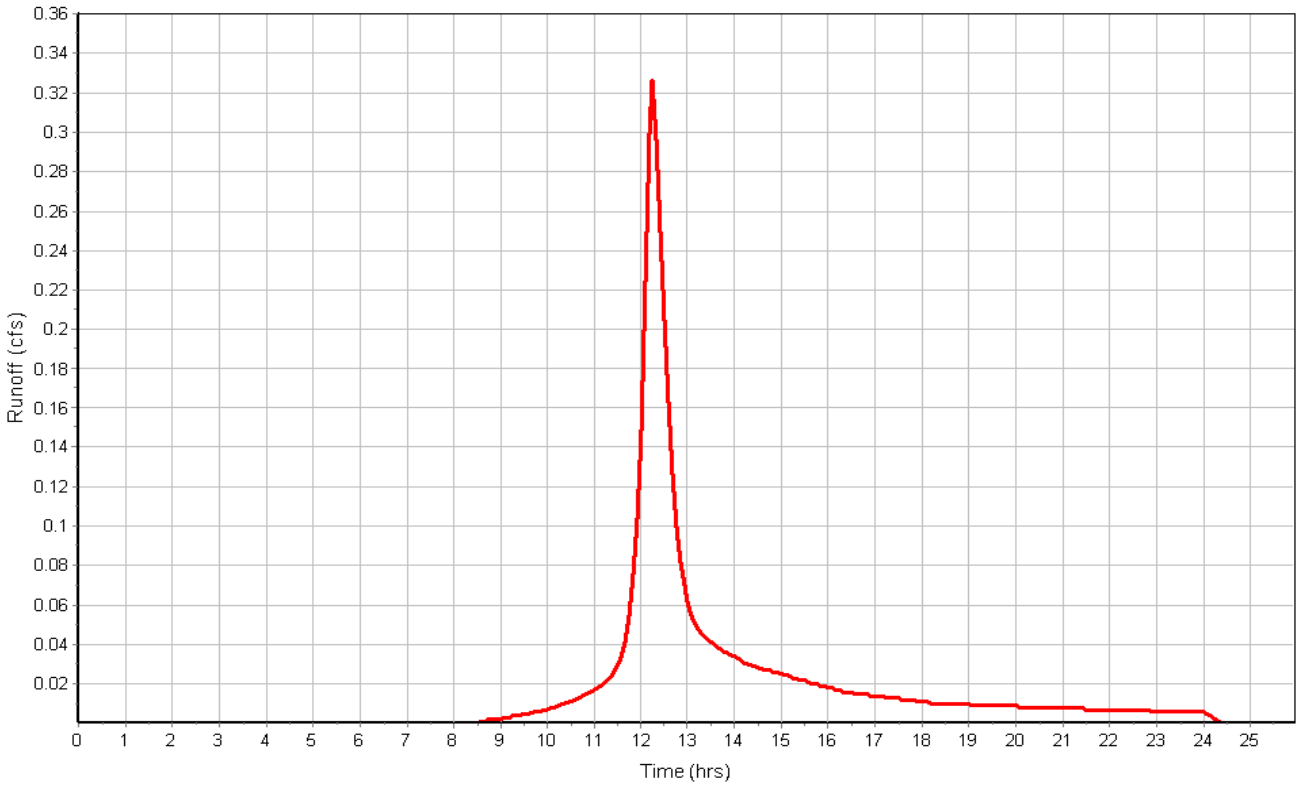
Total Rainfall (in) 6.50
Total Runoff (in) 3.61
Peak Runoff (cfs) 0.33
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:20:21

Subbasin : Sub-07

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-08

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.85	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

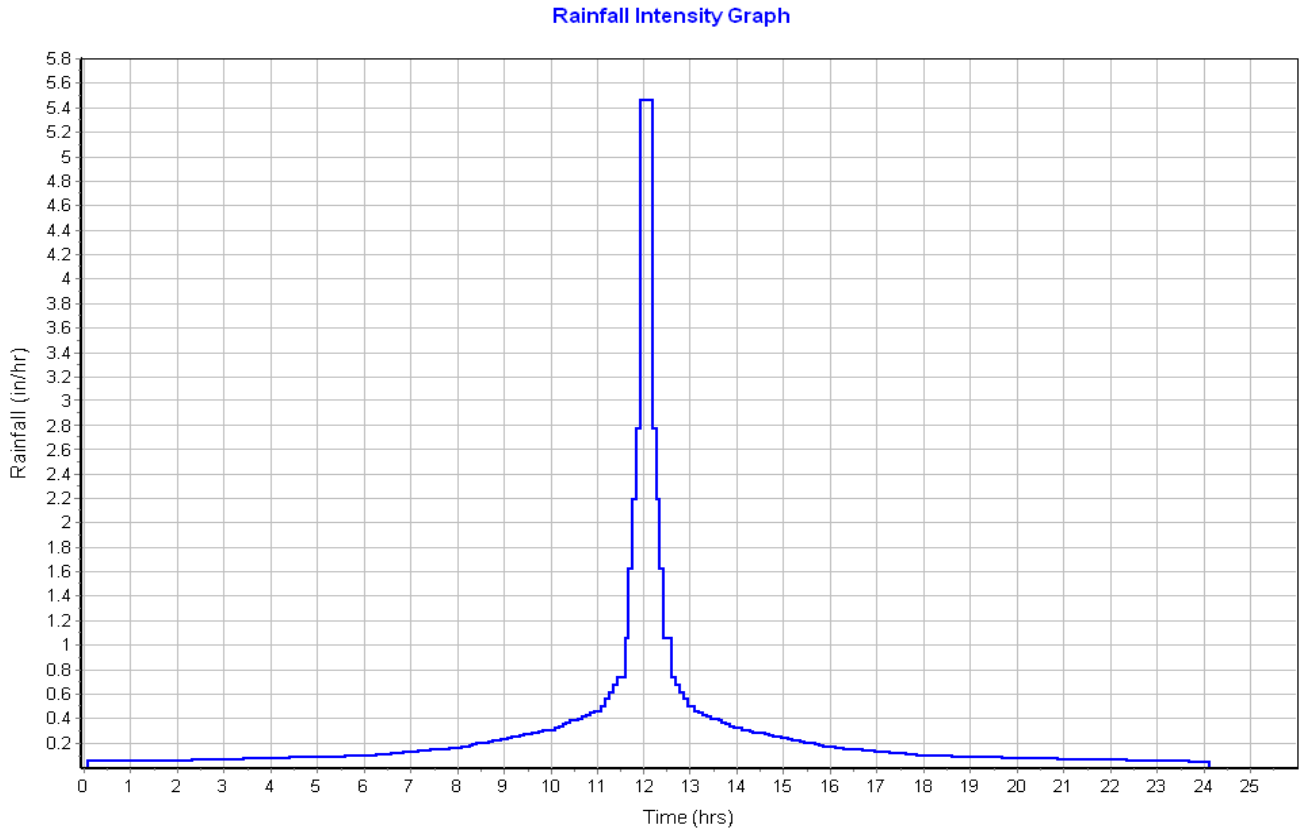
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.62	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

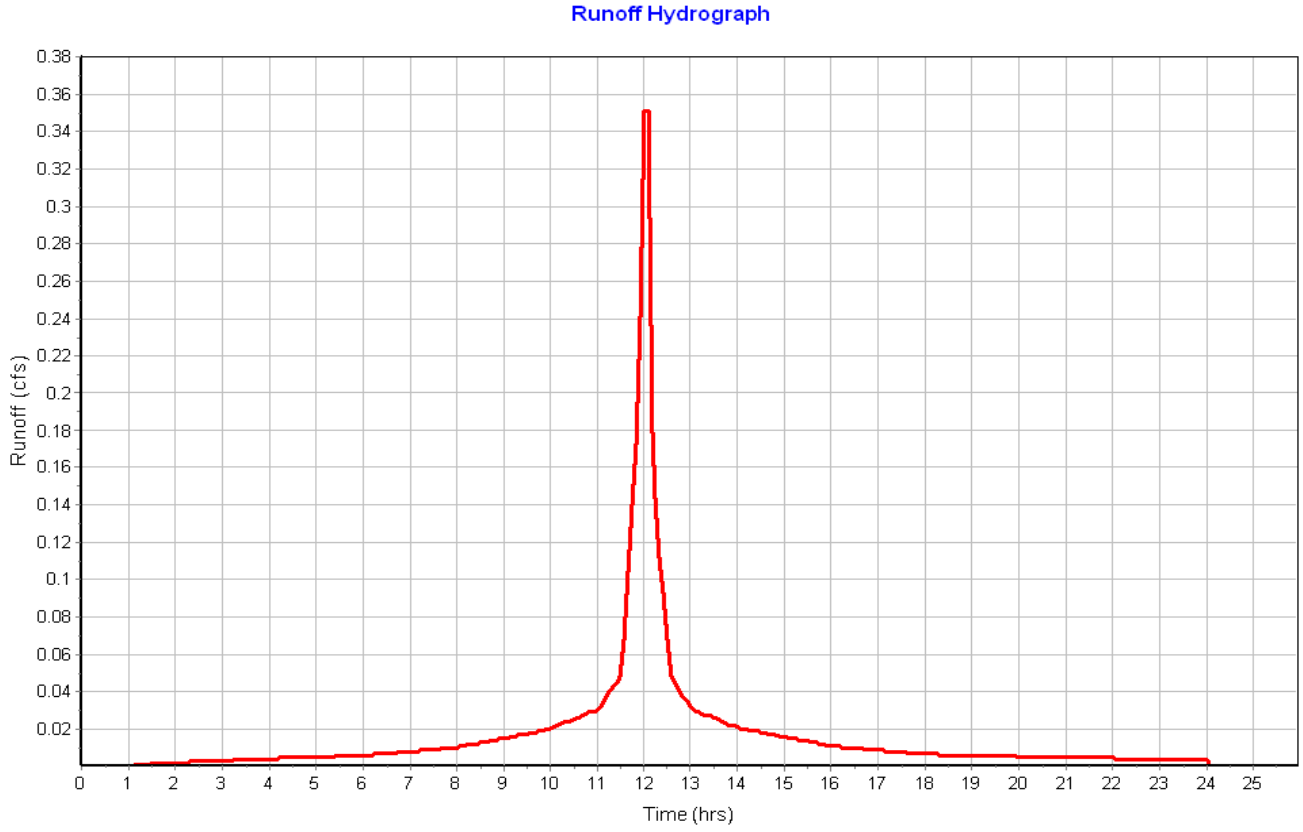
Total TOC (min) 1.64

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.35
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:38

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac) 0.05
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.01	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

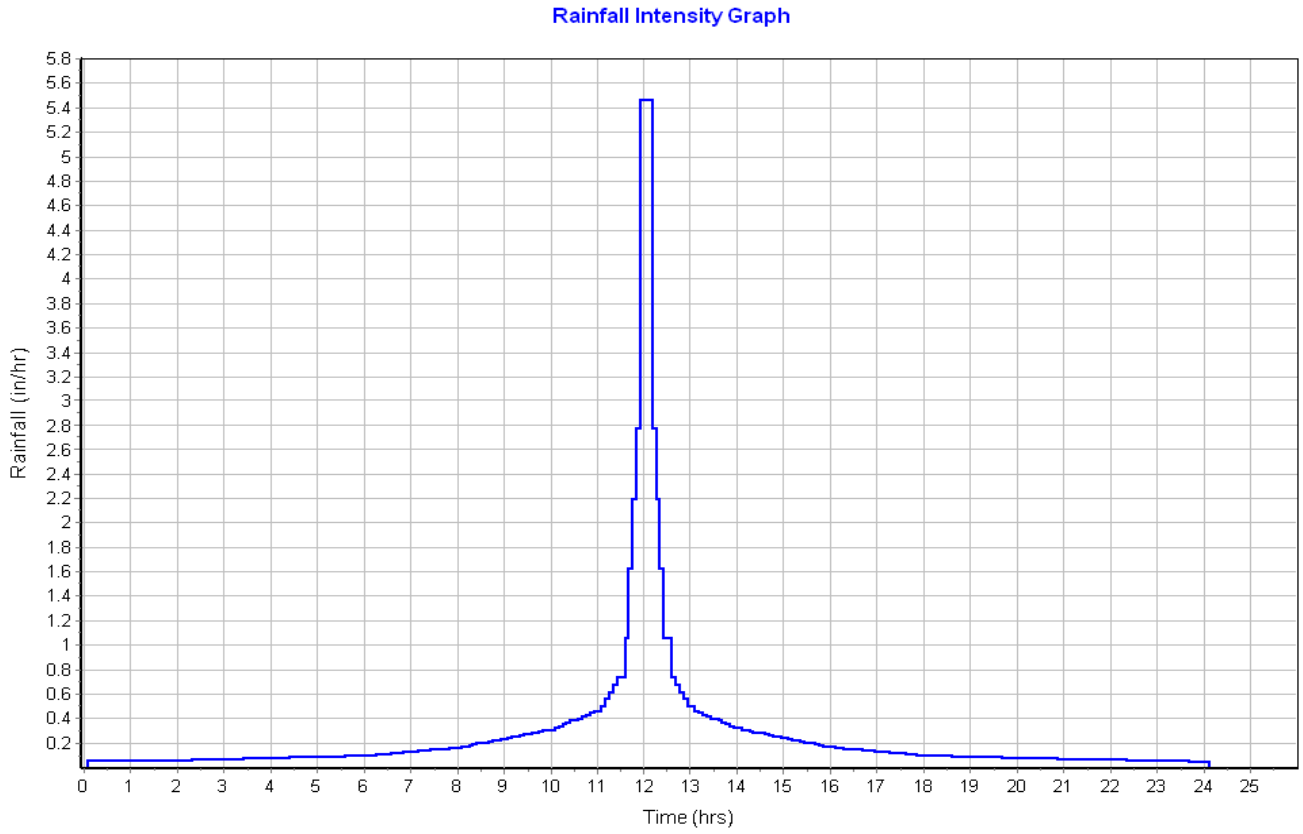
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	181.49	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.49	0.00	0.00

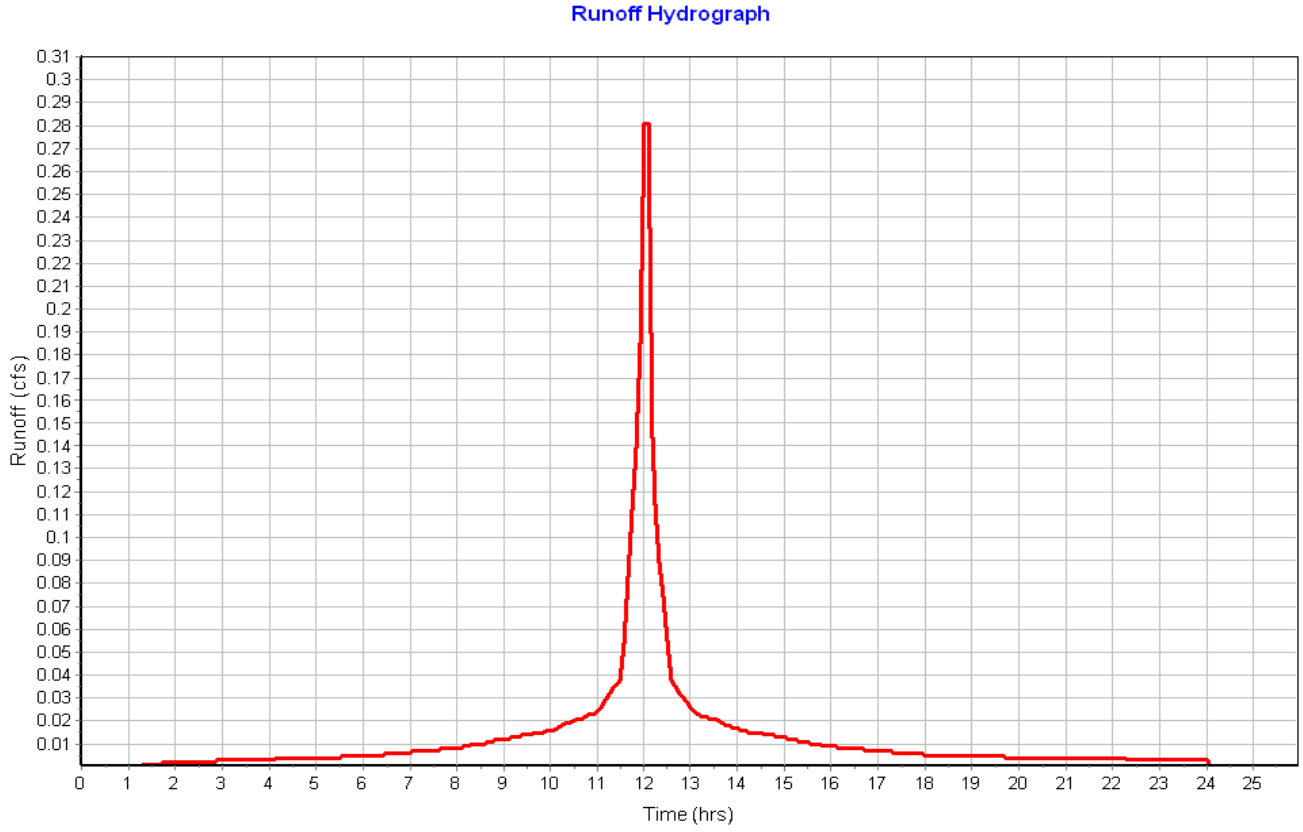
Total TOC (min) 1.62

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.28
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:37

Subbasin : Sub-09





Subbasin : Sub-10a

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.36	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.76	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

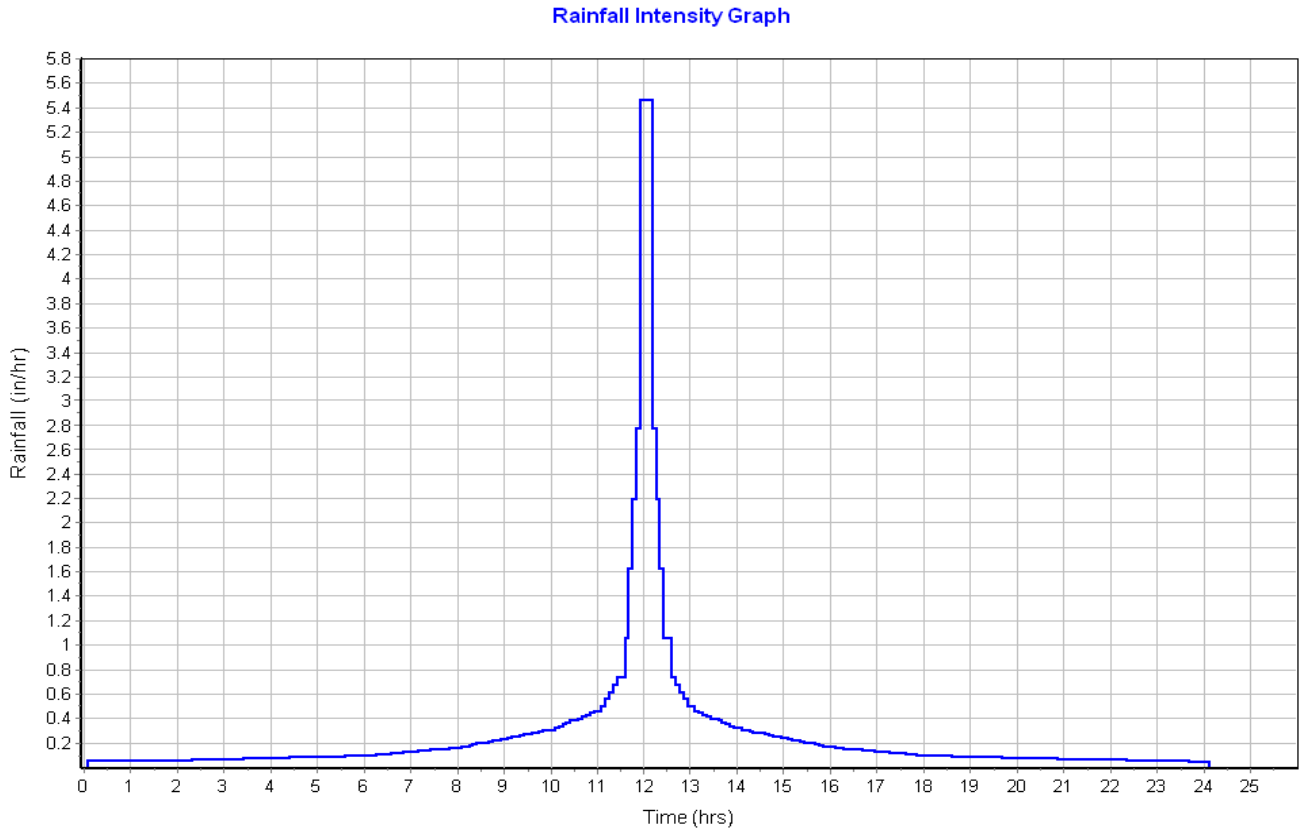
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	193.09	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.59	0.00	0.00

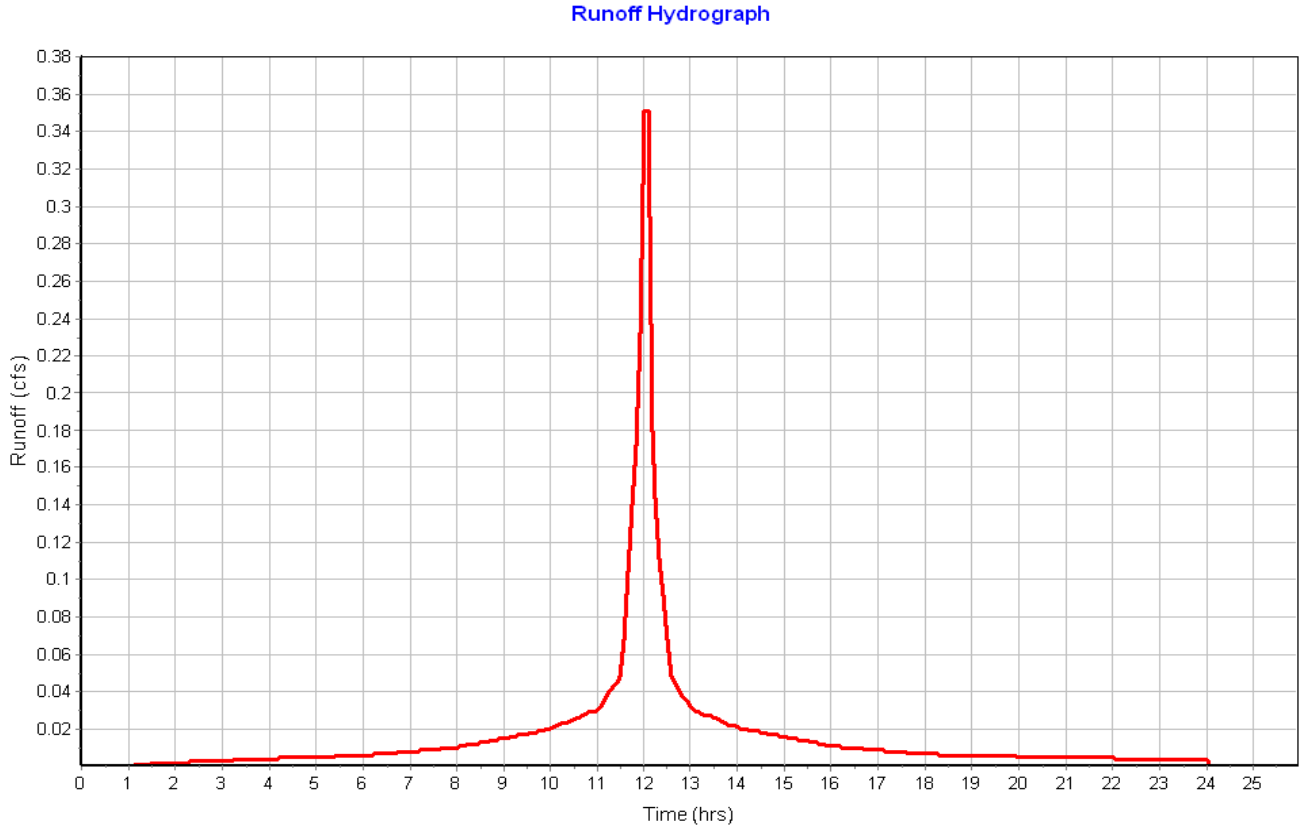
Total TOC (min) 1.72

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.35
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:43

Subbasin : Sub-10a





Subbasin : Sub-10b

Input Data

Area (ac)	0.04
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	18.28	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.64	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

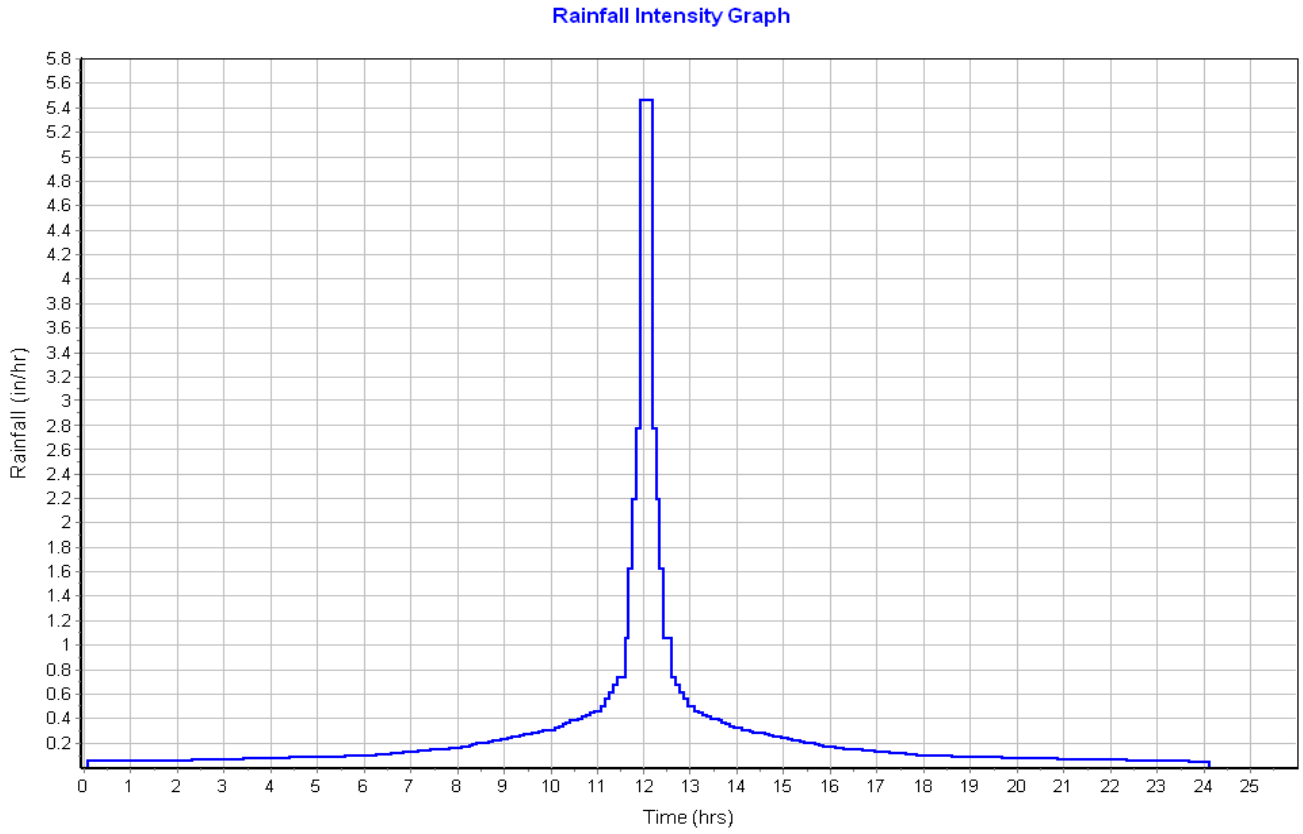
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	117.01	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	0.96	0.00	0.00

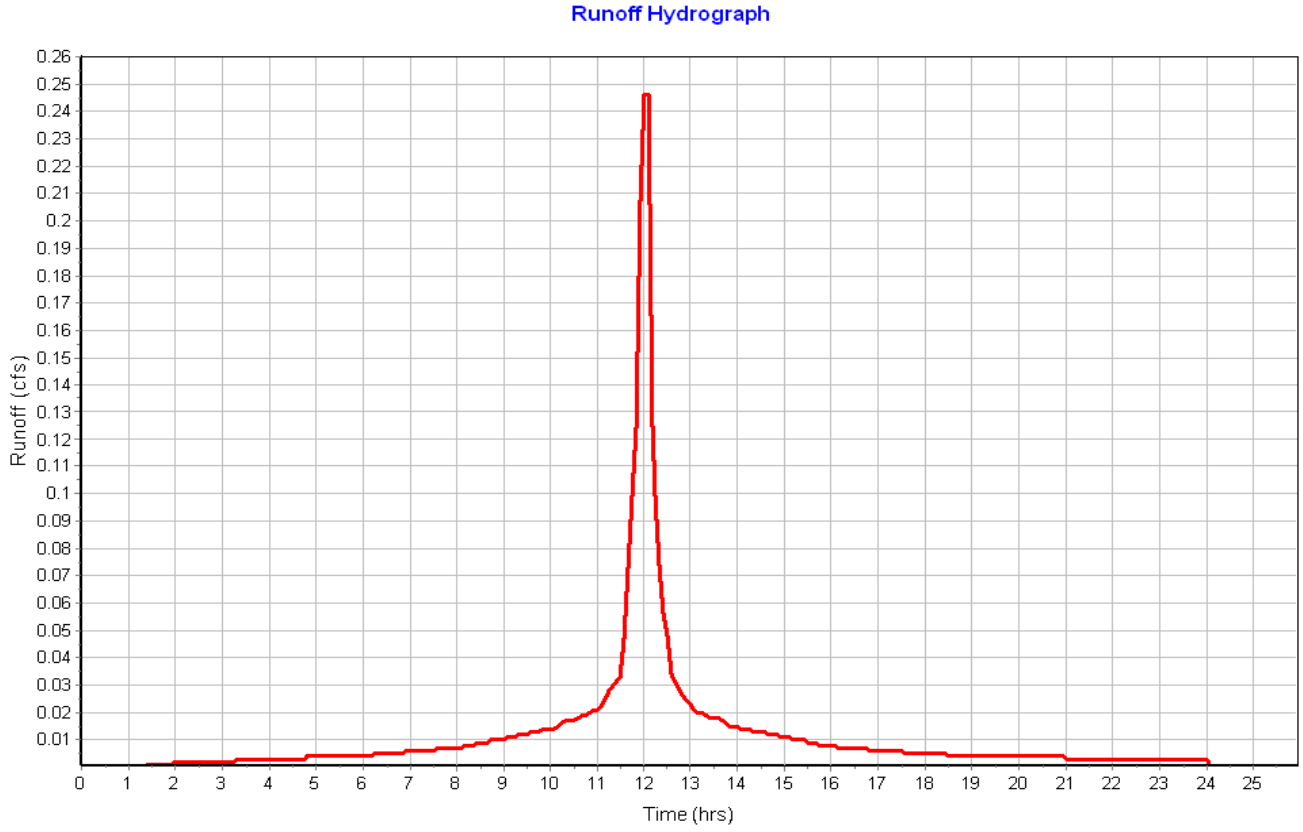
Total TOC (min) 1.15

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.25
Peak Runoff (cfs)	0.25
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-10b





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

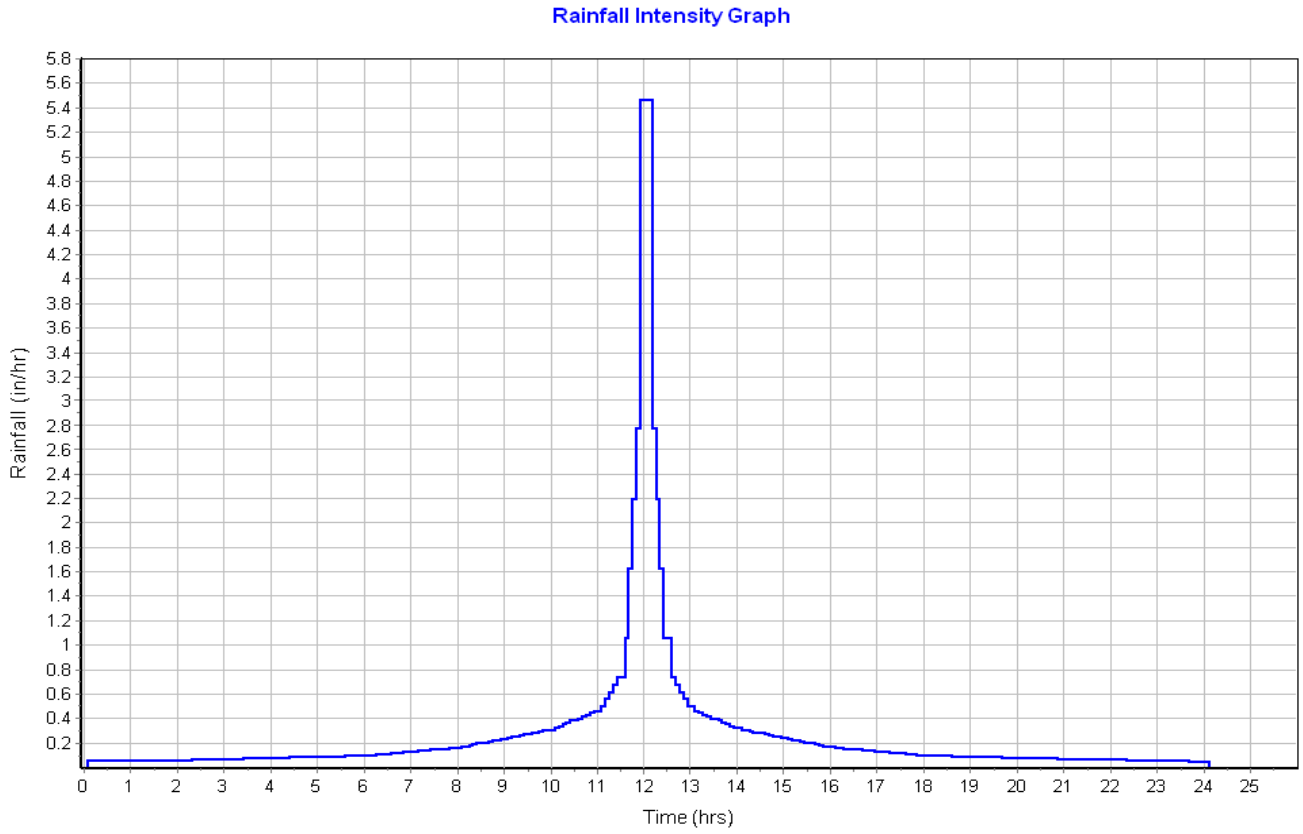
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.78	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.57	0.00	0.00

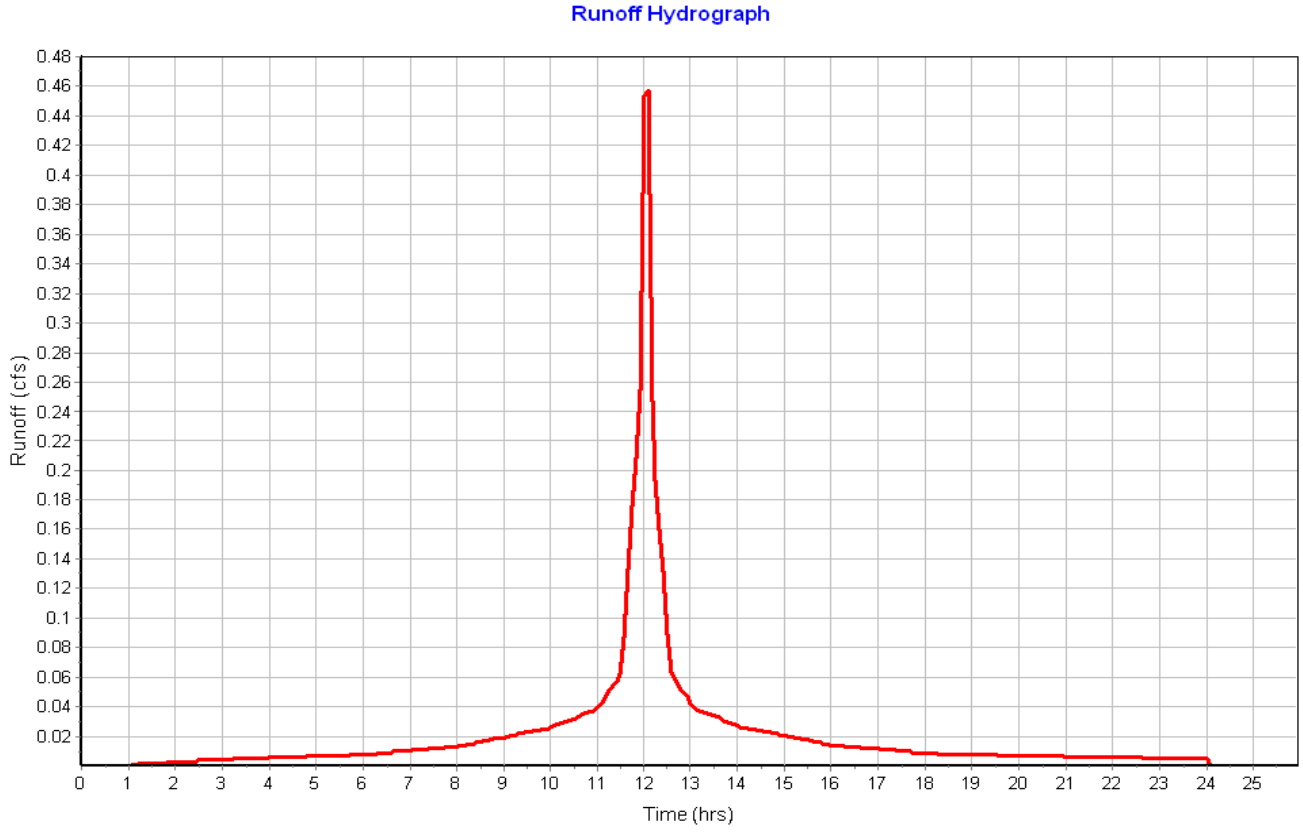
Total TOC (min) 2.70

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.46
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:42

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.77	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

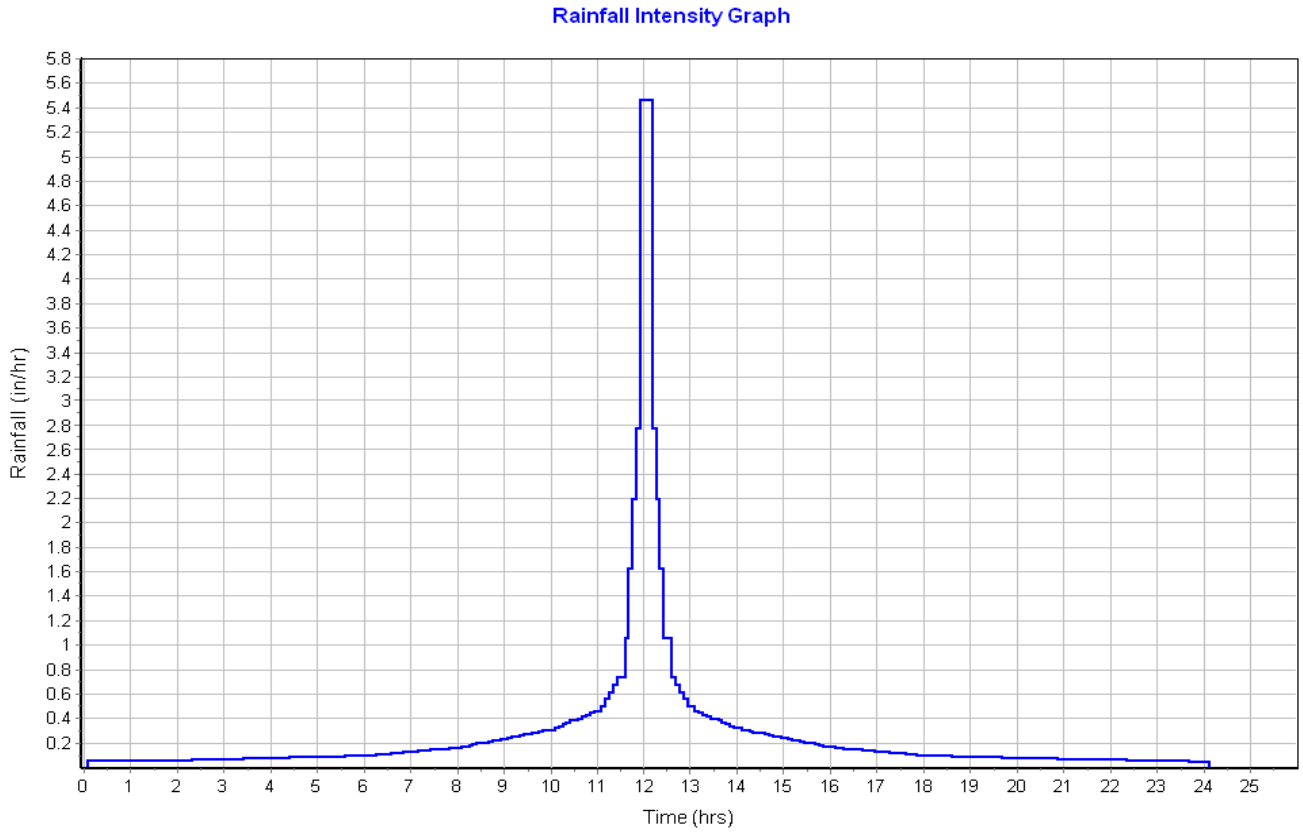
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.58	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

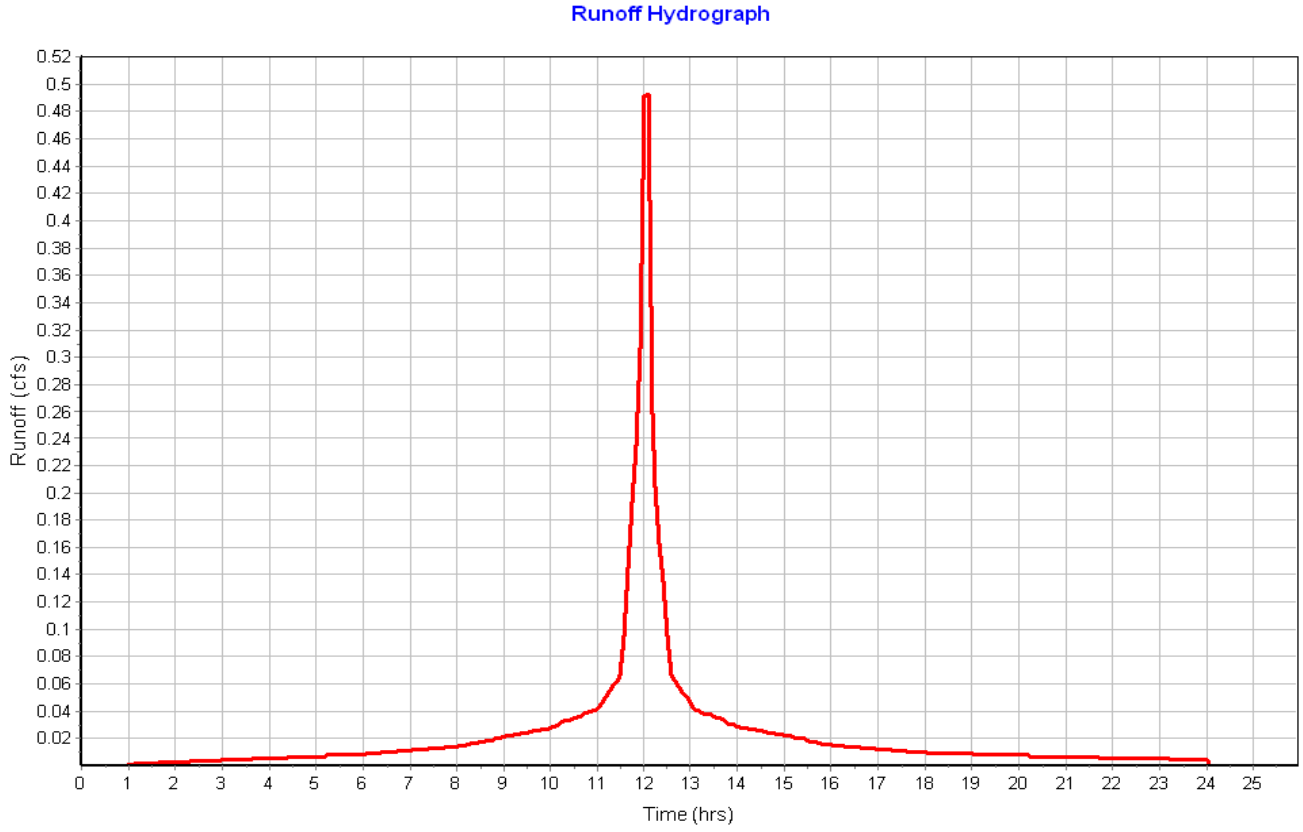
Total TOC (min) 2.31

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.49
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:19

Subbasin : Sub-12





Subbasin : Sub-13

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	11.16	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

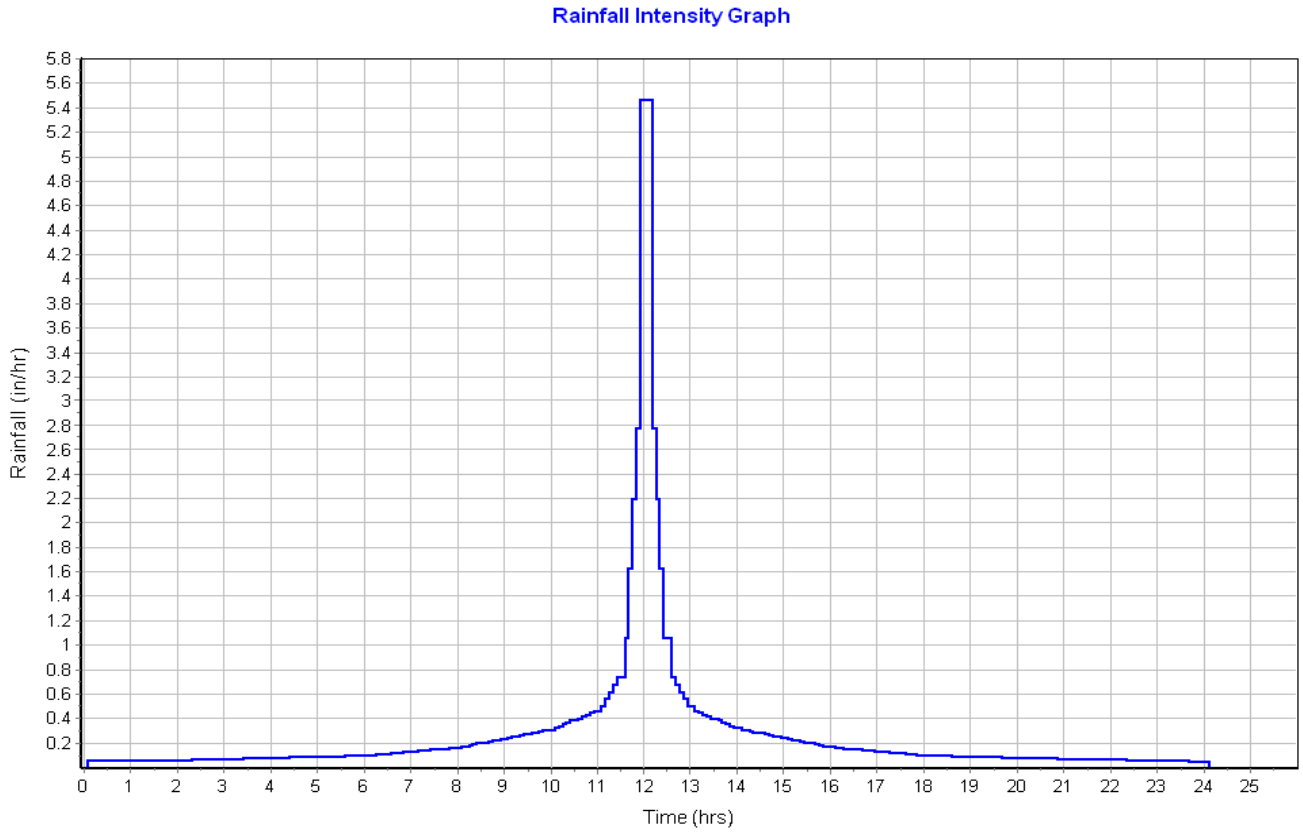
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.75	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.17	0.00	0.00

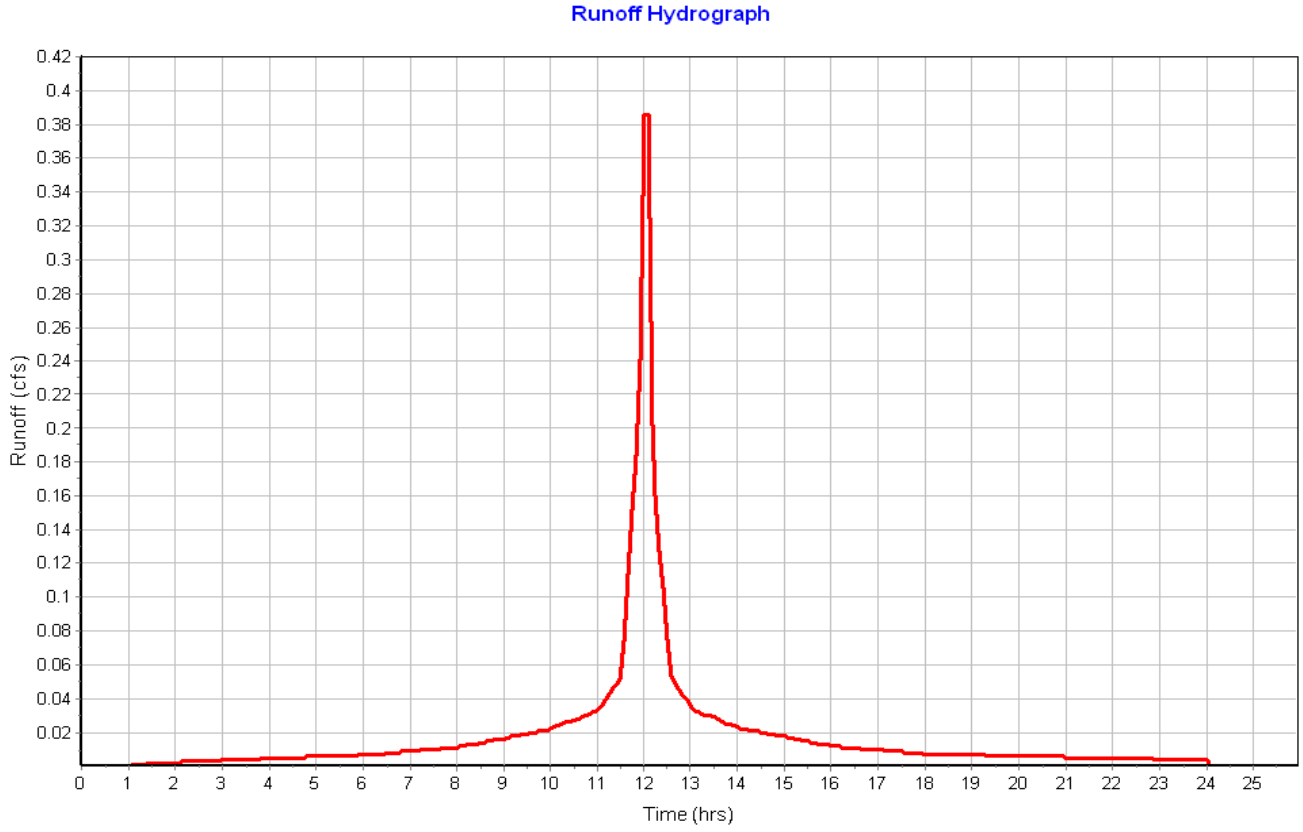
Total TOC (min) 2.28

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.39
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:17

Subbasin : Sub-13





Subbasin : Sub-14a

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.73	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

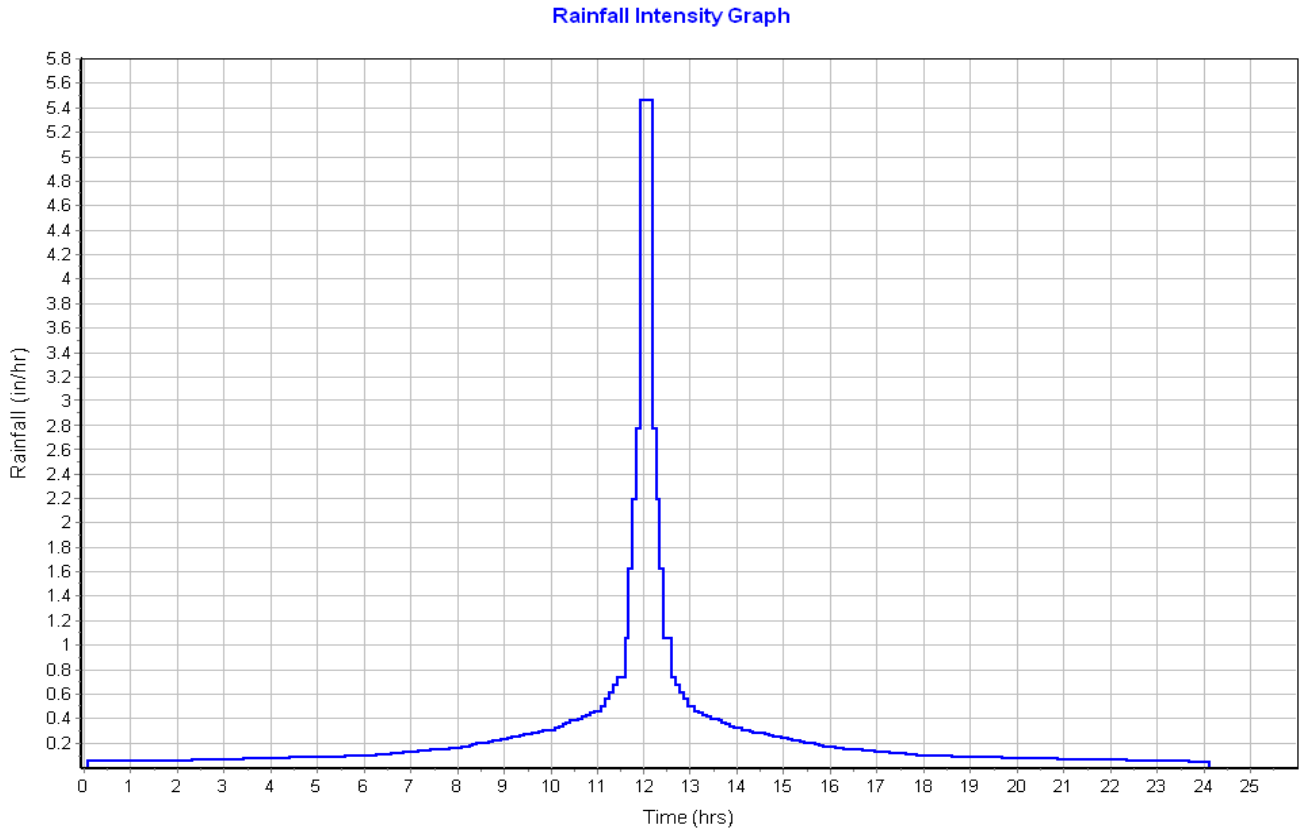
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	160.67	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.22	0.00	0.00

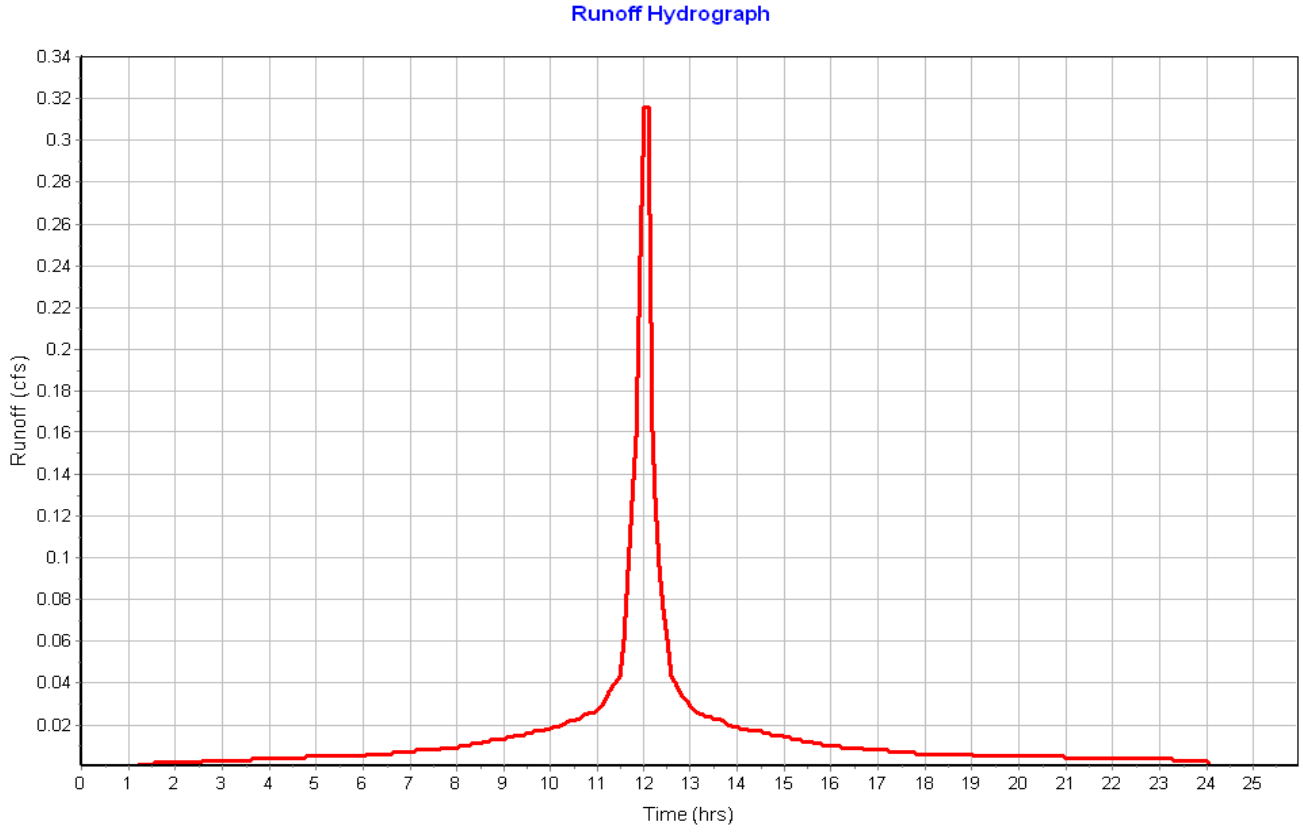
Total TOC (min) 1.37

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.32
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-14a





Subbasin : Sub-14b

Input Data

Area (ac)	0.04
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.60	0.00	0.00
Computed Flow Time (min) :	0.17	0.00	0.00

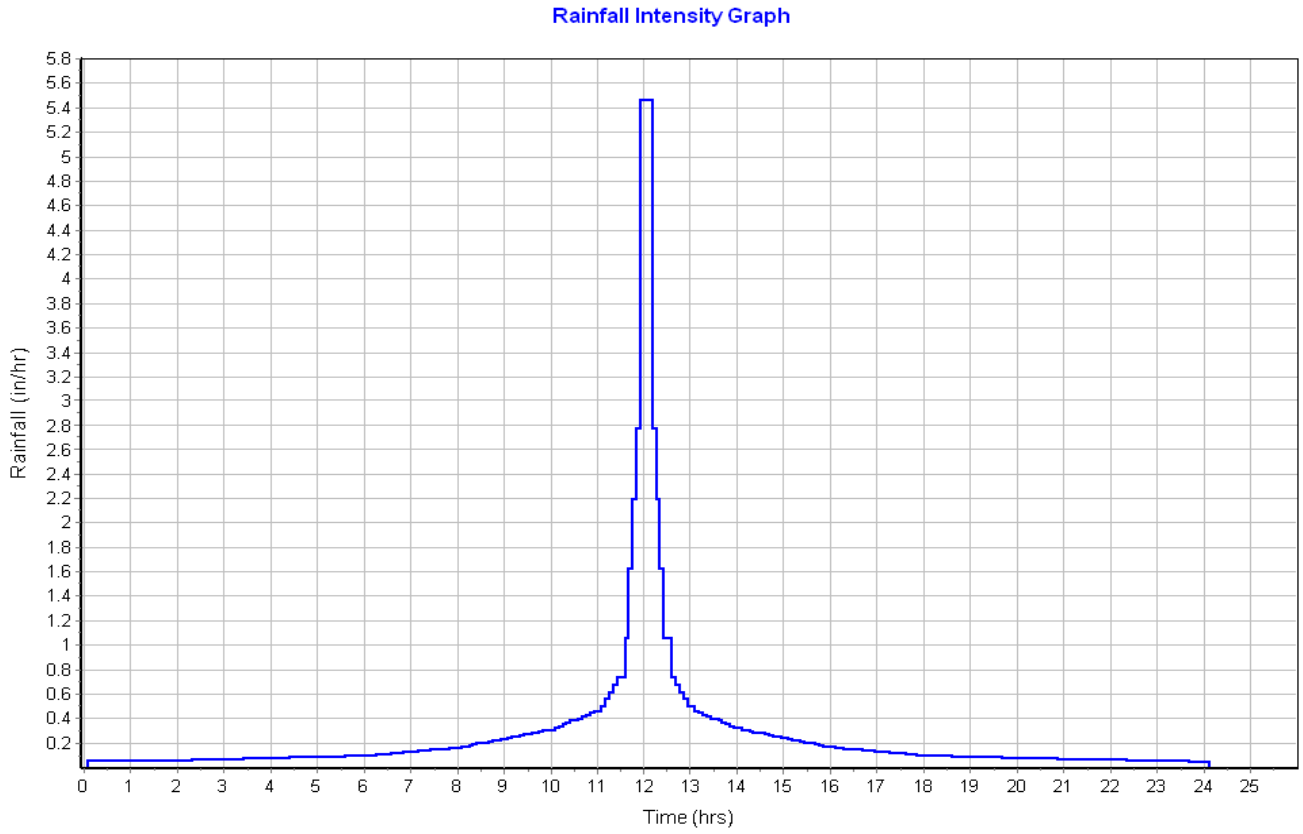
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	106.79	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	0.84	0.00	0.00

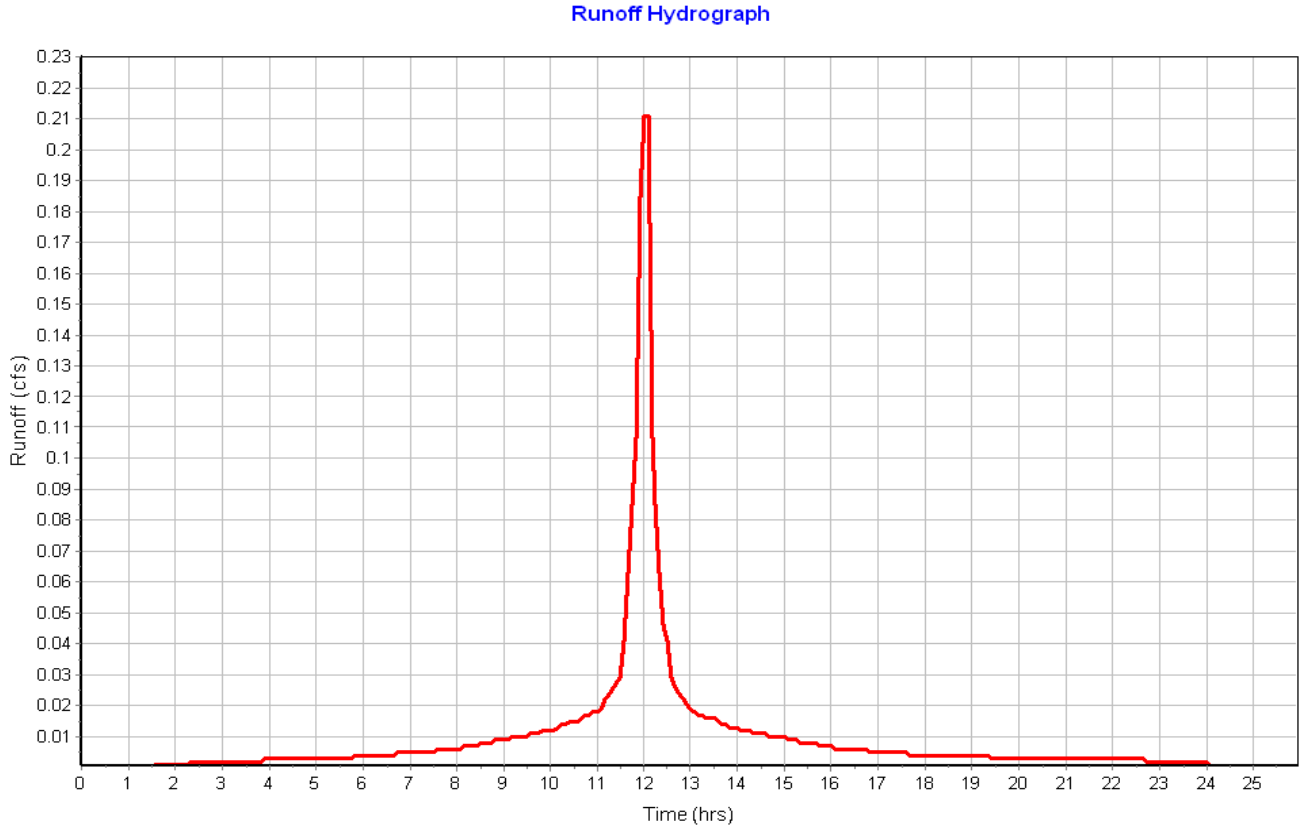
Total TOC (min) 1.00

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.25
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:00

Subbasin : Sub-14b





Subbasin : Sub-15

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

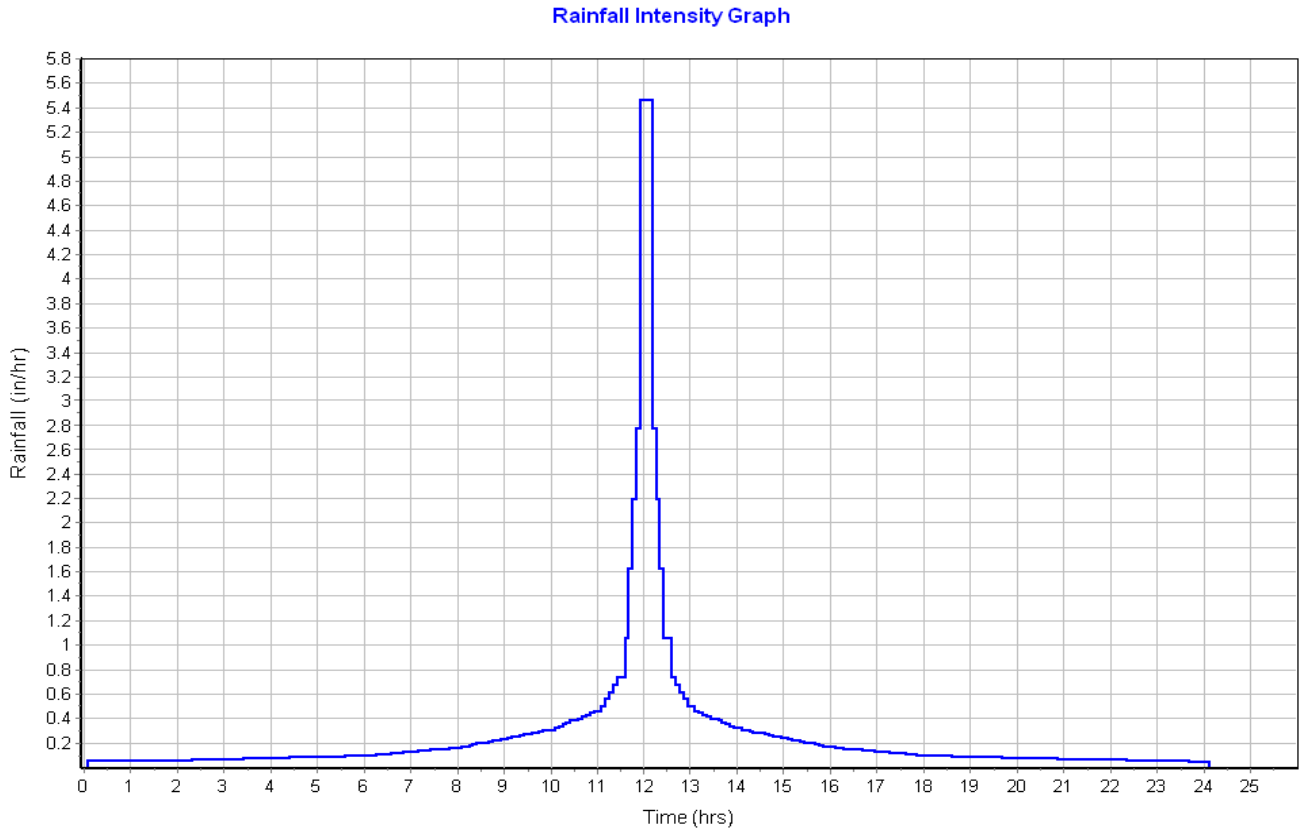
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	265.51	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.01	0.00	0.00

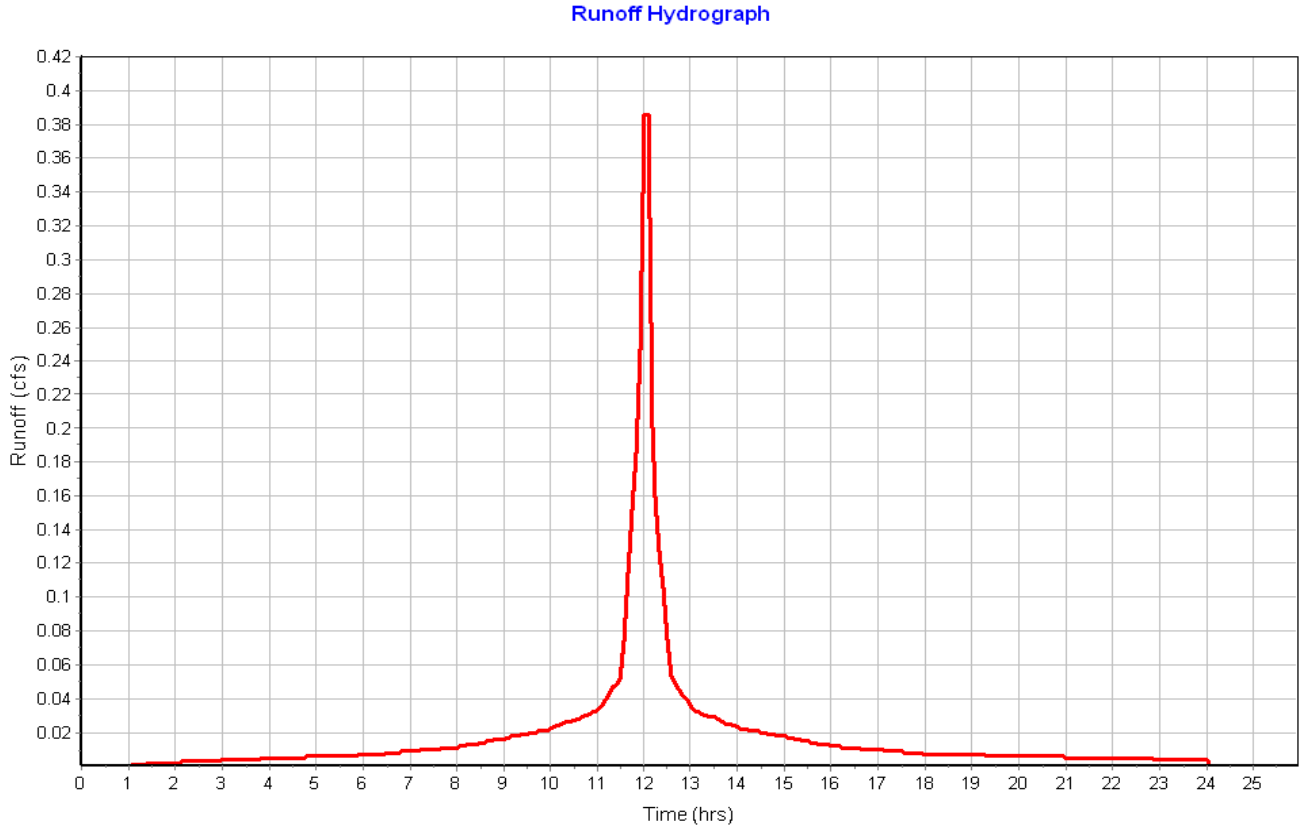
Total TOC (min) 2.14

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.39
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:08

Subbasin : Sub-15





Subbasin : Sub-16

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	22.46	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.92	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

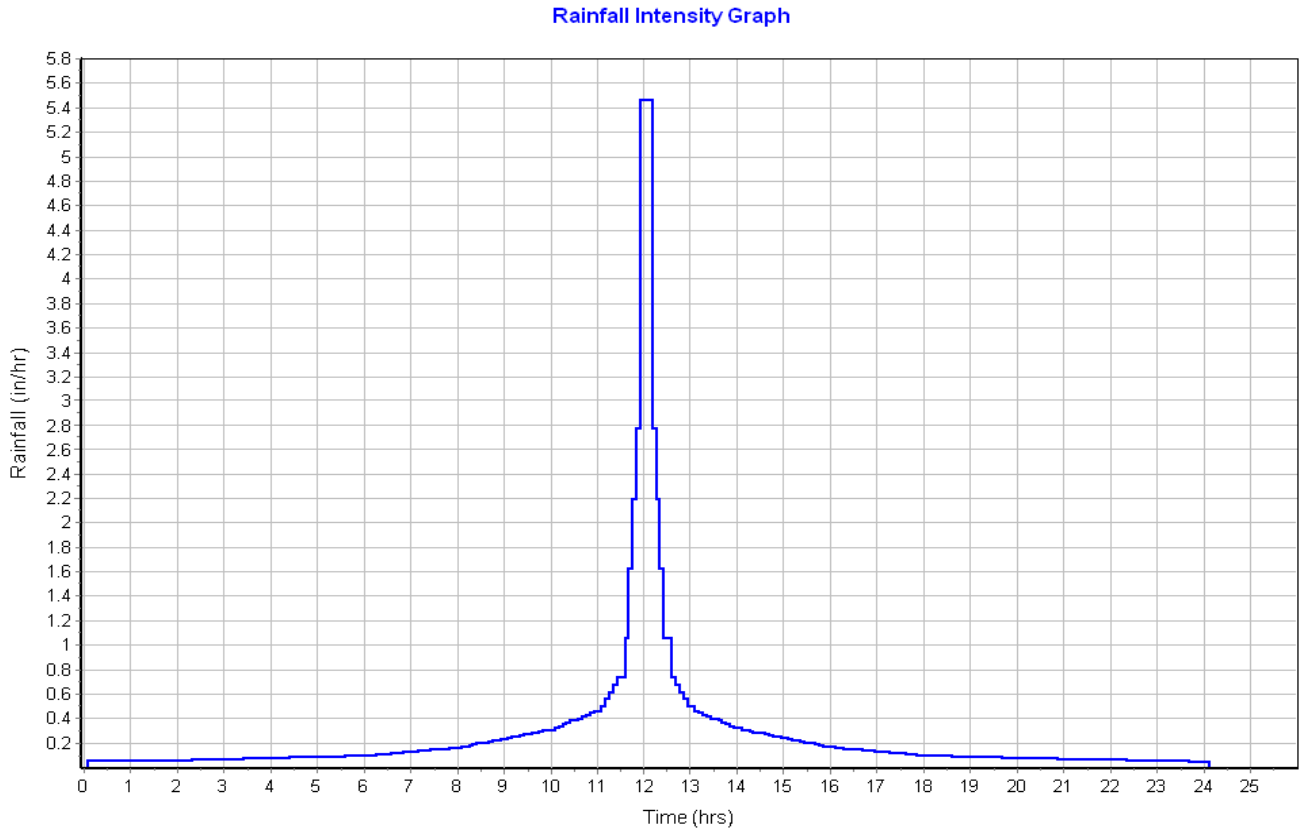
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.75	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.94	0.00	0.00

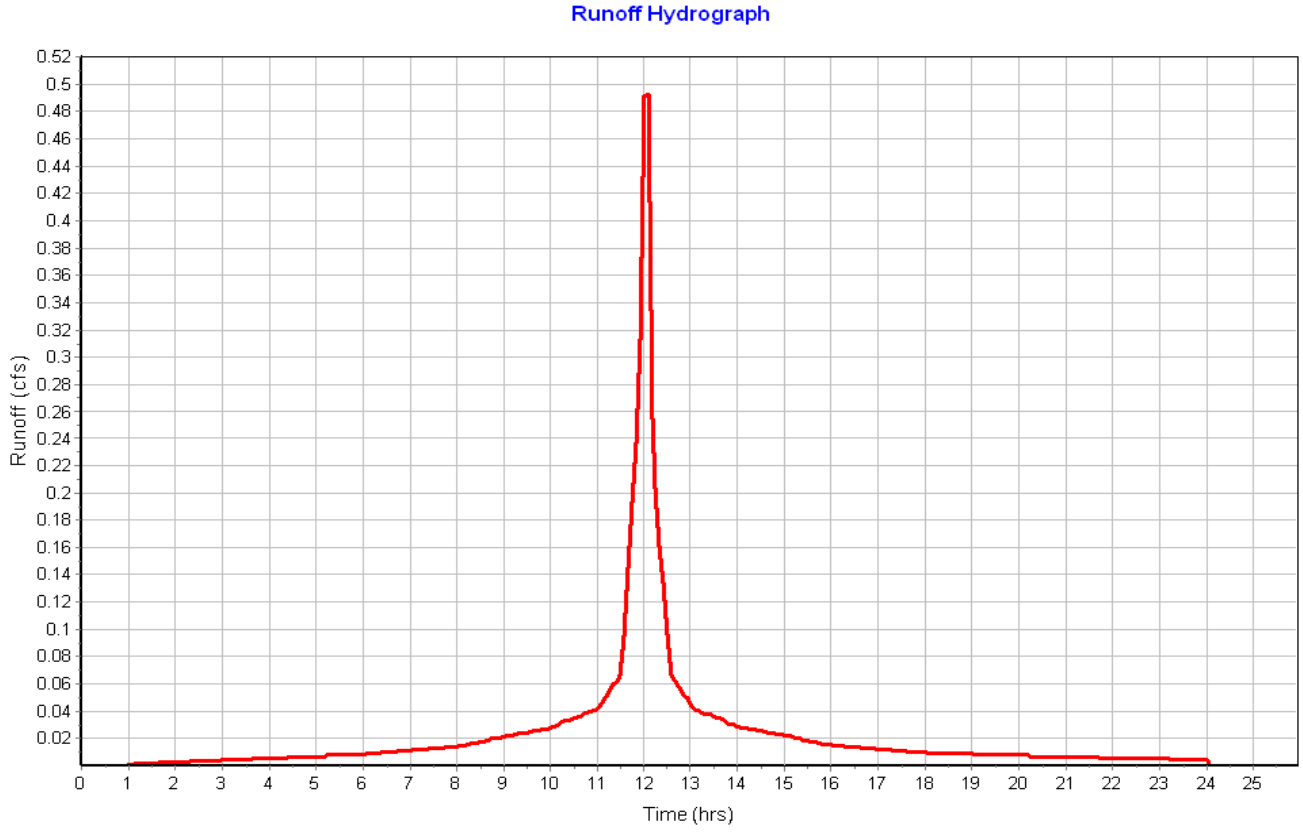
Total TOC (min) 2.13

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.49
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:08

Subbasin : Sub-16





Subbasin : Sub-17

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

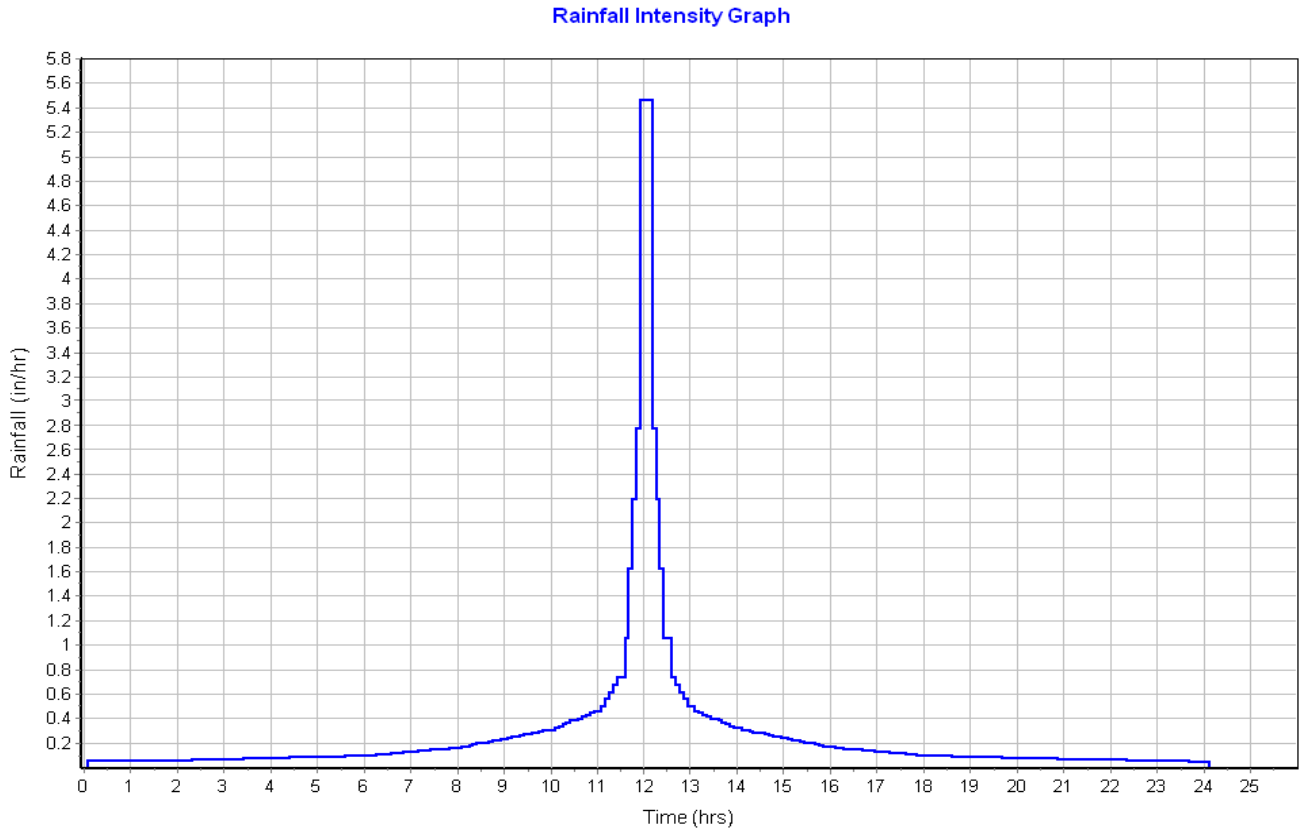
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	267.21	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.02	0.00	0.00

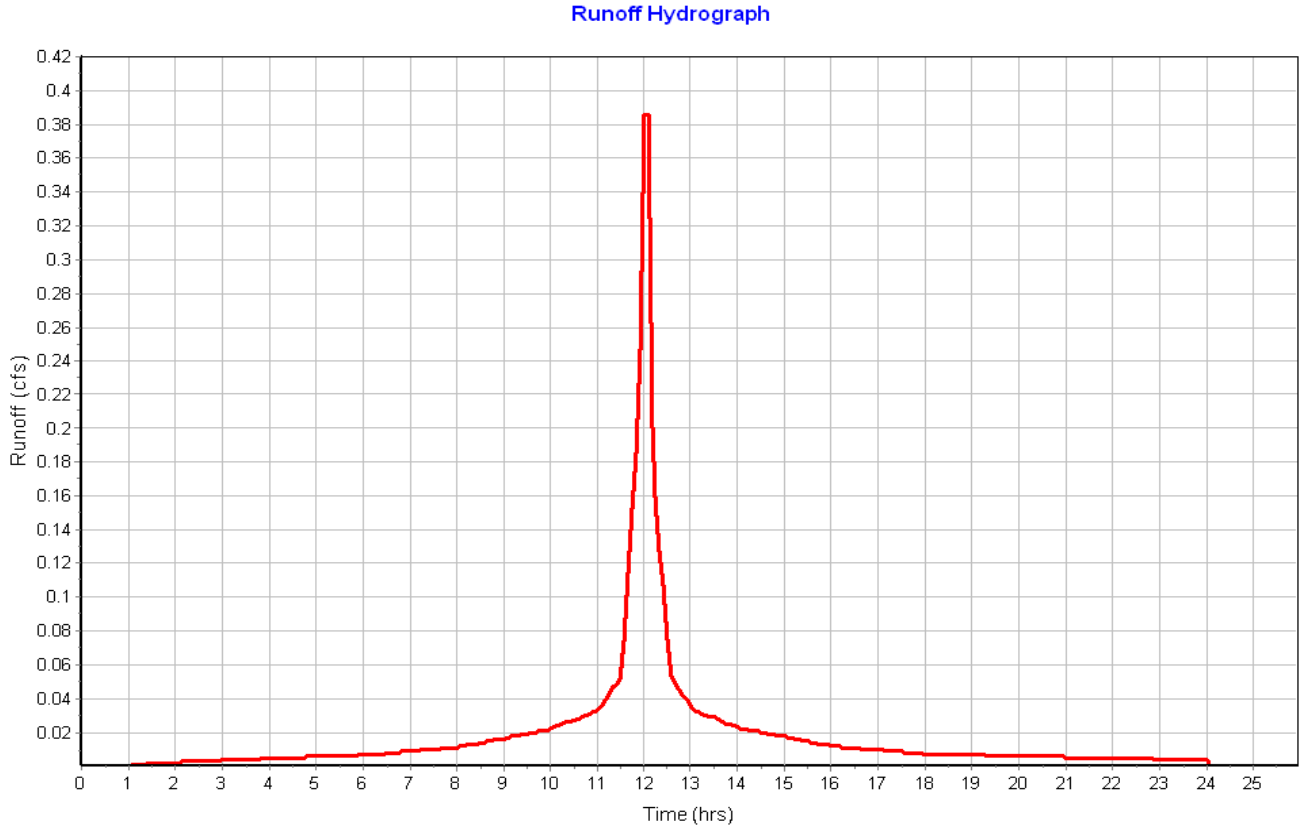
Total TOC (min) 2.15

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.39
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:09

Subbasin : Sub-17





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	6.00	116.00	4.00	116.00	3.50	0.00	0.0000	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-02	12.00	116.00	3.50	114.00	2.00	2.00	16.6700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-03	24.02	117.15	4.00	117.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-05	23.50	116.15	4.00	116.00	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
5	Link-06	23.47	115.65	4.00	115.50	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-07	16.00	117.00	4.00	116.90	0.40	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-08	16.00	117.00	4.00	116.90	0.40	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-09	88.06	114.05	4.15	113.25	0.25	0.80	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
9	Link-10	11.34	115.75	4.25	113.00	-1.00	2.75	24.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
10	Link-11	11.51	114.65	3.15	114.25	0.25	0.40	3.4800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-12	16.00	115.50	4.00	115.00	1.00	0.50	3.1300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
12	Link-13	16.60	111.65	4.00	111.00	1.00	0.65	3.9200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
13	Link-14	28.55	113.15	4.50	113.00	0.00	0.15	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
14	Link-15	11.48	111.15	4.15	111.00	1.00	0.15	1.3100	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	1.09	0 12:10	0.30	3.64	2.64	0.04	0.52	0.52	0.00		> CAPACITY
2	Link-02	1.09	0 12:10	9.45	0.12	7.45	0.03	0.24	0.24	0.00		Calculated
3	Link-03	0.28	0 12:09	1.83	0.15	1.51	0.27	0.29	0.29	0.00		Calculated
4	Link-05	0.25	0 12:10	1.85	0.13	0.67	0.58	0.53	0.53	0.00		Calculated
5	Link-06	0.39	0 12:09	1.85	0.21	1.91	0.20	0.30	0.30	0.00		Calculated
6	Link-07	0.32	0 12:10	1.83	0.17	1.91	0.14	0.26	0.26	0.00		Calculated
7	Link-08	0.32	0 12:10	1.83	0.17	1.91	0.14	0.26	0.26	0.00		Calculated
8	Link-09	0.75	0 12:10	2.21	0.34	2.63	0.56	0.39	0.39	0.00		Calculated
9	Link-10	0.47	0 12:10	9.10	0.05	5.81	0.03	0.16	0.16	0.00		Calculated
10	Link-11	0.61	0 12:10	4.32	0.14	3.62	0.05	0.27	0.27	0.00		Calculated
11	Link-12	0.60	0 12:09	4.09	0.15	3.52	0.08	0.27	0.27	0.00		Calculated
12	Link-13	1.37	0 12:10	4.58	0.30	4.71	0.06	0.40	0.40	0.00		Calculated
13	Link-14	0.39	0 12:10	0.26	1.46	1.97	0.24	0.50	1.00	17.00		SURCHARGED
14	Link-15	0.38	0 12:10	0.42	0.92	2.51	0.08	0.36	0.73	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 116.50
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 2.50
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -116.50
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

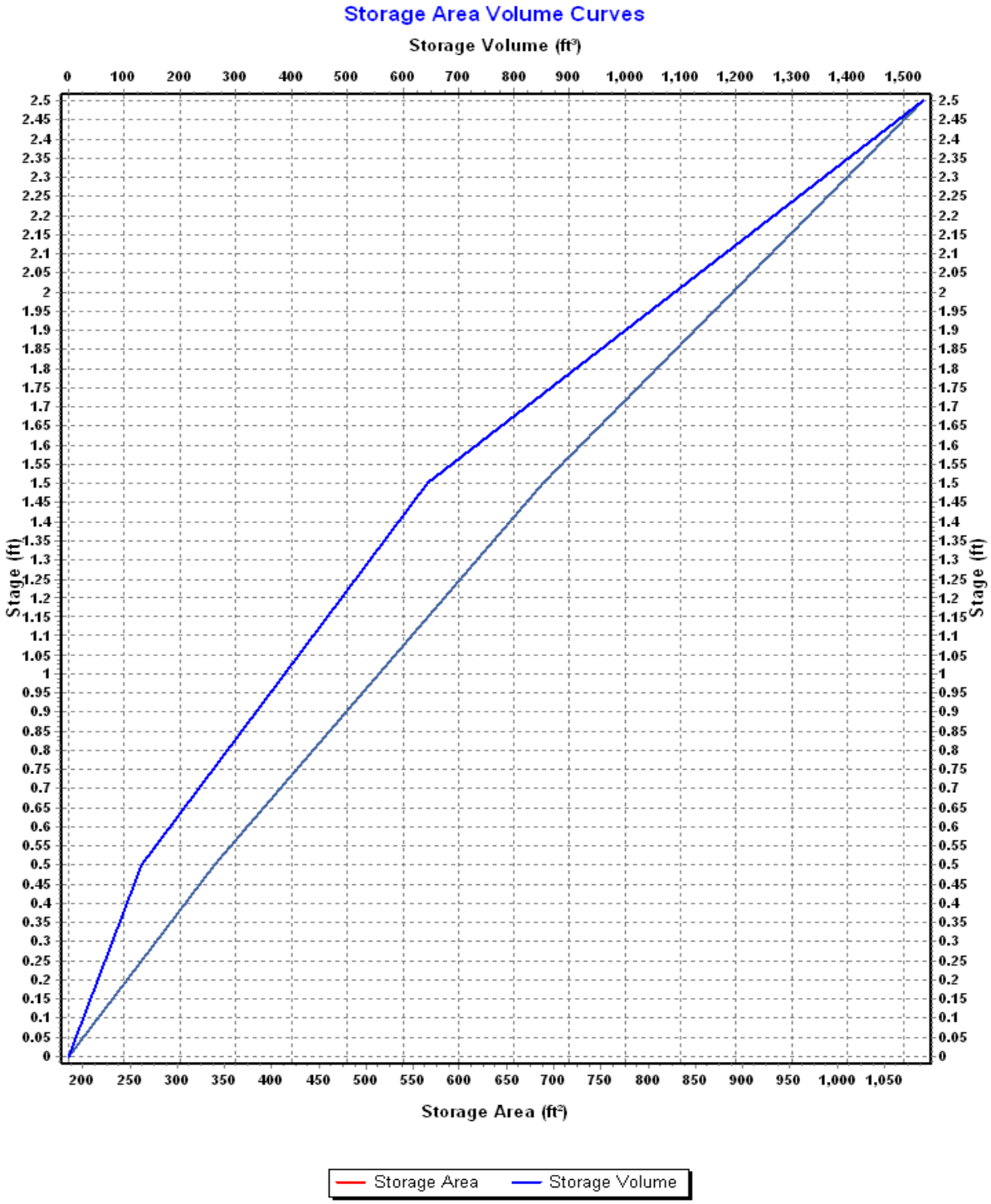
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	185	0.000
0.5	339	131.00
1.5	689	645.00
2.5	1091	1535.00


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500
Stage (ft)
2.5 2.45 2.4 2.35 2.3 2.25 2.2 2.15 2.1 2.05 2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-02	Trapezoidal	No	119.00	2.50	20.00	0.25	3.33
2	Weir-03	Trapezoidal	No	116.90	0.40	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.76
Peak Lateral Inflow (cfs)	0.12
Peak Outflow (cfs)	0.75
Peak Exfiltration Flow Rate (cfm)	0.13
Max HGL Elevation Attained (ft)	116.99
Max HGL Depth Attained (ft)	0.49
Average HGL Elevation Attained (ft)	116.89
Average HGL Depth Attained (ft)	0.39
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.139
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

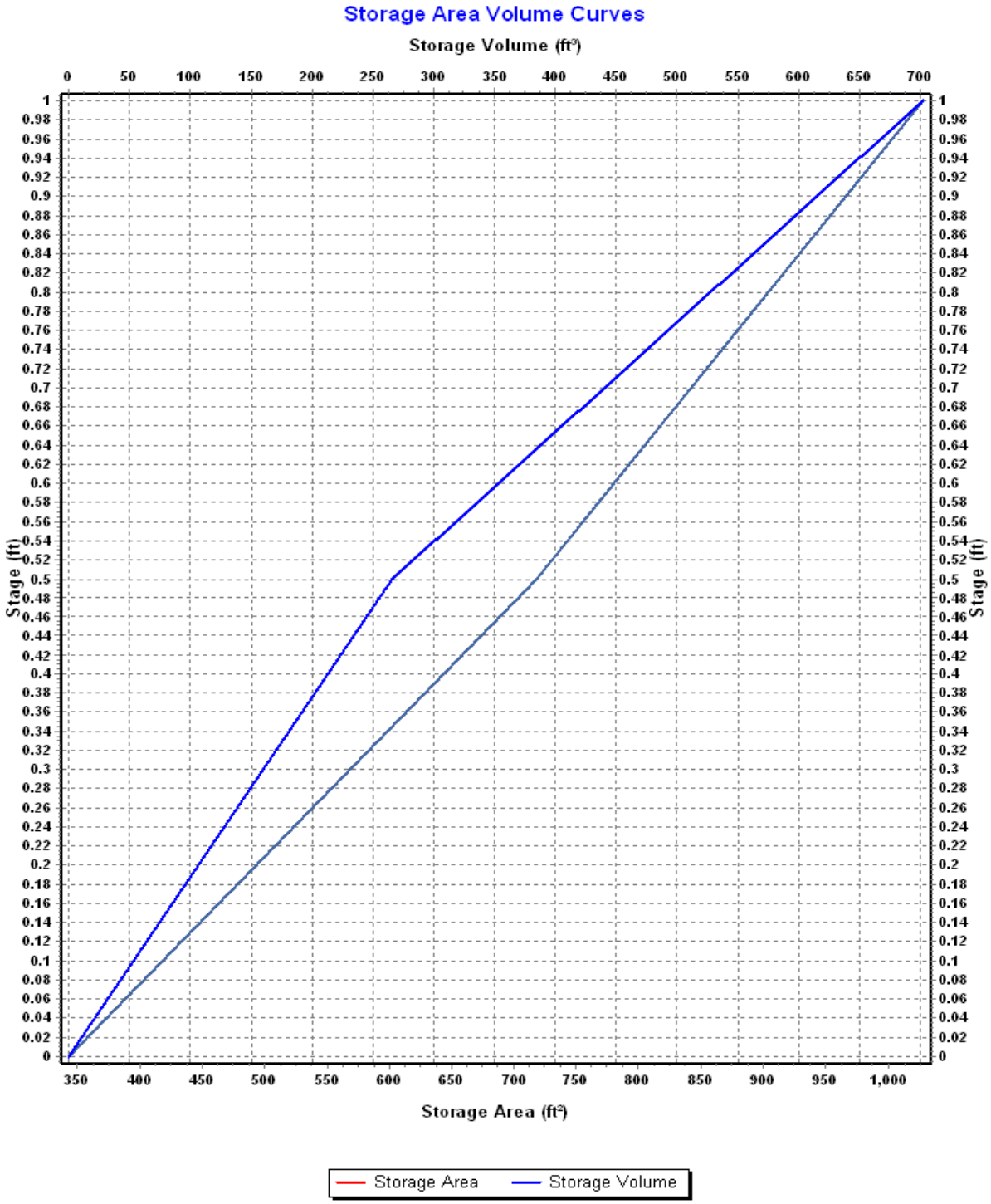
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	343	0.000
.5	718	265.25
1	1028	701.75


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-05	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.47
Peak Lateral Inflow (cfs)	0.12
Peak Outflow (cfs)	0.47
Peak Exfiltration Flow Rate (cfm)	0.28
Max HGL Elevation Attained (ft)	118.57
Max HGL Depth Attained (ft)	0.57
Average HGL Elevation Attained (ft)	118.41
Average HGL Depth Attained (ft)	0.41
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.301
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02-Forebay

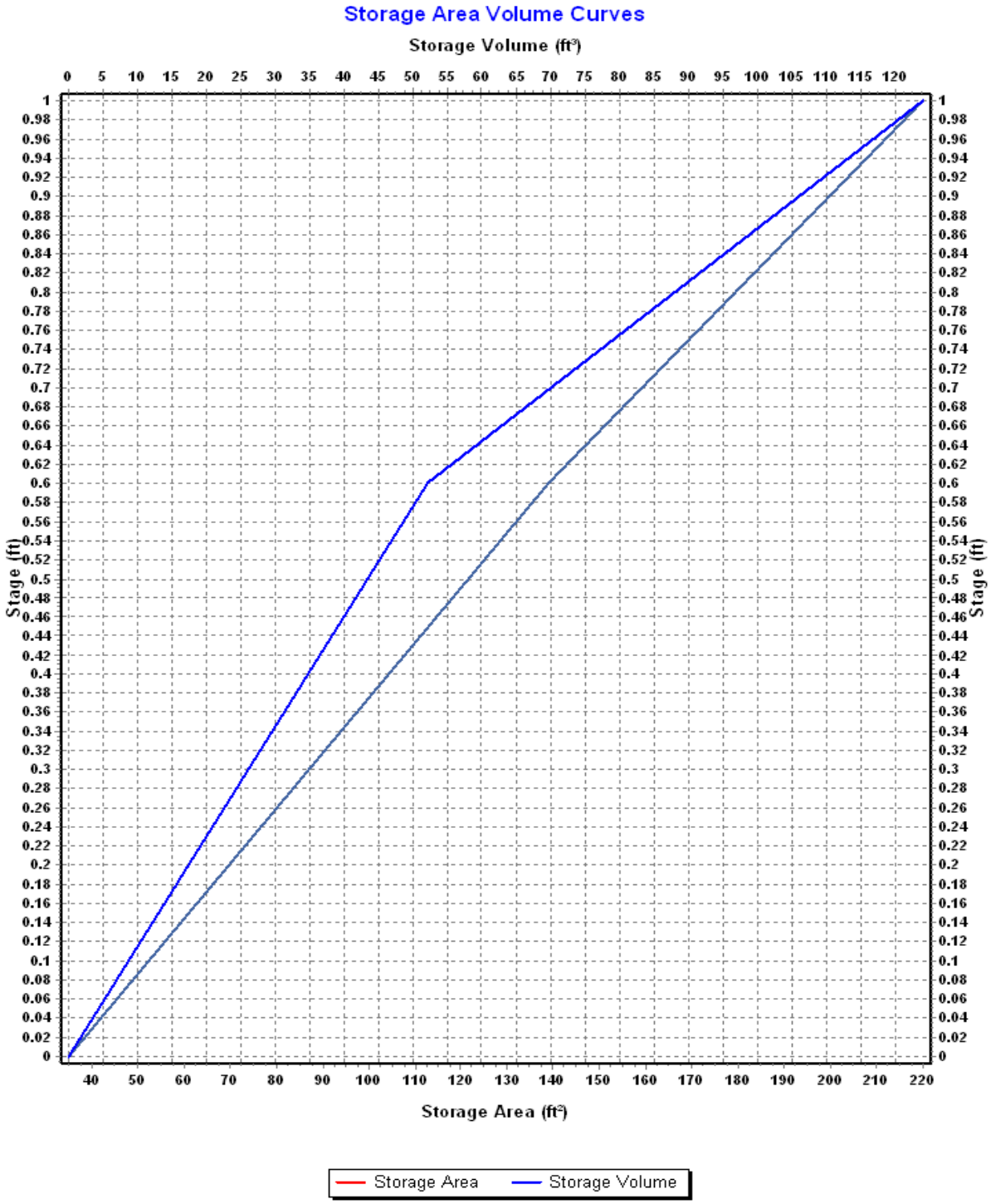
Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-02 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	35	0.000
.6	139	52.20
1	220	124.00


Storage Area Volume Curves
Storage Volume (ft³)
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	118.60	0.60	8.00	0.50	3.33
2	Weir-06	Trapezoidal	No	118.75	0.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.35
Peak Lateral Inflow (cfs)	0.35
Peak Outflow (cfs)	0.35
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.66
Max HGL Depth Attained (ft)	0.66
Average HGL Elevation Attained (ft)	118.60
Average HGL Depth Attained (ft)	0.6
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

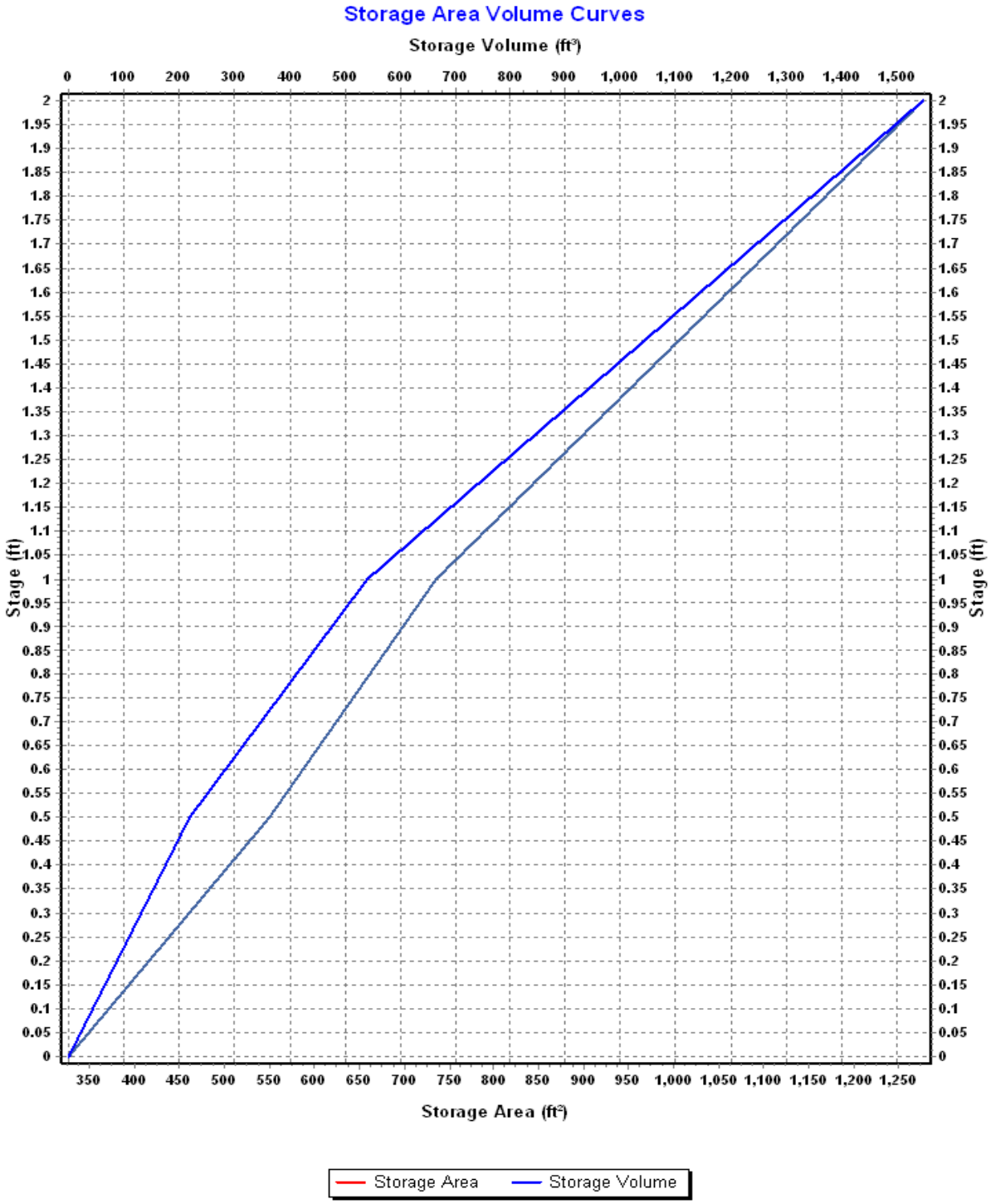
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	327	0.000
0.5	550	219.25
1	736	540.75
2	1277	1547.25


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050 1,100 1,150 1,200 1,250
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33
2	Weir-17	Trapezoidal	No	118.75	1.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.62
Peak Lateral Inflow (cfs)	0.12
Peak Outflow (cfs)	0.61
Peak Exfiltration Flow Rate (cfm)	0.22
Max HGL Elevation Attained (ft)	117.58
Max HGL Depth Attained (ft)	0.58
Average HGL Elevation Attained (ft)	117.44
Average HGL Depth Attained (ft)	0.44
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.238
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03-Forebay

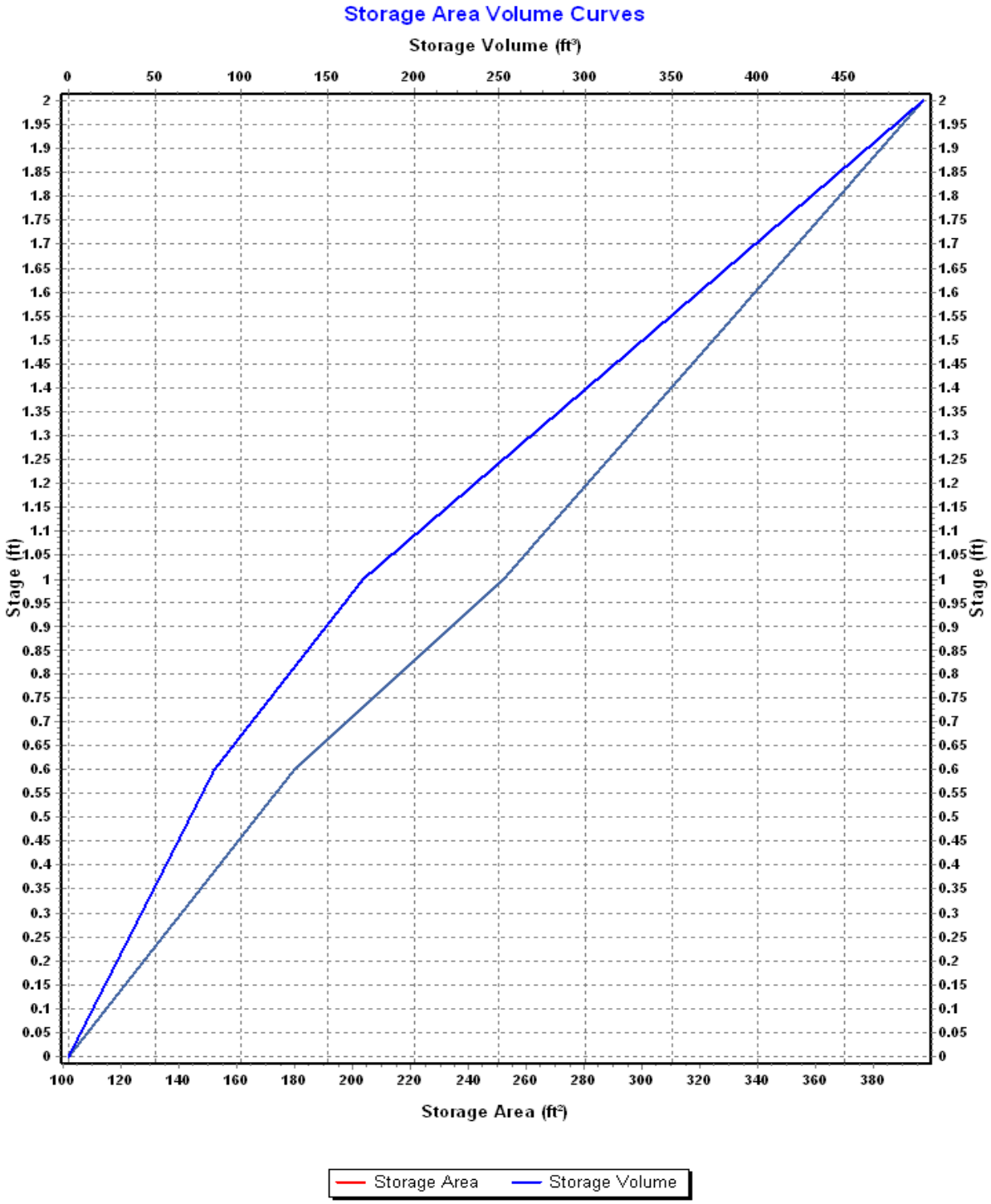
Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-03 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	102	0.000
0.6	180	84.60
1	252	171.00
2	397	495.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450
Stage (ft)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1 1.05 1.1 1.15 1.2 1.25 1.3 1.35 1.4 1.45 1.5 1.55 1.6 1.65 1.7 1.75 1.8 1.85 1.9 1.95 2
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-07	Trapezoidal	No	117.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.49
Peak Lateral Inflow (cfs)	0.49
Peak Outflow (cfs)	0.49
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.67
Max HGL Depth Attained (ft)	0.67
Average HGL Elevation Attained (ft)	117.60
Average HGL Depth Attained (ft)	0.6
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

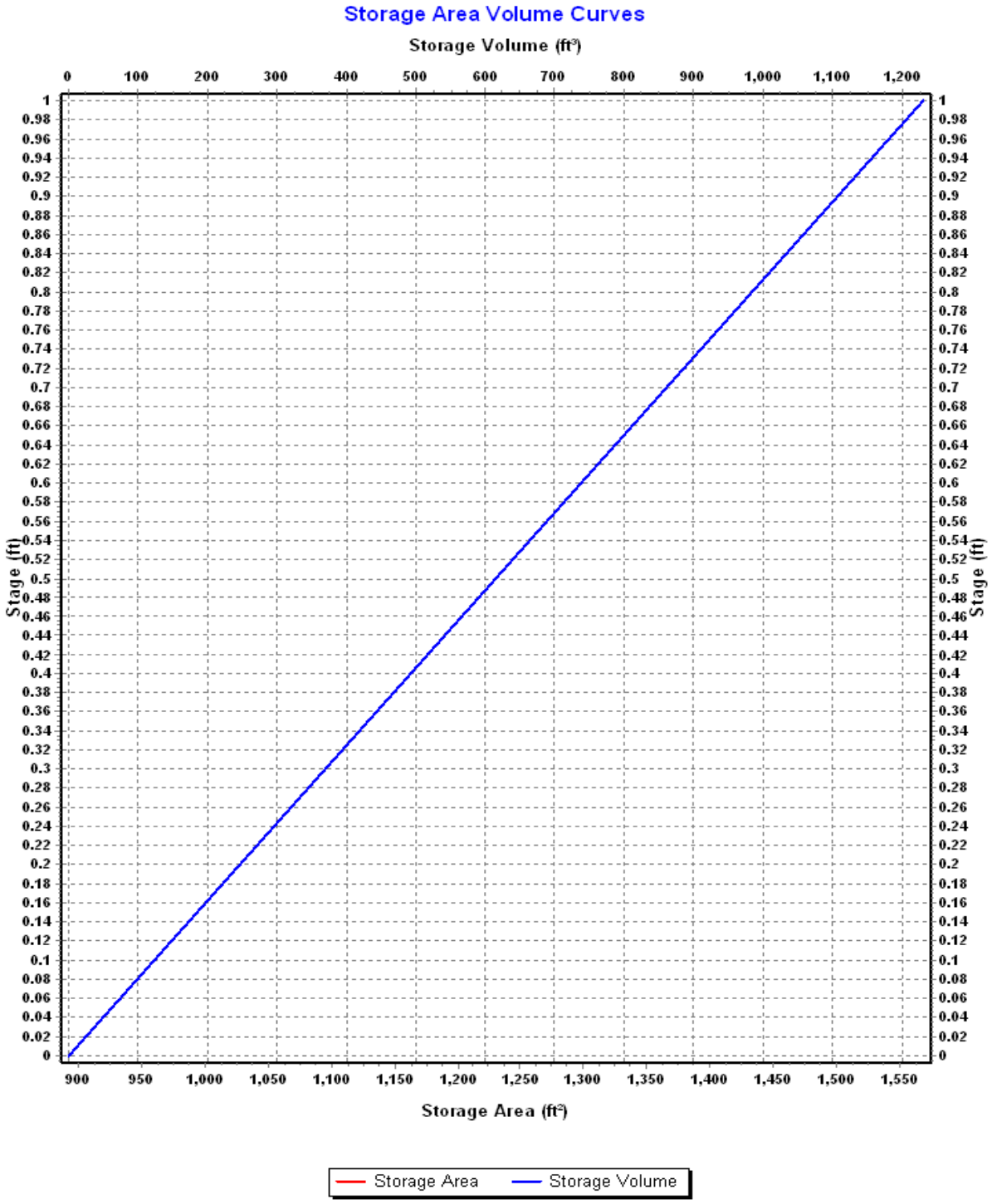
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	892	0.000
1	1569	1230.50


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200
Stage (ft)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46 0.48 0.5 0.52 0.54 0.56 0.58 0.6 0.62 0.64 0.66 0.68 0.7 0.72 0.74 0.76 0.78 0.8 0.82 0.84 0.86 0.88 0.9 0.92 0.94 0.96 0.98 1
900 950 1,000 1,050 1,100 1,150 1,200 1,250 1,300 1,350 1,400 1,450 1,500 1,550
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-14	Trapezoidal	No	114.60	0.60	10.00	0.25	3.33
2	Weir-15	Trapezoidal	No	114.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	1.63
Peak Lateral Inflow (cfs)	0.33
Peak Outflow (cfs)	1.61
Peak Exfiltration Flow Rate (cfm)	0.50
Max HGL Elevation Attained (ft)	114.64
Max HGL Depth Attained (ft)	0.64
Average HGL Elevation Attained (ft)	114.42
Average HGL Depth Attained (ft)	0.42
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.532
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04-Forebay

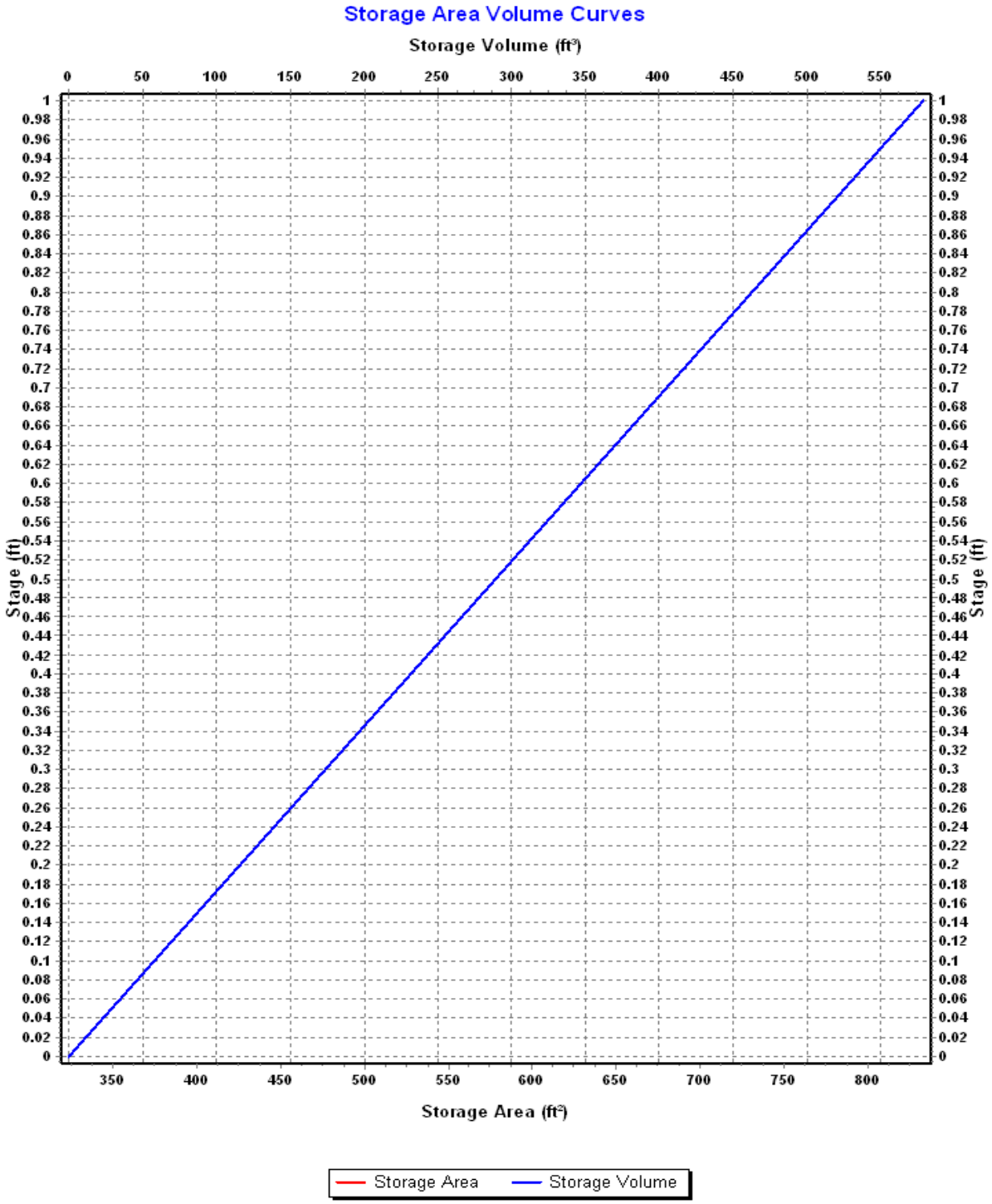
Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	324	0.000
1	833	578.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550
Stage (ft)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46 0.48 0.5 0.52 0.54 0.56 0.58 0.6 0.62 0.64 0.66 0.68 0.7 0.72 0.74 0.76 0.78 0.8 0.82 0.84 0.86 0.88 0.9 0.92 0.94 0.96 0.98 1
Stage (ft)
Storage Area (ft²)
350 400 450 500 550 600 650 700 750 800
Storage Area
Storage Volume

Storage Node : BMP-04-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-13	Trapezoidal	No	114.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.49
Peak Lateral Inflow (cfs)	0.49
Peak Outflow (cfs)	0.49
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.68
Max HGL Depth Attained (ft)	0.68
Average HGL Elevation Attained (ft)	114.56
Average HGL Depth Attained (ft)	0.56
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-05

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	114.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

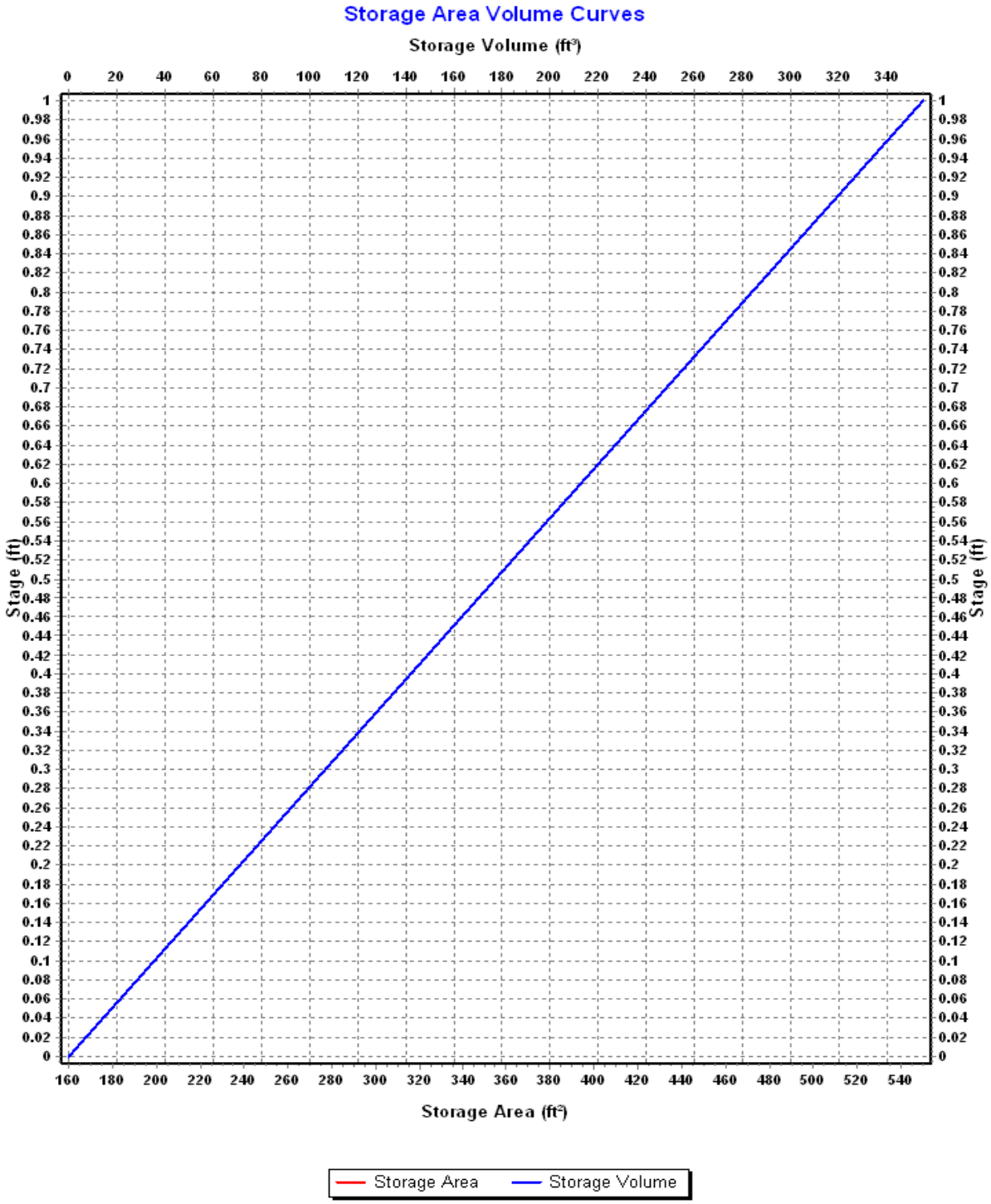
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-05

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	160	0.000
1	550	355.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-05 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	113.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.39
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.38
Peak Exfiltration Flow Rate (cfm)	0.14
Max HGL Elevation Attained (ft)	113.56
Max HGL Depth Attained (ft)	0.56
Average HGL Elevation Attained (ft)	113.45
Average HGL Depth Attained (ft)	0.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.154
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.63
Peak Lateral Inflow (cfs)	0.35
Peak Outflow (cfs)	0.63
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.30
Max HGL Depth Attained (ft)	4.3
Average HGL Elevation Attained (ft)	117.02
Average HGL Depth Attained (ft)	4.02
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.28
Peak Lateral Inflow (cfs)	0.28
Peak Outflow (cfs)	0.28
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.43
Max HGL Depth Attained (ft)	4.28
Average HGL Elevation Attained (ft)	117.16
Average HGL Depth Attained (ft)	4.01
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.25
Peak Lateral Inflow (cfs)	0.25
Peak Outflow (cfs)	0.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.61
Max HGL Depth Attained (ft)	4.46
Average HGL Elevation Attained (ft)	116.15
Average HGL Depth Attained (ft)	4
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.09
Peak Lateral Inflow (cfs)	0.84
Peak Outflow (cfs)	1.09
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.60
Max HGL Depth Attained (ft)	4.6
Average HGL Elevation Attained (ft)	116.13
Average HGL Depth Attained (ft)	4.13
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.60
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.60
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.78
Max HGL Depth Attained (ft)	4.28
Average HGL Elevation Attained (ft)	115.50
Average HGL Depth Attained (ft)	4
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	111.65
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.39
Peak Lateral Inflow (cfs)	0.39
Peak Outflow (cfs)	0.39
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.98
Max HGL Depth Attained (ft)	4.33
Average HGL Elevation Attained (ft)	115.68
Average HGL Depth Attained (ft)	4.03
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.39
Peak Lateral Inflow (cfs)	0.39
Peak Outflow (cfs)	0.39
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	113.92
Max HGL Depth Attained (ft)	5.27
Average HGL Elevation Attained (ft)	113.41
Average HGL Depth Attained (ft)	4.76
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	109.90
Max (Rim) Elevation (ft)	116.90
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-109.90
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.75
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.75
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.47
Max HGL Depth Attained (ft)	4.57
Average HGL Elevation Attained (ft)	113.49
Average HGL Depth Attained (ft)	3.59
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.47
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.47
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.91
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	114.23
Average HGL Depth Attained (ft)	2.73
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	117.50
Max (Rim) Offset (ft)	6.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.61
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.61
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.93
Max HGL Depth Attained (ft)	3.43
Average HGL Elevation Attained (ft)	113.82
Average HGL Depth Attained (ft)	2.32
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	107.65
Max (Rim) Elevation (ft)	114.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.37
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.37
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.07
Max HGL Depth Attained (ft)	4.42
Average HGL Elevation Attained (ft)	110.55
Average HGL Depth Attained (ft)	2.9
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	107.00
Max (Rim) Elevation (ft)	113.50
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.38
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.38
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	111.56
Max HGL Depth Attained (ft)	4.56
Average HGL Elevation Attained (ft)	110.15
Average HGL Depth Attained (ft)	3.15
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Treebox_Filter

Input Data

Invert Elevation (ft)	112.50
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Output Summary Results

Peak Inflow (cfs)	1.09
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.09
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	116.25
Max HGL Depth Attained (ft)	3.75
Average HGL Elevation Attained (ft)	115.95
Average HGL Depth Attained (ft)	3.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.025
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-B

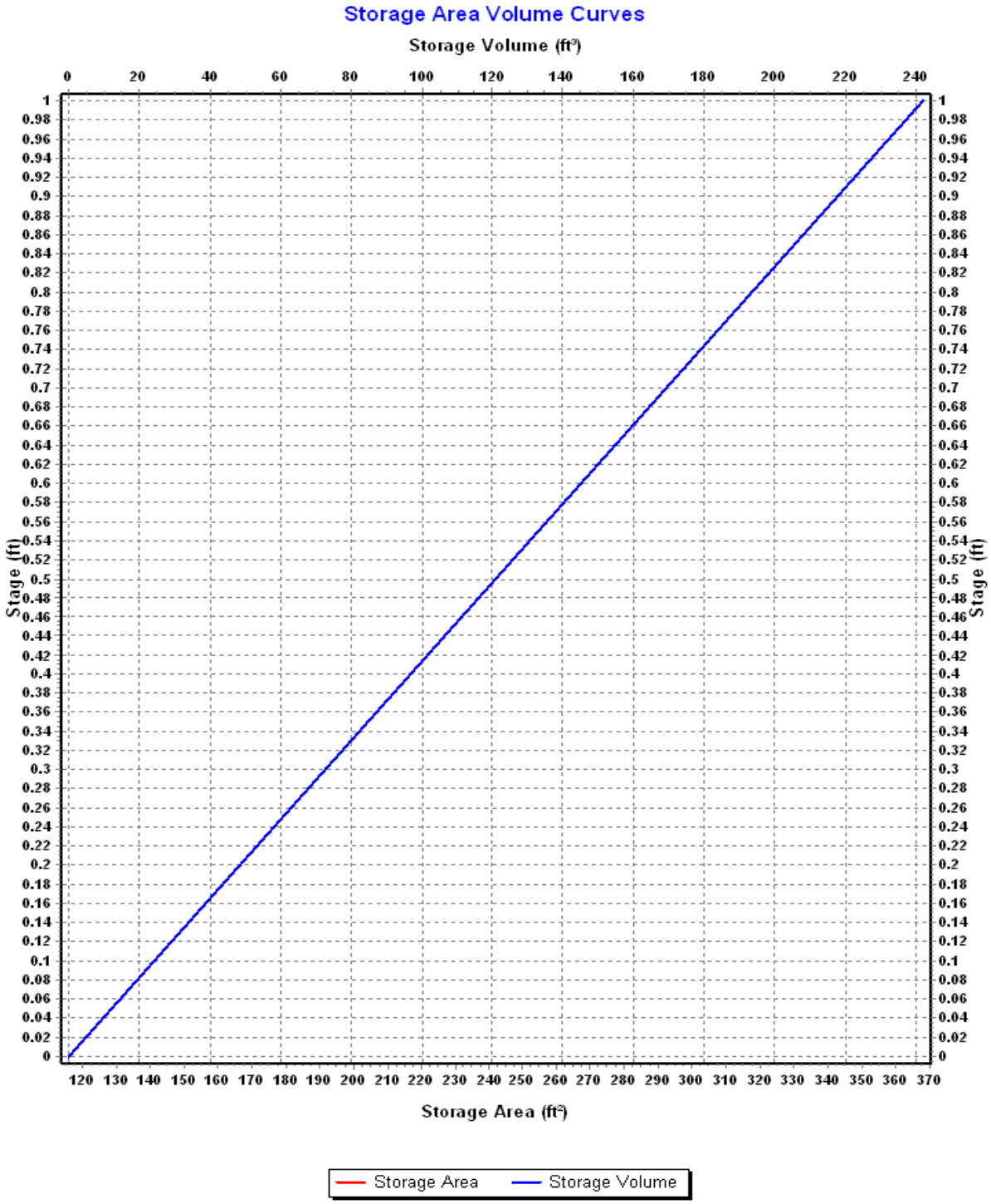
Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	118.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : WQS-B

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	116	0.000
1	368	242.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240
Stage (ft)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46 0.48 0.5 0.52 0.54 0.56 0.58 0.6 0.62 0.64 0.66 0.68 0.7 0.72 0.74 0.76 0.78 0.8 0.82 0.84 0.86 0.88 0.9 0.92 0.94 0.96 0.98 1
Stage (ft)
Storage Area (ft²)
120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370
Storage Area
Storage Volume

Storage Node : WQS-B (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-12	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.55
Max HGL Depth Attained (ft)	0.55
Average HGL Elevation Attained (ft)	117.50
Average HGL Depth Attained (ft)	0.5
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

SSA Model Inputs and Outputs

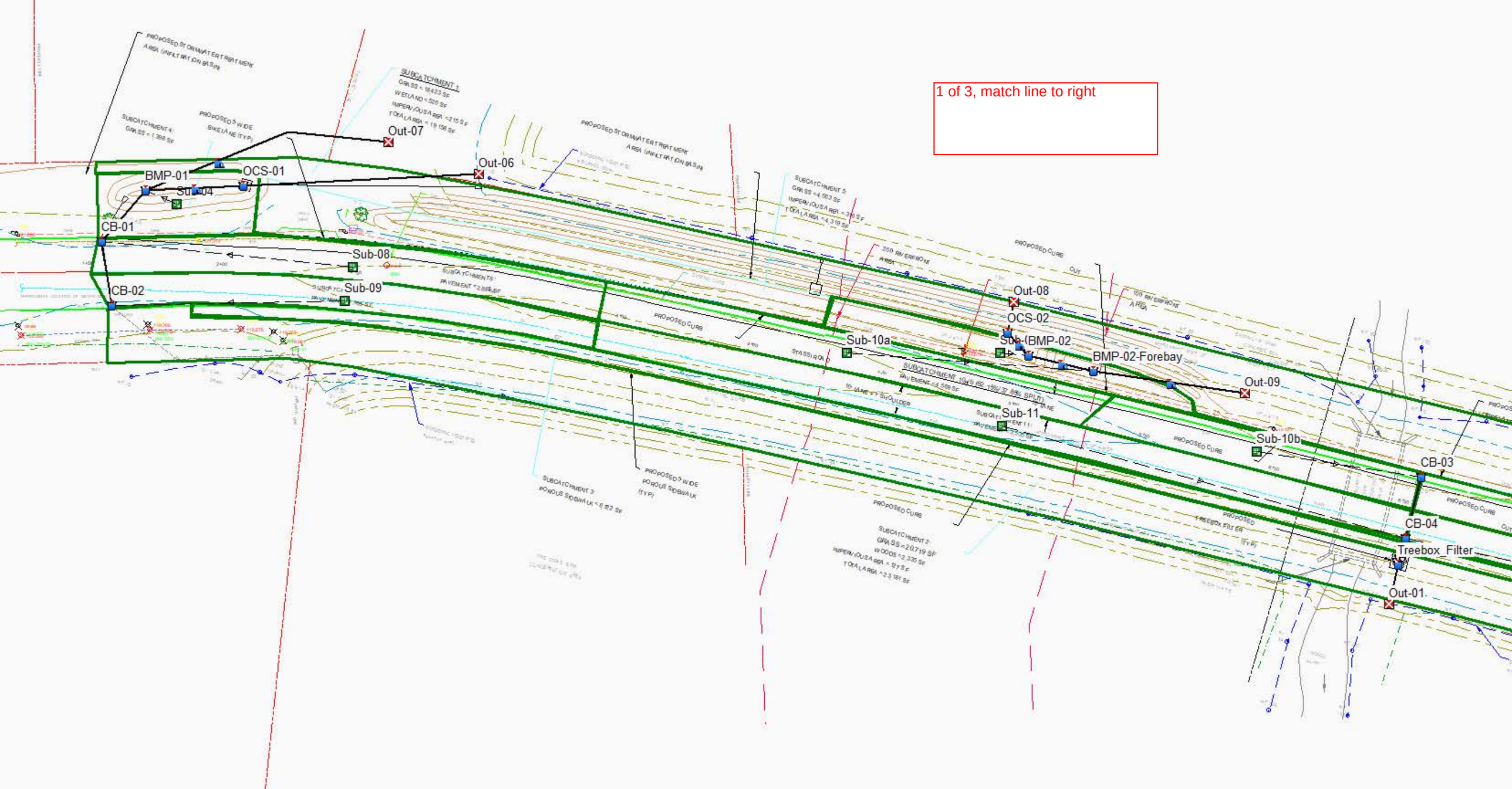
for

Scenario 2

Proposed Conditions Under Potential Regulations

Output List

- Model Schematic with Labels
- 2-year NOAA Atlas 14
- 2-year NOAA Atlas 14+
- 100-year NOAA Atlas 14
- 100-year NOAA Atlas 14+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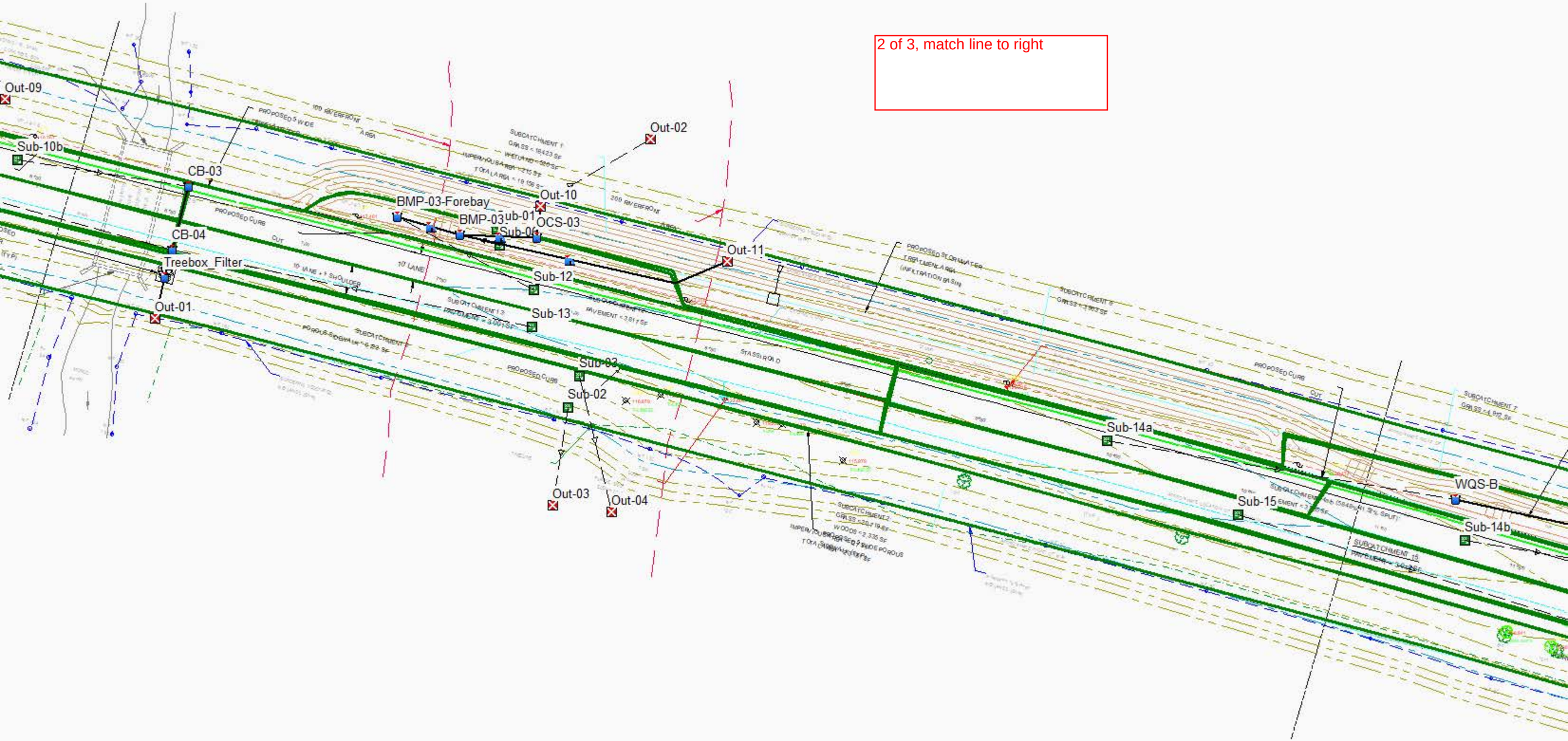
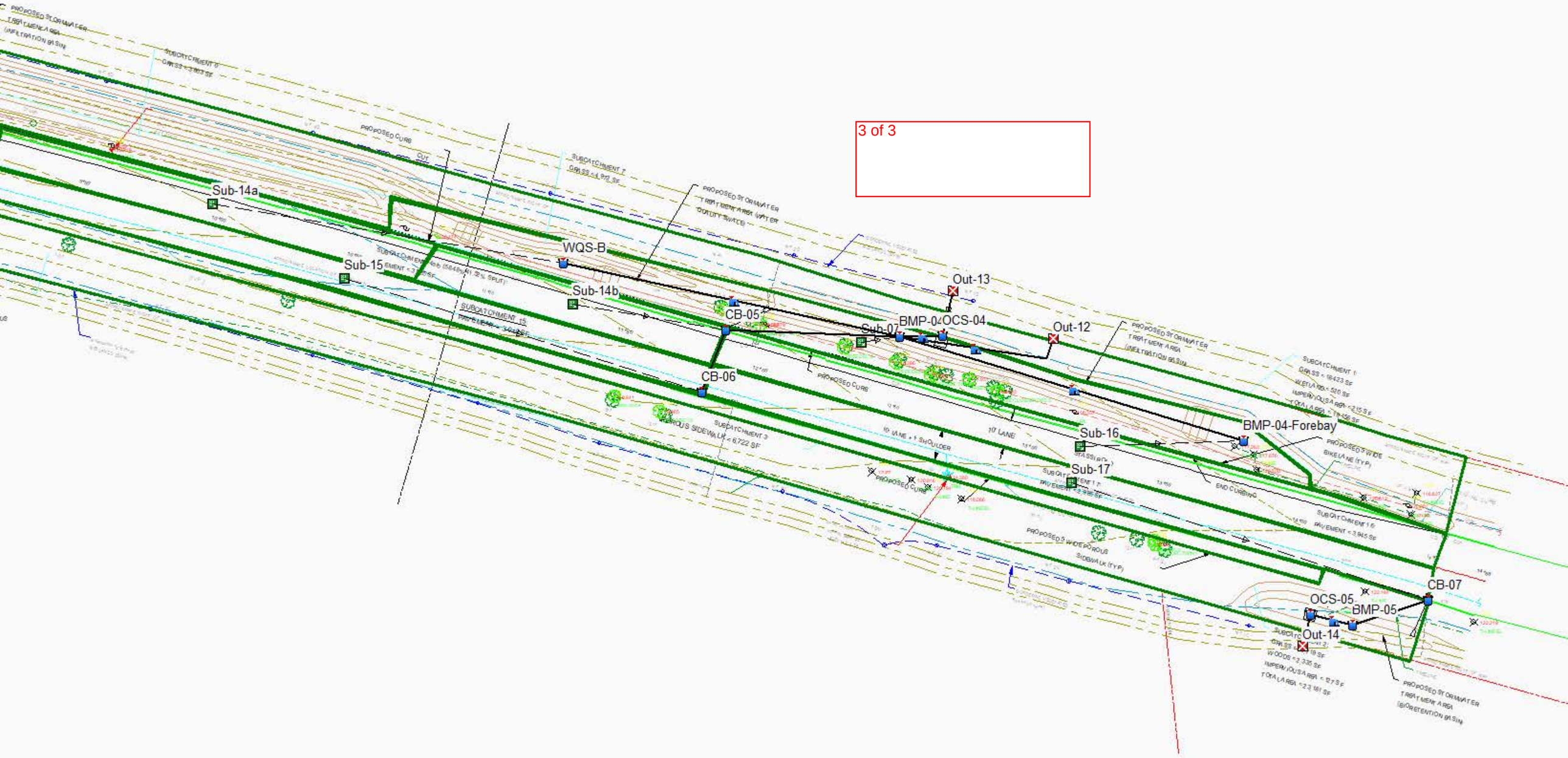
Out-06
BMP-01
OCS-01
Sub-04
CB-01
Sub-08
Sub-09
CB-02
Sub-10a
Out-08
OCS-02
Sub-(BMP-02
BMP-02-Forebay
Out-09
Sub-11
Sub-10b
CB-03
CB-04
Treebox_Filter
Out-01


2 of 3, match line to right
Out-09
Sub-10b
CB-03
CB-04
Treebox_Filter
Out-01
BMP-03-Forebay
BMP-03
Sub-01
Sub-06
OCS-03
Out-10
Out-02
Out-11
Sub-12
Sub-13
Sub-03
Sub-02
Out-03
Out-04
Sub-14a
Sub-15
WQS-B
Sub-14b


3 of 3
Sub-14a
Sub-15
WQS-B
Sub-14b
CB-05
CB-06
Out-13
BMP-04
OCS-04
Sub-07
Out-12
Sub-16
Sub-17
BMP-04-Forebay
CB-07
OCS-05
BMP-05
Out-14

Project Description

File Name ..... Scenario 2 - Prop Conditions (Proposed Regulation).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	19
Nodes	36
Junctions	0
Outfalls	13
Flow Diversions	0
Inlets	0
Storage Nodes	23
Links	28
Channels	0
Pipes	14
Pumps	0
Orifices	0
Weirs	14
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.56	484.00	74.33	3.21	1.06	0.60	0.82	0 00:01:22
2	Sub-02	0.53	484.00	74.03	3.21	1.05	0.56	0.75	0 00:02:06
3	Sub-03	0.15	484.00	80.00	3.21	1.41	0.22	0.30	0 00:00:07
4	Sub-04	0.03	484.00	74.00	3.21	0.93	0.03	0.05	0 00:01:14
5	Sub-05	0.03	484.00	74.00	3.21	0.93	0.03	0.05	0 00:00:43
6	Sub-06	0.03	484.00	74.00	3.21	0.93	0.03	0.05	0 00:00:43
7	Sub-07	0.11	484.00	74.00	3.21	1.04	0.12	0.09	0 00:20:21
8	Sub-08	0.07	484.00	98.00	3.21	2.97	0.19	0.21	0 00:01:38
9	Sub-09	0.05	484.00	98.00	3.21	2.96	0.14	0.17	0 00:01:37
10	Sub-10a	0.06	484.00	98.00	3.21	2.97	0.19	0.21	0 00:01:43
11	Sub-10b	0.04	484.00	98.00	3.21	2.96	0.12	0.15	0 00:01:09
12	Sub-11	0.08	484.00	98.00	3.21	2.97	0.24	0.28	0 00:02:42
13	Sub-12	0.09	484.00	98.00	3.21	2.97	0.26	0.30	0 00:02:18
14	Sub-13	0.07	484.00	98.00	3.21	2.97	0.20	0.23	0 00:02:16
15	Sub-14a	0.05	484.00	98.00	3.21	2.97	0.16	0.19	0 00:01:22
16	Sub-14b	0.04	484.00	98.00	3.21	2.95	0.10	0.13	0 00:01:00
17	Sub-15	0.07	484.00	98.00	3.21	2.97	0.20	0.24	0 00:02:08
18	Sub-16	0.09	484.00	98.00	3.21	2.97	0.27	0.30	0 00:02:07
19	Sub-17	0.07	484.00	98.00	3.21	2.97	0.20	0.24	0 00:02:09

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					0.64	112.00					
2	Out-02	Outfall	112.00					0.79	112.00					
3	Out-03	Outfall	112.00					0.72	112.00					
4	Out-04	Outfall	112.00					0.30	112.00					
5	Out-06	Outfall	113.00					0.40	113.00					
6	Out-07	Outfall	115.00					0.00	115.00					
7	Out-08	Outfall	114.00					0.05	114.05					
8	Out-09	Outfall	114.00					0.00	114.00					
9	Out-10	Outfall	114.00					0.31	114.00					
10	Out-11	Outfall	114.00					0.00	114.00					
11	Out-12	Outfall	114.00					0.00	114.00					
12	Out-13	Outfall	110.00					0.75	110.00					
13	Out-14	Outfall	110.00					0.20	110.00					
14	BMP-01	Storage Node	116.00	119.00	0.00		0.00	0.42	116.96				0.00	0.00
15	BMP-02	Storage Node	118.00	119.00	0.00		0.00	0.25	118.53				0.00	0.00
16	BMP-02-Forebay	Storage Node	118.00	119.00	0.00		0.00	0.21	118.64				0.00	0.00
17	BMP-03	Storage Node	117.00	119.00	0.00		0.00	0.34	117.55				0.00	0.00
18	BMP-03-Forebay	Storage Node	117.00	119.00	0.00		0.00	0.30	117.65				0.00	0.00
19	BMP-04	Storage Node	114.00	115.00	0.00		0.00	0.86	114.59				0.00	0.00
20	BMP-04-Forebay	Storage Node	114.00	115.00	0.00		0.00	0.30	114.65				0.00	0.00
21	BMP-05	Storage Node	113.00	114.00	0.00		0.00	0.23	113.54				0.00	0.00
22	CB-01	Storage Node	113.00	120.00	0.00		1000.00	0.38	117.23				0.00	0.00
23	CB-02	Storage Node	113.15	120.00	0.00		1000.00	0.17	117.36				0.00	0.00
24	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.15	116.47				0.00	0.00
25	CB-04	Storage Node	112.00	119.00	0.00		1000.00	0.65	116.46				0.00	0.00
26	CB-05	Storage Node	111.50	118.50	0.00		1000.00	0.36	115.71				0.00	0.00
27	CB-06	Storage Node	111.65	118.50	0.00		1000.00	0.23	115.90				0.00	0.00
28	CB-07	Storage Node	108.65	115.50	0.00		1000.00	0.23	113.67				0.00	0.00
29	OCS-01	Storage Node	109.90	116.90	0.00		0.00	0.41	114.35				0.00	0.00
30	OCS-02	Storage Node	111.50	118.50	0.00		0.00	0.12	115.80				0.00	0.00
31	OCS-03	Storage Node	111.50	117.50	0.00		0.00	0.31	114.85				0.00	0.00
32	OCS-04	Storage Node	107.65	114.50	0.00		0.00	0.75	111.95				0.00	0.00
33	OCS-05	Storage Node	107.00	113.50	0.00		0.00	0.22	111.41				0.00	0.00
34	Treebox_Filter	Storage Node	112.50	119.00	0.00		0.00	0.65	116.19				0.00	0.00
35	WQS-A	Storage Node	118.00	119.00	0.00		0.00	0.19	118.54				0.00	0.00
36	WQS-B	Storage Node	117.00	118.00	0.00		0.00	0.19	117.54				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-04	Treebox_Filter	6.00	116.00	116.00	0.0000	12.000	0.0200	0.65	0.30	2.16	2.22	0.40	0.40	0.00	> CAPACITY
2	Link-02	Pipe	Treebox_Filter	Out-01	12.00	116.00	114.00	16.6700	12.000	0.0200	0.64	9.45	0.07	6.48	0.18	0.18	0.00	Calculated
3	Link-03	Pipe	CB-02	CB-01	24.02	117.15	117.00	0.6200	12.000	0.0200	0.17	1.83	0.09	1.32	0.22	0.22	0.00	Calculated
4	Link-05	Pipe	CB-03	CB-04	23.50	116.15	116.00	0.6400	12.000	0.0200	0.15	1.85	0.08	0.54	0.39	0.39	0.00	Calculated
5	Link-06	Pipe	CB-06	CB-05	23.47	115.65	115.50	0.6400	12.000	0.0200	0.23	1.85	0.13	1.67	0.23	0.23	0.00	Calculated
6	Link-07	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.19	1.83	0.10	1.65	0.20	0.20	0.00	Calculated
7	Link-08	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.19	1.83	0.10	1.65	0.20	0.20	0.00	Calculated
8	Link-09	Pipe	OCS-01	Out-06	88.06	114.05	113.25	0.9100	12.000	0.0200	0.40	2.21	0.18	2.22	0.27	0.28	0.00	Calculated
9	Link-10	Pipe	OCS-02	Out-08	11.34	115.75	113.00	24.2500	12.000	0.0200	0.05	9.10	0.01	3.07	0.05	0.05	0.00	Calculated
10	Link-11	Pipe	OCS-03	Out-10	11.51	114.65	114.25	3.4800	12.000	0.0200	0.31	4.32	0.07	3.04	0.18	0.19	0.00	Calculated
11	Link-12	Pipe	CB-05	BMP-04	16.00	115.50	115.00	3.1300	12.000	0.0200	0.36	4.09	0.09	3.07	0.20	0.21	0.00	Calculated
12	Link-13	Pipe	OCS-04	Out-13	16.60	111.65	111.00	3.9200	12.000	0.0200	0.75	4.58	0.16	4.06	0.26	0.29	0.00	Calculated
13	Link-14	Pipe	CB-07	BMP-05	28.55	113.15	113.00	0.5300	6.000	0.0200	0.23	0.26	0.87	1.20	0.50	1.00	1.00	SURCHARGED
14	Link-15	Pipe	OCS-05	Out-14	11.48	111.15	111.00	1.3100	6.000	0.0200	0.20	0.42	0.48	2.11	0.19	0.49	0.00	Calculated
15	Weir-02	Weir	BMP-01	Out-07		116.00	115.00				0.00							
16	Weir-03	Weir	BMP-01	OCS-01		116.00	109.90				0.41							
17	Weir-04	Weir	BMP-02-Forebay	BMP-02		118.00	118.00				0.21							
18	Weir-05	Weir	BMP-02	OCS-02		118.00	111.50				0.12							
19	Weir-06	Weir	BMP-02-Forebay	Out-09		118.00	114.00				0.00							
20	Weir-07	Weir	BMP-03-Forebay	BMP-03		117.00	117.00				0.29							
21	Weir-08	Weir	BMP-03	OCS-03		117.00	111.50				0.31							
22	Weir-11	Weir	WQS-A	WQS-B		118.00	117.00				0.19							
23	Weir-12	Weir	WQS-B	BMP-04		117.00	114.00				0.18							
24	Weir-13	Weir	BMP-04-Forebay	BMP-04		114.00	114.00				0.28							
25	Weir-14	Weir	BMP-04	Out-12		114.00	114.00				0.00							
26	Weir-15	Weir	BMP-04	OCS-04		114.00	107.65				0.75							
27	Weir-16	Weir	BMP-05	OCS-05		113.00	107.00				0.22							
28	Weir-17	Weir	BMP-03	Out-11		117.00	114.00				0.00							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.56
Peak Rate Factor 484.00
Weighted Curve Number 74.33
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.54	C	74.00
Brush, Good	0.01	C	65.00
Paved roads with curbs & sewers	0.01	C	98.00
Composite Area & Weighted CN	0.56		74.33

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

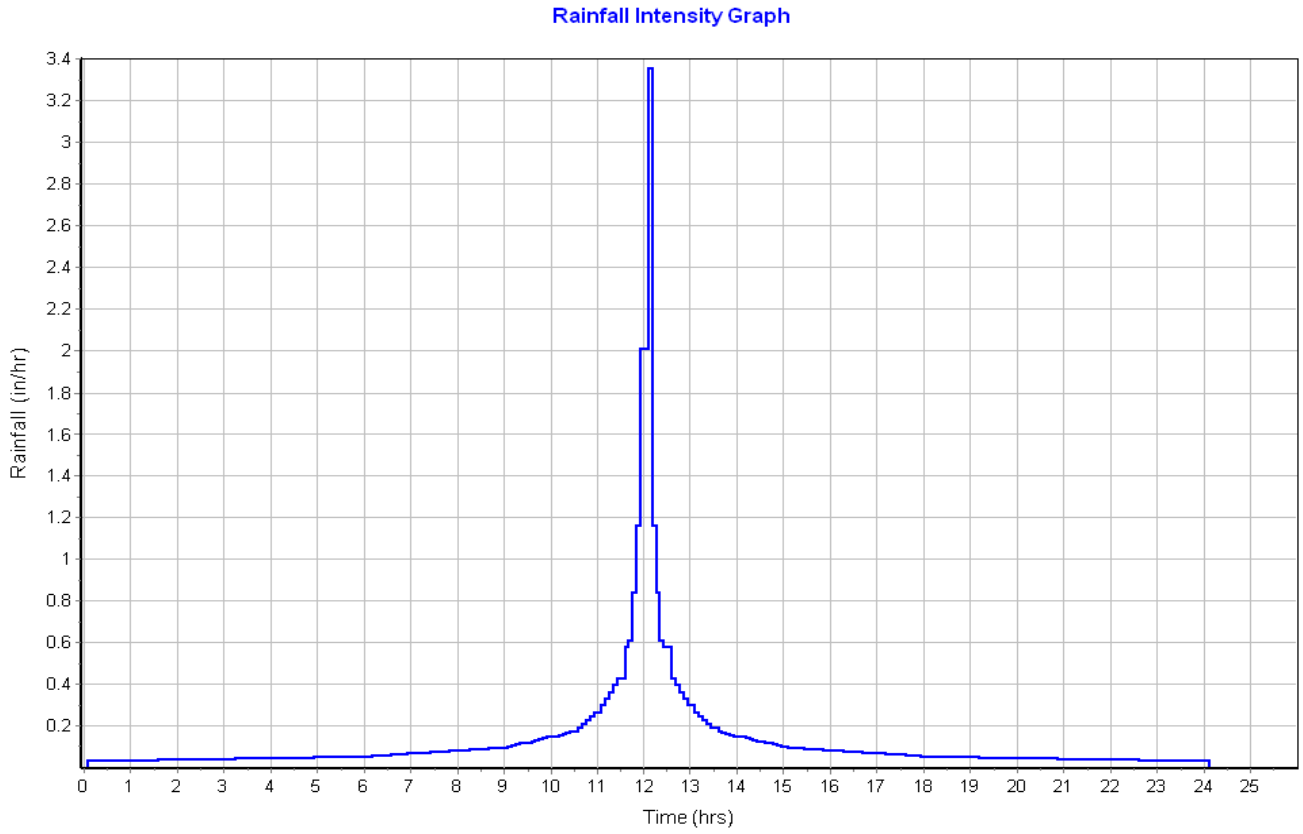
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.24	0.00	0.00
Computed Flow Time (min) :	1.38	0.00	0.00

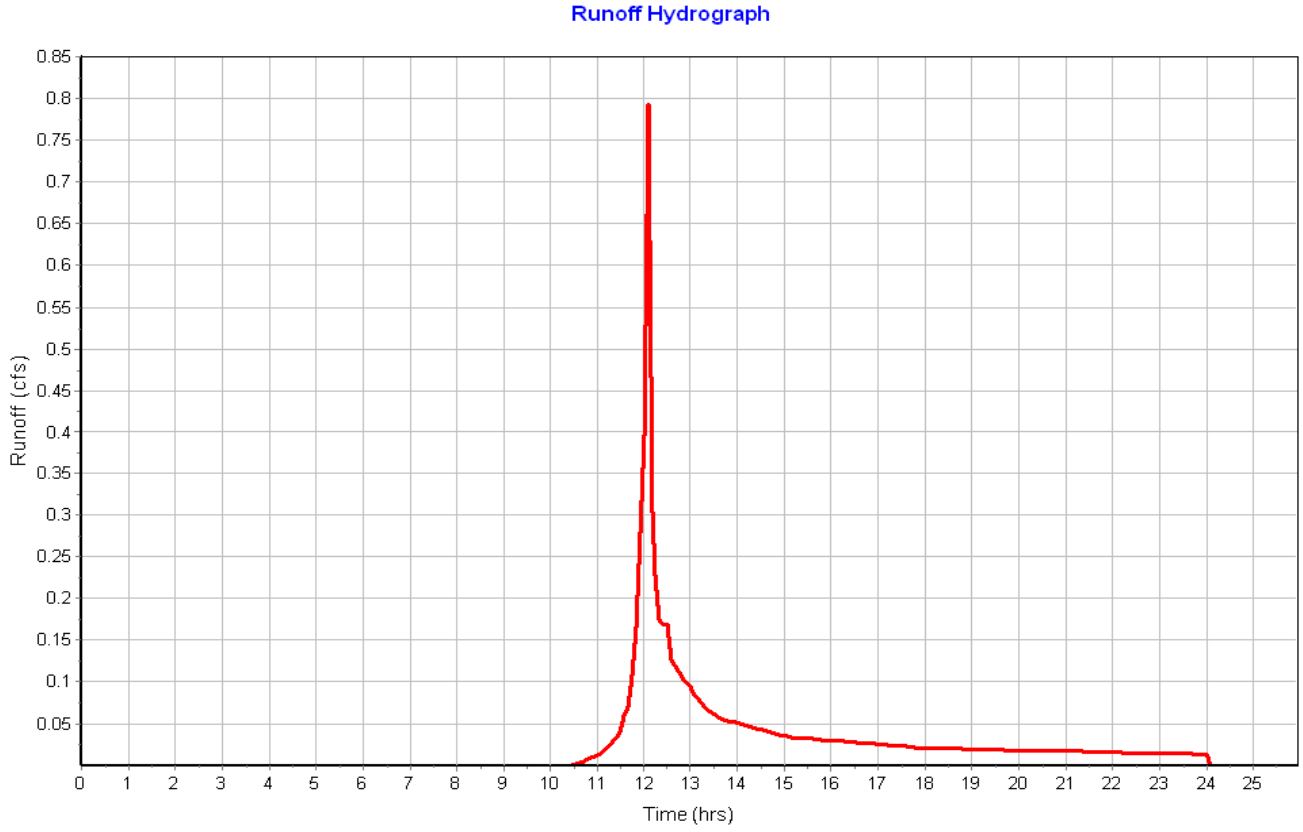
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.06
Peak Runoff (cfs)	0.82
Weighted Curve Number	74.33
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.53
Peak Rate Factor	484.00
Weighted Curve Number	74.03
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.48	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.53		74.03

Time of Concentration

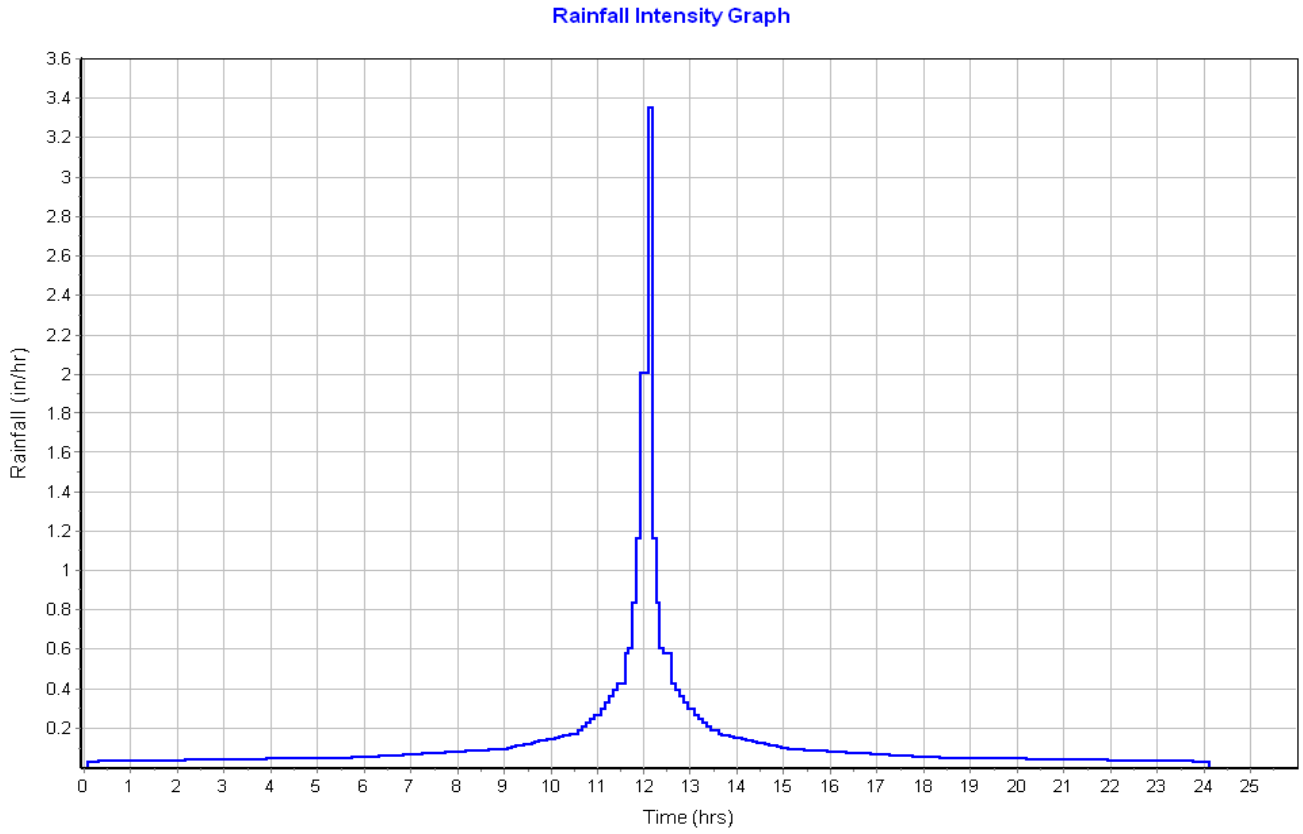
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

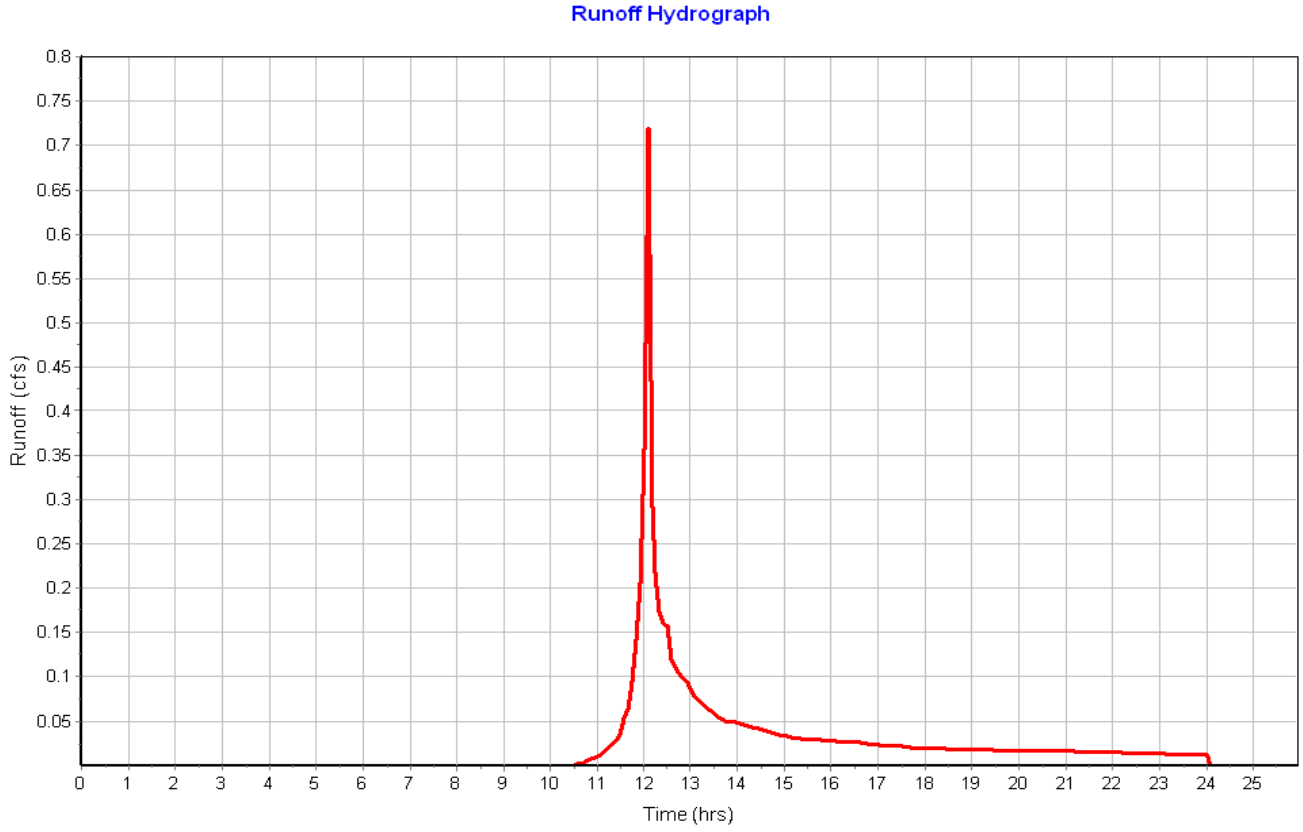
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.05
Peak Runoff (cfs)	0.75
Weighted Curve Number	74.03
Time of Concentration (days hh:mm:ss)	0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.15
Peak Rate Factor 484.00
Weighted Curve Number 80.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Porous Pavement	0.15	C	80.00
Composite Area & Weighted CN	0.15		80.00

Time of Concentration

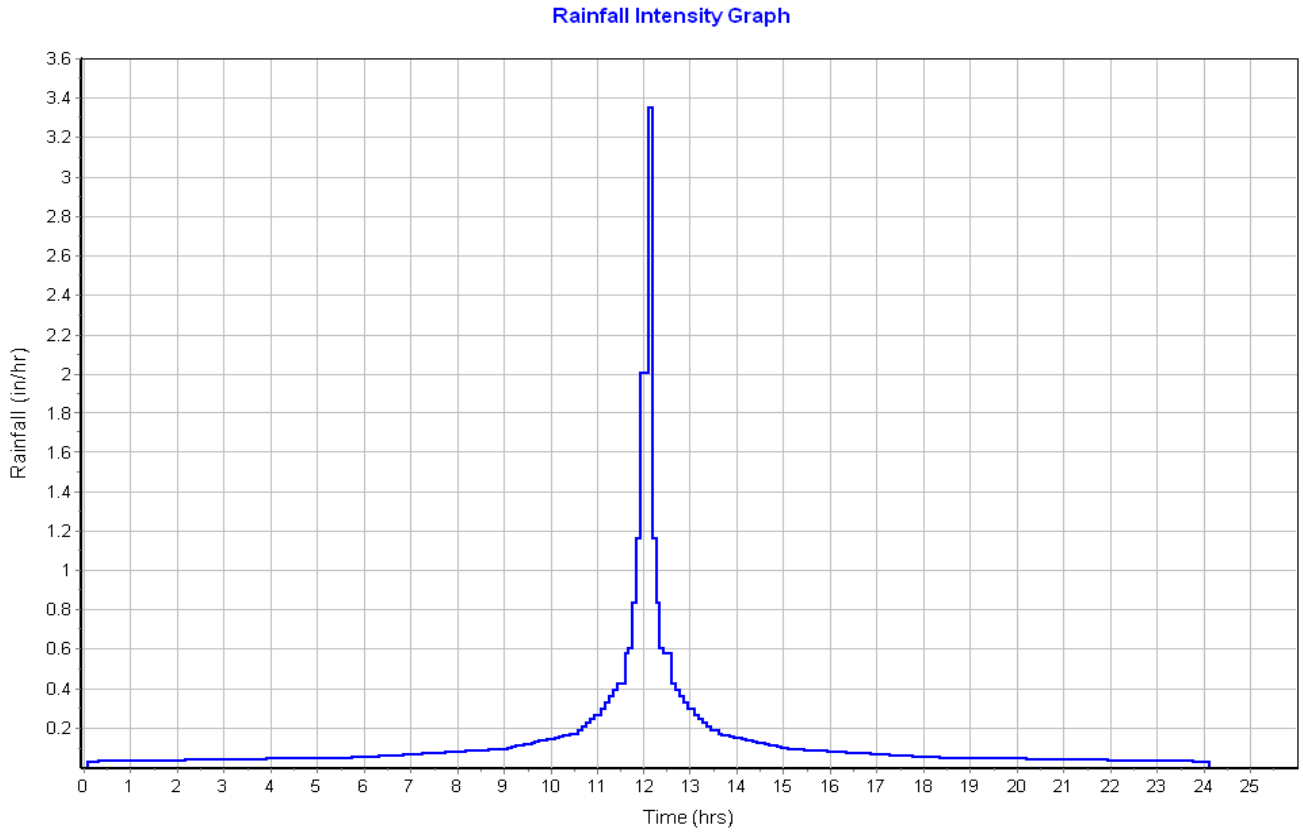
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	5	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.62	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

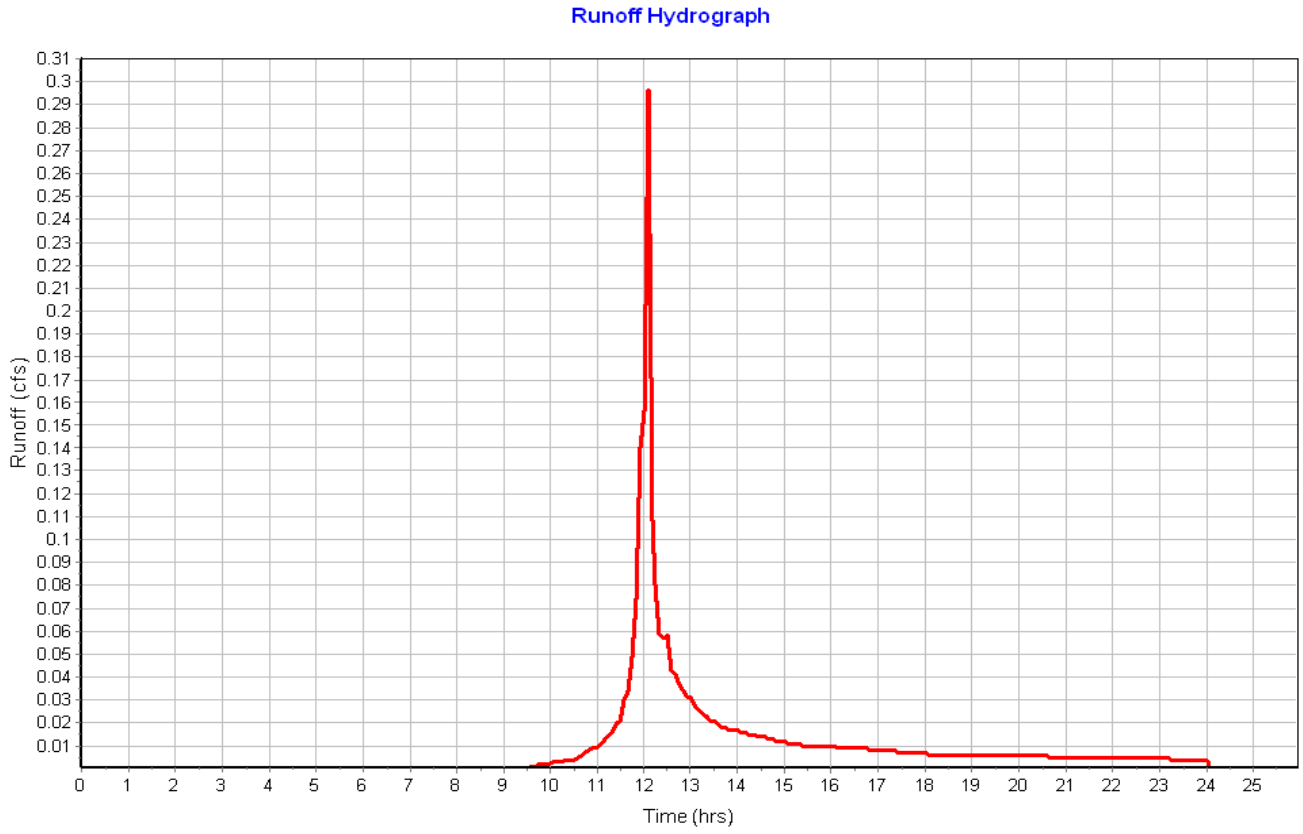
Total TOC (min) 0.13

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 1.41
Peak Runoff (cfs) 0.30
Weighted Curve Number 80.00
Time of Concentration (days hh:mm:ss) 0 00:00:08

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

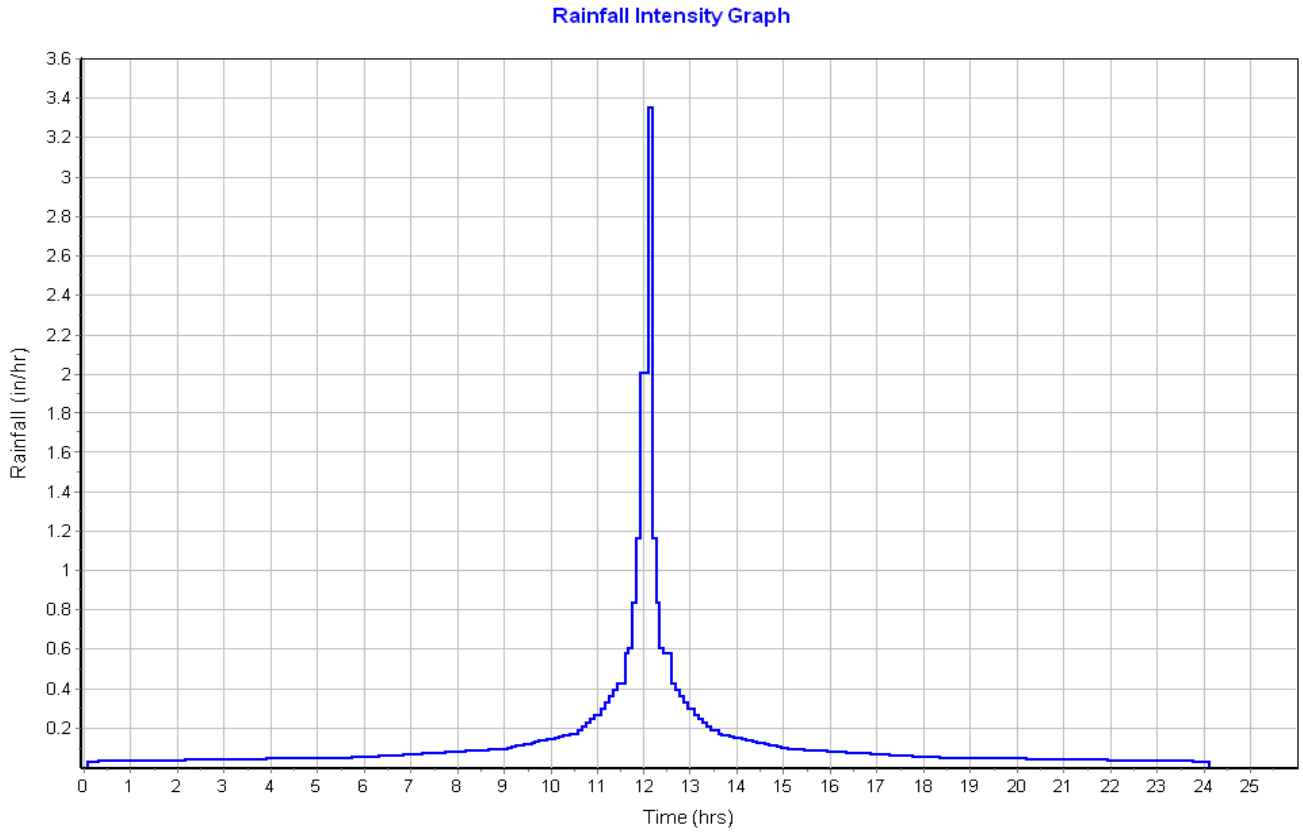
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	14.33	0.00	0.00
Slope (%) :	20	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	1.24	0.00	0.00

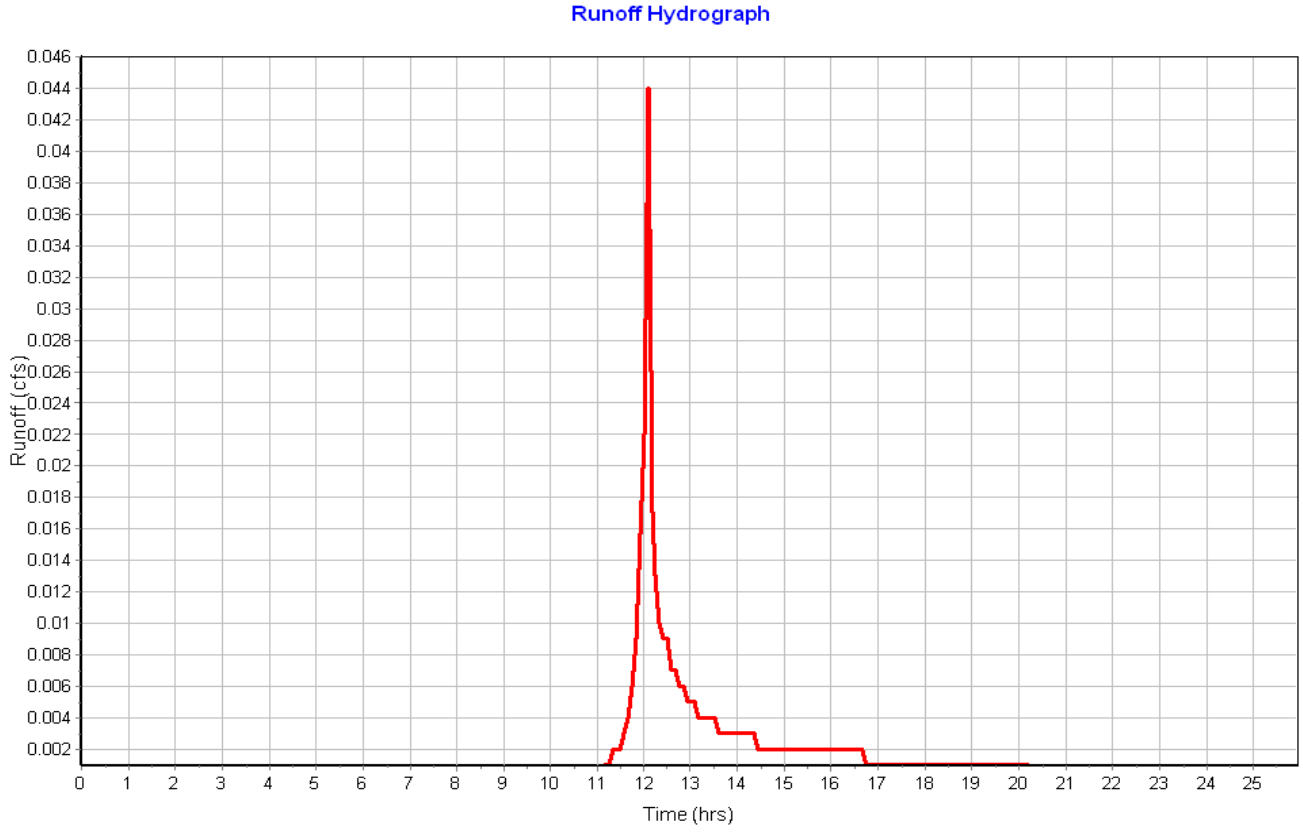
Total TOC (min) 1.24

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 0.93
Peak Runoff (cfs) 0.05
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:01:14

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	74.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

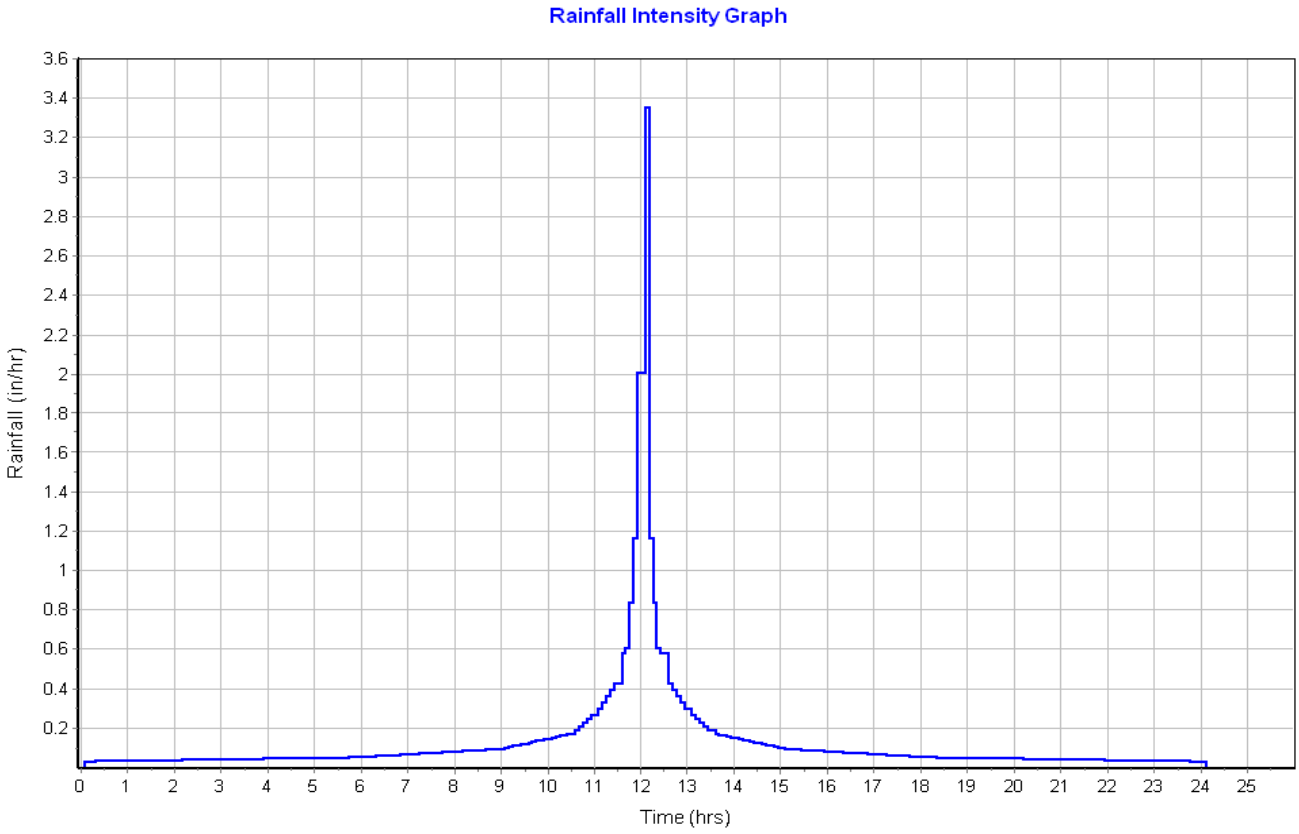
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

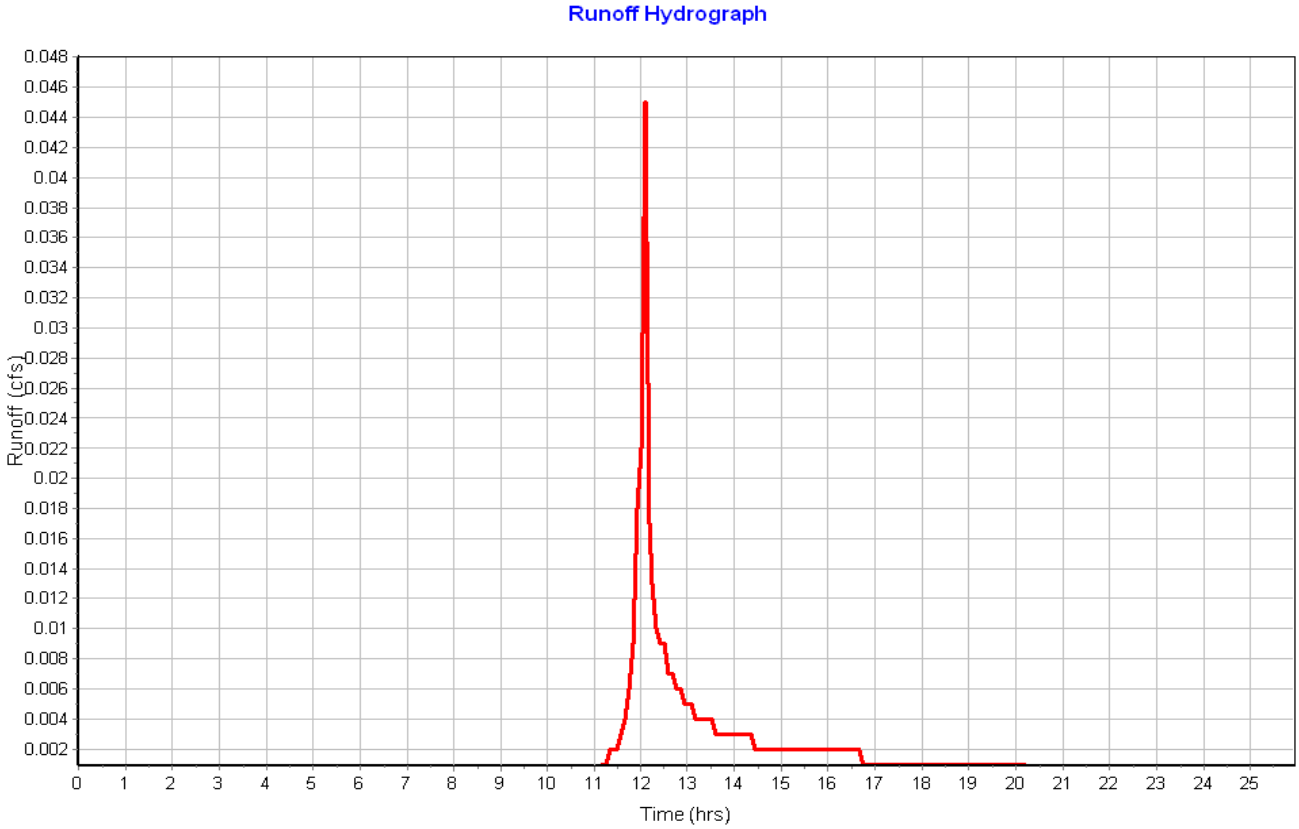
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	0.93
Peak Runoff (cfs)	0.05
Weighted Curve Number	74.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	74.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

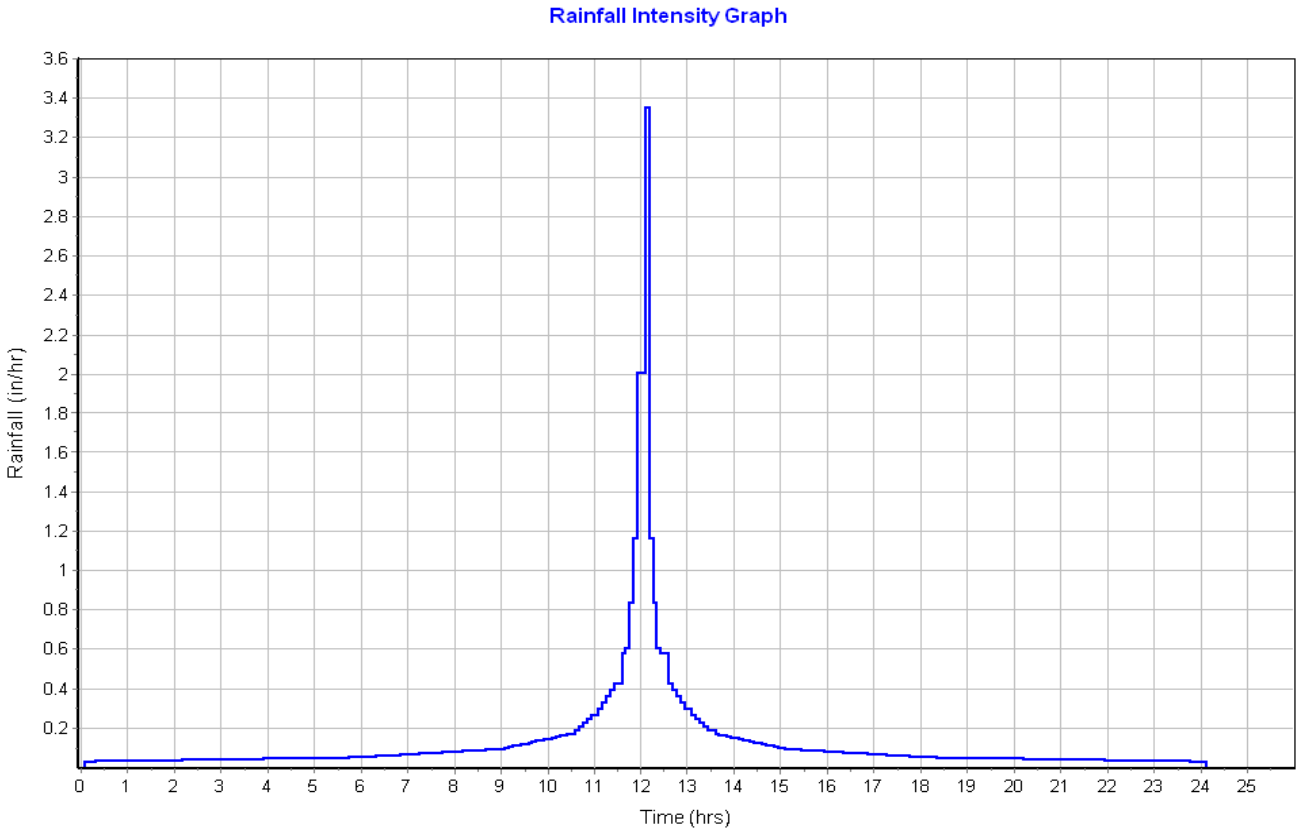
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

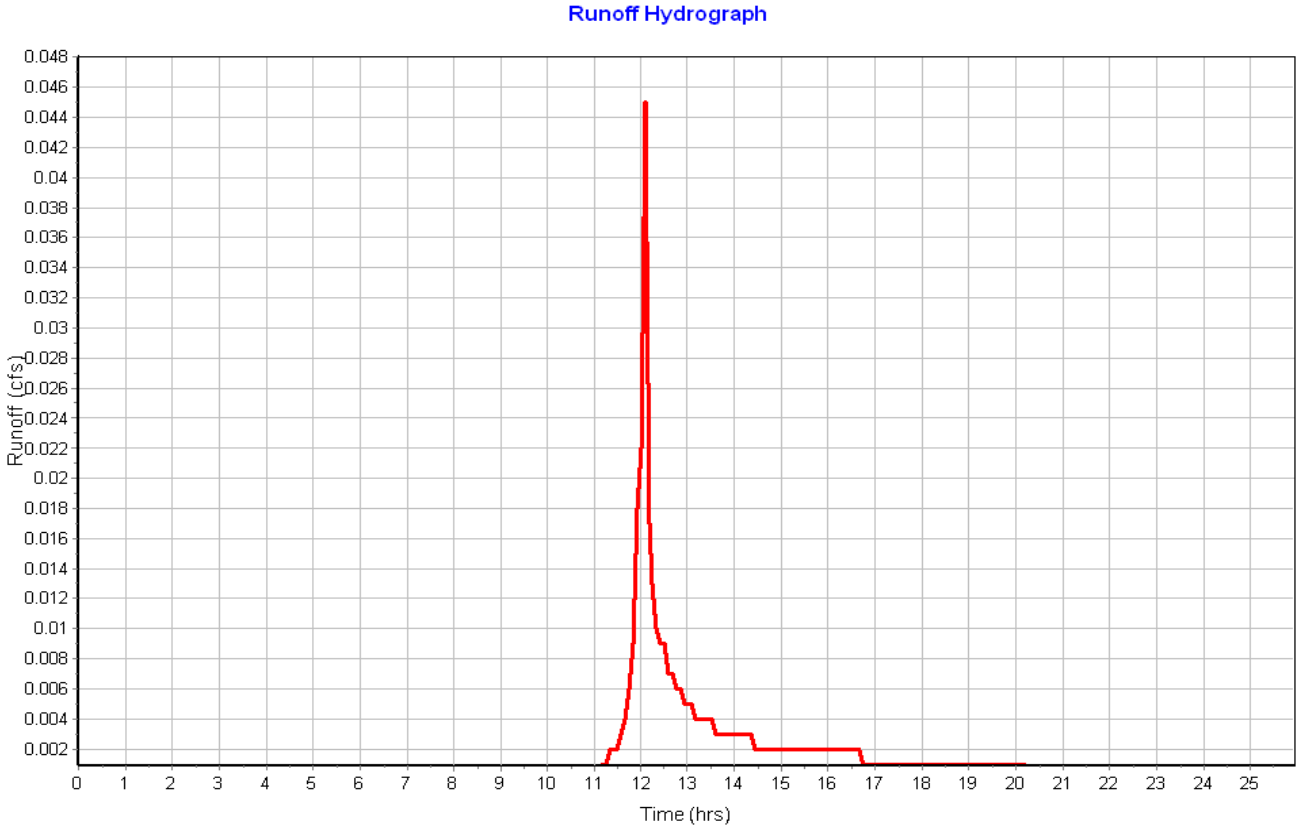
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	0.93
Peak Runoff (cfs)	0.05
Weighted Curve Number	74.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.11	C	74.00
Composite Area & Weighted CN	0.11		74.00

Time of Concentration

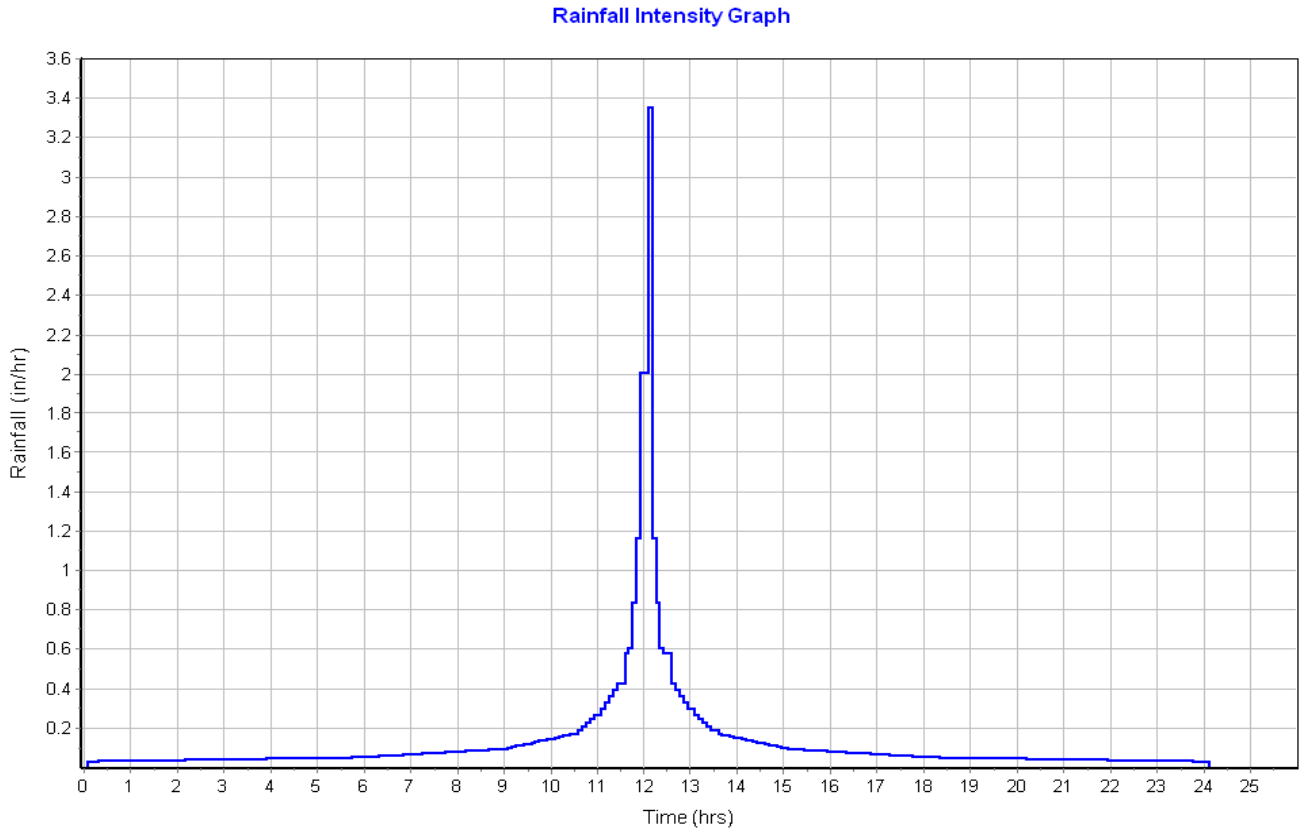
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	149.87	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	20.35	0.00	0.00

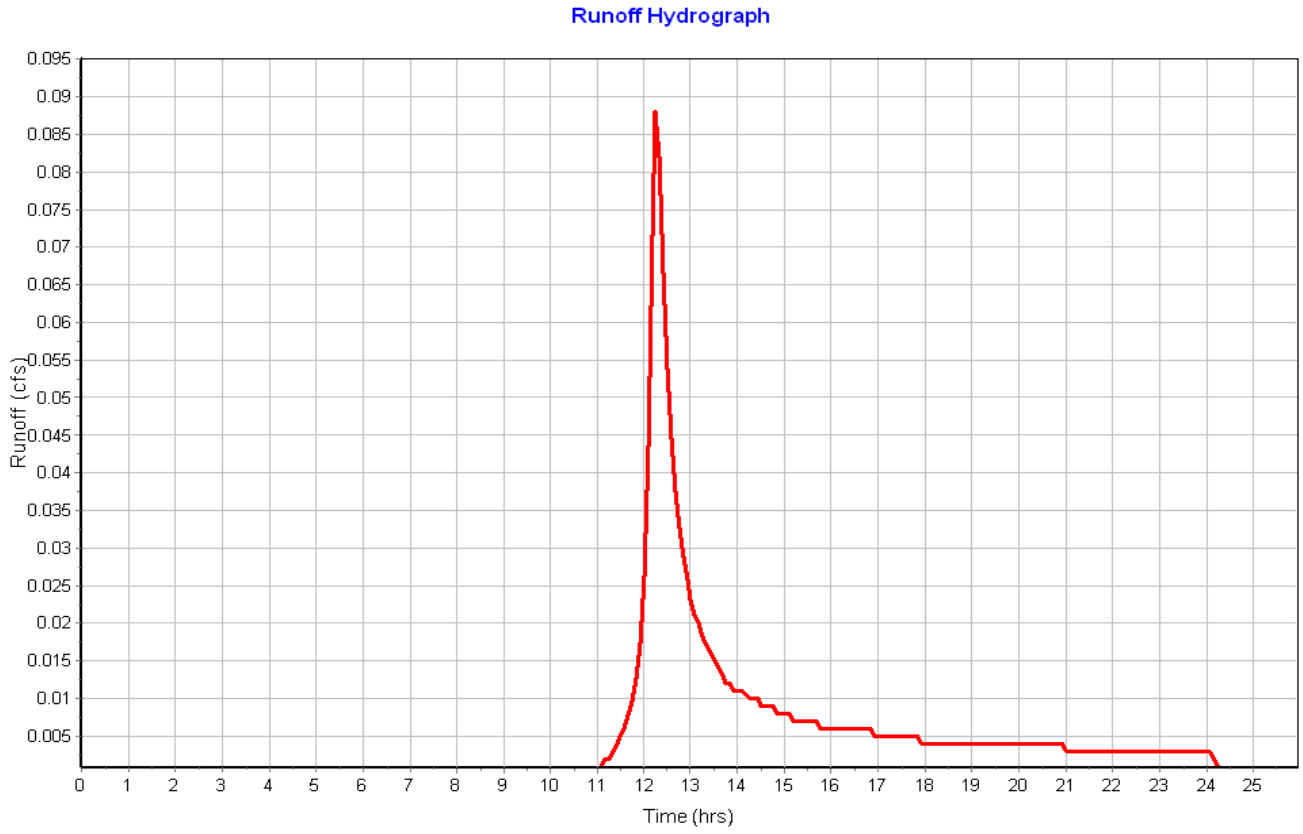
Total TOC (min) 20.35

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 1.04
Peak Runoff (cfs) 0.09
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:20:21

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.85	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

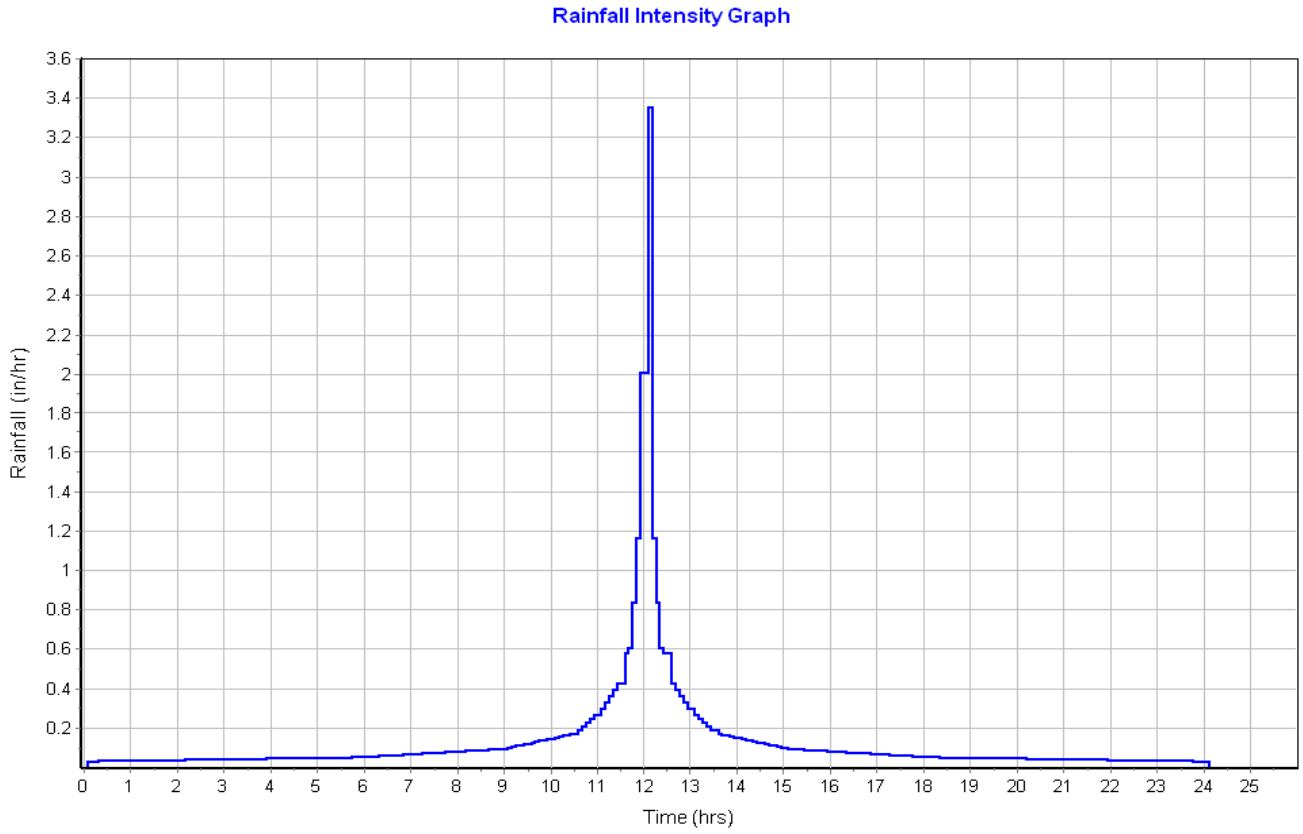
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.62	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

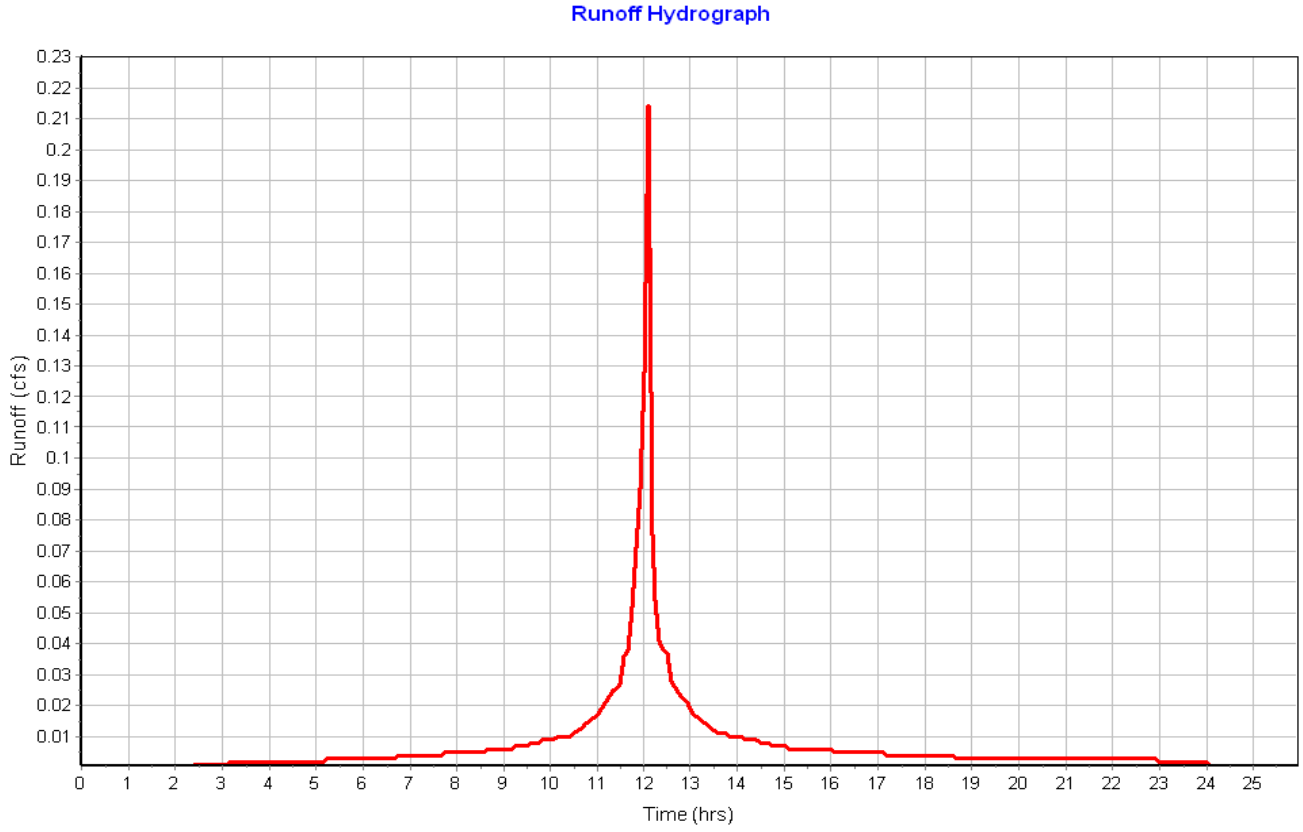
Total TOC (min) 1.64

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:38

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.01	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

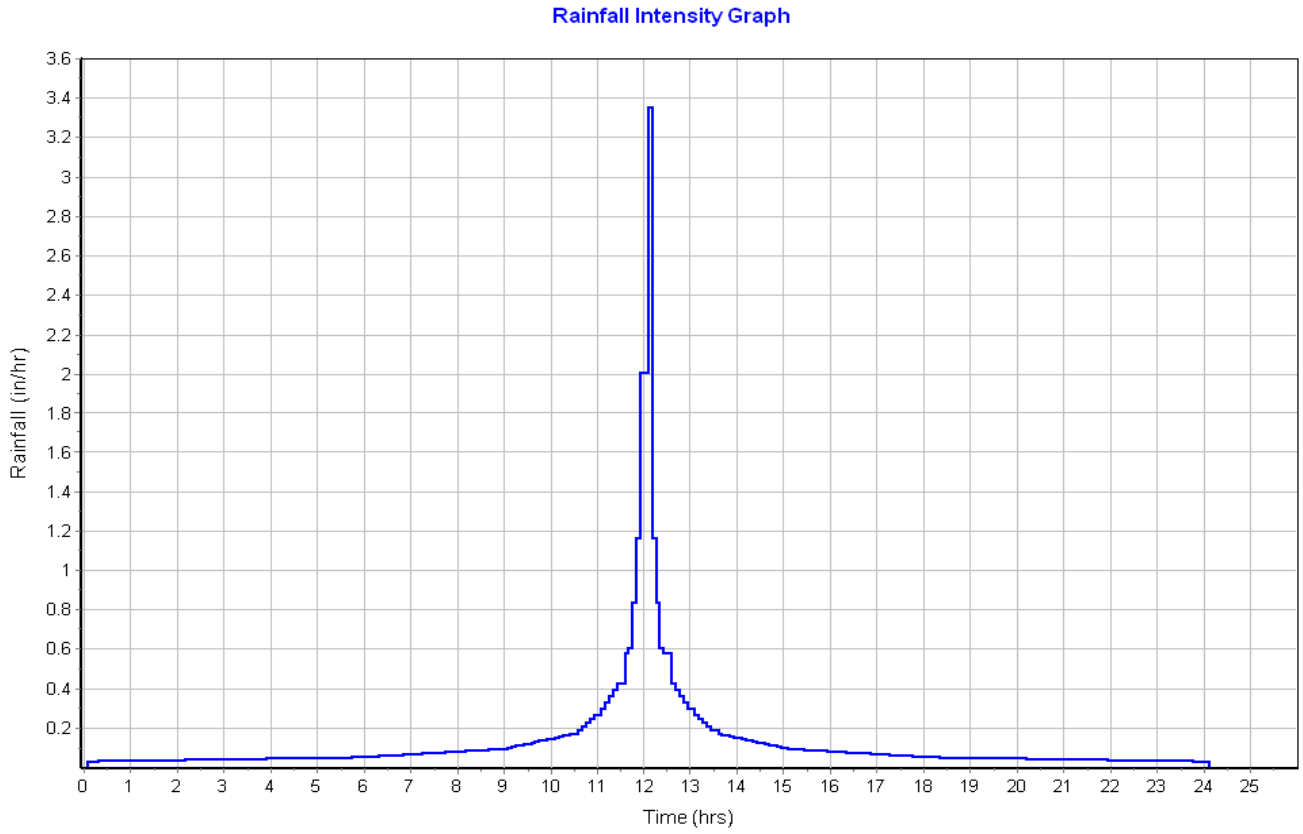
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	181.49	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.49	0.00	0.00

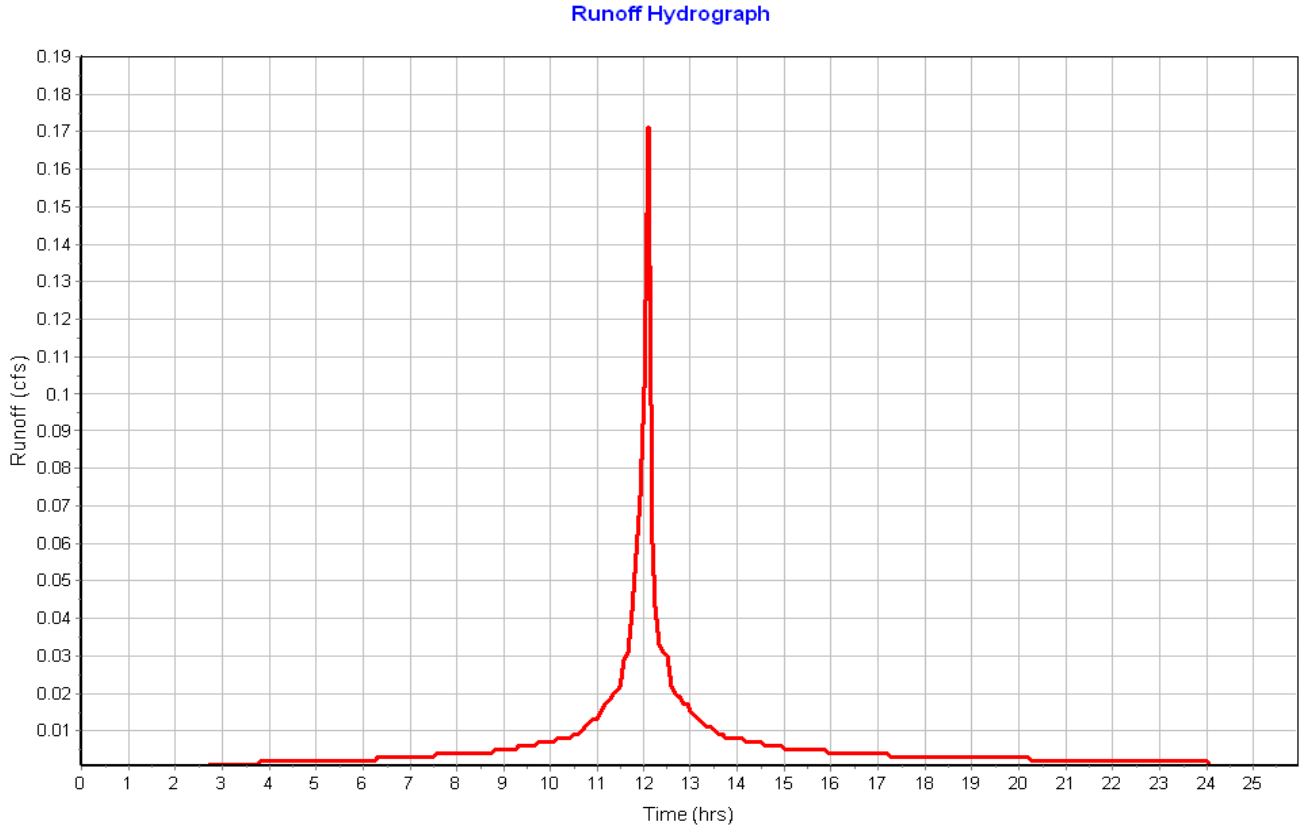
Total TOC (min) 1.62

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.96
Peak Runoff (cfs)	0.17
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:37

Subbasin : Sub-09





Subbasin : Sub-10a

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.36	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.76	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

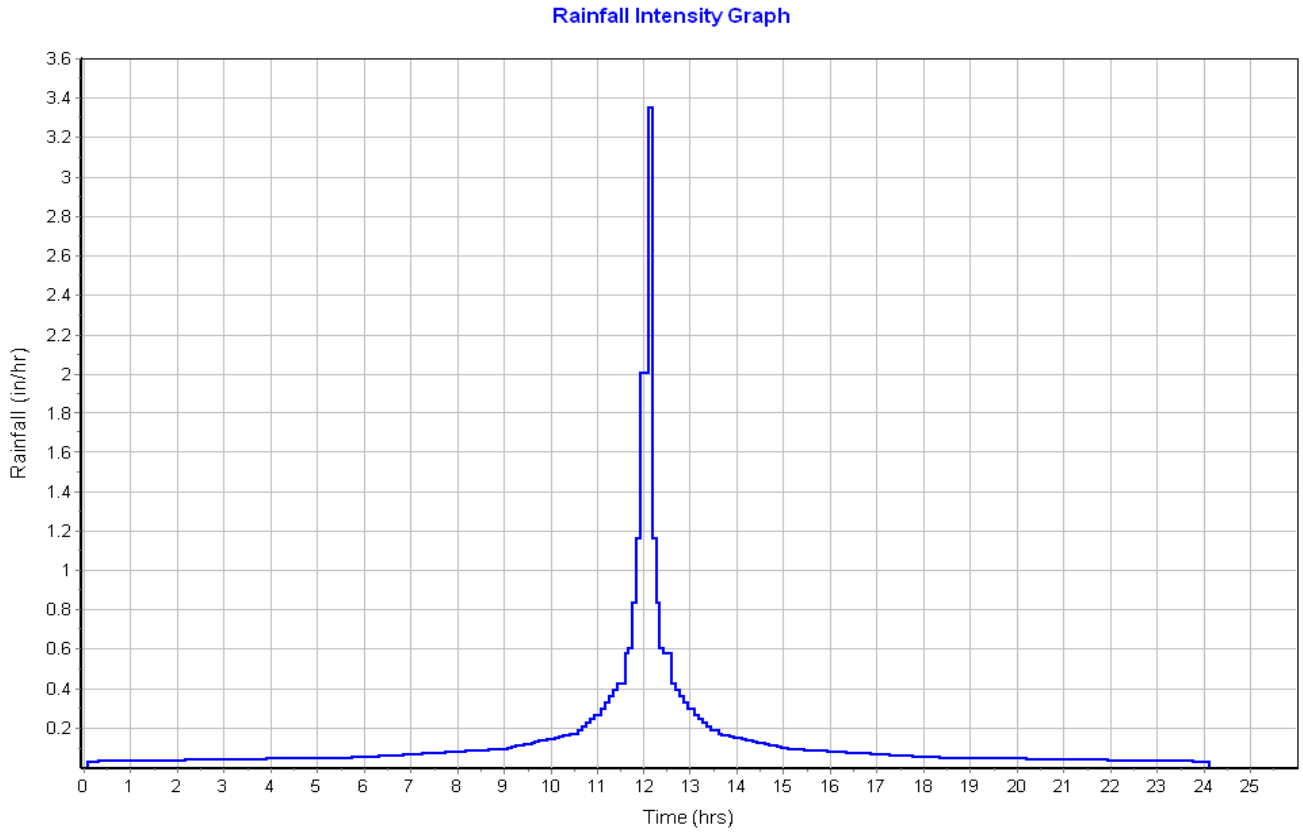
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	193.09	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.59	0.00	0.00

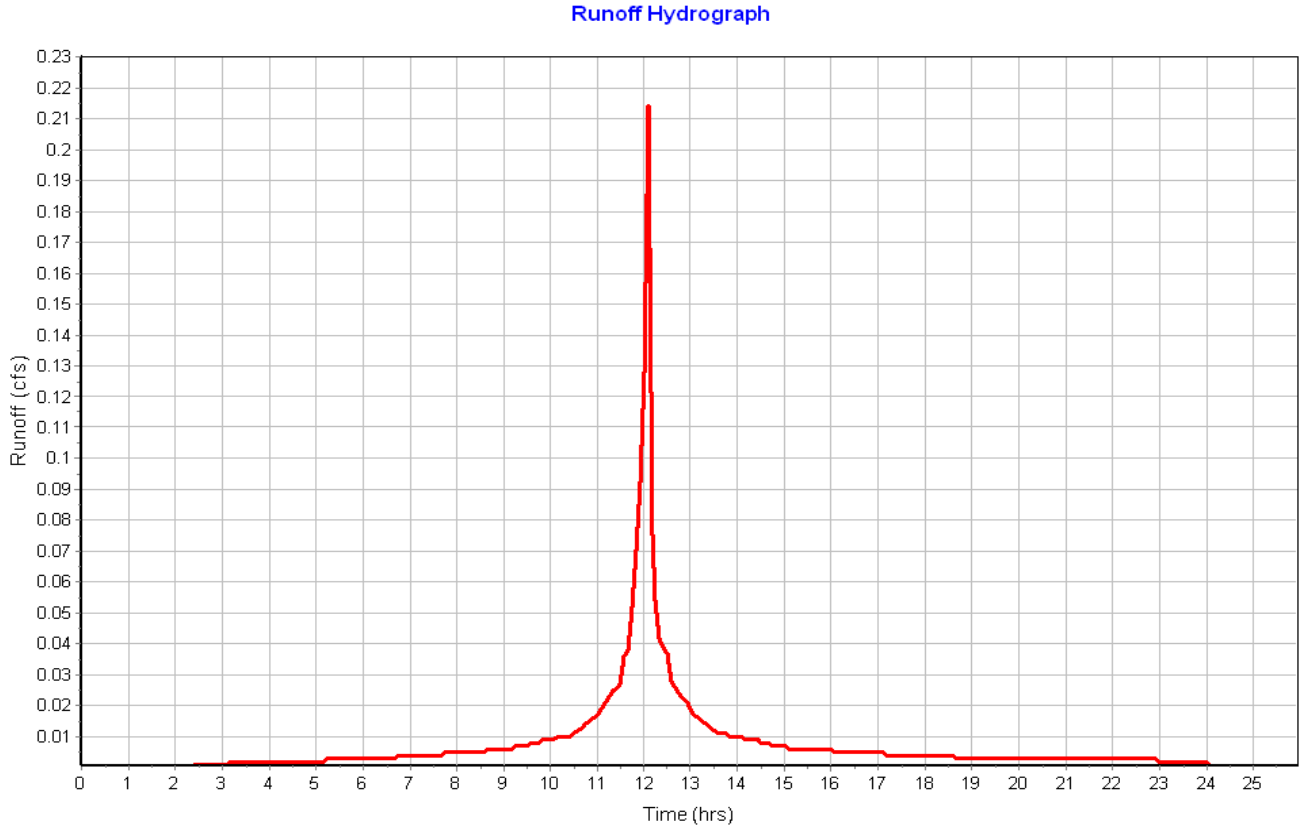
Total TOC (min) 1.72

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.21
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:43

Subbasin : Sub-10a





Subbasin : Sub-10b

Input Data

Area (ac) 0.04
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	18.28	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.64	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

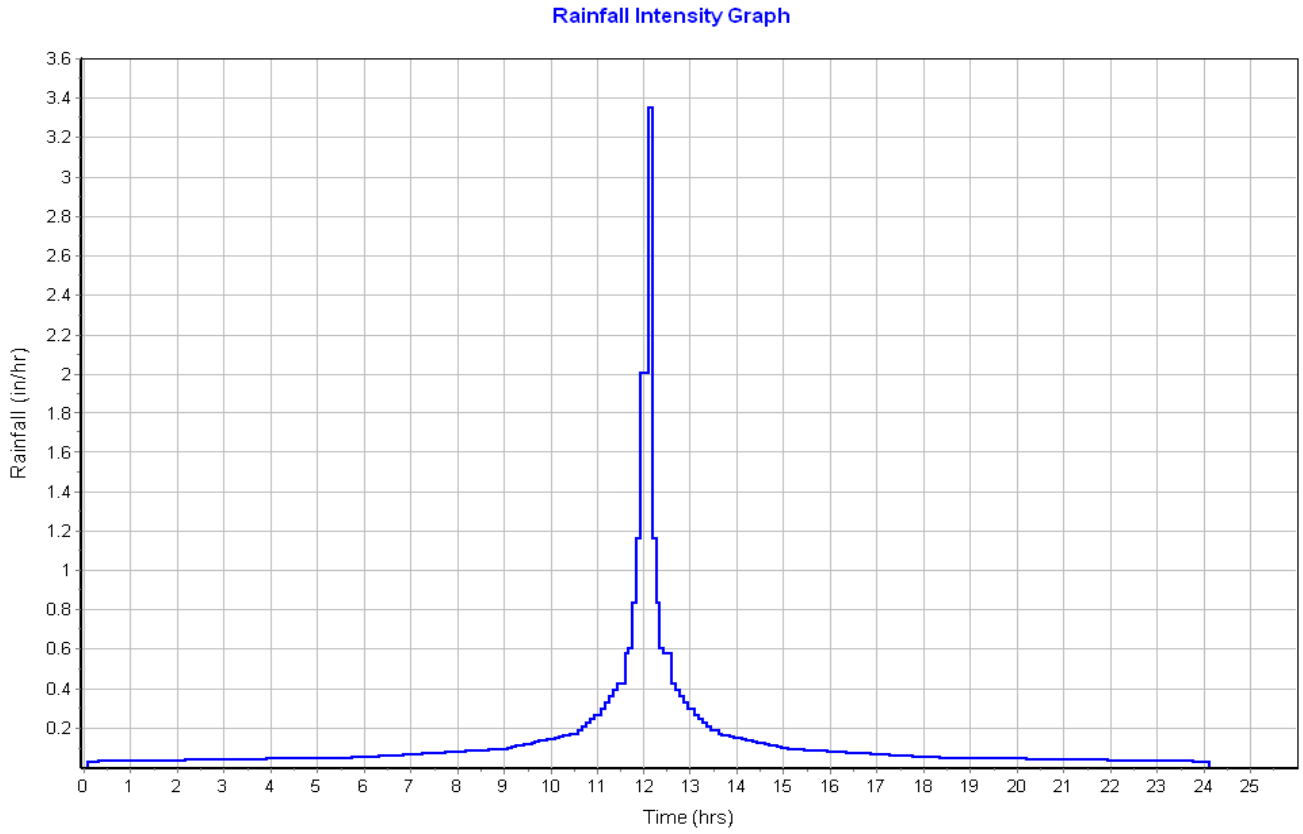
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	117.01	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	0.96	0.00	0.00

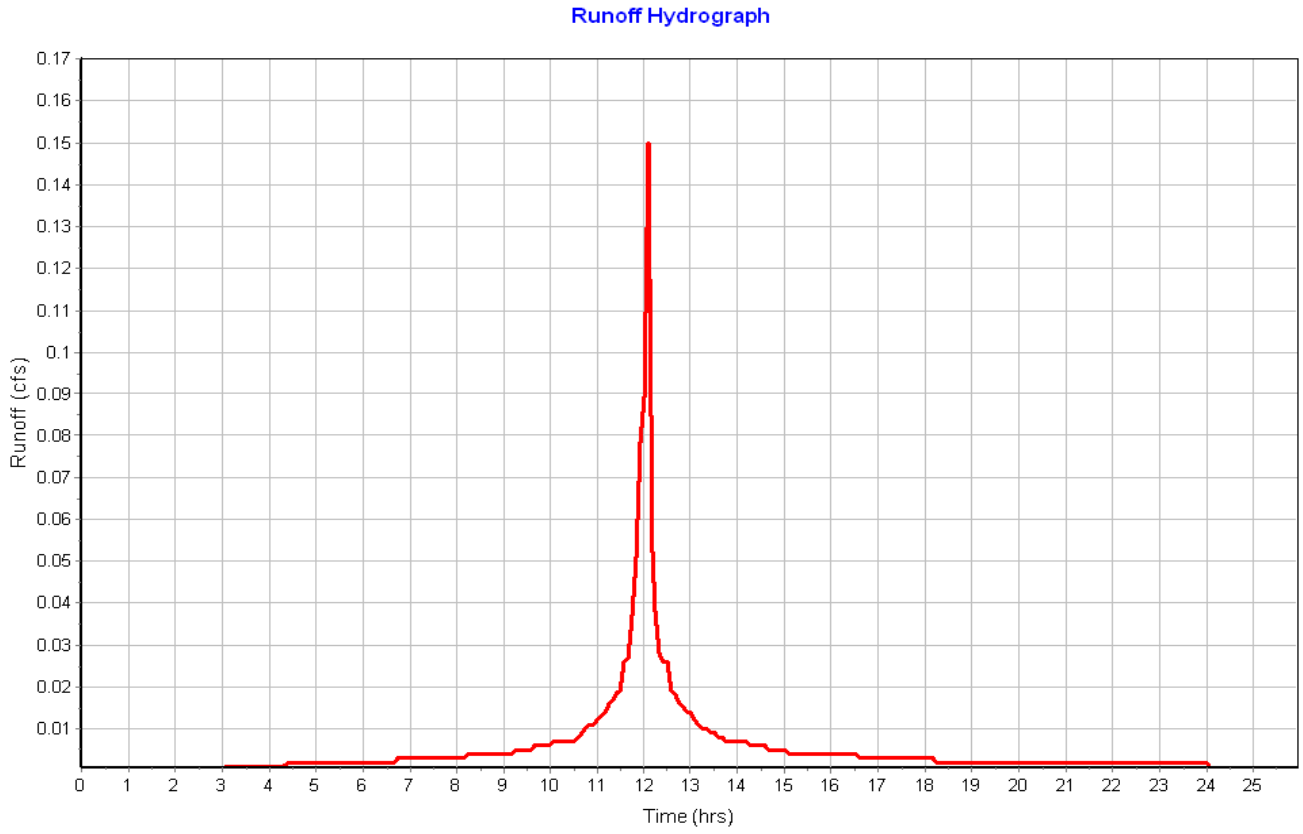
Total TOC (min) 1.15

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.96
Peak Runoff (cfs) 0.15
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:09

Subbasin : Sub-10b





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

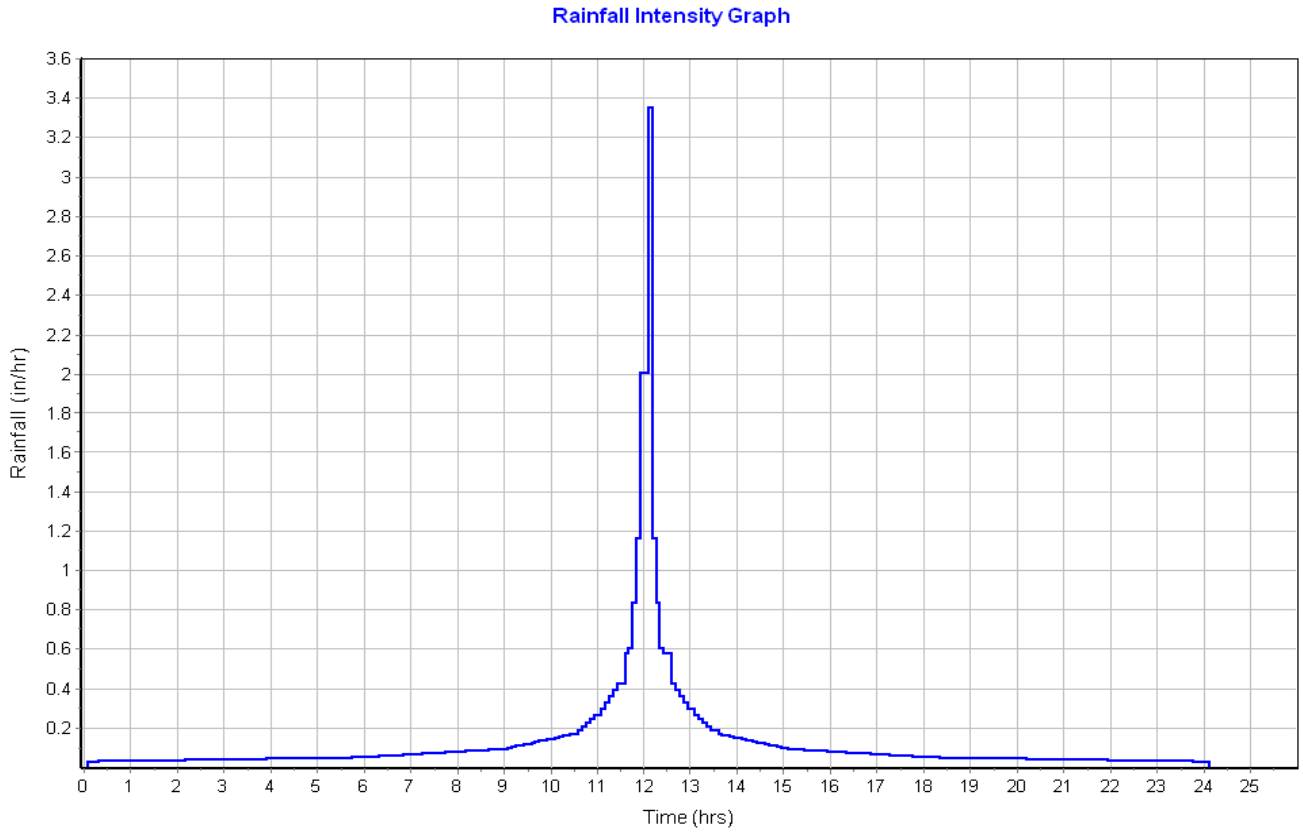
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.78	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.57	0.00	0.00

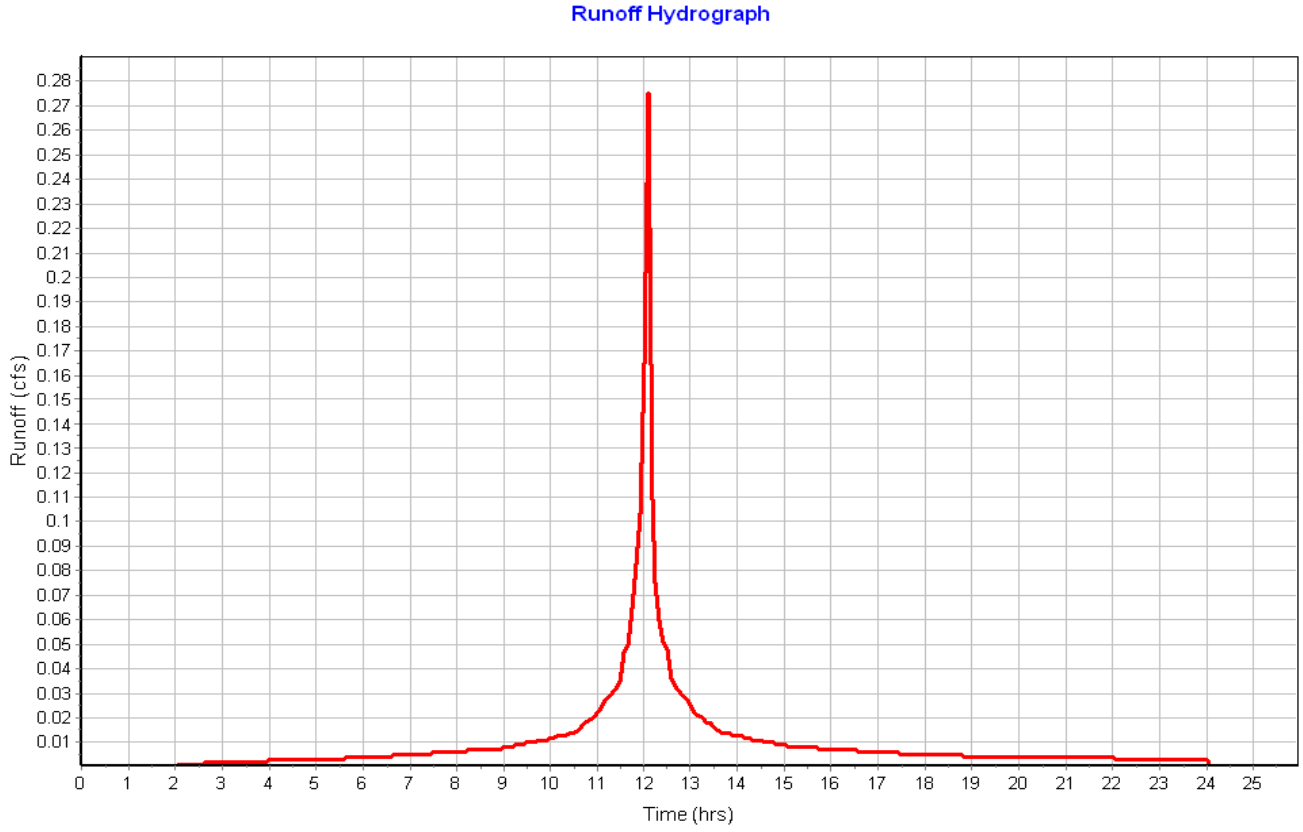
Total TOC (min) 2.70

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.28
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:42

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.77	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

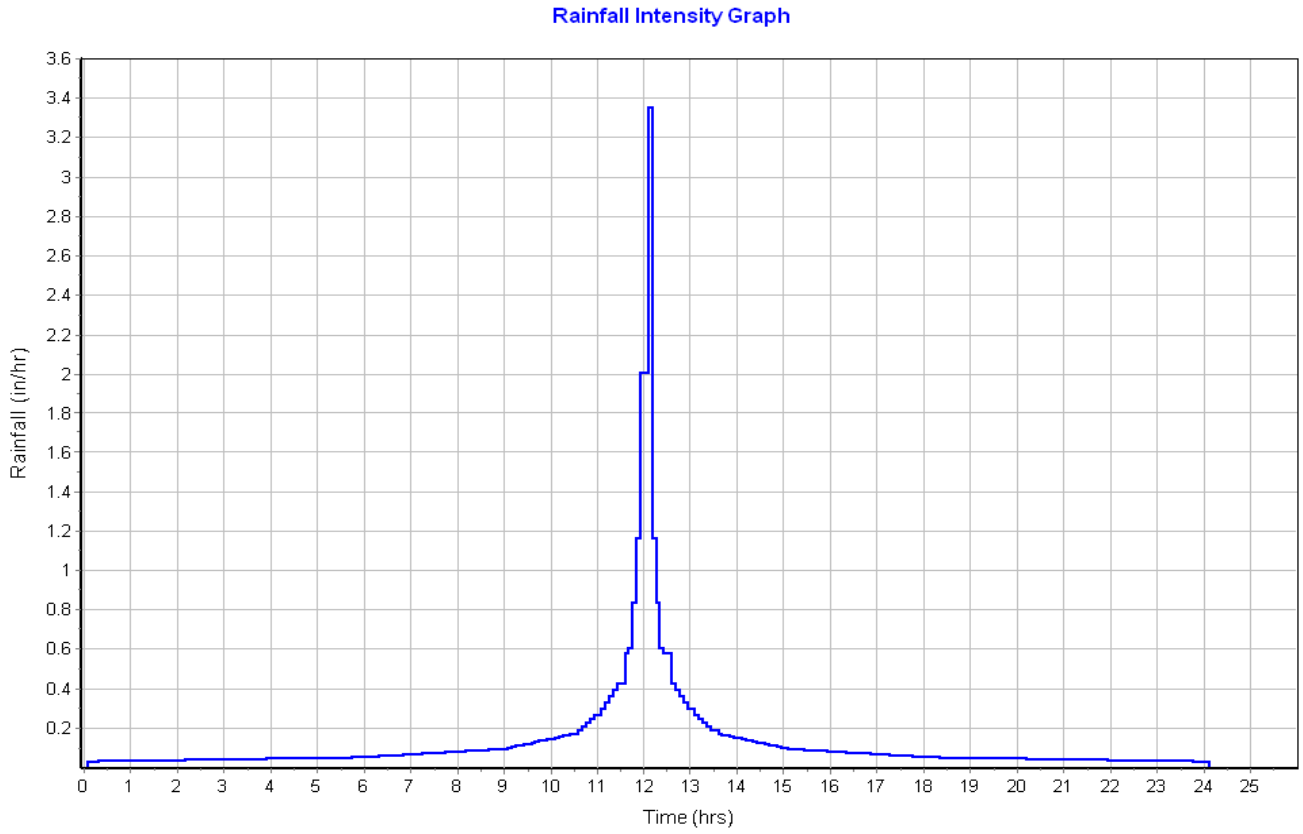
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.58	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

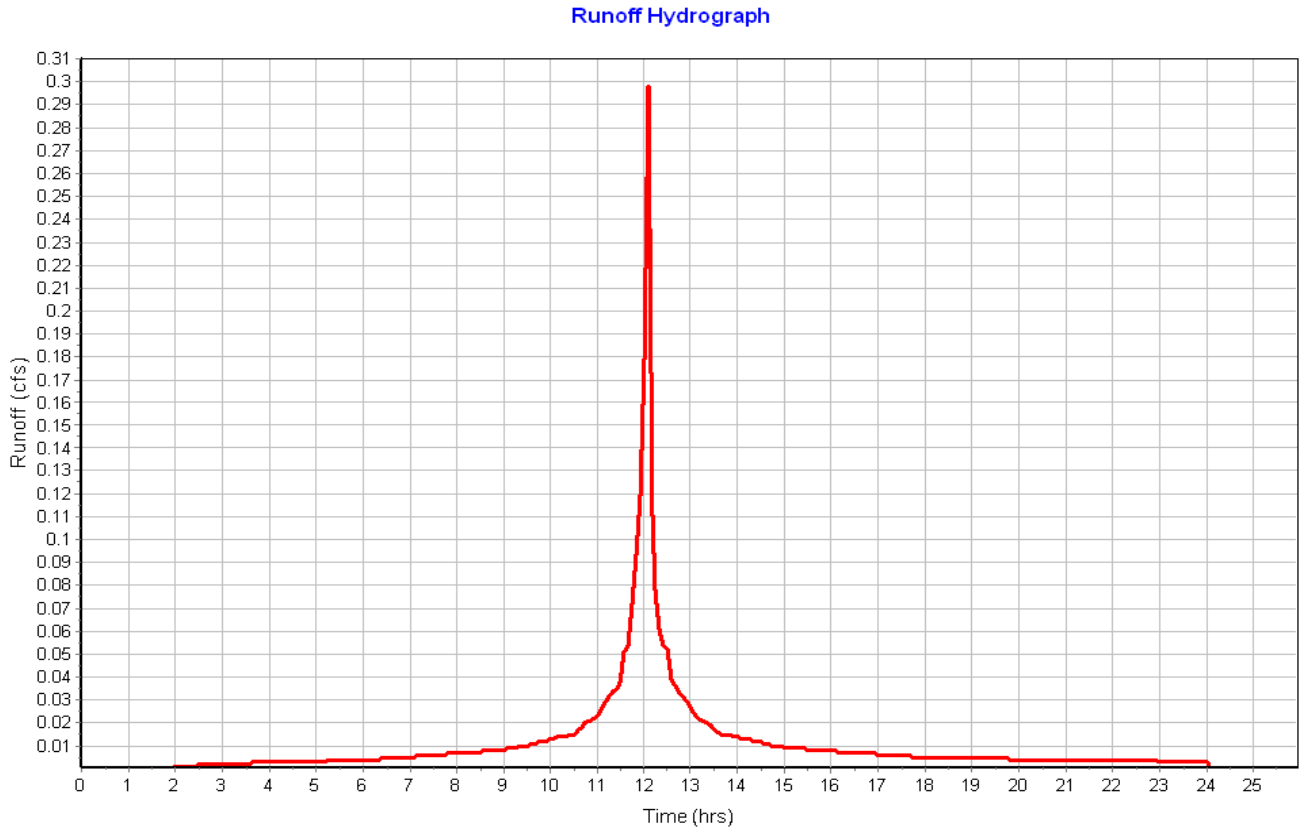
Total TOC (min) 2.31

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.30
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:19

Subbasin : Sub-12





Subbasin : Sub-13

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	11.16	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

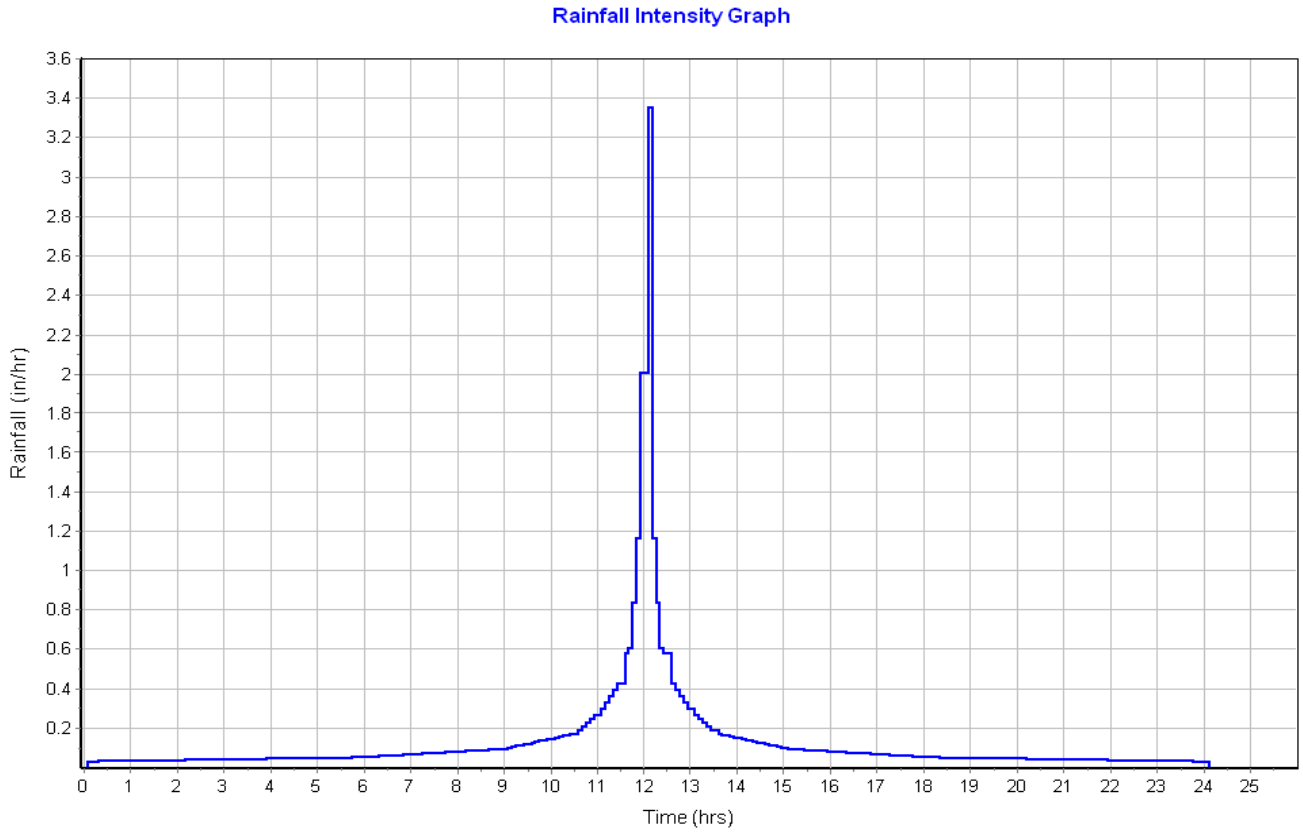
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.75	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.17	0.00	0.00

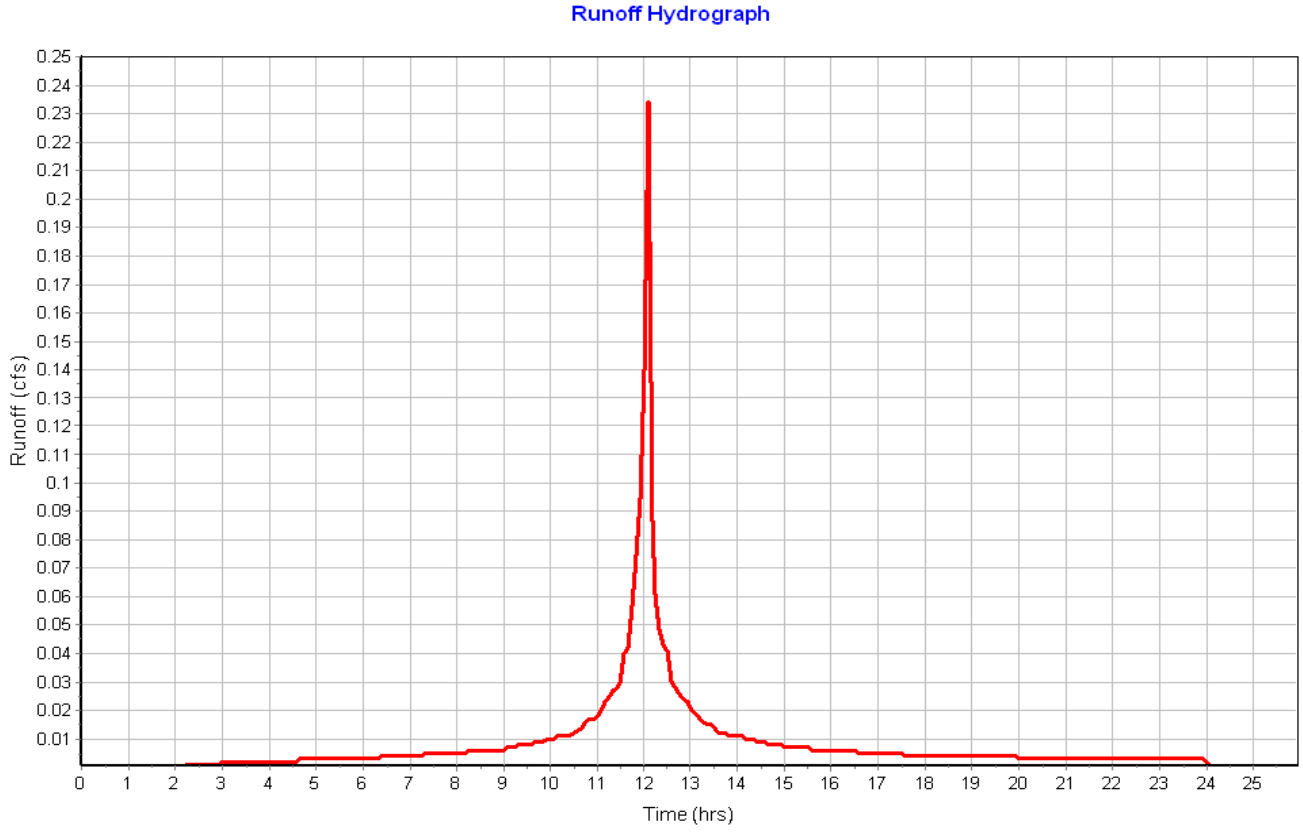
Total TOC (min) 2.28

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.23
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:17

Subbasin : Sub-13





Subbasin : Sub-14a

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.73	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

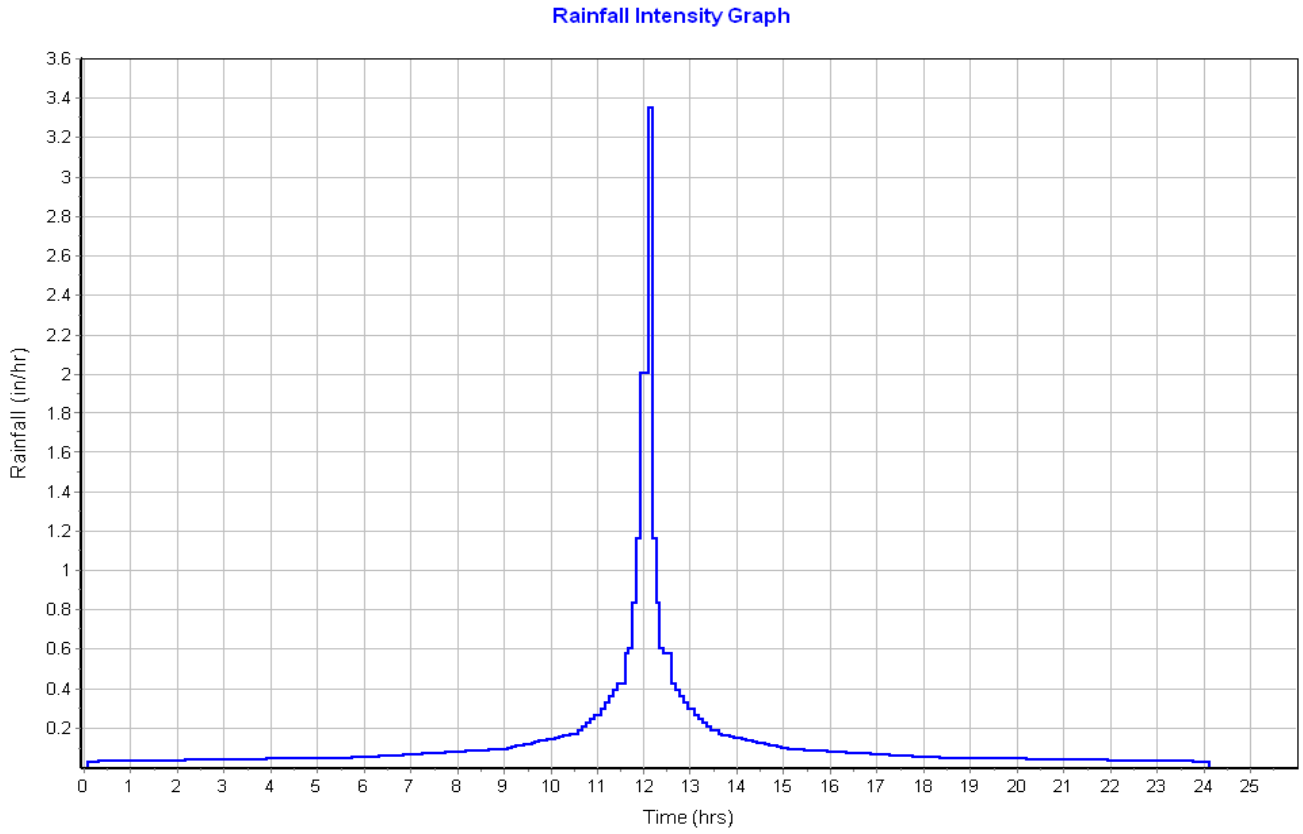
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	160.67	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.22	0.00	0.00

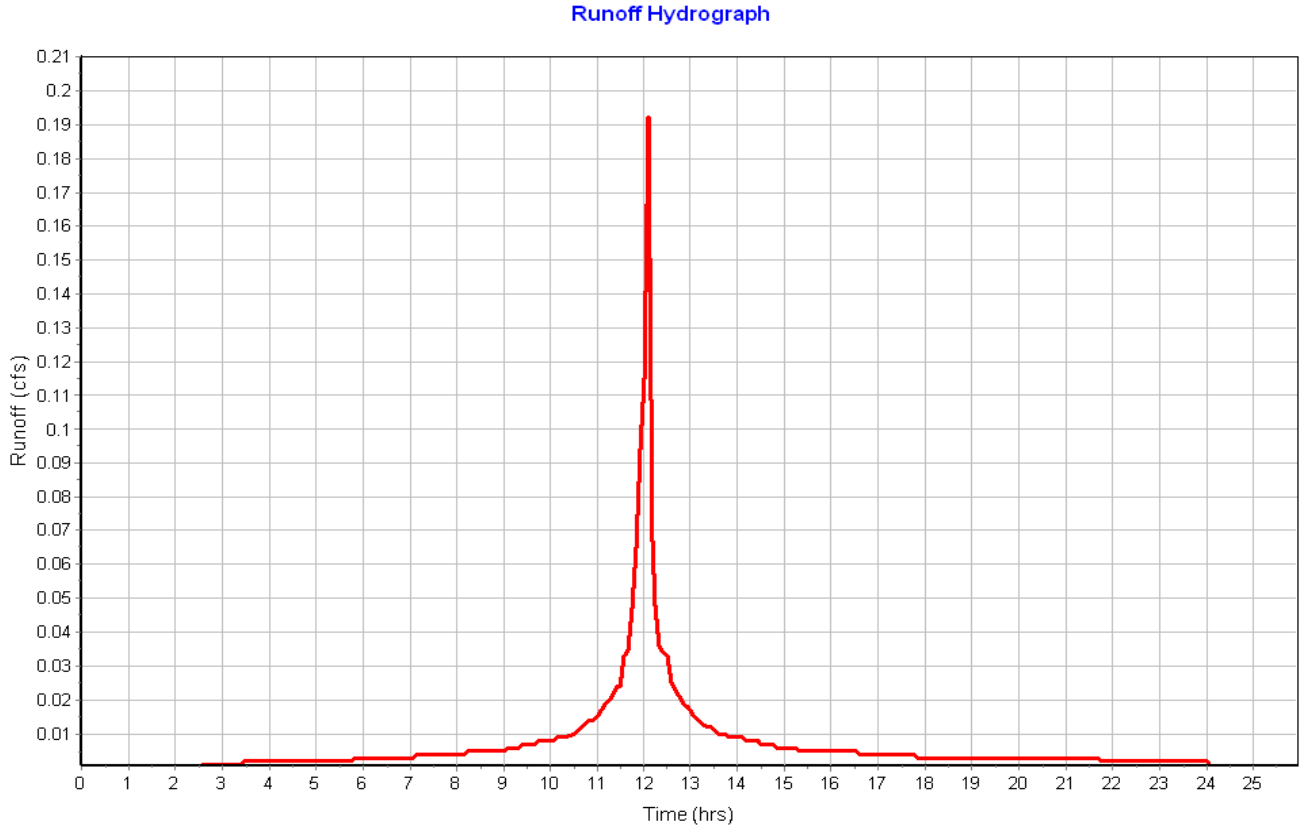
Total TOC (min) 1.37

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-14a





Subbasin : Sub-14b

Input Data

Area (ac) 0.04
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.60	0.00	0.00
Computed Flow Time (min) :	0.17	0.00	0.00

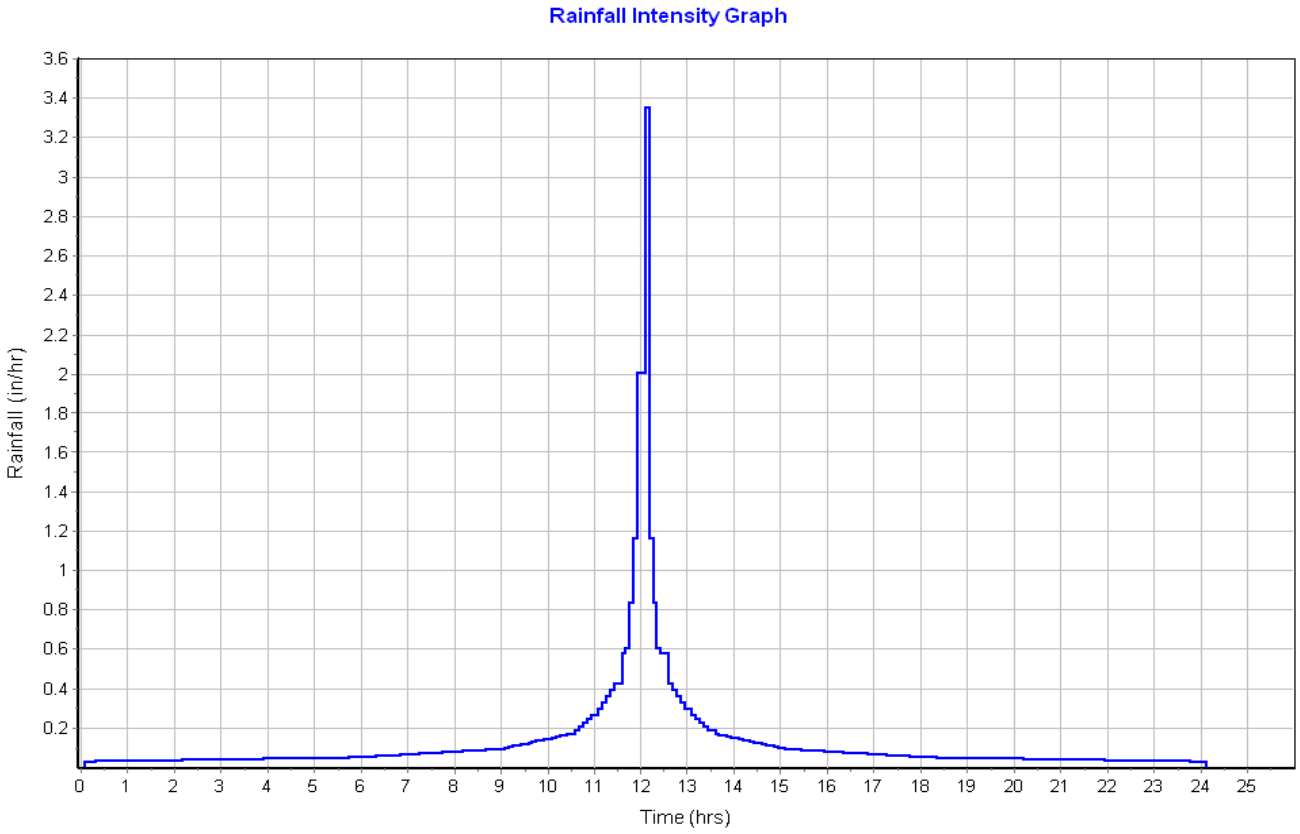
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	106.79	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	0.84	0.00	0.00

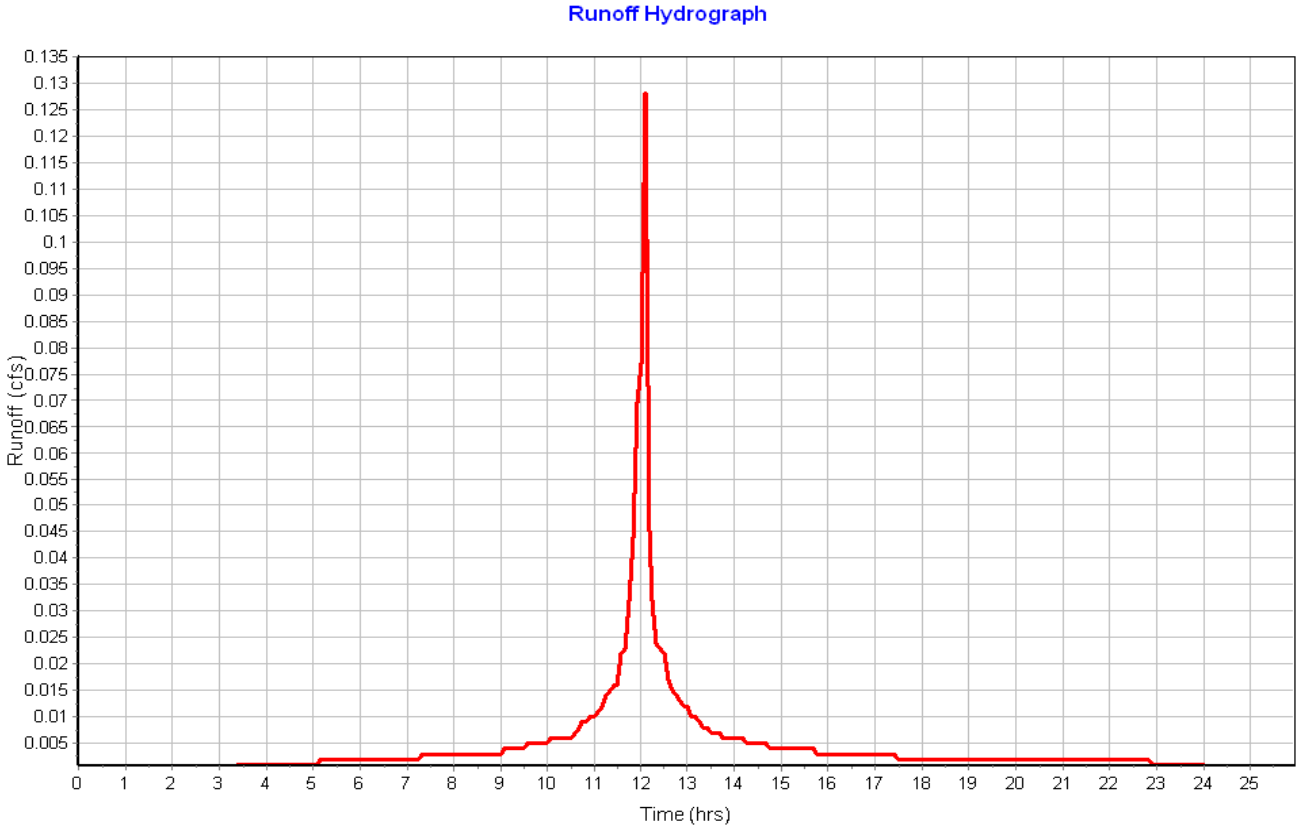
Total TOC (min) 1.00

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.95
Peak Runoff (cfs) 0.13
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:00

Subbasin : Sub-14b





Subbasin : Sub-15

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

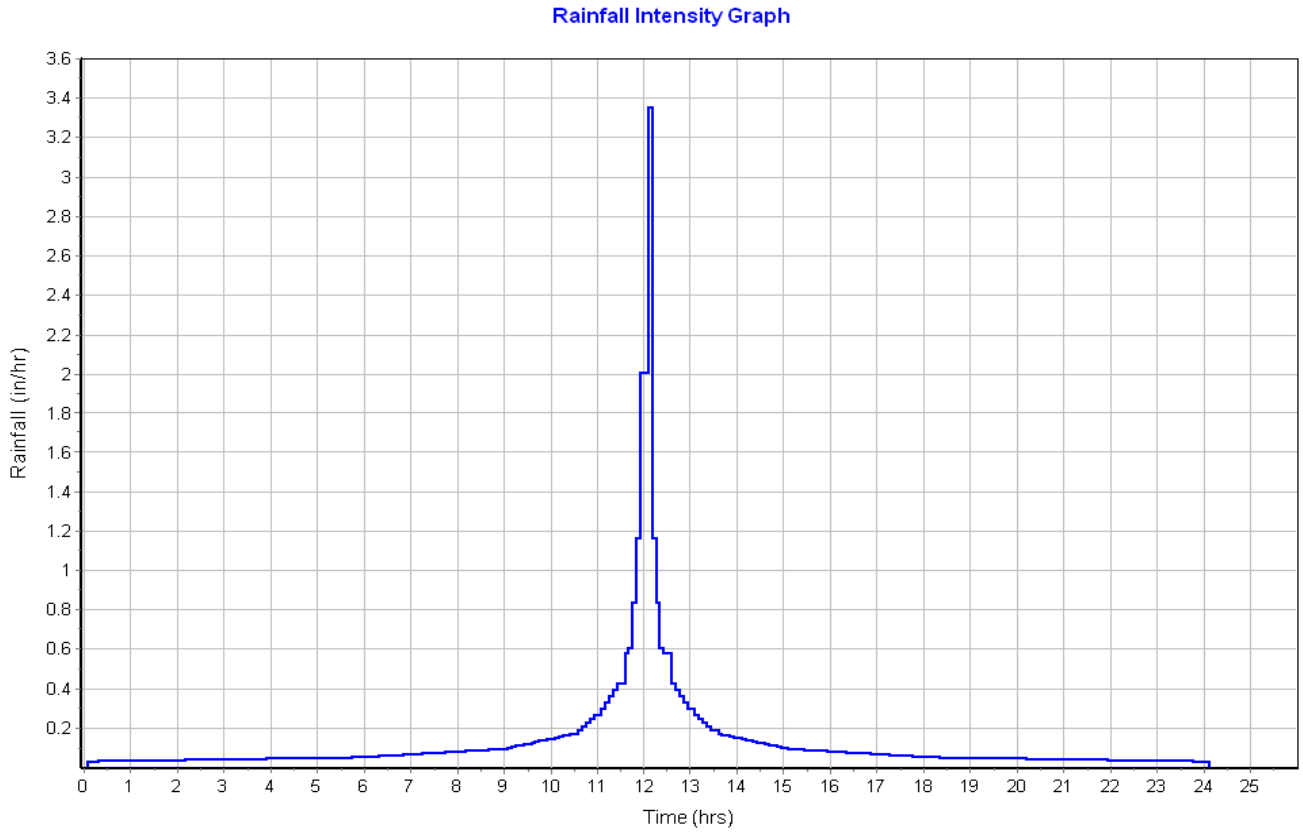
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	265.51	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.01	0.00	0.00

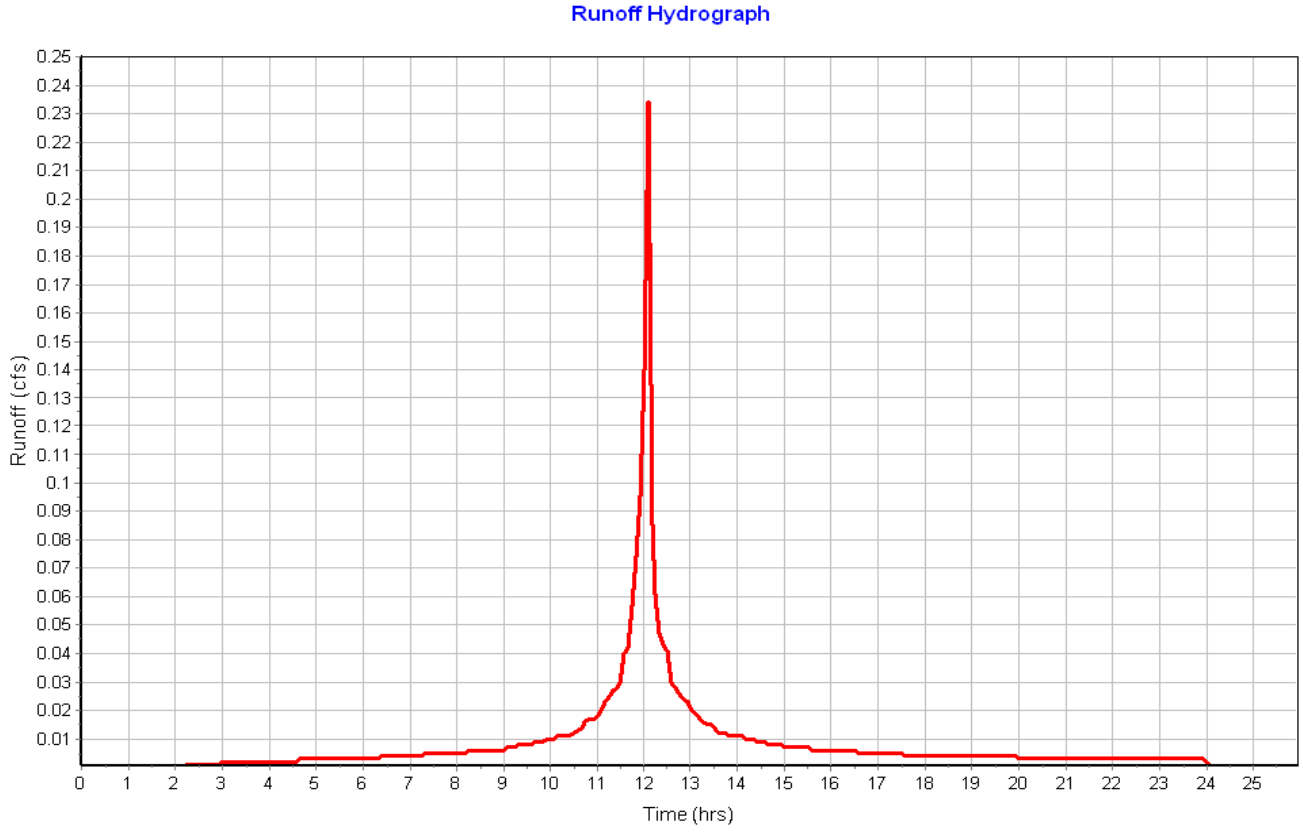
Total TOC (min) 2.14

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.24
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:08

Subbasin : Sub-15





Subbasin : Sub-16

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	22.46	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.92	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

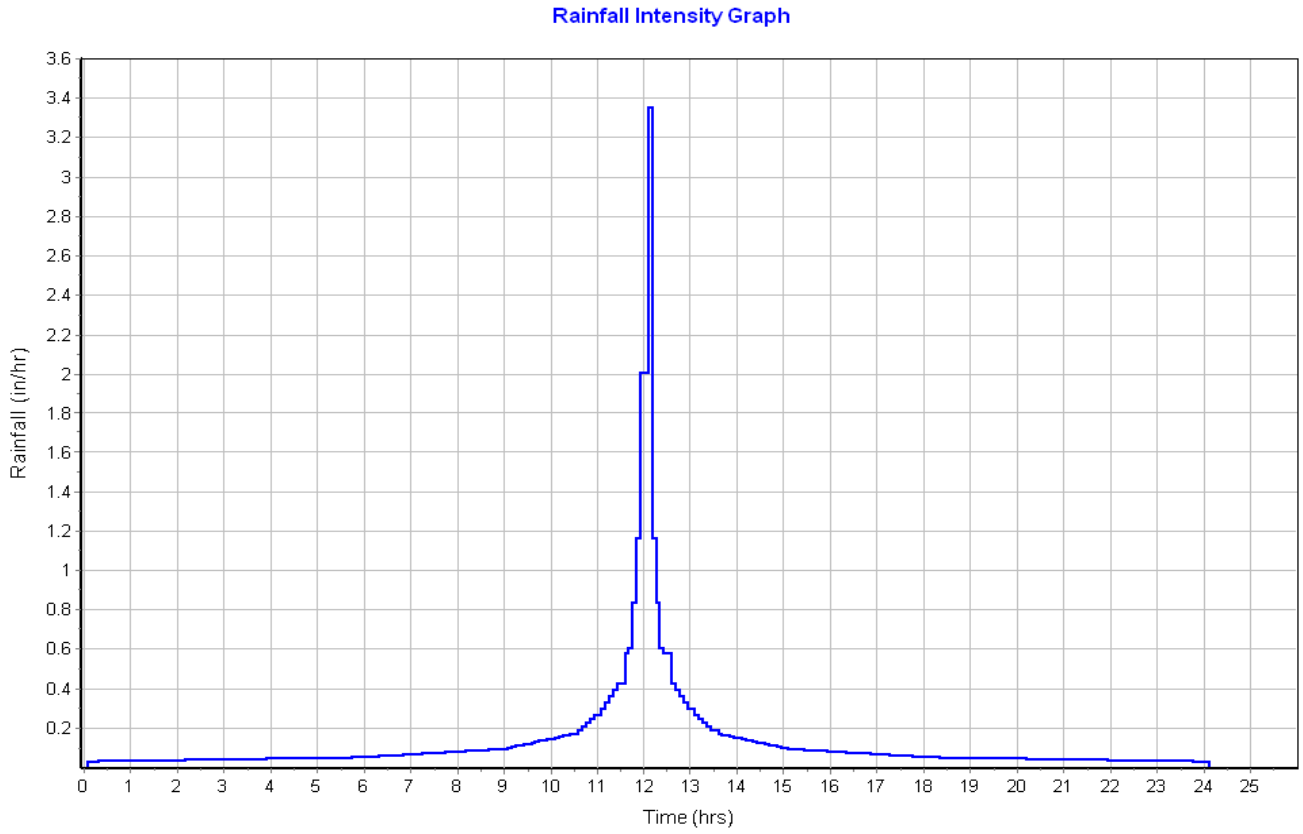
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.75	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.94	0.00	0.00

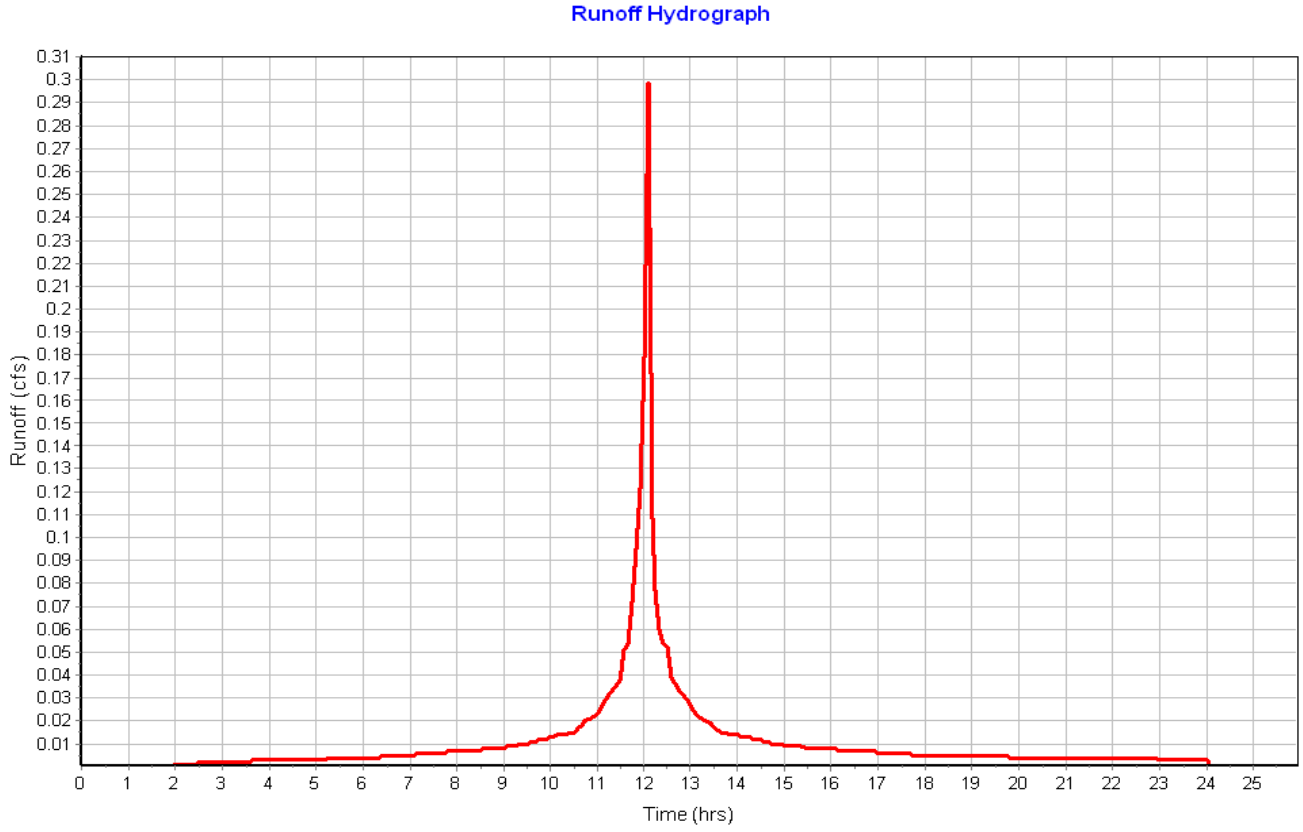
Total TOC (min) 2.13

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.97
Peak Runoff (cfs) 0.30
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:08

Subbasin : Sub-16





Subbasin : Sub-17

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

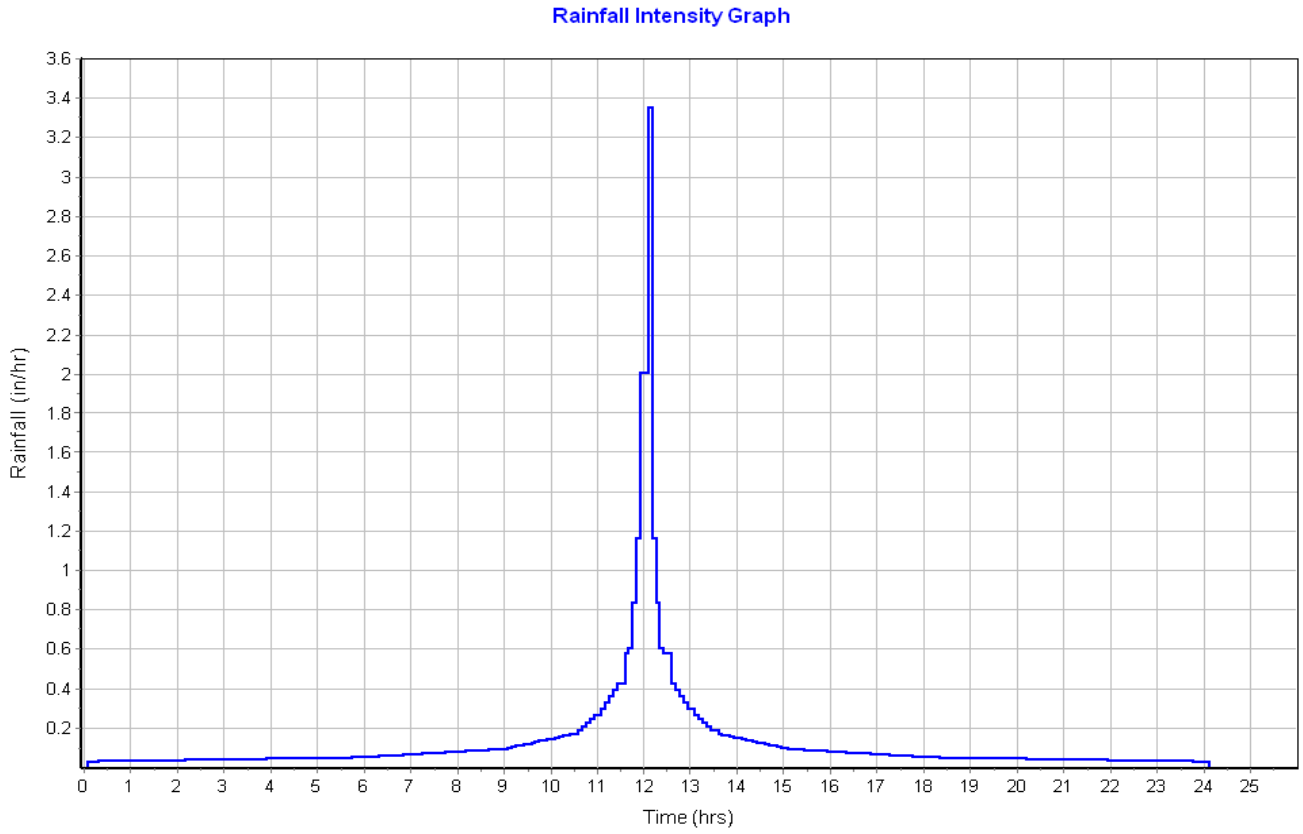
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	267.21	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.02	0.00	0.00

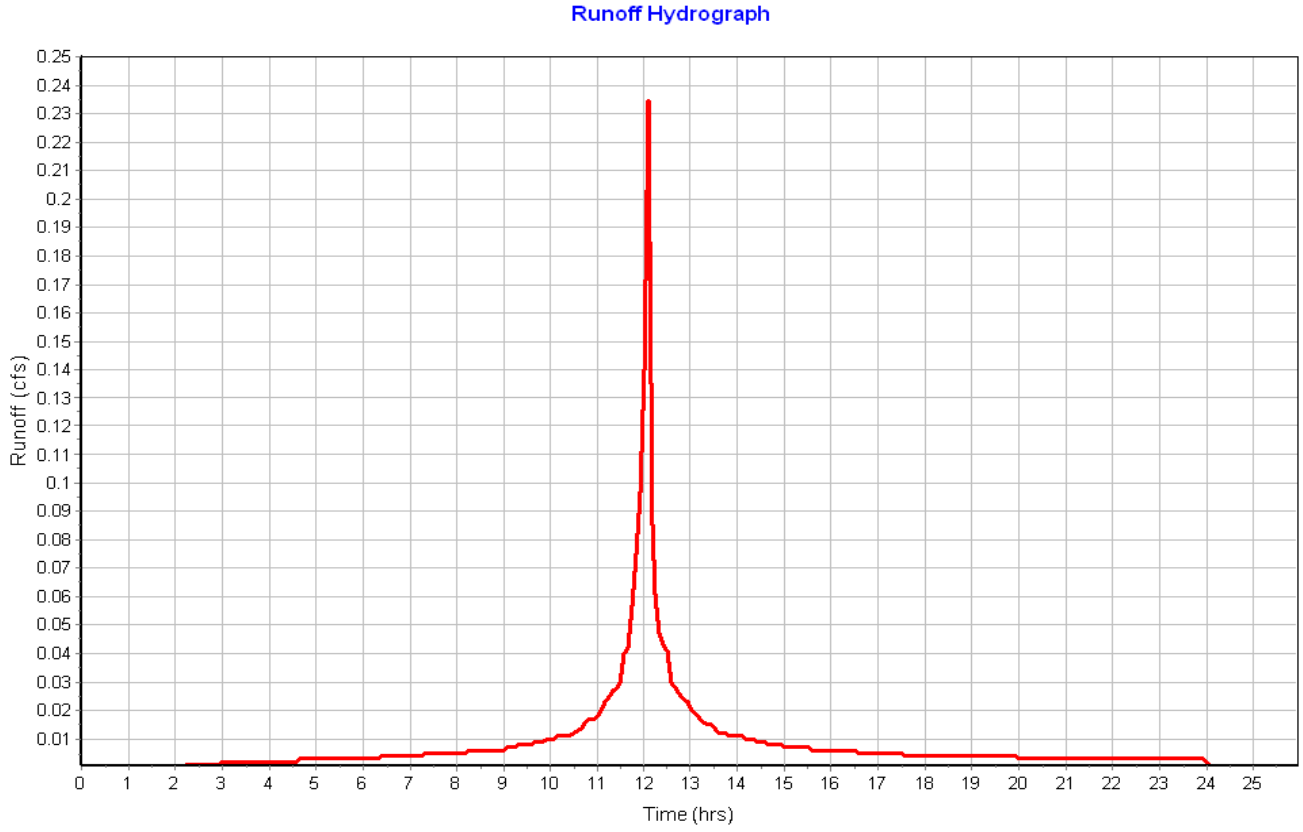
Total TOC (min) 2.15

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.24
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:09

Subbasin : Sub-17





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	6.00	116.00	4.00	116.00	3.50	0.00	0.0000	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-02	12.00	116.00	3.50	114.00	2.00	2.00	16.6700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-03	24.02	117.15	4.00	117.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-05	23.50	116.15	4.00	116.00	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
5	Link-06	23.47	115.65	4.00	115.50	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-07	16.00	117.00	4.00	116.90	0.90	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-08	16.00	117.00	4.00	116.90	0.90	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-09	88.06	114.05	4.15	113.25	0.25	0.80	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
9	Link-10	11.34	115.75	4.25	113.00	-1.00	2.75	24.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
10	Link-11	11.51	114.65	3.15	114.25	0.25	0.40	3.4800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-12	16.00	115.50	4.00	115.00	1.00	0.50	3.1300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
12	Link-13	16.60	111.65	4.00	111.00	1.00	0.65	3.9200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
13	Link-14	28.55	113.15	4.50	113.00	0.00	0.15	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
14	Link-15	11.48	111.15	4.15	111.00	1.00	0.15	1.3100	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.65	0 12:10	0.30	2.16	2.22	0.05	0.40	0.40	0.00		> CAPACITY
2	Link-02	0.64	0 12:10	9.45	0.07	6.48	0.03	0.18	0.18	0.00		Calculated
3	Link-03	0.17	0 12:10	1.83	0.09	1.32	0.30	0.22	0.22	0.00		Calculated
4	Link-05	0.15	0 12:10	1.85	0.08	0.54	0.73	0.39	0.39	0.00		Calculated
5	Link-06	0.23	0 12:10	1.85	0.13	1.67	0.23	0.23	0.23	0.00		Calculated
6	Link-07	0.19	0 12:10	1.83	0.10	1.65	0.16	0.20	0.20	0.00		Calculated
7	Link-08	0.19	0 12:10	1.83	0.10	1.65	0.16	0.20	0.20	0.00		Calculated
8	Link-09	0.40	0 12:11	2.21	0.18	2.22	0.66	0.27	0.28	0.00		Calculated
9	Link-10	0.05	0 12:26	9.10	0.01	3.07	0.06	0.05	0.05	0.00		Calculated
10	Link-11	0.31	0 12:11	4.32	0.07	3.04	0.06	0.18	0.19	0.00		Calculated
11	Link-12	0.36	0 12:10	4.09	0.09	3.07	0.09	0.20	0.21	0.00		Calculated
12	Link-13	0.75	0 12:12	4.58	0.16	4.06	0.07	0.26	0.29	0.00		Calculated
13	Link-14	0.23	0 12:10	0.26	0.87	1.20	0.40	0.50	1.00	1.00		SURCHARGED
14	Link-15	0.20	0 12:12	0.42	0.48	2.11	0.09	0.19	0.49	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 116.00
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 3.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -116.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

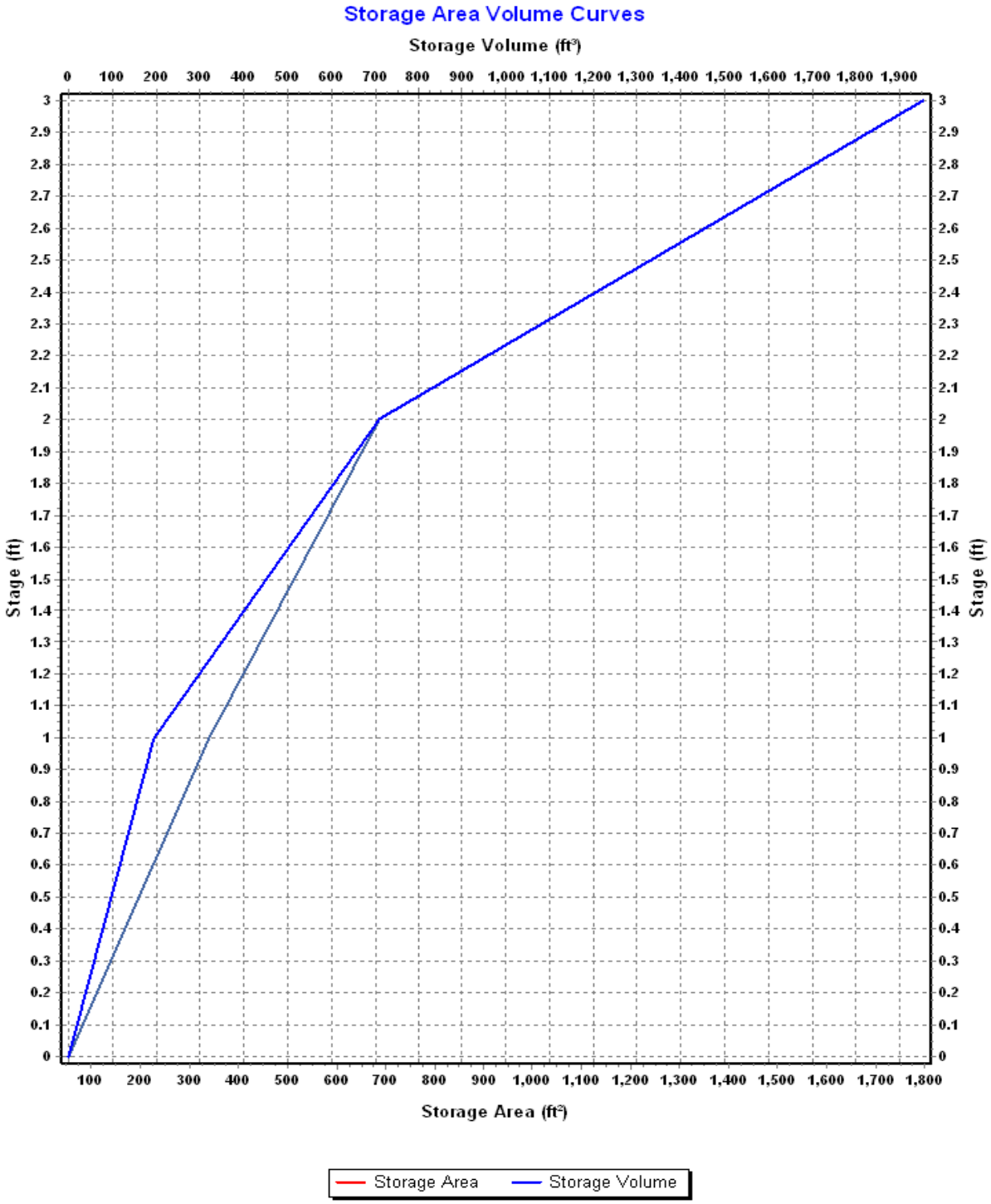
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	54	0.000
1	339	196.50
2	689	710.50
3	1796	1953.00


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3
Storage Area (ft²)
100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-02	Trapezoidal	No	119.00	3.00	20.00	0.25	3.33
2	Weir-03	Trapezoidal	No	116.90	0.90	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.42
Peak Lateral Inflow (cfs)	0.04
Peak Outflow (cfs)	0.41
Peak Exfiltration Flow Rate (cfm)	0.12
Max HGL Elevation Attained (ft)	116.96
Max HGL Depth Attained (ft)	0.96
Average HGL Elevation Attained (ft)	116.78
Average HGL Depth Attained (ft)	0.78
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.115
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

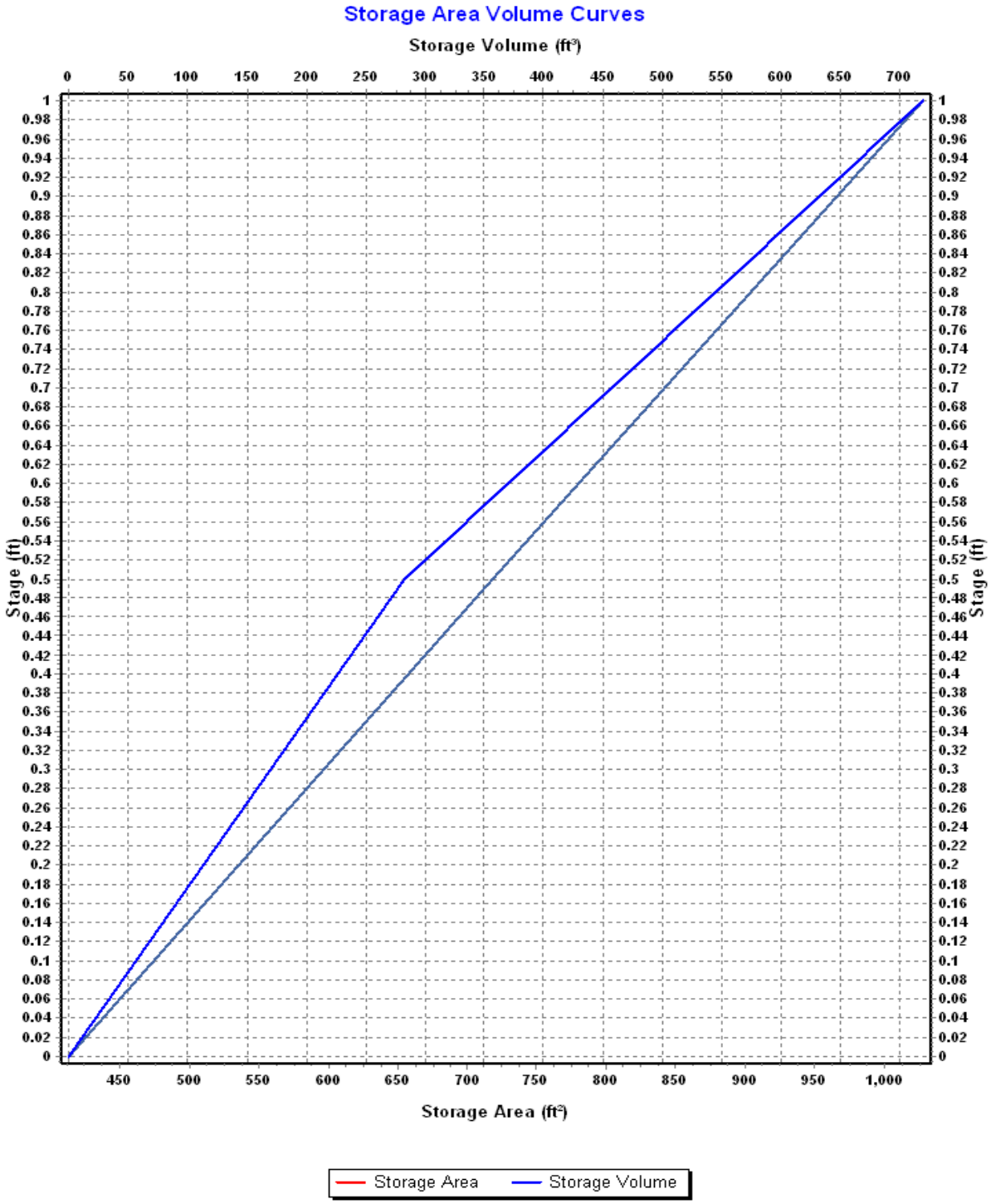
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	413	0.000
.5	718	282.75
1	1028	719.25


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
450 500 550 600 650 700 750 800 850 900 950 1,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-05	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.25
Peak Lateral Inflow (cfs)	0.04
Peak Outflow (cfs)	0.12
Peak Exfiltration Flow Rate (cfm)	0.28
Max HGL Elevation Attained (ft)	118.53
Max HGL Depth Attained (ft)	0.53
Average HGL Elevation Attained (ft)	118.35
Average HGL Depth Attained (ft)	0.35
Time of Max HGL Occurrence (days hh:mm)	0 12:14
Total Exfiltration Volume (1000-ft³)	0.266
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02-Forebay

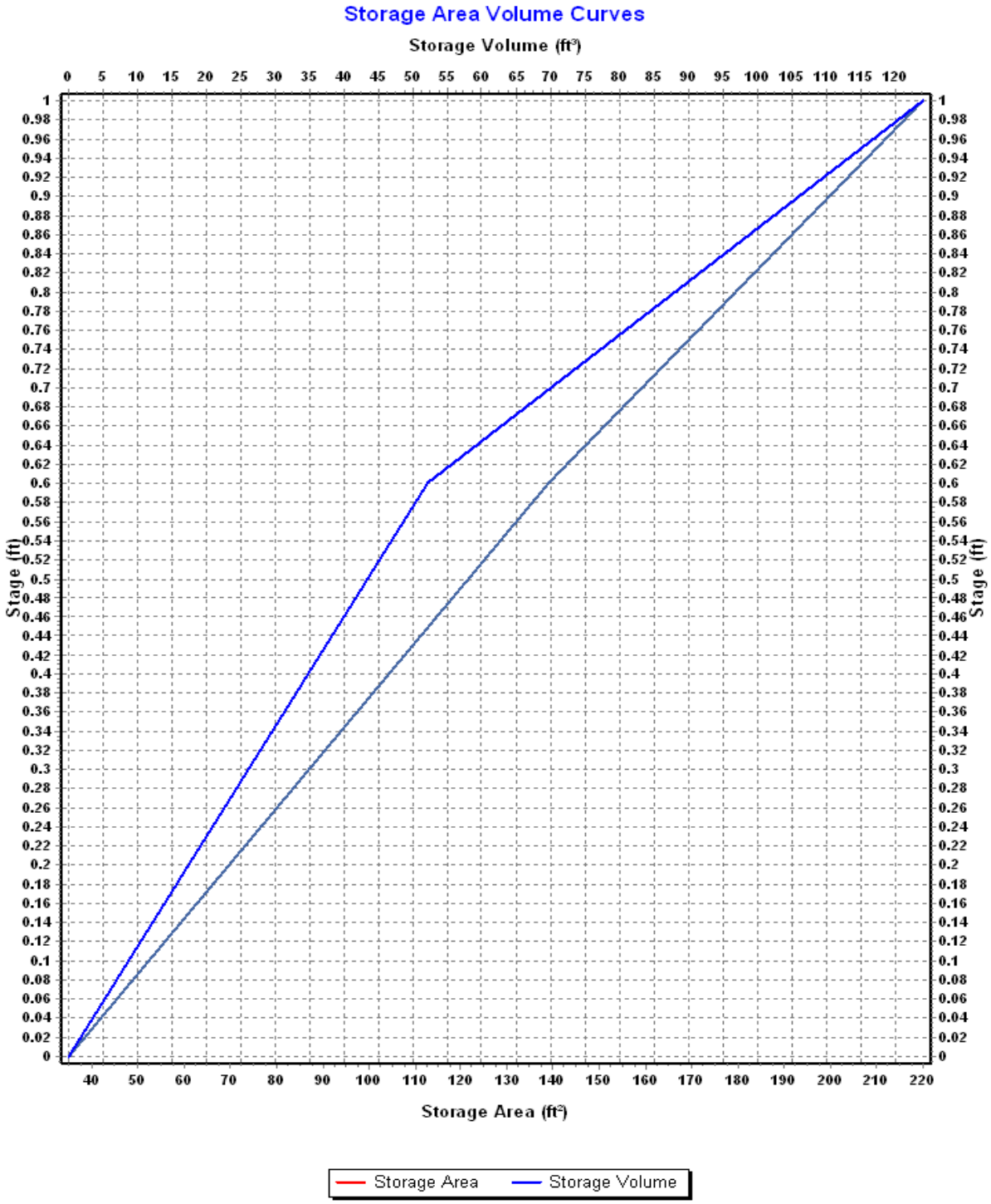
Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-02 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	35	0.000
.6	139	52.20
1	220	124.00


Storage Area Volume Curves
Storage Volume (ft³)
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	118.60	0.60	8.00	0.50	3.33
2	Weir-06	Trapezoidal	No	118.75	0.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.64
Max HGL Depth Attained (ft)	0.64
Average HGL Elevation Attained (ft)	118.59
Average HGL Depth Attained (ft)	0.59
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

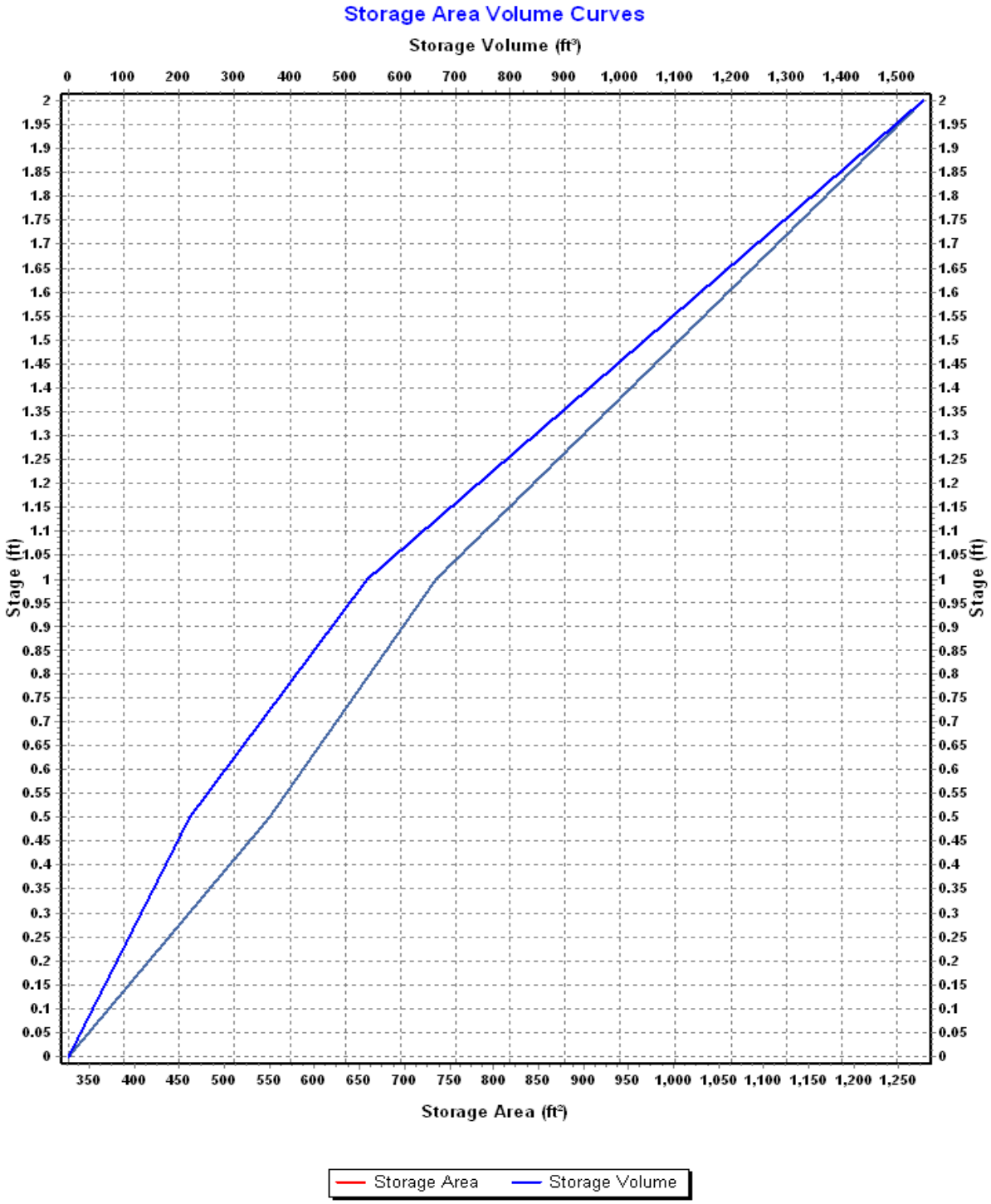
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	327	0.000
0.5	550	219.25
1	736	540.75
2	1277	1547.25


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050 1,100 1,150 1,200 1,250
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33
2	Weir-17	Trapezoidal	No	118.75	1.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.34
Peak Lateral Inflow (cfs)	0.04
Peak Outflow (cfs)	0.31
Peak Exfiltration Flow Rate (cfm)	0.21
Max HGL Elevation Attained (ft)	117.55
Max HGL Depth Attained (ft)	0.55
Average HGL Elevation Attained (ft)	117.39
Average HGL Depth Attained (ft)	0.39
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.206
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03-Forebay

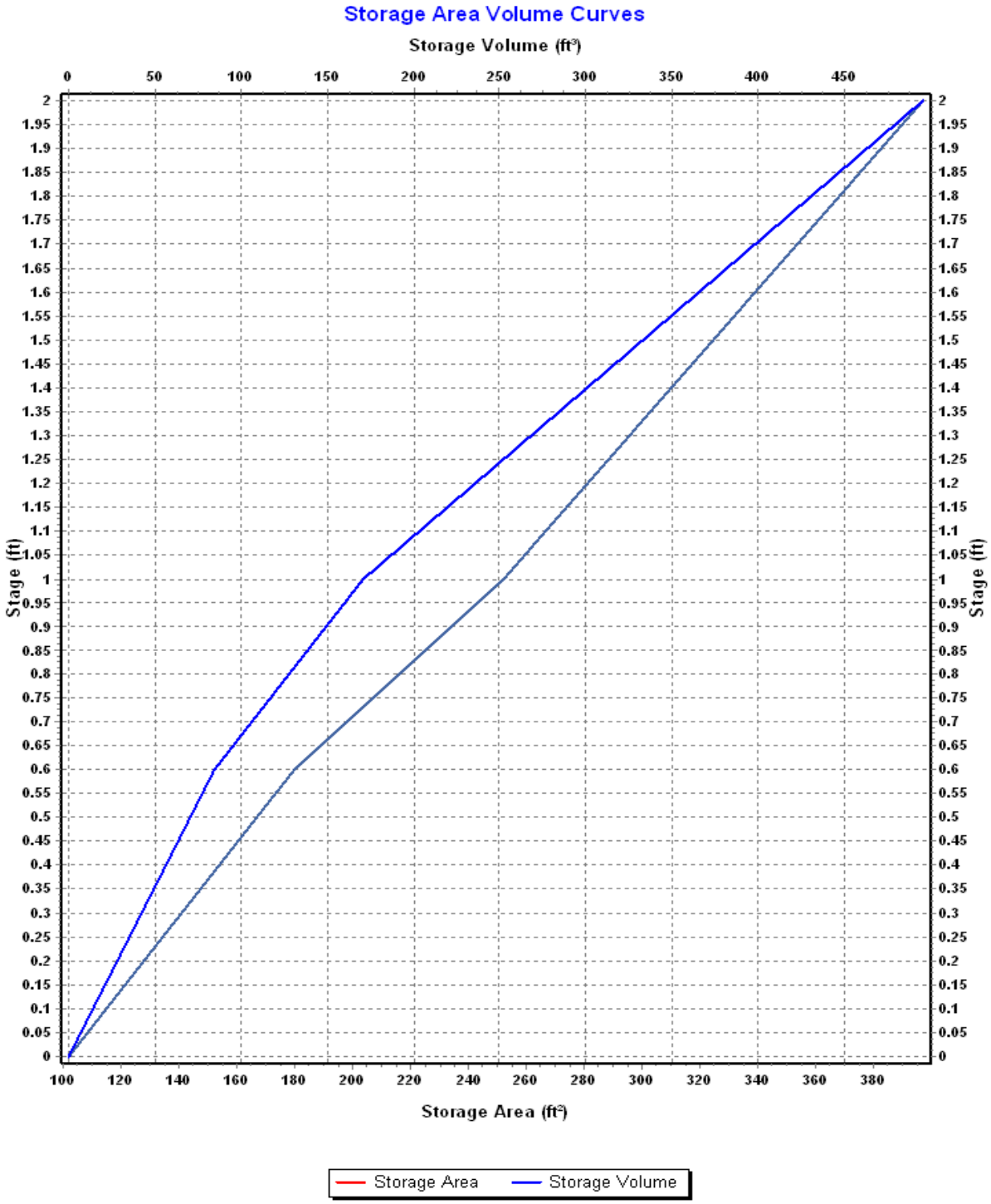
Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-03 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	102	0.000
0.6	180	84.60
1	252	171.00
2	397	495.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450
Stage (ft)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1 1.05 1.1 1.15 1.2 1.25 1.3 1.35 1.4 1.45 1.5 1.55 1.6 1.65 1.7 1.75 1.8 1.85 1.9 1.95 2
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-07	Trapezoidal	No	117.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.30
Peak Lateral Inflow (cfs)	0.30
Peak Outflow (cfs)	0.29
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.65
Max HGL Depth Attained (ft)	0.65
Average HGL Elevation Attained (ft)	117.59
Average HGL Depth Attained (ft)	0.59
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

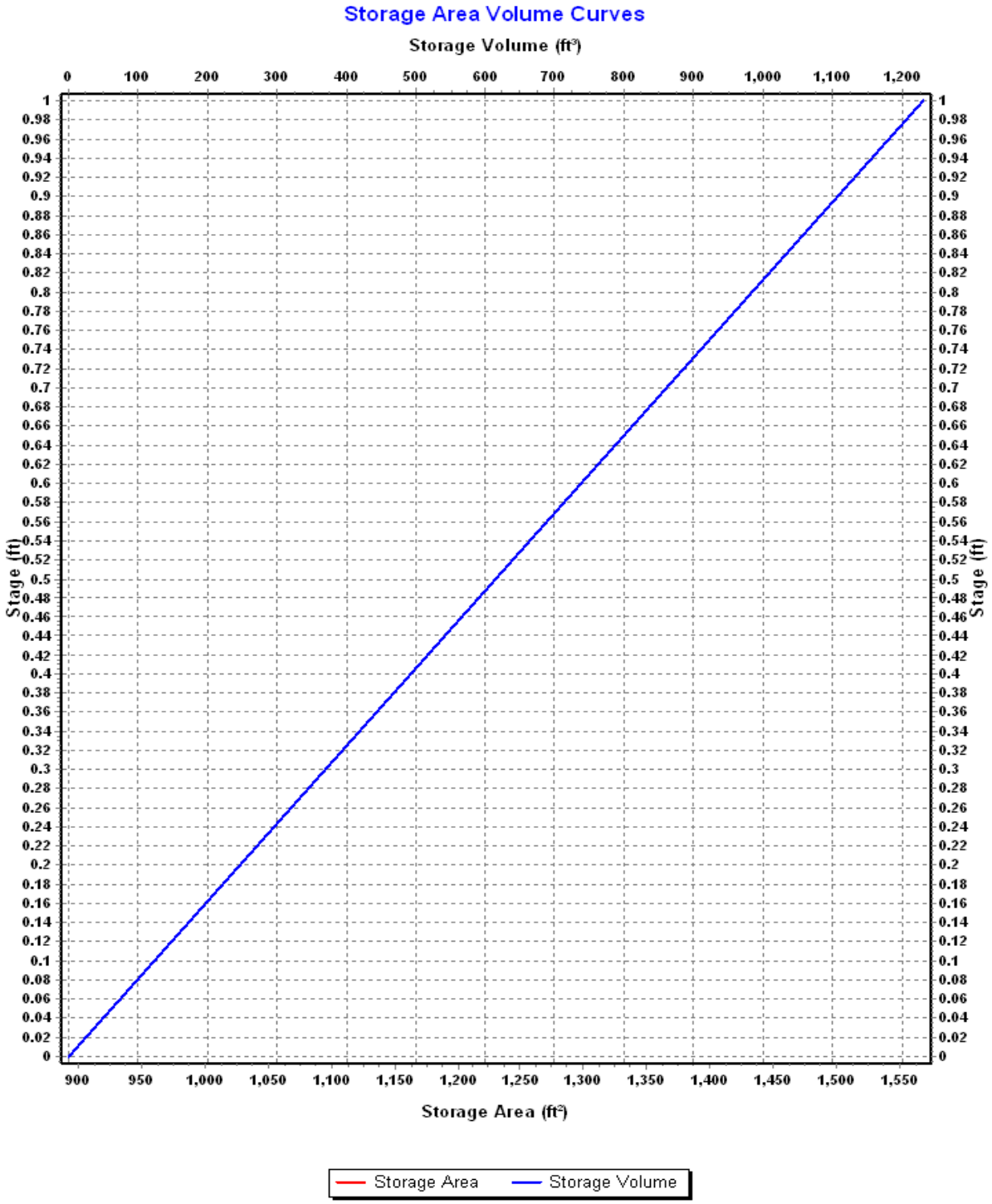
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	892	0.000
1	1569	1230.50


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200
Stage (ft)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46 0.48 0.5 0.52 0.54 0.56 0.58 0.6 0.62 0.64 0.66 0.68 0.7 0.72 0.74 0.76 0.78 0.8 0.82 0.84 0.86 0.88 0.9 0.92 0.94 0.96 0.98 1
Stage (ft)
900 950 1,000 1,050 1,100 1,150 1,200 1,250 1,300 1,350 1,400 1,450 1,500 1,550
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-14	Trapezoidal	No	114.60	0.60	10.00	0.25	3.33
2	Weir-15	Trapezoidal	No	114.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.86
Peak Lateral Inflow (cfs)	0.09
Peak Outflow (cfs)	0.75
Peak Exfiltration Flow Rate (cfm)	0.48
Max HGL Elevation Attained (ft)	114.59
Max HGL Depth Attained (ft)	0.59
Average HGL Elevation Attained (ft)	114.35
Average HGL Depth Attained (ft)	0.35
Time of Max HGL Occurrence (days hh:mm)	0 12:12
Total Exfiltration Volume (1000-ft³)	0.460
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04-Forebay

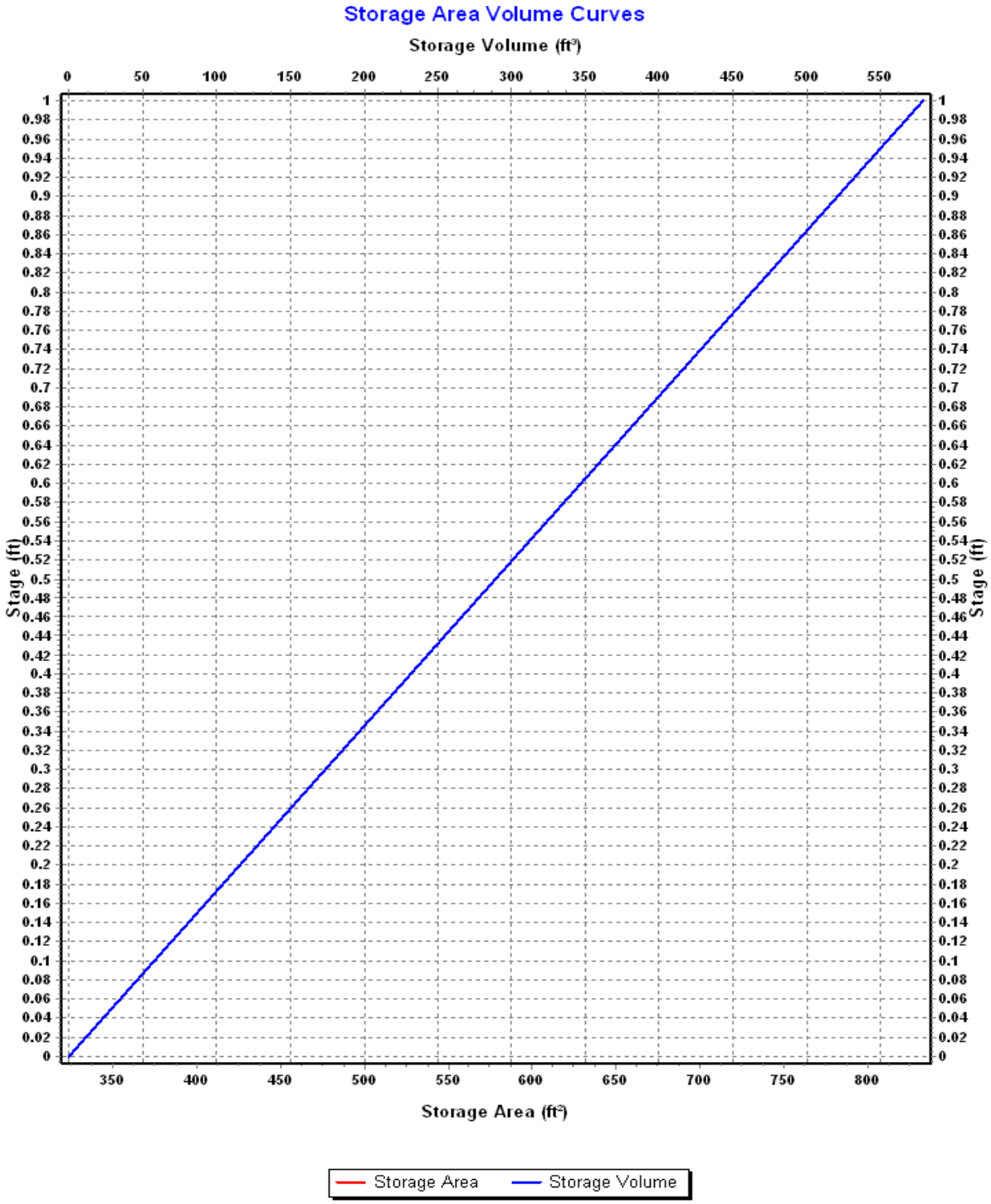
Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	324	0.000
1	833	578.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
350 400 450 500 550 600 650 700 750 800
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-13	Trapezoidal	No	114.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.30
Peak Lateral Inflow (cfs)	0.30
Peak Outflow (cfs)	0.28
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.65
Max HGL Depth Attained (ft)	0.65
Average HGL Elevation Attained (ft)	114.52
Average HGL Depth Attained (ft)	0.52
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-05

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	114.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

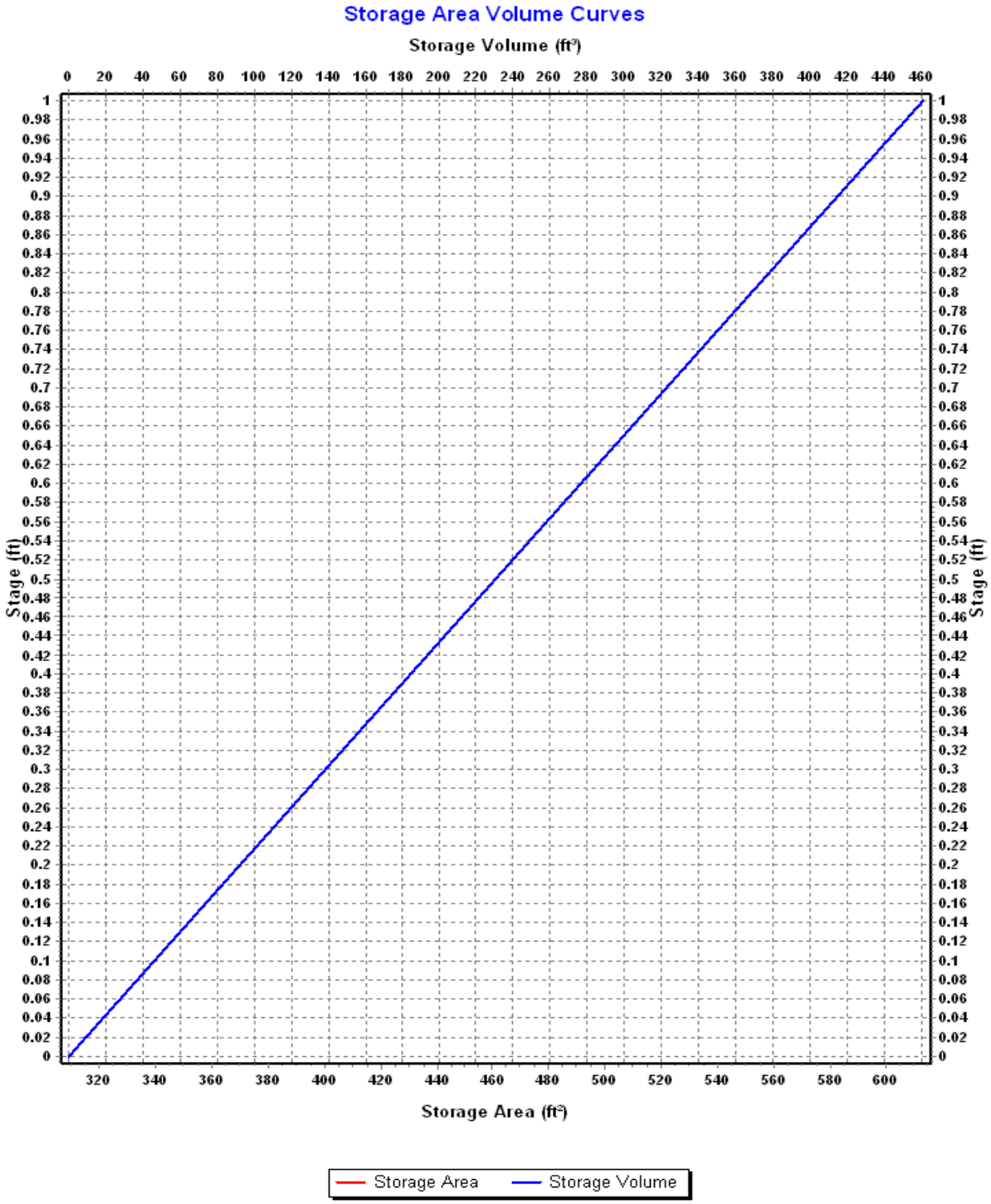
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-05

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	309	0.000
1	613	461.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
320 340 360 380 400 420 440 460 480 500 520 540 560 580 600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-05 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	113.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.22
Peak Exfiltration Flow Rate (cfm)	0.18
Max HGL Elevation Attained (ft)	113.54
Max HGL Depth Attained (ft)	0.54
Average HGL Elevation Attained (ft)	113.38
Average HGL Depth Attained (ft)	0.38
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.175
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.38
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.38
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.23
Max HGL Depth Attained (ft)	4.23
Average HGL Elevation Attained (ft)	116.90
Average HGL Depth Attained (ft)	3.9
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.17
Peak Lateral Inflow (cfs)	0.17
Peak Outflow (cfs)	0.17
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.36
Max HGL Depth Attained (ft)	4.21
Average HGL Elevation Attained (ft)	117.03
Average HGL Depth Attained (ft)	3.88
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.15
Peak Lateral Inflow (cfs)	0.15
Peak Outflow (cfs)	0.15
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.47
Max HGL Depth Attained (ft)	4.32
Average HGL Elevation Attained (ft)	116.01
Average HGL Depth Attained (ft)	3.86
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.65
Peak Lateral Inflow (cfs)	0.51
Peak Outflow (cfs)	0.65
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.46
Max HGL Depth Attained (ft)	4.46
Average HGL Elevation Attained (ft)	116.02
Average HGL Depth Attained (ft)	4.02
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.36
Peak Lateral Inflow (cfs)	0.13
Peak Outflow (cfs)	0.36
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.71
Max HGL Depth Attained (ft)	4.21
Average HGL Elevation Attained (ft)	115.36
Average HGL Depth Attained (ft)	3.86
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	111.65
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.90
Max HGL Depth Attained (ft)	4.25
Average HGL Elevation Attained (ft)	115.57
Average HGL Depth Attained (ft)	3.92
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	113.67
Max HGL Depth Attained (ft)	5.02
Average HGL Elevation Attained (ft)	113.23
Average HGL Depth Attained (ft)	4.58
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	109.90
Max (Rim) Elevation (ft)	116.90
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-109.90
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.41
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.40
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.35
Max HGL Depth Attained (ft)	4.45
Average HGL Elevation Attained (ft)	112.81
Average HGL Depth Attained (ft)	2.91
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.12
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.05
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.80
Max HGL Depth Attained (ft)	4.3
Average HGL Elevation Attained (ft)	113.89
Average HGL Depth Attained (ft)	2.39
Time of Max HGL Occurrence (days hh:mm)	0 12:26
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	117.50
Max (Rim) Offset (ft)	6.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.31
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.31
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.85
Max HGL Depth Attained (ft)	3.35
Average HGL Elevation Attained (ft)	113.48
Average HGL Depth Attained (ft)	1.98
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	107.65
Max (Rim) Elevation (ft)	114.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.75
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.75
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	111.95
Max HGL Depth Attained (ft)	4.3
Average HGL Elevation Attained (ft)	110.07
Average HGL Depth Attained (ft)	2.42
Time of Max HGL Occurrence (days hh:mm)	0 12:12
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	107.00
Max (Rim) Elevation (ft)	113.50
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.22
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.20
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	111.41
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	109.50
Average HGL Depth Attained (ft)	2.5
Time of Max HGL Occurrence (days hh:mm)	0 12:12
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Treebox_Filter

Input Data

Invert Elevation (ft)	112.50
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Output Summary Results

Peak Inflow (cfs)	0.65
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.64
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	116.19
Max HGL Depth Attained (ft)	3.69
Average HGL Elevation Attained (ft)	115.82
Average HGL Depth Attained (ft)	3.32
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.022
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-A

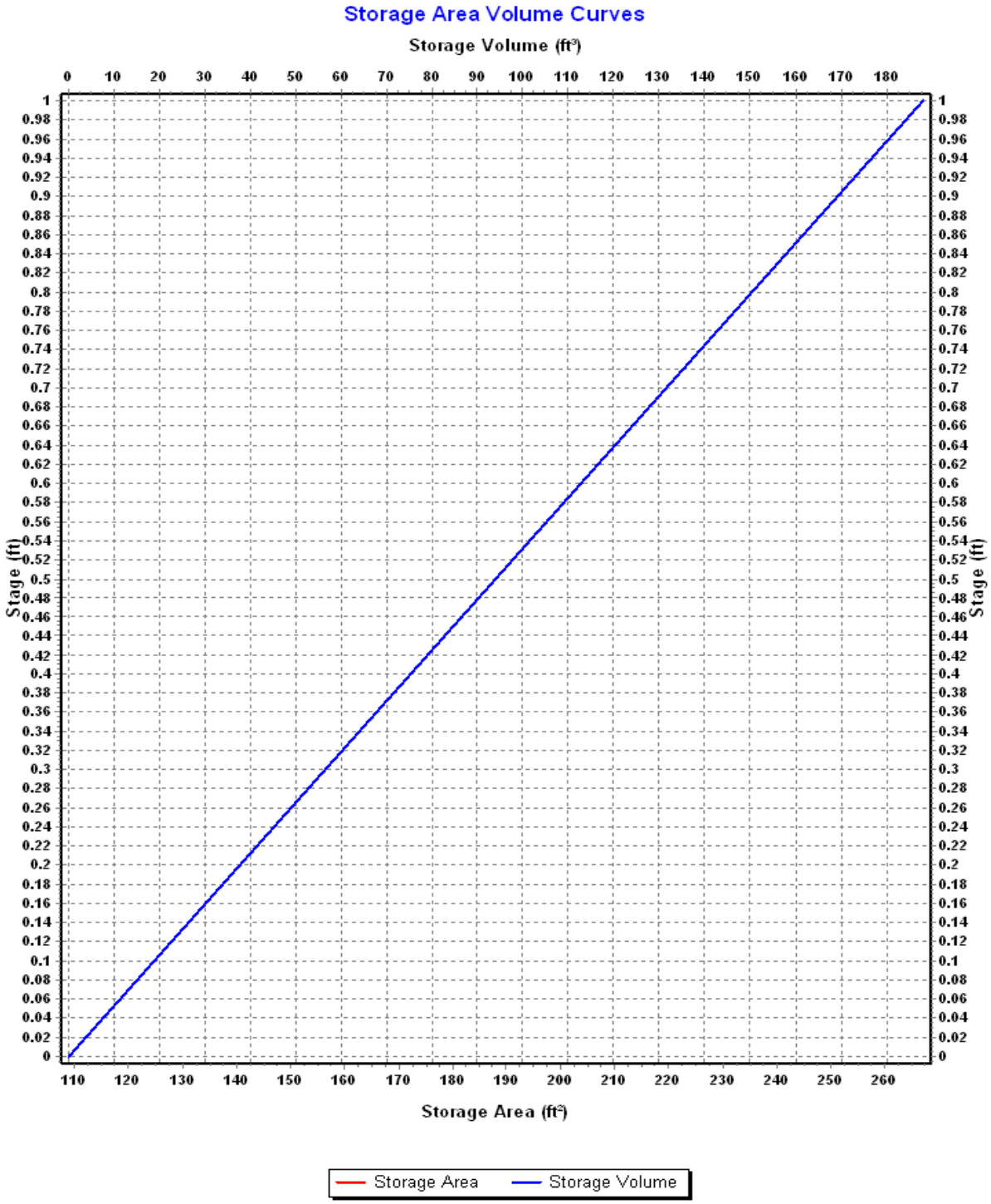
Input Data

Invert Elevation (ft) 118.00
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 1.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -118.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : WQS-A

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	109	0.000
1	267	188.00


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : WQS-A (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-11	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.19
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.54
Max HGL Depth Attained (ft)	0.54
Average HGL Elevation Attained (ft)	118.48
Average HGL Depth Attained (ft)	0.48
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-B

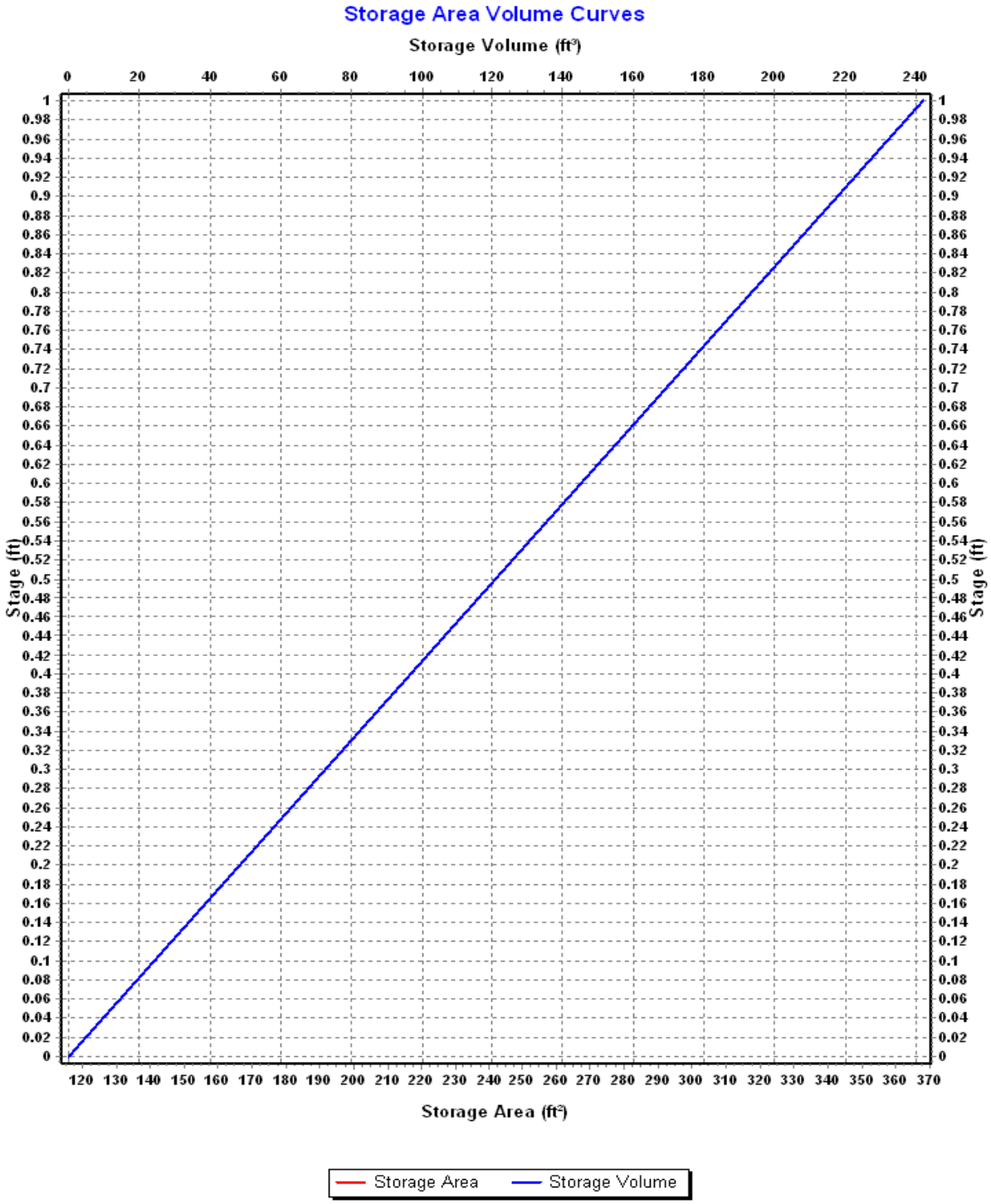
Input Data

Invert Elevation (ft) 117.00
Max (Rim) Elevation (ft) 118.00
Max (Rim) Offset (ft) 1.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -117.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : WQS-B

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	116	0.000
1	368	242.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : WQS-B (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-12	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.18
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.54
Max HGL Depth Attained (ft)	0.54
Average HGL Elevation Attained (ft)	117.40
Average HGL Depth Attained (ft)	0.4
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 2 - Prop Conditions (Proposed Regulation).SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	19
Nodes	36
Junctions	0
Outfalls	13
Flow Diversions	0
Inlets	0
Storage Nodes	23
Links	28
Channels	0
Pipes	14
Pumps	0
Orifices	0
Weirs	14
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.56	484.00	74.33	3.50	1.26	0.71	0.97	0 00:01:22
2	Sub-02	0.53	484.00	74.03	3.50	1.24	0.66	0.89	0 00:02:06
3	Sub-03	0.15	484.00	80.00	3.50	1.63	0.25	0.35	0 00:00:07
4	Sub-04	0.03	484.00	74.00	3.50	1.18	0.04	0.05	0 00:01:14
5	Sub-05	0.03	484.00	74.00	3.50	1.18	0.04	0.06	0 00:00:43
6	Sub-06	0.03	484.00	74.00	3.50	1.18	0.04	0.06	0 00:00:43
7	Sub-07	0.11	484.00	74.00	3.50	1.24	0.14	0.11	0 00:20:21
8	Sub-08	0.07	484.00	98.00	3.50	3.26	0.21	0.23	0 00:01:38
9	Sub-09	0.05	484.00	98.00	3.50	3.25	0.16	0.19	0 00:01:37
10	Sub-10a	0.06	484.00	98.00	3.50	3.26	0.21	0.23	0 00:01:43
11	Sub-10b	0.04	484.00	98.00	3.50	3.25	0.14	0.16	0 00:01:09
12	Sub-11	0.08	484.00	98.00	3.50	3.26	0.26	0.30	0 00:02:42
13	Sub-12	0.09	484.00	98.00	3.50	3.26	0.29	0.33	0 00:02:18
14	Sub-13	0.07	484.00	98.00	3.50	3.26	0.22	0.26	0 00:02:16
15	Sub-14a	0.05	484.00	98.00	3.50	3.26	0.18	0.21	0 00:01:22
16	Sub-14b	0.04	484.00	98.00	3.50	3.24	0.12	0.14	0 00:01:00
17	Sub-15	0.07	484.00	98.00	3.50	3.26	0.22	0.26	0 00:02:08
18	Sub-16	0.09	484.00	98.00	3.50	3.26	0.30	0.33	0 00:02:07
19	Sub-17	0.07	484.00	98.00	3.50	3.26	0.22	0.26	0 00:02:09

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					0.70	112.00					
2	Out-02	Outfall	112.00					0.95	112.00					
3	Out-03	Outfall	112.00					0.86	112.00					
4	Out-04	Outfall	112.00					0.34	112.00					
5	Out-06	Outfall	113.00					0.44	113.00					
6	Out-07	Outfall	115.00					0.00	115.00					
7	Out-08	Outfall	114.00					0.12	114.08					
8	Out-09	Outfall	114.00					0.00	114.00					
9	Out-10	Outfall	114.00					0.35	114.00					
10	Out-11	Outfall	114.00					0.00	114.00					
11	Out-12	Outfall	114.00					0.00	114.00					
12	Out-13	Outfall	110.00					0.86	110.00					
13	Out-14	Outfall	110.00					0.23	110.00					
14	BMP-01	Storage Node	116.00	119.00	0.00		0.00	0.46	116.97				0.00	0.00
15	BMP-02	Storage Node	118.00	119.00	0.00		0.00	0.28	118.54				0.00	0.00
16	BMP-02-Forebay	Storage Node	118.00	119.00	0.00		0.00	0.23	118.64				0.00	0.00
17	BMP-03	Storage Node	117.00	119.00	0.00		0.00	0.37	117.56				0.00	0.00
18	BMP-03-Forebay	Storage Node	117.00	119.00	0.00		0.00	0.32	117.65				0.00	0.00
19	BMP-04	Storage Node	114.00	115.00	0.00		0.00	0.94	114.60				0.00	0.00
20	BMP-04-Forebay	Storage Node	114.00	115.00	0.00		0.00	0.33	114.65				0.00	0.00
21	BMP-05	Storage Node	113.00	114.00	0.00		0.00	0.25	113.54				0.00	0.00
22	CB-01	Storage Node	113.00	120.00	0.00		1000.00	0.42	117.24				0.00	0.00
23	CB-02	Storage Node	113.15	120.00	0.00		1000.00	0.19	117.37				0.00	0.00
24	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.16	116.49				0.00	0.00
25	CB-04	Storage Node	112.00	119.00	0.00		1000.00	0.71	116.48				0.00	0.00
26	CB-05	Storage Node	111.50	118.50	0.00		1000.00	0.39	115.72				0.00	0.00
27	CB-06	Storage Node	111.65	118.50	0.00		1000.00	0.26	115.92				0.00	0.00
28	CB-07	Storage Node	108.65	115.50	0.00		1000.00	0.26	113.70				0.00	0.00
29	OCS-01	Storage Node	109.90	116.90	0.00		0.00	0.45	114.37				0.00	0.00
30	OCS-02	Storage Node	111.50	118.50	0.00		0.00	0.21	115.83				0.00	0.00
31	OCS-03	Storage Node	111.50	117.50	0.00		0.00	0.35	114.86				0.00	0.00
32	OCS-04	Storage Node	107.65	114.50	0.00		0.00	0.86	111.97				0.00	0.00
33	OCS-05	Storage Node	107.00	113.50	0.00		0.00	0.24	111.44				0.00	0.00
34	Treebox_Filter	Storage Node	112.50	119.00	0.00		0.00	0.70	116.20				0.00	0.00
35	WQS-A	Storage Node	118.00	119.00	0.00		0.00	0.21	118.54				0.00	0.00
36	WQS-B	Storage Node	117.00	118.00	0.00		0.00	0.20	117.54				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-04	Treebox_Filter	6.00	116.00	116.00	0.0000	12.000	0.0200	0.70	0.30	2.36	2.29	0.41	0.41	0.00	> CAPACITY
2	Link-02	Pipe	Treebox_Filter	Out-01	12.00	116.00	114.00	16.6700	12.000	0.0200	0.70	9.45	0.07	6.67	0.19	0.19	0.00	Calculated
3	Link-03	Pipe	CB-02	CB-01	24.02	117.15	117.00	0.6200	12.000	0.0200	0.18	1.83	0.10	1.36	0.23	0.23	0.00	Calculated
4	Link-05	Pipe	CB-03	CB-04	23.50	116.15	116.00	0.6400	12.000	0.0200	0.16	1.85	0.09	0.55	0.41	0.41	0.00	Calculated
5	Link-06	Pipe	CB-06	CB-05	23.47	115.65	115.50	0.6400	12.000	0.0200	0.25	1.85	0.14	1.71	0.24	0.24	0.00	Calculated
6	Link-07	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.21	1.83	0.11	1.69	0.21	0.21	0.00	Calculated
7	Link-08	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.21	1.83	0.11	1.69	0.21	0.21	0.00	Calculated
8	Link-09	Pipe	OCS-01	Out-06	88.06	114.05	113.25	0.9100	12.000	0.0200	0.44	2.21	0.20	2.28	0.29	0.30	0.00	Calculated
9	Link-10	Pipe	OCS-02	Out-08	11.34	115.75	113.00	24.2500	12.000	0.0200	0.12	9.10	0.01	3.93	0.07	0.08	0.00	Calculated
10	Link-11	Pipe	OCS-03	Out-10	11.51	114.65	114.25	3.4800	12.000	0.0200	0.35	4.32	0.08	3.13	0.19	0.20	0.00	Calculated
11	Link-12	Pipe	CB-05	BMP-04	16.00	115.50	115.00	3.1300	12.000	0.0200	0.39	4.09	0.10	3.15	0.21	0.21	0.00	Calculated
12	Link-13	Pipe	OCS-04	Out-13	16.60	111.65	111.00	3.9200	12.000	0.0200	0.86	4.58	0.19	4.20	0.29	0.31	0.00	Calculated
13	Link-14	Pipe	CB-07	BMP-05	28.55	113.15	113.00	0.5300	6.000	0.0200	0.25	0.26	0.95	1.28	0.50	1.00	3.00	SURCHARGED
14	Link-15	Pipe	OCS-05	Out-14	11.48	111.15	111.00	1.3100	6.000	0.0200	0.23	0.42	0.56	2.20	0.26	0.53	0.00	Calculated
15	Weir-02	Weir	BMP-01	Out-07		116.00	115.00				0.00							
16	Weir-03	Weir	BMP-01	OCS-01		116.00	109.90				0.45							
17	Weir-04	Weir	BMP-02-Forebay	BMP-02		118.00	118.00				0.23							
18	Weir-05	Weir	BMP-02	OCS-02		118.00	111.50				0.21							
19	Weir-06	Weir	BMP-02-Forebay	Out-09		118.00	114.00				0.00							
20	Weir-07	Weir	BMP-03-Forebay	BMP-03		117.00	117.00				0.32							
21	Weir-08	Weir	BMP-03	OCS-03		117.00	111.50				0.35							
22	Weir-11	Weir	WQS-A	WQS-B		118.00	117.00				0.20							
23	Weir-12	Weir	WQS-B	BMP-04		117.00	114.00				0.20							
24	Weir-13	Weir	BMP-04-Forebay	BMP-04		114.00	114.00				0.30							
25	Weir-14	Weir	BMP-04	Out-12		114.00	114.00				0.00							
26	Weir-15	Weir	BMP-04	OCS-04		114.00	107.65				0.86							
27	Weir-16	Weir	BMP-05	OCS-05		113.00	107.00				0.24							
28	Weir-17	Weir	BMP-03	Out-11		117.00	114.00				0.00							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.56
Peak Rate Factor 484.00
Weighted Curve Number 74.33
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.54	C	74.00
Brush, Good	0.01	C	65.00
Paved roads with curbs & sewers	0.01	C	98.00
Composite Area & Weighted CN	0.56		74.33

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.24	0.00	0.00
Computed Flow Time (min) :	1.38	0.00	0.00

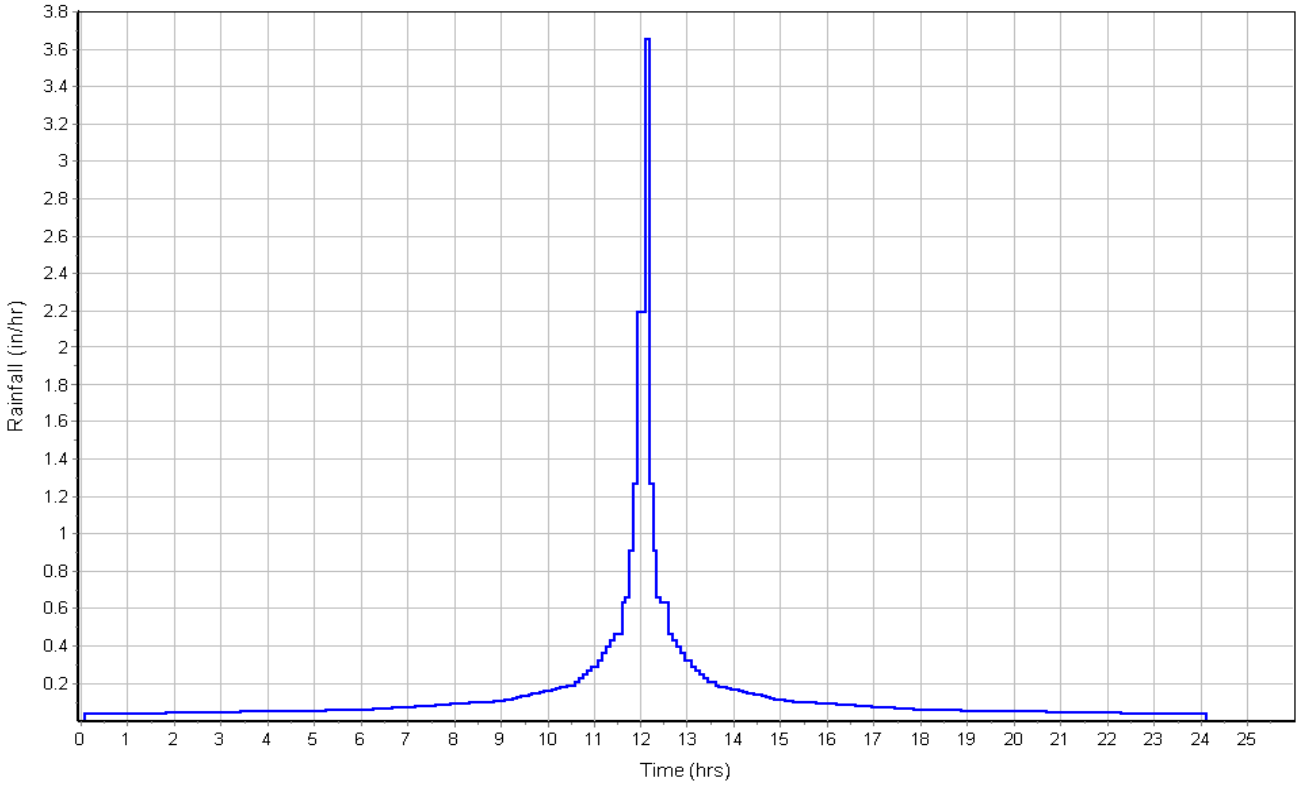
Total TOC (min) 1.38

Subbasin Runoff Results

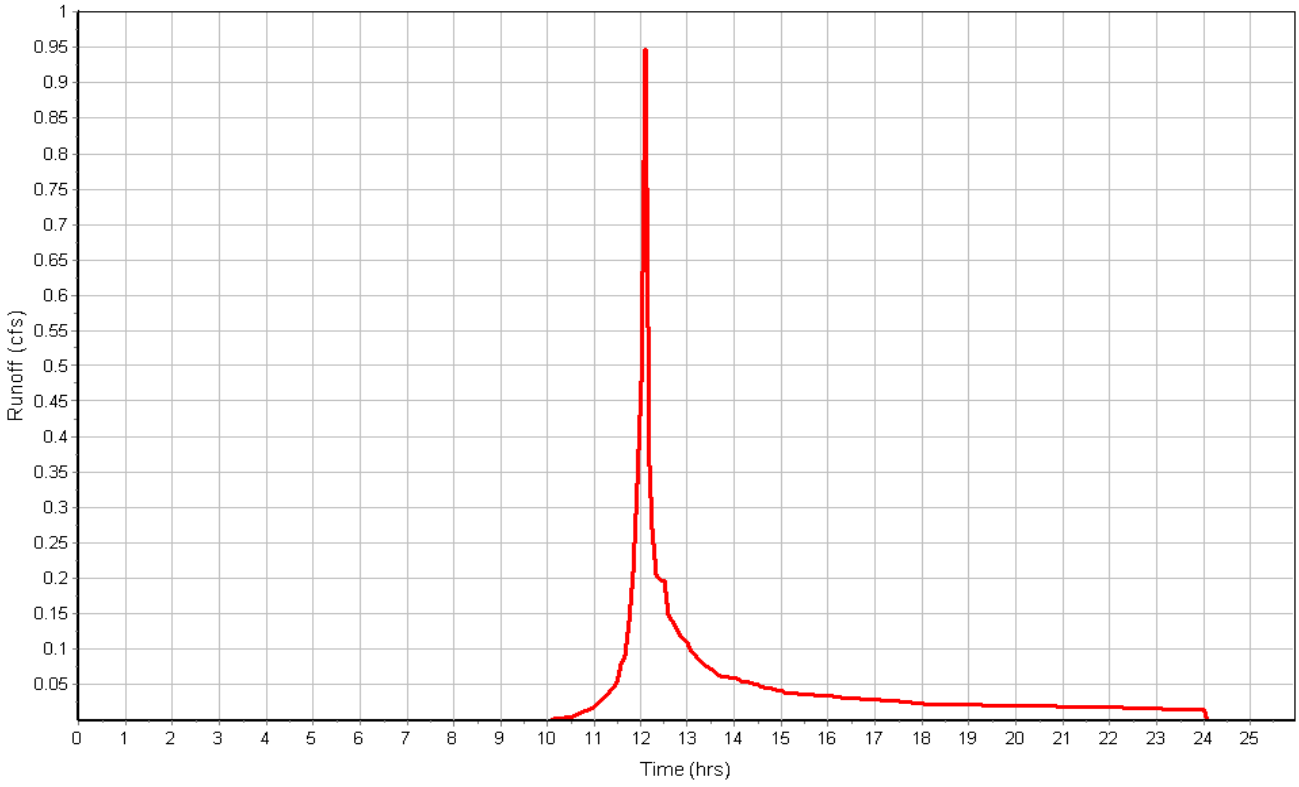
Total Rainfall (in)	3.50
Total Runoff (in)	1.26
Peak Runoff (cfs)	0.97
Weighted Curve Number	74.33
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Sub-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-02

Input Data

Area (ac) 0.53
Peak Rate Factor 484.00
Weighted Curve Number 74.03
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.48	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.53		74.03

Time of Concentration

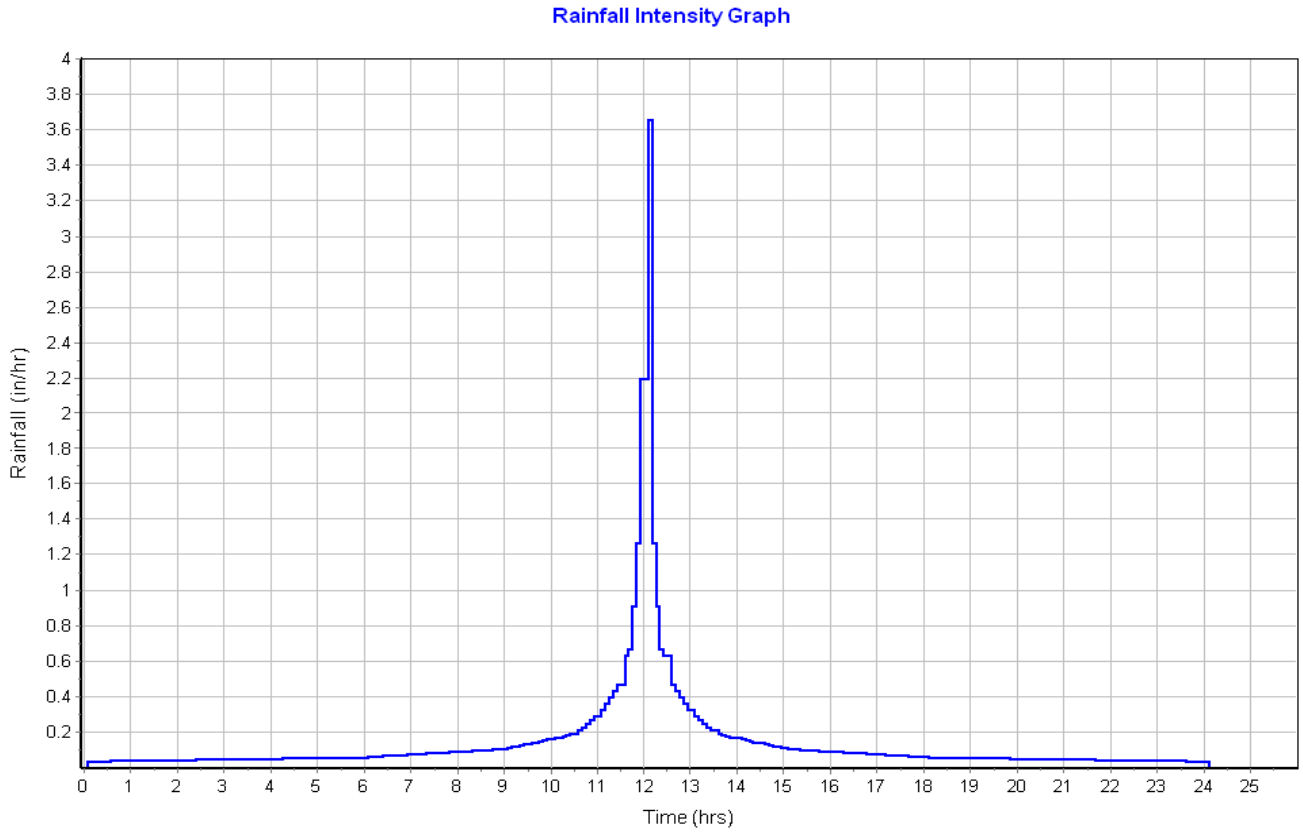
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

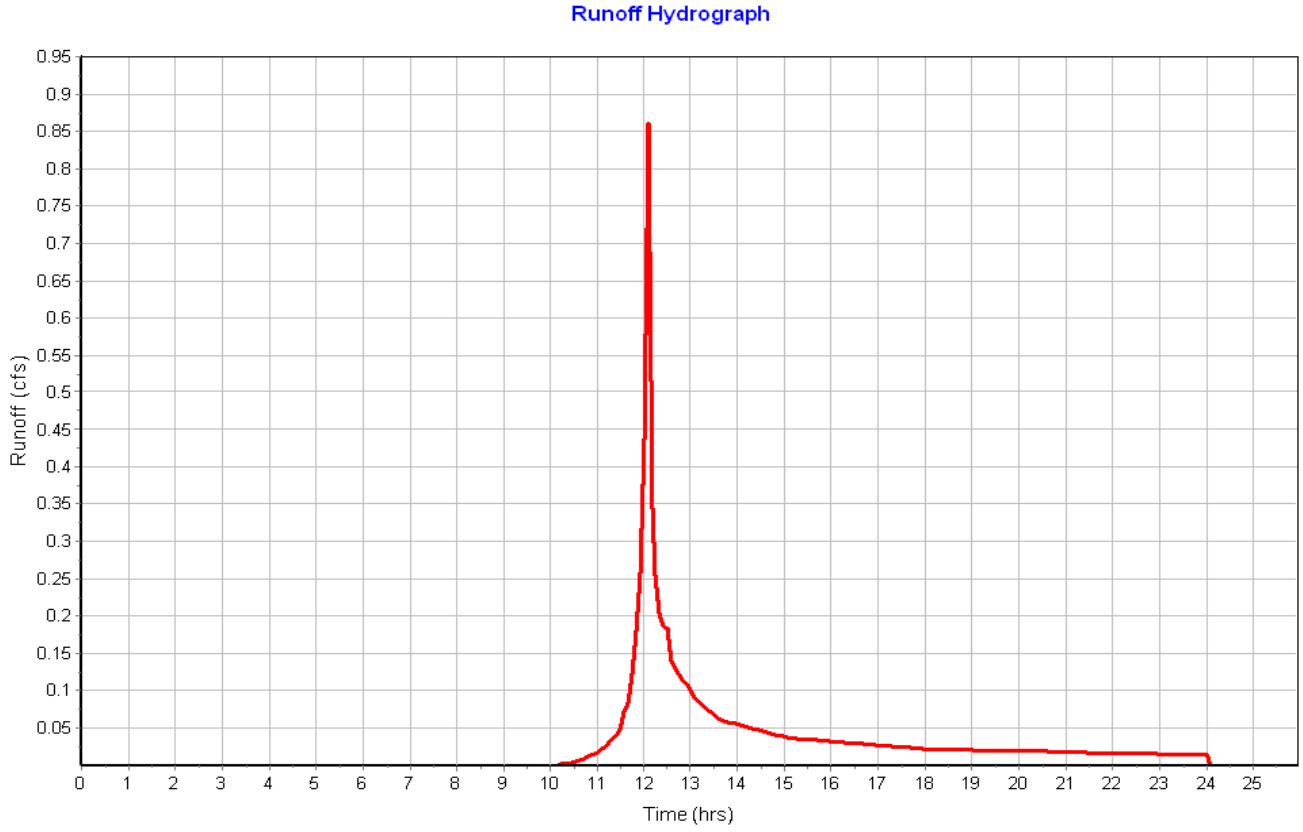
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 1.24
Peak Runoff (cfs) 0.89
Weighted Curve Number 74.03
Time of Concentration (days hh:mm:ss) 0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.15
Peak Rate Factor	484.00
Weighted Curve Number	80.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Porous Pavement	0.15	C	80.00
Composite Area & Weighted CN	0.15		80.00

Time of Concentration

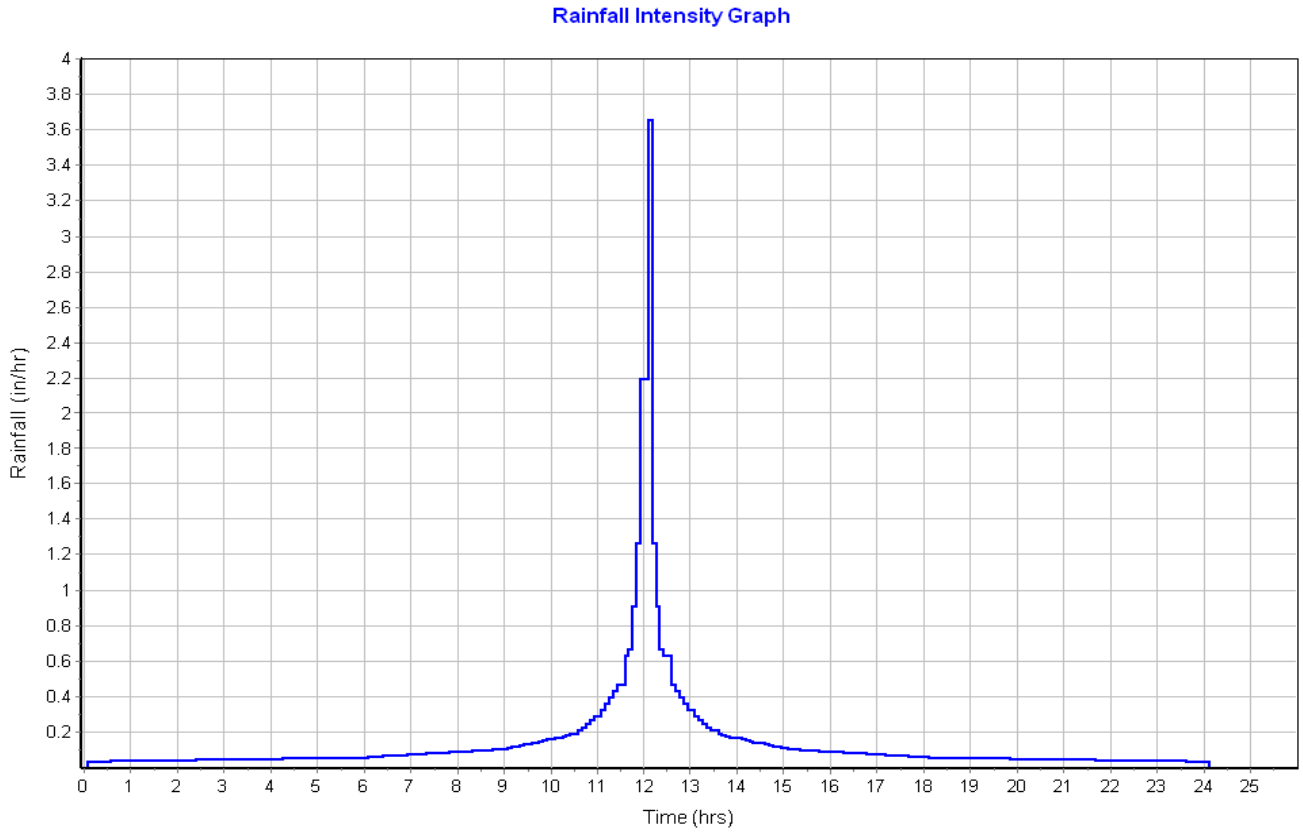
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	5	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.62	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

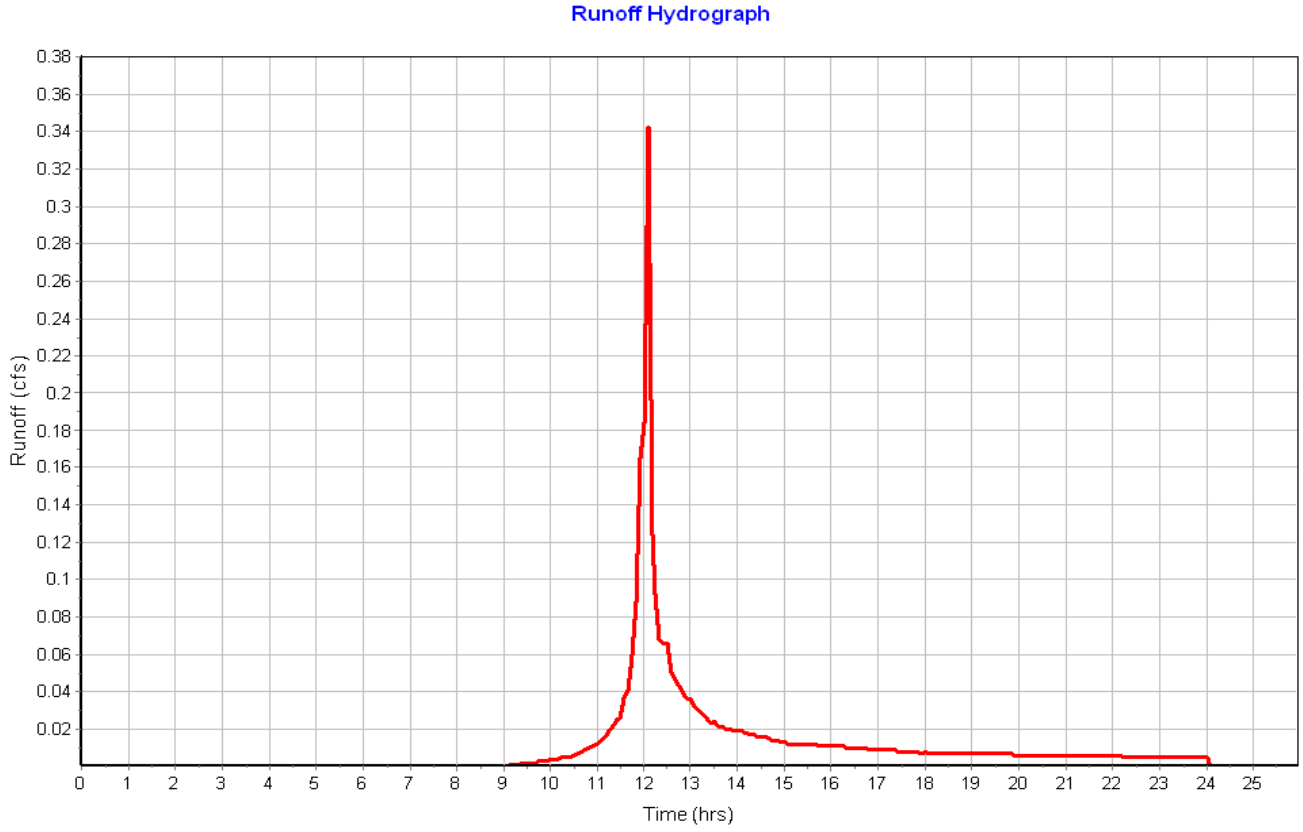
Total TOC (min) 0.13

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.63
Peak Runoff (cfs)	0.35
Weighted Curve Number	80.00
Time of Concentration (days hh:mm:ss)	0 00:00:08

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

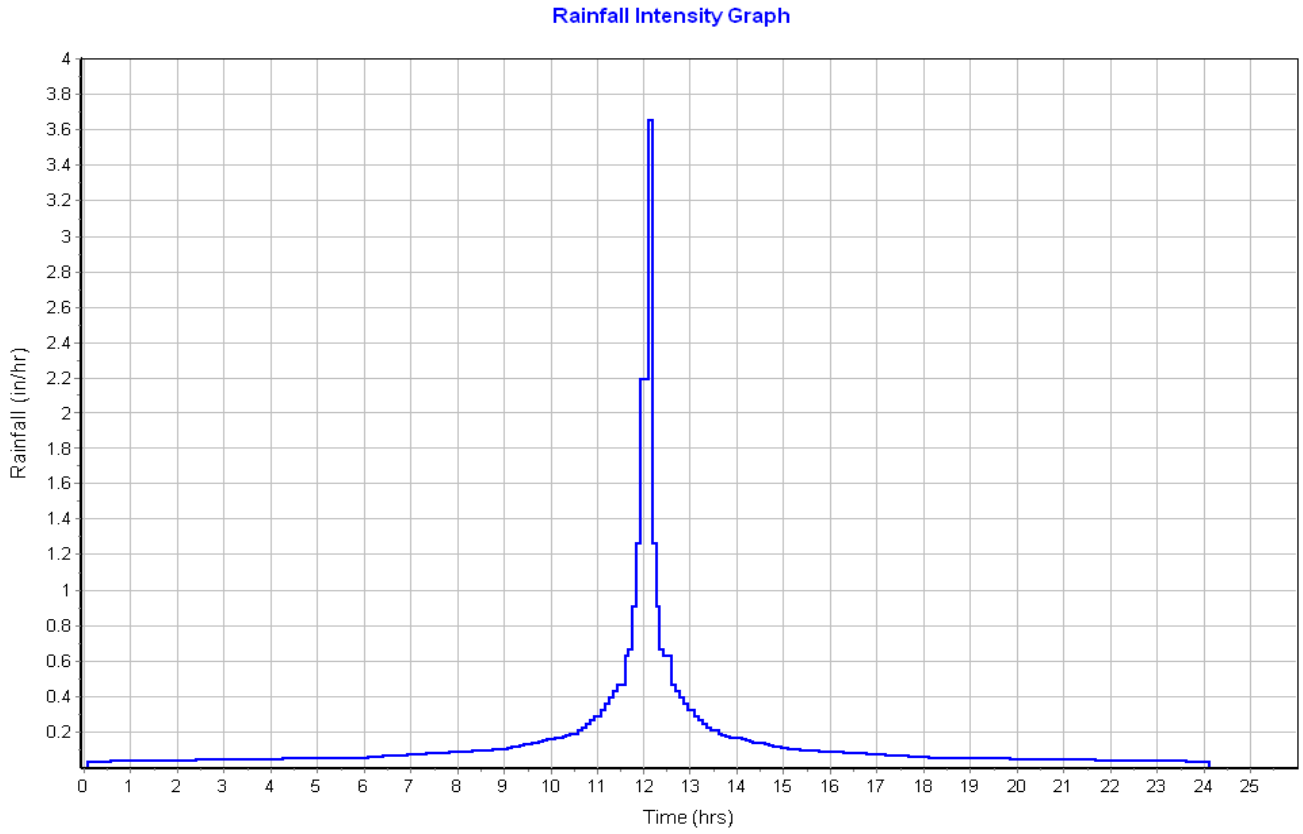
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	14.33	0.00	0.00
Slope (%) :	20	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	1.24	0.00	0.00

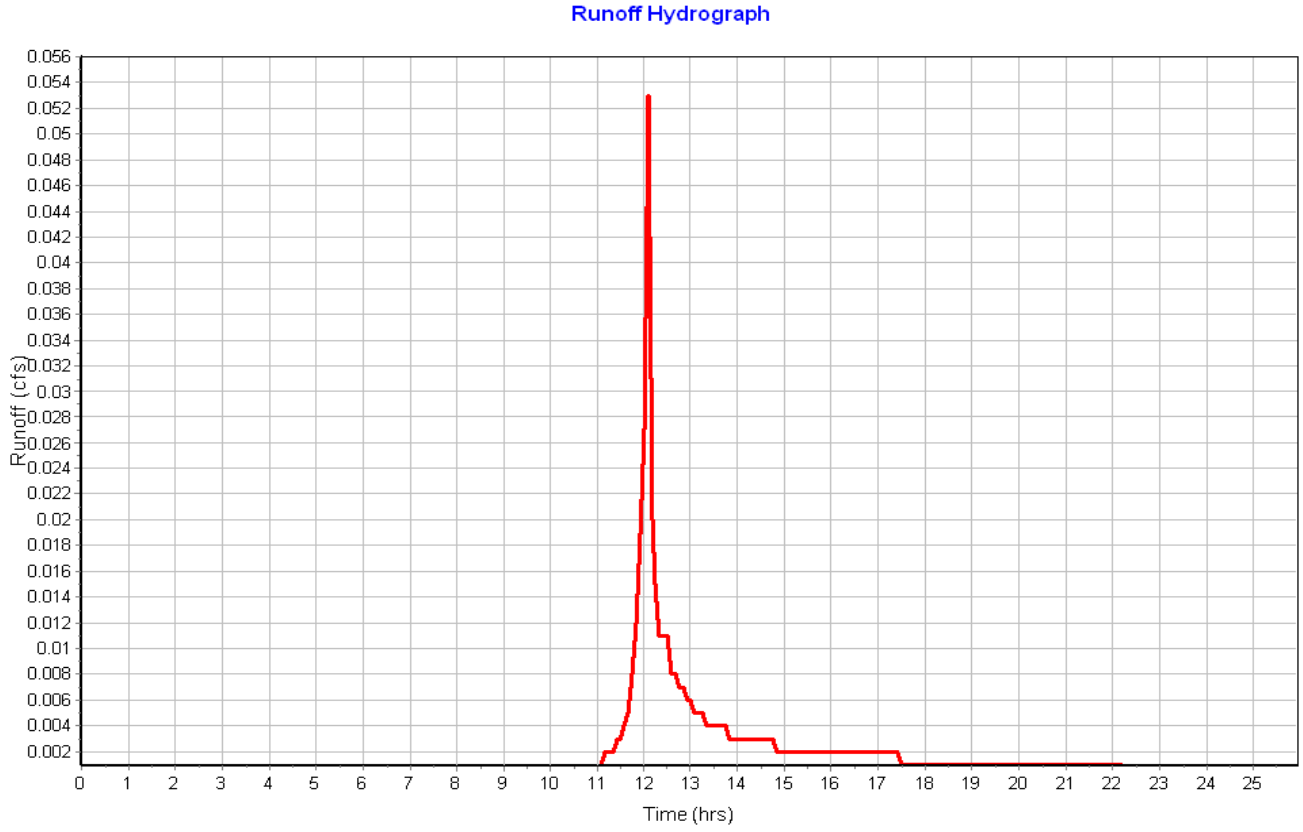
Total TOC (min) 1.24

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 1.18
Peak Runoff (cfs) 0.05
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:01:14

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	74.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

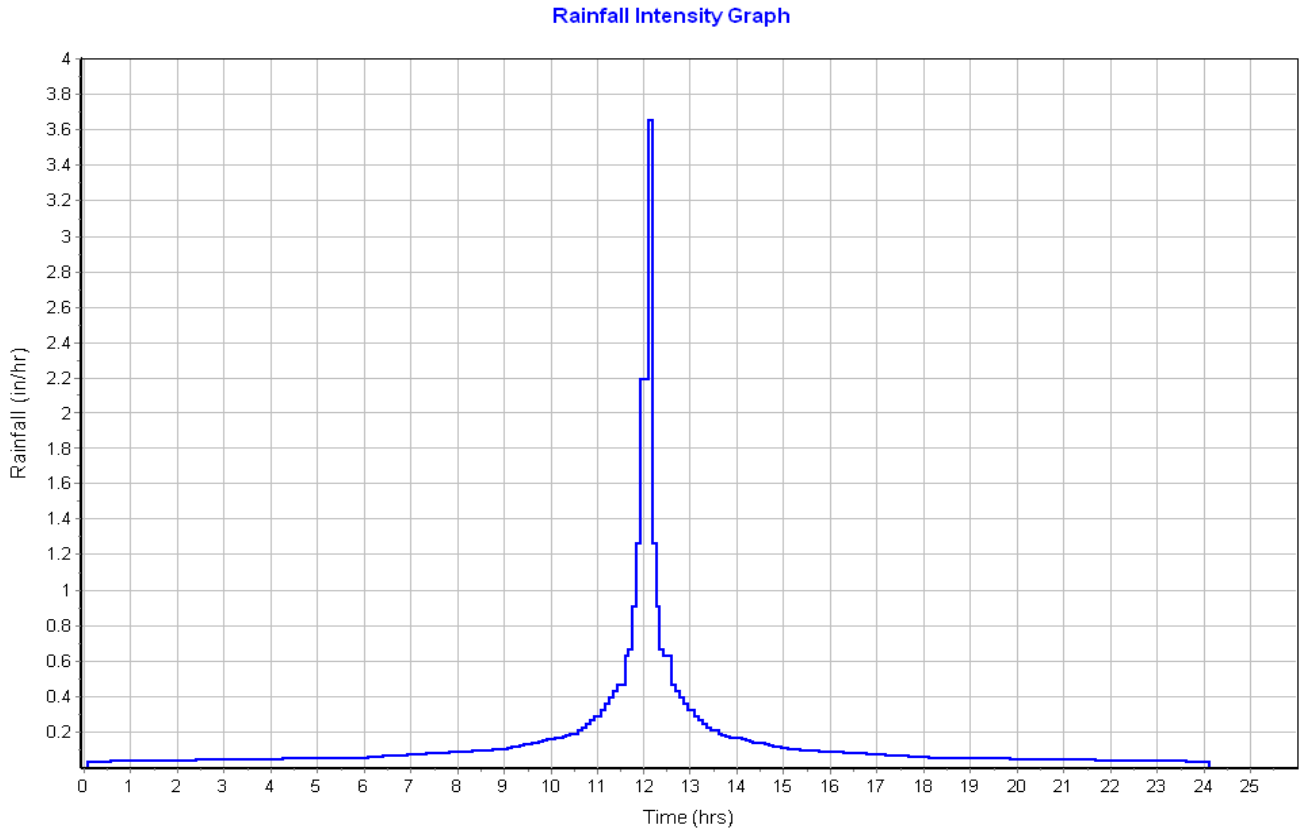
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

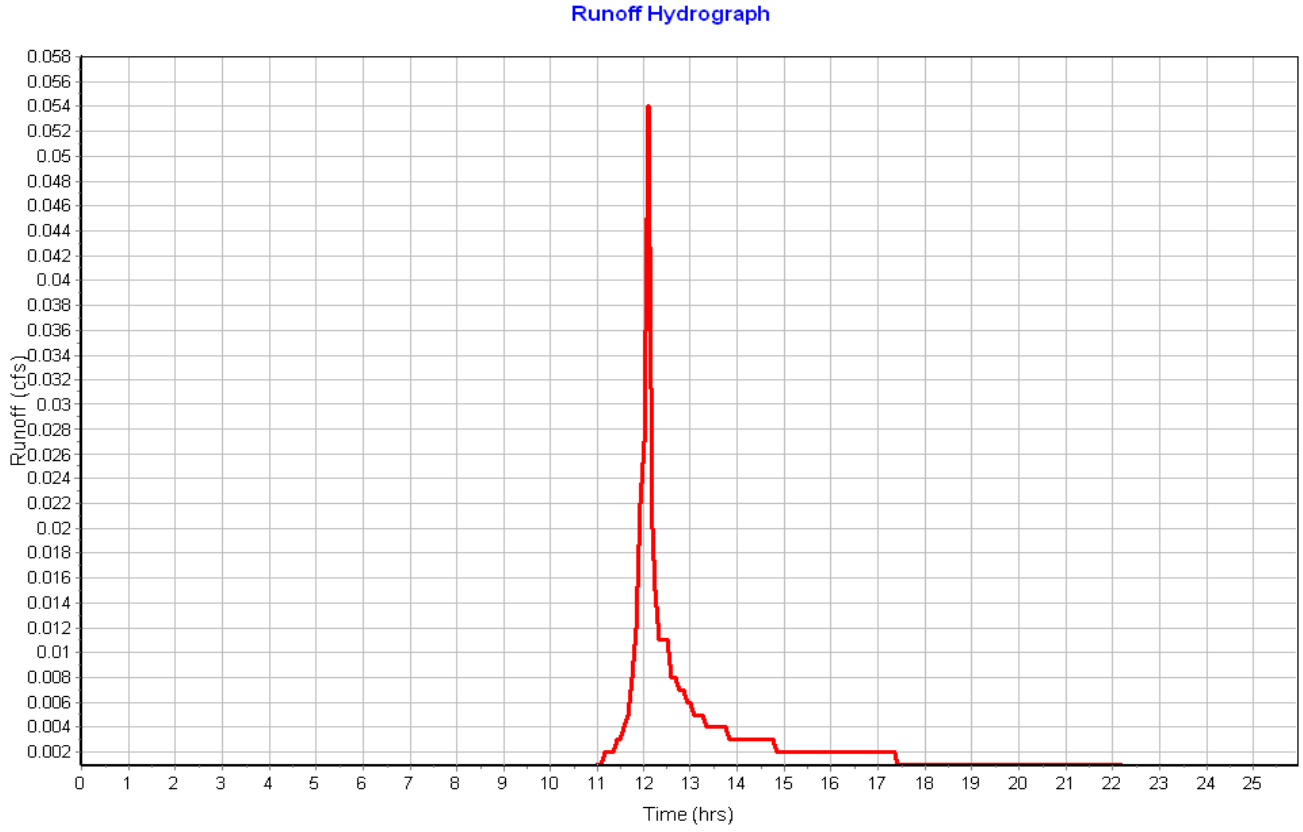
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.18
Peak Runoff (cfs)	0.06
Weighted Curve Number	74.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

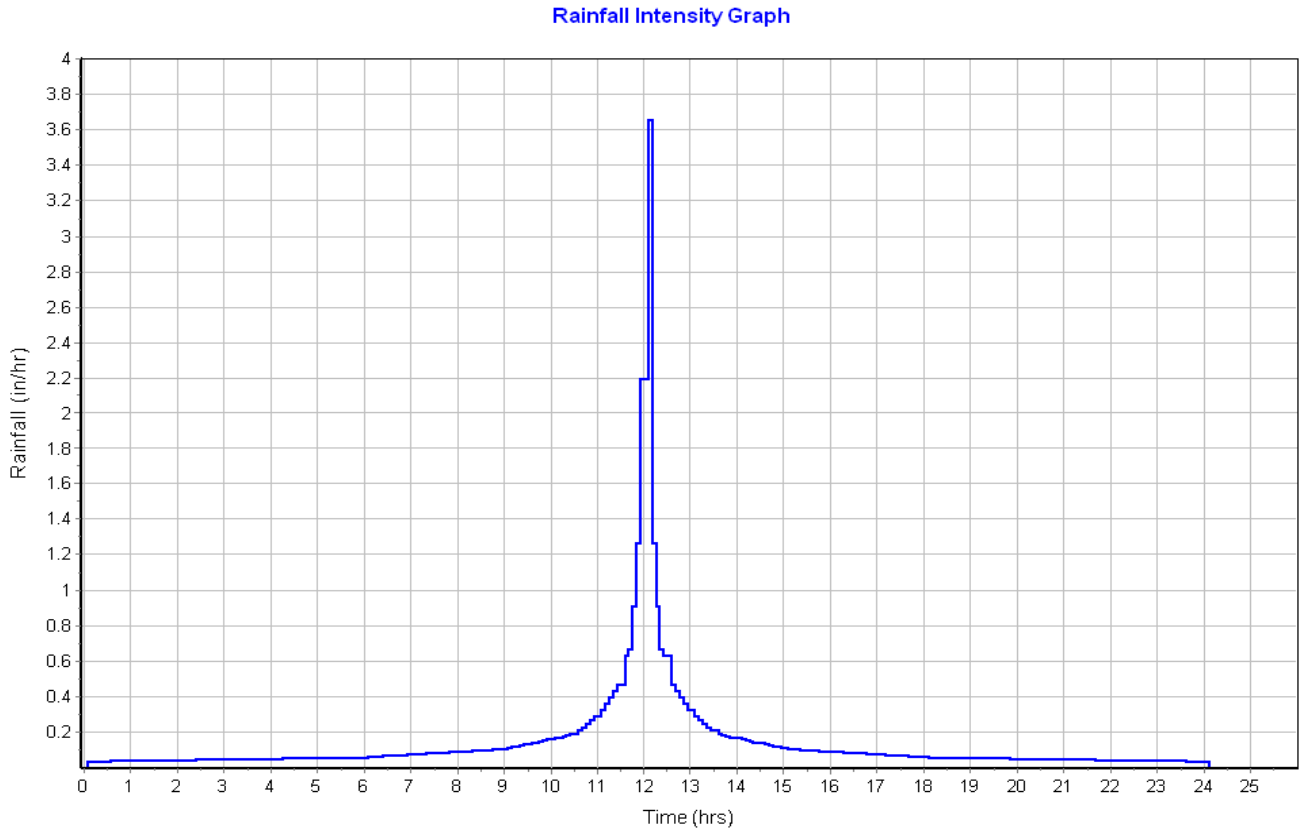
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

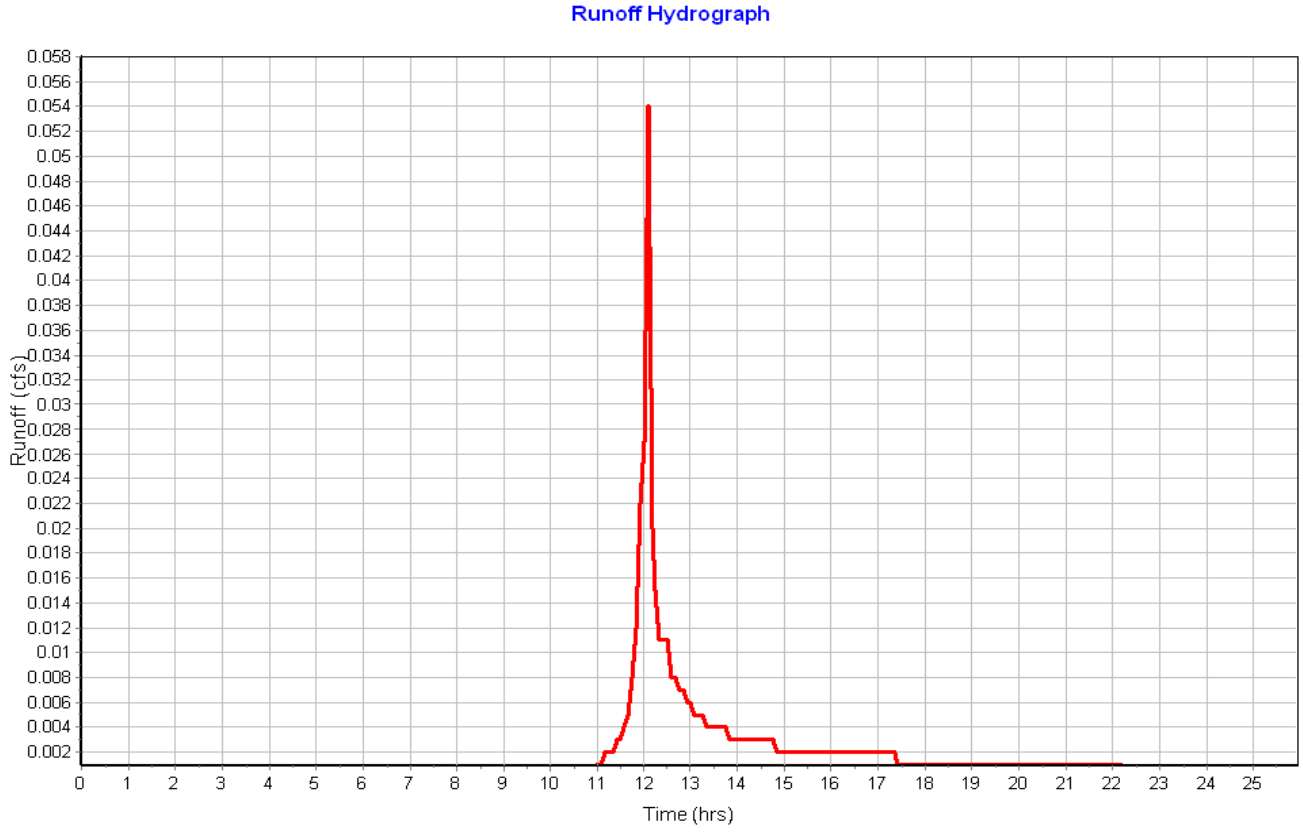
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 1.18
Peak Runoff (cfs) 0.06
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:00:44

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.11	C	74.00
Composite Area & Weighted CN	0.11		74.00

Time of Concentration

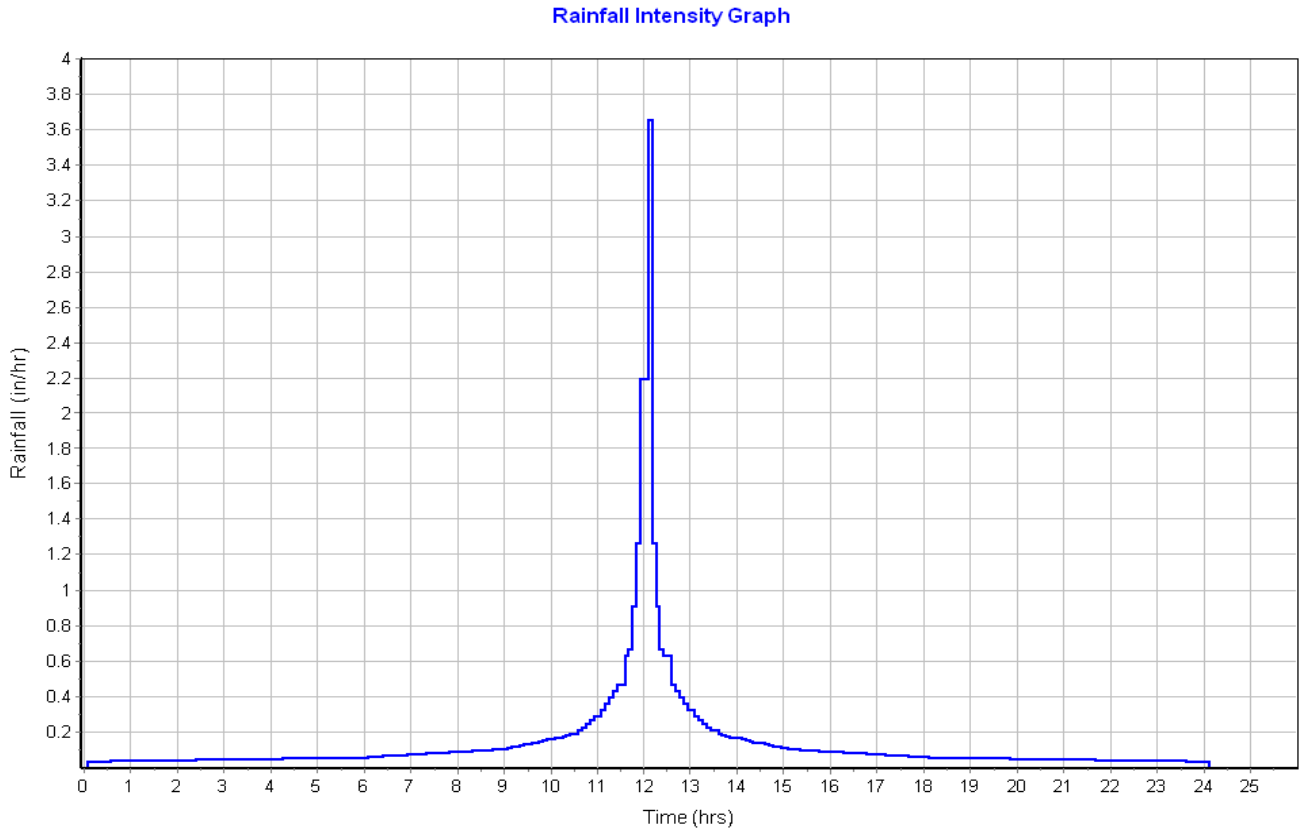
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	149.87	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	20.35	0.00	0.00

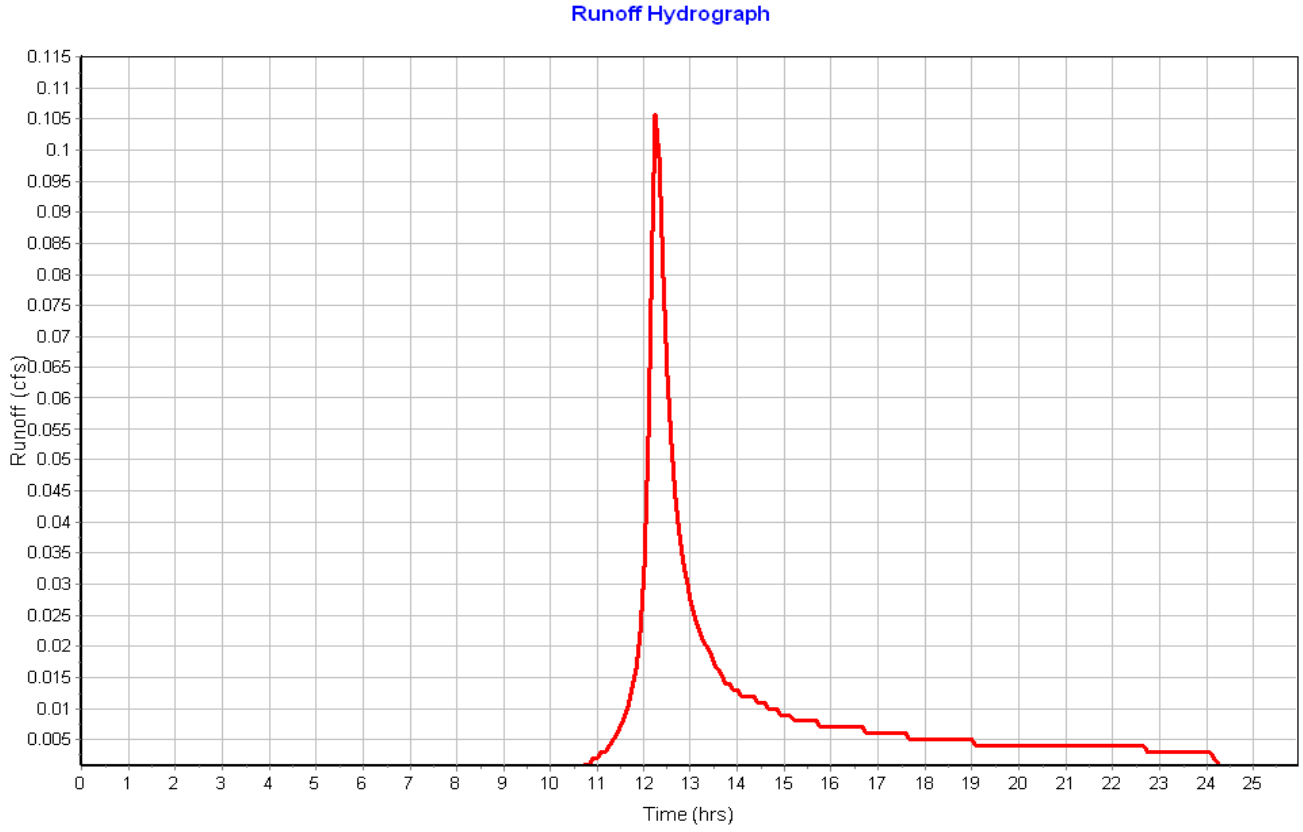
Total TOC (min) 20.35

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 1.24
Peak Runoff (cfs) 0.11
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:20:21

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.85	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

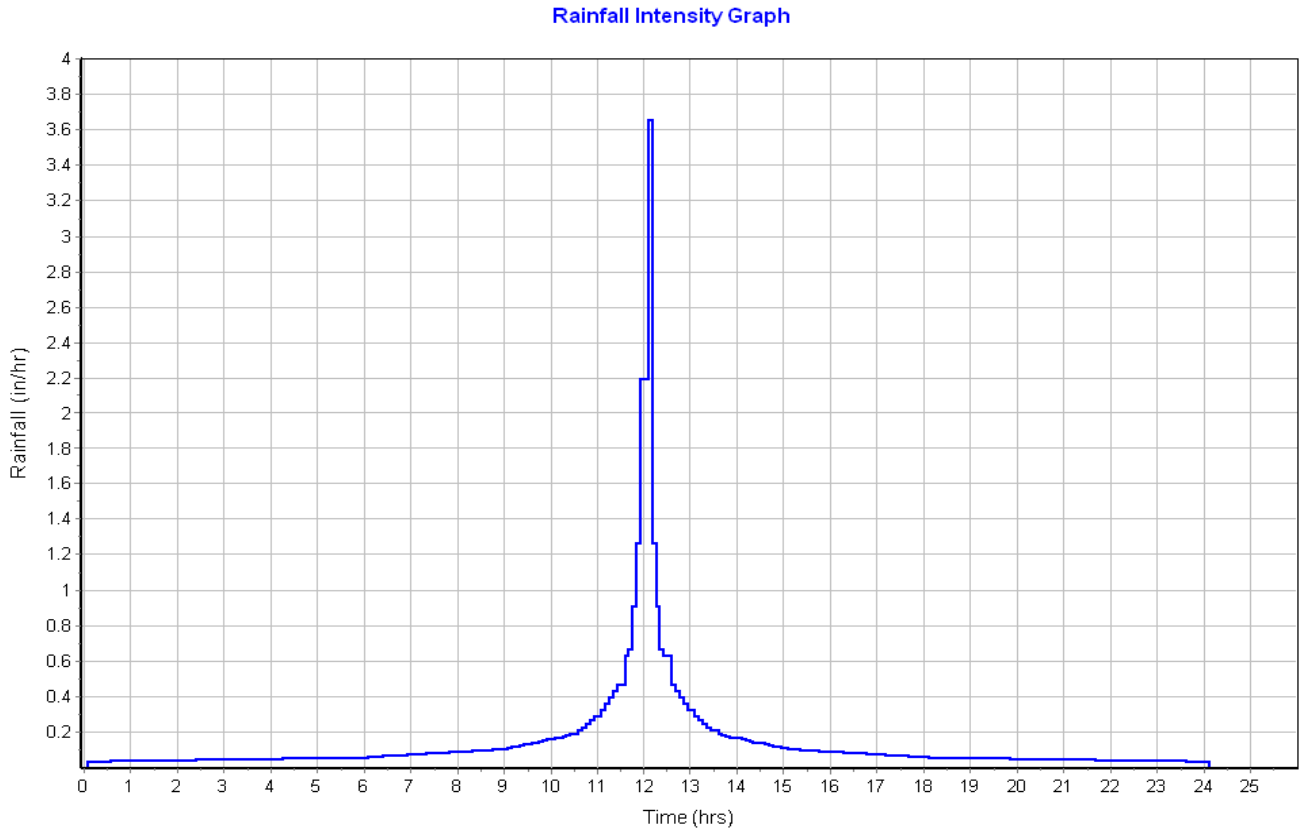
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.62	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

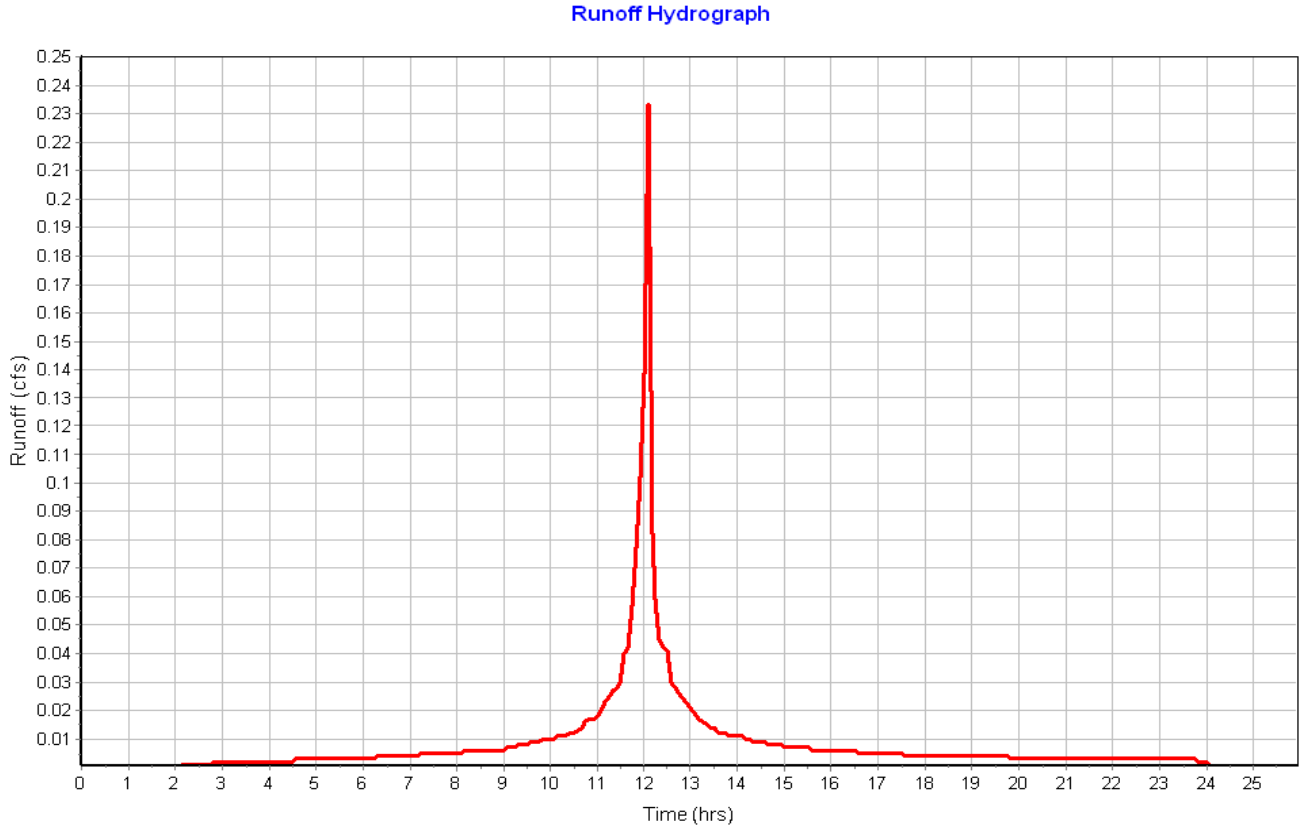
Total TOC (min) 1.64

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.23
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:38

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.01	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

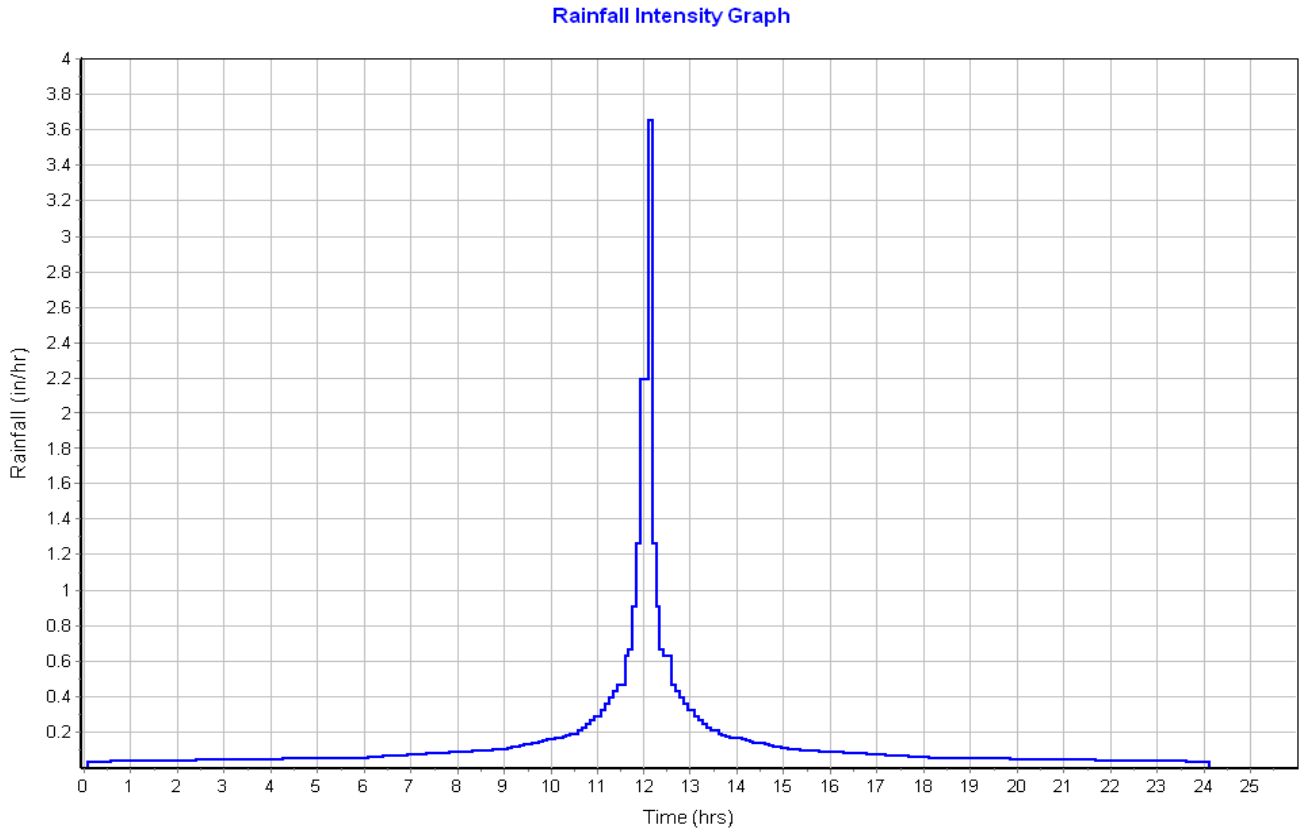
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	181.49	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.49	0.00	0.00

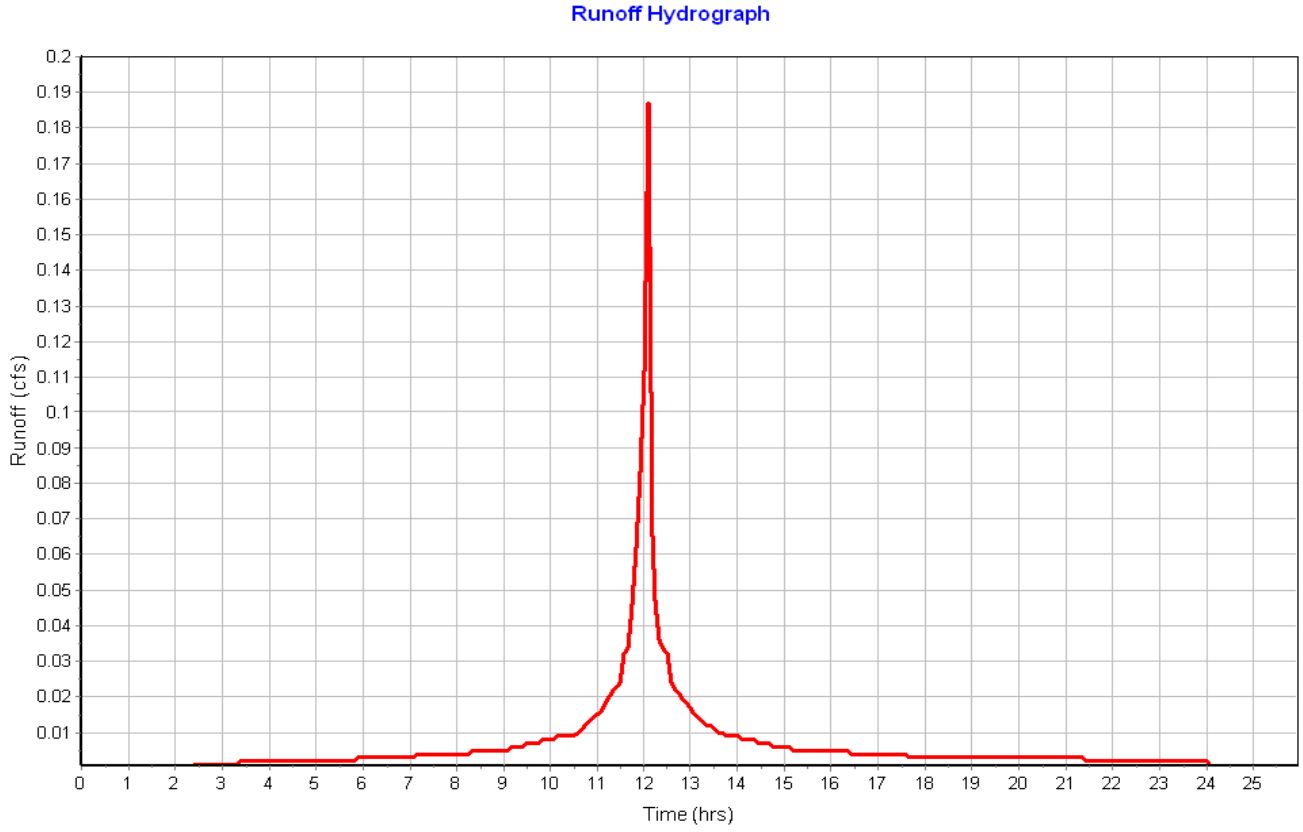
Total TOC (min) 1.62

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.25
Peak Runoff (cfs)	0.19
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:37

Subbasin : Sub-09





Subbasin : Sub-10a

Input Data

Area (ac) 0.06
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.36	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.76	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

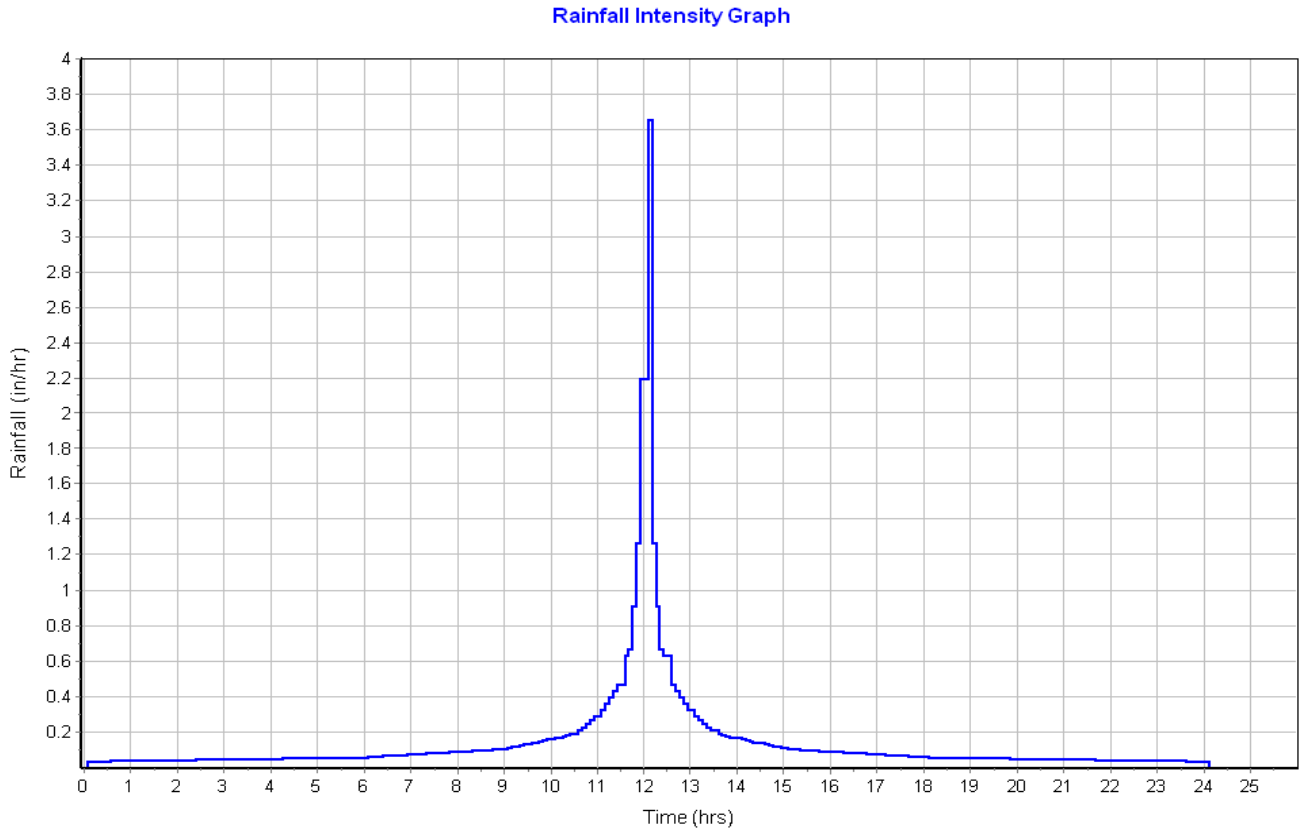
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	193.09	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.59	0.00	0.00

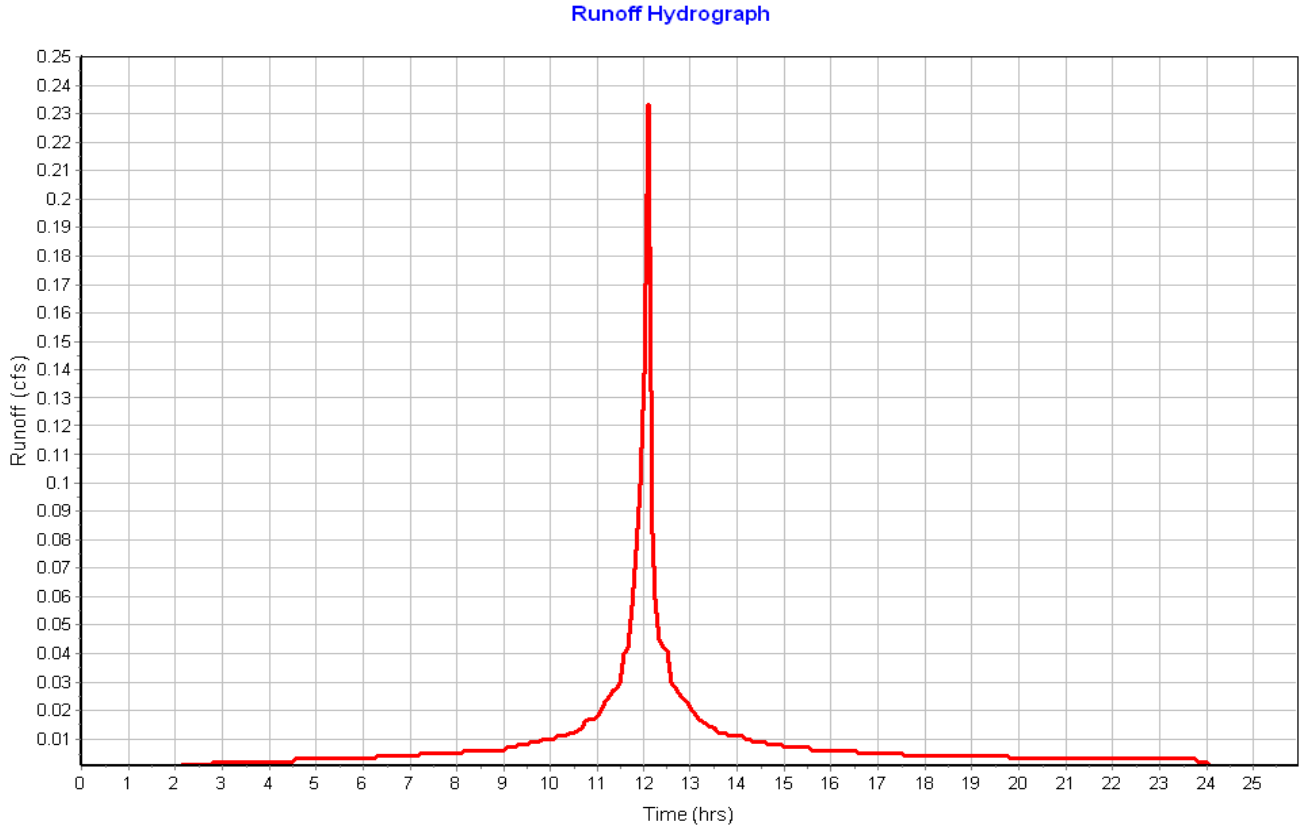
Total TOC (min) 1.72

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.23
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:43

Subbasin : Sub-10a





Subbasin : Sub-10b

Input Data

Area (ac)	0.04
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	18.28	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.64	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

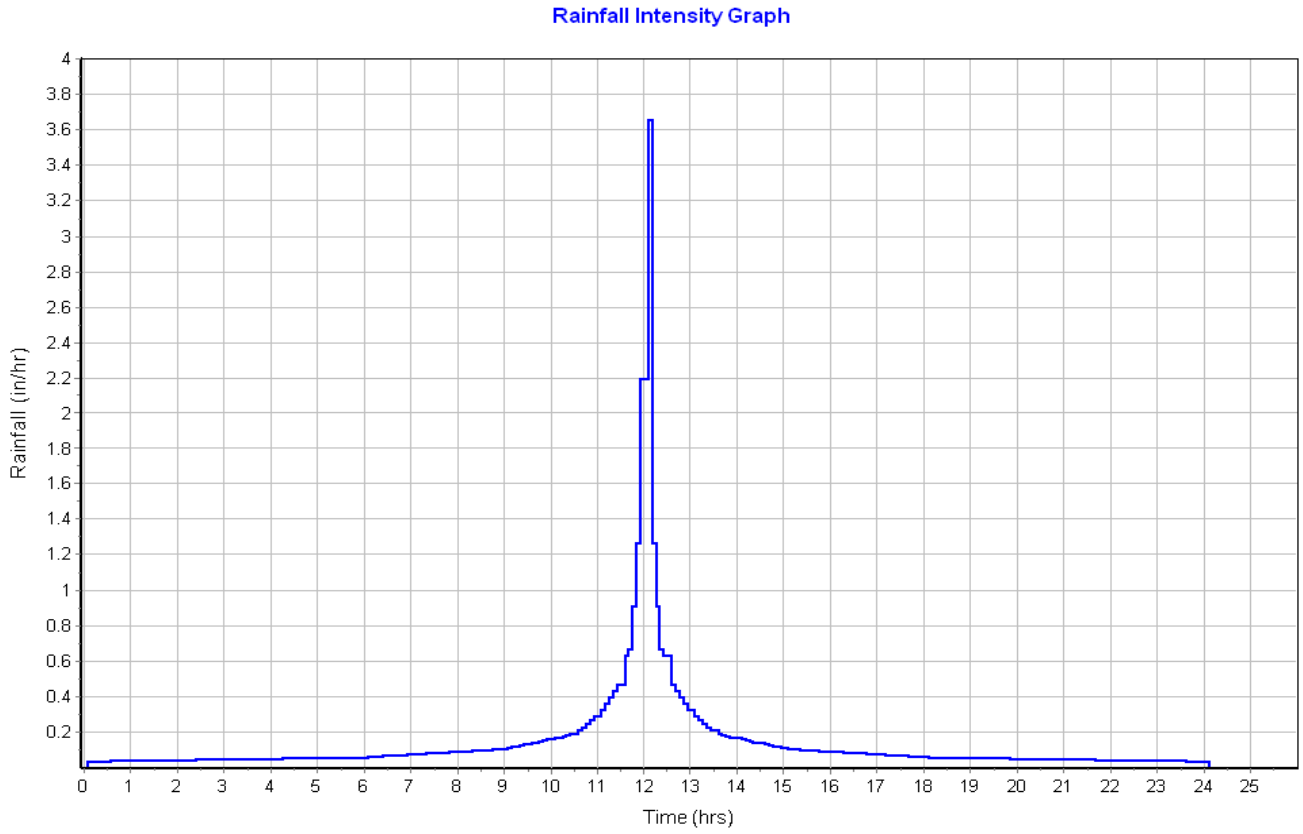
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	117.01	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	0.96	0.00	0.00

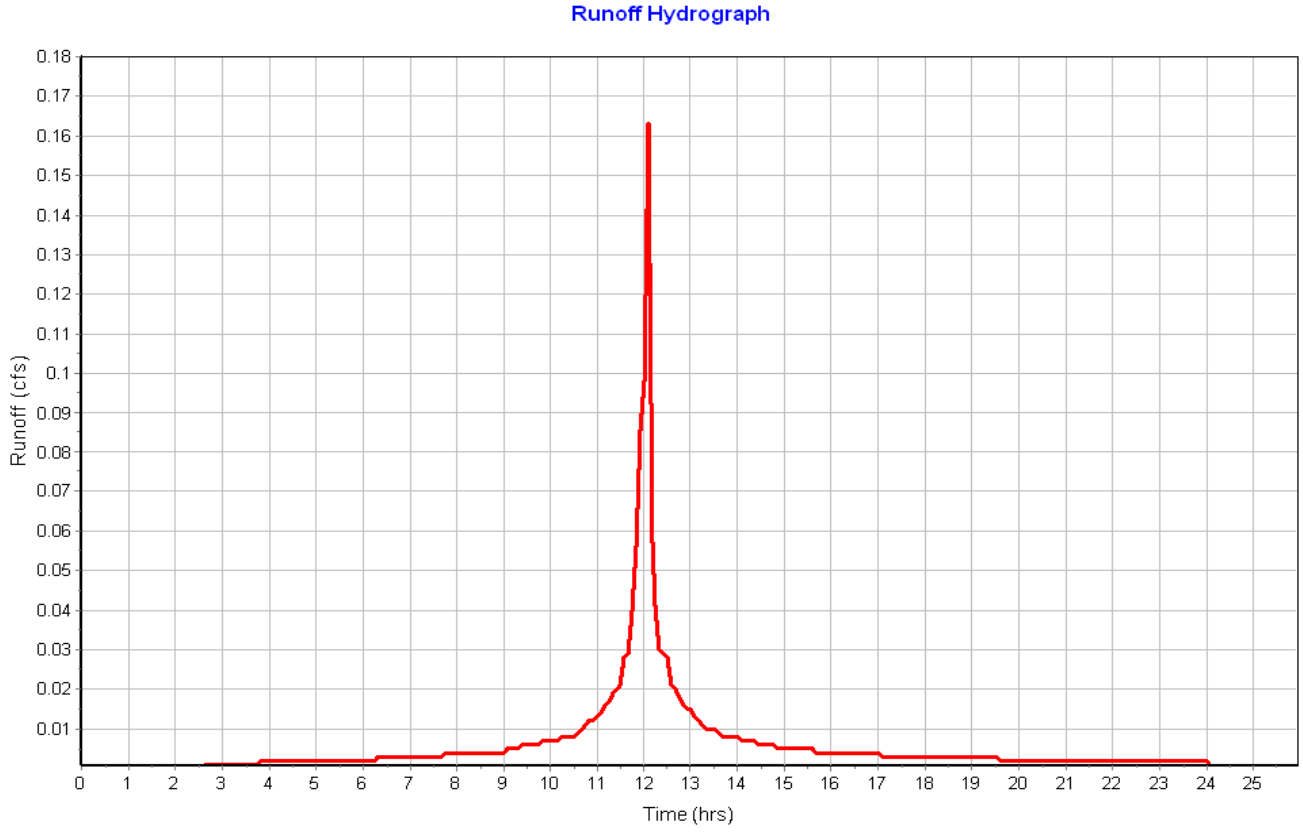
Total TOC (min) 1.15

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.25
Peak Runoff (cfs)	0.16
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-10b





Subbasin : Sub-11

Input Data

Area (ac)	0.08
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

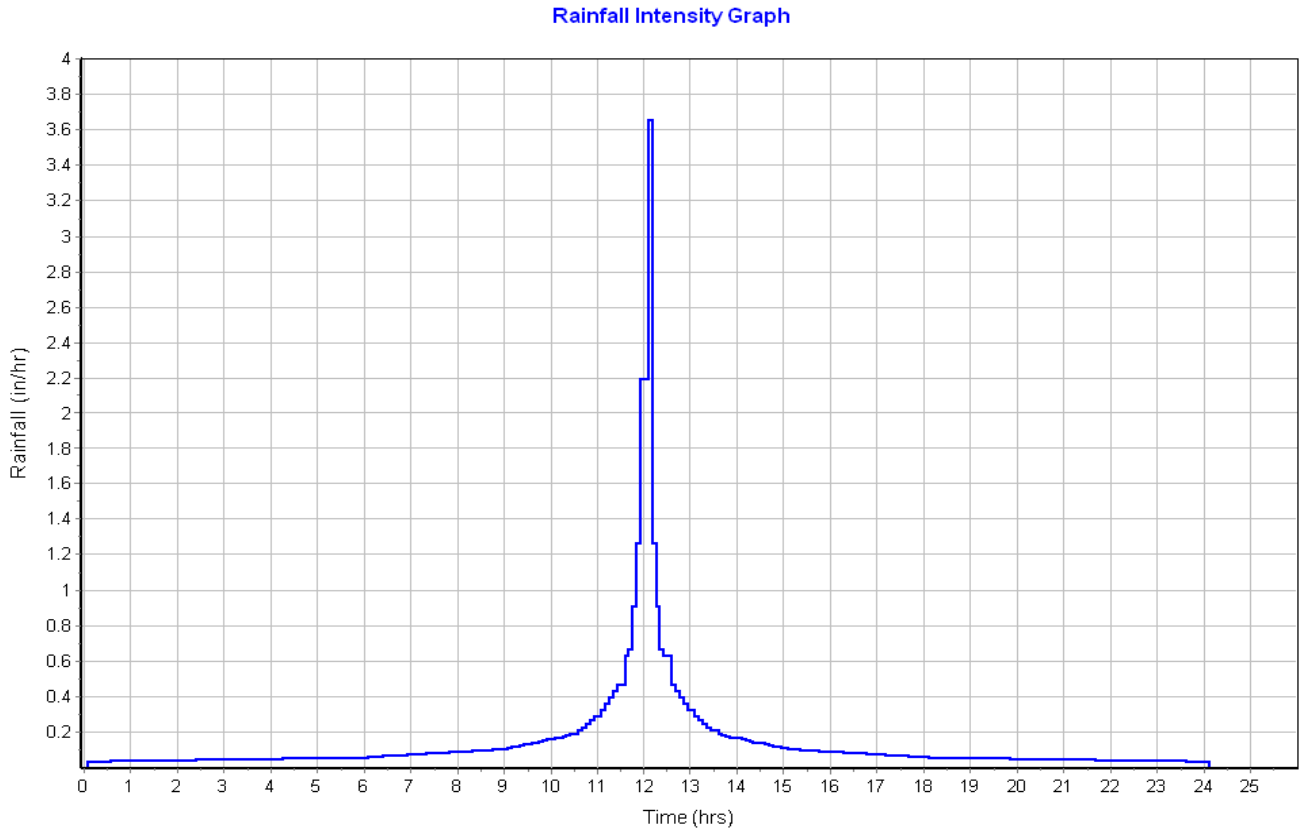
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.78	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.57	0.00	0.00

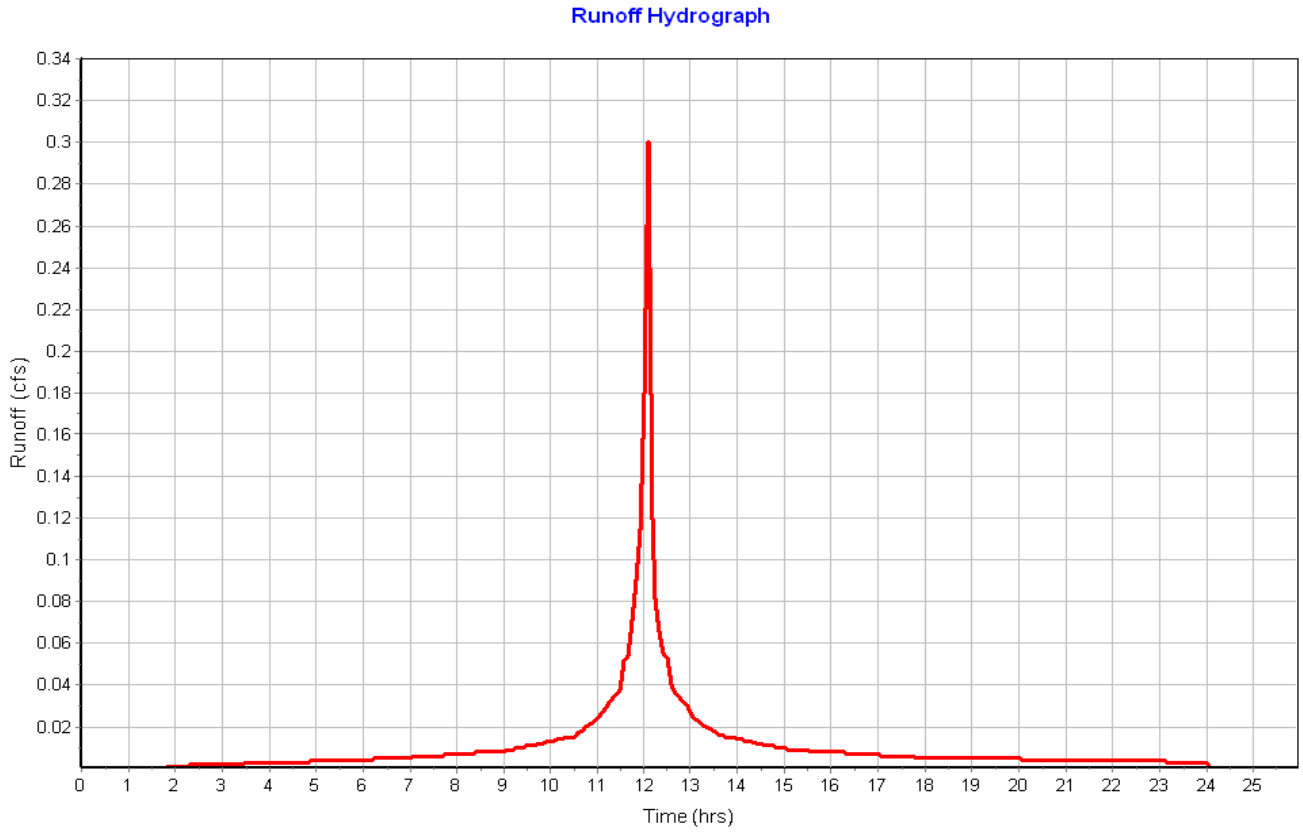
Total TOC (min) 2.70

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.30
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:42

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.77	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

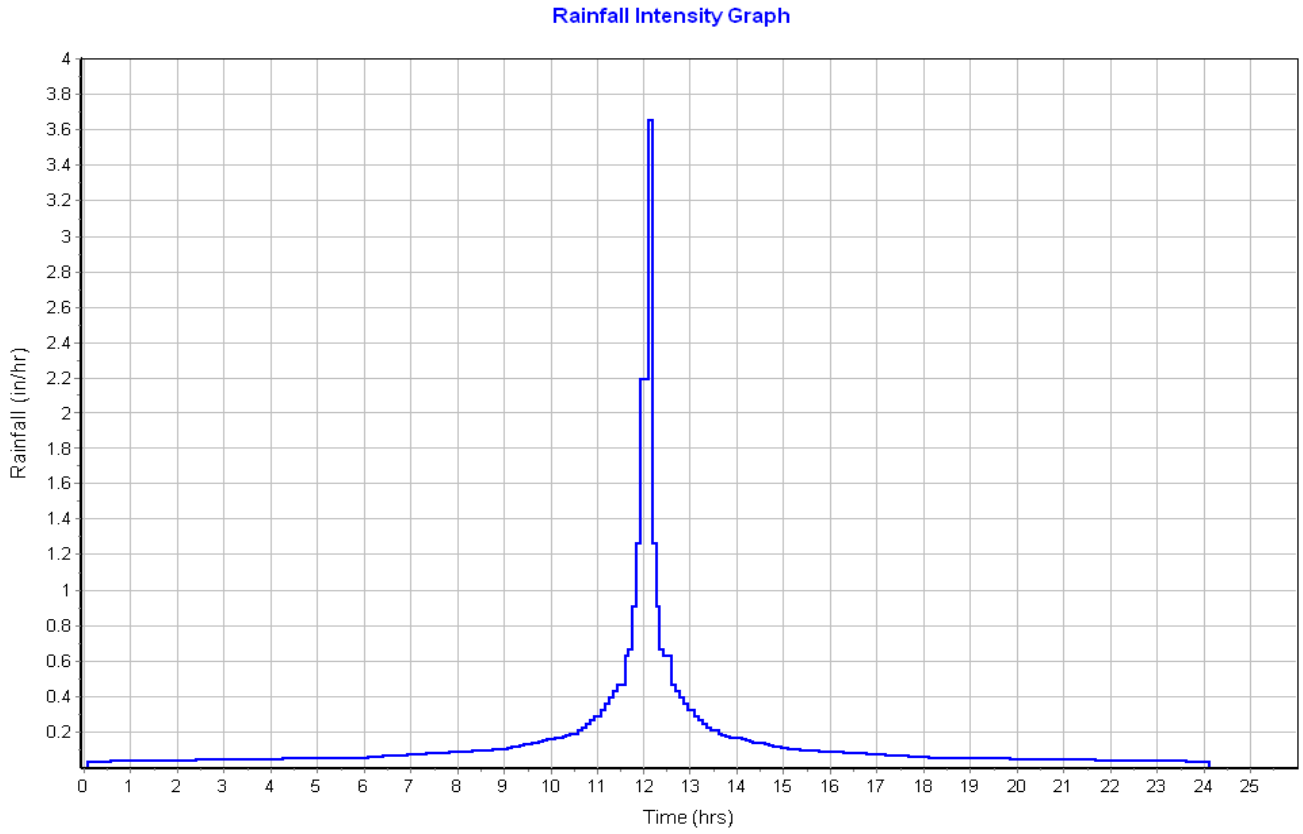
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.58	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

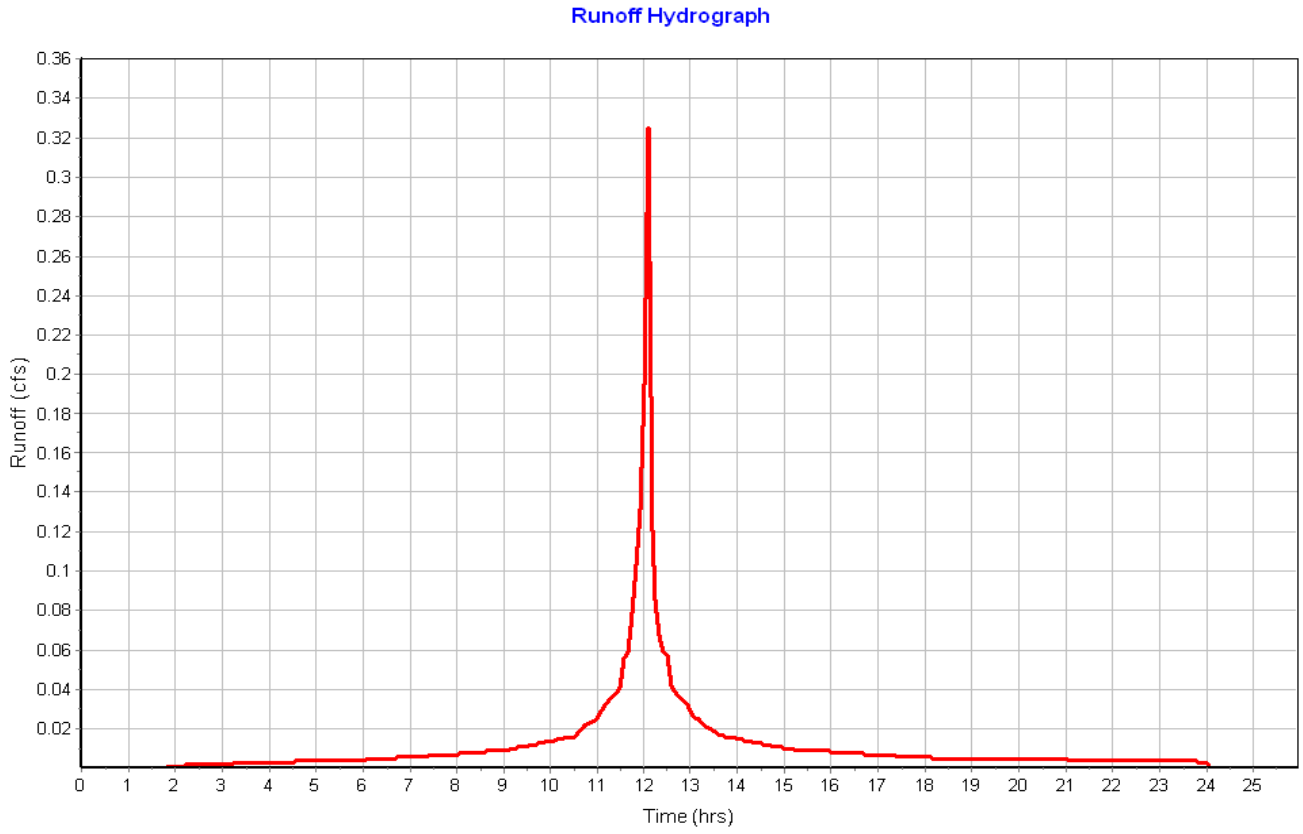
Total TOC (min) 2.31

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.33
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:19

Subbasin : Sub-12





Subbasin : Sub-13

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	11.16	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

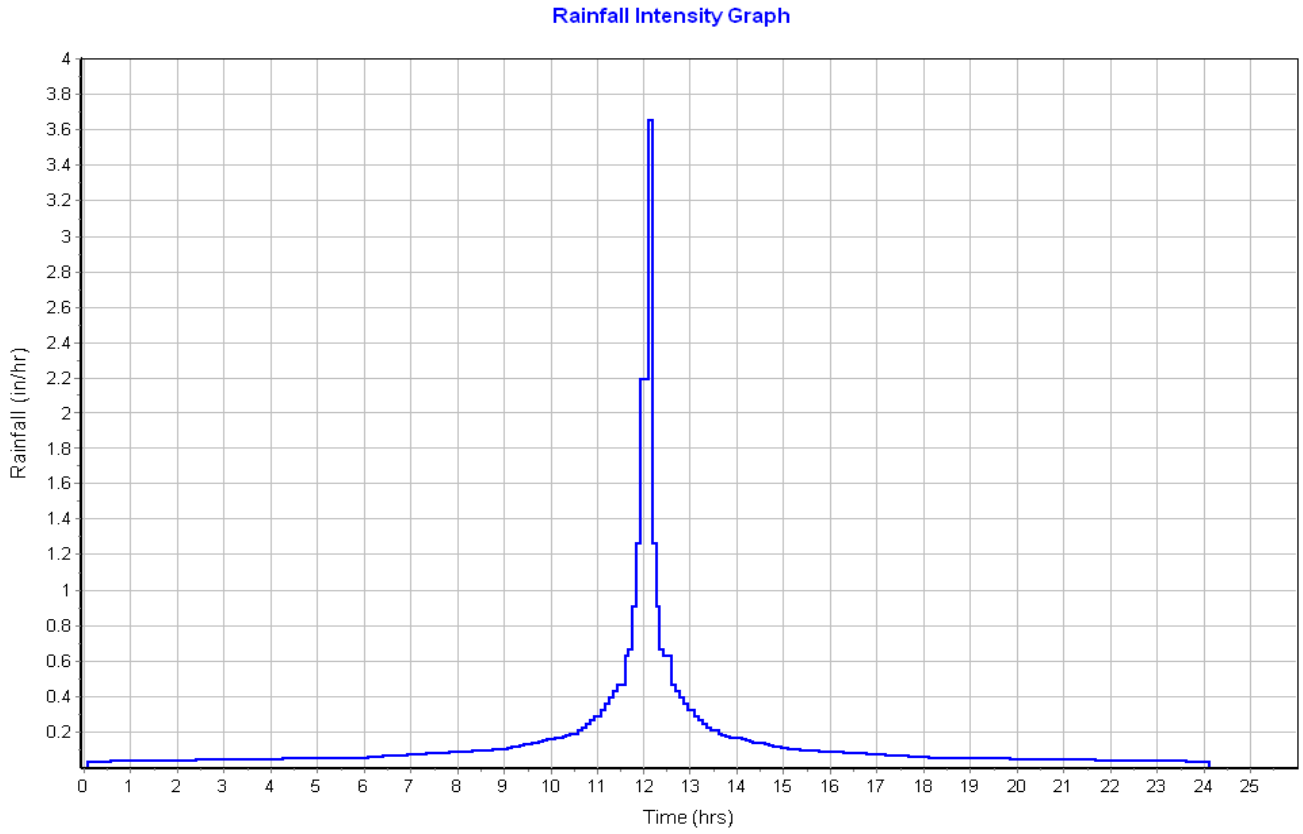
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.75	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.17	0.00	0.00

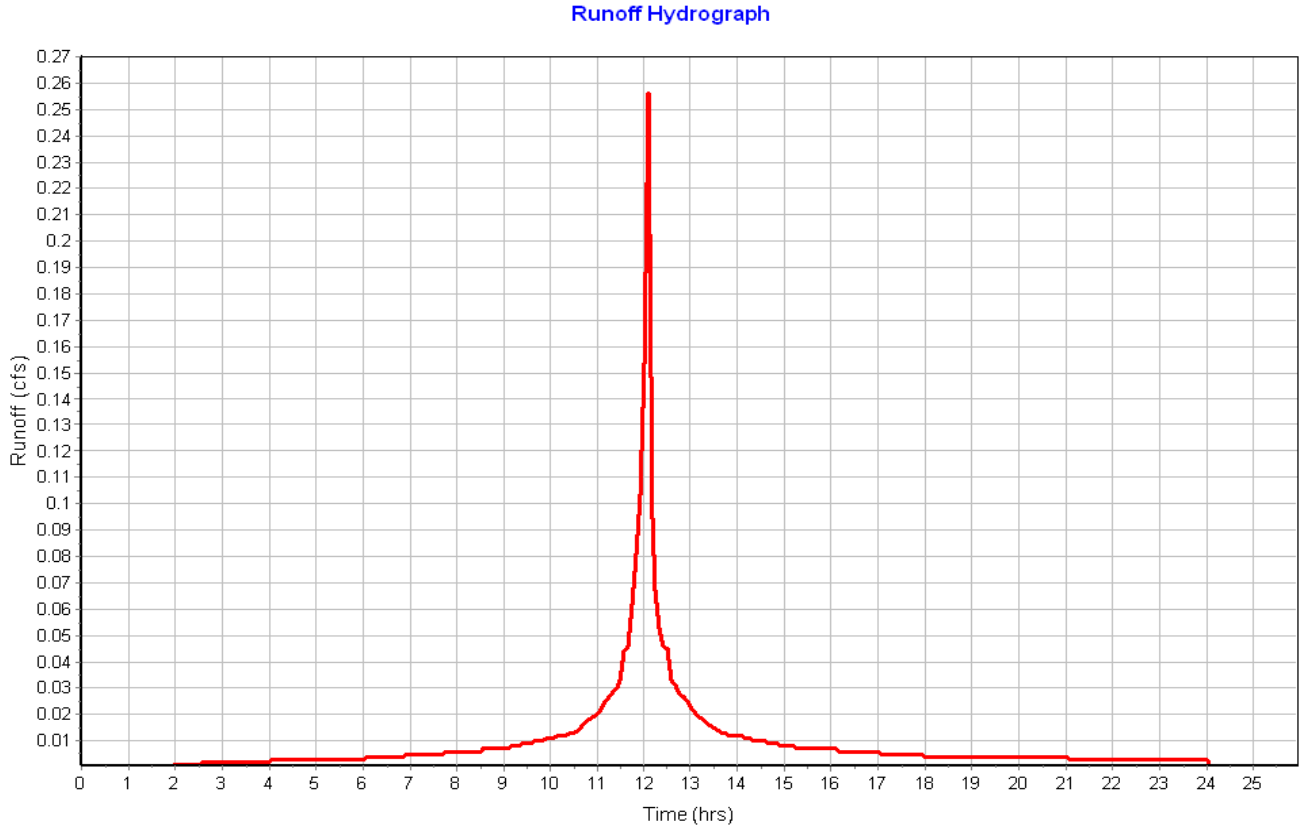
Total TOC (min) 2.28

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.26
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:17

Subbasin : Sub-13





Subbasin : Sub-14a

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.73	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

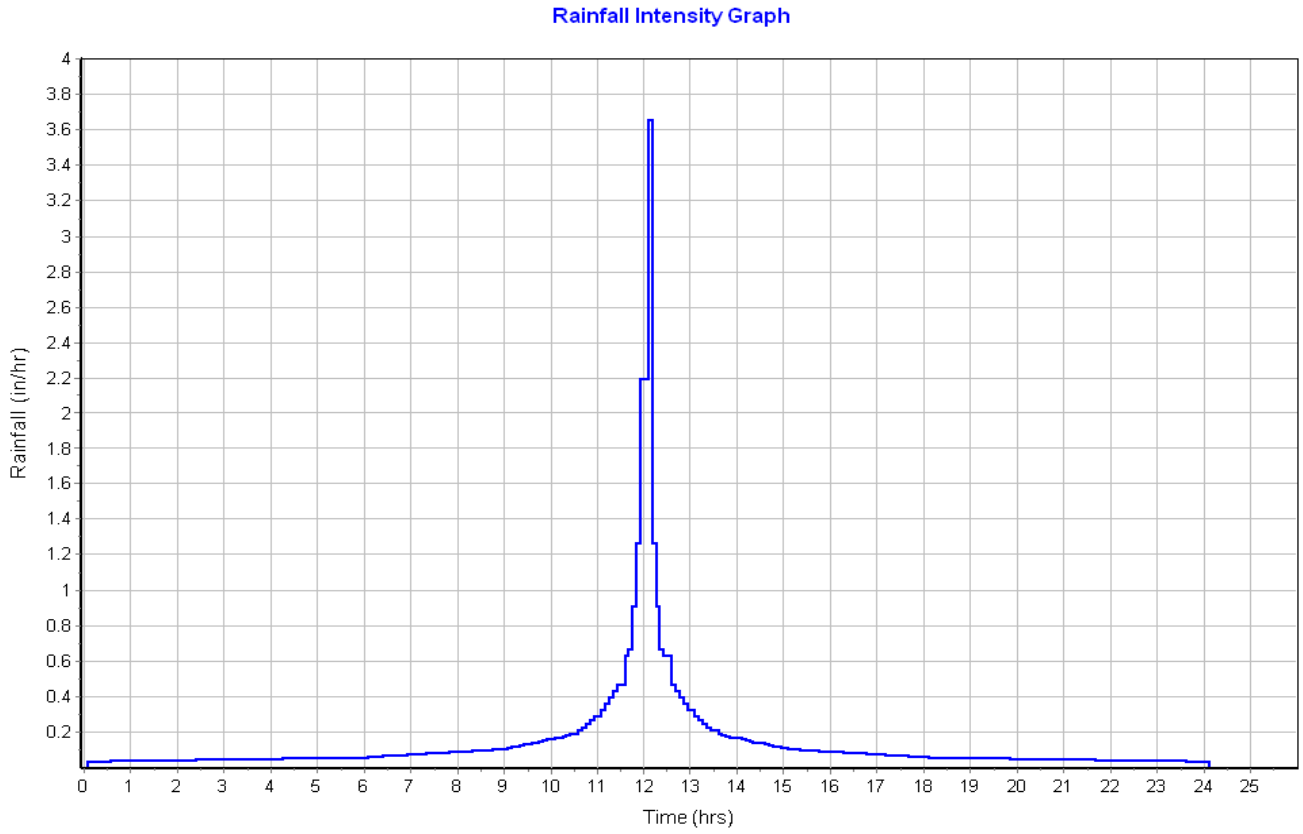
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	160.67	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.22	0.00	0.00

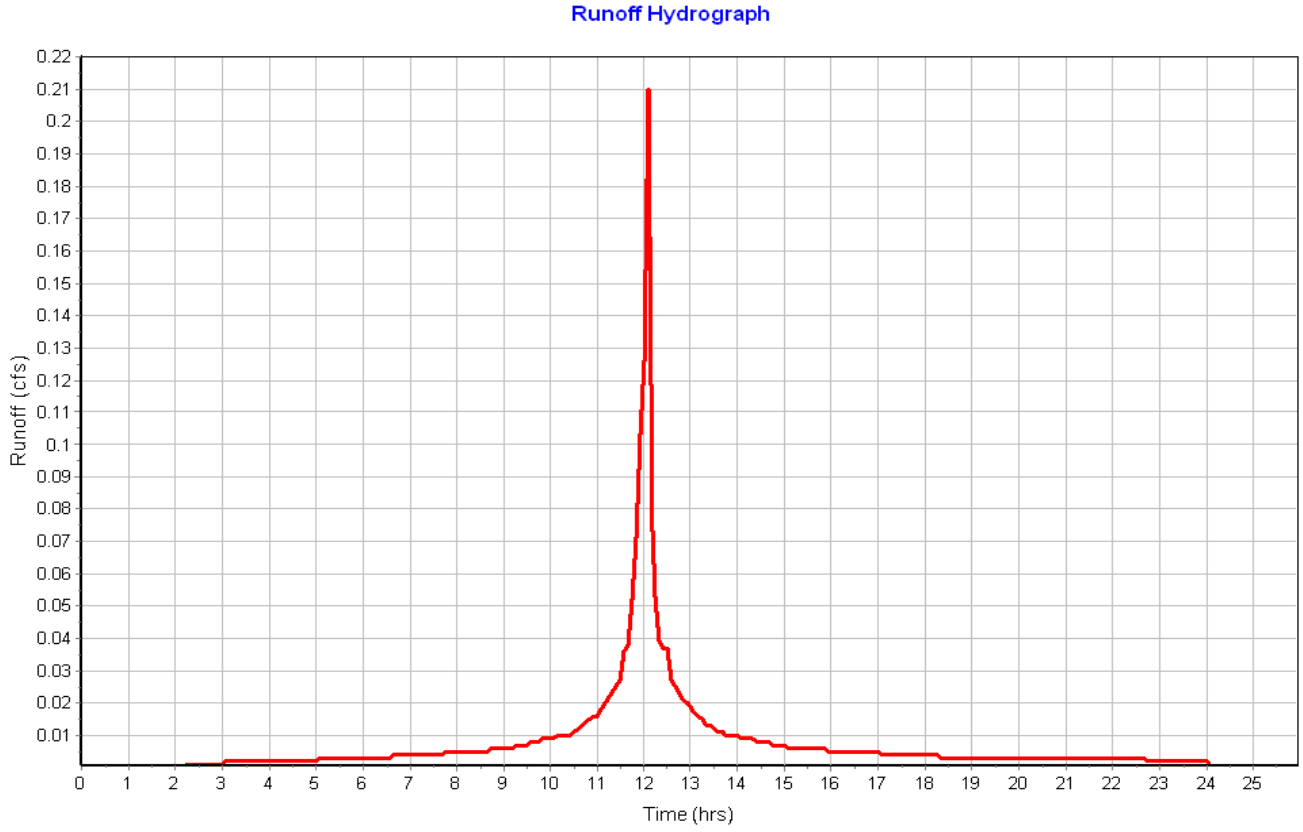
Total TOC (min) 1.37

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-14a





Subbasin : Sub-14b

Input Data

Area (ac) 0.04
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.60	0.00	0.00
Computed Flow Time (min) :	0.17	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	106.79	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	0.84	0.00	0.00

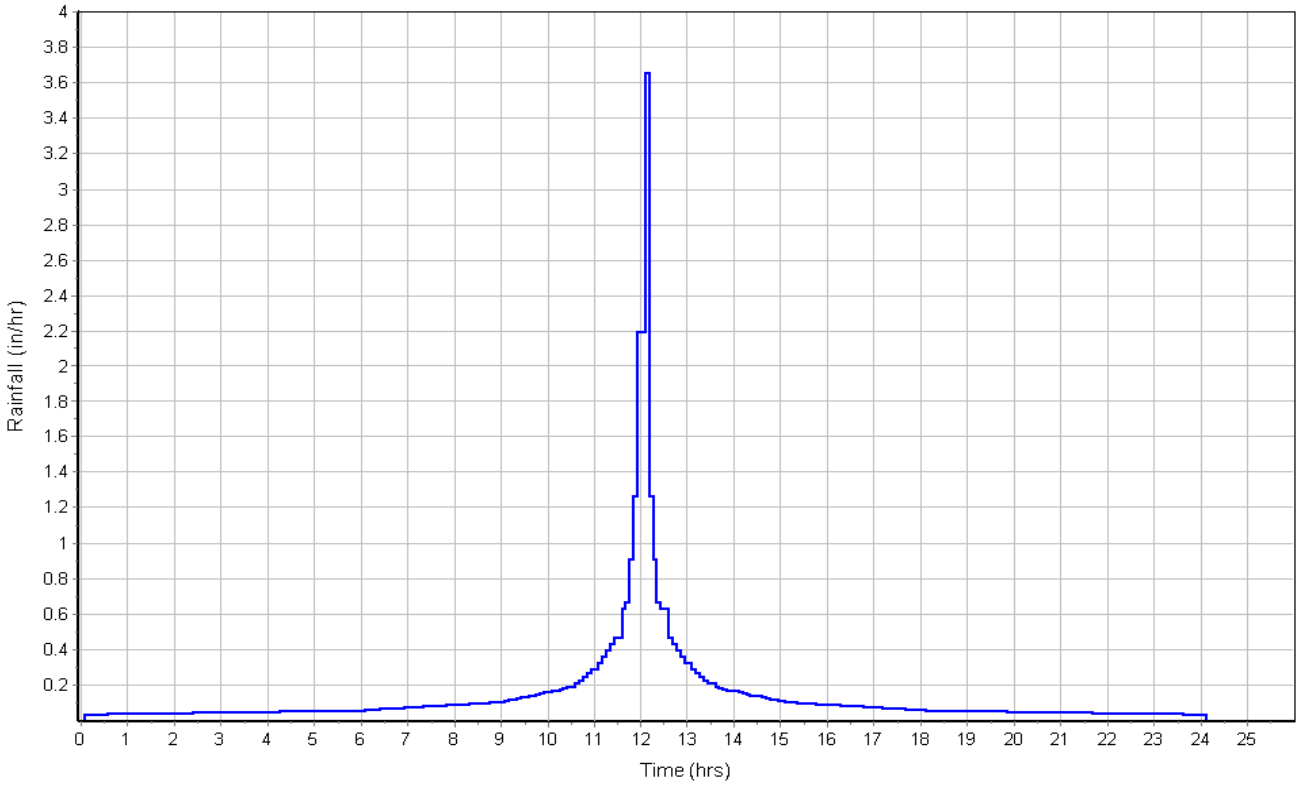
Total TOC (min) 1.00

Subbasin Runoff Results

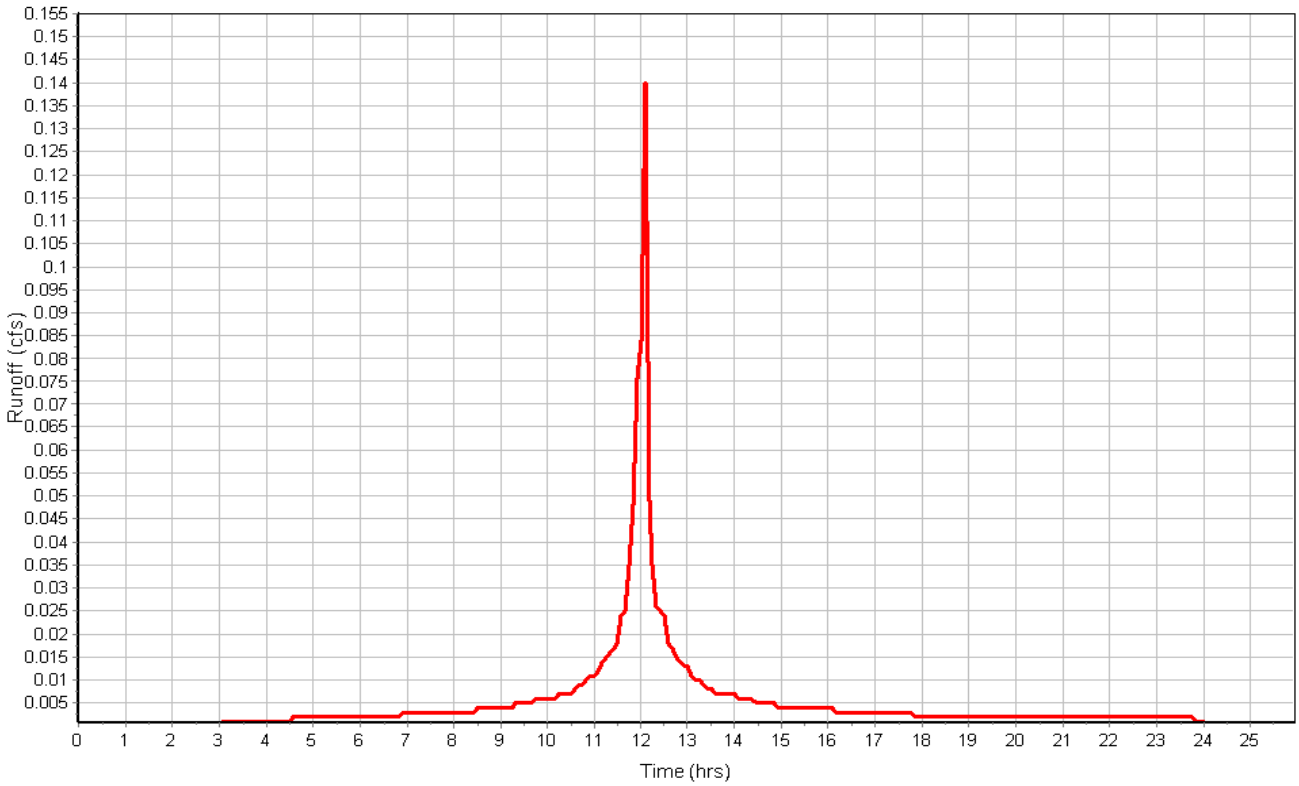
Total Rainfall (in) 3.50
Total Runoff (in) 3.24
Peak Runoff (cfs) 0.14
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:00

Subbasin : Sub-14b

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-15

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

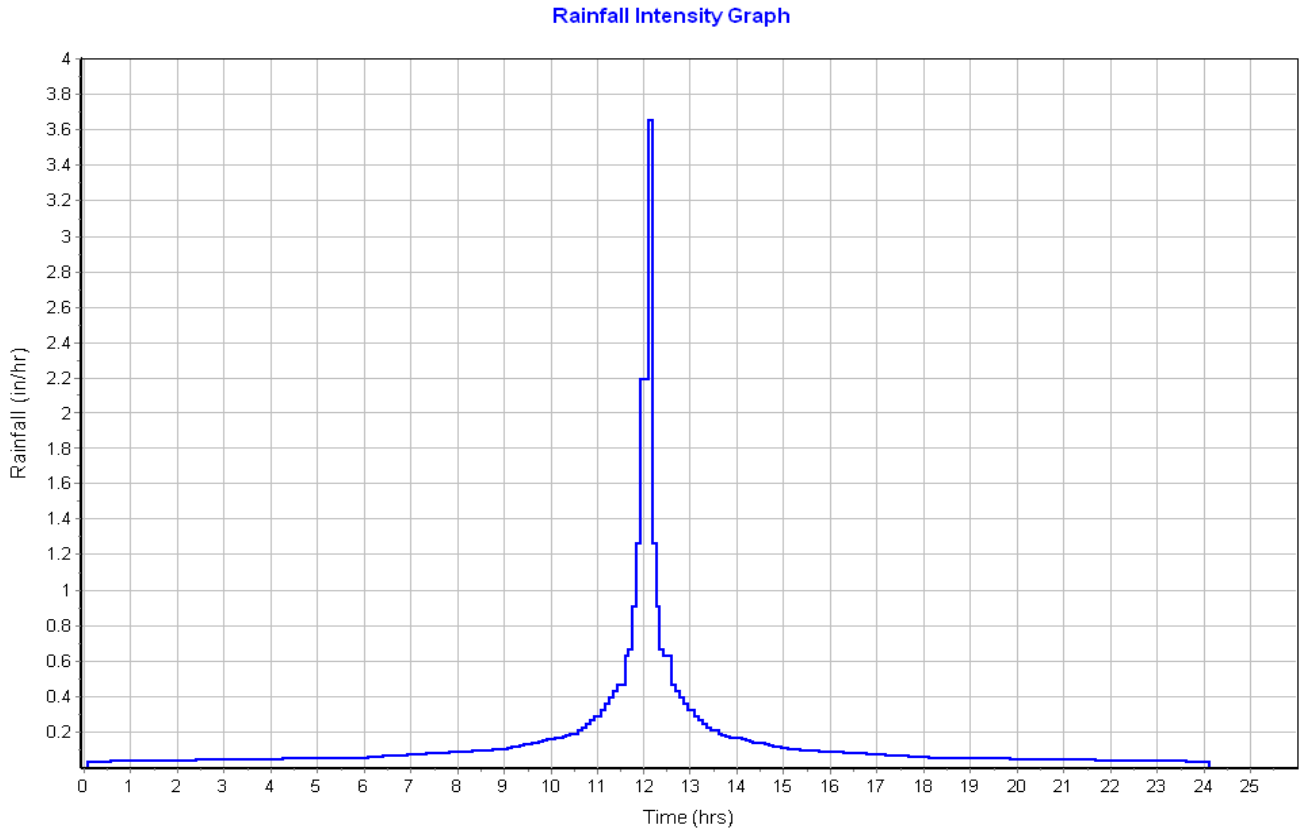
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	265.51	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.01	0.00	0.00

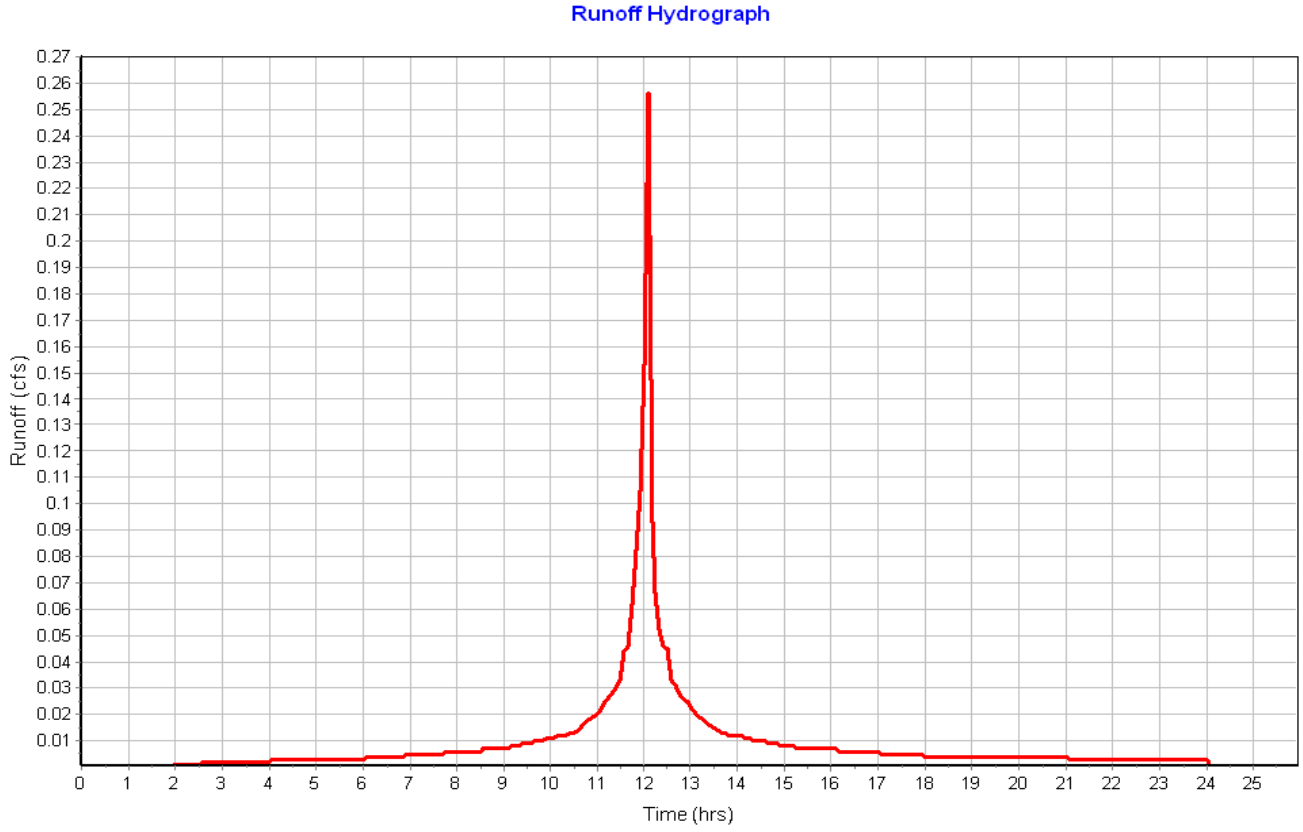
Total TOC (min) 2.14

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.26
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:08

Subbasin : Sub-15





Subbasin : Sub-16

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	22.46	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.92	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

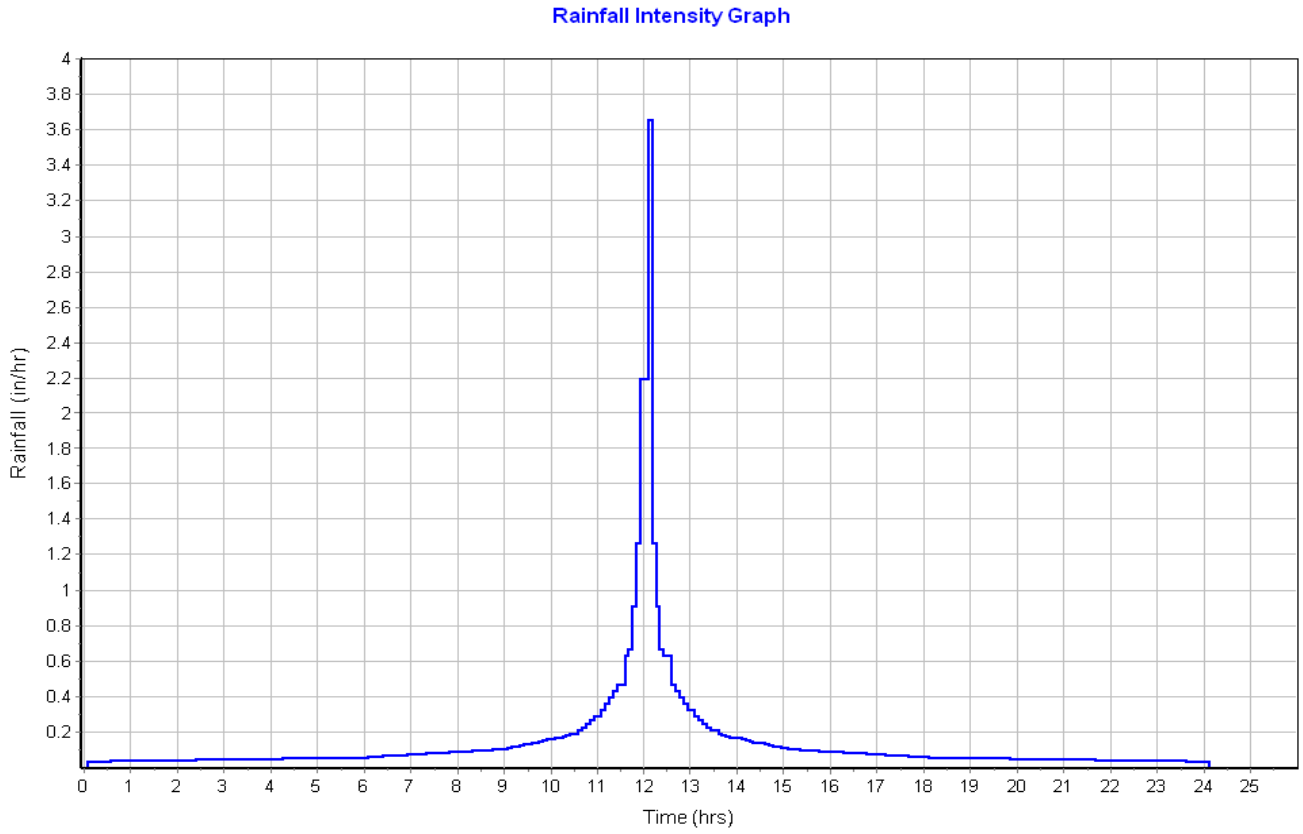
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.75	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.94	0.00	0.00

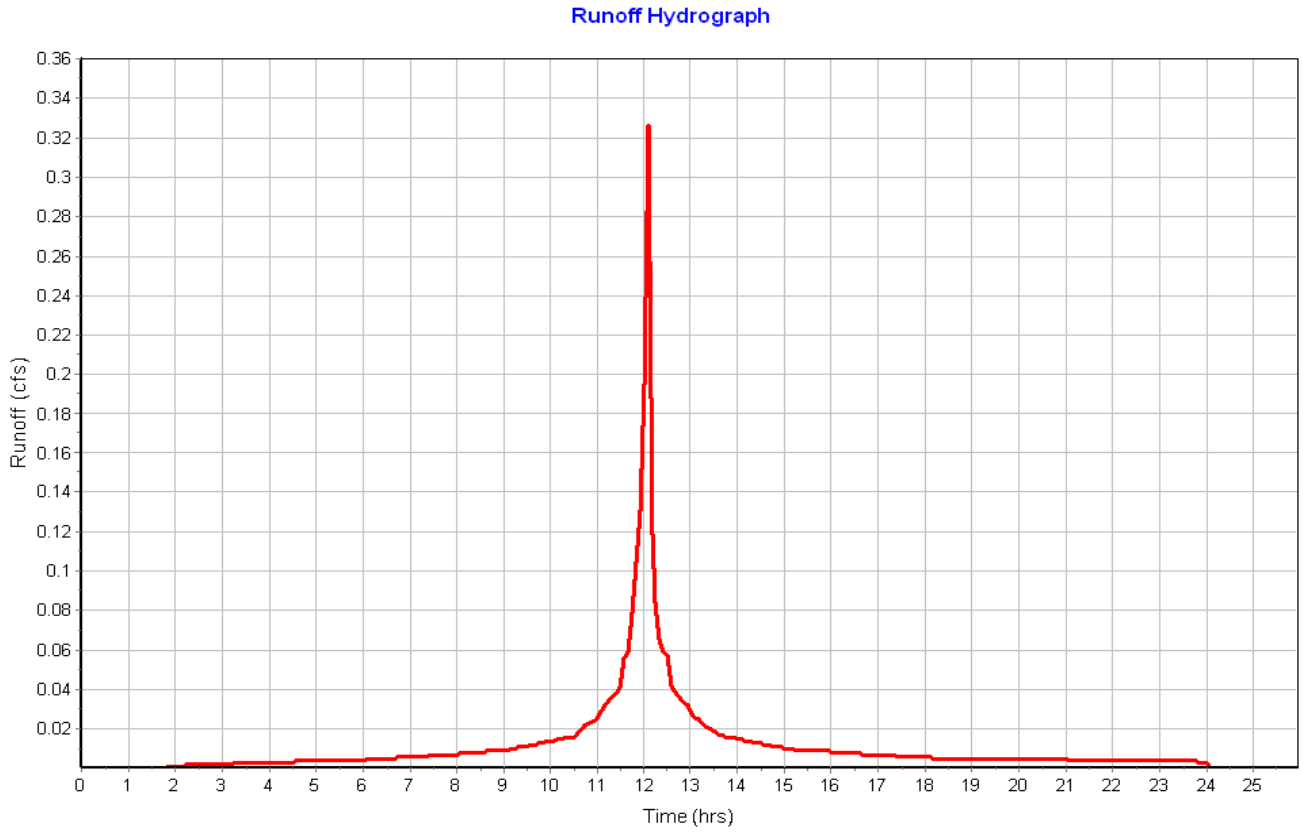
Total TOC (min) 2.13

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.33
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:08

Subbasin : Sub-16





Subbasin : Sub-17

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

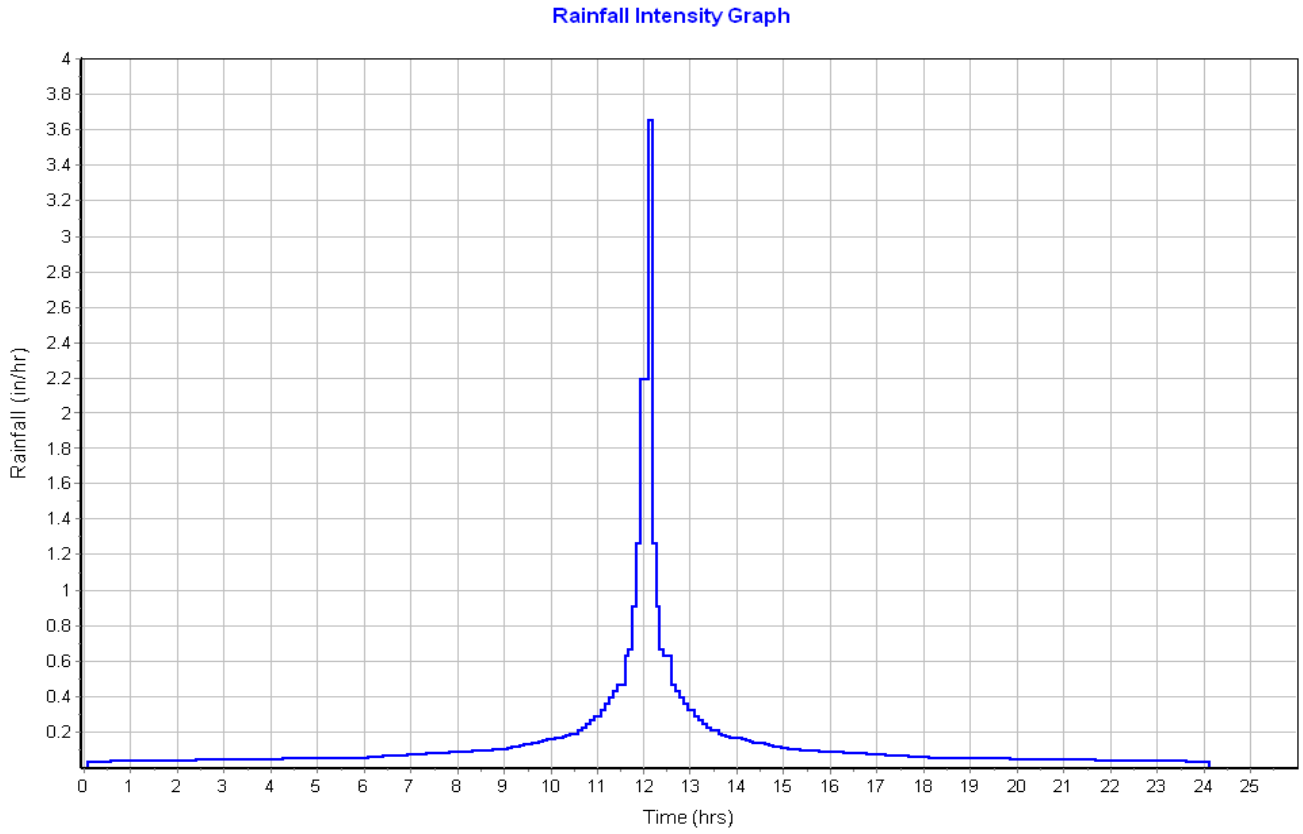
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	267.21	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.02	0.00	0.00

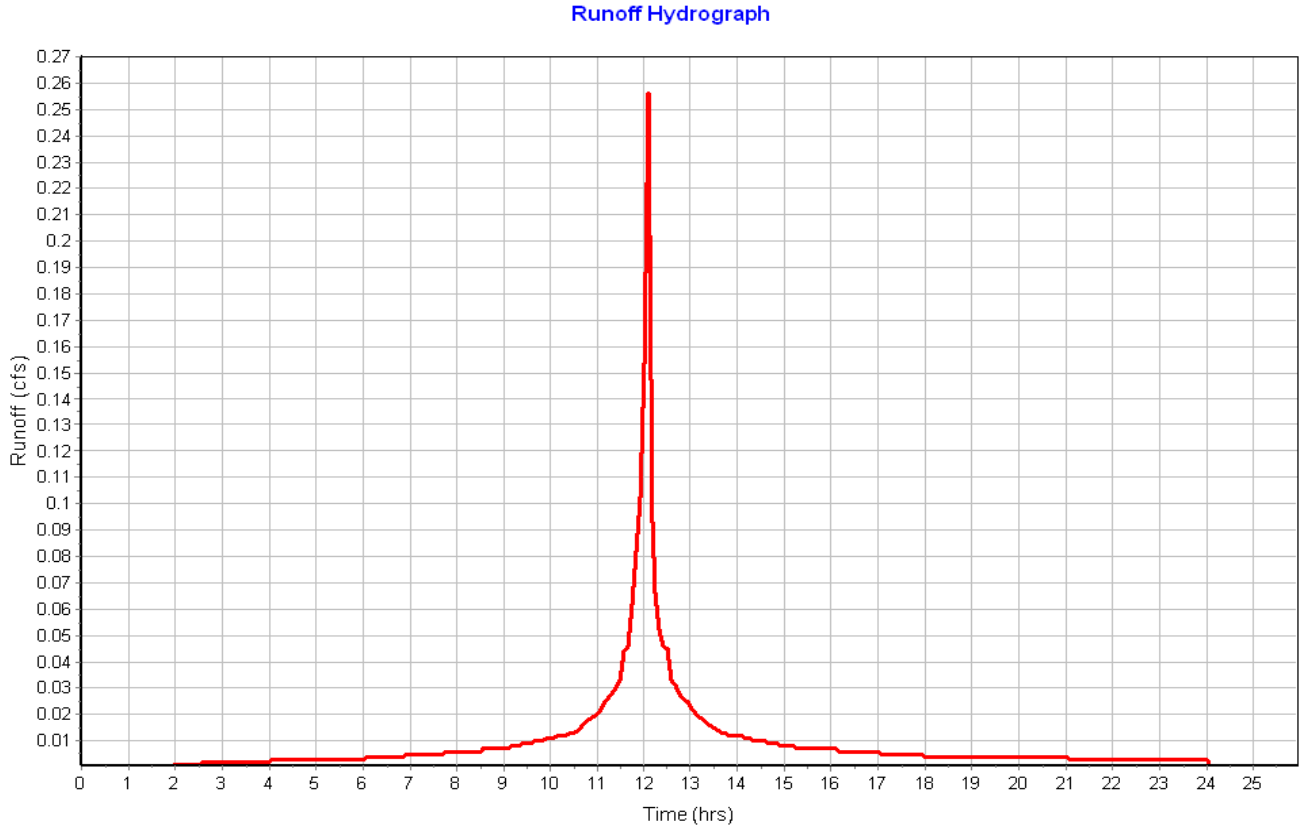
Total TOC (min) 2.15

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.26
Peak Runoff (cfs) 0.26
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:09

Subbasin : Sub-17





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	6.00	116.00	4.00	116.00	3.50	0.00	0.0000	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-02	12.00	116.00	3.50	114.00	2.00	2.00	16.6700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-03	24.02	117.15	4.00	117.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-05	23.50	116.15	4.00	116.00	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
5	Link-06	23.47	115.65	4.00	115.50	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-07	16.00	117.00	4.00	116.90	0.90	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-08	16.00	117.00	4.00	116.90	0.90	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-09	88.06	114.05	4.15	113.25	0.25	0.80	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
9	Link-10	11.34	115.75	4.25	113.00	-1.00	2.75	24.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
10	Link-11	11.51	114.65	3.15	114.25	0.25	0.40	3.4800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-12	16.00	115.50	4.00	115.00	1.00	0.50	3.1300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
12	Link-13	16.60	111.65	4.00	111.00	1.00	0.65	3.9200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
13	Link-14	28.55	113.15	4.50	113.00	0.00	0.15	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
14	Link-15	11.48	111.15	4.15	111.00	1.00	0.15	1.3100	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.70	0 12:10	0.30	2.36	2.29	0.04	0.41	0.41	0.00		> CAPACITY
2	Link-02	0.70	0 12:10	9.45	0.07	6.67	0.03	0.19	0.19	0.00		Calculated
3	Link-03	0.18	0 12:10	1.83	0.10	1.36	0.29	0.23	0.23	0.00		Calculated
4	Link-05	0.16	0 12:10	1.85	0.09	0.55	0.71	0.41	0.41	0.00		Calculated
5	Link-06	0.25	0 12:10	1.85	0.14	1.71	0.23	0.24	0.24	0.00		Calculated
6	Link-07	0.21	0 12:10	1.83	0.11	1.69	0.16	0.21	0.21	0.00		Calculated
7	Link-08	0.21	0 12:10	1.83	0.11	1.69	0.16	0.21	0.21	0.00		Calculated
8	Link-09	0.44	0 12:11	2.21	0.20	2.28	0.64	0.29	0.30	0.00		Calculated
9	Link-10	0.12	0 12:16	9.10	0.01	3.93	0.05	0.07	0.08	0.00		Calculated
10	Link-11	0.35	0 12:10	4.32	0.08	3.13	0.06	0.19	0.20	0.00		Calculated
11	Link-12	0.39	0 12:10	4.09	0.10	3.15	0.08	0.21	0.21	0.00		Calculated
12	Link-13	0.86	0 12:11	4.58	0.19	4.20	0.07	0.29	0.31	0.00		Calculated
13	Link-14	0.25	0 12:10	0.26	0.95	1.28	0.37	0.50	1.00	3.00		SURCHARGED
14	Link-15	0.23	0 12:11	0.42	0.56	2.20	0.09	0.26	0.53	0.00		Calculated

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 116.00
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 3.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -116.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

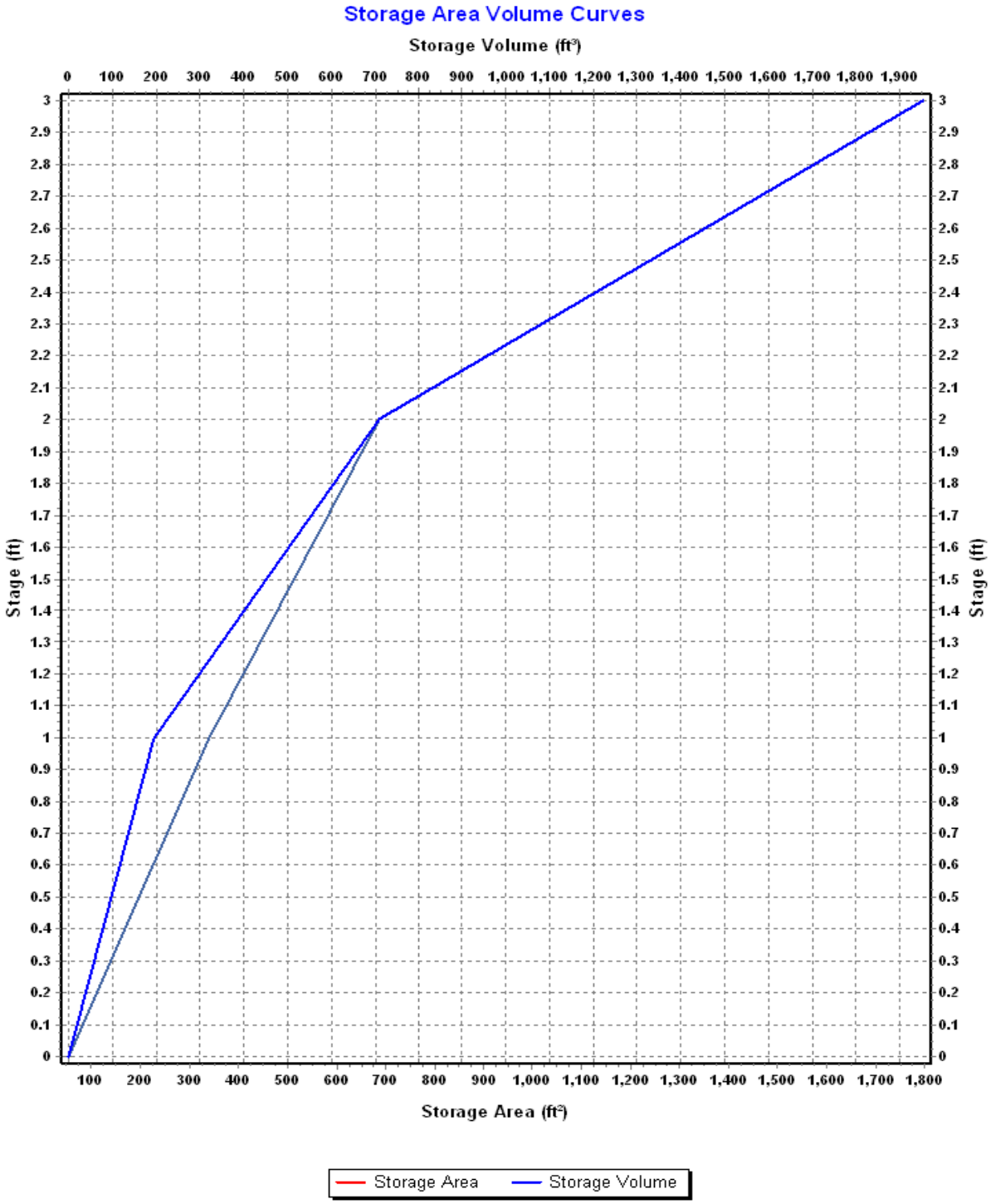
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	54	0.000
1	339	196.50
2	689	710.50
3	1796	1953.00


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3
Storage Area (ft²)
100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-02	Trapezoidal	No	119.00	3.00	20.00	0.25	3.33
2	Weir-03	Trapezoidal	No	116.90	0.90	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.46
Peak Lateral Inflow (cfs)	0.05
Peak Outflow (cfs)	0.45
Peak Exfiltration Flow Rate (cfm)	0.12
Max HGL Elevation Attained (ft)	116.97
Max HGL Depth Attained (ft)	0.97
Average HGL Elevation Attained (ft)	116.79
Average HGL Depth Attained (ft)	0.79
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.118
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

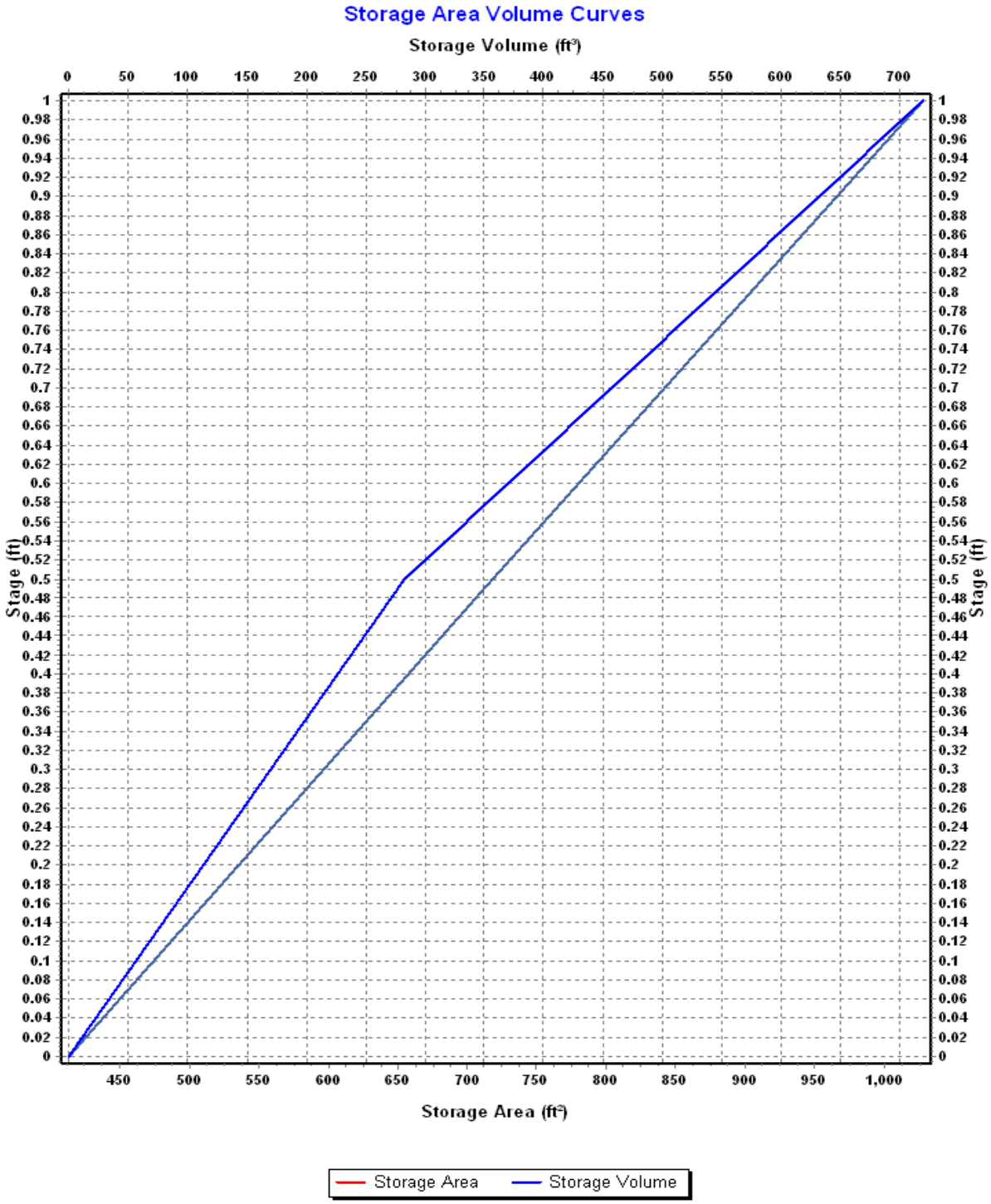
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	413	0.000
.5	718	282.75
1	1028	719.25


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
450 500 550 600 650 700 750 800 850 900 950 1,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-05	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.28
Peak Lateral Inflow (cfs)	0.05
Peak Outflow (cfs)	0.21
Peak Exfiltration Flow Rate (cfm)	0.28
Max HGL Elevation Attained (ft)	118.54
Max HGL Depth Attained (ft)	0.54
Average HGL Elevation Attained (ft)	118.35
Average HGL Depth Attained (ft)	0.35
Time of Max HGL Occurrence (days hh:mm)	0 12:12
Total Exfiltration Volume (1000-ft³)	0.272
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02-Forebay

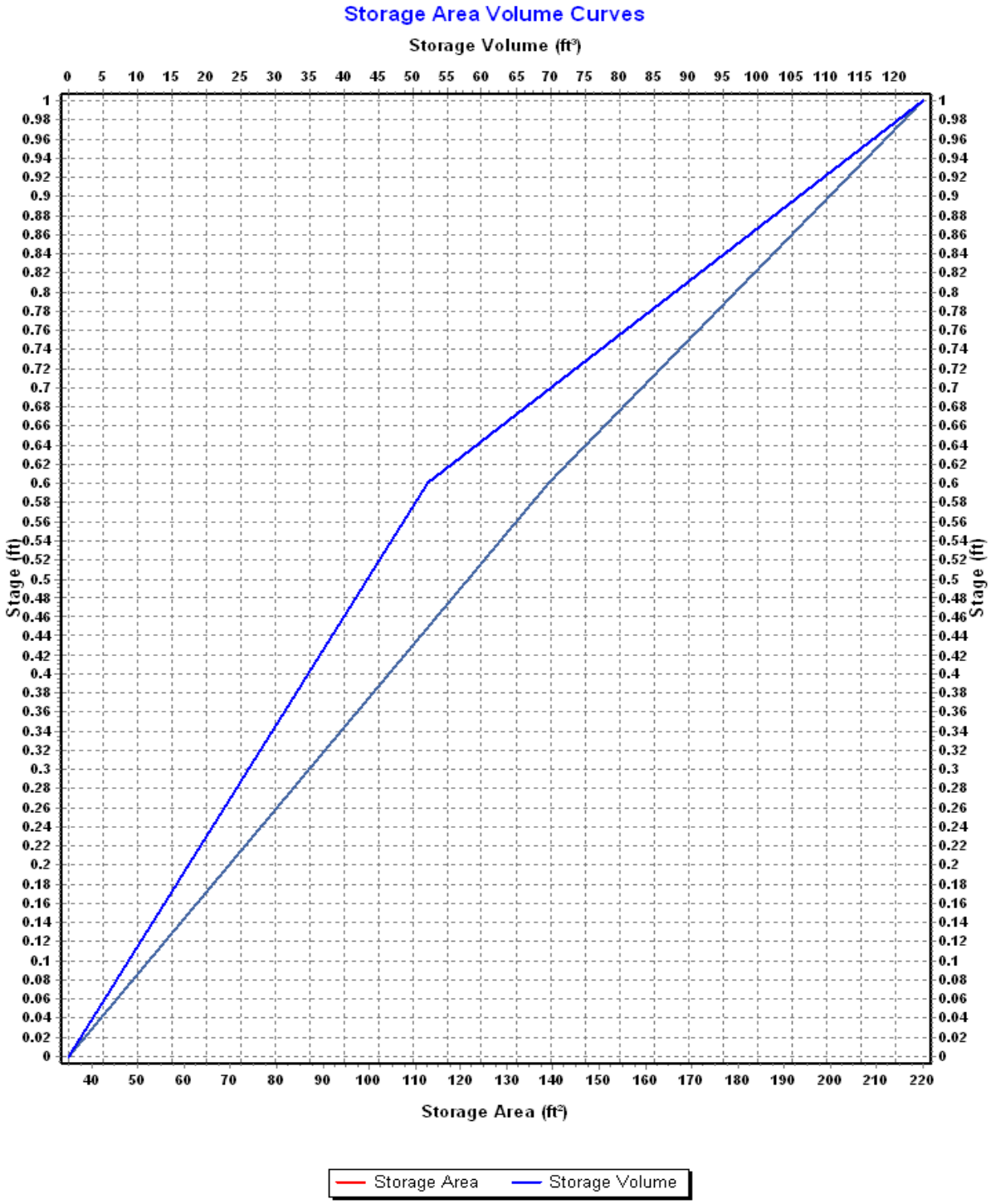
Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-02 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	35	0.000
.6	139	52.20
1	220	124.00


Storage Area Volume Curves
Storage Volume (ft³)
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	118.60	0.60	8.00	0.50	3.33
2	Weir-06	Trapezoidal	No	118.75	0.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.23
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.64
Max HGL Depth Attained (ft)	0.64
Average HGL Elevation Attained (ft)	118.59
Average HGL Depth Attained (ft)	0.59
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

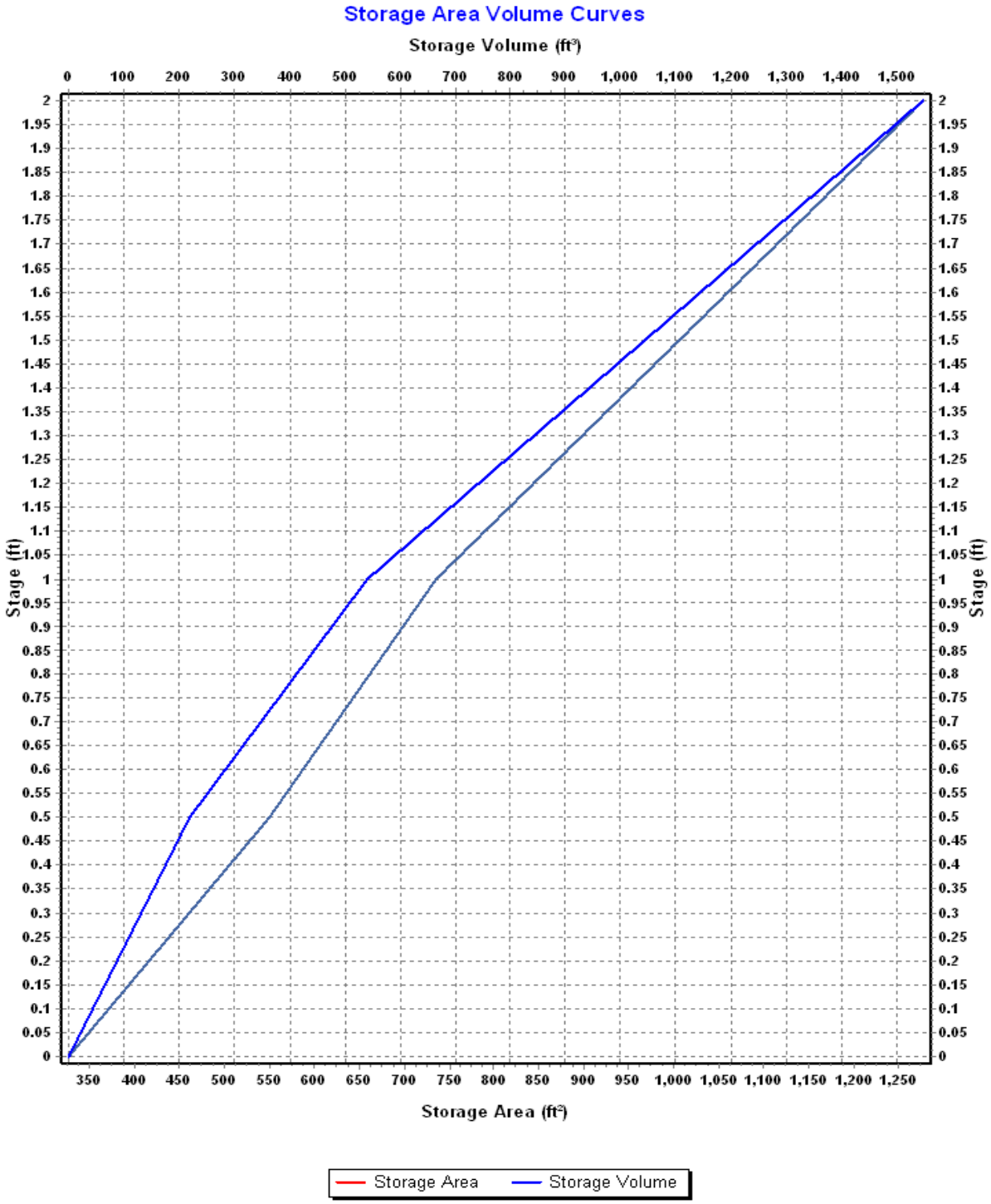
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	327	0.000
0.5	550	219.25
1	736	540.75
2	1277	1547.25


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050 1,100 1,150 1,200 1,250
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33
2	Weir-17	Trapezoidal	No	118.75	1.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.37
Peak Lateral Inflow (cfs)	0.05
Peak Outflow (cfs)	0.35
Peak Exfiltration Flow Rate (cfm)	0.21
Max HGL Elevation Attained (ft)	117.56
Max HGL Depth Attained (ft)	0.56
Average HGL Elevation Attained (ft)	117.39
Average HGL Depth Attained (ft)	0.39
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.210
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03-Forebay

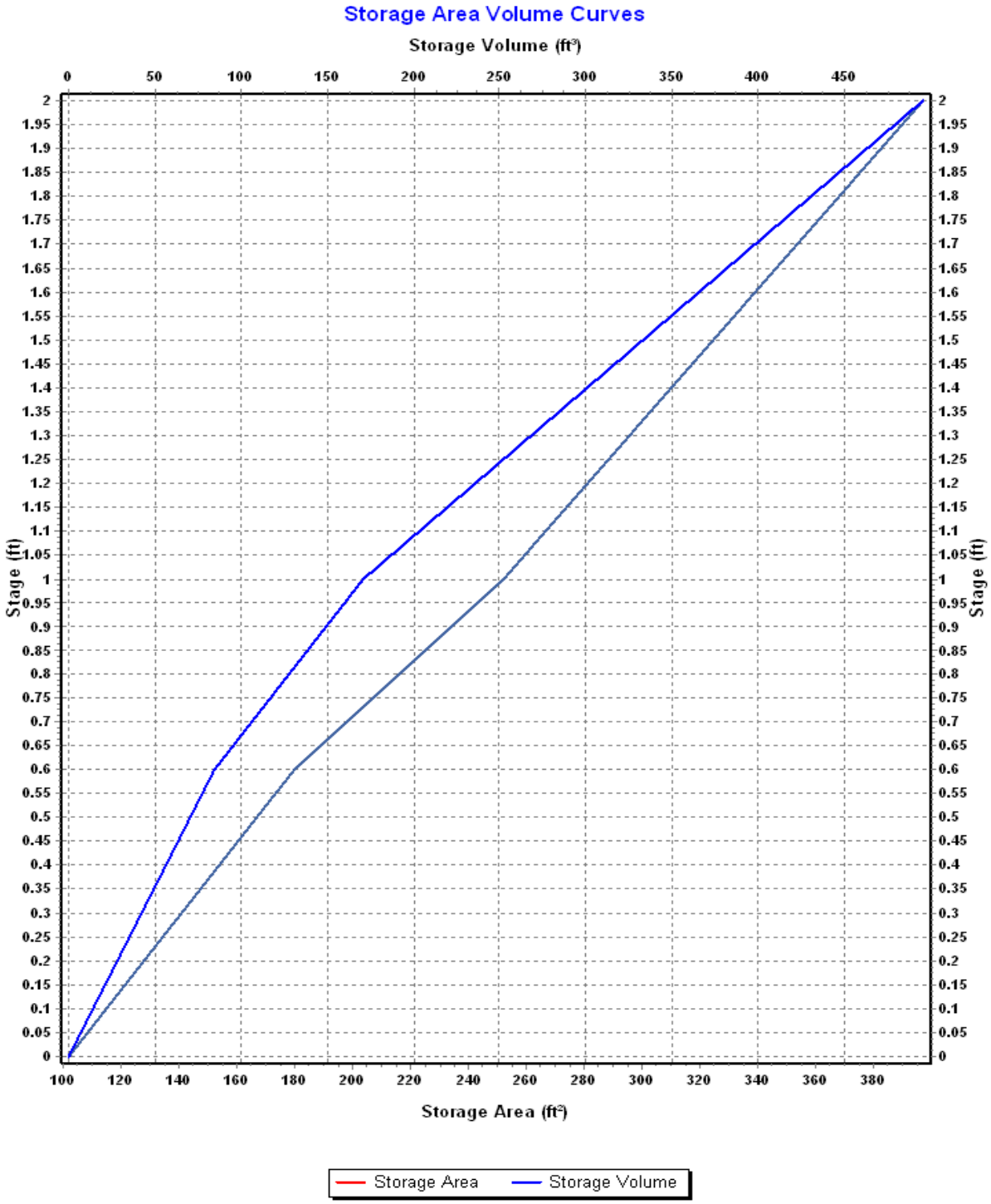
Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-03 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	102	0.000
0.6	180	84.60
1	252	171.00
2	397	495.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450
Stage (ft)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1 1.05 1.1 1.15 1.2 1.25 1.3 1.35 1.4 1.45 1.5 1.55 1.6 1.65 1.7 1.75 1.8 1.85 1.9 1.95 2
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-07	Trapezoidal	No	117.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.32
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.32
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.65
Max HGL Depth Attained (ft)	0.65
Average HGL Elevation Attained (ft)	117.59
Average HGL Depth Attained (ft)	0.59
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

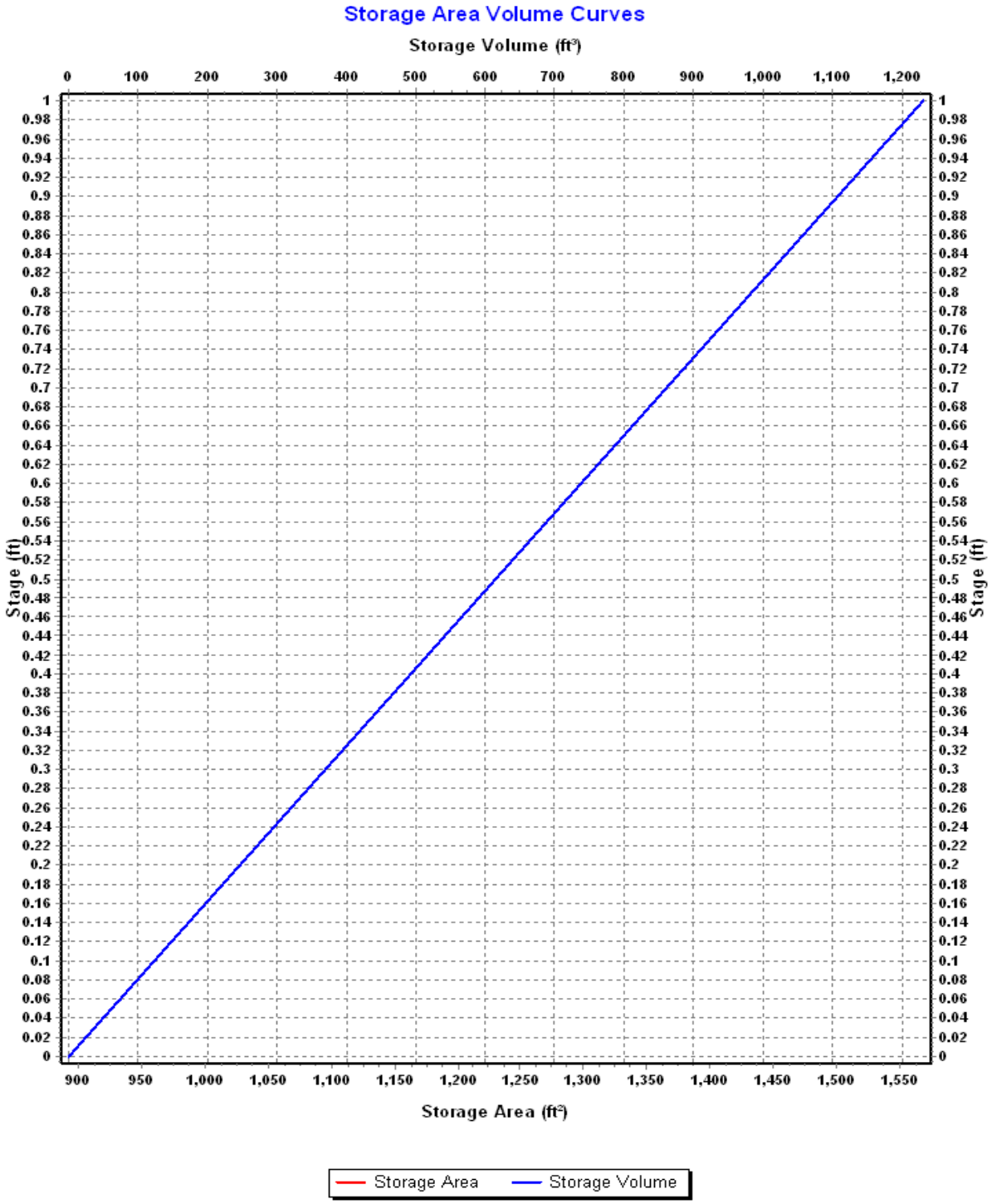
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	892	0.000
1	1569	1230.50


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200
Stage (ft)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46 0.48 0.5 0.52 0.54 0.56 0.58 0.6 0.62 0.64 0.66 0.68 0.7 0.72 0.74 0.76 0.78 0.8 0.82 0.84 0.86 0.88 0.9 0.92 0.94 0.96 0.98 1
Stage (ft)
900 950 1,000 1,050 1,100 1,150 1,200 1,250 1,300 1,350 1,400 1,450 1,500 1,550
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-14	Trapezoidal	No	114.60	0.60	10.00	0.25	3.33
2	Weir-15	Trapezoidal	No	114.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.94
Peak Lateral Inflow (cfs)	0.11
Peak Outflow (cfs)	0.86
Peak Exfiltration Flow Rate (cfm)	0.49
Max HGL Elevation Attained (ft)	114.60
Max HGL Depth Attained (ft)	0.6
Average HGL Elevation Attained (ft)	114.36
Average HGL Depth Attained (ft)	0.36
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.470
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04-Forebay

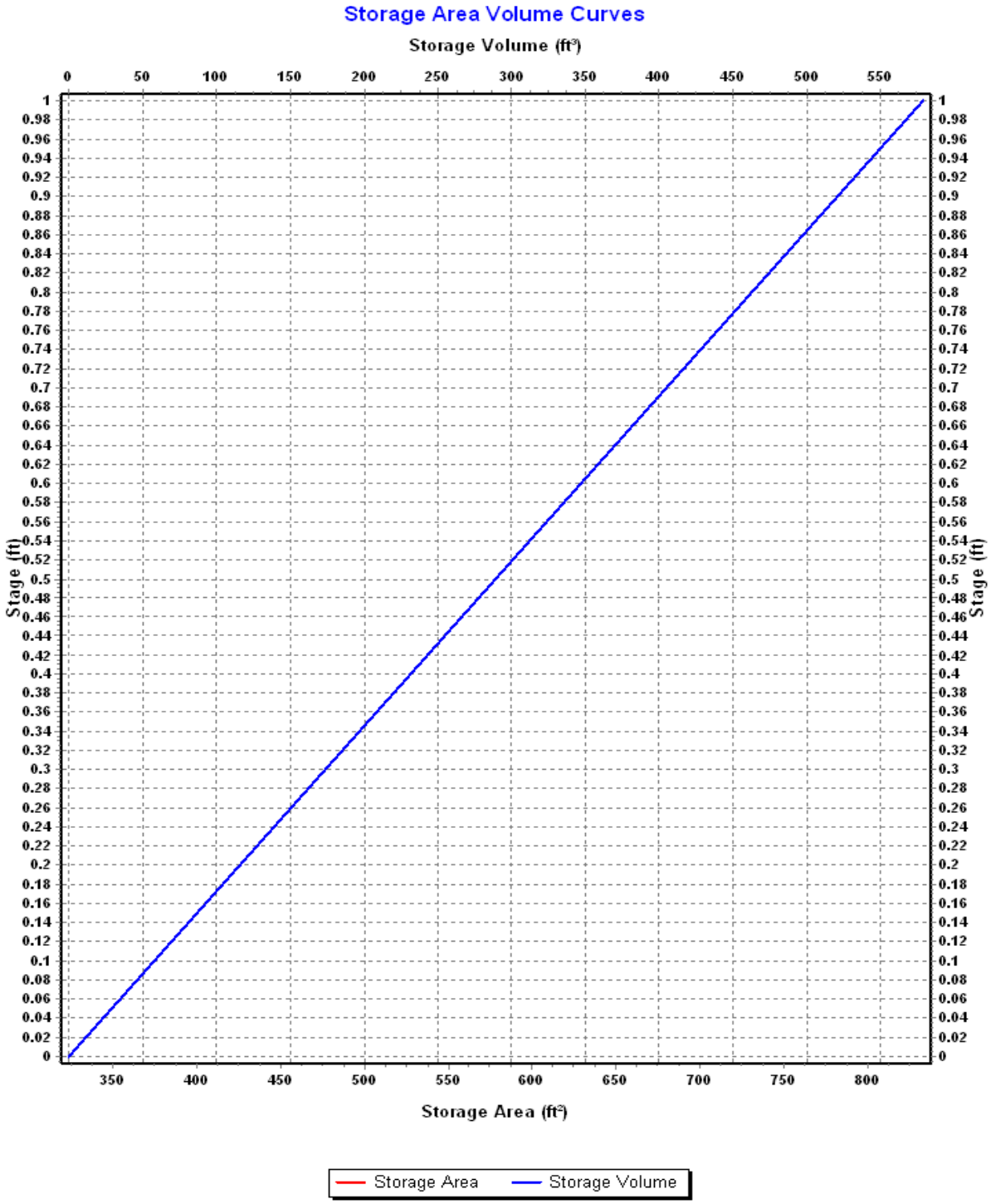
Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	324	0.000
1	833	578.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
350 400 450 500 550 600 650 700 750 800
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-13	Trapezoidal	No	114.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.33
Peak Lateral Inflow (cfs)	0.33
Peak Outflow (cfs)	0.30
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.65
Max HGL Depth Attained (ft)	0.65
Average HGL Elevation Attained (ft)	114.53
Average HGL Depth Attained (ft)	0.53
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-05

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	114.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

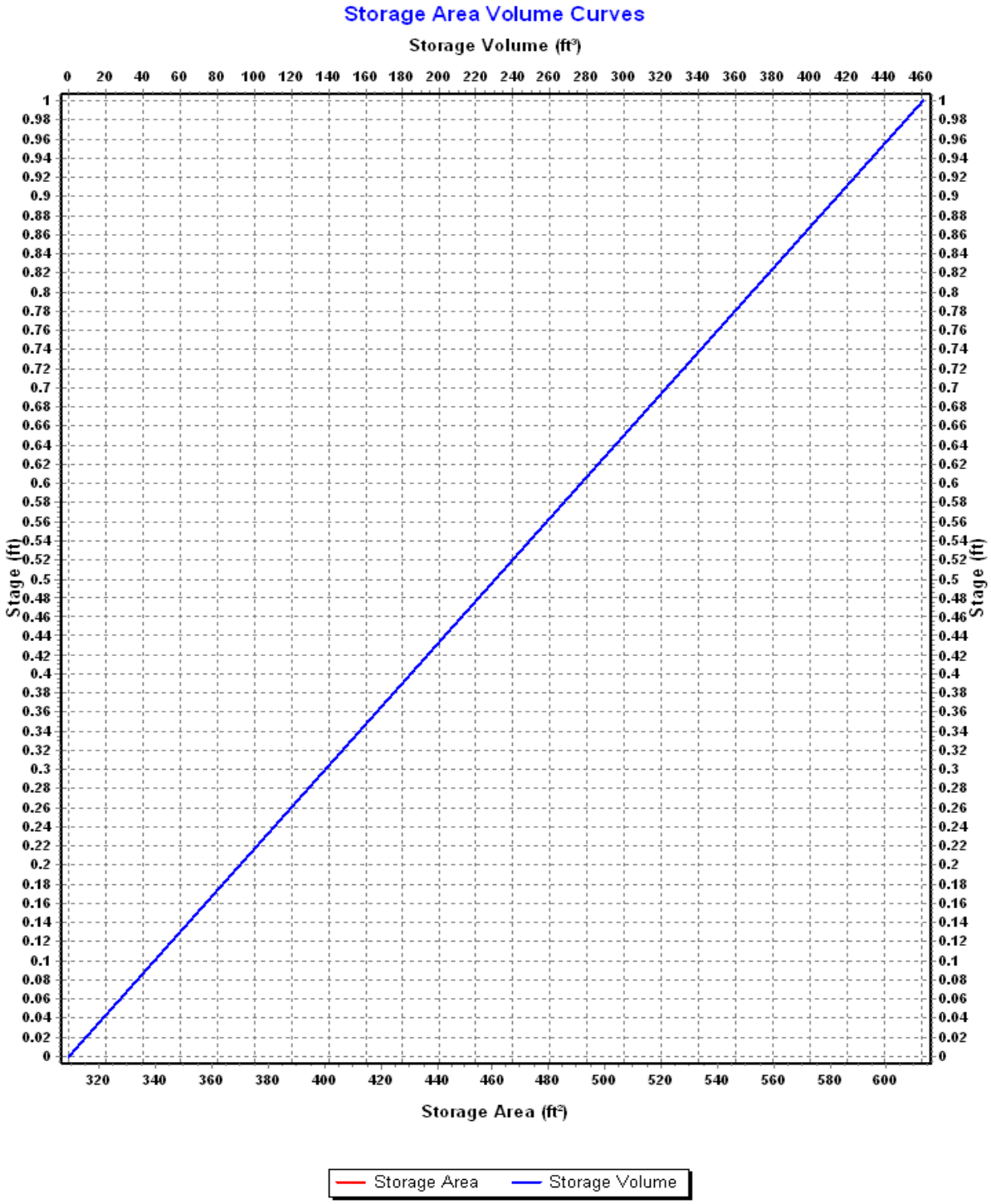
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-05

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	309	0.000
1	613	461.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
320 340 360 380 400 420 440 460 480 500 520 540 560 580 600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-05 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	113.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.25
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.24
Peak Exfiltration Flow Rate (cfm)	0.18
Max HGL Elevation Attained (ft)	113.54
Max HGL Depth Attained (ft)	0.54
Average HGL Elevation Attained (ft)	113.38
Average HGL Depth Attained (ft)	0.38
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.179
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.42
Peak Lateral Inflow (cfs)	0.23
Peak Outflow (cfs)	0.41
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.24
Max HGL Depth Attained (ft)	4.24
Average HGL Elevation Attained (ft)	116.93
Average HGL Depth Attained (ft)	3.93
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.19
Peak Lateral Inflow (cfs)	0.19
Peak Outflow (cfs)	0.18
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.37
Max HGL Depth Attained (ft)	4.22
Average HGL Elevation Attained (ft)	117.05
Average HGL Depth Attained (ft)	3.9
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.16
Peak Lateral Inflow (cfs)	0.16
Peak Outflow (cfs)	0.16
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.49
Max HGL Depth Attained (ft)	4.34
Average HGL Elevation Attained (ft)	116.04
Average HGL Depth Attained (ft)	3.89
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.71
Peak Lateral Inflow (cfs)	0.56
Peak Outflow (cfs)	0.70
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.48
Max HGL Depth Attained (ft)	4.48
Average HGL Elevation Attained (ft)	116.05
Average HGL Depth Attained (ft)	4.05
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.39
Peak Lateral Inflow (cfs)	0.14
Peak Outflow (cfs)	0.39
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.72
Max HGL Depth Attained (ft)	4.22
Average HGL Elevation Attained (ft)	115.39
Average HGL Depth Attained (ft)	3.89
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	111.65
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.26
Peak Lateral Inflow (cfs)	0.26
Peak Outflow (cfs)	0.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.92
Max HGL Depth Attained (ft)	4.27
Average HGL Elevation Attained (ft)	115.59
Average HGL Depth Attained (ft)	3.94
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.26
Peak Lateral Inflow (cfs)	0.26
Peak Outflow (cfs)	0.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	113.70
Max HGL Depth Attained (ft)	5.05
Average HGL Elevation Attained (ft)	113.26
Average HGL Depth Attained (ft)	4.61
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	109.90
Max (Rim) Elevation (ft)	116.90
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-109.90
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.45
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.44
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.37
Max HGL Depth Attained (ft)	4.47
Average HGL Elevation Attained (ft)	112.85
Average HGL Depth Attained (ft)	2.95
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.12
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.83
Max HGL Depth Attained (ft)	4.33
Average HGL Elevation Attained (ft)	113.92
Average HGL Depth Attained (ft)	2.42
Time of Max HGL Occurrence (days hh:mm)	0 12:16
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	117.50
Max (Rim) Offset (ft)	6.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.35
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.35
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.86
Max HGL Depth Attained (ft)	3.36
Average HGL Elevation Attained (ft)	113.49
Average HGL Depth Attained (ft)	1.99
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	107.65
Max (Rim) Elevation (ft)	114.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.86
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.86
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	111.97
Max HGL Depth Attained (ft)	4.32
Average HGL Elevation Attained (ft)	110.09
Average HGL Depth Attained (ft)	2.44
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	107.00
Max (Rim) Elevation (ft)	113.50
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.24
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.23
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	111.44
Max HGL Depth Attained (ft)	4.44
Average HGL Elevation Attained (ft)	109.52
Average HGL Depth Attained (ft)	2.52
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Treebox_Filter

Input Data

Invert Elevation (ft)	112.50
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Output Summary Results

Peak Inflow (cfs)	0.70
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.70
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	116.20
Max HGL Depth Attained (ft)	3.7
Average HGL Elevation Attained (ft)	115.85
Average HGL Depth Attained (ft)	3.35
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.023
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-A

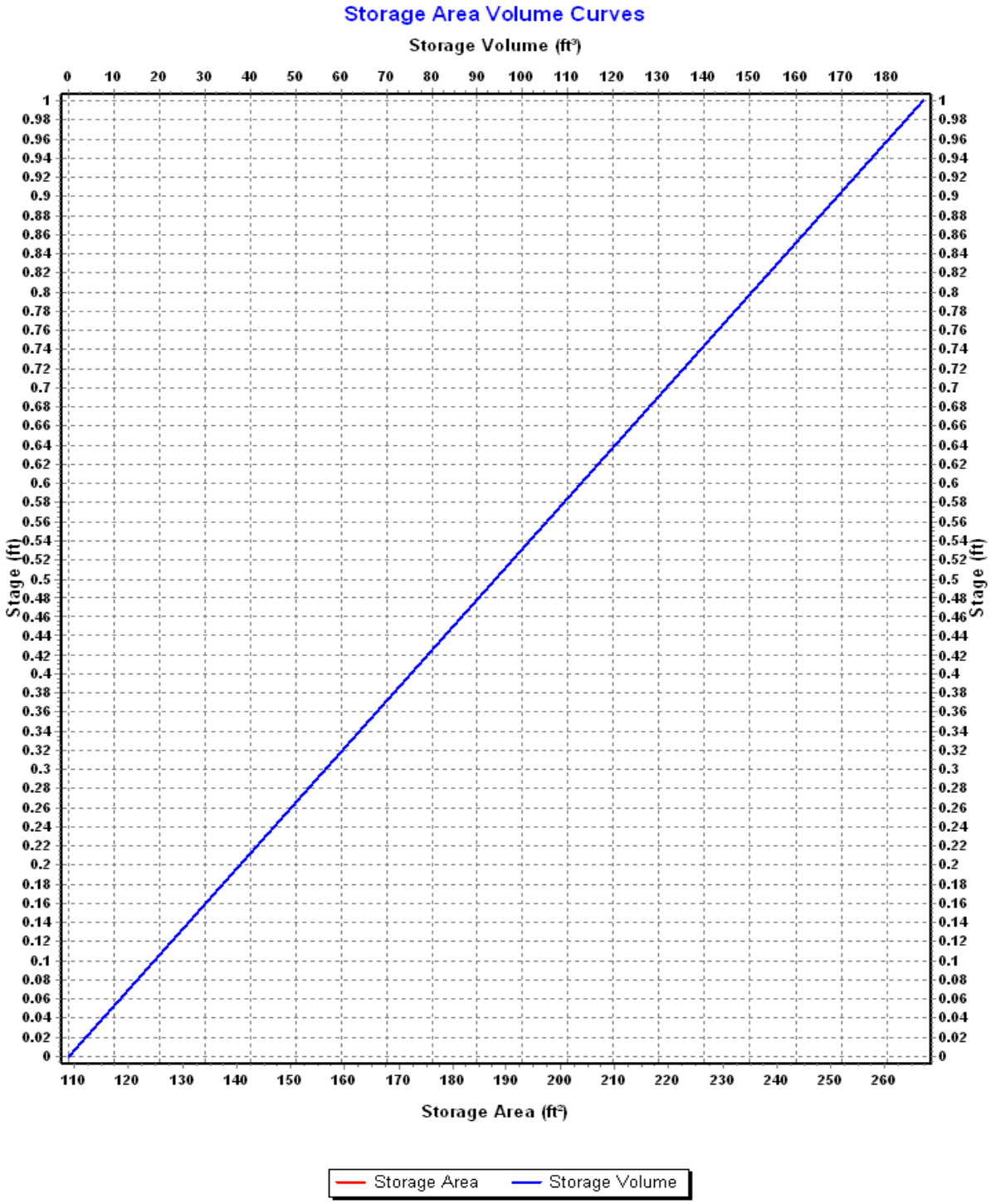
Input Data

Invert Elevation (ft) 118.00
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 1.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -118.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : WQS-A

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	109	0.000
1	267	188.00


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : WQS-A (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-11	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.20
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.54
Max HGL Depth Attained (ft)	0.54
Average HGL Elevation Attained (ft)	118.49
Average HGL Depth Attained (ft)	0.49
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-B

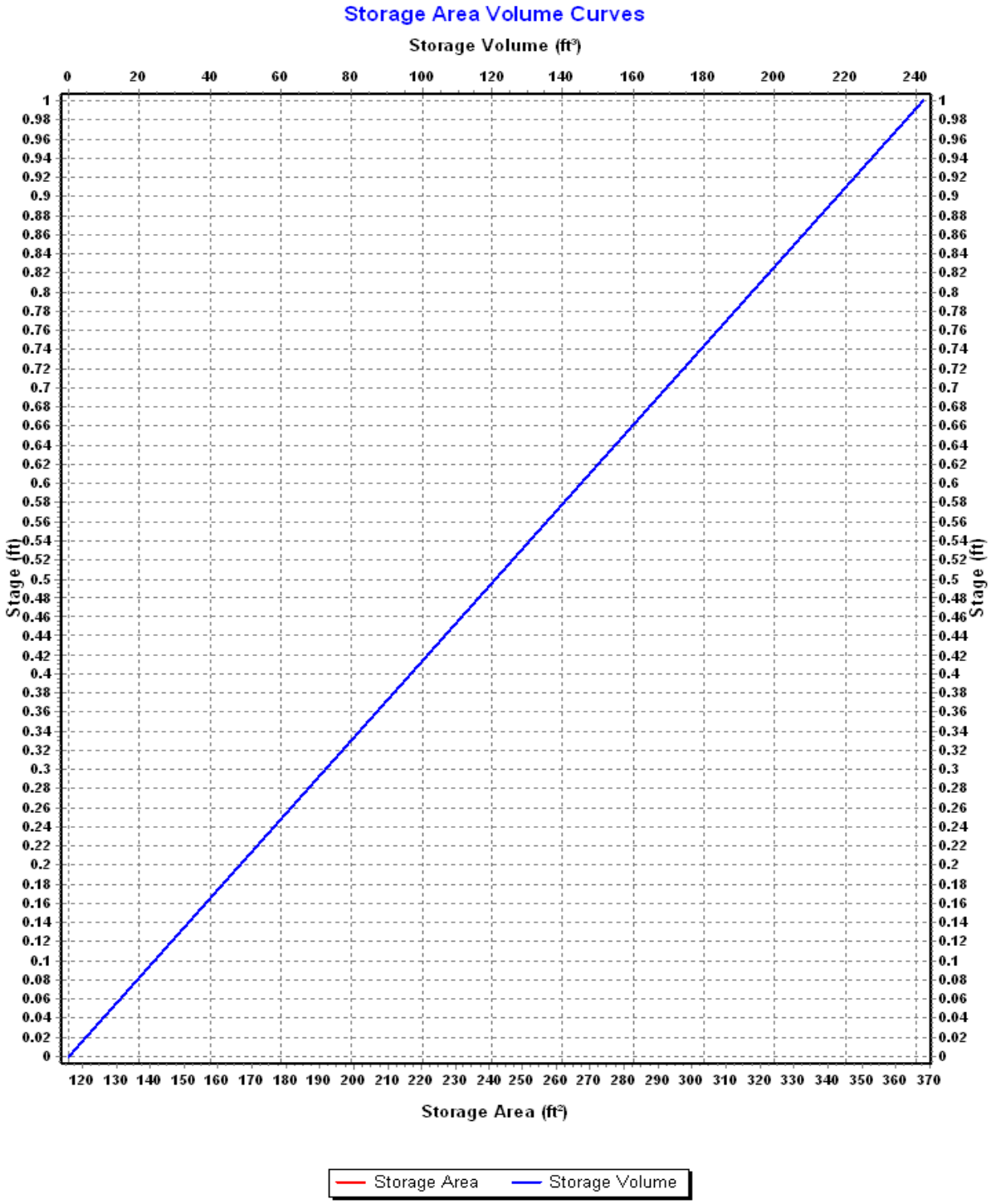
Input Data

Invert Elevation (ft) 117.00
Max (Rim) Elevation (ft) 118.00
Max (Rim) Offset (ft) 1.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -117.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : WQS-B

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	116	0.000
1	368	242.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : WQS-B (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-12	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.20
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.20
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.54
Max HGL Depth Attained (ft)	0.54
Average HGL Elevation Attained (ft)	117.41
Average HGL Depth Attained (ft)	0.41
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 2 - Prop Conditions (Proposed Regulation) (2).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	19
Nodes	36
Junctions	0
Outfalls	13
Flow Diversions	0
Inlets	0
Storage Nodes	23
Links	28
Channels	0
Pipes	14
Pumps	0
Orifices	0
Weirs	14
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.56	484.00	74.33	7.86	4.84	2.71	3.59	0 00:01:22
2	Sub-02	0.53	484.00	74.03	7.86	4.80	2.56	3.34	0 00:02:06
3	Sub-03	0.15	484.00	80.00	7.86	5.49	0.85	1.09	0 00:00:07
4	Sub-04	0.03	484.00	74.00	7.86	4.78	0.15	0.20	0 00:01:14
5	Sub-05	0.03	484.00	74.00	7.86	4.78	0.16	0.20	0 00:00:43
6	Sub-06	0.03	484.00	74.00	7.86	4.78	0.16	0.20	0 00:00:43
7	Sub-07	0.11	484.00	74.00	7.86	4.80	0.55	0.43	0 00:20:21
8	Sub-08	0.07	484.00	98.00	7.86	7.62	0.50	0.53	0 00:01:38
9	Sub-09	0.05	484.00	98.00	7.86	7.62	0.37	0.42	0 00:01:37
10	Sub-10a	0.06	484.00	98.00	7.86	7.62	0.48	0.53	0 00:01:43
11	Sub-10b	0.04	484.00	98.00	7.86	7.62	0.32	0.37	0 00:01:09
12	Sub-11	0.08	484.00	98.00	7.86	7.62	0.62	0.68	0 00:02:42
13	Sub-12	0.09	484.00	98.00	7.86	7.62	0.67	0.74	0 00:02:18
14	Sub-13	0.07	484.00	98.00	7.86	7.62	0.53	0.58	0 00:02:16
15	Sub-14a	0.05	484.00	98.00	7.86	7.62	0.42	0.48	0 00:01:22
16	Sub-14b	0.04	484.00	98.00	7.86	7.62	0.27	0.32	0 00:01:00
17	Sub-15	0.07	484.00	98.00	7.86	7.62	0.53	0.58	0 00:02:08
18	Sub-16	0.09	484.00	98.00	7.86	7.62	0.69	0.74	0 00:02:07
19	Sub-17	0.07	484.00	98.00	7.86	7.62	0.53	0.58	0 00:02:09

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					1.60	112.00					
2	Out-02	Outfall	112.00					3.54	112.00					
3	Out-03	Outfall	112.00					3.29	112.00					
4	Out-04	Outfall	112.00					1.08	112.00					
5	Out-06	Outfall	113.00					1.10	113.00					
6	Out-07	Outfall	115.00					0.00	115.00					
7	Out-08	Outfall	114.00					0.67	114.18					
8	Out-09	Outfall	114.00					0.00	114.00					
9	Out-10	Outfall	114.00					0.88	114.00					
10	Out-11	Outfall	114.00					0.00	114.00					
11	Out-12	Outfall	114.00					0.48	114.00					
12	Out-13	Outfall	110.00					1.71	110.00					
13	Out-14	Outfall	110.00					0.53	110.00					
14	BMP-01	Storage Node	116.00	119.00	0.00		0.00	1.13	117.02				0.00	0.00
15	BMP-02	Storage Node	118.00	119.00	0.00		0.00	0.72	118.59				0.00	0.00
16	BMP-02-Forebay	Storage Node	118.00	119.00	0.00		0.00	0.53	118.67				0.00	0.00
17	BMP-03	Storage Node	117.00	119.00	0.00		0.00	0.92	117.60				0.00	0.00
18	BMP-03-Forebay	Storage Node	117.00	119.00	0.00		0.00	0.74	117.69				0.00	0.00
19	BMP-04	Storage Node	114.00	115.00	0.00		0.00	2.27	114.66				0.00	0.00
20	BMP-04-Forebay	Storage Node	114.00	115.00	0.00		0.00	0.74	114.70				0.00	0.00
21	BMP-05	Storage Node	113.00	114.00	0.00		0.00	0.55	113.57				0.00	0.00
22	CB-01	Storage Node	113.00	120.00	0.00		1000.00	0.94	117.36				0.00	0.00
23	CB-02	Storage Node	113.15	120.00	0.00		1000.00	0.42	117.50				0.00	0.00
24	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.37	116.76				0.00	0.00
25	CB-04	Storage Node	112.00	119.00	0.00		1000.00	1.61	116.74				0.00	0.00
26	CB-05	Storage Node	111.50	118.50	0.00		1000.00	0.89	115.85				0.00	0.00
27	CB-06	Storage Node	111.65	118.50	0.00		1000.00	0.58	116.06				0.00	0.00
28	CB-07	Storage Node	108.65	115.50	0.00		1000.00	0.58	114.32				0.00	0.00
29	OCS-01	Storage Node	109.90	116.90	0.00		0.00	1.11	114.58				0.00	0.00
30	OCS-02	Storage Node	111.50	118.50	0.00		0.00	0.67	115.95				0.00	0.00
31	OCS-03	Storage Node	111.50	117.50	0.00		0.00	0.88	115.00				0.00	0.00
32	OCS-04	Storage Node	107.65	114.50	0.00		0.00	1.71	112.13				0.00	0.00
33	OCS-05	Storage Node	107.00	113.50	0.00		0.00	0.54	111.74				0.00	0.00
34	Treebox_Filter	Storage Node	112.50	119.00	0.00		0.00	1.60	116.32				0.00	0.00
35	WQS-A	Storage Node	118.00	119.00	0.00		0.00	0.47	118.57				0.00	0.00
36	WQS-B	Storage Node	117.00	118.00	0.00		0.00	0.47	117.57				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-04	Treebox_Filter	6.00	116.00	116.00	0.0000	12.000	0.0200	1.60	0.30	5.36	3.02	0.64	0.64	0.00	> CAPACITY
2	Link-02	Pipe	Treebox_Filter	Out-01	12.00	116.00	114.00	16.6700	12.000	0.0200	1.60	9.45	0.17	8.18	0.30	0.30	0.00	Calculated
3	Link-03	Pipe	CB-02	CB-01	24.02	117.15	117.00	0.6200	12.000	0.0200	0.42	1.83	0.23	1.68	0.35	0.35	0.00	Calculated
4	Link-05	Pipe	CB-03	CB-04	23.50	116.15	116.00	0.6400	12.000	0.0200	0.37	1.85	0.20	0.66	0.67	0.67	0.00	Calculated
5	Link-06	Pipe	CB-06	CB-05	23.47	115.65	115.50	0.6400	12.000	0.0200	0.58	1.85	0.31	2.11	0.38	0.38	0.00	Calculated
6	Link-07	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.47	1.83	0.26	2.14	0.32	0.32	0.00	Calculated
7	Link-08	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.47	1.83	0.26	2.14	0.32	0.32	0.00	Calculated
8	Link-09	Pipe	OCS-01	Out-06	88.06	114.05	113.25	0.9100	12.000	0.0200	1.10	2.21	0.50	2.91	0.47	0.48	0.00	Calculated
9	Link-10	Pipe	OCS-02	Out-08	11.34	115.75	113.00	24.2500	12.000	0.0200	0.67	9.10	0.07	6.39	0.19	0.19	0.00	Calculated
10	Link-11	Pipe	OCS-03	Out-10	11.51	114.65	114.25	3.4800	12.000	0.0200	0.88	4.32	0.20	3.97	0.32	0.33	0.00	Calculated
11	Link-12	Pipe	CB-05	BMP-04	16.00	115.50	115.00	3.1300	12.000	0.0200	0.89	4.09	0.22	3.89	0.33	0.33	0.00	Calculated
12	Link-13	Pipe	OCS-04	Out-13	16.60	111.65	111.00	3.9200	12.000	0.0200	1.71	4.58	0.37	4.96	0.44	0.45	0.00	Calculated
13	Link-14	Pipe	CB-07	BMP-05	28.55	113.15	113.00	0.5300	6.000	0.0200	0.55	0.26	2.10	2.83	0.50	1.00	17.00	SURCHARGED
14	Link-15	Pipe	OCS-05	Out-14	11.48	111.15	111.00	1.3100	6.000	0.0200	0.53	0.42	1.28	2.93	0.43	0.87	0.00	> CAPACITY
15	Weir-02	Weir	BMP-01	Out-07		116.00	115.00				0.00							
16	Weir-03	Weir	BMP-01	OCS-01		116.00	109.90				1.11							
17	Weir-04	Weir	BMP-02-Forebay	BMP-02		118.00	118.00				0.52							
18	Weir-05	Weir	BMP-02	OCS-02		118.00	111.50				0.67							
19	Weir-06	Weir	BMP-02-Forebay	Out-09		118.00	114.00				0.00							
20	Weir-07	Weir	BMP-03-Forebay	BMP-03		117.00	117.00				0.72							
21	Weir-08	Weir	BMP-03	OCS-03		117.00	111.50				0.88							
22	Weir-11	Weir	WQS-A	WQS-B		118.00	117.00				0.47							
23	Weir-12	Weir	WQS-B	BMP-04		117.00	114.00				0.46							
24	Weir-13	Weir	BMP-04-Forebay	BMP-04		114.00	114.00				0.67							
25	Weir-14	Weir	BMP-04	Out-12		114.00	114.00				0.48							
26	Weir-15	Weir	BMP-04	OCS-04		114.00	107.65				1.71							
27	Weir-16	Weir	BMP-05	OCS-05		113.00	107.00				0.54							
28	Weir-17	Weir	BMP-03	Out-11		117.00	114.00				0.00							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.56
Peak Rate Factor 484.00
Weighted Curve Number 74.33
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.54	C	74.00
Brush, Good	0.01	C	65.00
Paved roads with curbs & sewers	0.01	C	98.00
Composite Area & Weighted CN	0.56		74.33

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

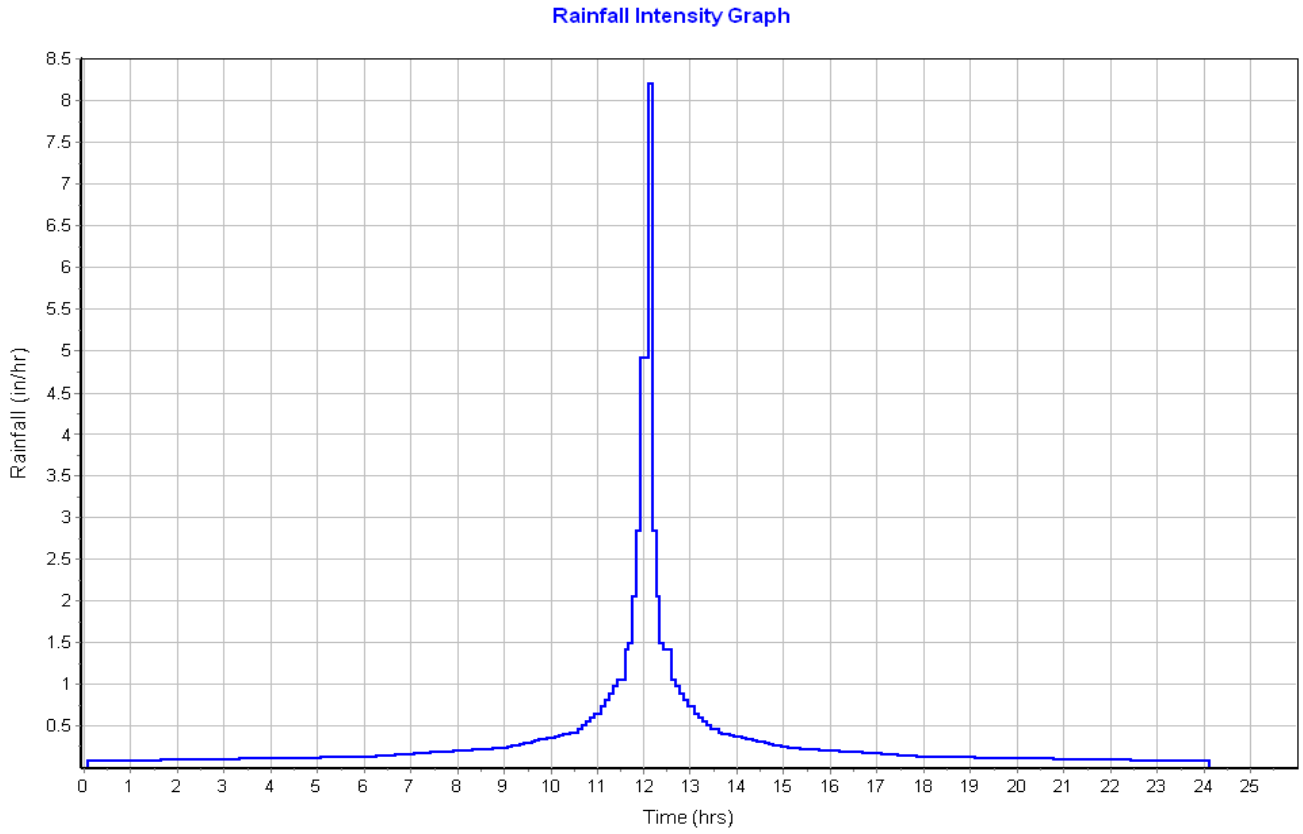
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.24	0.00	0.00
Computed Flow Time (min) :	1.38	0.00	0.00

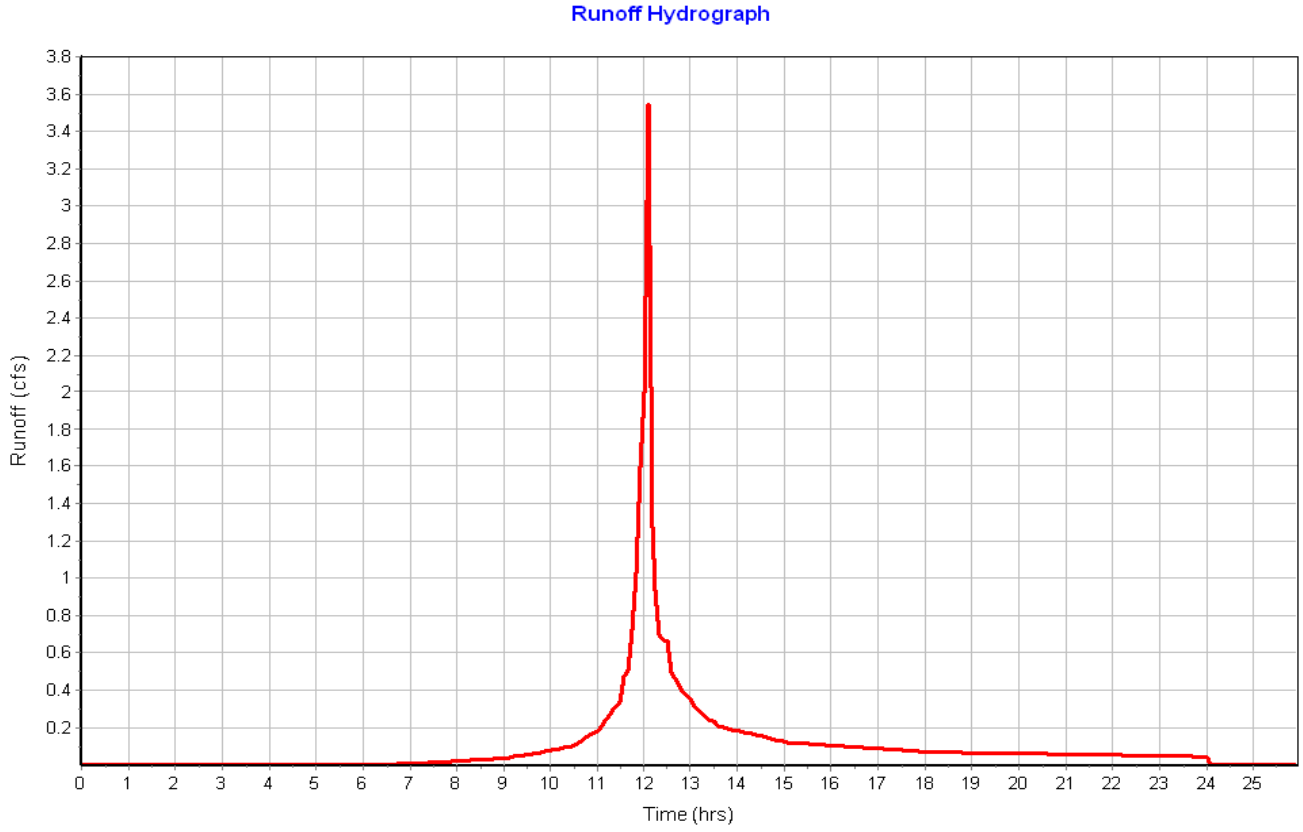
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.84
Peak Runoff (cfs)	3.59
Weighted Curve Number	74.33
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.53
Peak Rate Factor	484.00
Weighted Curve Number	74.03
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.48	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.53		74.03

Time of Concentration

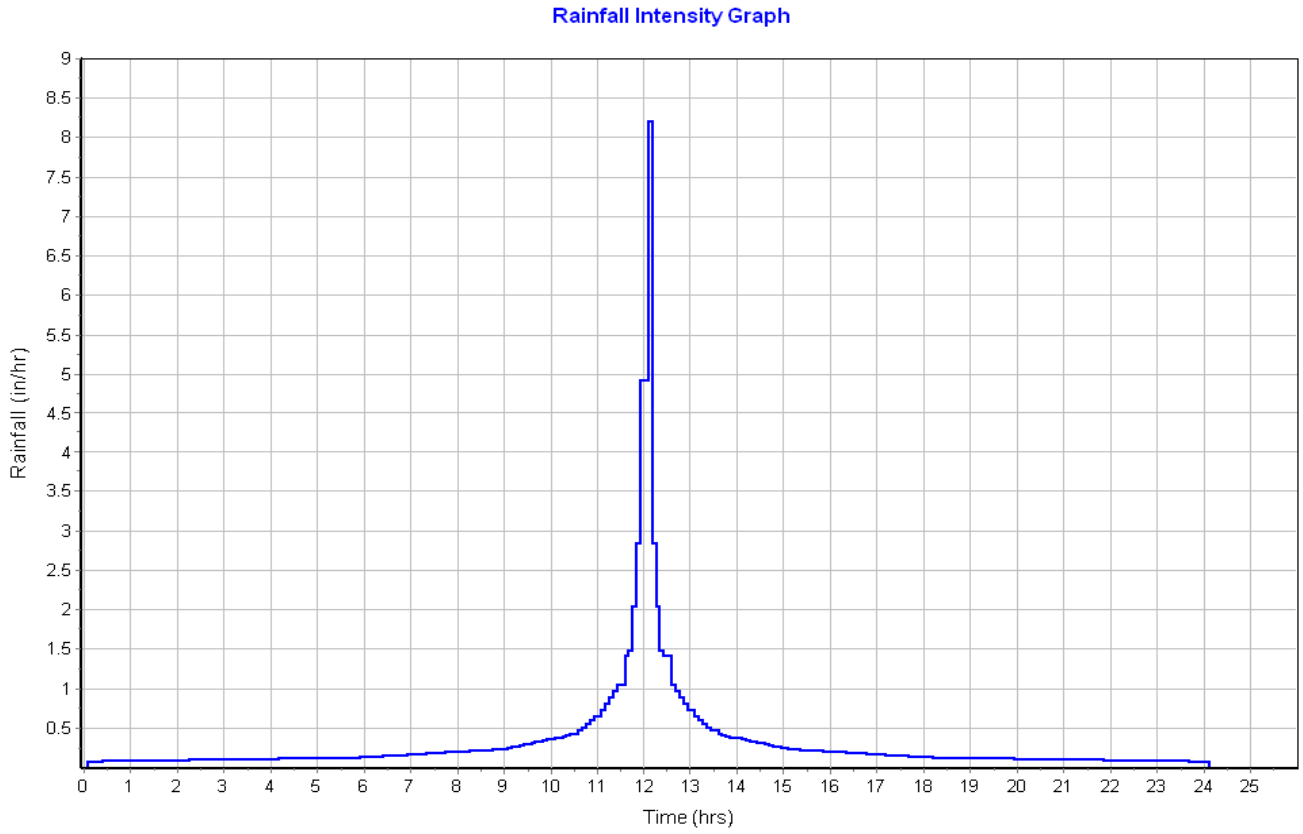
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

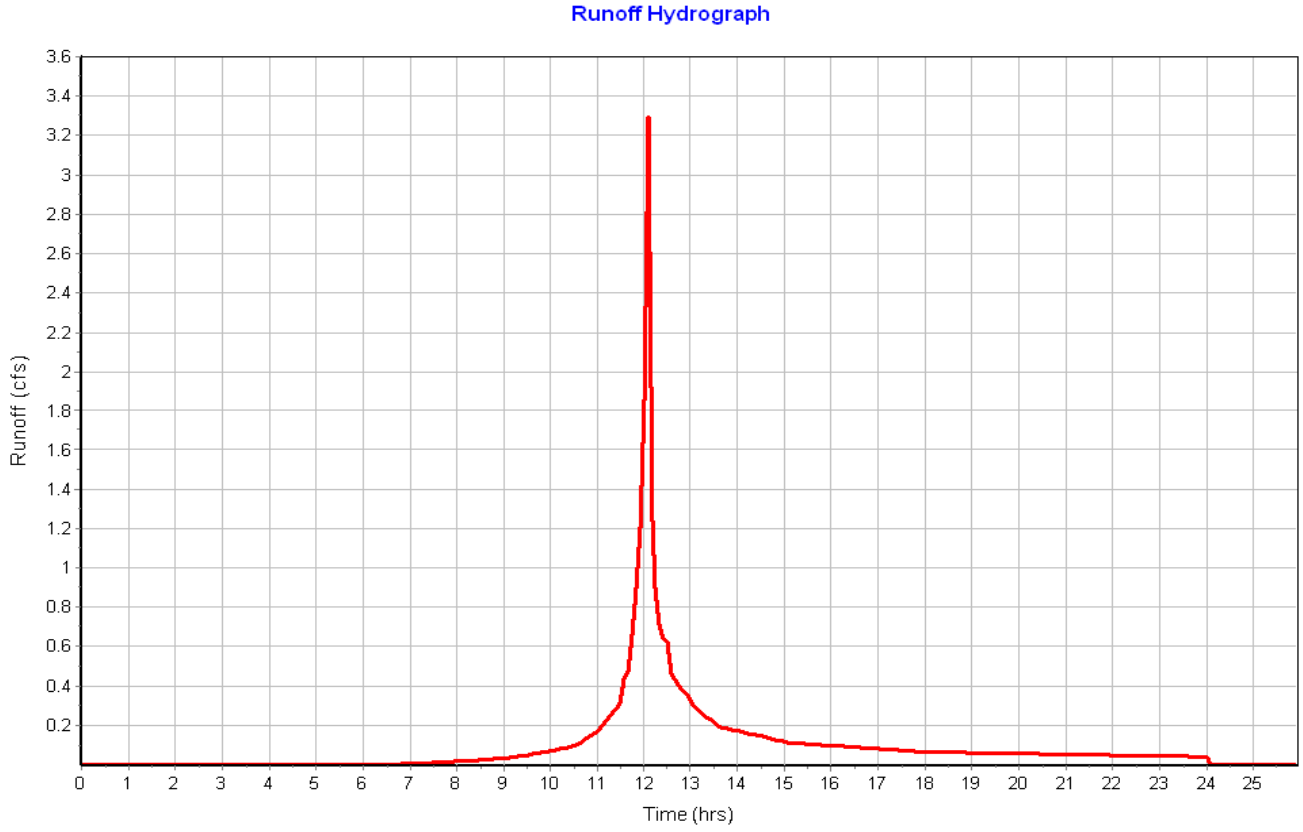
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.80
Peak Runoff (cfs)	3.34
Weighted Curve Number	74.03
Time of Concentration (days hh:mm:ss)	0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.15
Peak Rate Factor	484.00
Weighted Curve Number	80.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Porous Pavement	0.15	C	80.00
Composite Area & Weighted CN	0.15		80.00

Time of Concentration

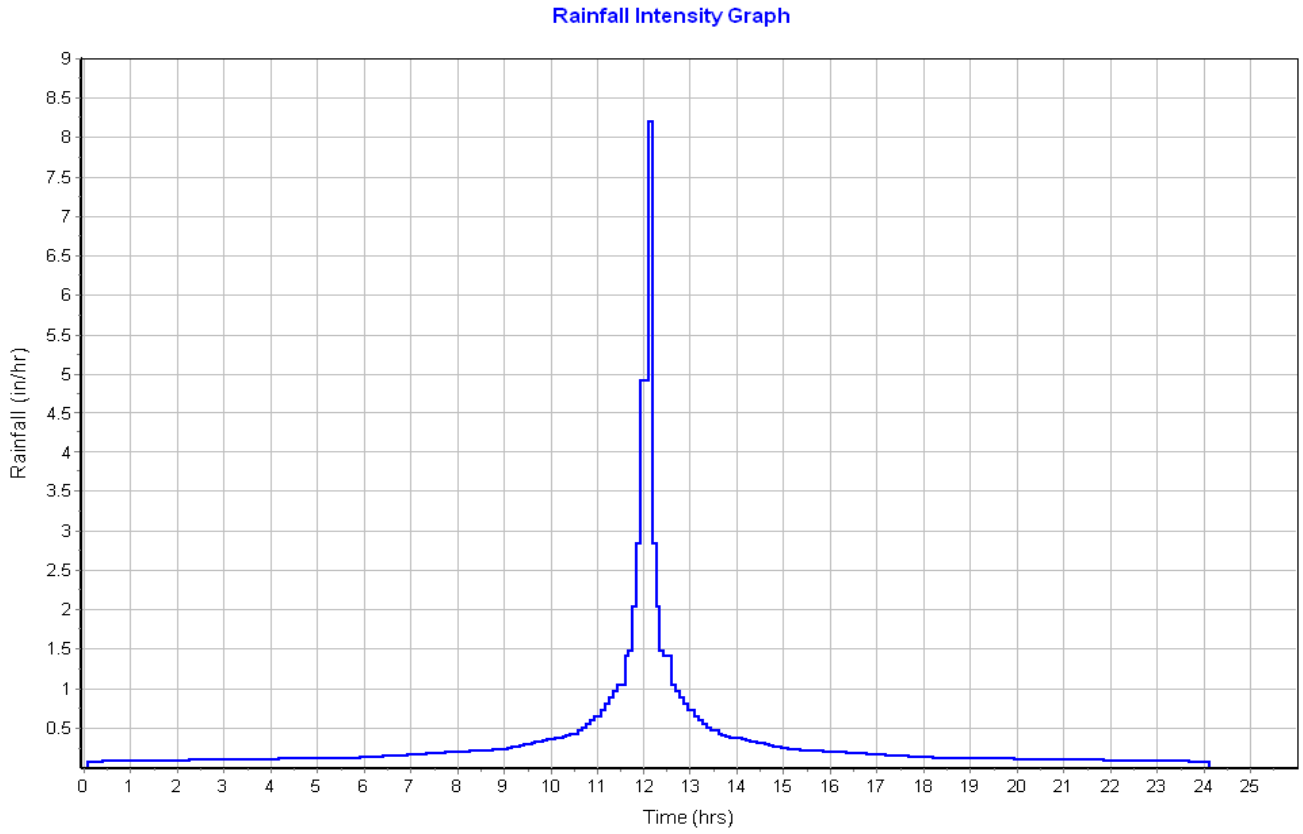
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	5	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.62	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

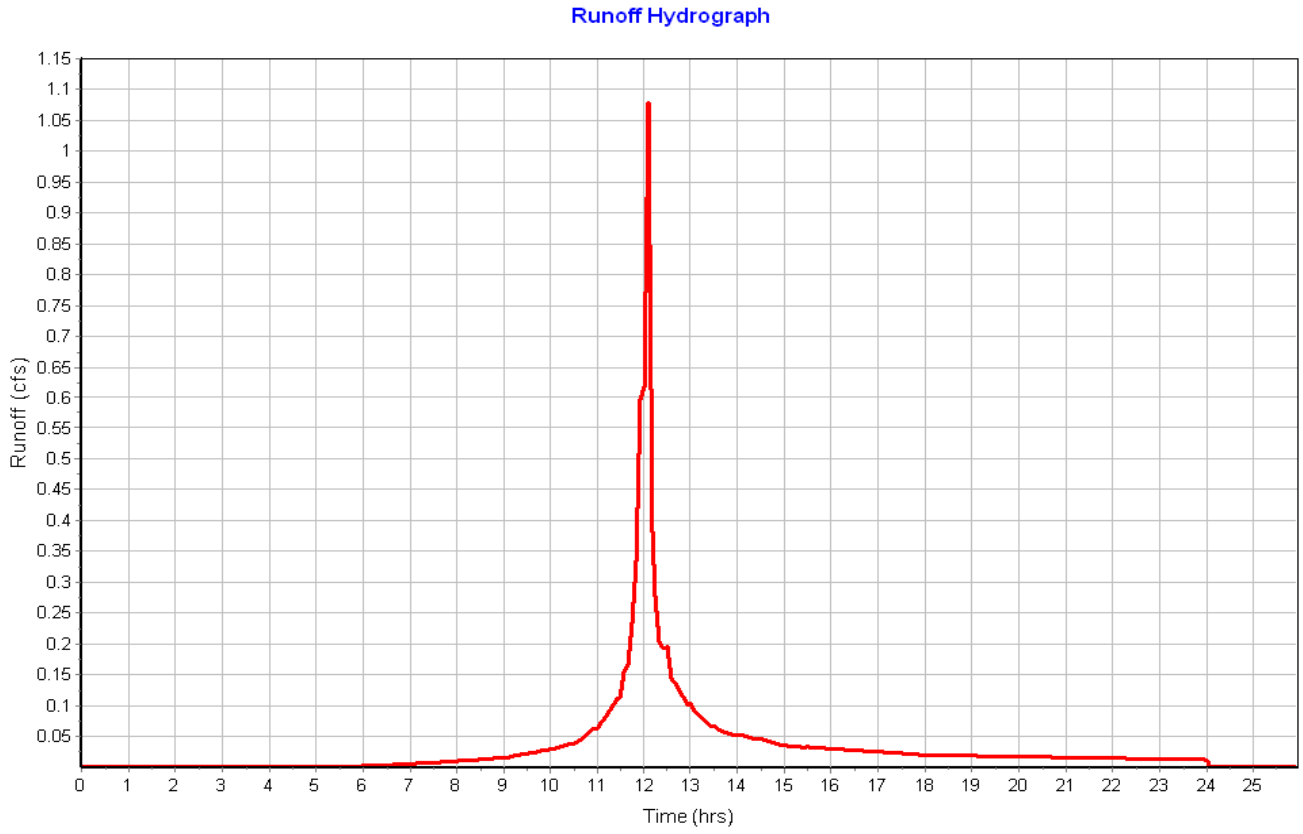
Total TOC (min) 0.13

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	5.49
Peak Runoff (cfs)	1.09
Weighted Curve Number	80.00
Time of Concentration (days hh:mm:ss)	0 00:00:08

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

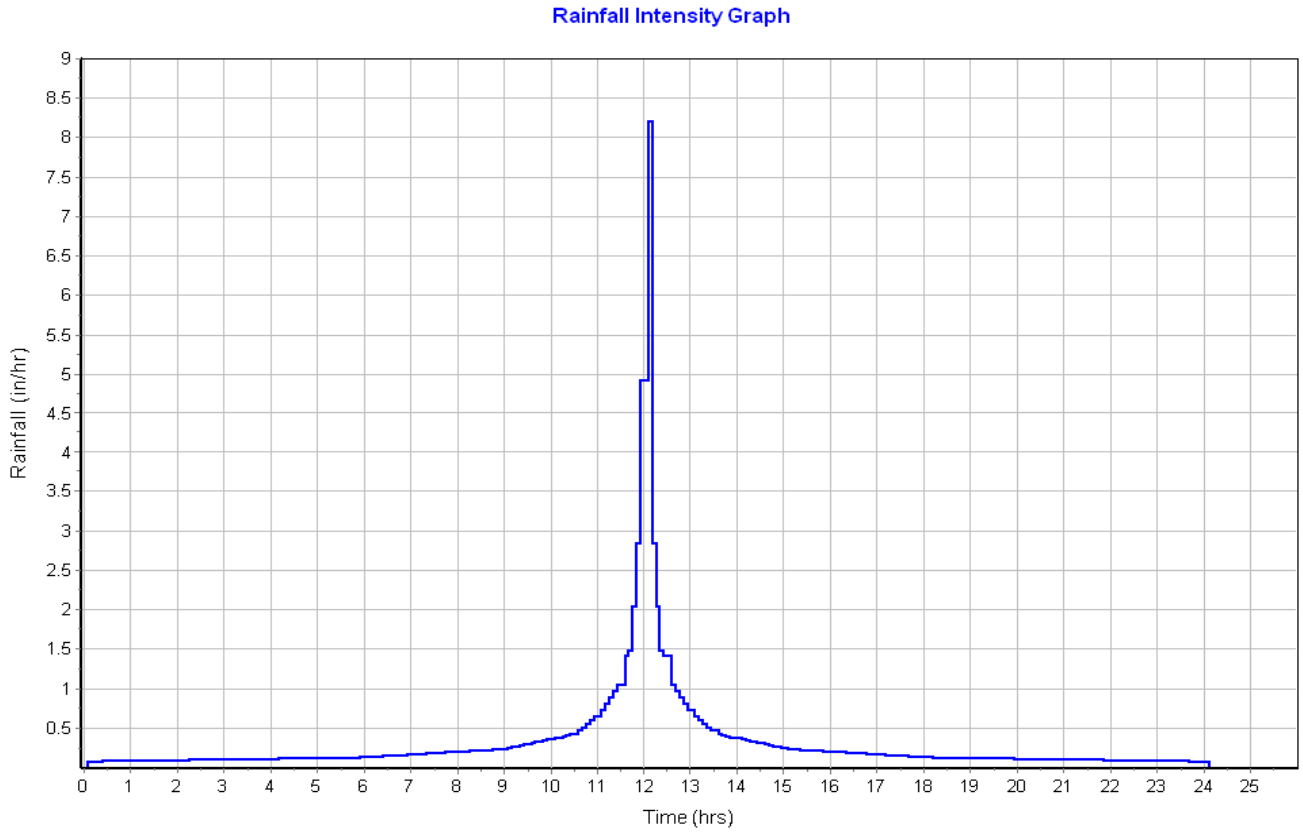
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	14.33	0.00	0.00
Slope (%) :	20	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	1.24	0.00	0.00

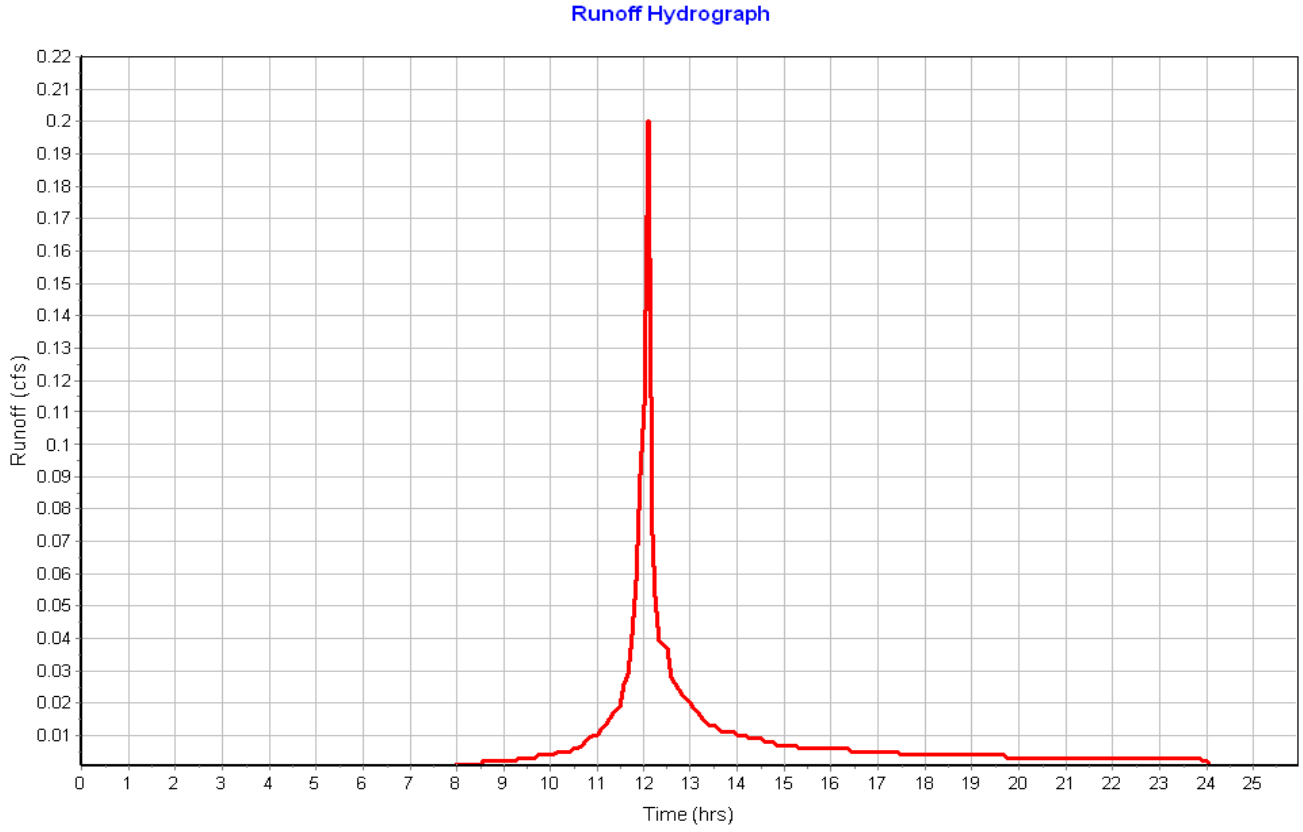
Total TOC (min) 1.24

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 4.78
Peak Runoff (cfs) 0.20
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:01:14

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	74.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

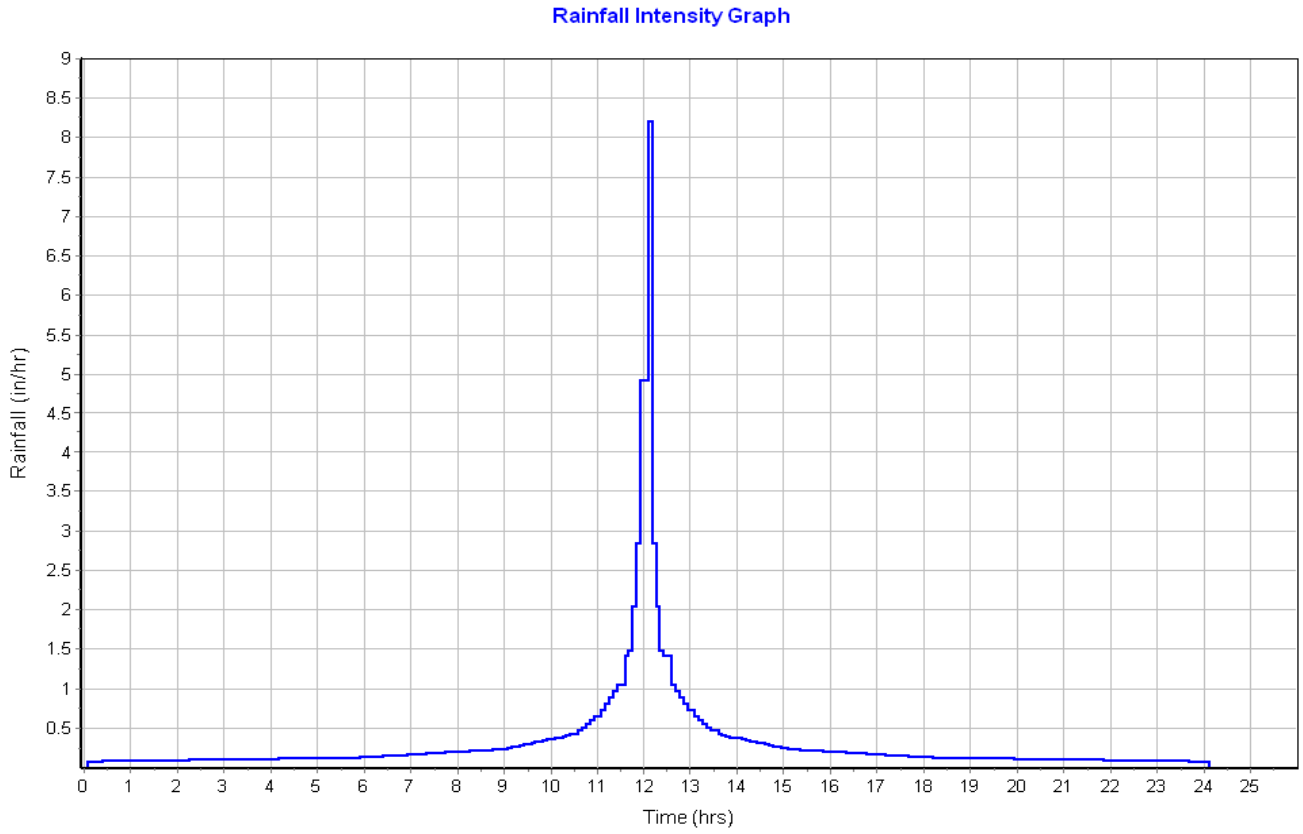
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

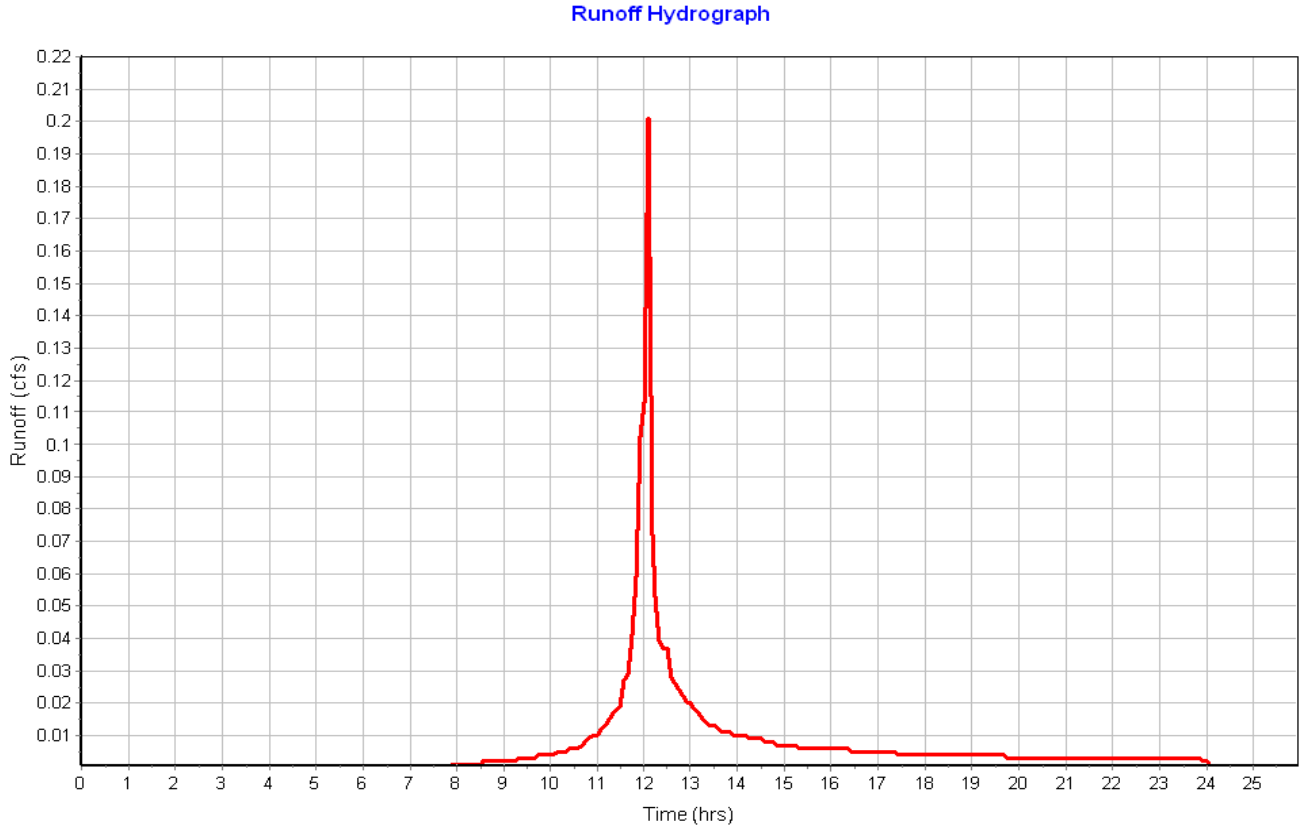
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.78
Peak Runoff (cfs)	0.20
Weighted Curve Number	74.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

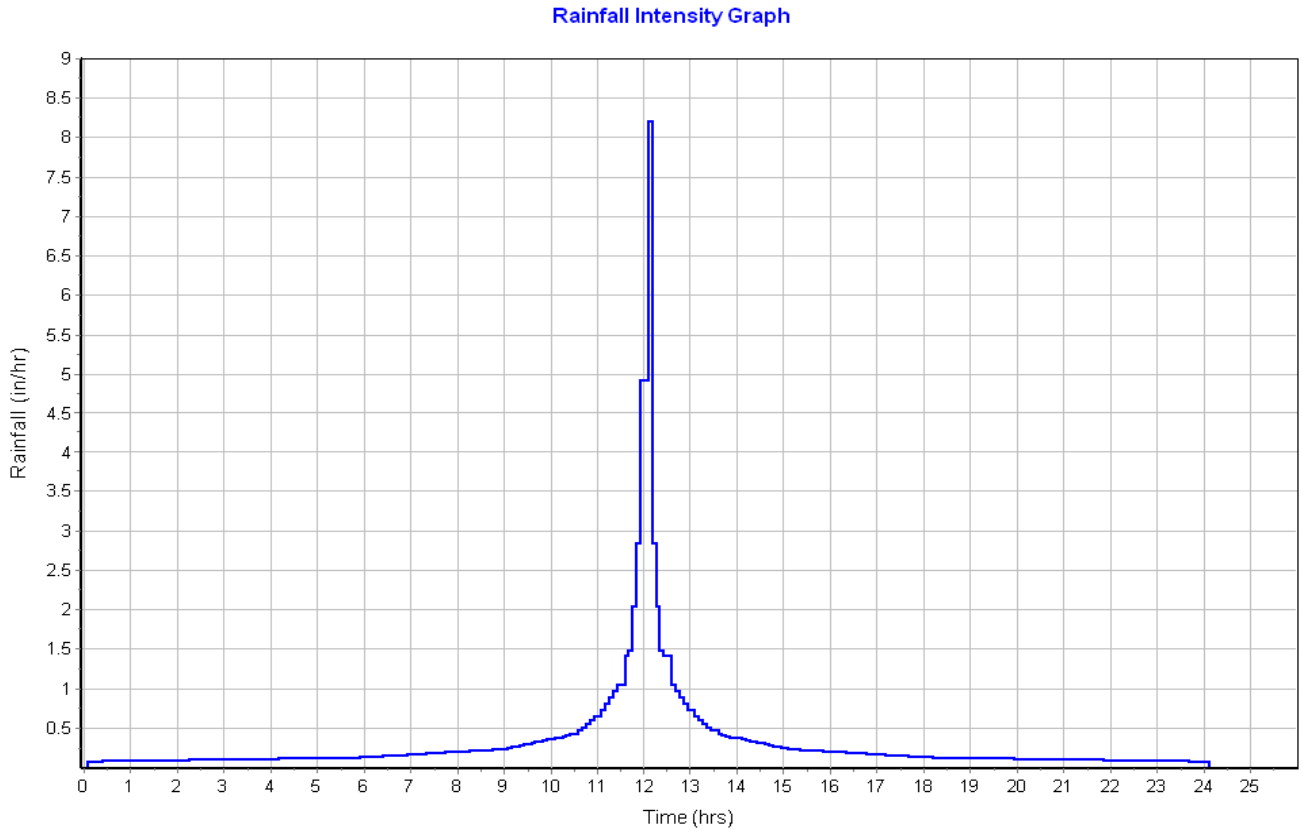
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

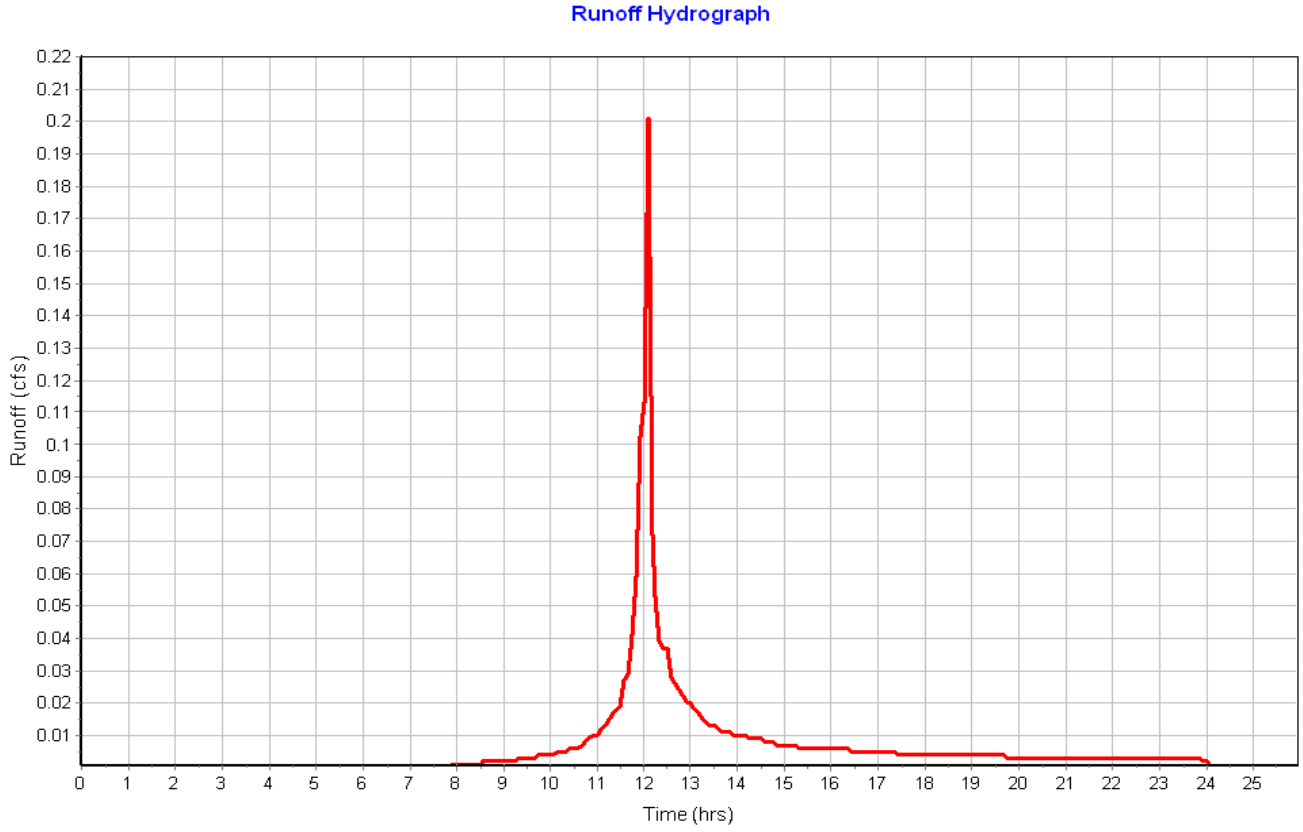
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 4.78
Peak Runoff (cfs) 0.20
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:00:44

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.11
Peak Rate Factor	484.00
Weighted Curve Number	74.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.11	C	74.00
Composite Area & Weighted CN	0.11		74.00

Time of Concentration

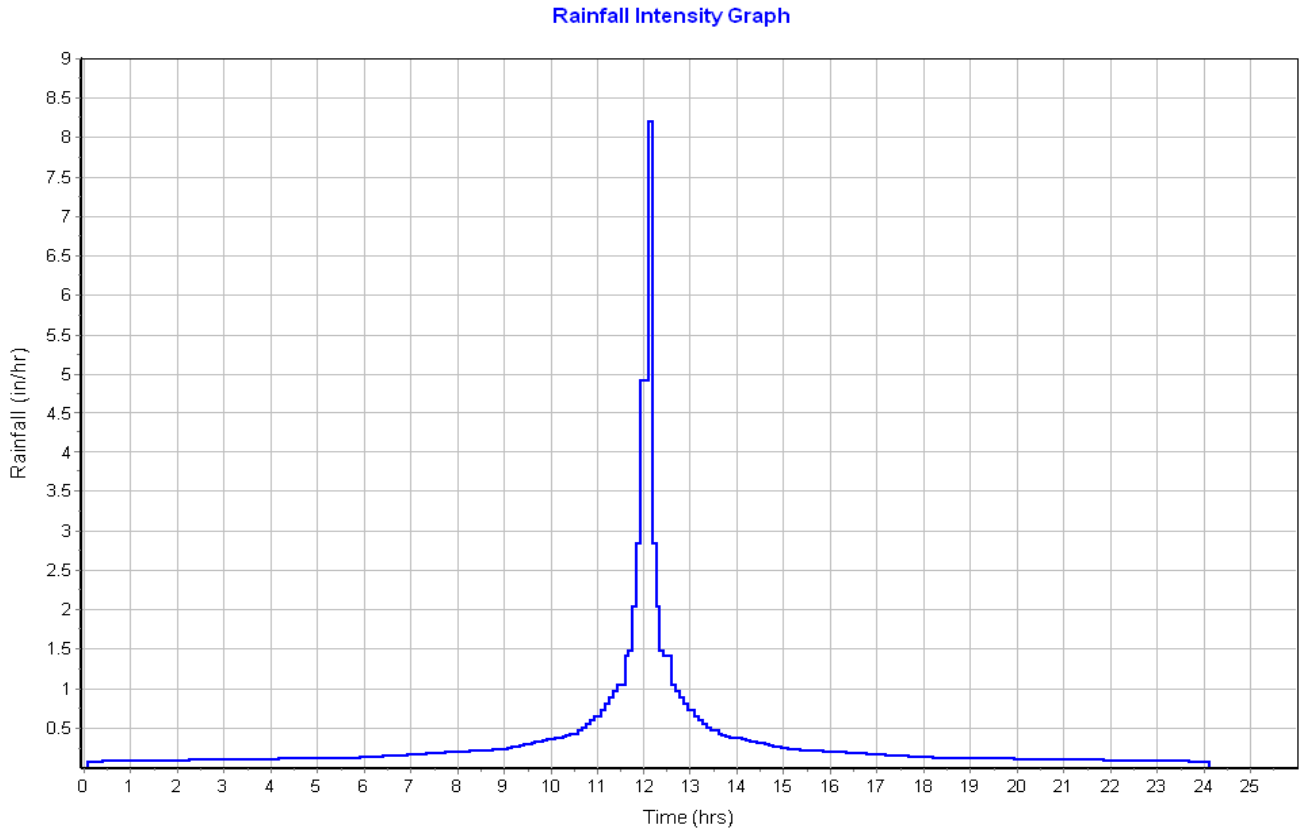
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	149.87	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	20.35	0.00	0.00

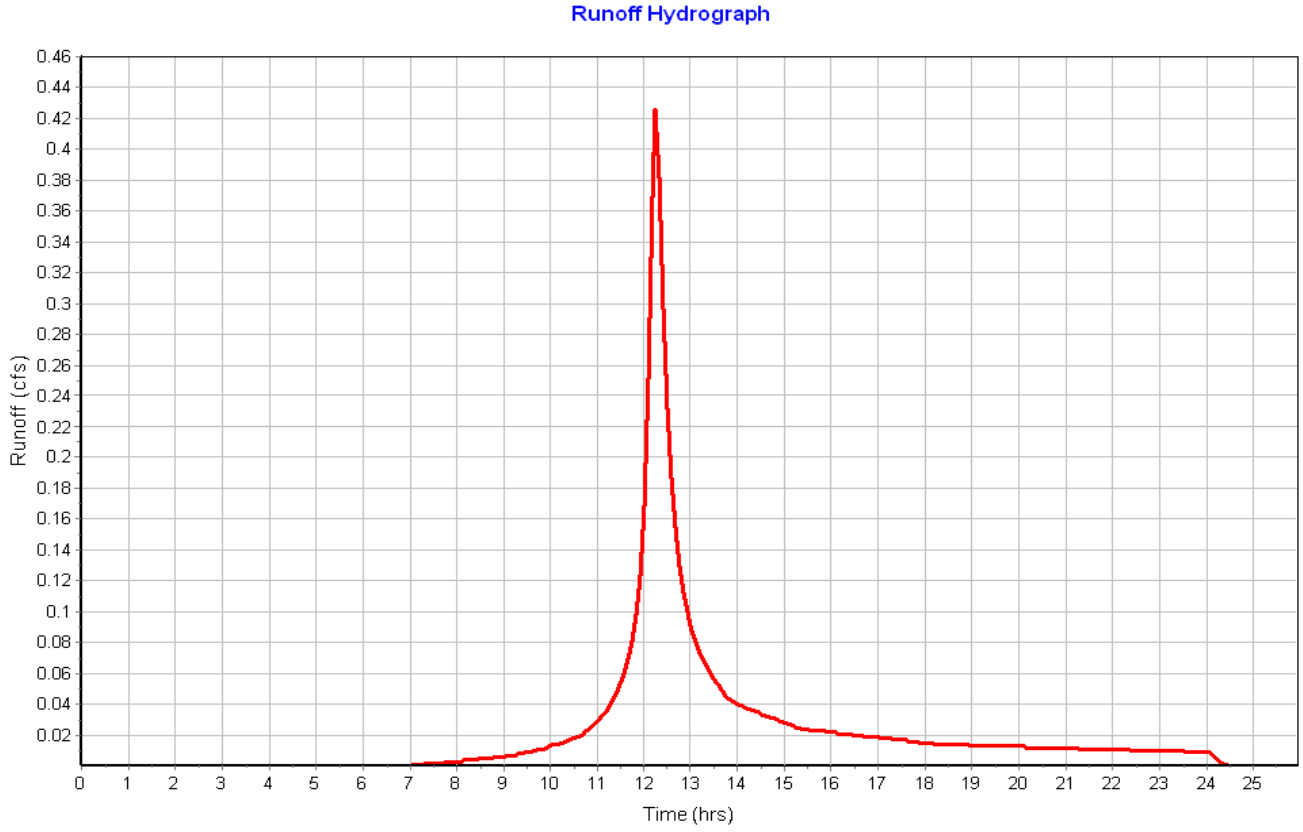
Total TOC (min) 20.35

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.80
Peak Runoff (cfs)	0.43
Weighted Curve Number	74.00
Time of Concentration (days hh:mm:ss)	0 00:20:21

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.85	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

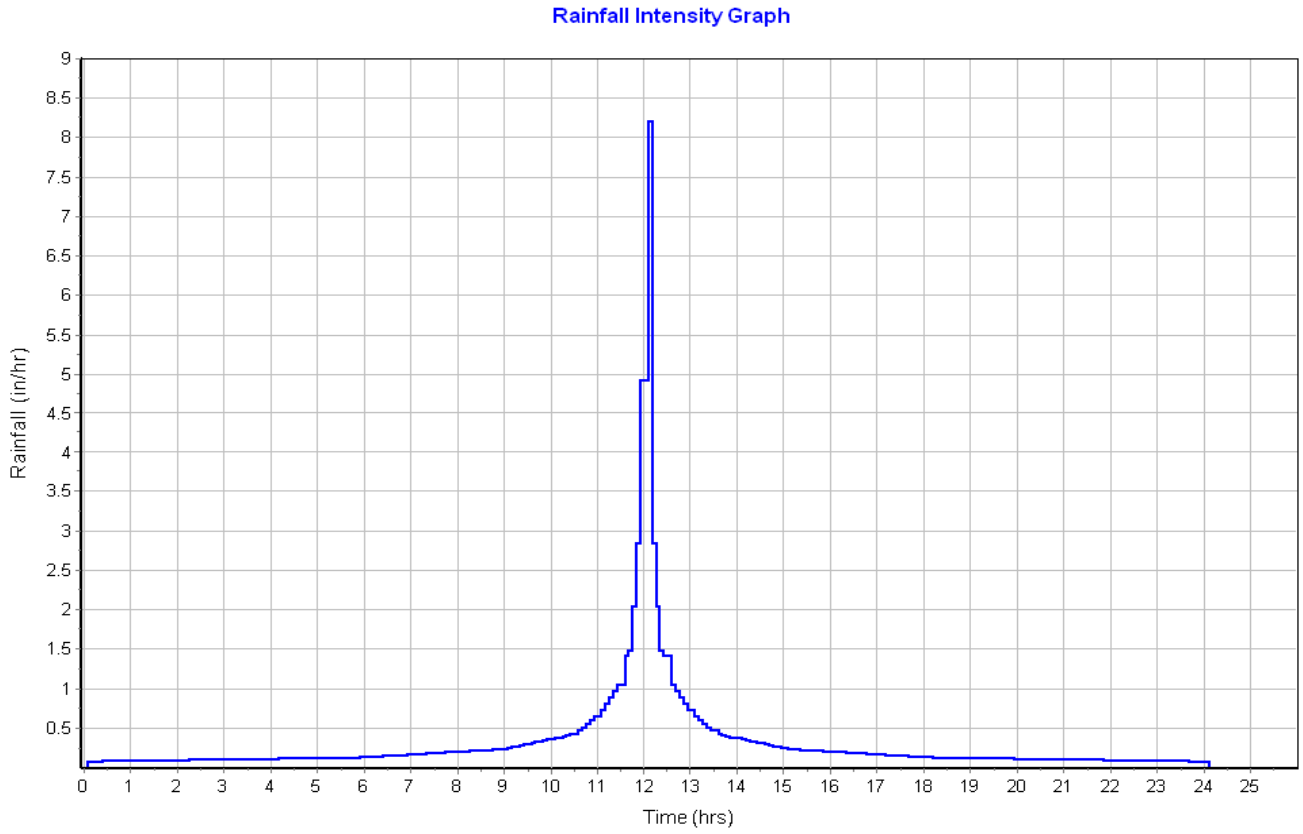
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.62	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

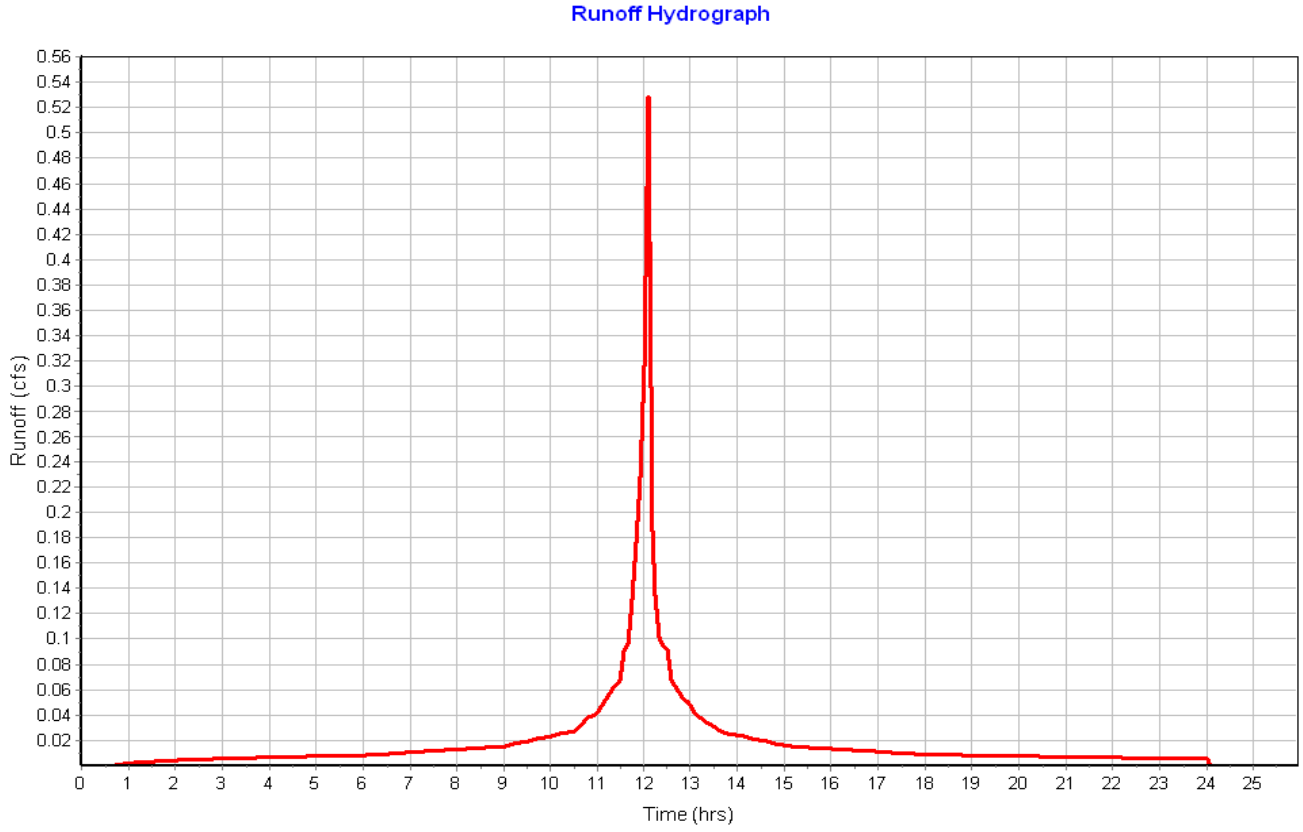
Total TOC (min) 1.64

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.53
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:38

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac) 0.05
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.01	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

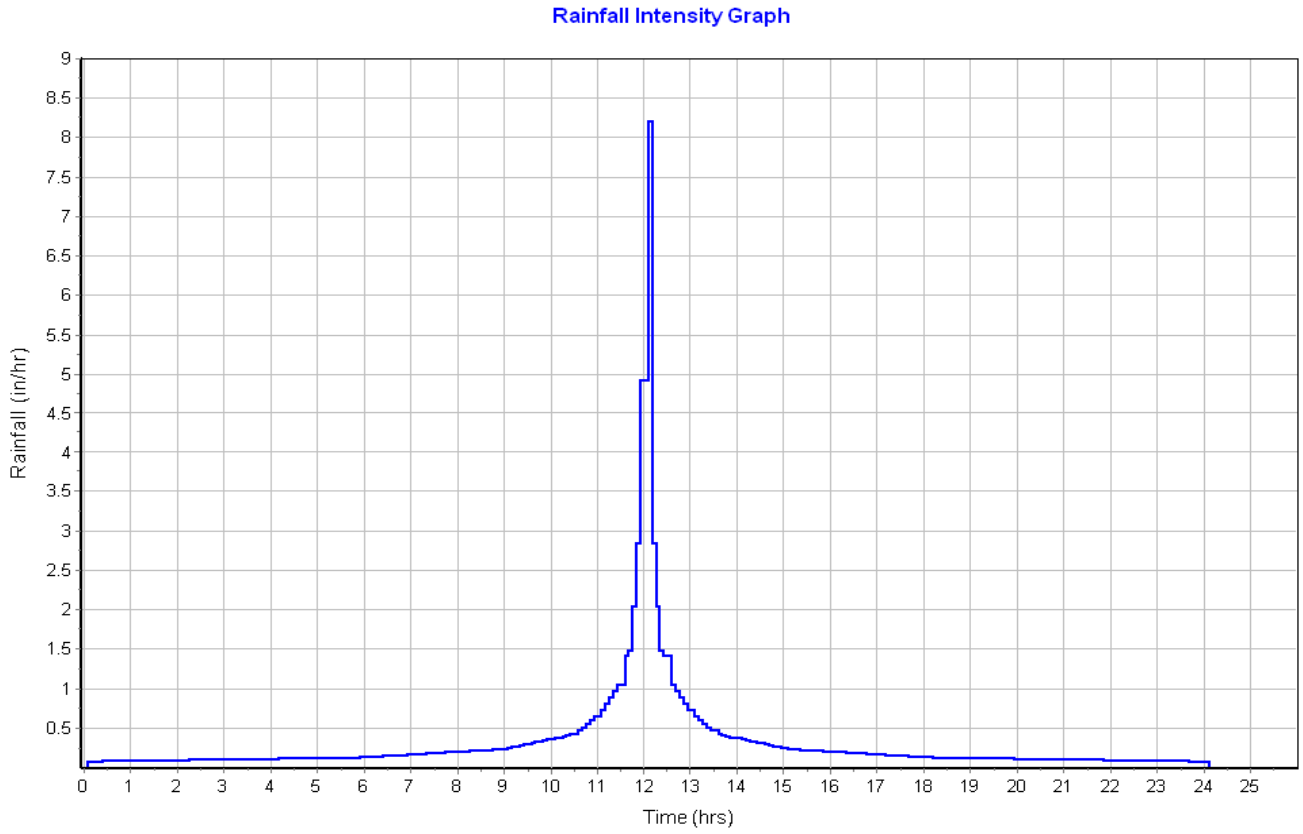
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	181.49	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.49	0.00	0.00

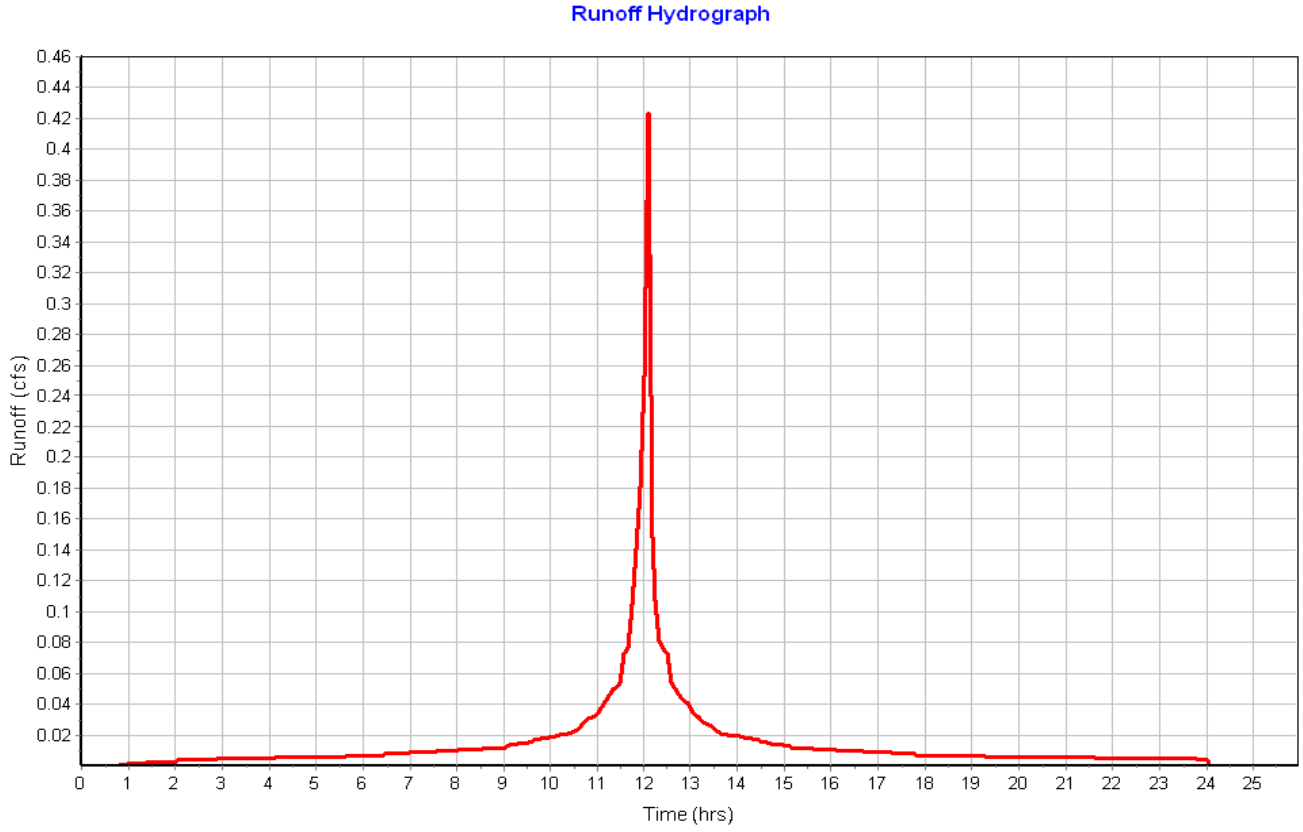
Total TOC (min) 1.62

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.42
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:37

Subbasin : Sub-09





Subbasin : Sub-10a

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.36	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.76	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

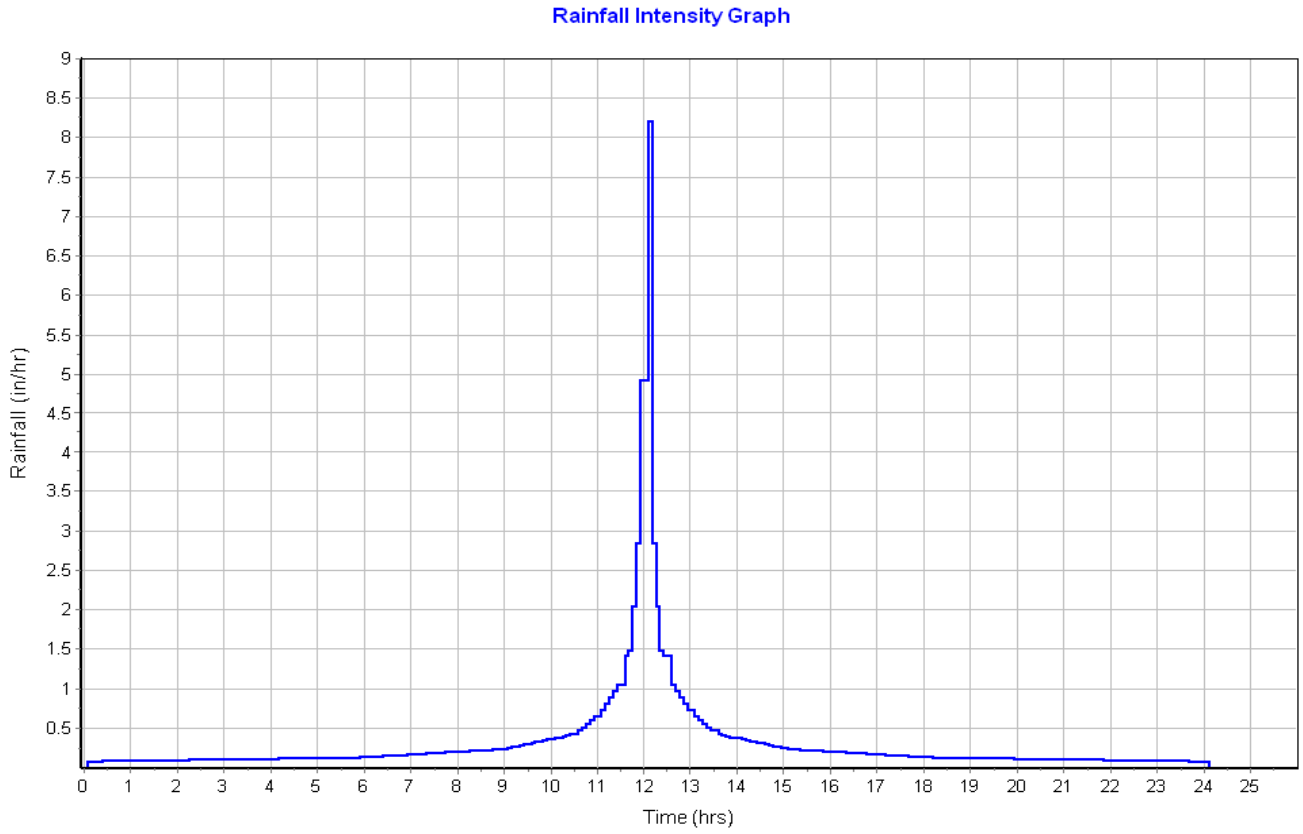
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	193.09	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.59	0.00	0.00

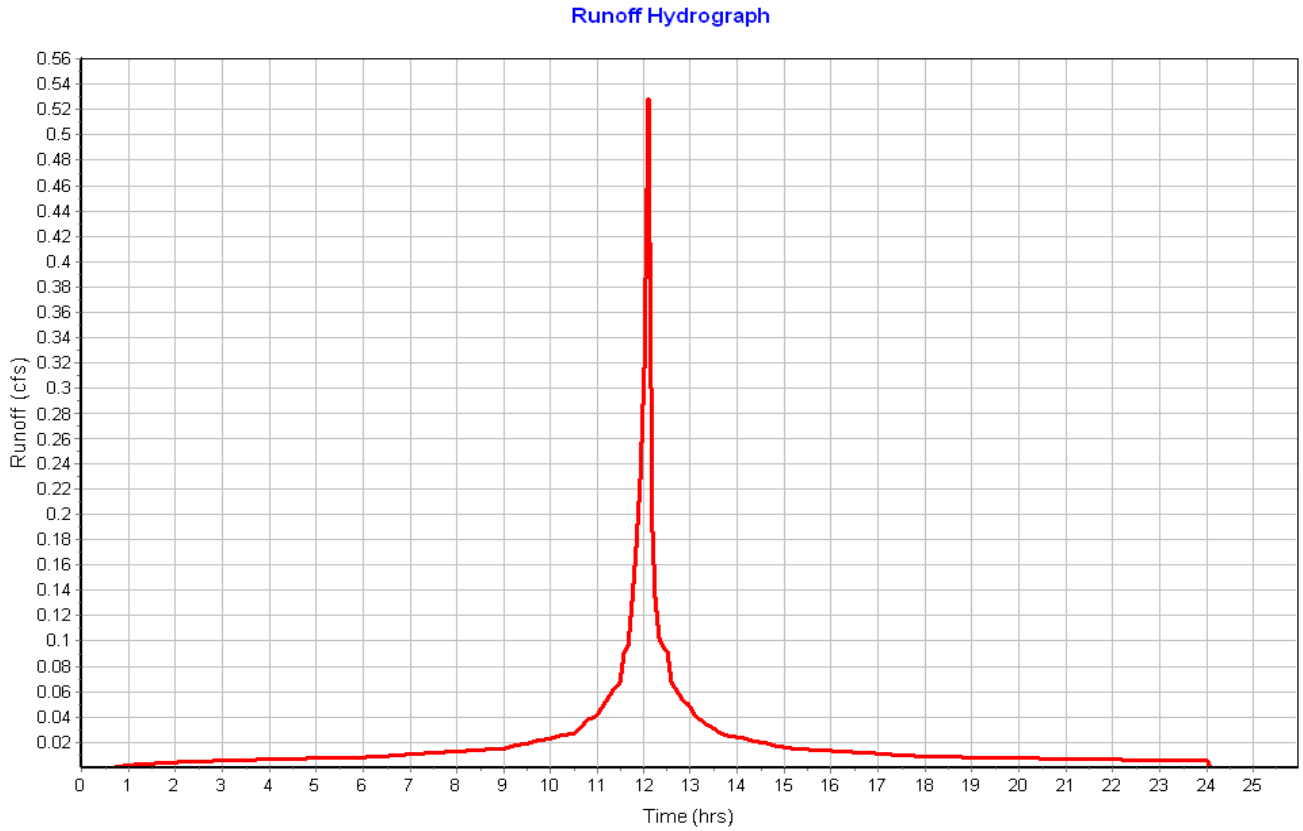
Total TOC (min) 1.72

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.53
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:43

Subbasin : Sub-10a





Subbasin : Sub-10b

Input Data

Area (ac) 0.04
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	18.28	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.64	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

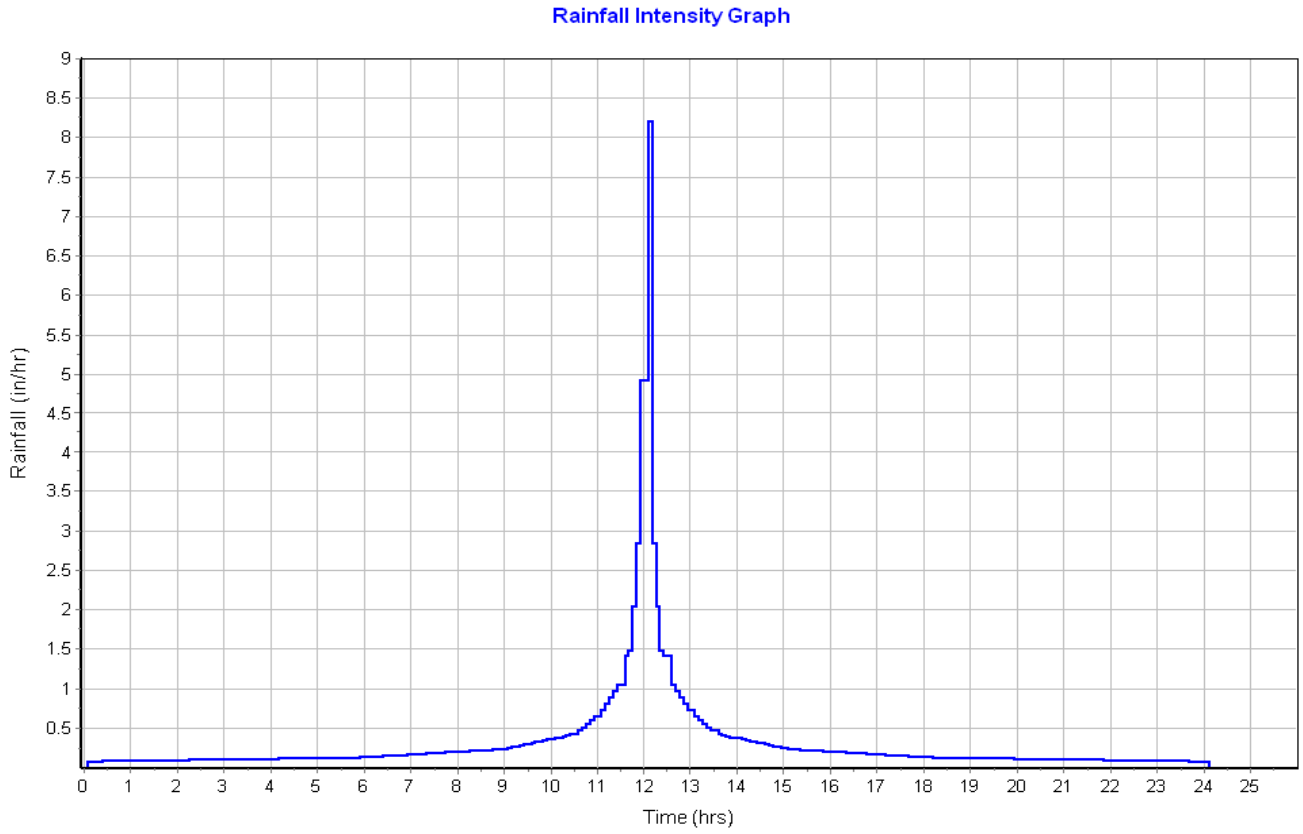
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	117.01	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	0.96	0.00	0.00

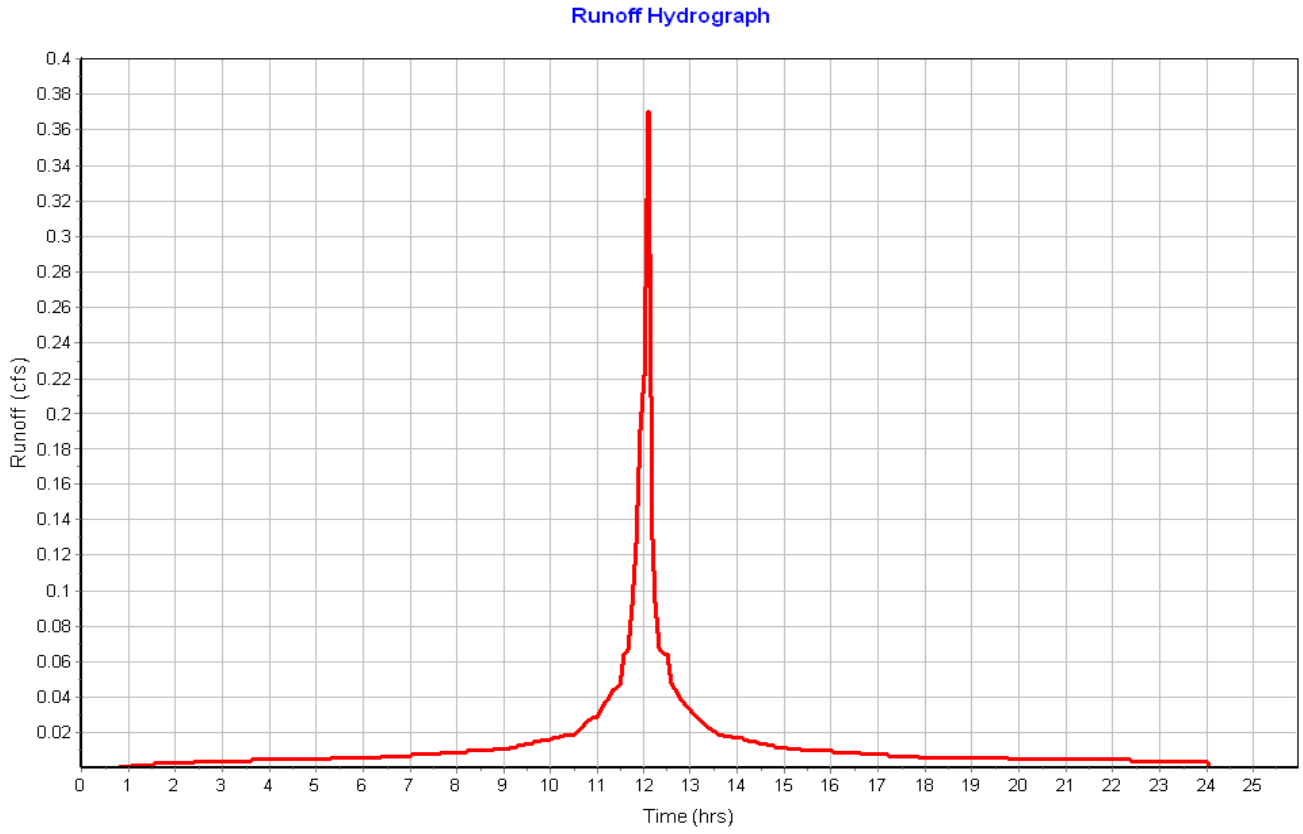
Total TOC (min) 1.15

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.37
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:09

Subbasin : Sub-10b





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

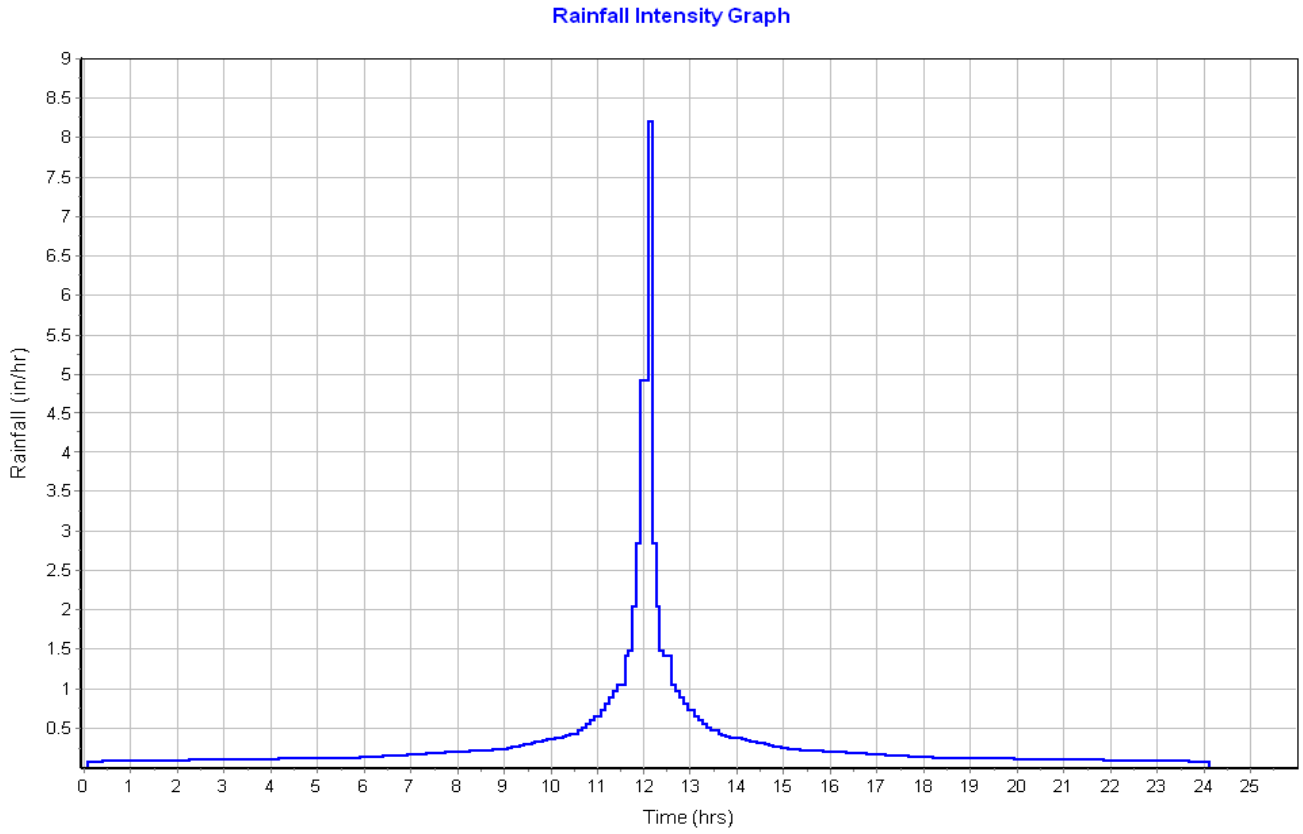
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.78	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.57	0.00	0.00

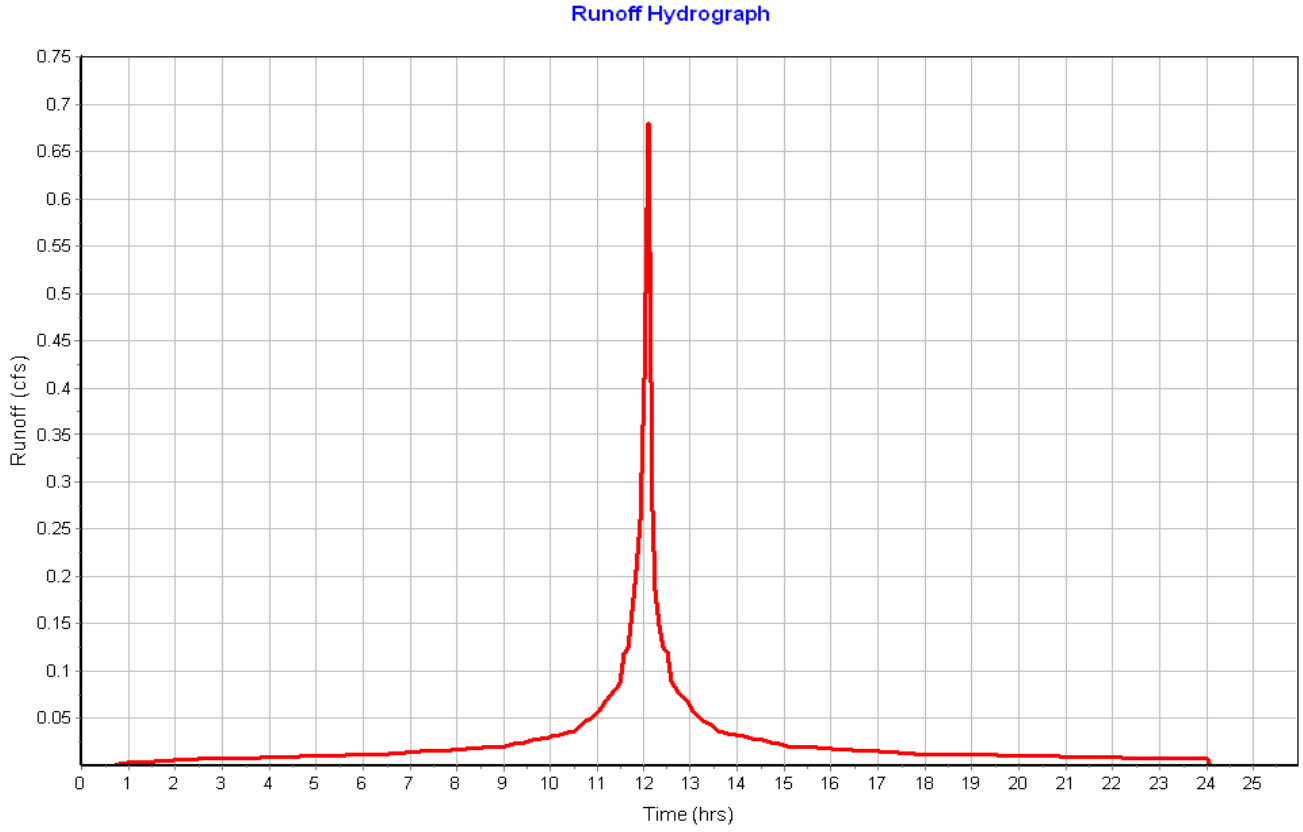
Total TOC (min) 2.70

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.68
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:42

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.77	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

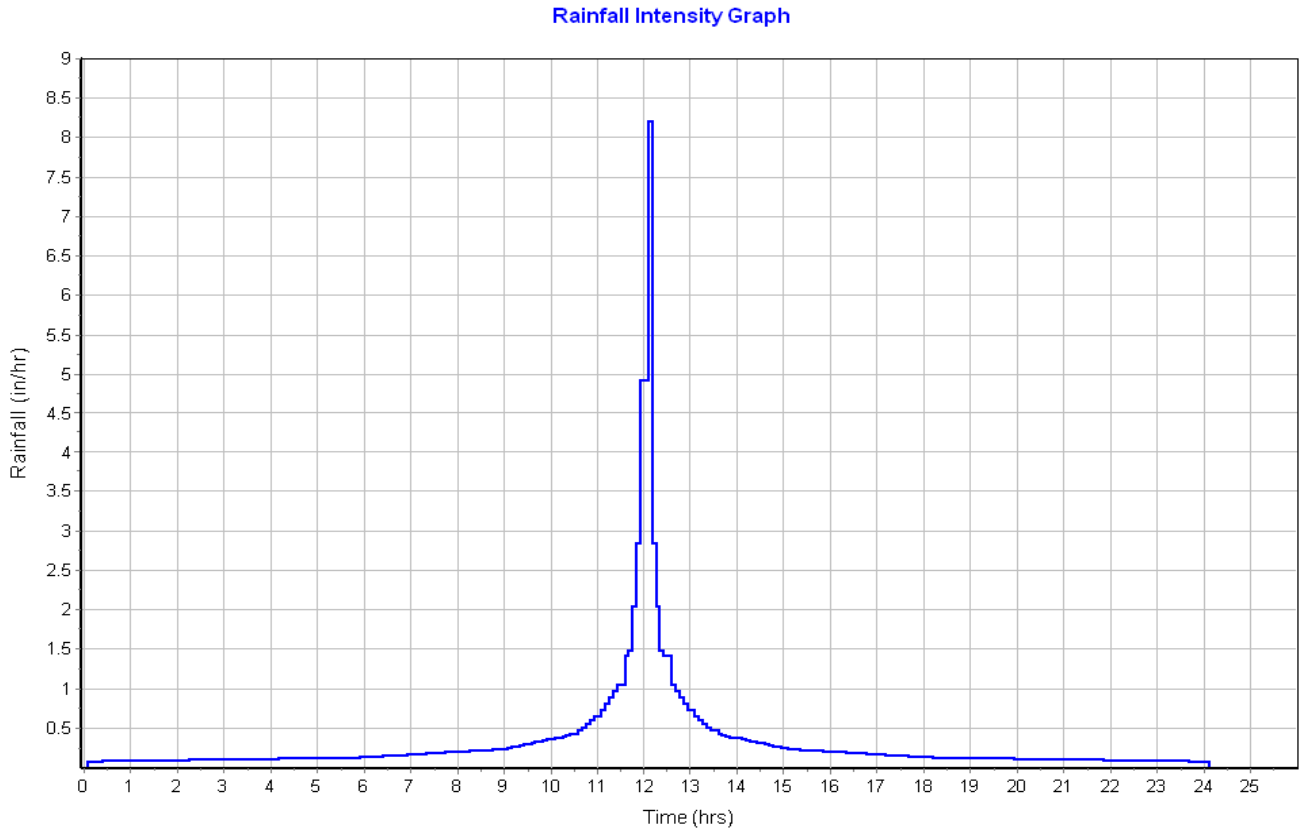
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.58	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

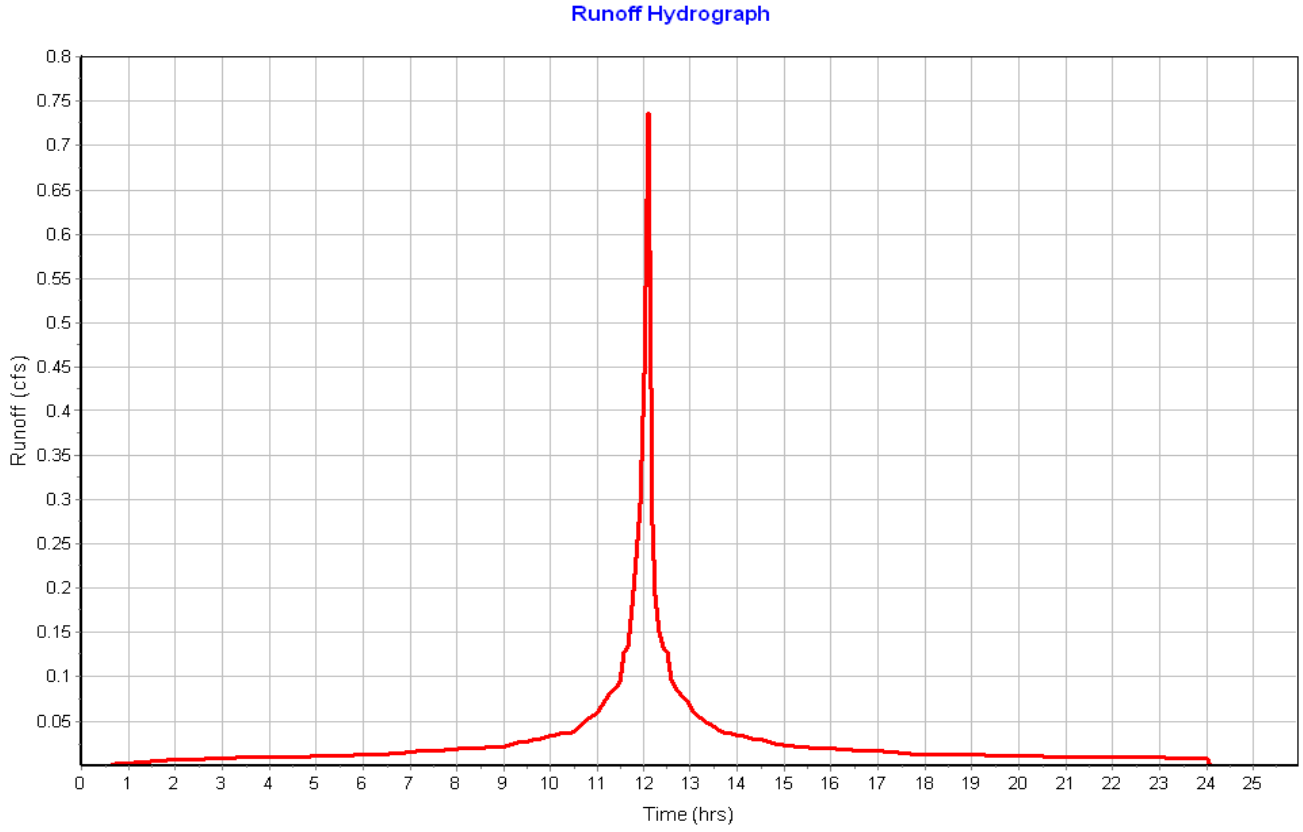
Total TOC (min) 2.31

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.74
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:19

Subbasin : Sub-12





Subbasin : Sub-13

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	11.16	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

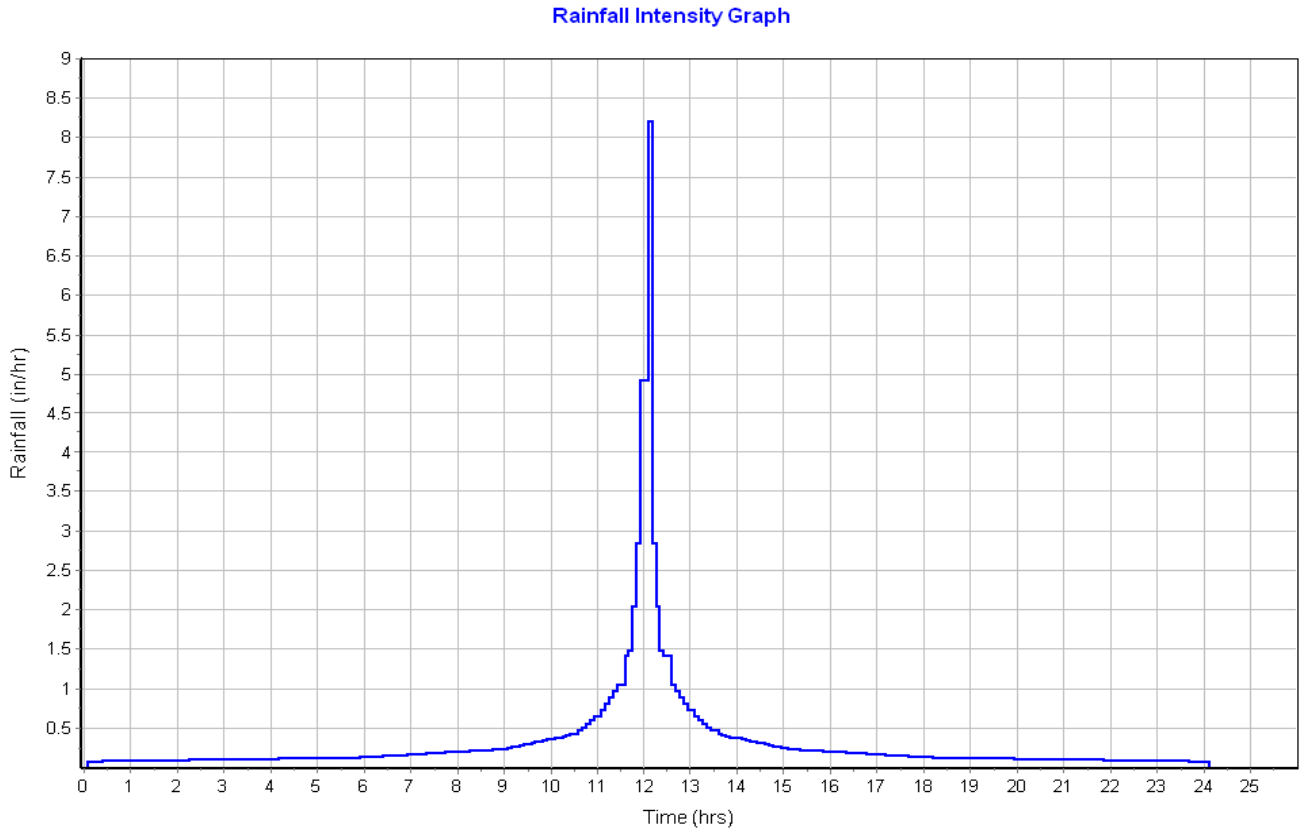
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.75	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.17	0.00	0.00

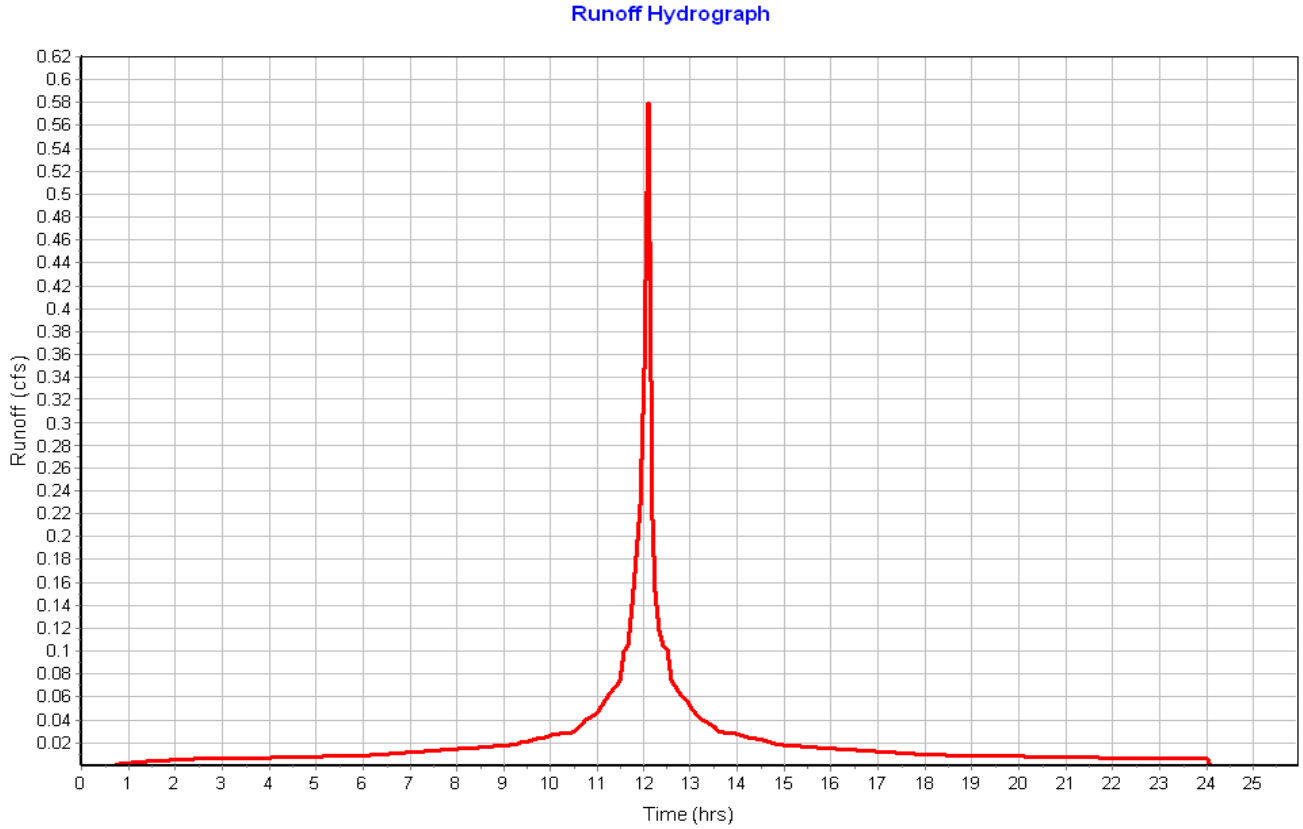
Total TOC (min) 2.28

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.58
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:17

Subbasin : Sub-13





Subbasin : Sub-14a

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.73	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

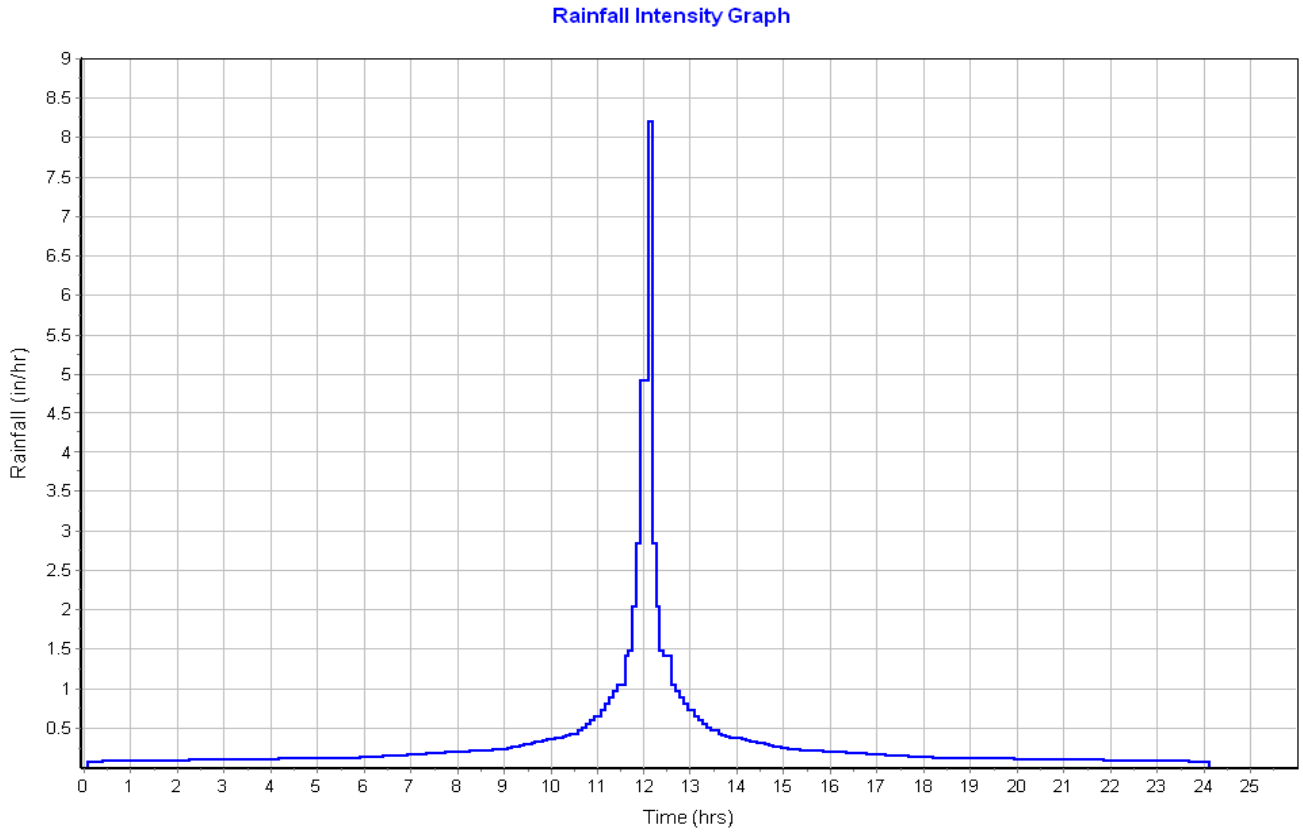
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	160.67	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.22	0.00	0.00

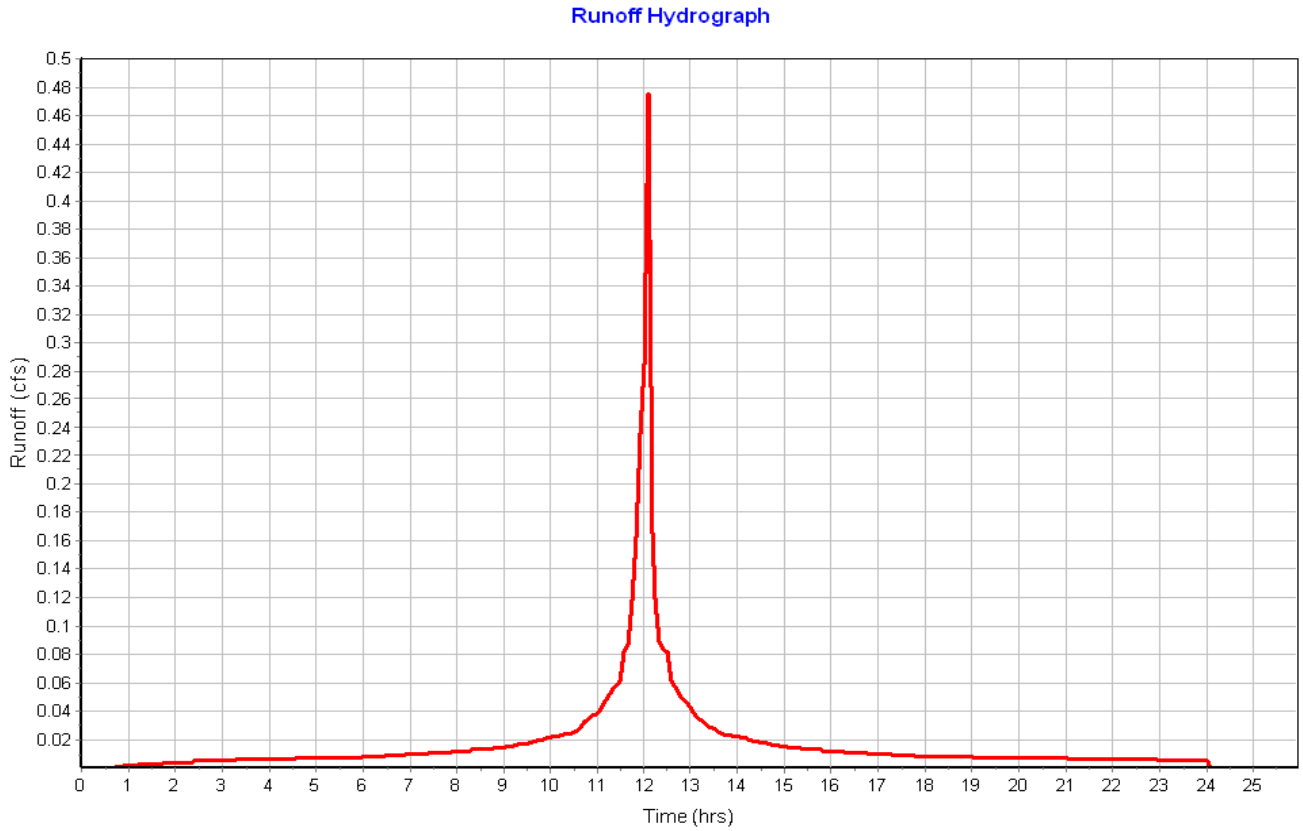
Total TOC (min) 1.37

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.48
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-14a





Subbasin : Sub-14b

Input Data

Area (ac) 0.04
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.60	0.00	0.00
Computed Flow Time (min) :	0.17	0.00	0.00

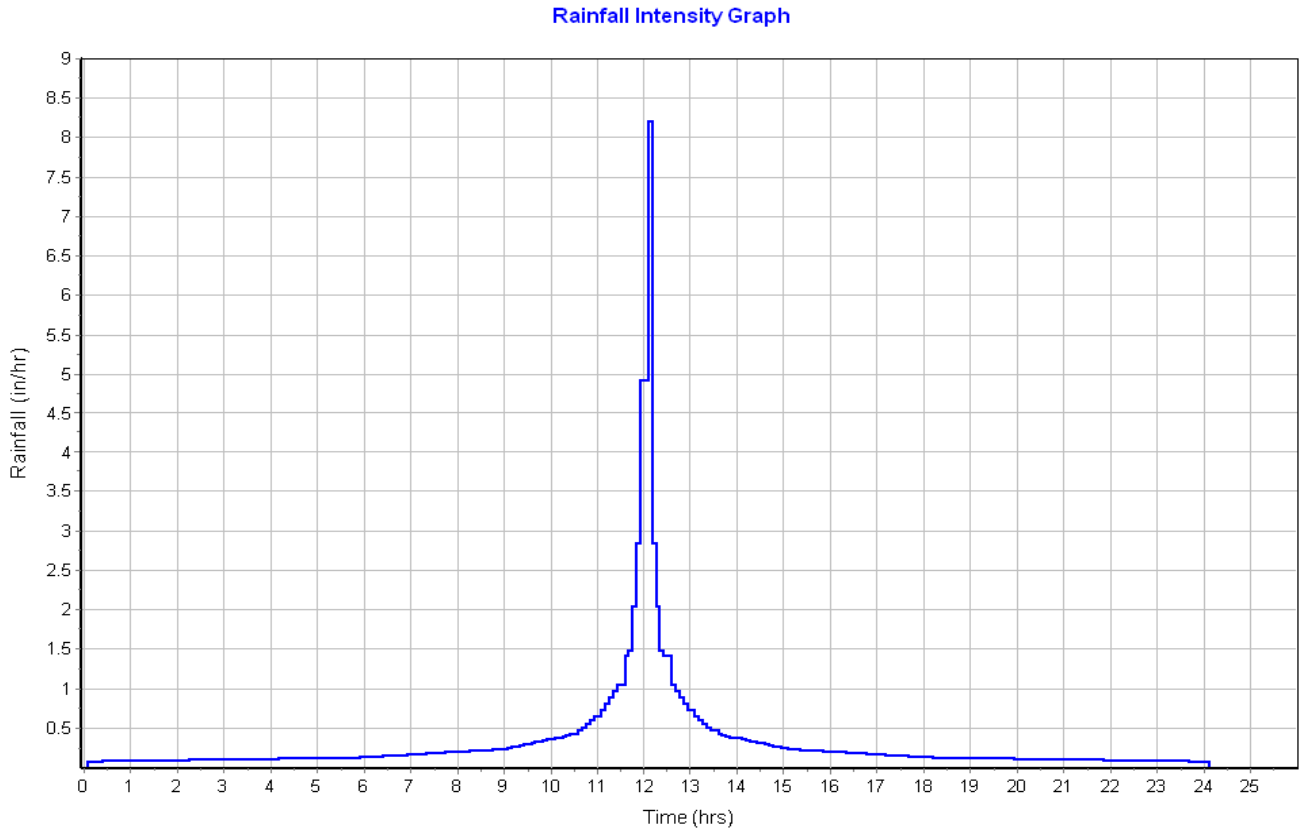
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	106.79	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	0.84	0.00	0.00

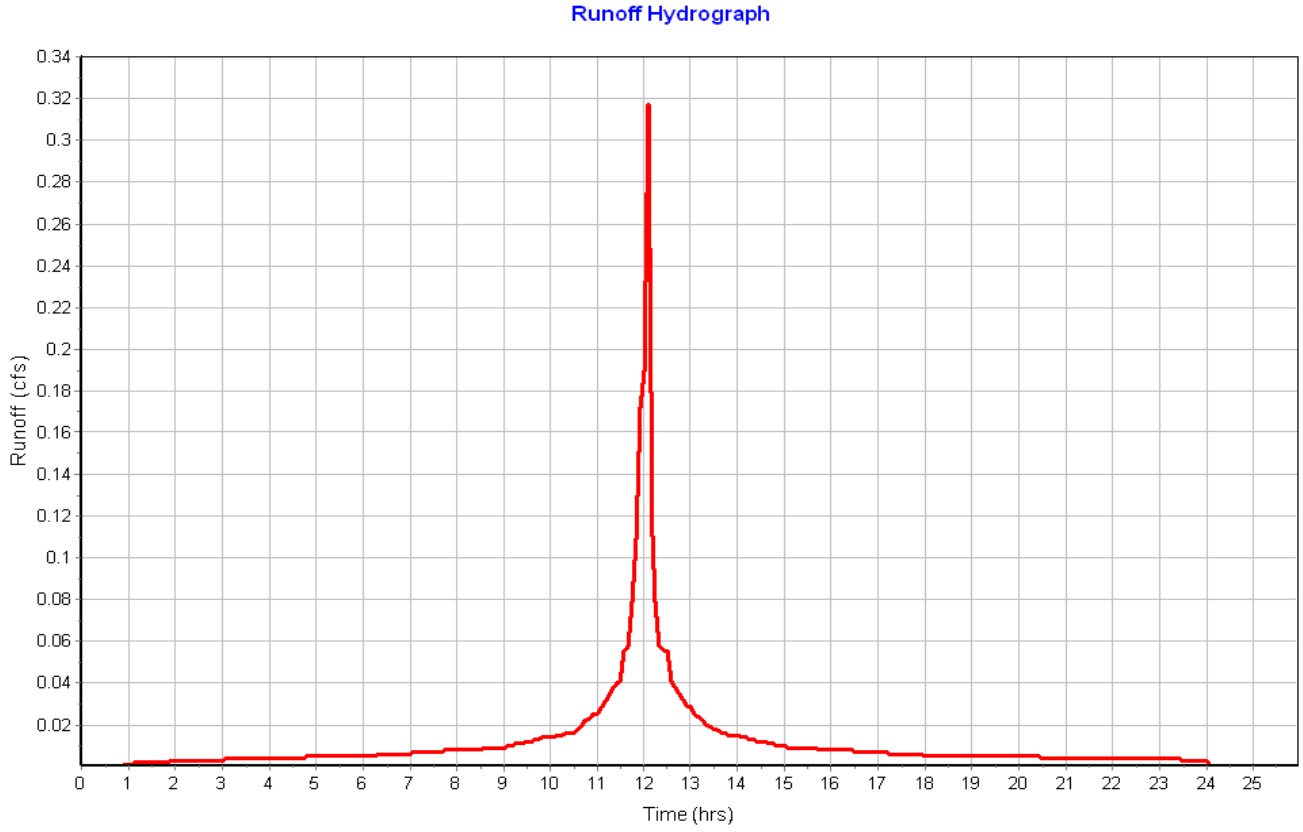
Total TOC (min) 1.00

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.32
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:00

Subbasin : Sub-14b





Subbasin : Sub-15

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

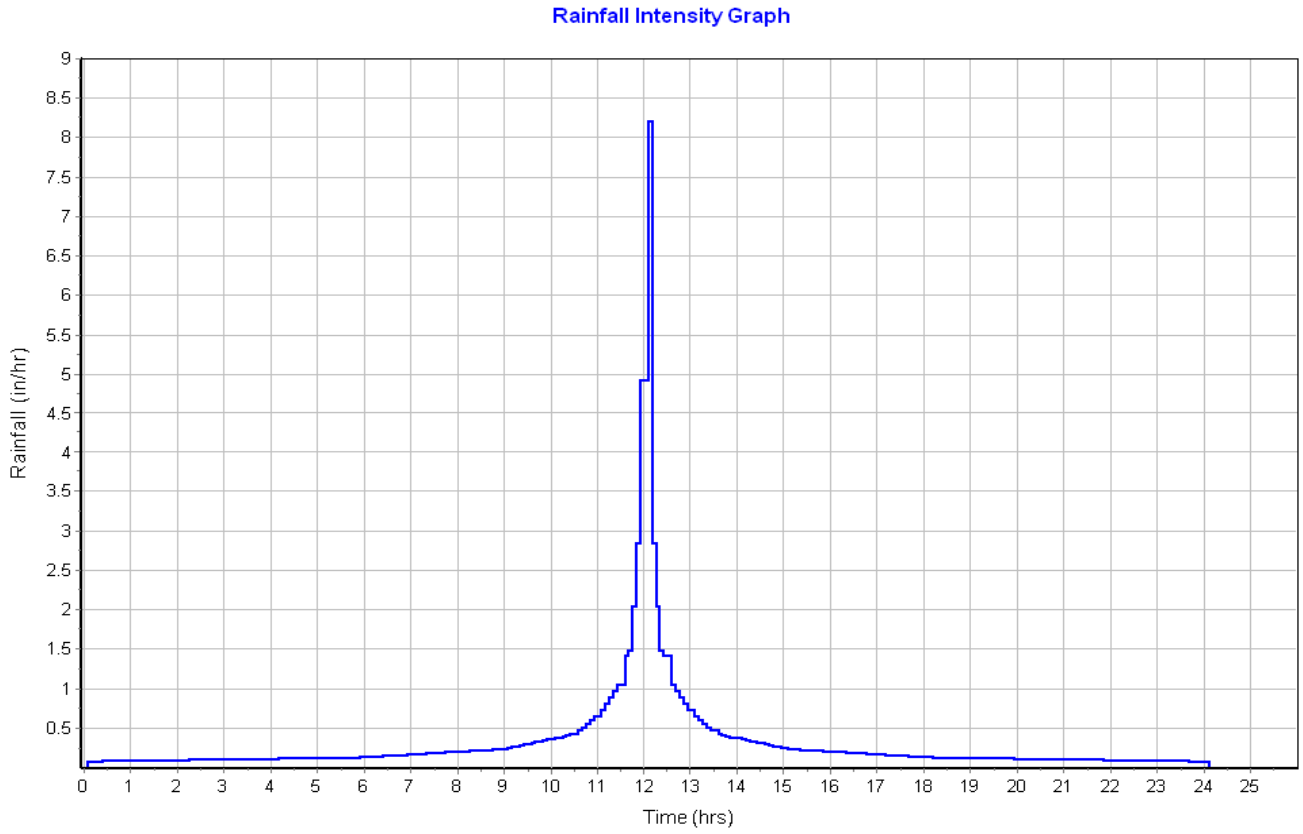
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	265.51	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.01	0.00	0.00

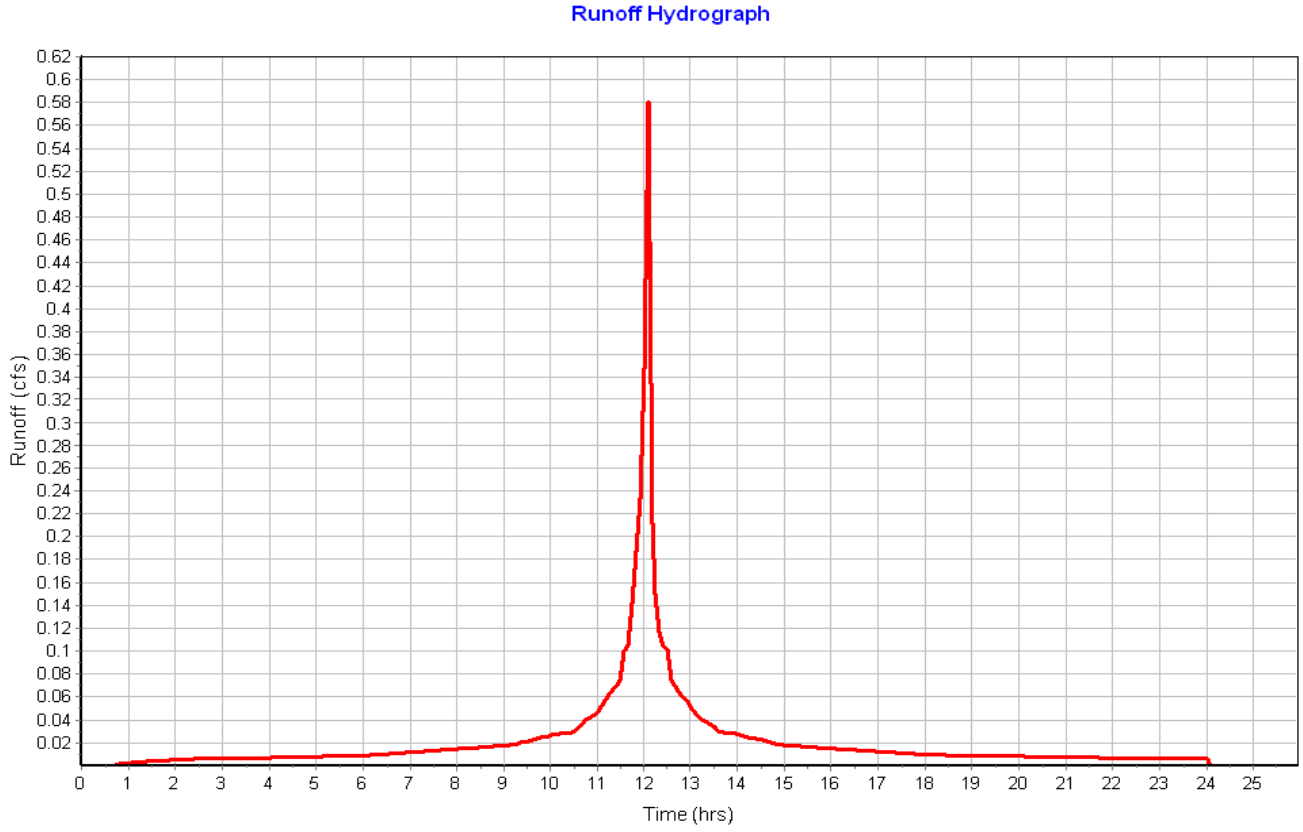
Total TOC (min) 2.14

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.58
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:08

Subbasin : Sub-15





Subbasin : Sub-16

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	22.46	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.92	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

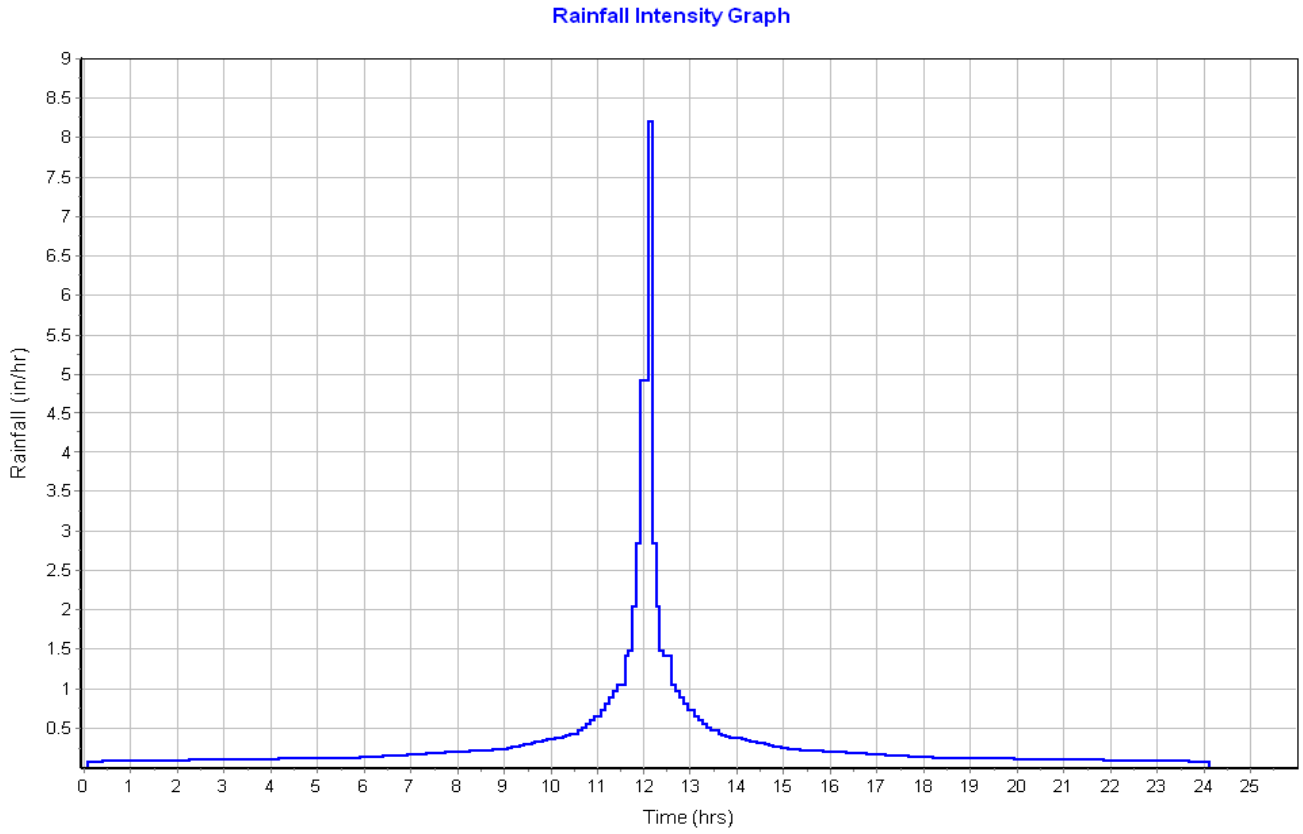
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.75	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.94	0.00	0.00

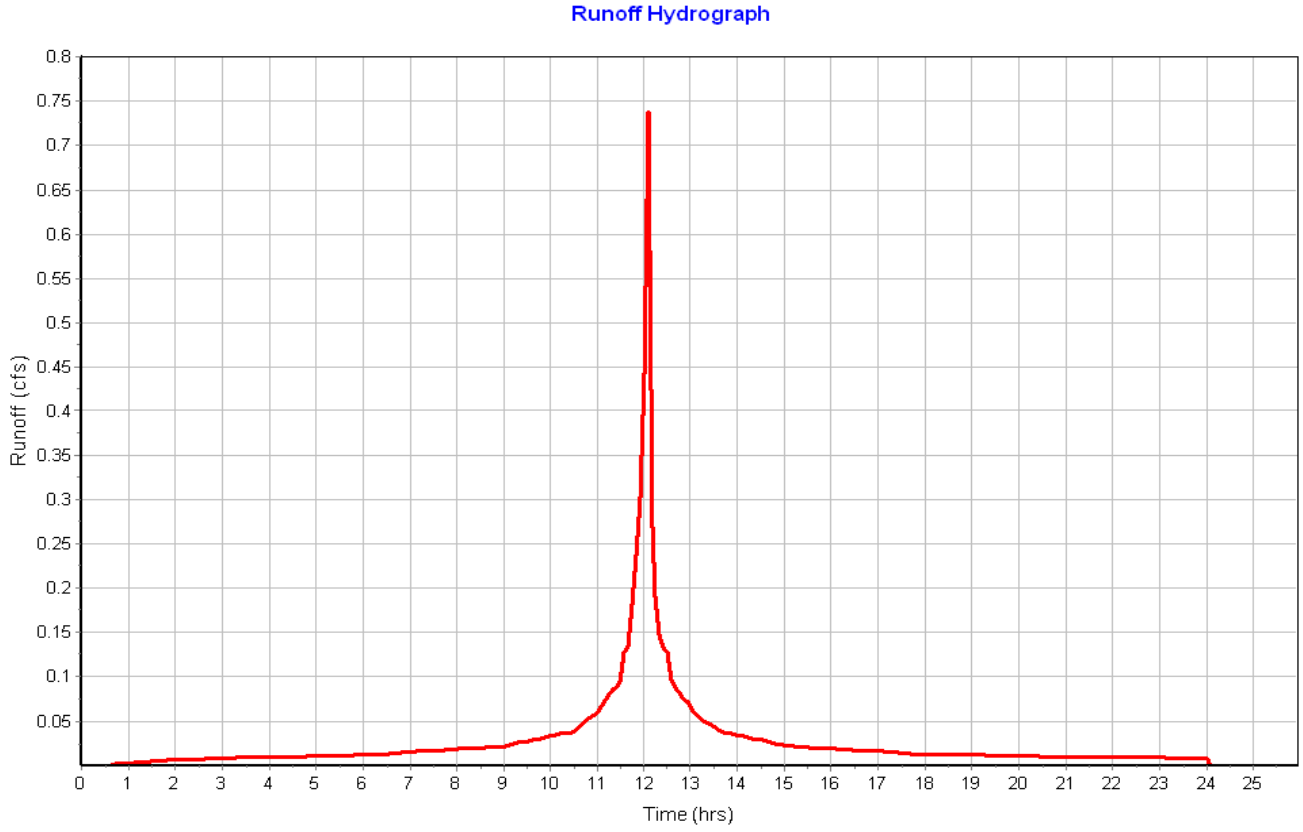
Total TOC (min) 2.13

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.74
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:08

Subbasin : Sub-16





Subbasin : Sub-17

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

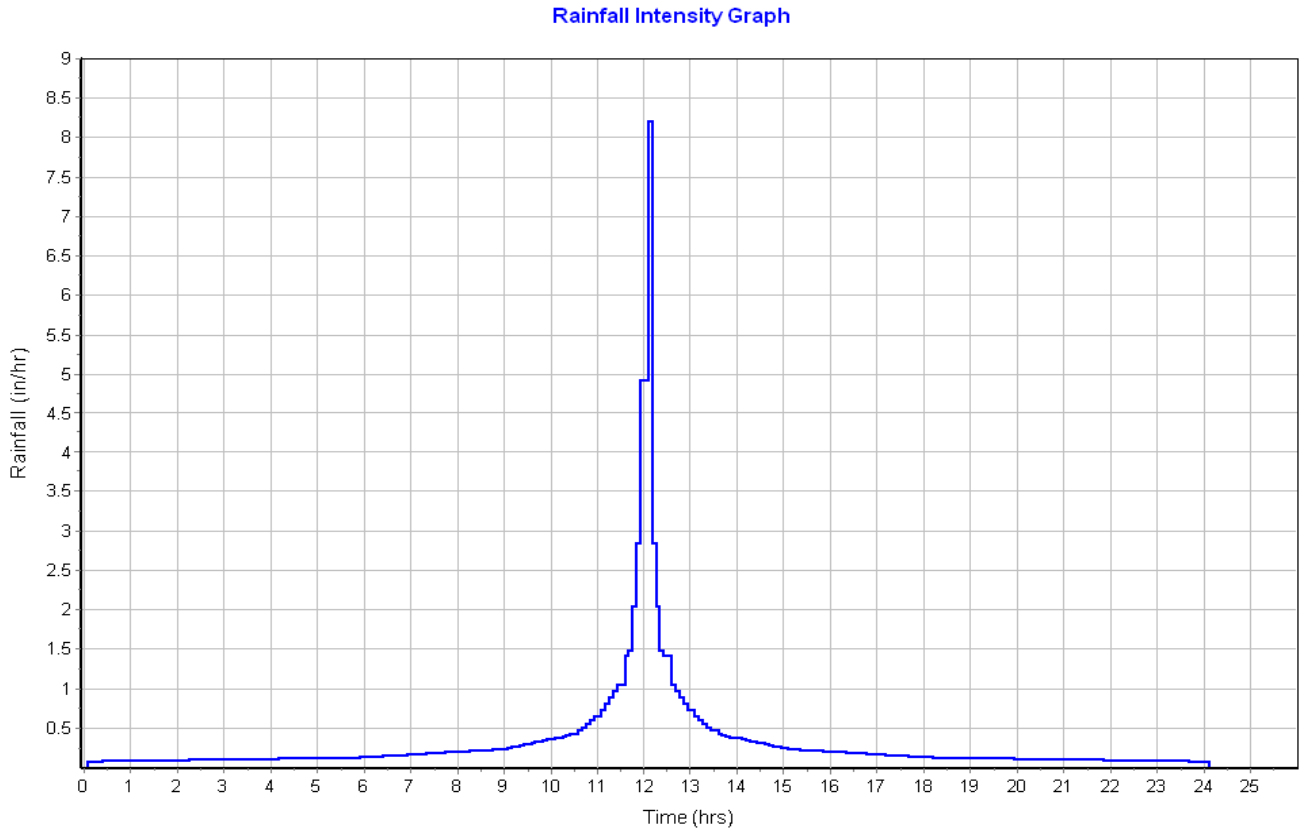
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	267.21	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.02	0.00	0.00

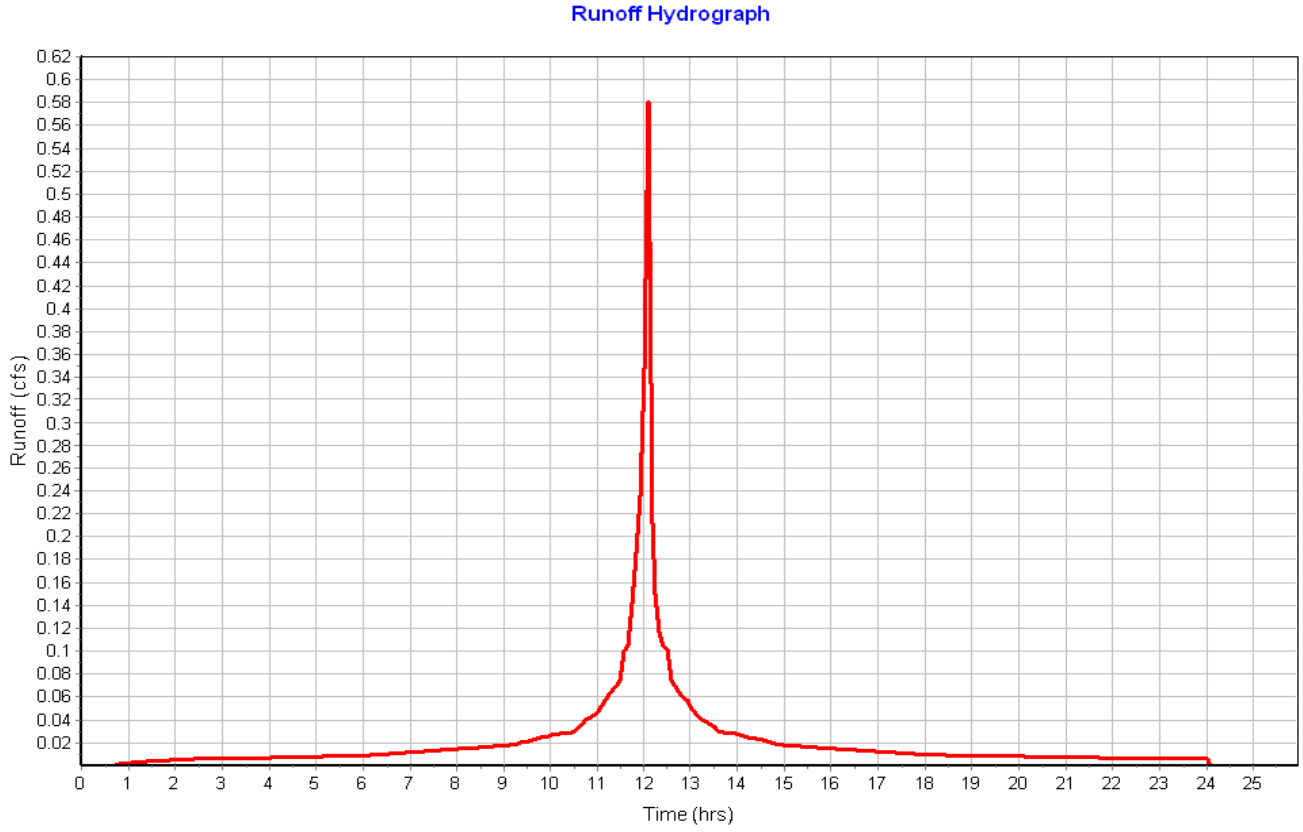
Total TOC (min) 2.15

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.62
Peak Runoff (cfs) 0.58
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:09

Subbasin : Sub-17





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	6.00	116.00	4.00	116.00	3.50	0.00	0.0000	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-02	12.00	116.00	3.50	114.00	2.00	2.00	16.6700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-03	24.02	117.15	4.00	117.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-05	23.50	116.15	4.00	116.00	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
5	Link-06	23.47	115.65	4.00	115.50	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-07	16.00	117.00	4.00	116.90	0.90	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-08	16.00	117.00	4.00	116.90	0.90	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-09	88.06	114.05	4.15	113.25	0.25	0.80	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
9	Link-10	11.34	115.75	4.25	113.00	-1.00	2.75	24.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
10	Link-11	11.51	114.65	3.15	114.25	0.25	0.40	3.4800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-12	16.00	115.50	4.00	115.00	1.00	0.50	3.1300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
12	Link-13	16.60	111.65	4.00	111.00	1.00	0.65	3.9200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
13	Link-14	28.55	113.15	4.50	113.00	0.00	0.15	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
14	Link-15	11.48	111.15	4.15	111.00	1.00	0.15	1.3100	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	1.60	0 12:10	0.30	5.36	3.02	0.03	0.64	0.64	0.00		> CAPACITY
2	Link-02	1.60	0 12:10	9.45	0.17	8.18	0.02	0.30	0.30	0.00		Calculated
3	Link-03	0.42	0 12:10	1.83	0.23	1.68	0.24	0.35	0.35	0.00		Calculated
4	Link-05	0.37	0 12:10	1.85	0.20	0.66	0.59	0.67	0.67	0.00		Calculated
5	Link-06	0.58	0 12:10	1.85	0.31	2.11	0.19	0.38	0.38	0.00		Calculated
6	Link-07	0.47	0 12:10	1.83	0.26	2.14	0.12	0.32	0.32	0.00		Calculated
7	Link-08	0.47	0 12:10	1.83	0.26	2.14	0.12	0.32	0.32	0.00		Calculated
8	Link-09	1.10	0 12:10	2.21	0.50	2.91	0.50	0.47	0.48	0.00		Calculated
9	Link-10	0.67	0 12:10	9.10	0.07	6.39	0.03	0.19	0.19	0.00		Calculated
10	Link-11	0.88	0 12:10	4.32	0.20	3.97	0.05	0.32	0.33	0.00		Calculated
11	Link-12	0.89	0 12:10	4.09	0.22	3.89	0.07	0.33	0.33	0.00		Calculated
12	Link-13	1.71	0 12:11	4.58	0.37	4.96	0.06	0.44	0.45	0.00		Calculated
13	Link-14	0.55	0 12:10	0.26	2.10	2.83	0.17	0.50	1.00	17.00		SURCHARGED
14	Link-15	0.53	0 12:11	0.42	1.28	2.93	0.07	0.43	0.87	0.00		> CAPACITY

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 116.00
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 3.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -116.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

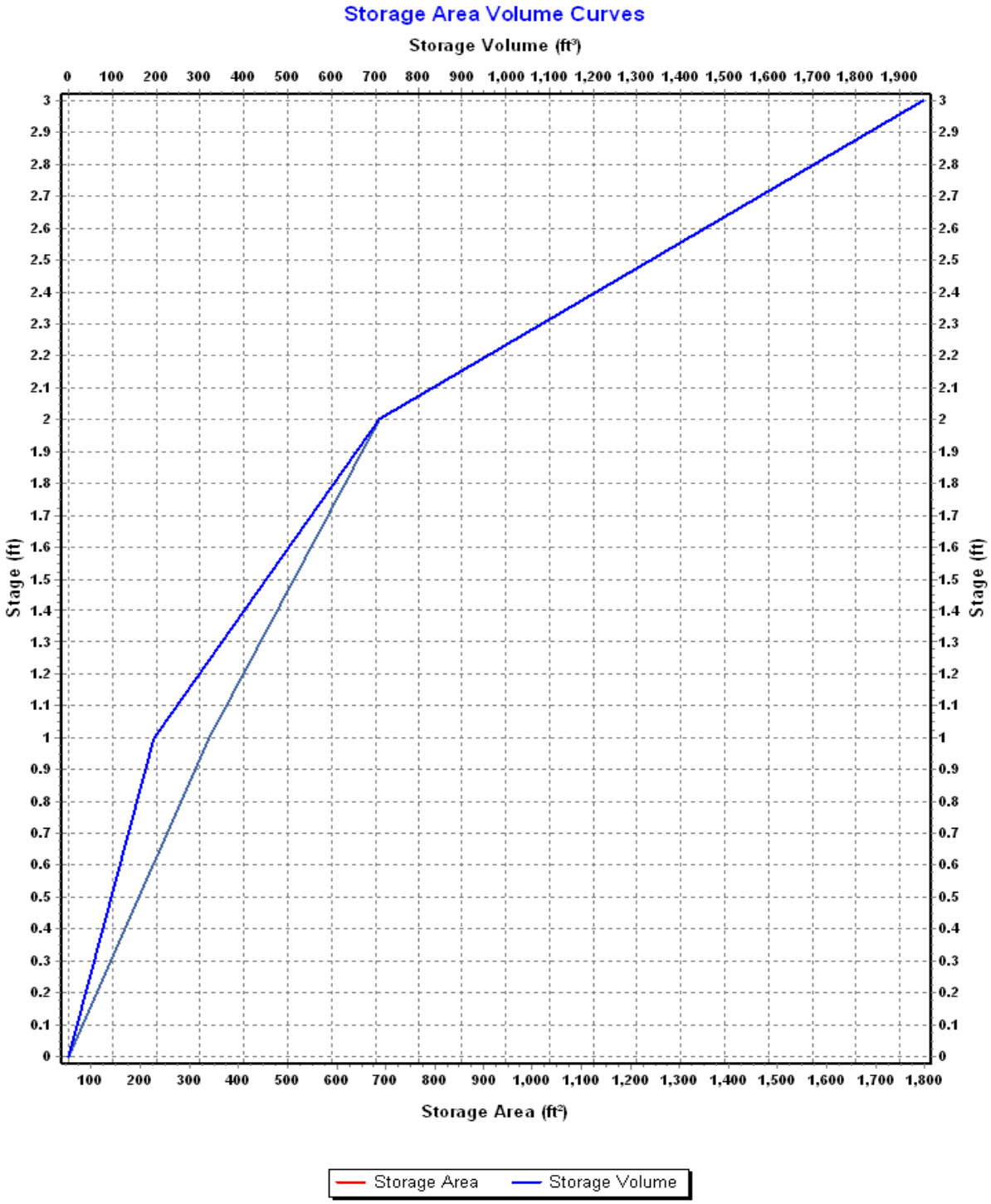
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	54	0.000
1	339	196.50
2	689	710.50
3	1796	1953.00


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3
Storage Area (ft²)
100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-02	Trapezoidal	No	119.00	3.00	20.00	0.25	3.33
2	Weir-03	Trapezoidal	No	116.90	0.90	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	1.13
Peak Lateral Inflow (cfs)	0.20
Peak Outflow (cfs)	1.11
Peak Exfiltration Flow Rate (cfm)	0.13
Max HGL Elevation Attained (ft)	117.02
Max HGL Depth Attained (ft)	1.02
Average HGL Elevation Attained (ft)	116.83
Average HGL Depth Attained (ft)	0.83
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.146
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

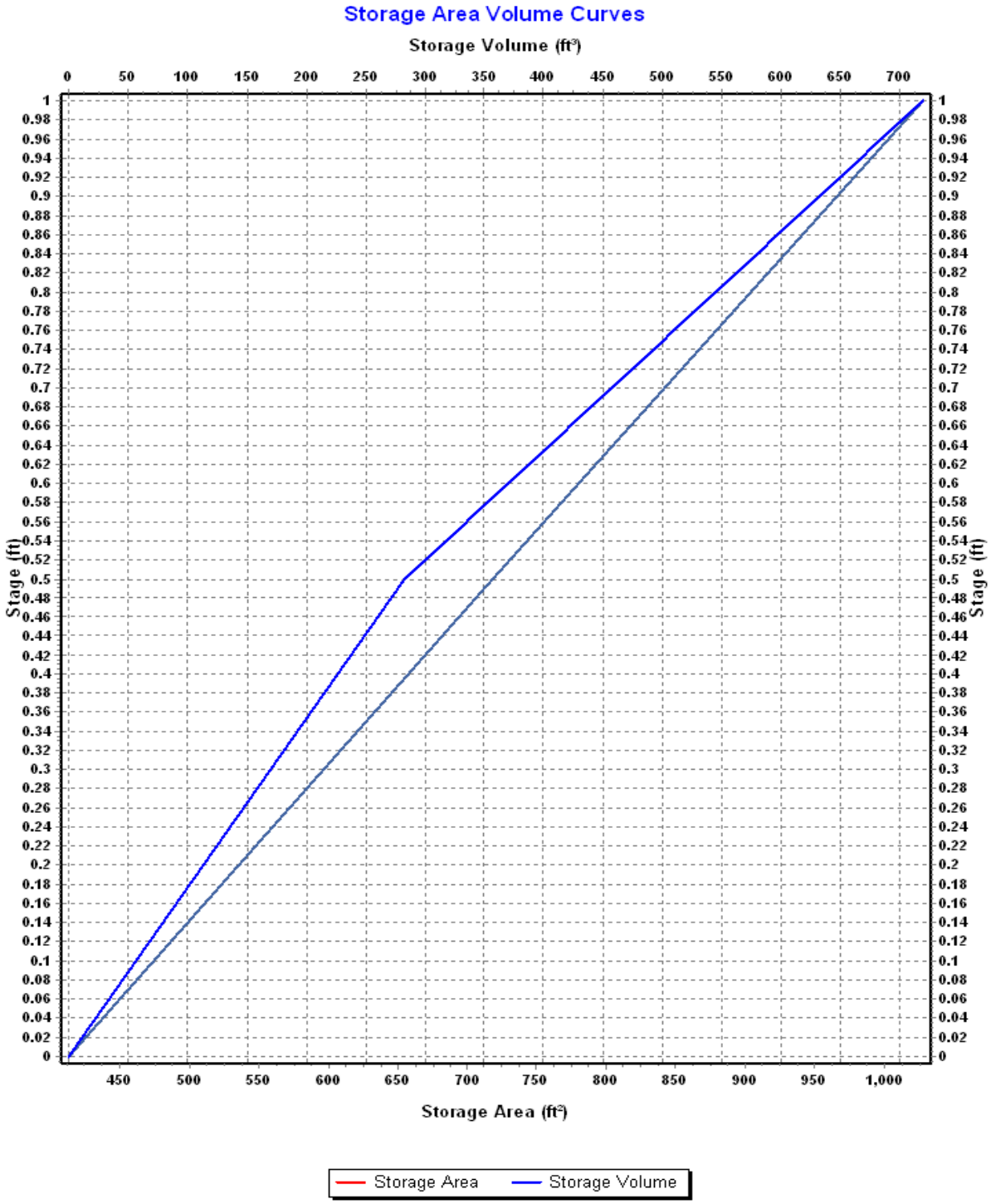
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	413	0.000
.5	718	282.75
1	1028	719.25


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
450 500 550 600 650 700 750 800 850 900 950 1,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-05	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.72
Peak Lateral Inflow (cfs)	0.20
Peak Outflow (cfs)	0.67
Peak Exfiltration Flow Rate (cfm)	0.29
Max HGL Elevation Attained (ft)	118.59
Max HGL Depth Attained (ft)	0.59
Average HGL Elevation Attained (ft)	118.40
Average HGL Depth Attained (ft)	0.4
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.328
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02-Forebay

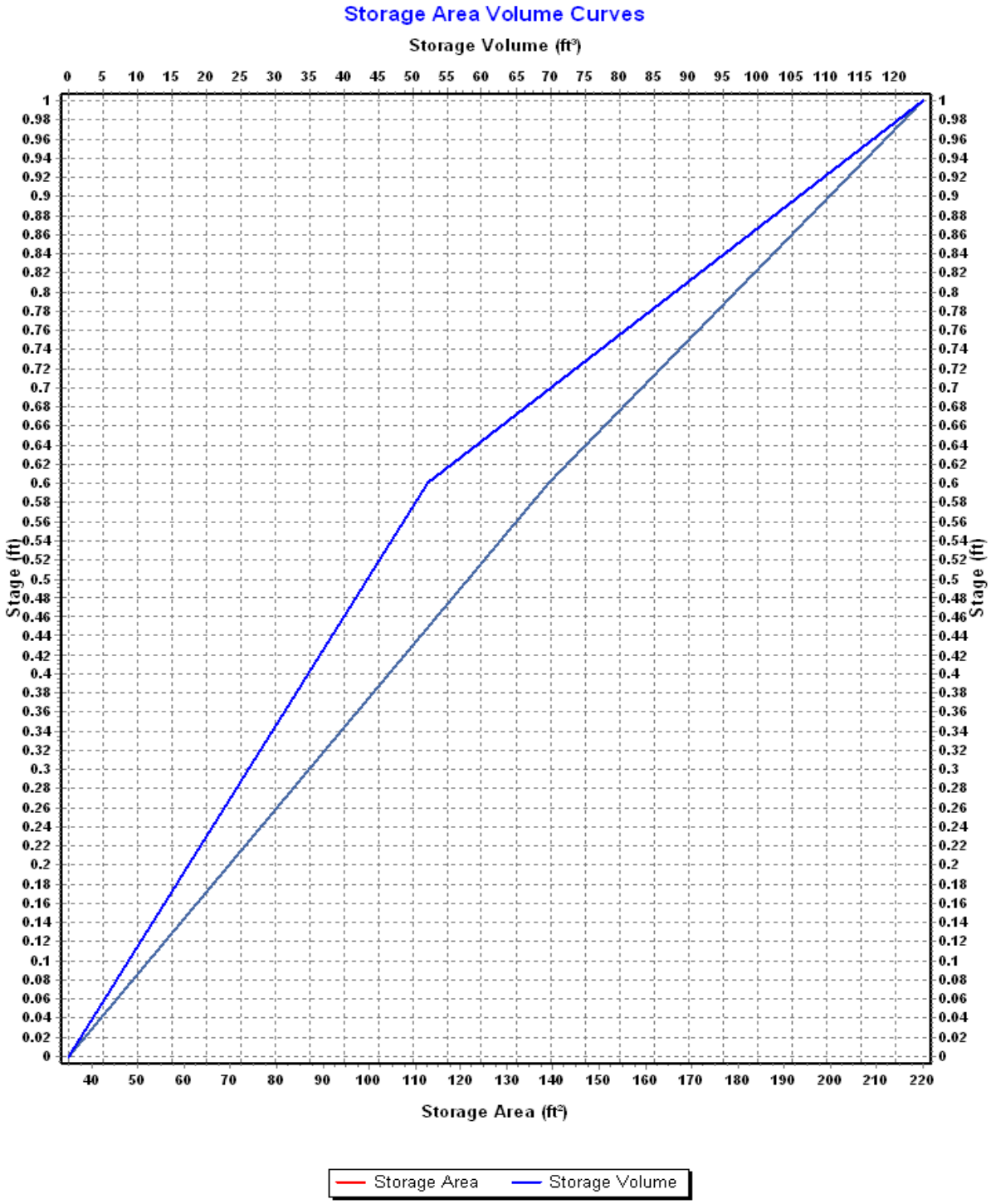
Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-02 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	35	0.000
.6	139	52.20
1	220	124.00


Storage Area Volume Curves
Storage Volume (ft³)
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	118.60	0.60	8.00	0.50	3.33
2	Weir-06	Trapezoidal	No	118.75	0.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.53
Peak Lateral Inflow (cfs)	0.53
Peak Outflow (cfs)	0.52
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.67
Max HGL Depth Attained (ft)	0.67
Average HGL Elevation Attained (ft)	118.60
Average HGL Depth Attained (ft)	0.6
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

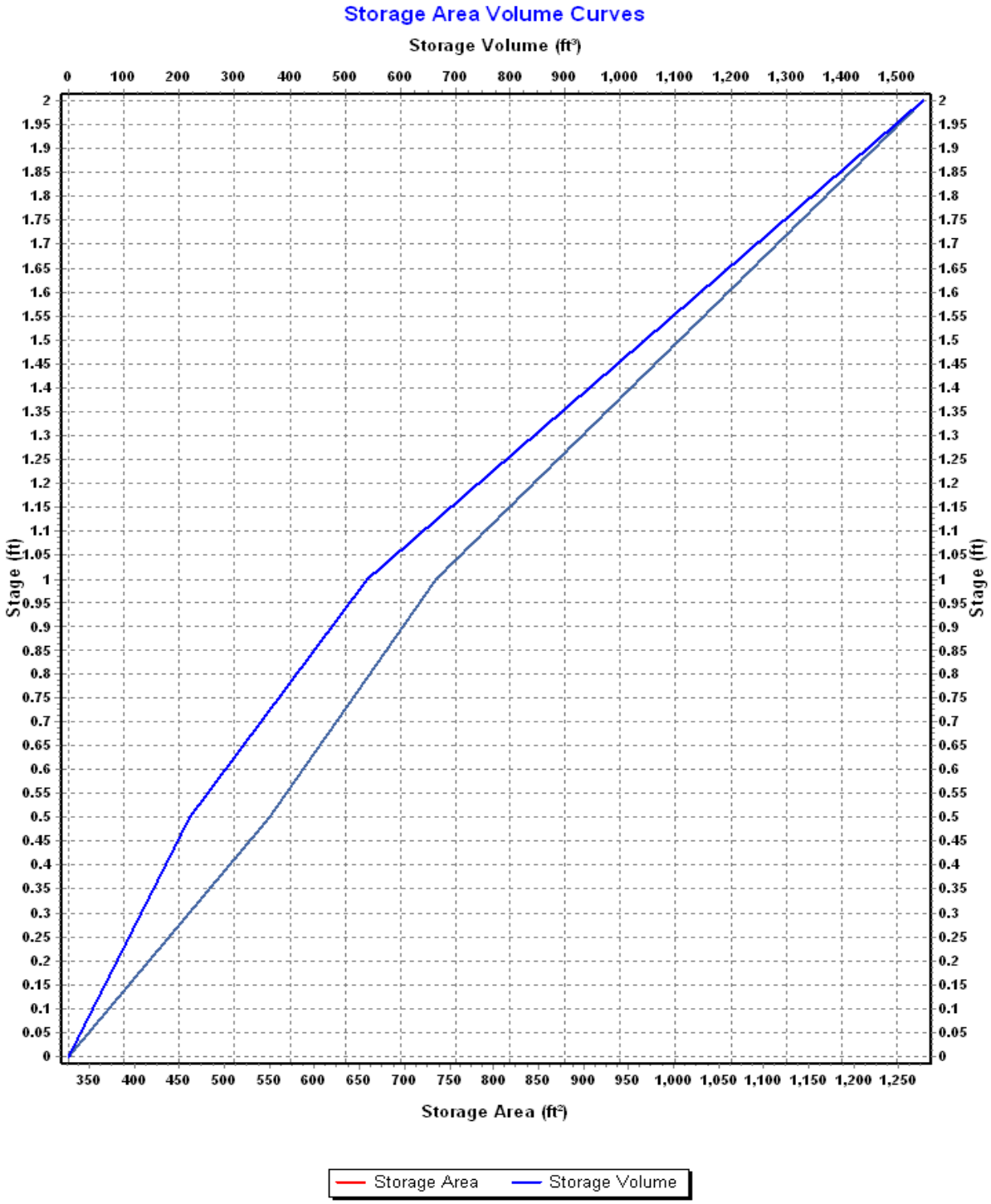
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	327	0.000
0.5	550	219.25
1	736	540.75
2	1277	1547.25


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050 1,100 1,150 1,200 1,250
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33
2	Weir-17	Trapezoidal	No	118.75	1.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.92
Peak Lateral Inflow (cfs)	0.20
Peak Outflow (cfs)	0.88
Peak Exfiltration Flow Rate (cfm)	0.22
Max HGL Elevation Attained (ft)	117.60
Max HGL Depth Attained (ft)	0.6
Average HGL Elevation Attained (ft)	117.43
Average HGL Depth Attained (ft)	0.43
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.257
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03-Forebay

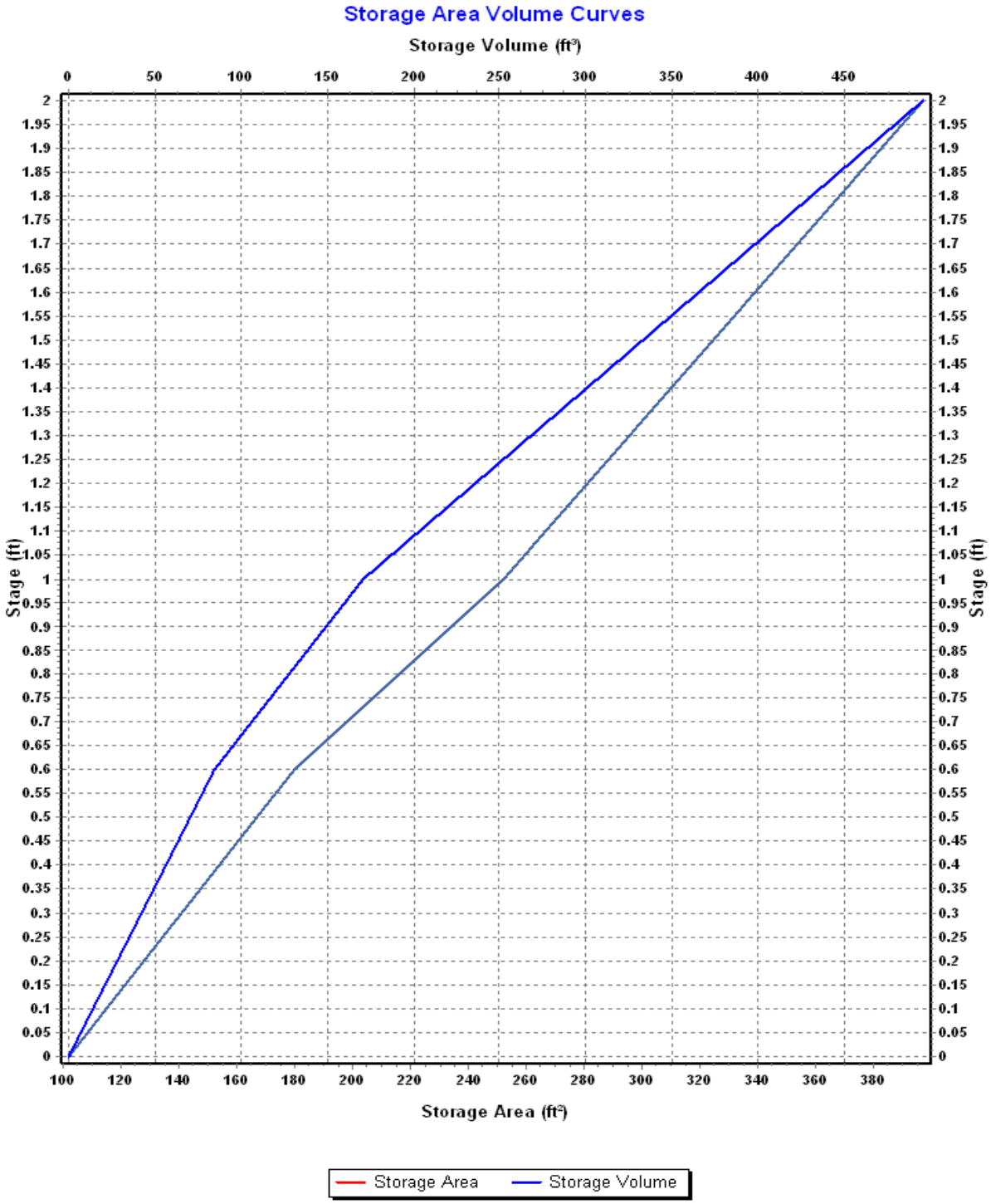
Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-03 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	102	0.000
0.6	180	84.60
1	252	171.00
2	397	495.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450
Stage (ft)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1 1.05 1.1 1.15 1.2 1.25 1.3 1.35 1.4 1.45 1.5 1.55 1.6 1.65 1.7 1.75 1.8 1.85 1.9 1.95 2
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-07	Trapezoidal	No	117.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.74
Peak Lateral Inflow (cfs)	0.74
Peak Outflow (cfs)	0.72
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.69
Max HGL Depth Attained (ft)	0.69
Average HGL Elevation Attained (ft)	117.60
Average HGL Depth Attained (ft)	0.6
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

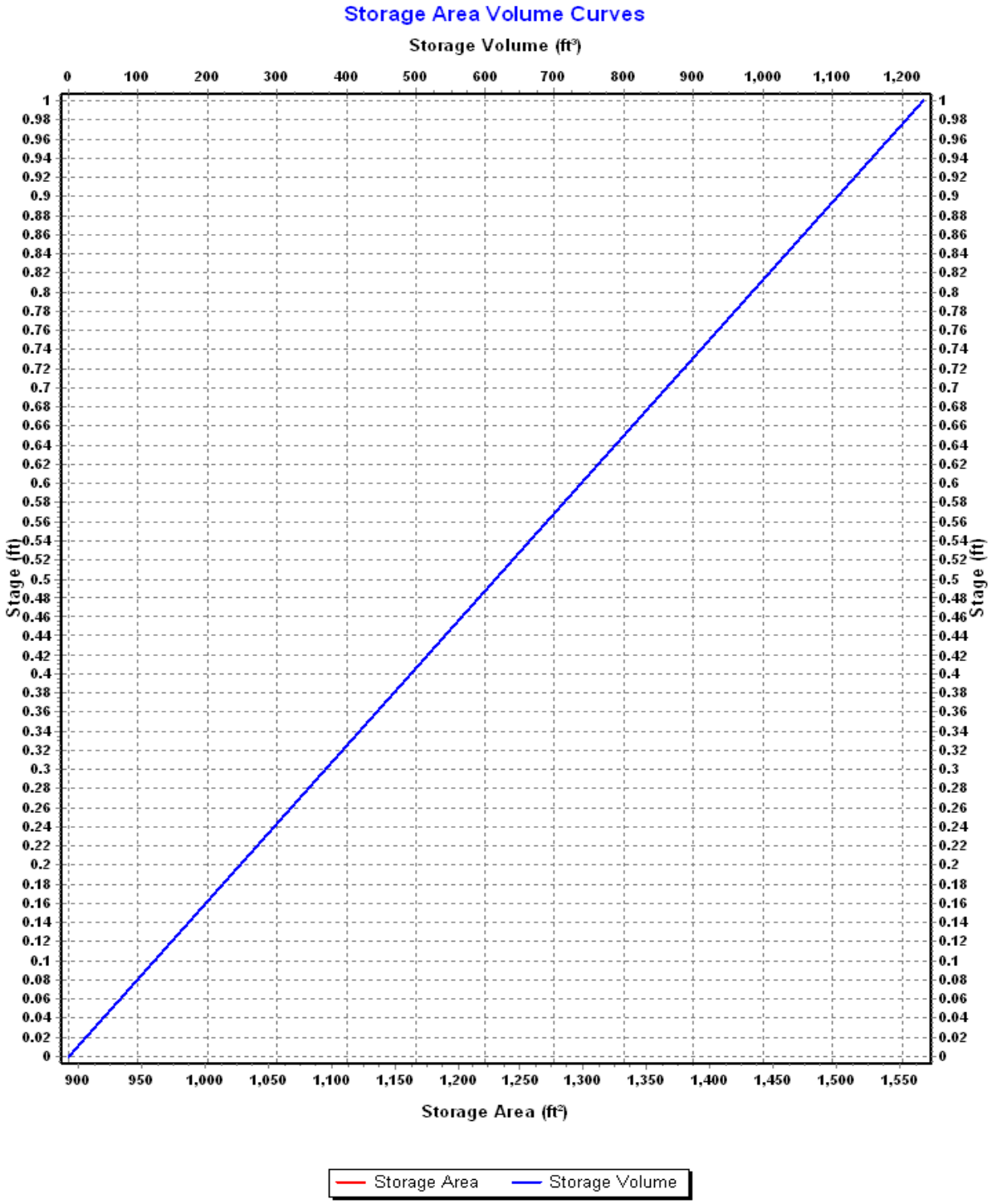
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	892	0.000
1	1569	1230.50


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200
Stage (ft)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46 0.48 0.5 0.52 0.54 0.56 0.58 0.6 0.62 0.64 0.66 0.68 0.7 0.72 0.74 0.76 0.78 0.8 0.82 0.84 0.86 0.88 0.9 0.92 0.94 0.96 0.98 1
Stage (ft)
900 950 1,000 1,050 1,100 1,150 1,200 1,250 1,300 1,350 1,400 1,450 1,500 1,550
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-14	Trapezoidal	No	114.60	0.60	10.00	0.25	3.33
2	Weir-15	Trapezoidal	No	114.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	2.27
Peak Lateral Inflow (cfs)	0.43
Peak Outflow (cfs)	2.19
Peak Exfiltration Flow Rate (cfm)	0.50
Max HGL Elevation Attained (ft)	114.66
Max HGL Depth Attained (ft)	0.66
Average HGL Elevation Attained (ft)	114.42
Average HGL Depth Attained (ft)	0.42
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.573
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04-Forebay

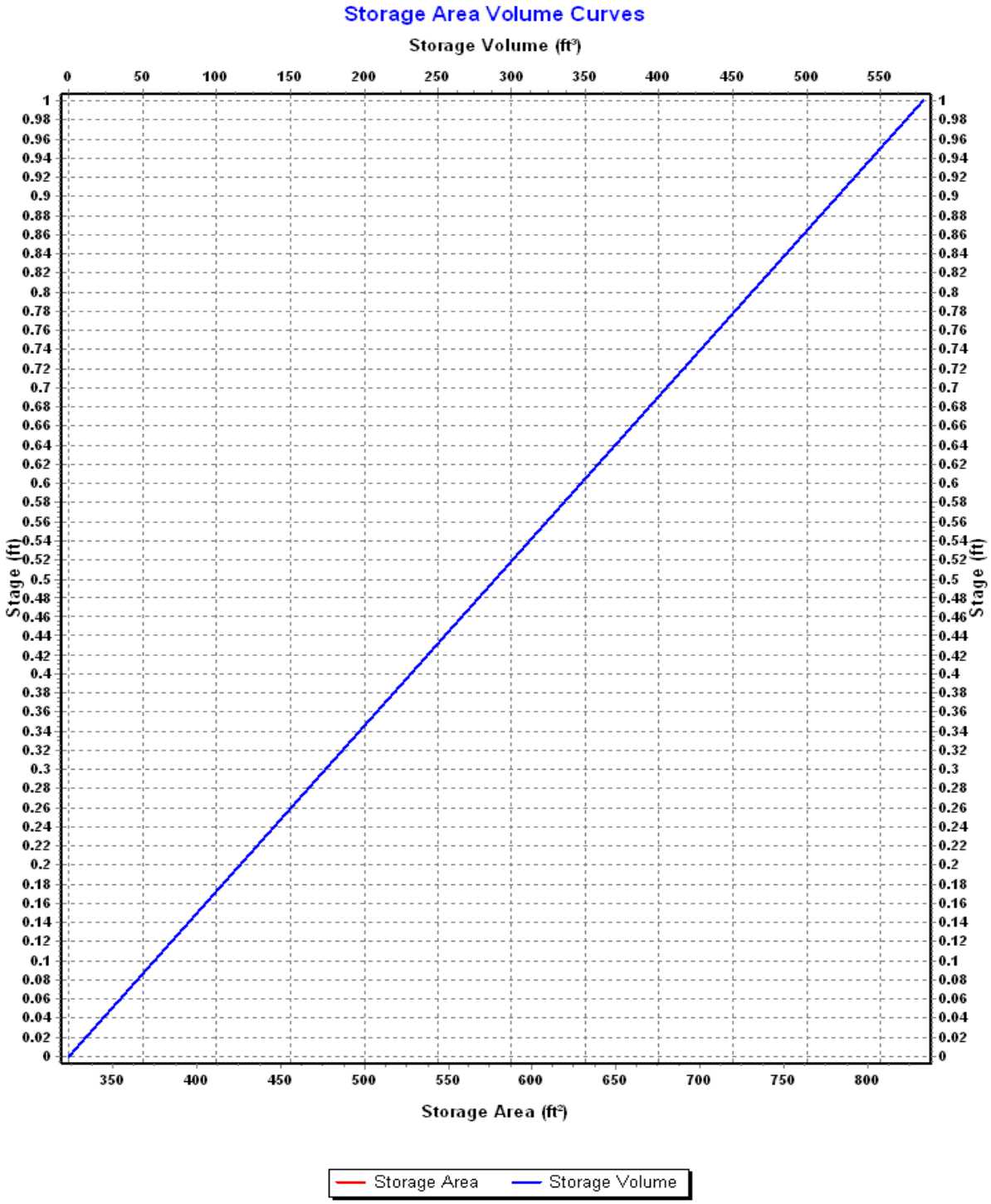
Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	324	0.000
1	833	578.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
350 400 450 500 550 600 650 700 750 800
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-13	Trapezoidal	No	114.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.74
Peak Lateral Inflow (cfs)	0.74
Peak Outflow (cfs)	0.67
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.70
Max HGL Depth Attained (ft)	0.7
Average HGL Elevation Attained (ft)	114.56
Average HGL Depth Attained (ft)	0.56
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-05

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	114.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

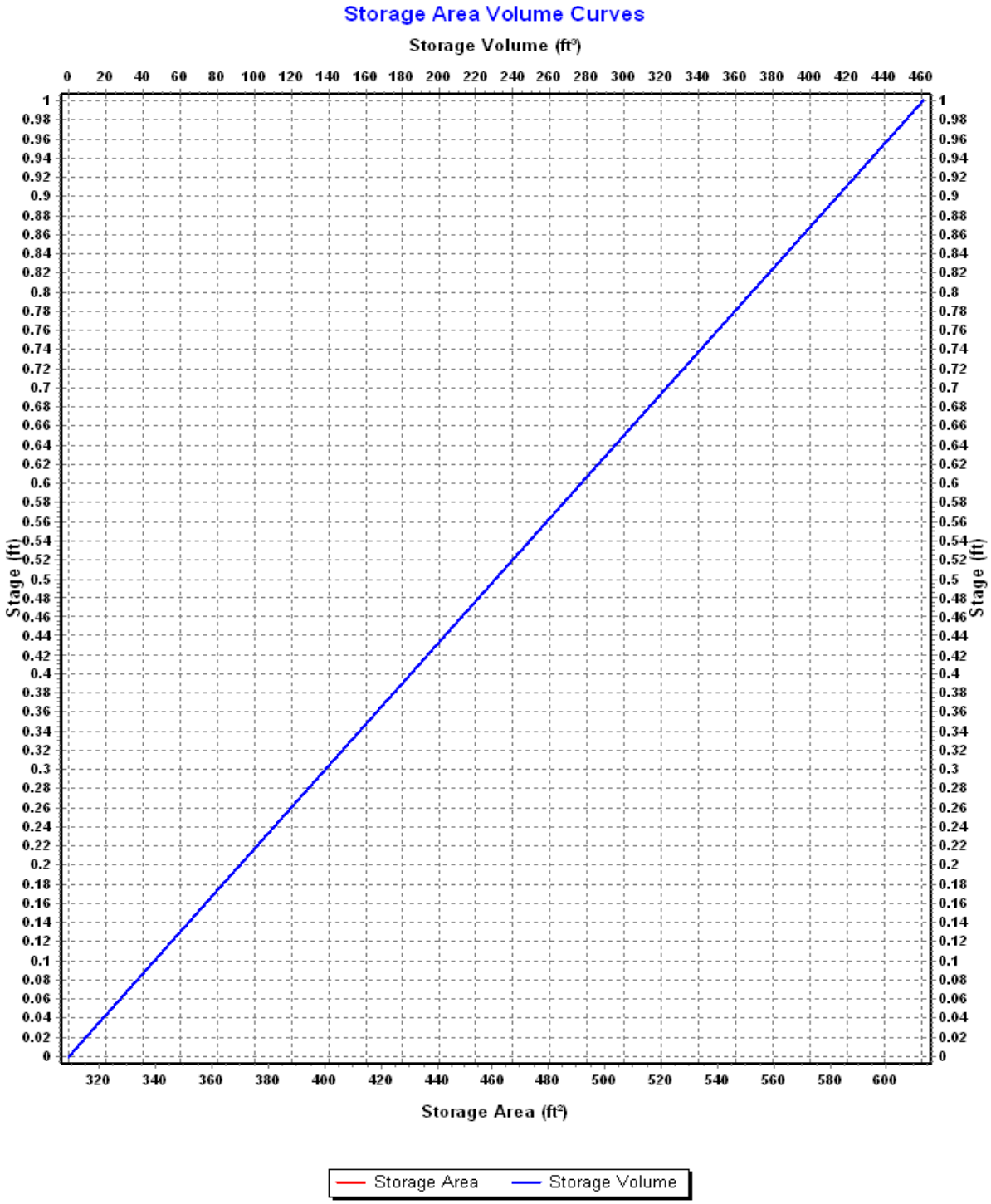
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-05

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	309	0.000
1	613	461.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
320 340 360 380 400 420 440 460 480 500 520 540 560 580 600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-05 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	113.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.55
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.54
Peak Exfiltration Flow Rate (cfm)	0.18
Max HGL Elevation Attained (ft)	113.57
Max HGL Depth Attained (ft)	0.57
Average HGL Elevation Attained (ft)	113.42
Average HGL Depth Attained (ft)	0.42
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.217
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.94
Peak Lateral Inflow (cfs)	0.53
Peak Outflow (cfs)	0.94
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.36
Max HGL Depth Attained (ft)	4.36
Average HGL Elevation Attained (ft)	117.03
Average HGL Depth Attained (ft)	4.03
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.42
Peak Lateral Inflow (cfs)	0.42
Peak Outflow (cfs)	0.42
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.50
Max HGL Depth Attained (ft)	4.35
Average HGL Elevation Attained (ft)	117.14
Average HGL Depth Attained (ft)	3.99
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.37
Peak Lateral Inflow (cfs)	0.37
Peak Outflow (cfs)	0.37
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.76
Max HGL Depth Attained (ft)	4.61
Average HGL Elevation Attained (ft)	116.13
Average HGL Depth Attained (ft)	3.98
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.61
Peak Lateral Inflow (cfs)	1.26
Peak Outflow (cfs)	1.60
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.74
Max HGL Depth Attained (ft)	4.74
Average HGL Elevation Attained (ft)	116.15
Average HGL Depth Attained (ft)	4.15
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.89
Peak Lateral Inflow (cfs)	0.32
Peak Outflow (cfs)	0.89
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.85
Max HGL Depth Attained (ft)	4.35
Average HGL Elevation Attained (ft)	115.47
Average HGL Depth Attained (ft)	3.97
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	111.65
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.58
Peak Lateral Inflow (cfs)	0.58
Peak Outflow (cfs)	0.58
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.06
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	115.70
Average HGL Depth Attained (ft)	4.05
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.58
Peak Lateral Inflow (cfs)	0.58
Peak Outflow (cfs)	0.55
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.32
Max HGL Depth Attained (ft)	5.67
Average HGL Elevation Attained (ft)	113.40
Average HGL Depth Attained (ft)	4.75
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	109.90
Max (Rim) Elevation (ft)	116.90
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-109.90
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.11
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.10
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.58
Max HGL Depth Attained (ft)	4.68
Average HGL Elevation Attained (ft)	113.33
Average HGL Depth Attained (ft)	3.43
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.67
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.67
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.95
Max HGL Depth Attained (ft)	4.45
Average HGL Elevation Attained (ft)	114.26
Average HGL Depth Attained (ft)	2.76
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	117.50
Max (Rim) Offset (ft)	6.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.88
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.88
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.00
Max HGL Depth Attained (ft)	3.5
Average HGL Elevation Attained (ft)	113.85
Average HGL Depth Attained (ft)	2.35
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	107.65
Max (Rim) Elevation (ft)	114.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.71
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.71
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.13
Max HGL Depth Attained (ft)	4.48
Average HGL Elevation Attained (ft)	110.55
Average HGL Depth Attained (ft)	2.9
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	107.00
Max (Rim) Elevation (ft)	113.50
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.54
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.53
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	111.74
Max HGL Depth Attained (ft)	4.74
Average HGL Elevation Attained (ft)	109.95
Average HGL Depth Attained (ft)	2.95
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Treebox_Filter

Input Data

Invert Elevation (ft)	112.50
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Output Summary Results

Peak Inflow (cfs)	1.60
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.60
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	116.32
Max HGL Depth Attained (ft)	3.82
Average HGL Elevation Attained (ft)	115.90
Average HGL Depth Attained (ft)	3.4
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.026
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-A

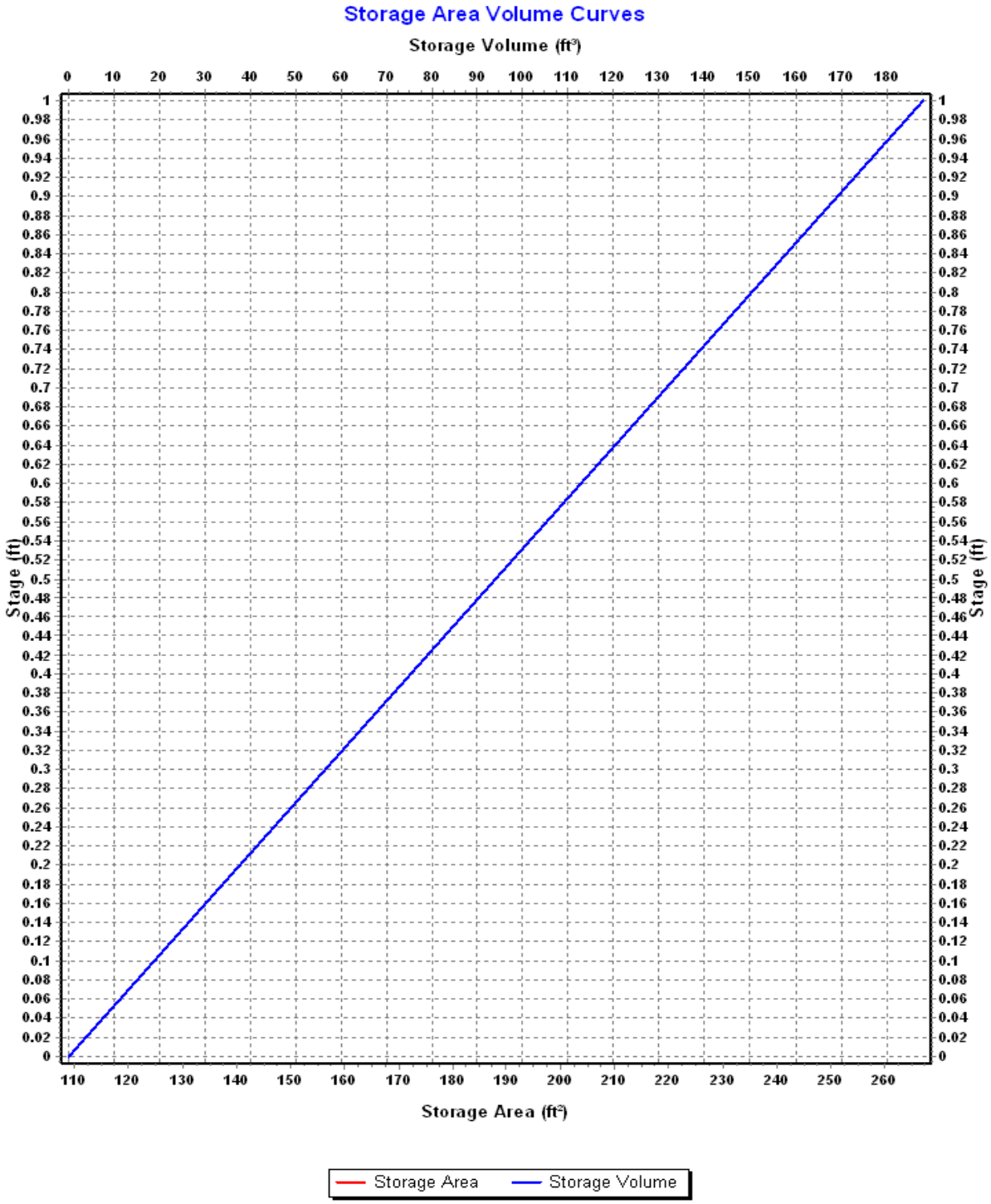
Input Data

Invert Elevation (ft) 118.00
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 1.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -118.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : WQS-A

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	109	0.000
1	267	188.00


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : WQS-A (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-11	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.47
Peak Lateral Inflow (cfs)	0.47
Peak Outflow (cfs)	0.47
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.57
Max HGL Depth Attained (ft)	0.57
Average HGL Elevation Attained (ft)	118.50
Average HGL Depth Attained (ft)	0.5
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-B

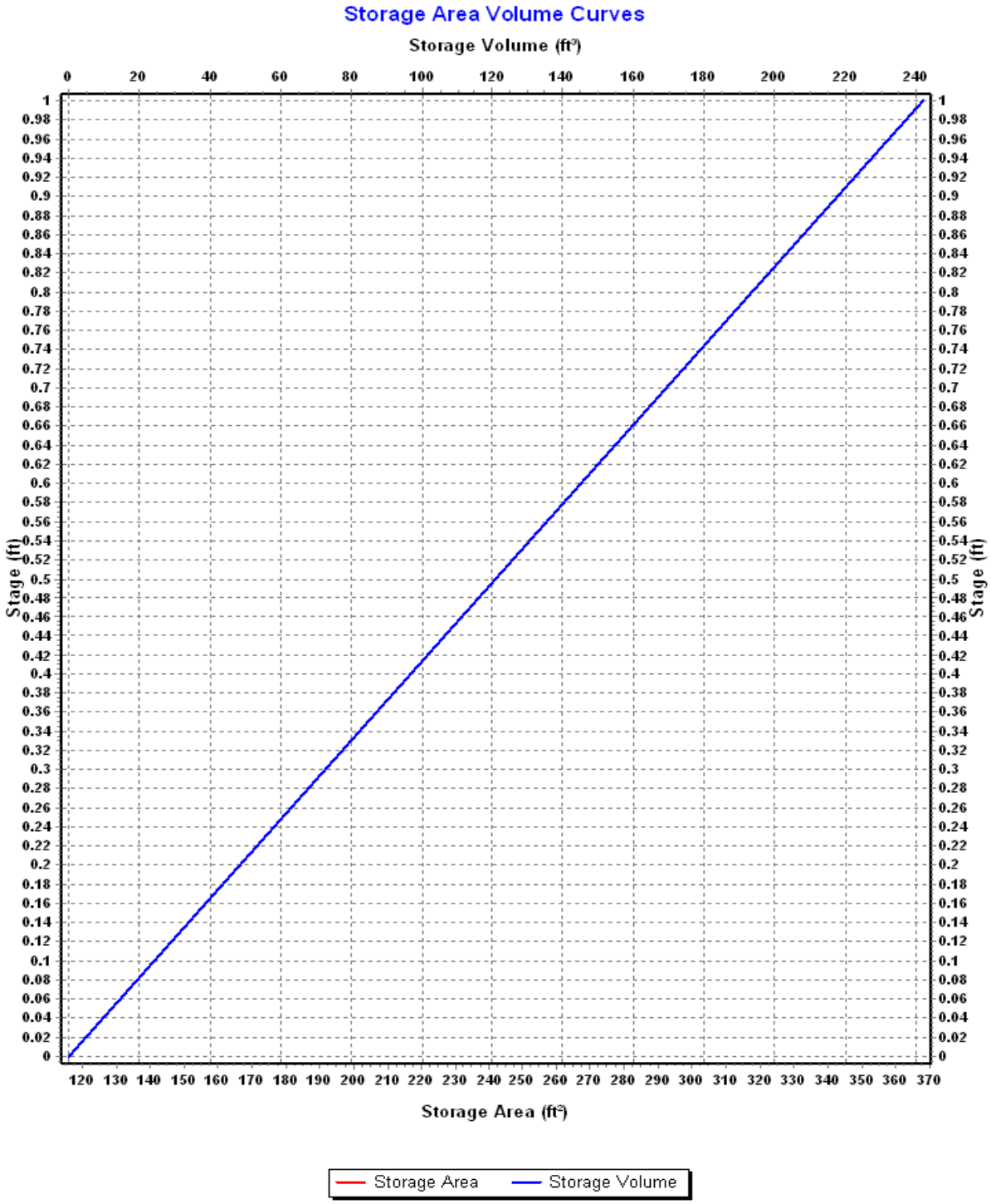
Input Data

Invert Elevation (ft) 117.00
Max (Rim) Elevation (ft) 118.00
Max (Rim) Offset (ft) 1.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -117.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : WQS-B

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	116	0.000
1	368	242.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : WQS-B (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-12	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.47
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.46
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.57
Max HGL Depth Attained (ft)	0.57
Average HGL Elevation Attained (ft)	117.44
Average HGL Depth Attained (ft)	0.44
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scenario 2 - Prop Conditions (Proposed Regulation) (2).SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	19
Nodes	36
Junctions	0
Outfalls	13
Flow Diversions	0
Inlets	0
Storage Nodes	23
Links	28
Channels	0
Pipes	14
Pumps	0
Orifices	0
Weirs	14
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.56	484.00	74.33	9.70	6.51	3.65	4.74	0 00:01:22
2	Sub-02	0.53	484.00	74.03	9.70	6.47	3.45	4.42	0 00:02:06
3	Sub-03	0.15	484.00	80.00	9.70	7.23	1.12	1.40	0 00:00:07
4	Sub-04	0.03	484.00	74.00	9.70	6.45	0.21	0.27	0 00:01:14
5	Sub-05	0.03	484.00	74.00	9.70	6.45	0.22	0.27	0 00:00:43
6	Sub-06	0.03	484.00	74.00	9.70	6.45	0.21	0.27	0 00:00:43
7	Sub-07	0.11	484.00	74.00	9.70	6.47	0.74	0.57	0 00:20:21
8	Sub-08	0.07	484.00	98.00	9.70	9.46	0.61	0.65	0 00:01:38
9	Sub-09	0.05	484.00	98.00	9.70	9.46	0.45	0.52	0 00:01:37
10	Sub-10a	0.06	484.00	98.00	9.70	9.46	0.60	0.65	0 00:01:43
11	Sub-10b	0.04	484.00	98.00	9.70	9.46	0.39	0.46	0 00:01:09
12	Sub-11	0.08	484.00	98.00	9.70	9.46	0.77	0.84	0 00:02:42
13	Sub-12	0.09	484.00	98.00	9.70	9.46	0.83	0.91	0 00:02:18
14	Sub-13	0.07	484.00	98.00	9.70	9.46	0.65	0.72	0 00:02:16
15	Sub-14a	0.05	484.00	98.00	9.70	9.46	0.52	0.59	0 00:01:22
16	Sub-14b	0.04	484.00	98.00	9.70	9.46	0.34	0.39	0 00:01:00
17	Sub-15	0.07	484.00	98.00	9.70	9.46	0.65	0.72	0 00:02:08
18	Sub-16	0.09	484.00	98.00	9.70	9.46	0.86	0.91	0 00:02:07
19	Sub-17	0.07	484.00	98.00	9.70	9.46	0.65	0.72	0 00:02:09

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	112.00					1.98	112.00					
2	Out-02	Outfall	112.00					4.70	112.00					
3	Out-03	Outfall	112.00					4.37	112.00					
4	Out-04	Outfall	112.00					1.39	112.00					
5	Out-06	Outfall	113.00					1.37	113.00					
6	Out-07	Outfall	115.00					0.00	115.00					
7	Out-08	Outfall	114.00					0.85	114.21					
8	Out-09	Outfall	114.00					0.00	114.00					
9	Out-10	Outfall	114.00					1.11	114.00					
10	Out-11	Outfall	114.00					0.00	114.00					
11	Out-12	Outfall	114.00					0.72	114.00					
12	Out-13	Outfall	110.00					2.02	110.00					
13	Out-14	Outfall	110.00					0.65	110.00					
14	BMP-01	Storage Node	116.00	119.00	0.00		0.00	1.42	117.04				0.00	0.00
15	BMP-02	Storage Node	118.00	119.00	0.00		0.00	0.91	118.60				0.00	0.00
16	BMP-02-Forebay	Storage Node	118.00	119.00	0.00		0.00	0.65	118.68				0.00	0.00
17	BMP-03	Storage Node	117.00	119.00	0.00		0.00	1.16	117.62				0.00	0.00
18	BMP-03-Forebay	Storage Node	117.00	119.00	0.00		0.00	0.91	117.71				0.00	0.00
19	BMP-04	Storage Node	114.00	115.00	0.00		0.00	2.83	114.68				0.00	0.00
20	BMP-04-Forebay	Storage Node	114.00	115.00	0.00		0.00	0.91	114.72				0.00	0.00
21	BMP-05	Storage Node	113.00	114.00	0.00		0.00	0.68	113.58				0.00	0.00
22	CB-01	Storage Node	113.00	120.00	0.00		1000.00	1.17	117.41				0.00	0.00
23	CB-02	Storage Node	113.15	120.00	0.00		1000.00	0.52	117.54				0.00	0.00
24	CB-03	Storage Node	112.15	119.00	0.00		1000.00	0.46	116.86				0.00	0.00
25	CB-04	Storage Node	112.00	119.00	0.00		1000.00	1.99	116.84				0.00	0.00
26	CB-05	Storage Node	111.50	118.50	0.00		1000.00	1.10	115.89				0.00	0.00
27	CB-06	Storage Node	111.65	118.50	0.00		1000.00	0.72	116.11				0.00	0.00
28	CB-07	Storage Node	108.65	115.50	0.00		1000.00	0.72	114.70				0.00	0.00
29	OCS-01	Storage Node	109.90	116.90	0.00		0.00	1.39	114.66				0.00	0.00
30	OCS-02	Storage Node	111.50	118.50	0.00		0.00	0.85	115.98				0.00	0.00
31	OCS-03	Storage Node	111.50	117.50	0.00		0.00	1.11	115.05				0.00	0.00
32	OCS-04	Storage Node	107.65	114.50	0.00		0.00	2.02	112.18				0.00	0.00
33	OCS-05	Storage Node	107.00	113.50	0.00		0.00	0.66	111.92				0.00	0.00
34	Treebox_Filter	Storage Node	112.50	119.00	0.00		0.00	1.98	116.36				0.00	0.00
35	WQS-A	Storage Node	118.00	119.00	0.00		0.00	0.59	118.58				0.00	0.00
36	WQS-B	Storage Node	117.00	118.00	0.00		0.00	0.58	117.58				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-04	Treebox_Filter	6.00	116.00	116.00	0.0000	12.000	0.0200	1.98	0.30	6.63	3.27	0.72	0.72	0.00	> CAPACITY
2	Link-02	Pipe	Treebox_Filter	Out-01	12.00	116.00	114.00	16.6700	12.000	0.0200	1.98	9.45	0.21	8.60	0.33	0.33	0.00	Calculated
3	Link-03	Pipe	CB-02	CB-01	24.02	117.15	117.00	0.6200	12.000	0.0200	0.52	1.83	0.28	1.77	0.40	0.40	0.00	Calculated
4	Link-05	Pipe	CB-03	CB-04	23.50	116.15	116.00	0.6400	12.000	0.0200	0.46	1.85	0.25	0.70	0.77	0.77	0.00	Calculated
5	Link-06	Pipe	CB-06	CB-05	23.47	115.65	115.50	0.6400	12.000	0.0200	0.71	1.85	0.38	2.22	0.43	0.43	0.00	Calculated
6	Link-07	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.58	1.83	0.32	2.27	0.36	0.36	0.00	Calculated
7	Link-08	Pipe	CB-01	BMP-01	16.00	117.00	116.90	0.6200	12.000	0.0200	0.58	1.83	0.32	2.27	0.36	0.36	0.00	Calculated
8	Link-09	Pipe	OCS-01	Out-06	88.06	114.05	113.25	0.9100	12.000	0.0200	1.37	2.21	0.62	3.08	0.54	0.55	0.00	Calculated
9	Link-10	Pipe	OCS-02	Out-08	11.34	115.75	113.00	24.2500	12.000	0.0200	0.85	9.10	0.09	6.79	0.21	0.22	0.00	Calculated
10	Link-11	Pipe	OCS-03	Out-10	11.51	114.65	114.25	3.4800	12.000	0.0200	1.11	4.32	0.26	4.20	0.36	0.37	0.00	Calculated
11	Link-12	Pipe	CB-05	BMP-04	16.00	115.50	115.00	3.1300	12.000	0.0200	1.10	4.09	0.27	4.10	0.37	0.37	0.00	Calculated
12	Link-13	Pipe	OCS-04	Out-13	16.60	111.65	111.00	3.9200	12.000	0.0200	2.02	4.58	0.44	5.15	0.49	0.50	0.00	Calculated
13	Link-14	Pipe	CB-07	BMP-05	28.55	113.15	113.00	0.5300	6.000	0.0200	0.68	0.26	2.57	3.46	0.50	1.00	24.00	SURCHARGED
14	Link-15	Pipe	OCS-05	Out-14	11.48	111.15	111.00	1.3100	6.000	0.0200	0.65	0.42	1.57	3.49	0.45	0.91	0.00	> CAPACITY
15	Weir-02	Weir	BMP-01	Out-07		116.00	115.00				0.00							
16	Weir-03	Weir	BMP-01	OCS-01		116.00	109.90				1.39							
17	Weir-04	Weir	BMP-02-Forebay	BMP-02		118.00	118.00				0.64							
18	Weir-05	Weir	BMP-02	OCS-02		118.00	111.50				0.85							
19	Weir-06	Weir	BMP-02-Forebay	Out-09		118.00	114.00				0.00							
20	Weir-07	Weir	BMP-03-Forebay	BMP-03		117.00	117.00				0.89							
21	Weir-08	Weir	BMP-03	OCS-03		117.00	111.50				1.11							
22	Weir-11	Weir	WQS-A	WQS-B		118.00	117.00				0.58							
23	Weir-12	Weir	WQS-B	BMP-04		117.00	114.00				0.57							
24	Weir-13	Weir	BMP-04-Forebay	BMP-04		114.00	114.00				0.83							
25	Weir-14	Weir	BMP-04	Out-12		114.00	114.00				0.72							
26	Weir-15	Weir	BMP-04	OCS-04		114.00	107.65				2.02							
27	Weir-16	Weir	BMP-05	OCS-05		113.00	107.00				0.66							
28	Weir-17	Weir	BMP-03	Out-11		117.00	114.00				0.00							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.56
Peak Rate Factor 484.00
Weighted Curve Number 74.33
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.54	C	74.00
Brush, Good	0.01	C	65.00
Paved roads with curbs & sewers	0.01	C	98.00
Composite Area & Weighted CN	0.56		74.33

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

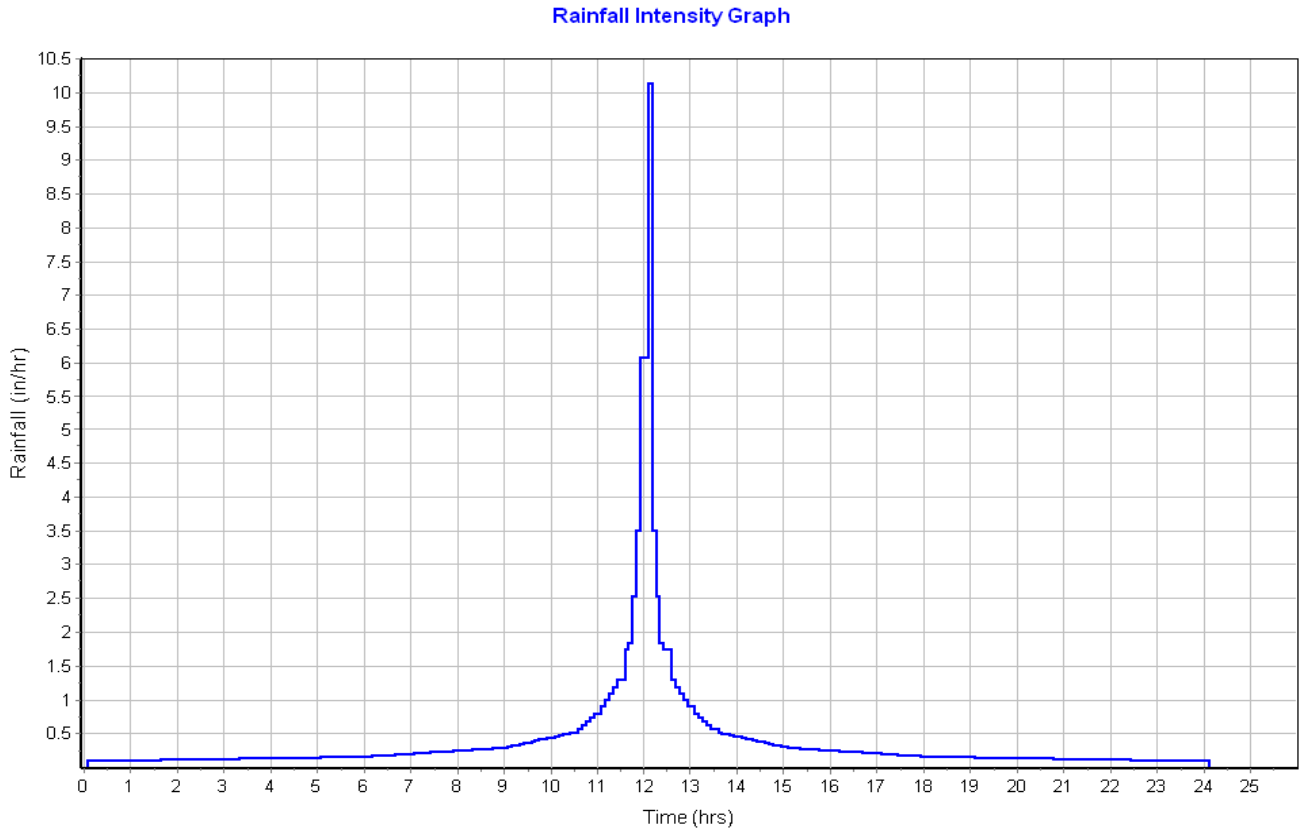
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	20	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.24	0.00	0.00
Computed Flow Time (min) :	1.38	0.00	0.00

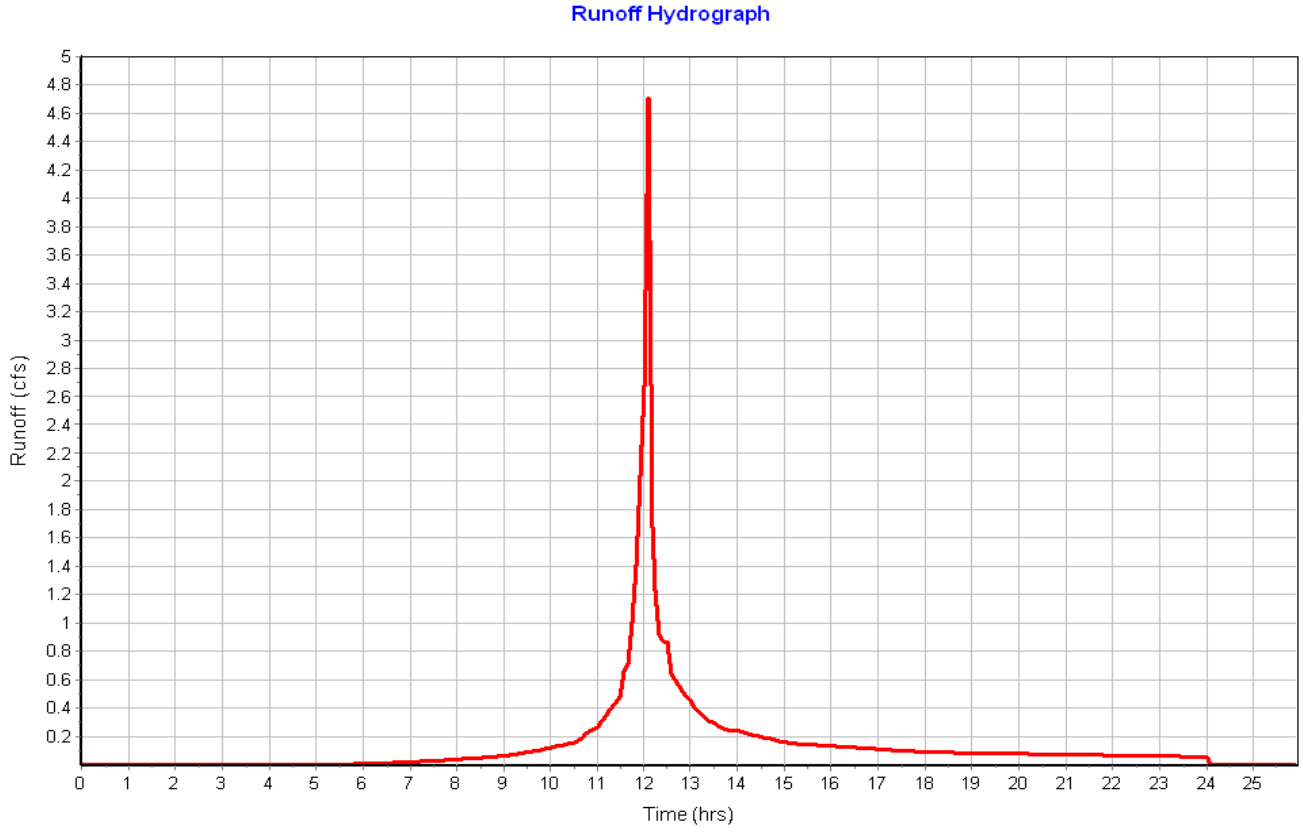
Total TOC (min) 1.38

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.51
Peak Runoff (cfs)	4.74
Weighted Curve Number	74.33
Time of Concentration (days hh:mm:ss)	0 00:01:23

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.53
Peak Rate Factor 484.00
Weighted Curve Number 74.03
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.48	C	74.00
Woods, Fair	0.05	C	73.00
Paved roads with curbs & sewers	0.00	C	98.00
Composite Area & Weighted CN	0.53		74.03

Time of Concentration

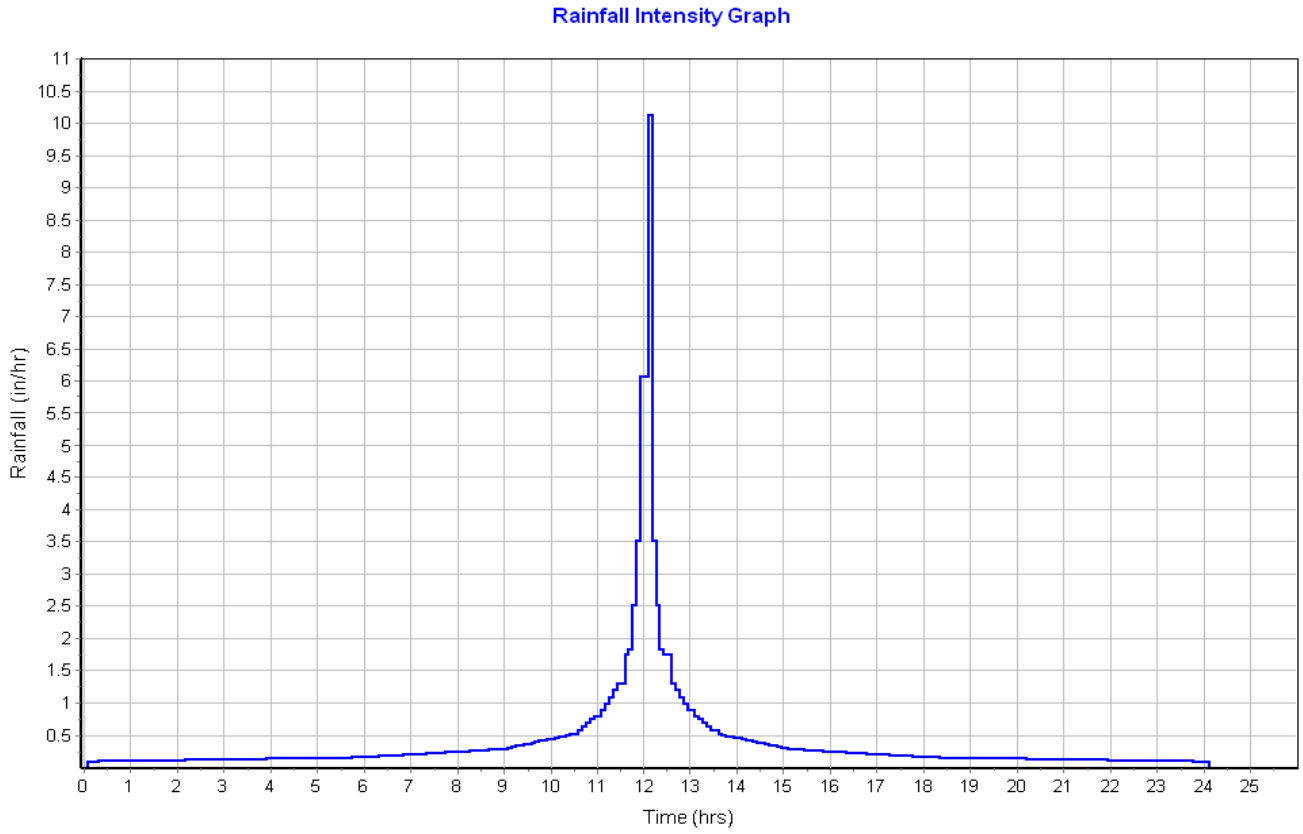
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	25	0.00	0.00
Slope (%) :	16	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.20	0.00	0.00
Computed Flow Time (min) :	2.11	0.00	0.00

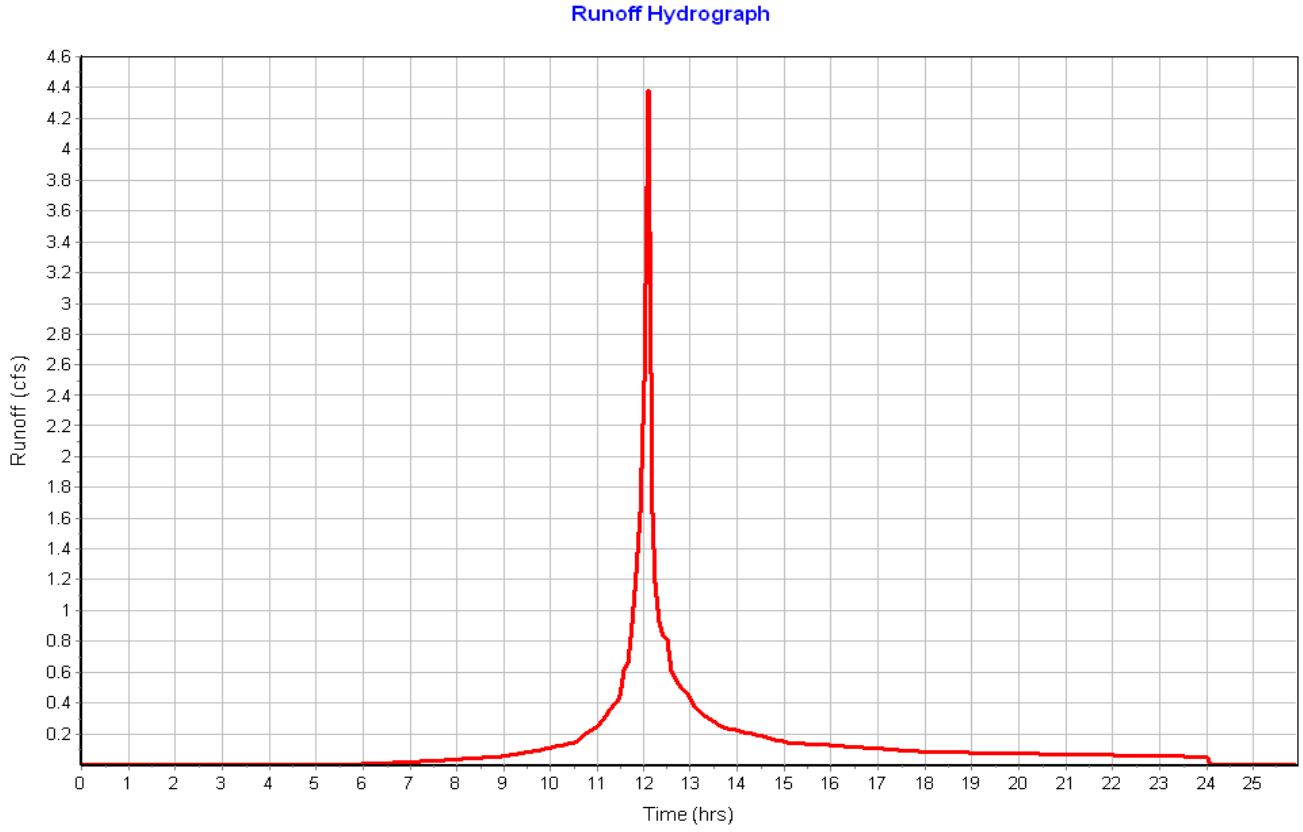
Total TOC (min) 2.11

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.47
Peak Runoff (cfs) 4.42
Weighted Curve Number 74.03
Time of Concentration (days hh:mm:ss) 0 00:02:07

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.15
Peak Rate Factor	484.00
Weighted Curve Number	80.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Porous Pavement	0.15	C	80.00
Composite Area & Weighted CN	0.15		80.00

Time of Concentration

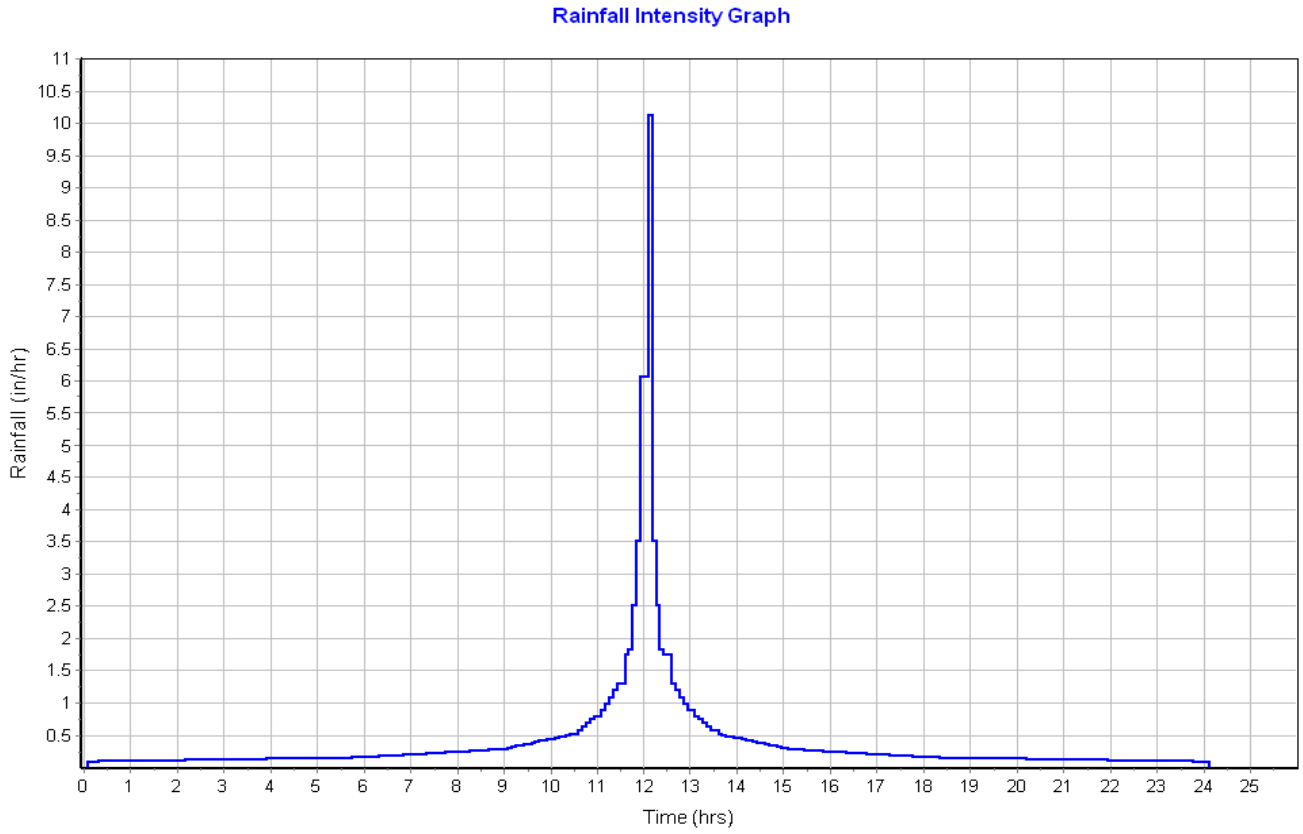
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	5	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.62	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

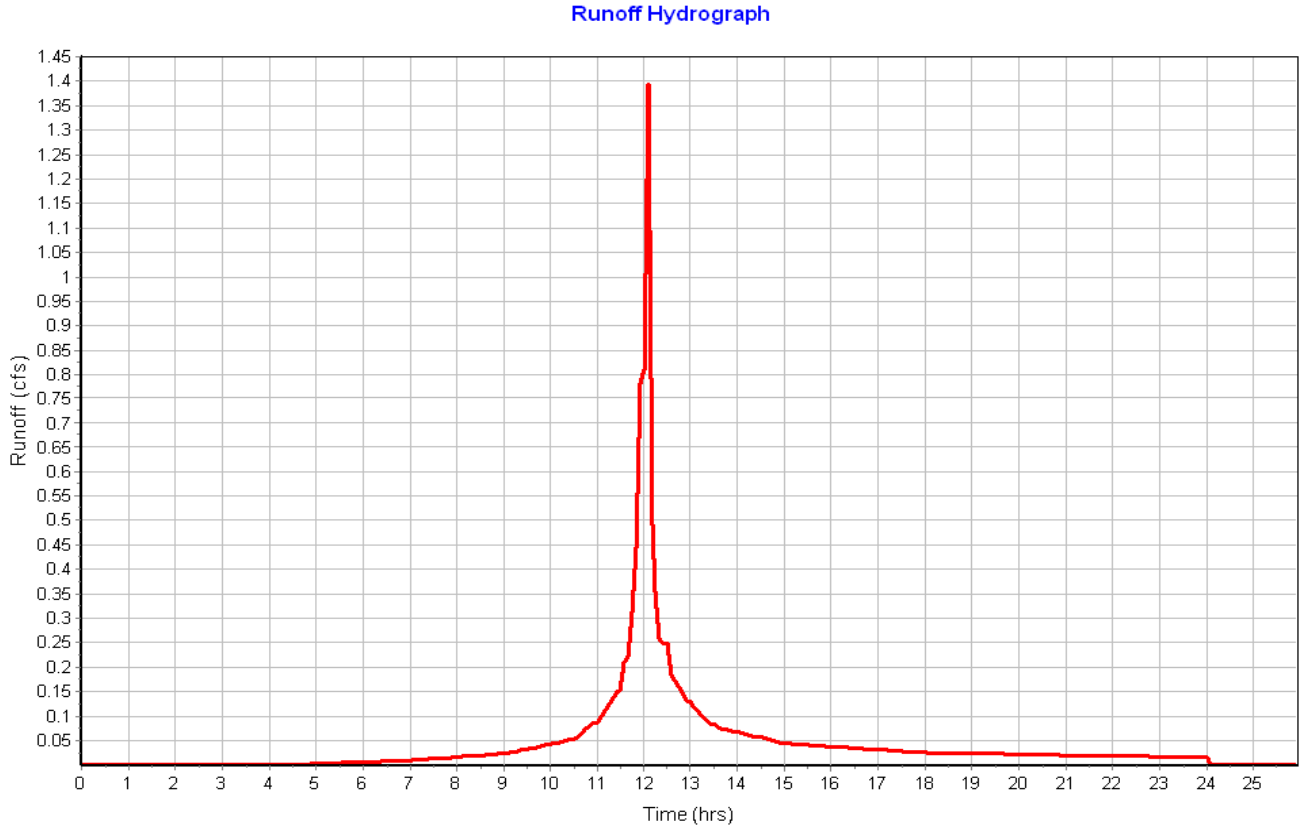
Total TOC (min) 0.13

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	7.23
Peak Runoff (cfs)	1.40
Weighted Curve Number	80.00
Time of Concentration (days hh:mm:ss)	0 00:00:08

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

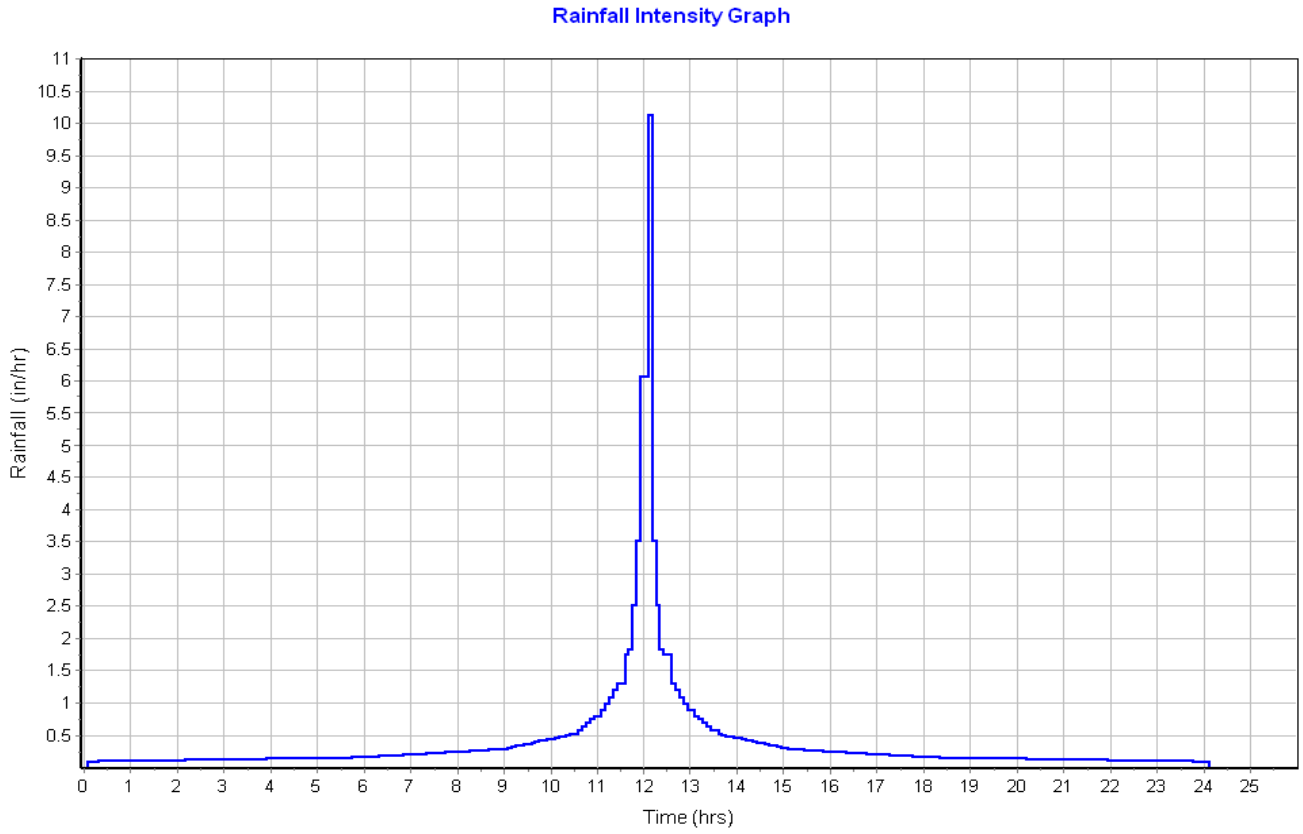
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	14.33	0.00	0.00
Slope (%) :	20	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	1.24	0.00	0.00

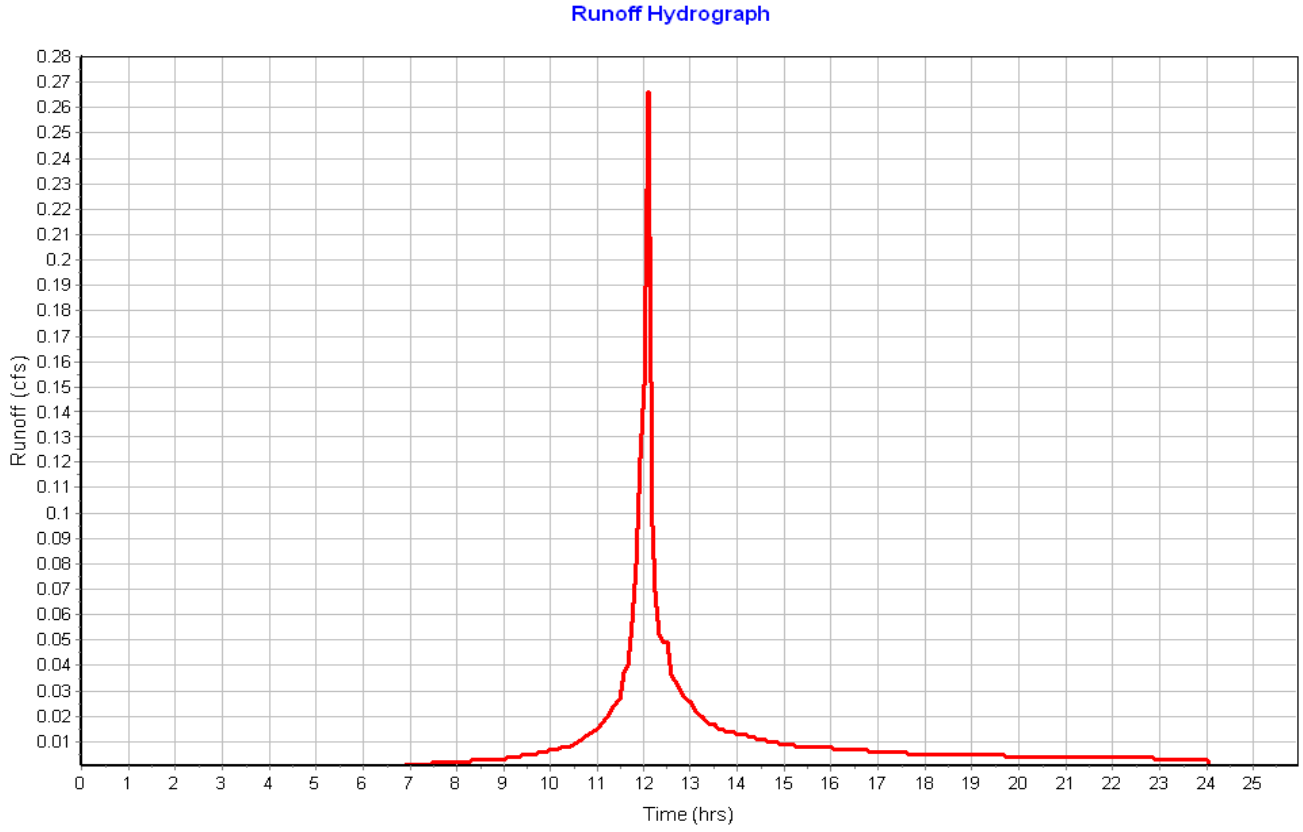
Total TOC (min) 1.24

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.45
Peak Runoff (cfs) 0.27
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:01:14

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

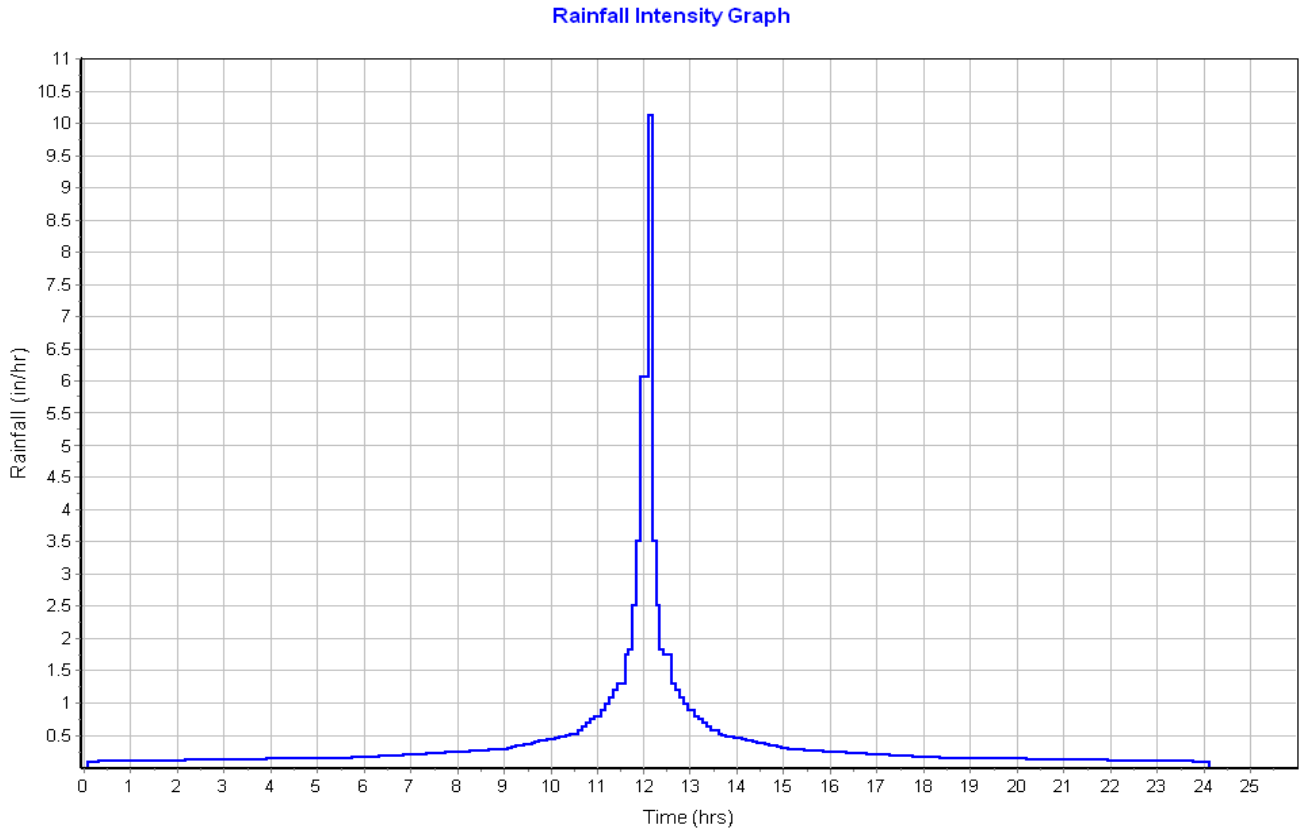
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

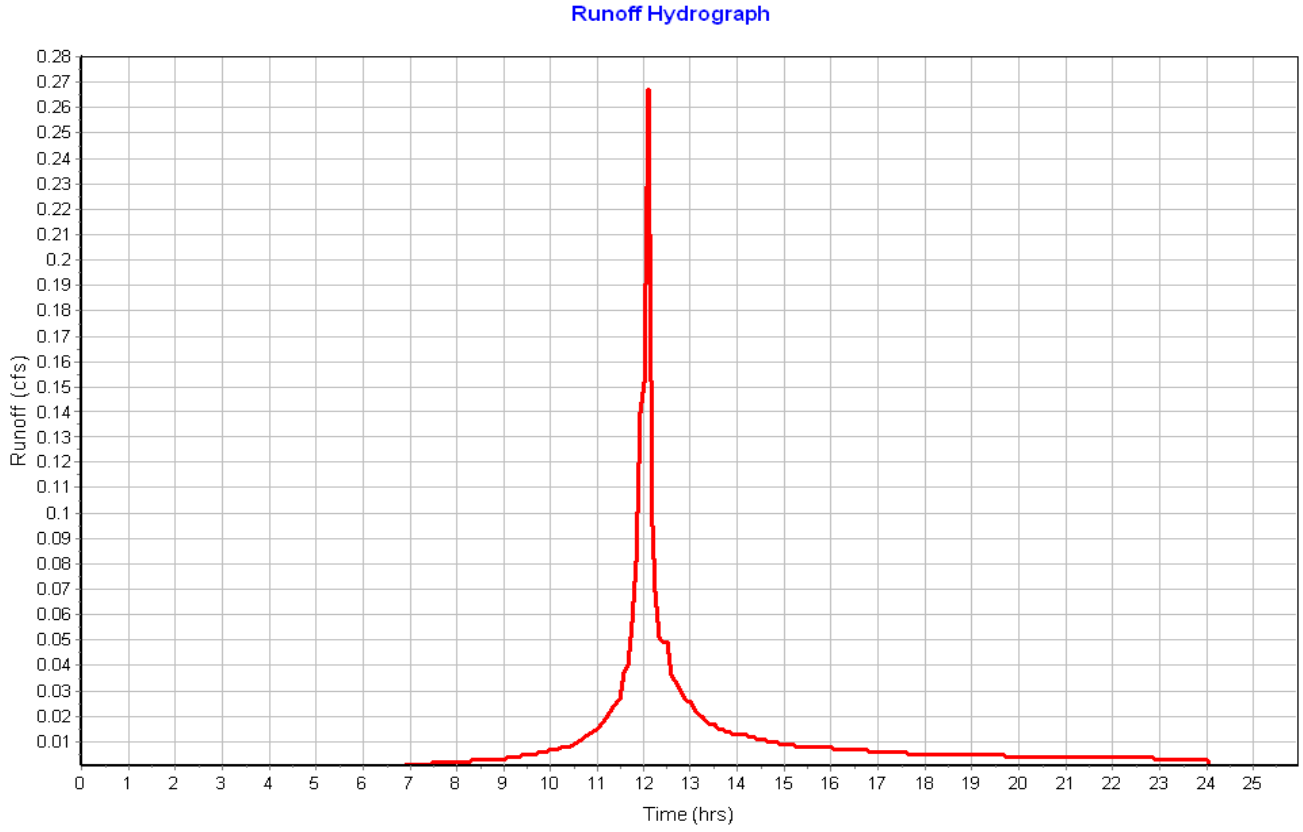
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.45
Peak Runoff (cfs) 0.27
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:00:44

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac) 0.03
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.03		74.00

Time of Concentration

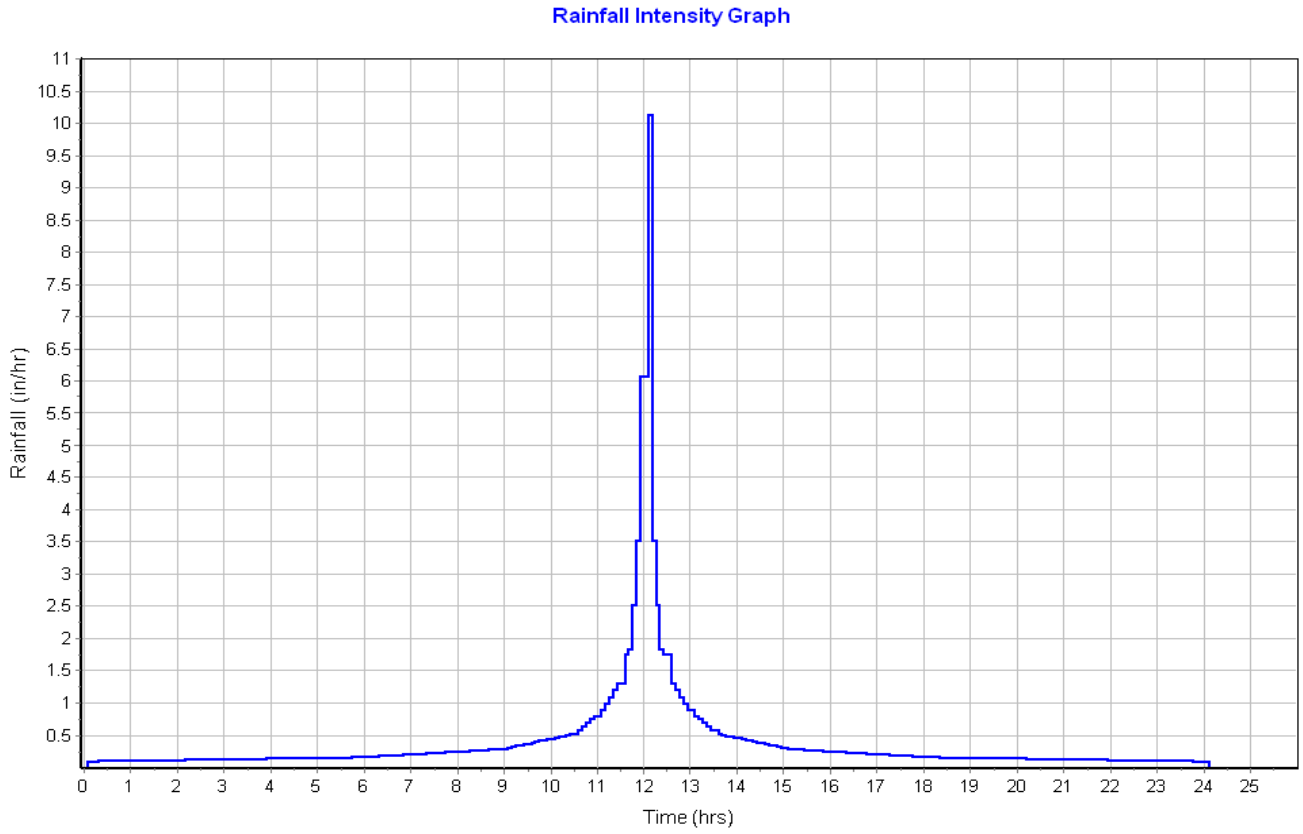
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	9	0.00	0.00
Slope (%) :	30	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.21	0.00	0.00
Computed Flow Time (min) :	0.73	0.00	0.00

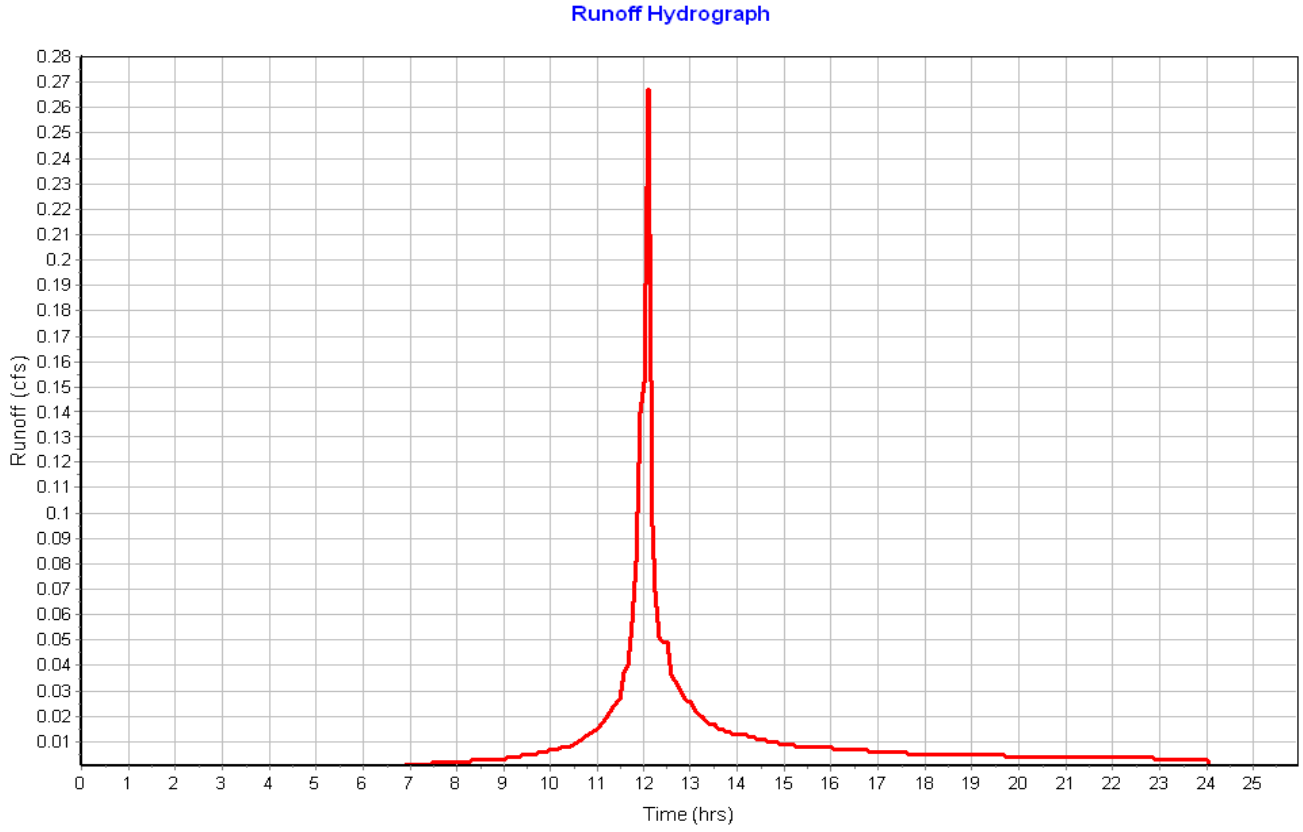
Total TOC (min) 0.73

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.45
Peak Runoff (cfs) 0.27
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:00:44

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac) 0.11
Peak Rate Factor 484.00
Weighted Curve Number 74.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.11	C	74.00
Composite Area & Weighted CN	0.11		74.00

Time of Concentration

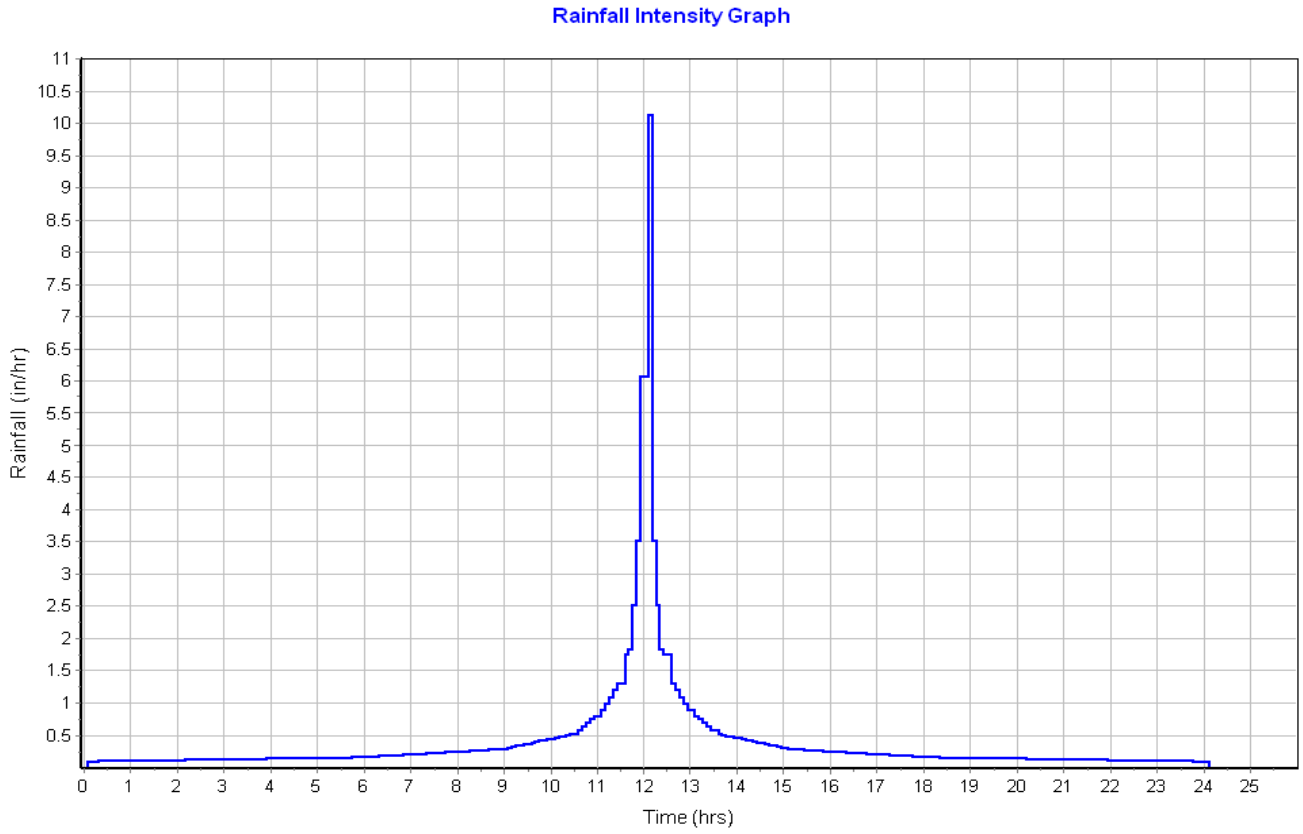
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	149.87	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	20.35	0.00	0.00

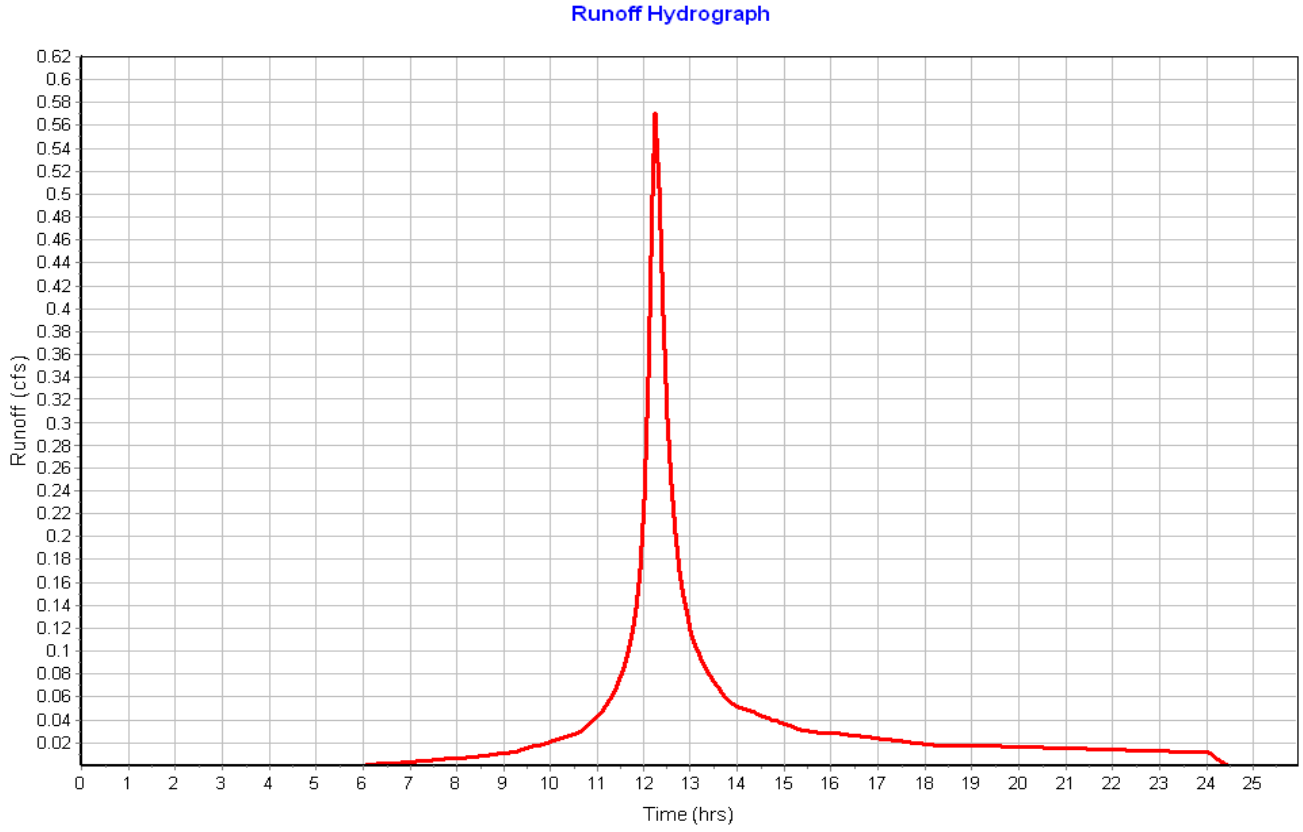
Total TOC (min) 20.35

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 6.47
Peak Runoff (cfs) 0.57
Weighted Curve Number 74.00
Time of Concentration (days hh:mm:ss) 0 00:20:21

Subbasin : Sub-07





Subbasin : Sub-08

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.85	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

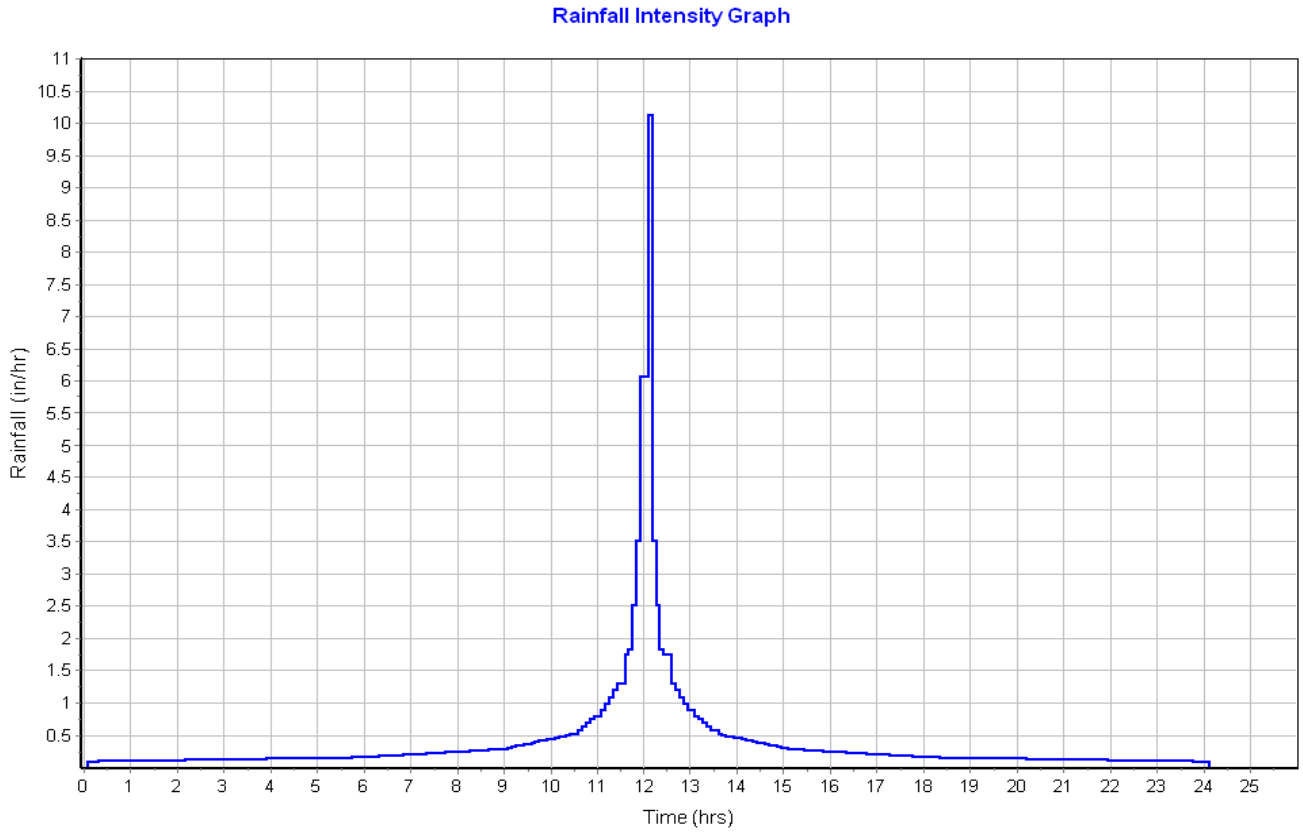
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	189.62	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

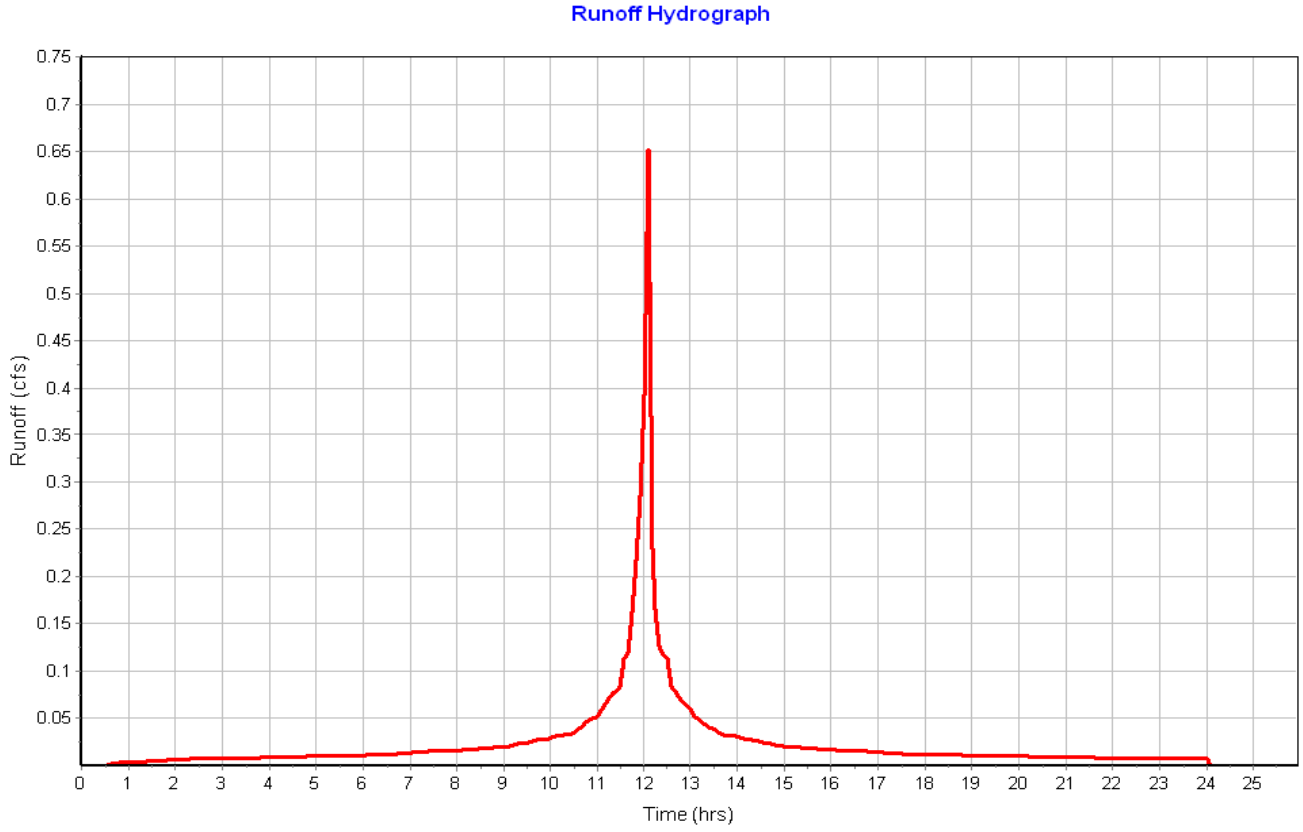
Total TOC (min) 1.64

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.65
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:38

Subbasin : Sub-08





Subbasin : Sub-09

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.01	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

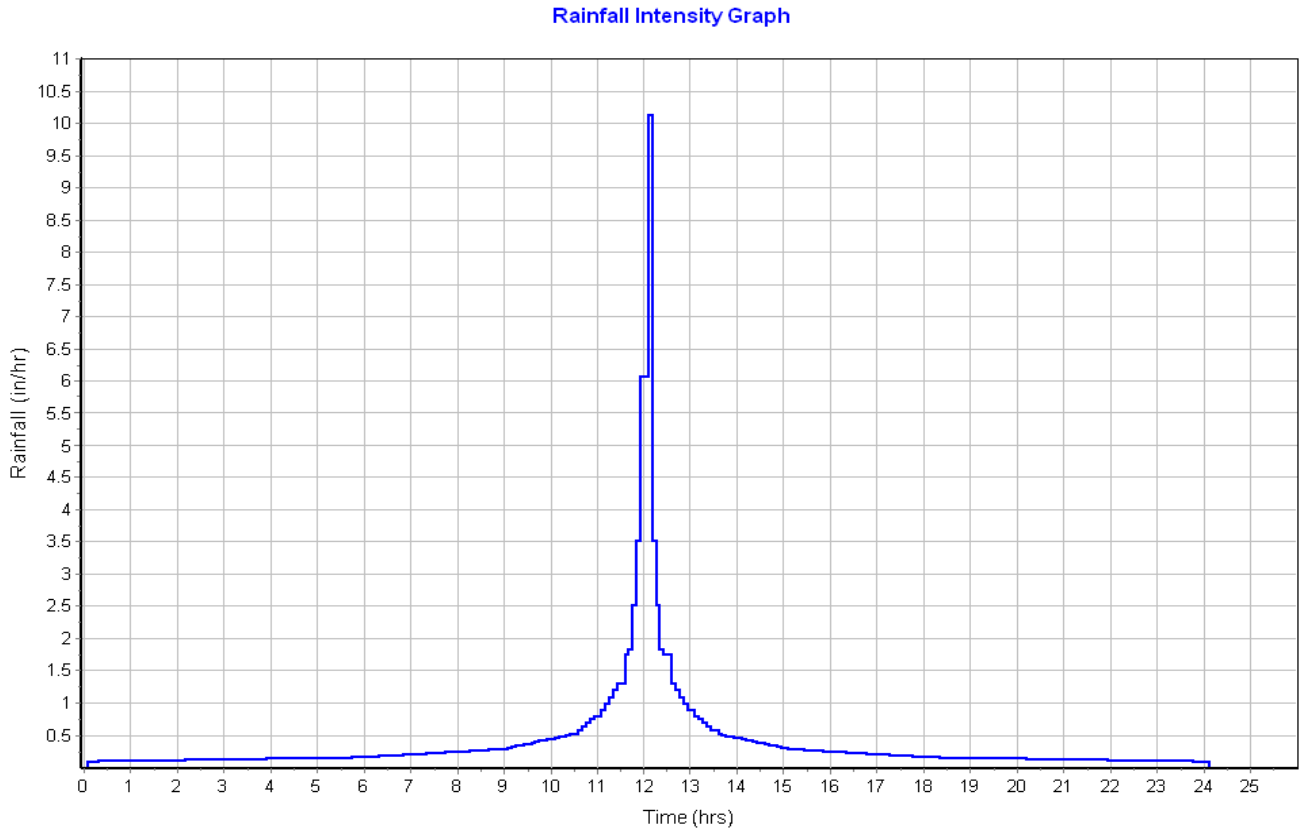
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	181.49	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.49	0.00	0.00

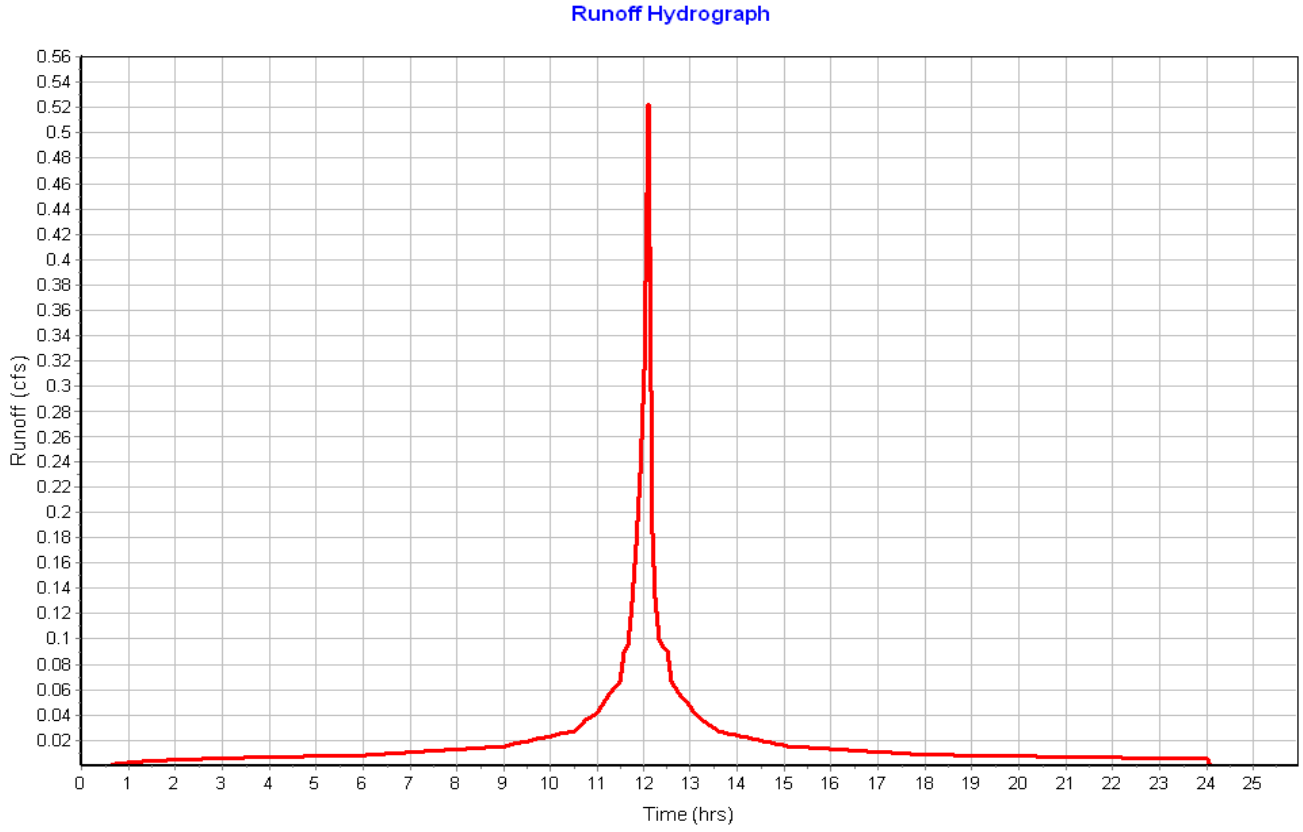
Total TOC (min) 1.62

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.52
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:37

Subbasin : Sub-09





Subbasin : Sub-10a

Input Data

Area (ac)	0.06
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.06	C	98.00
Composite Area & Weighted CN	0.06		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14.36	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.76	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

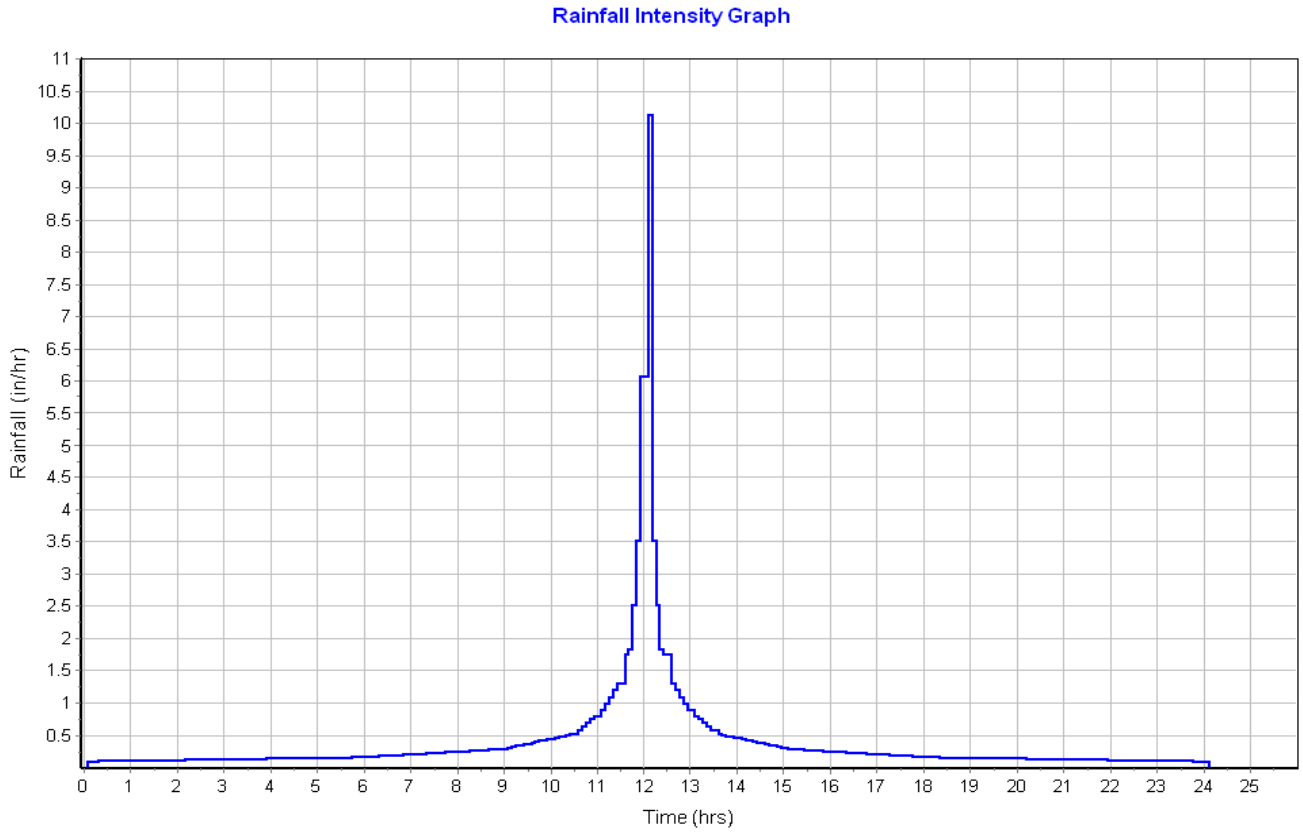
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	193.09	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	1.59	0.00	0.00

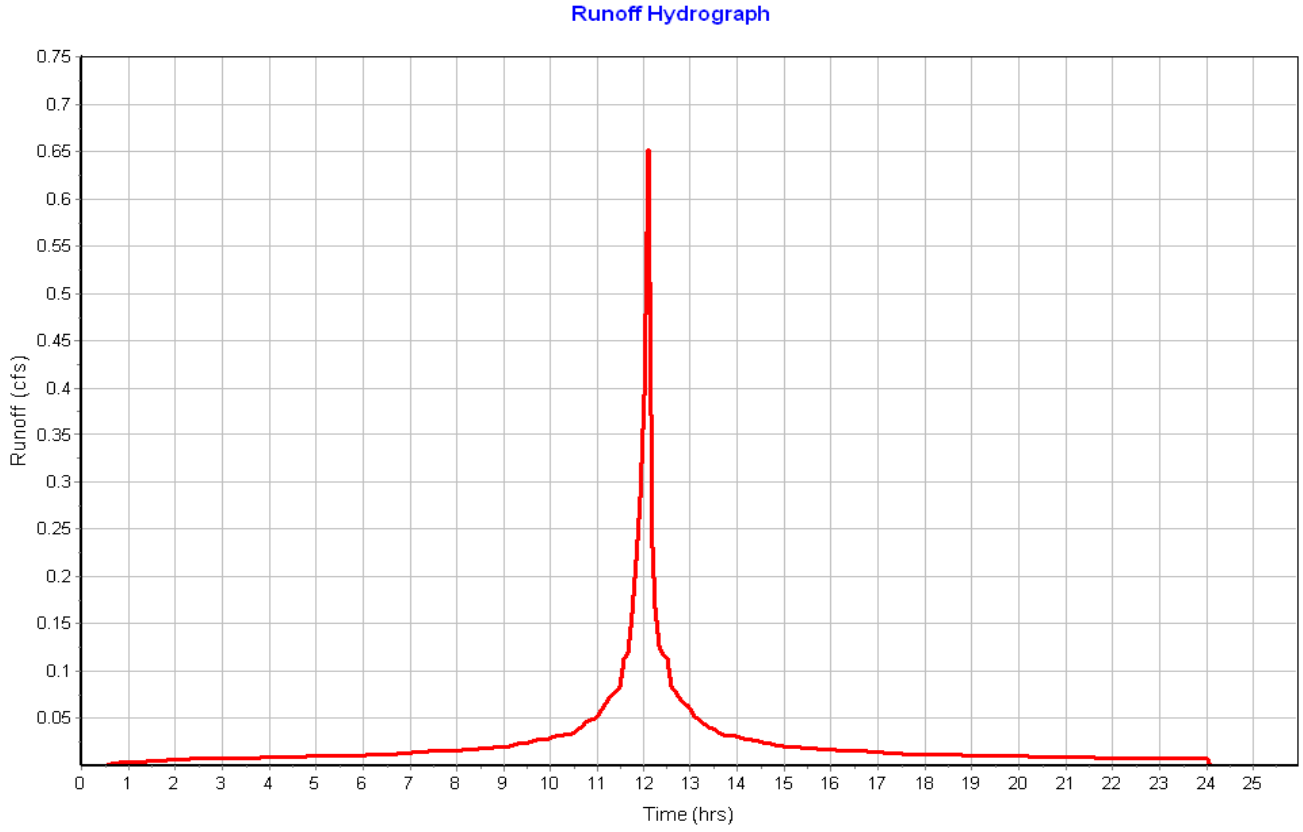
Total TOC (min) 1.72

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.65
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:43

Subbasin : Sub-10a





Subbasin : Sub-10b

Input Data

Area (ac)	0.04
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	18.28	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.64	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

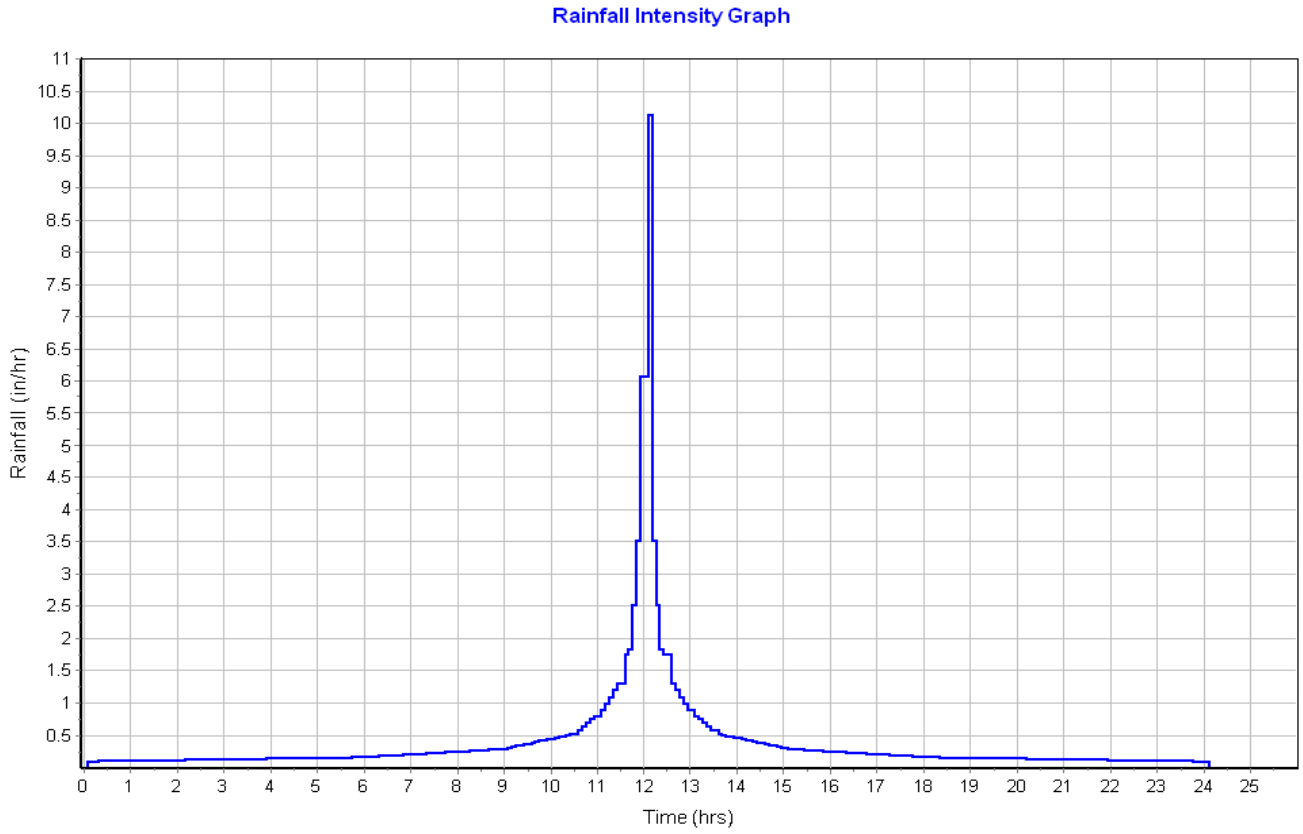
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	117.01	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	0.96	0.00	0.00

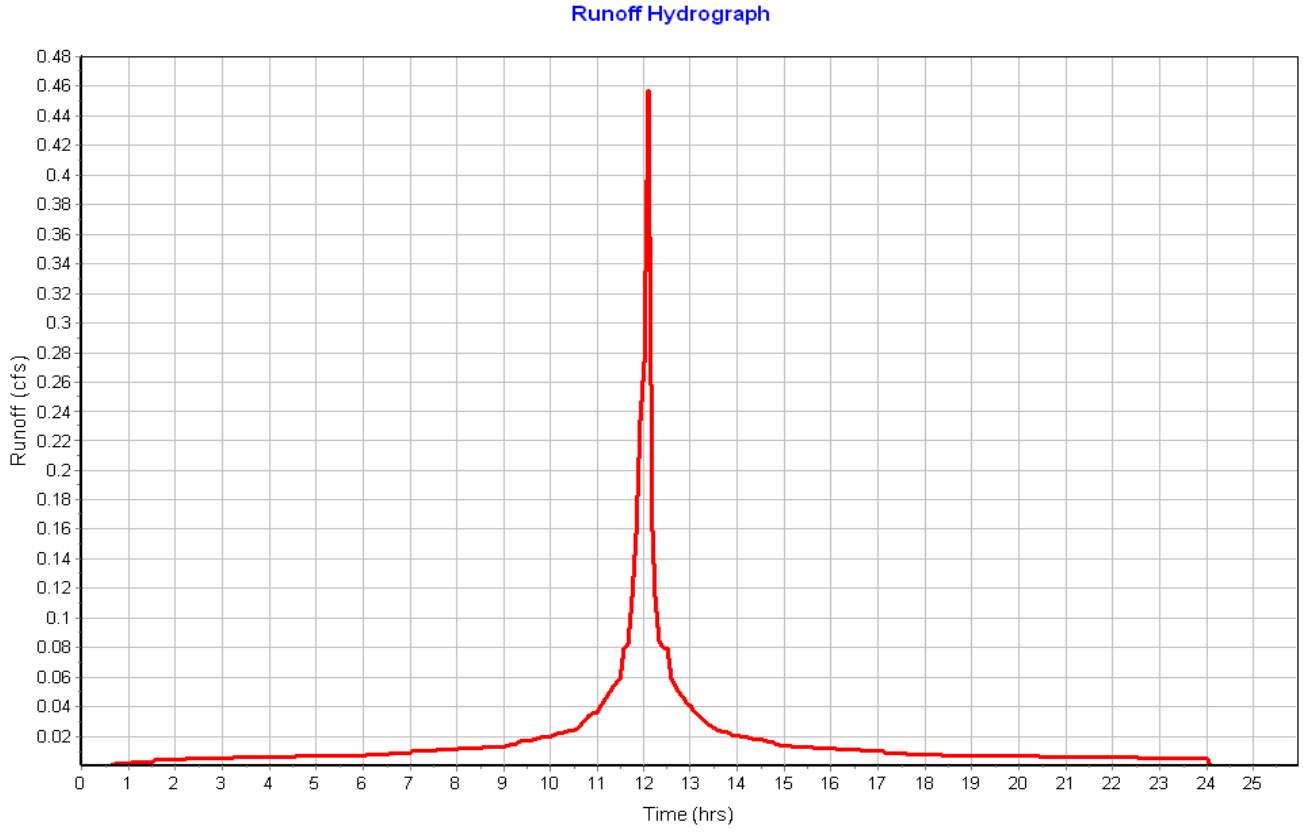
Total TOC (min) 1.15

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.46
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-10b





Subbasin : Sub-11

Input Data

Area (ac) 0.08
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.08	C	98.00
Composite Area & Weighted CN	0.08		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

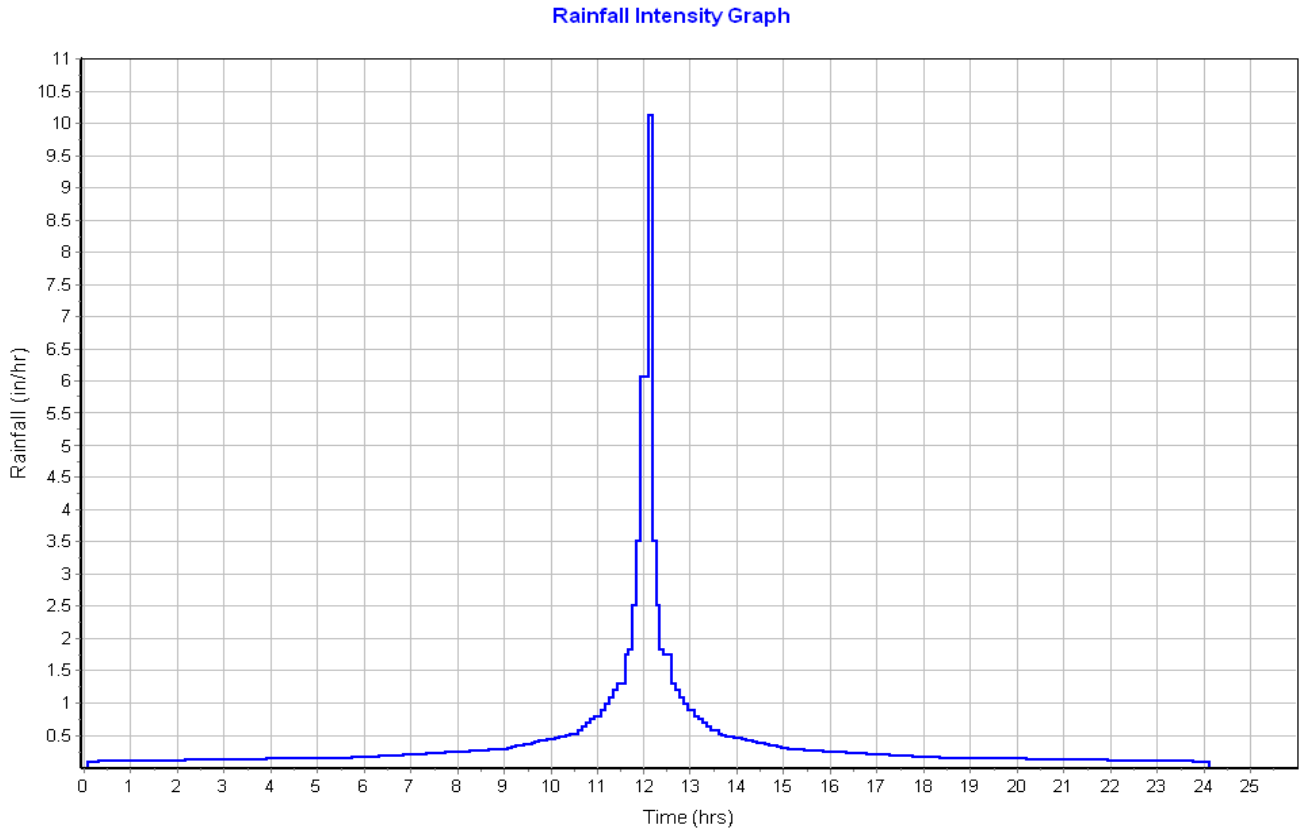
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	312.78	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.57	0.00	0.00

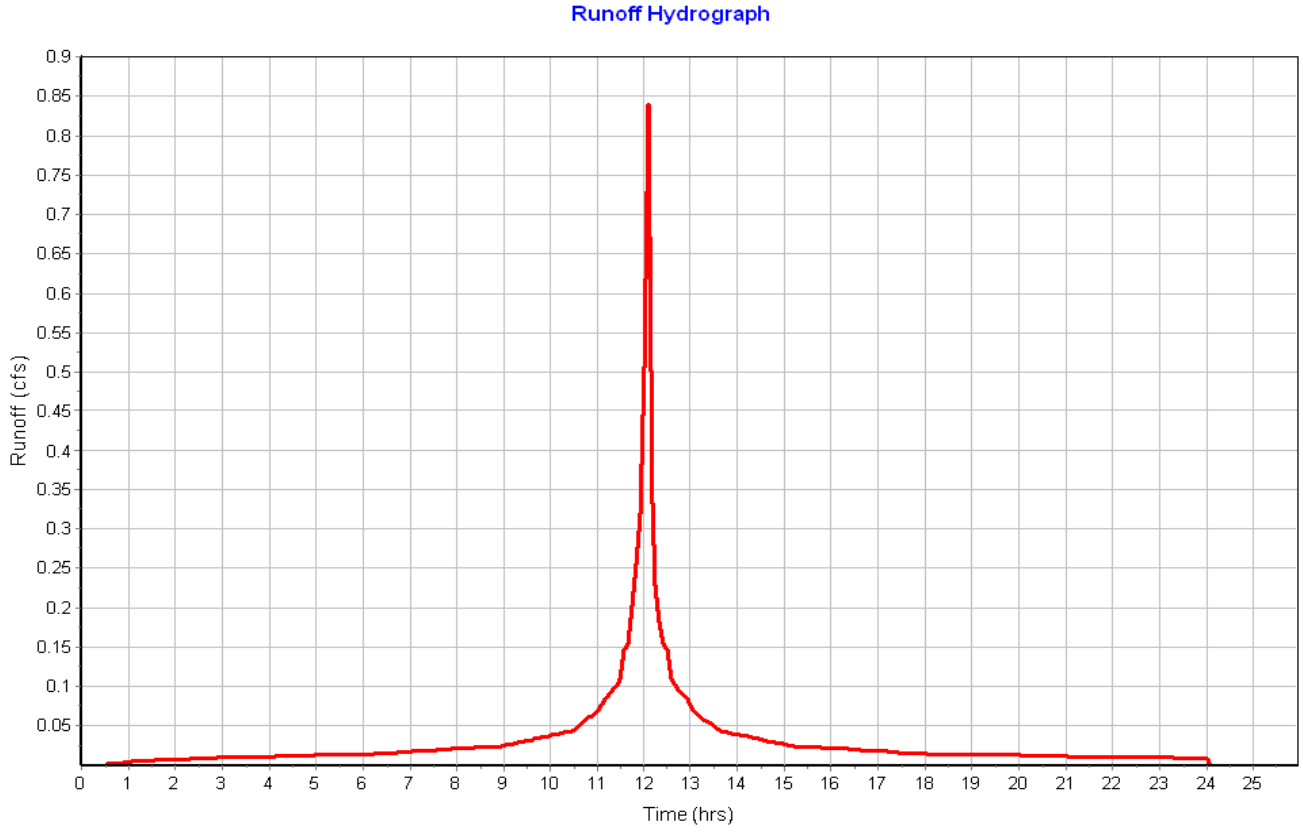
Total TOC (min) 2.70

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.84
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:42

Subbasin : Sub-11





Subbasin : Sub-12

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	15	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.77	0.00	0.00
Computed Flow Time (min) :	0.14	0.00	0.00

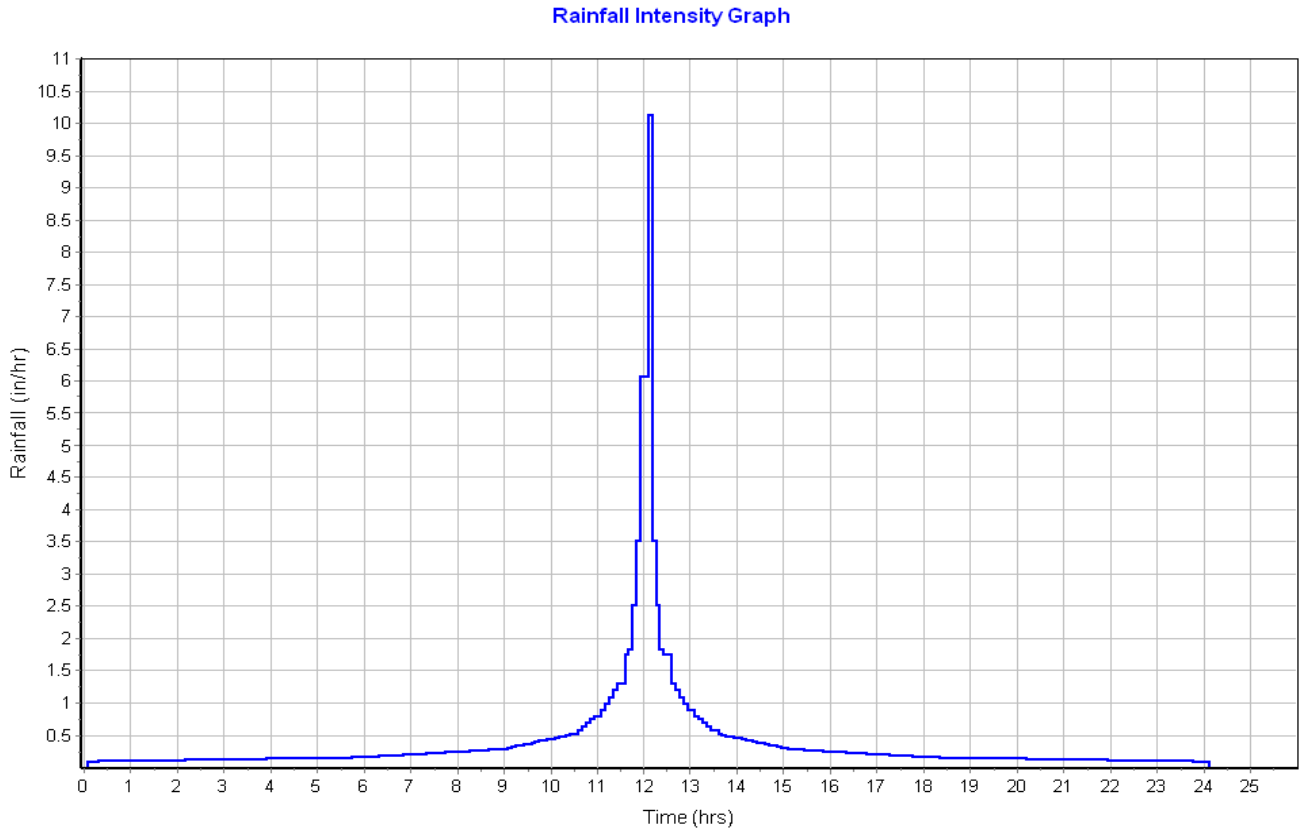
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.58	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.16	0.00	0.00

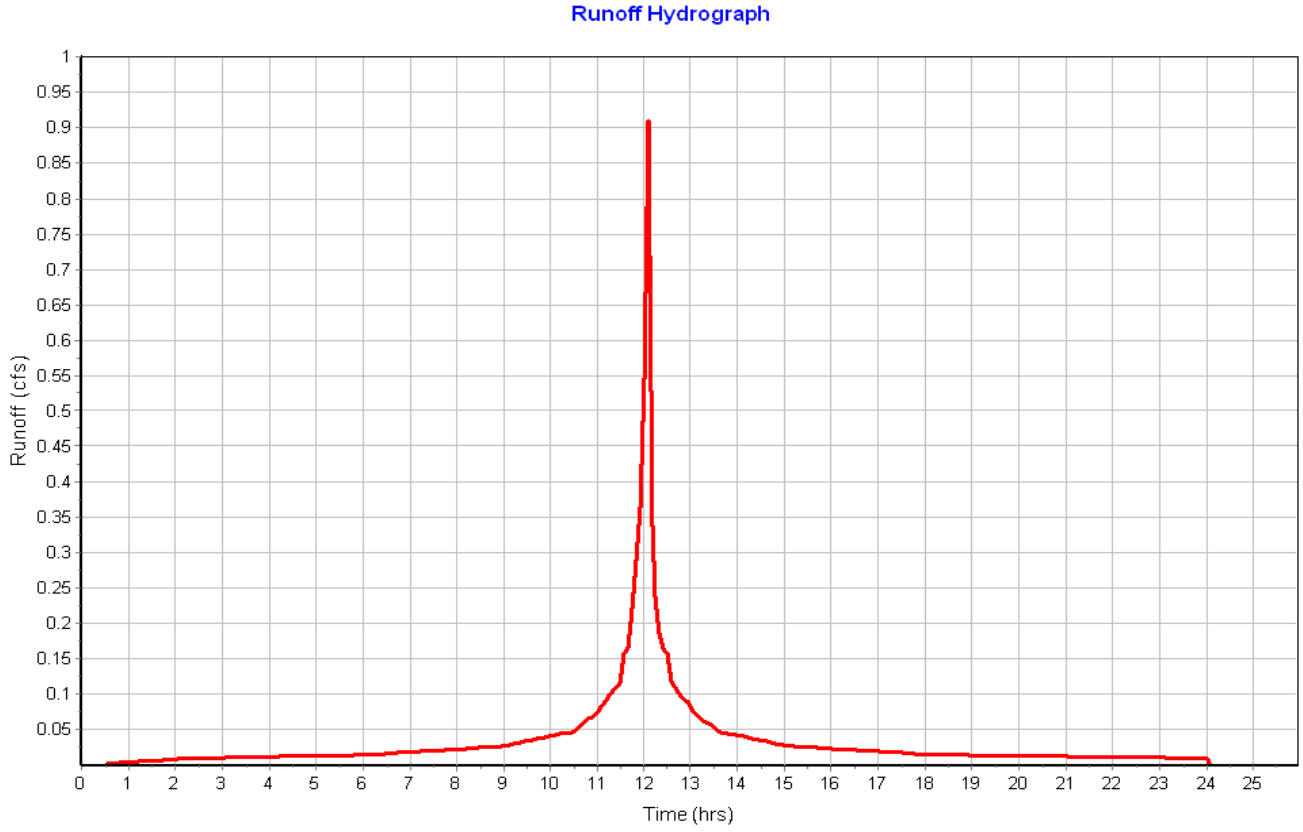
Total TOC (min) 2.31

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.91
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:19

Subbasin : Sub-12





Subbasin : Sub-13

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.01	0.00	0.00
Flow Length (ft) :	11.16	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.67	0.00	0.00
Computed Flow Time (min) :	0.11	0.00	0.00

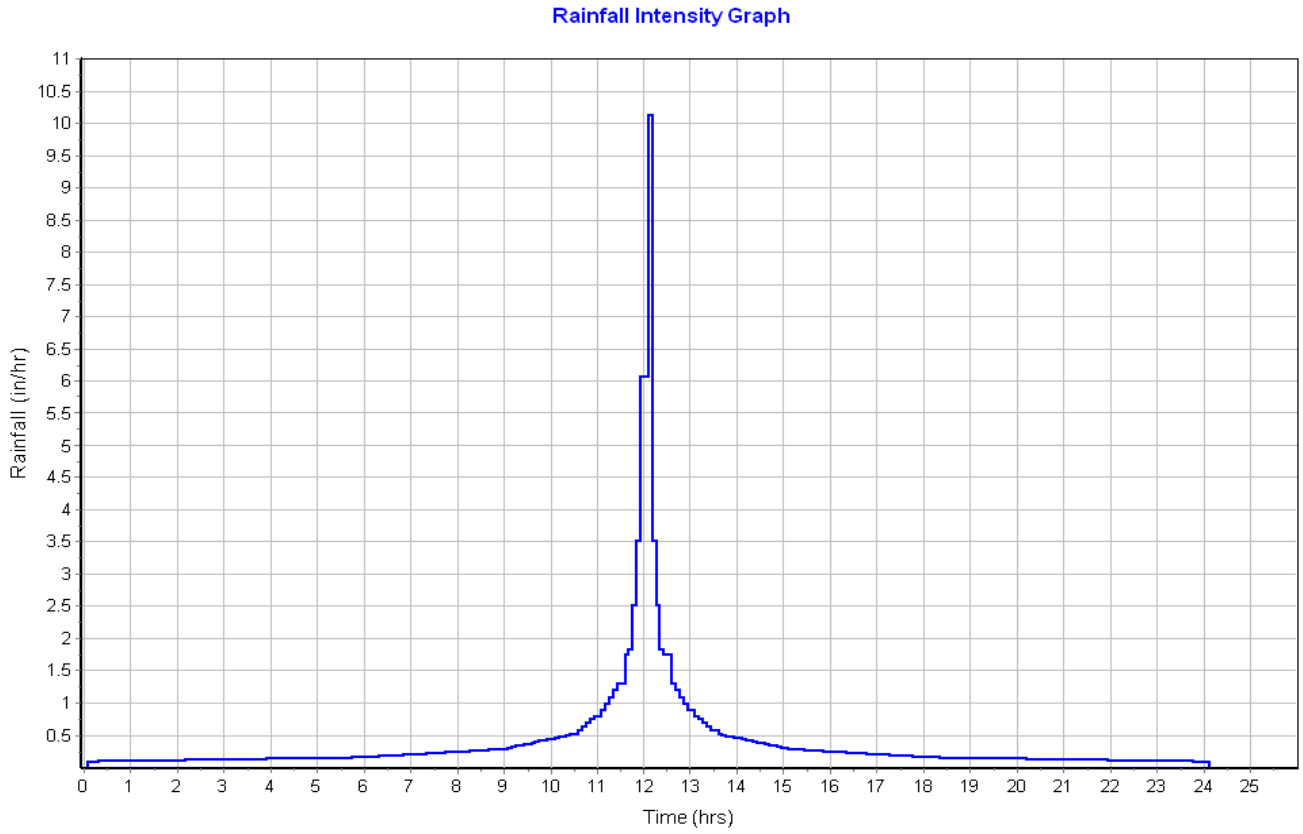
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	263.75	0.00	0.00
Slope (%) :	1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.03	0.00	0.00
Computed Flow Time (min) :	2.17	0.00	0.00

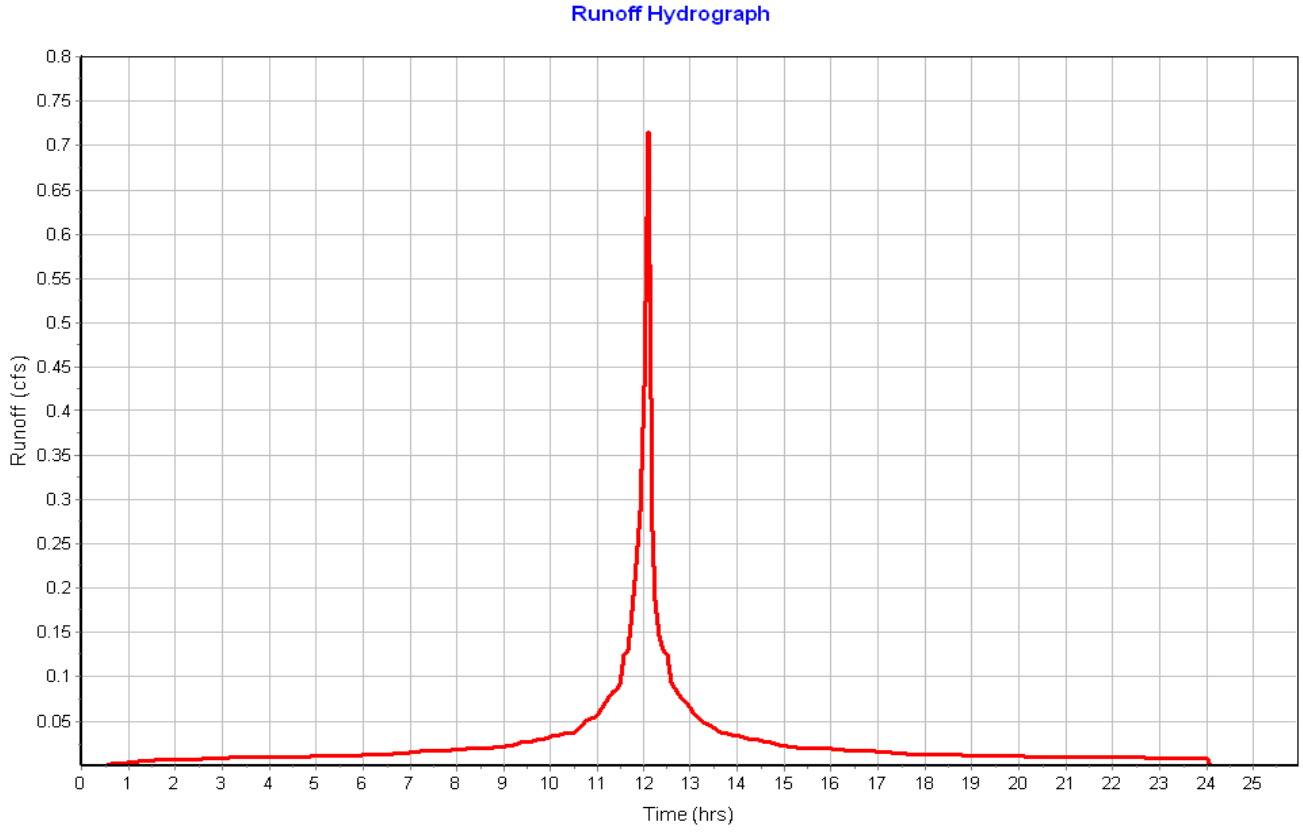
Total TOC (min) 2.28

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.72
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:17

Subbasin : Sub-13





Subbasin : Sub-14a

Input Data

Area (ac)	0.05
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.05	C	98.00
Composite Area & Weighted CN	0.05		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16.73	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.81	0.00	0.00
Computed Flow Time (min) :	0.15	0.00	0.00

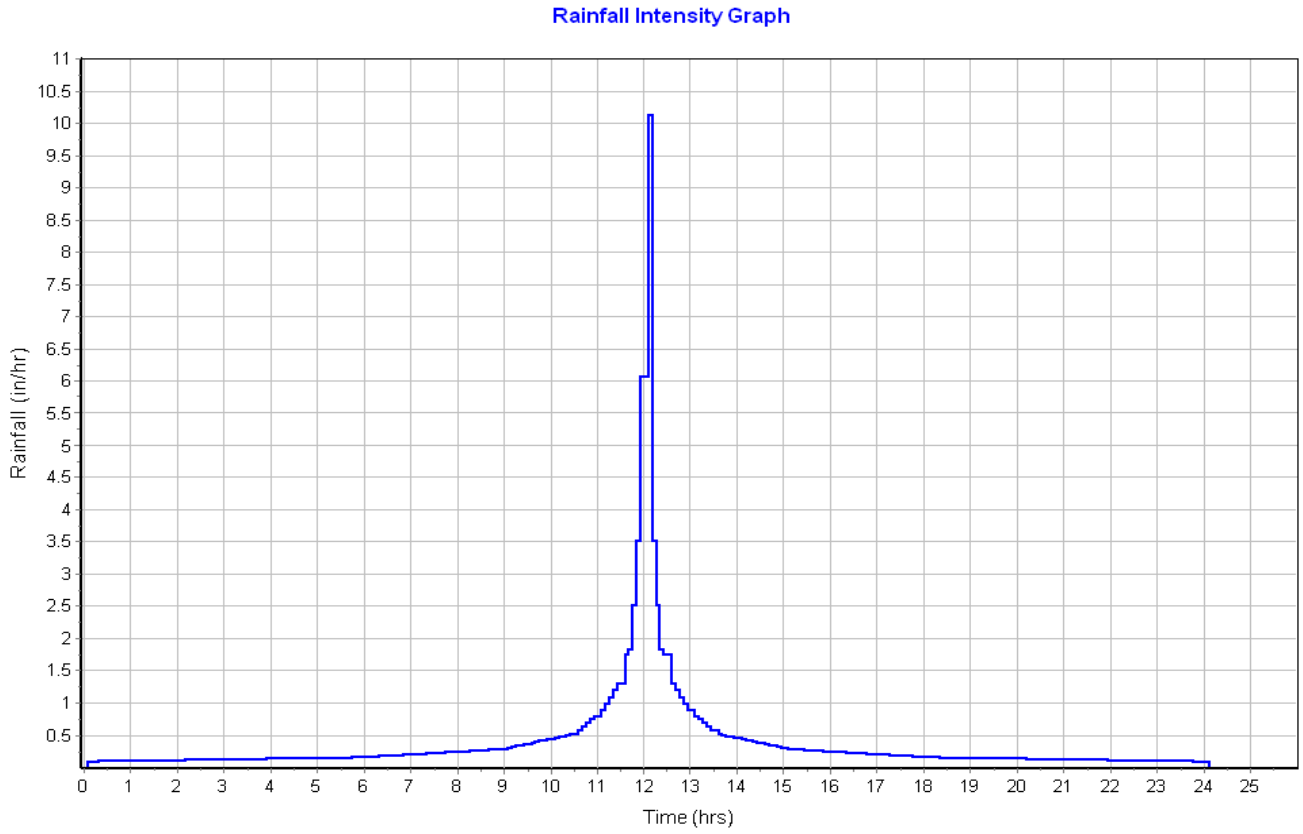
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	160.67	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.22	0.00	0.00

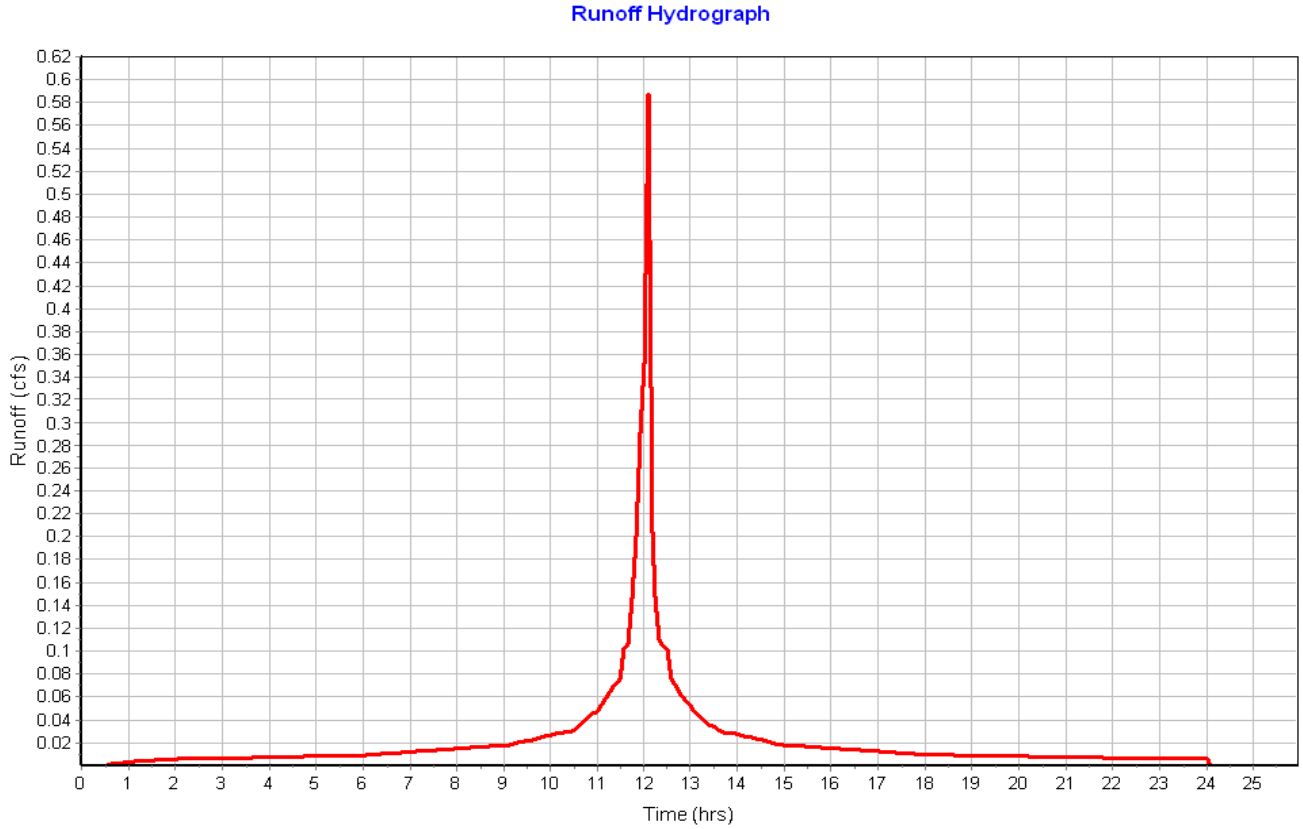
Total TOC (min) 1.37

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.59
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-14a





Subbasin : Sub-14b

Input Data

Area (ac) 0.04
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.04	C	98.00
Composite Area & Weighted CN	0.04		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	16	0.00	0.00
Slope (%) :	6	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.60	0.00	0.00
Computed Flow Time (min) :	0.17	0.00	0.00

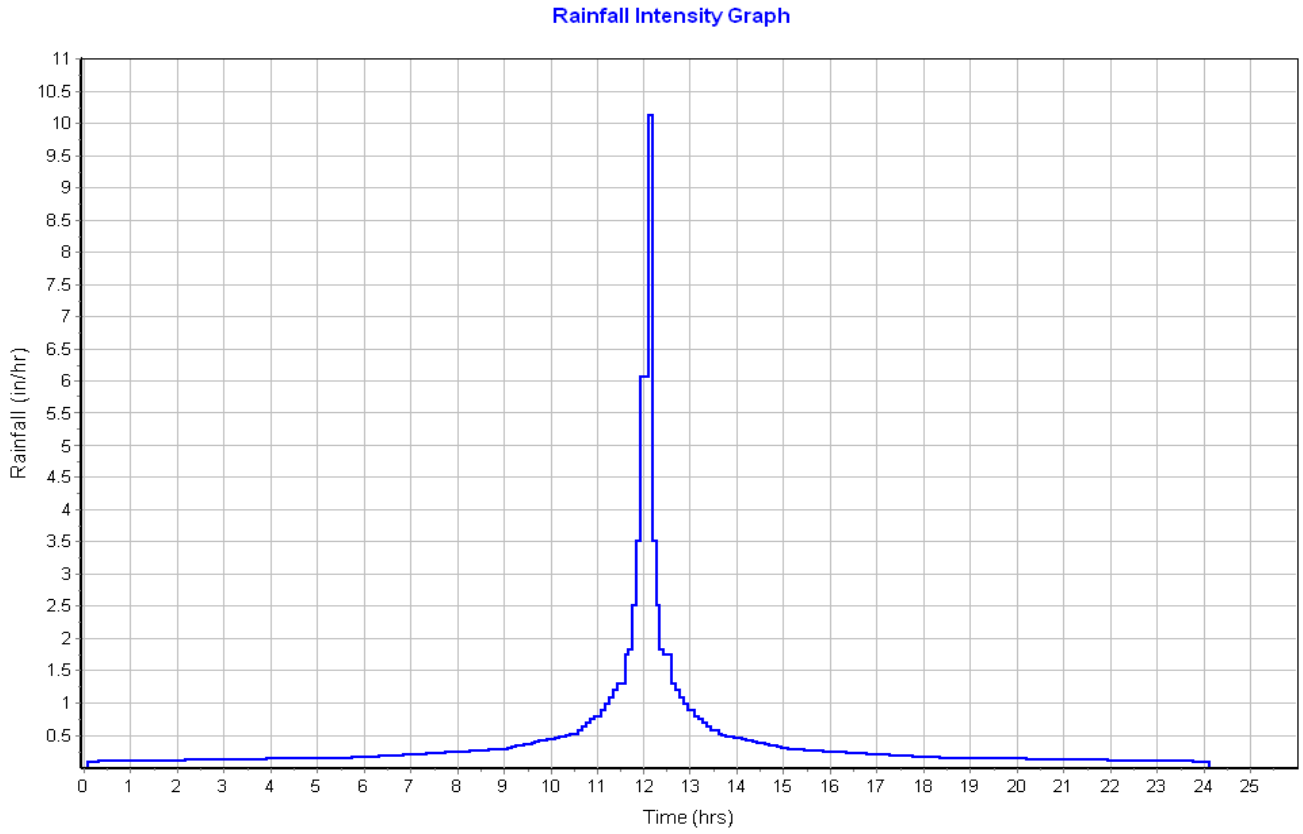
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	106.79	0.00	0.00
Slope (%) :	1.1	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.13	0.00	0.00
Computed Flow Time (min) :	0.84	0.00	0.00

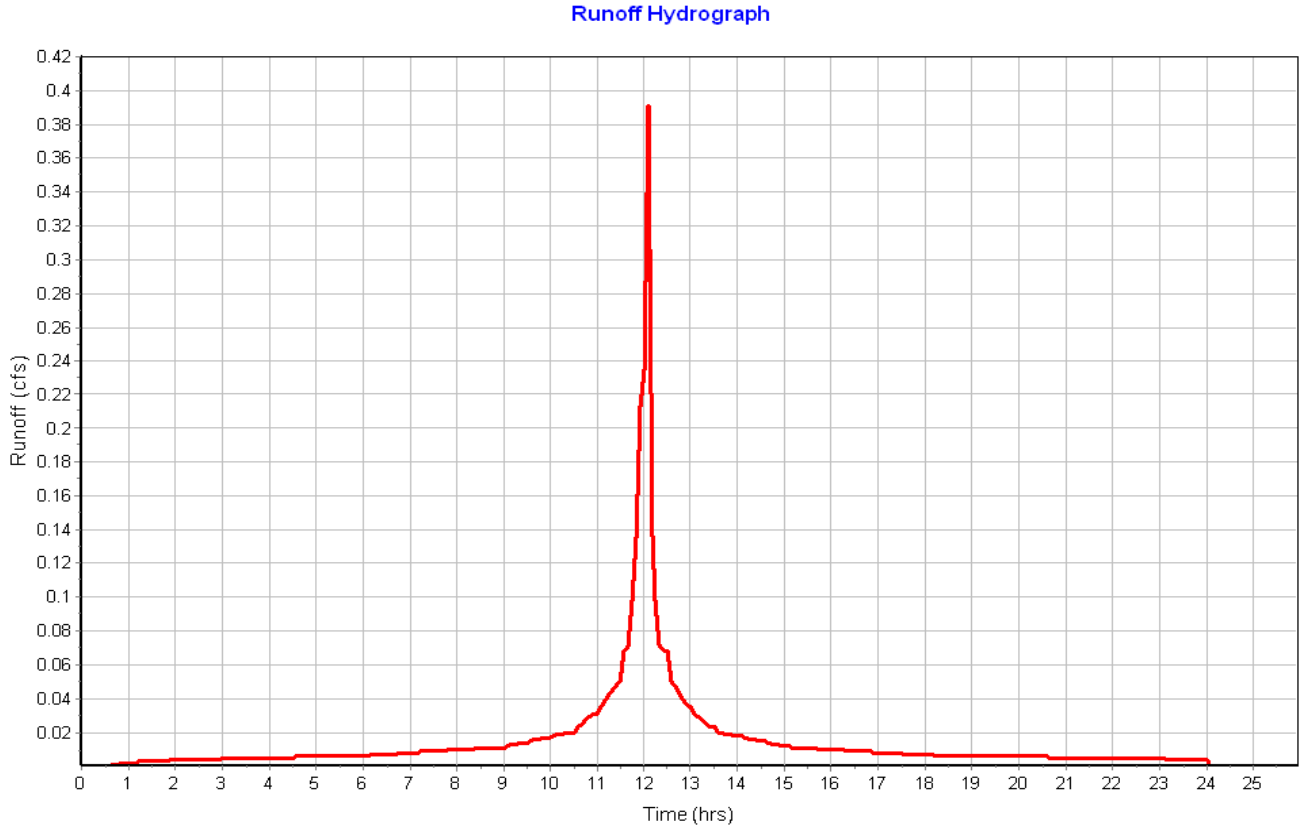
Total TOC (min) 1.00

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.39
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:00

Subbasin : Sub-14b





Subbasin : Sub-15

Input Data

Area (ac) 0.07
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	14	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.75	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

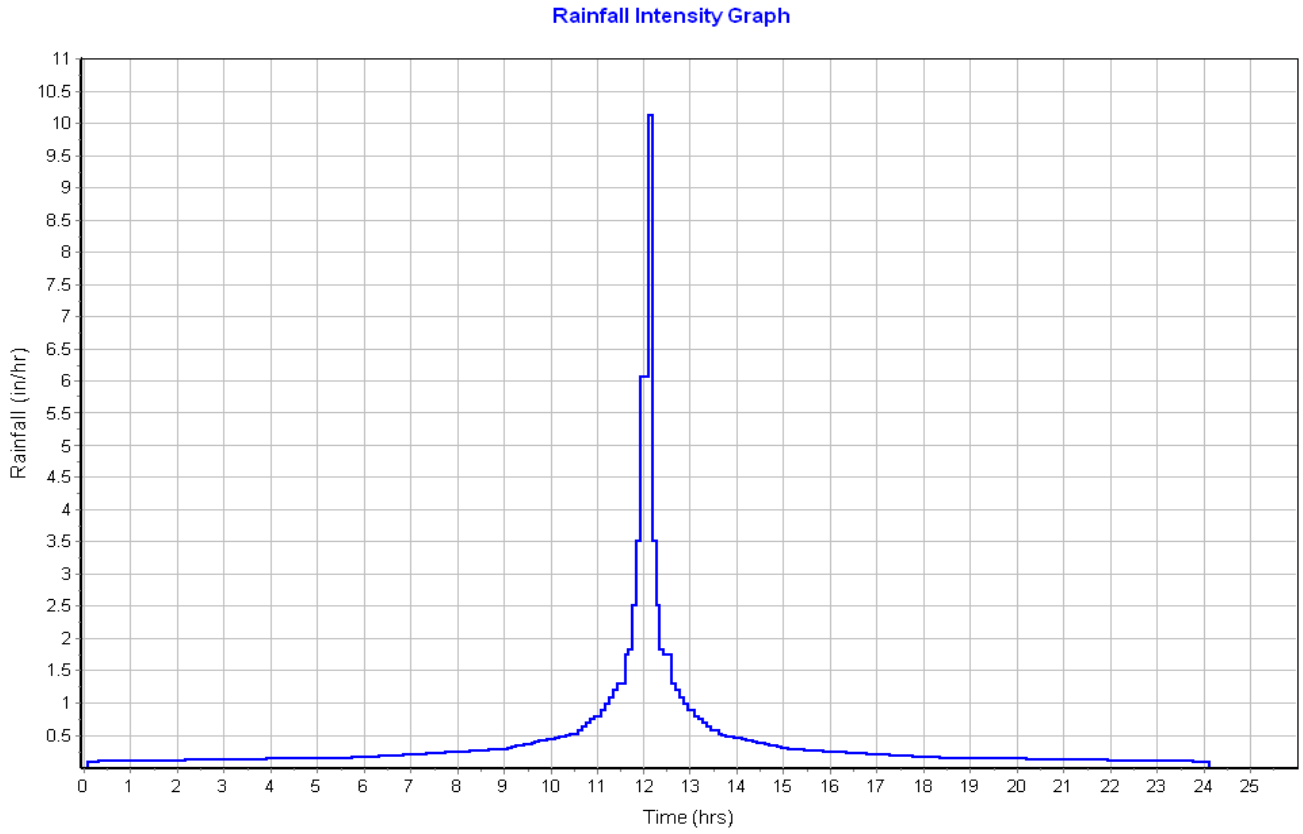
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	265.51	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.01	0.00	0.00

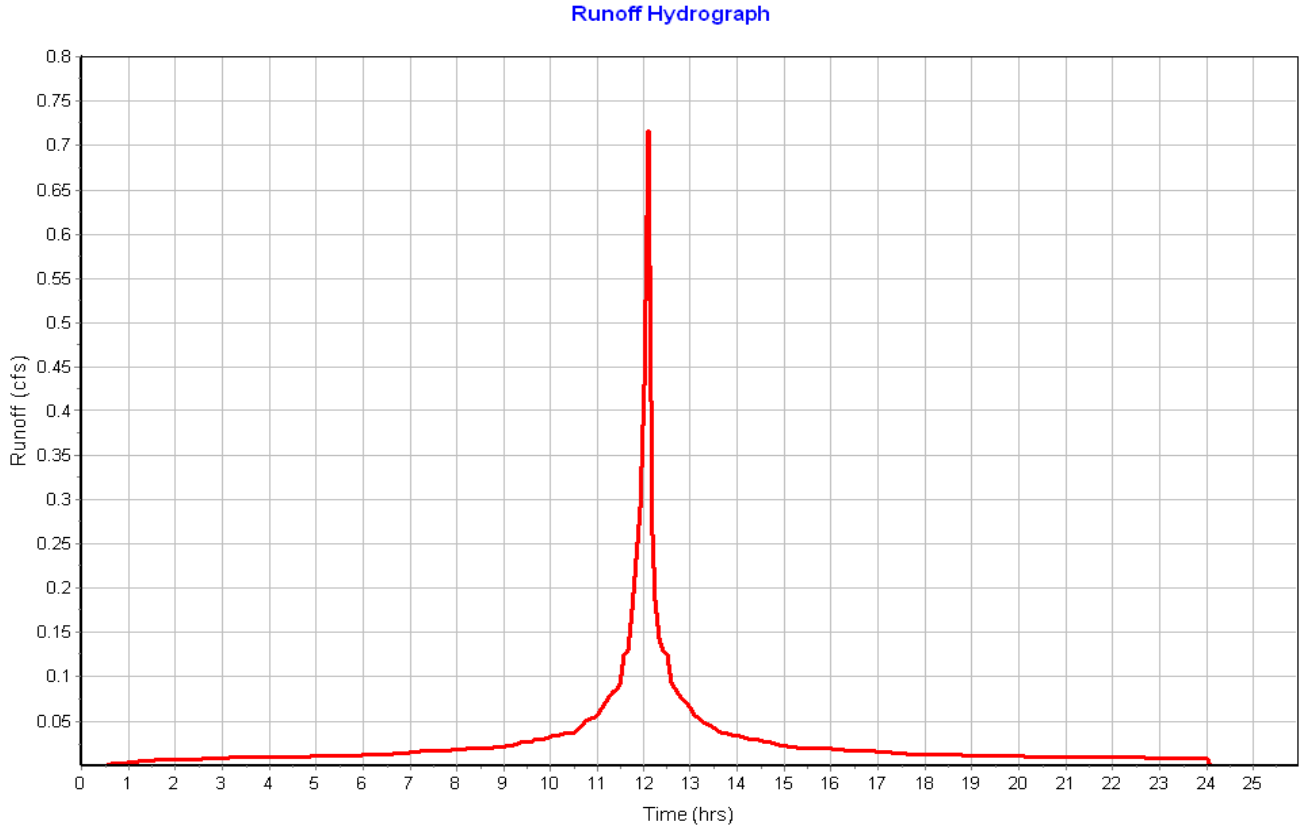
Total TOC (min) 2.14

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.72
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:08

Subbasin : Sub-15





Subbasin : Sub-16

Input Data

Area (ac) 0.09
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.09	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	22.46	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.92	0.00	0.00
Computed Flow Time (min) :	0.19	0.00	0.00

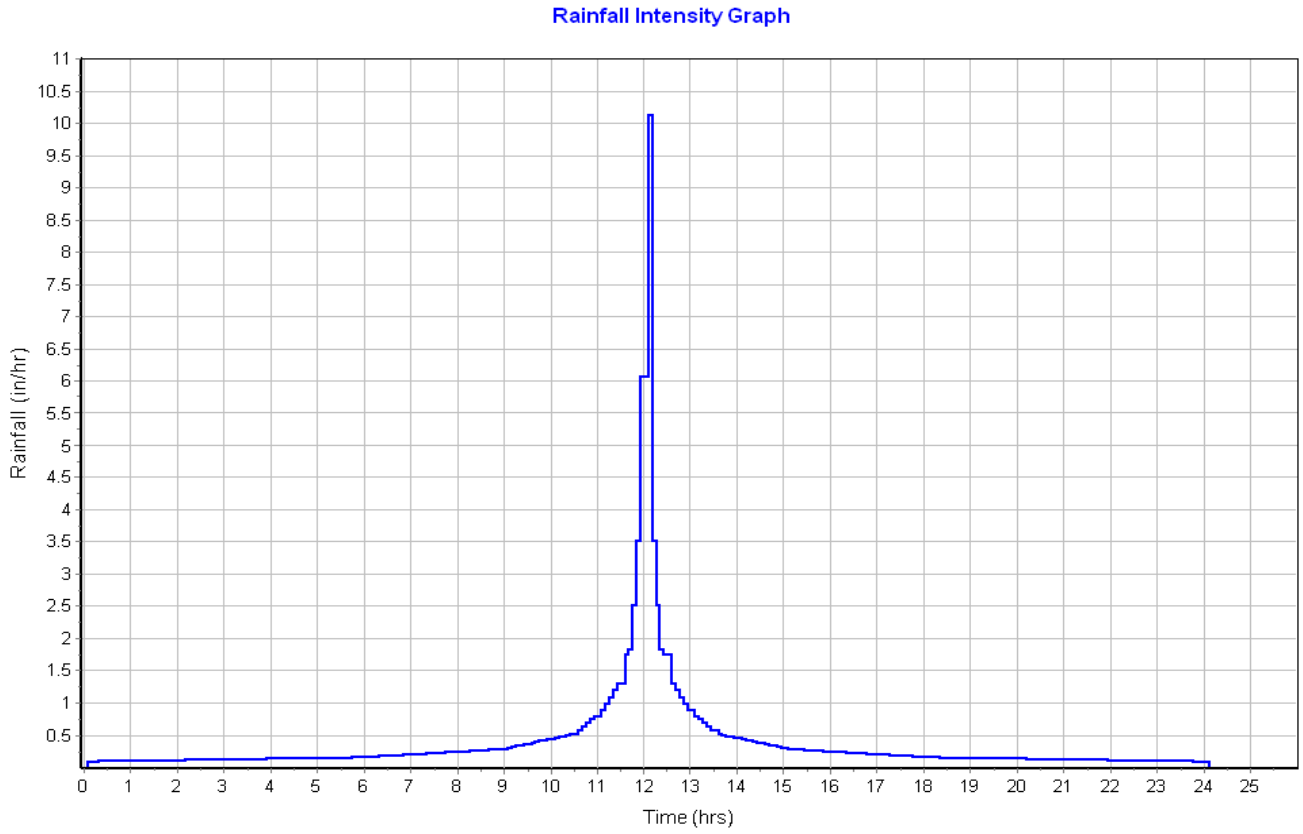
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	255.75	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	1.94	0.00	0.00

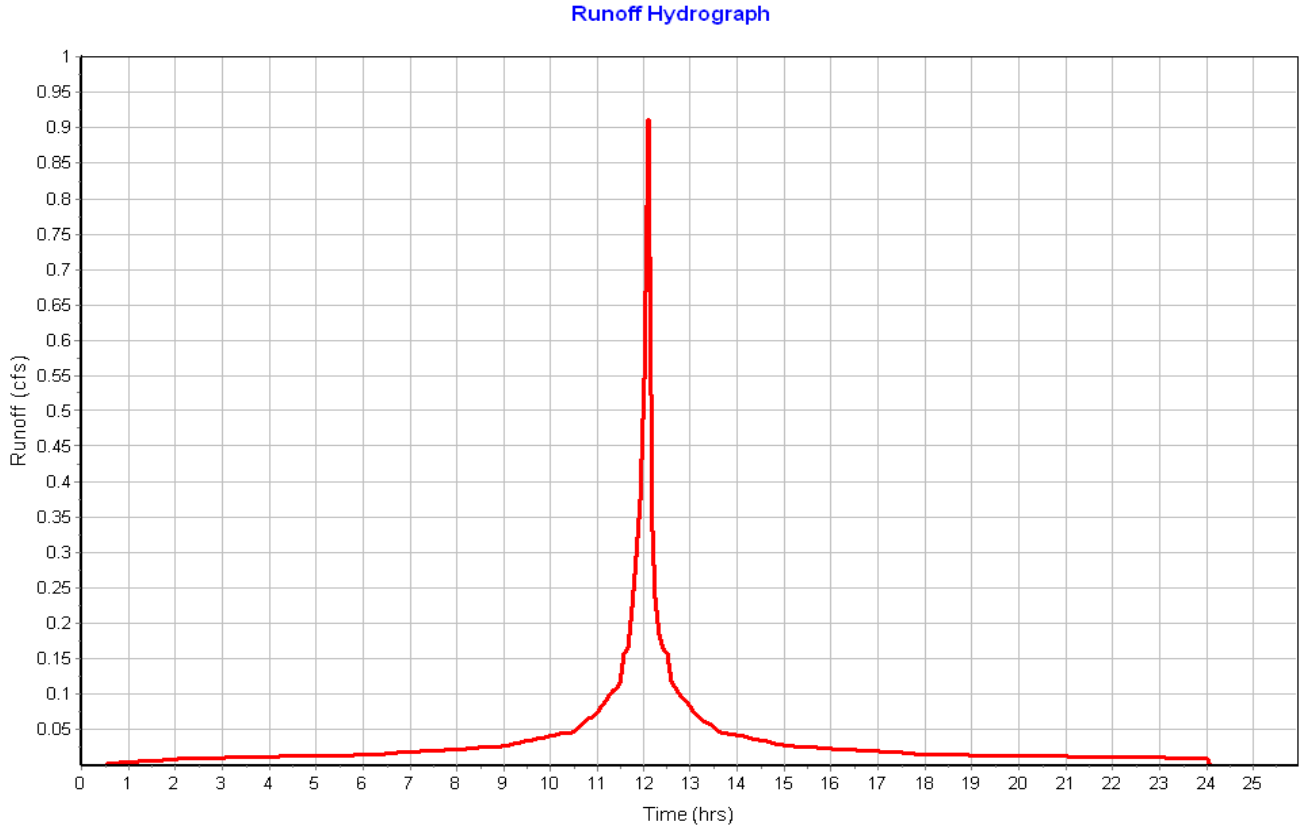
Total TOC (min) 2.13

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.46
Peak Runoff (cfs) 0.91
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:02:08

Subbasin : Sub-16





Subbasin : Sub-17

Input Data

Area (ac)	0.07
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.07	C	98.00
Composite Area & Weighted CN	0.07		98.00

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	13	0.00	0.00
Slope (%) :	8	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.72	0.00	0.00
Computed Flow Time (min) :	0.13	0.00	0.00

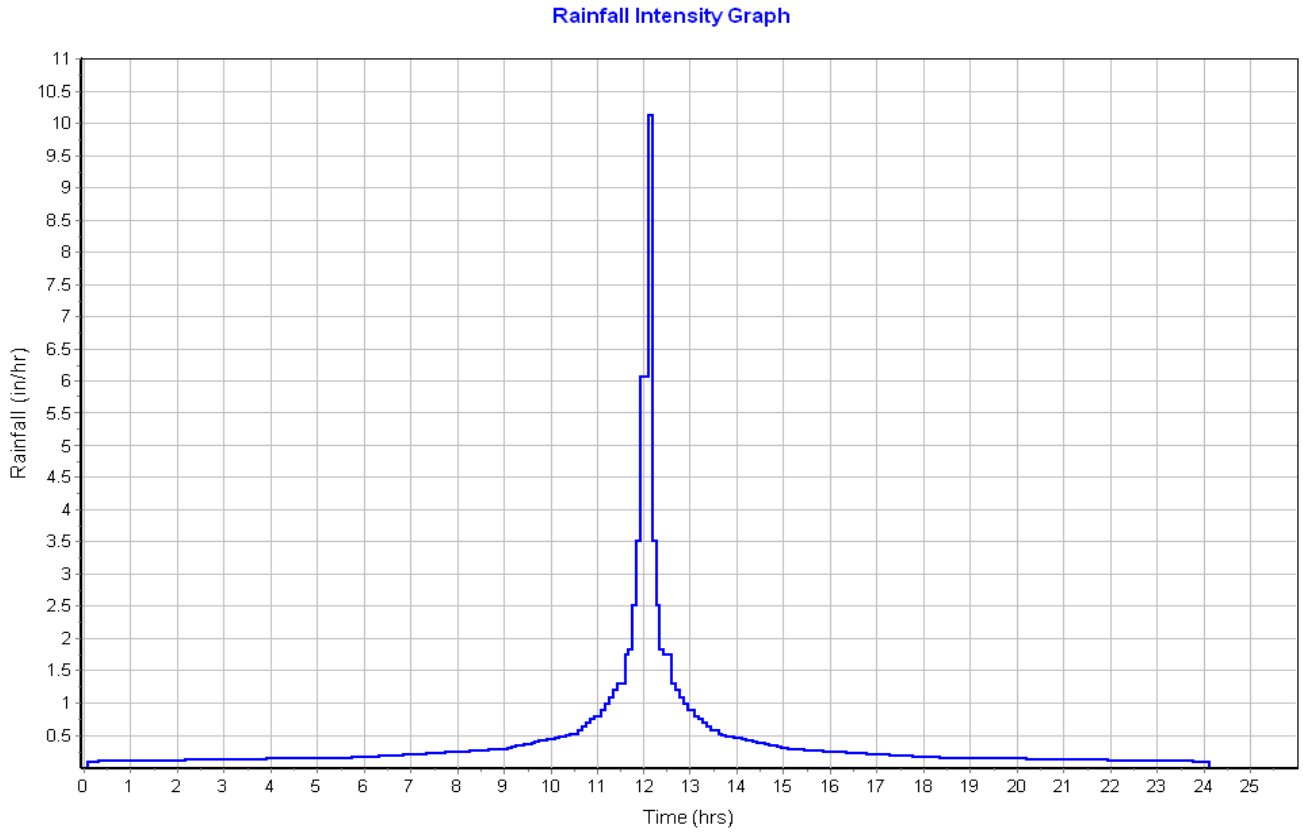
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	267.21	0.00	0.00
Slope (%) :	1.17	0.00	0.00
Surface Type :	Paved	Unpaved	Unpaved
Velocity (ft/sec) :	2.20	0.00	0.00
Computed Flow Time (min) :	2.02	0.00	0.00

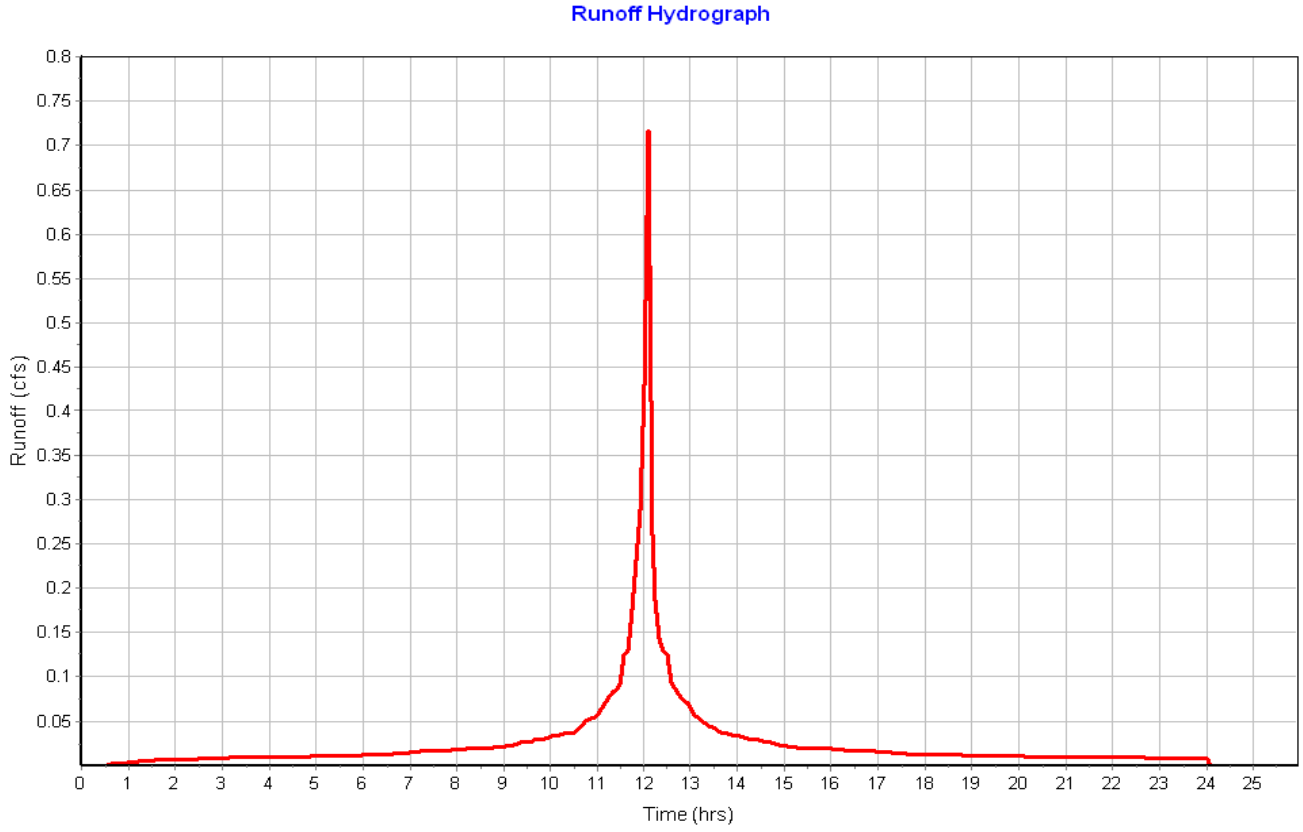
Total TOC (min) 2.15

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.72
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:02:09

Subbasin : Sub-17





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	6.00	116.00	4.00	116.00	3.50	0.00	0.0000	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-02	12.00	116.00	3.50	114.00	2.00	2.00	16.6700	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-03	24.02	117.15	4.00	117.00	4.00	0.15	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-05	23.50	116.15	4.00	116.00	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
5	Link-06	23.47	115.65	4.00	115.50	4.00	0.15	0.6400	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
6	Link-07	16.00	117.00	4.00	116.90	0.90	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
7	Link-08	16.00	117.00	4.00	116.90	0.90	0.10	0.6200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
8	Link-09	88.06	114.05	4.15	113.25	0.25	0.80	0.9100	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
9	Link-10	11.34	115.75	4.25	113.00	-1.00	2.75	24.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
10	Link-11	11.51	114.65	3.15	114.25	0.25	0.40	3.4800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
11	Link-12	16.00	115.50	4.00	115.00	1.00	0.50	3.1300	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
12	Link-13	16.60	111.65	4.00	111.00	1.00	0.65	3.9200	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
13	Link-14	28.55	113.15	4.50	113.00	0.00	0.15	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
14	Link-15	11.48	111.15	4.15	111.00	1.00	0.15	1.3100	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	1.98	0 12:10	0.30	6.63	3.27	0.03	0.72	0.72	0.00		> CAPACITY
2	Link-02	1.98	0 12:10	9.45	0.21	8.60	0.02	0.33	0.33	0.00		Calculated
3	Link-03	0.52	0 12:10	1.83	0.28	1.77	0.23	0.40	0.40	0.00		Calculated
4	Link-05	0.46	0 12:10	1.85	0.25	0.70	0.56	0.77	0.77	0.00		Calculated
5	Link-06	0.71	0 12:10	1.85	0.38	2.22	0.18	0.43	0.43	0.00		Calculated
6	Link-07	0.58	0 12:10	1.83	0.32	2.27	0.12	0.36	0.36	0.00		Calculated
7	Link-08	0.58	0 12:10	1.83	0.32	2.27	0.12	0.36	0.36	0.00		Calculated
8	Link-09	1.37	0 12:10	2.21	0.62	3.08	0.48	0.54	0.55	0.00		Calculated
9	Link-10	0.85	0 12:10	9.10	0.09	6.79	0.03	0.21	0.22	0.00		Calculated
10	Link-11	1.11	0 12:10	4.32	0.26	4.20	0.05	0.36	0.37	0.00		Calculated
11	Link-12	1.10	0 12:10	4.09	0.27	4.10	0.07	0.37	0.37	0.00		Calculated
12	Link-13	2.02	0 12:11	4.58	0.44	5.15	0.05	0.49	0.50	0.00		Calculated
13	Link-14	0.68	0 12:10	0.26	2.57	3.46	0.14	0.50	1.00	24.00		SURCHARGED
14	Link-15	0.65	0 12:11	0.42	1.57	3.49	0.05	0.45	0.91	0.00		> CAPACITY

Storage Nodes

Storage Node : BMP-01

Input Data

Invert Elevation (ft) 116.00
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 3.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -116.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

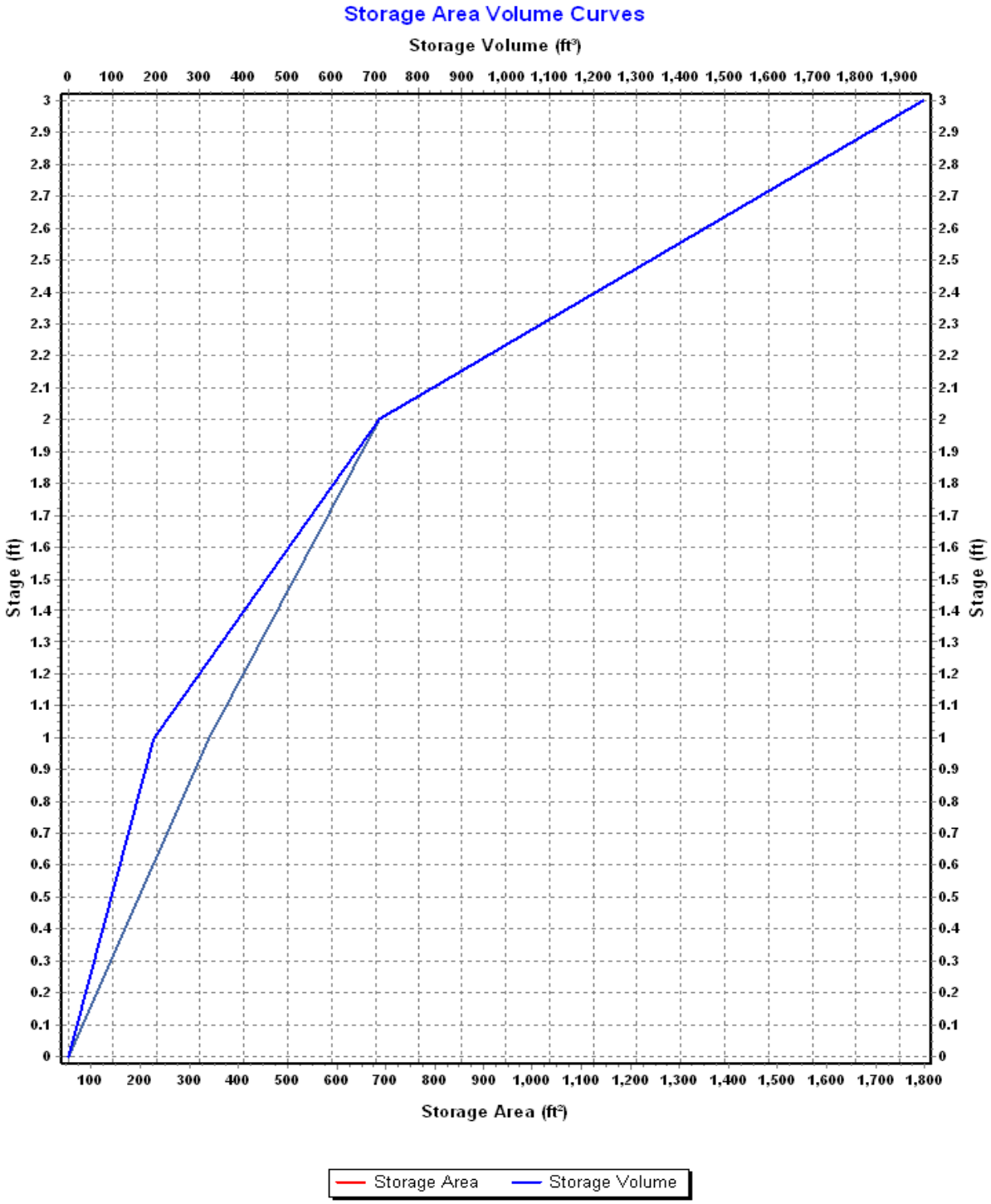
Infiltration/Exfiltration

Exfiltration Rate (in/hr) 0.2700

Storage Area Volume Curves

Storage Curve : BMP-01

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	54	0.000
1	339	196.50
2	689	710.50
3	1796	1953.00


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3
Storage Area (ft²)
100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800
Storage Area
Storage Volume

Storage Node : BMP-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-02	Trapezoidal	No	119.00	3.00	20.00	0.25	3.33
2	Weir-03	Trapezoidal	No	116.90	0.90	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	1.42
Peak Lateral Inflow (cfs)	0.27
Peak Outflow (cfs)	1.39
Peak Exfiltration Flow Rate (cfm)	0.13
Max HGL Elevation Attained (ft)	117.04
Max HGL Depth Attained (ft)	1.04
Average HGL Elevation Attained (ft)	116.83
Average HGL Depth Attained (ft)	0.83
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.152
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02

Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

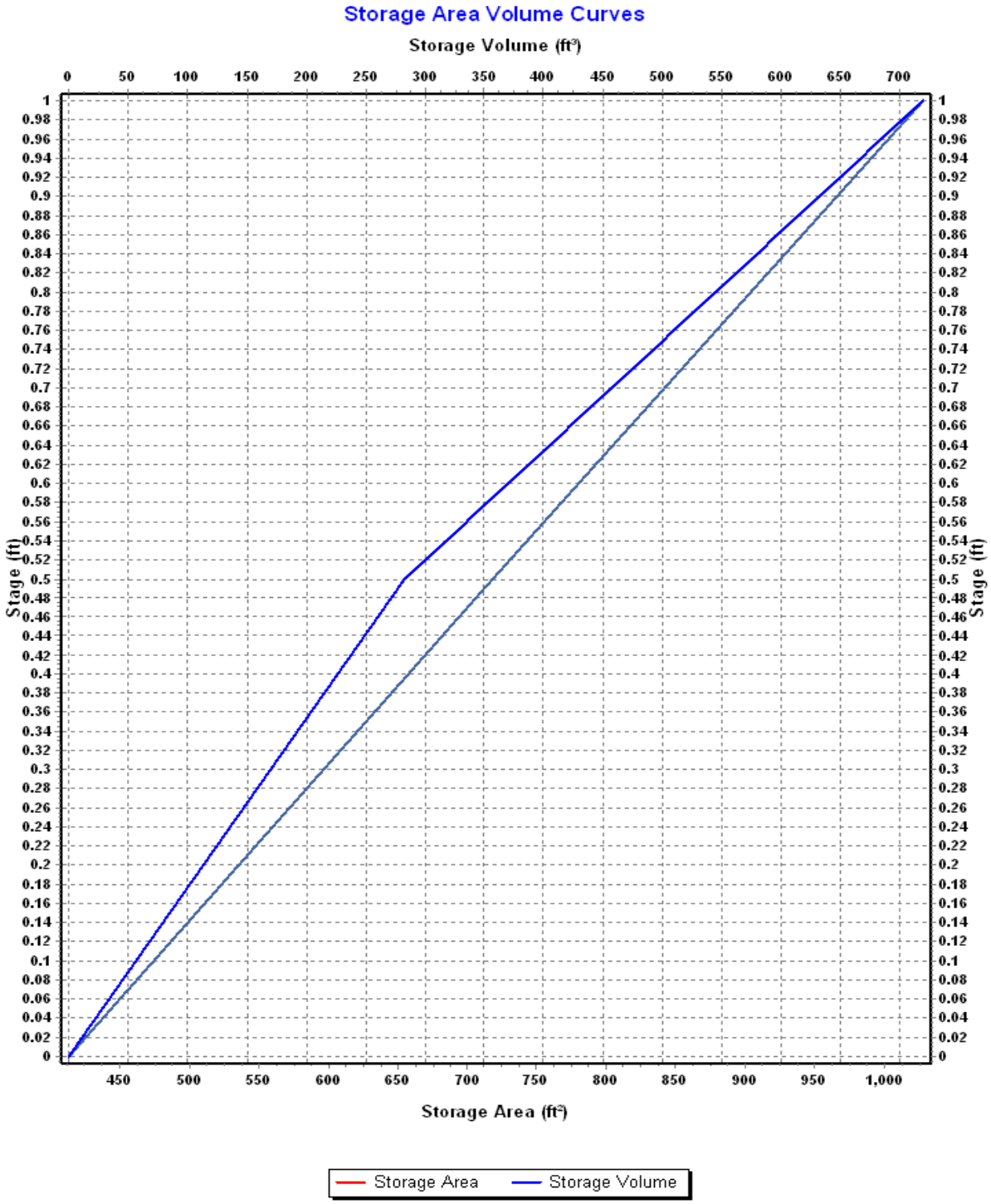
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-02

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	413	0.000
.5	718	282.75
1	1028	719.25


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
450 500 550 600 650 700 750 800 850 900 950 1,000
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-05	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.91
Peak Lateral Inflow (cfs)	0.27
Peak Outflow (cfs)	0.85
Peak Exfiltration Flow Rate (cfm)	0.29
Max HGL Elevation Attained (ft)	118.60
Max HGL Depth Attained (ft)	0.6
Average HGL Elevation Attained (ft)	118.41
Average HGL Depth Attained (ft)	0.41
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.341
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-02-Forebay

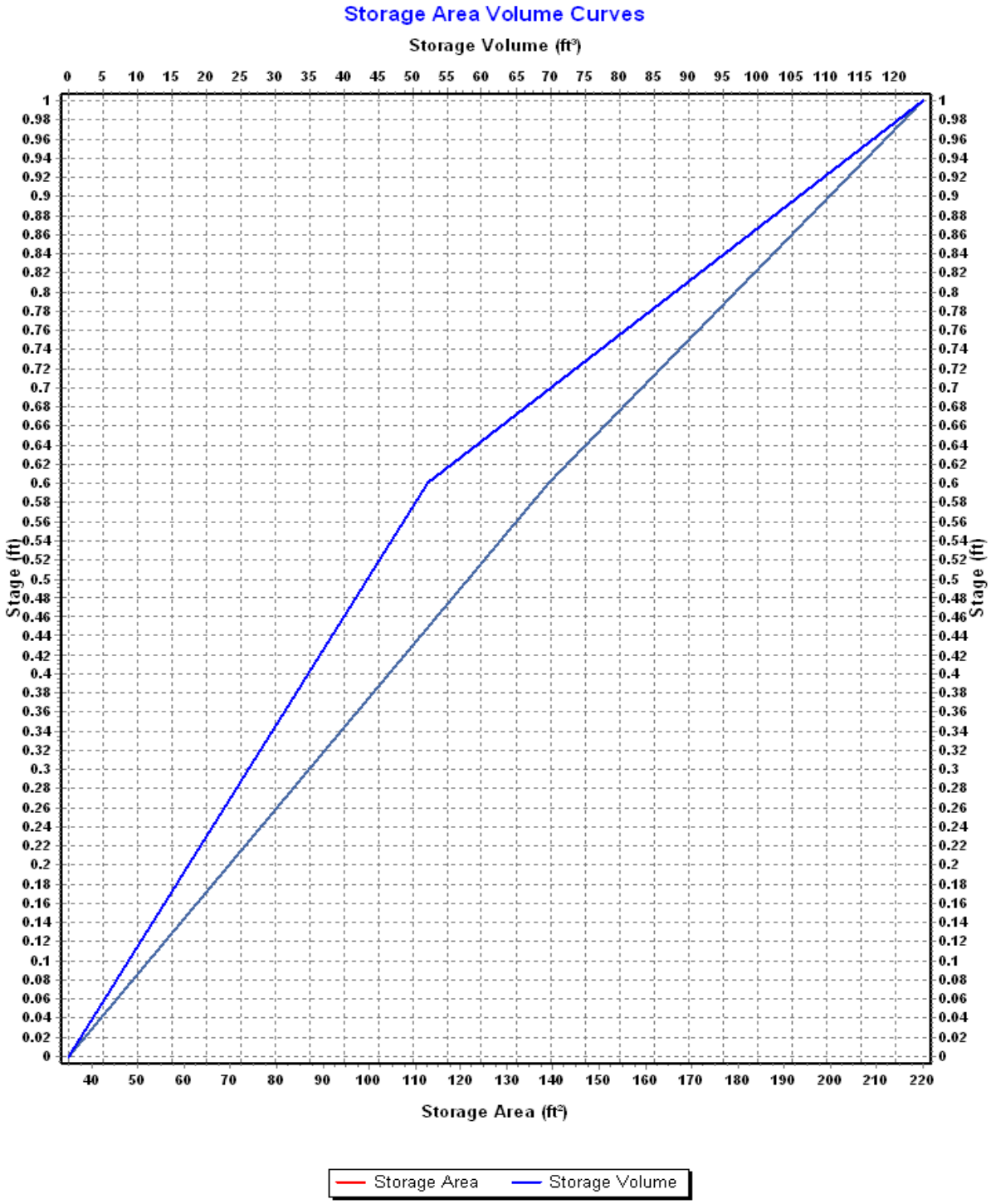
Input Data

Invert Elevation (ft)	118.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-118.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-02 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	35	0.000
.6	139	52.20
1	220	124.00


Storage Area Volume Curves
Storage Volume (ft³)
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-02-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	118.60	0.60	8.00	0.50	3.33
2	Weir-06	Trapezoidal	No	118.75	0.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.65
Peak Lateral Inflow (cfs)	0.65
Peak Outflow (cfs)	0.64
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.68
Max HGL Depth Attained (ft)	0.68
Average HGL Elevation Attained (ft)	118.60
Average HGL Depth Attained (ft)	0.6
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03

Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

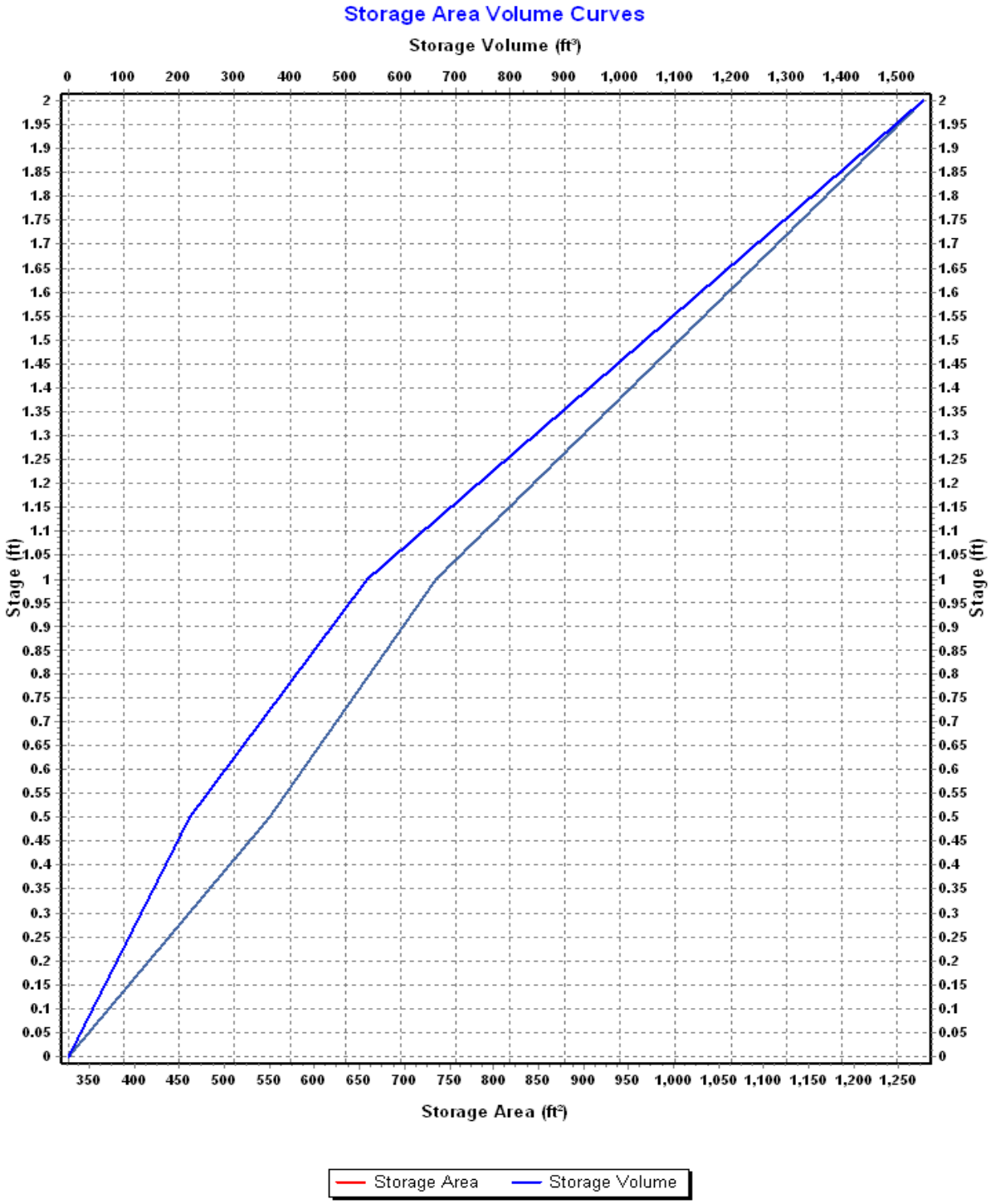
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-03

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	327	0.000
0.5	550	219.25
1	736	540.75
2	1277	1547.25


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200 1,300 1,400 1,500
Stage (ft)
2 1.95 1.9 1.85 1.8 1.75 1.7 1.65 1.6 1.55 1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
350 400 450 500 550 600 650 700 750 800 850 900 950 1,000 1,050 1,100 1,150 1,200 1,250
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33
2	Weir-17	Trapezoidal	No	118.75	1.75	10.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	1.16
Peak Lateral Inflow (cfs)	0.27
Peak Outflow (cfs)	1.11
Peak Exfiltration Flow Rate (cfm)	0.22
Max HGL Elevation Attained (ft)	117.62
Max HGL Depth Attained (ft)	0.62
Average HGL Elevation Attained (ft)	117.44
Average HGL Depth Attained (ft)	0.44
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.267
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-03-Forebay

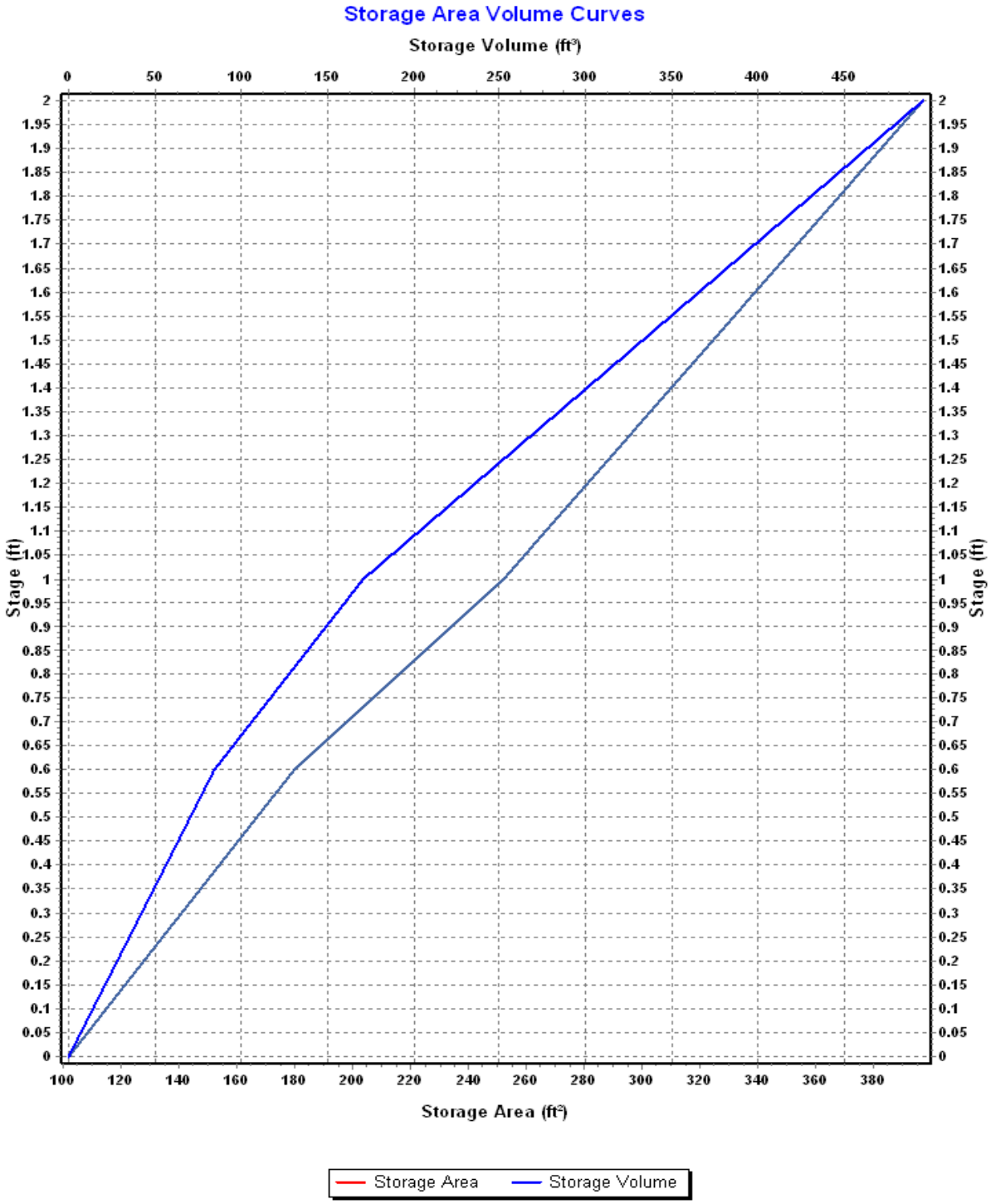
Input Data

Invert Elevation (ft)	117.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-117.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-03 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	102	0.000
0.6	180	84.60
1	252	171.00
2	397	495.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450
Stage (ft)
0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1 1.05 1.1 1.15 1.2 1.25 1.3 1.35 1.4 1.45 1.5 1.55 1.6 1.65 1.7 1.75 1.8 1.85 1.9 1.95 2
100 120 140 160 180 200 220 240 260 280 300 320 340 360 380
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-03-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-07	Trapezoidal	No	117.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.91
Peak Lateral Inflow (cfs)	0.91
Peak Outflow (cfs)	0.89
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.71
Max HGL Depth Attained (ft)	0.71
Average HGL Elevation Attained (ft)	117.60
Average HGL Depth Attained (ft)	0.6
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04

Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

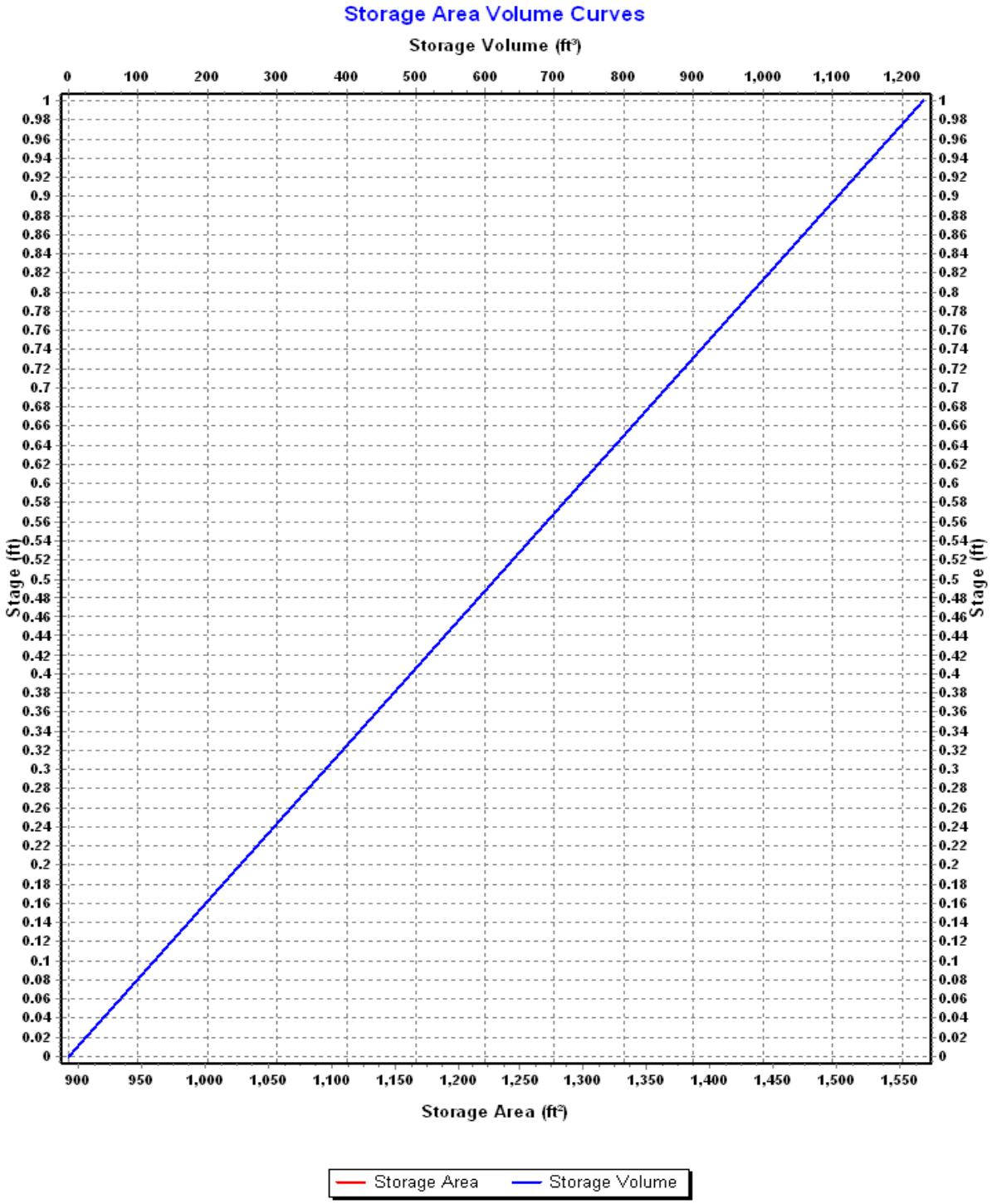
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-04

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	892	0.000
1	1569	1230.50


Storage Area Volume Curves
Storage Volume (ft³)
0 100 200 300 400 500 600 700 800 900 1,000 1,100 1,200
Stage (ft)
0 0.02 0.04 0.06 0.08 0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24 0.26 0.28 0.3 0.32 0.34 0.36 0.38 0.4 0.42 0.44 0.46 0.48 0.5 0.52 0.54 0.56 0.58 0.6 0.62 0.64 0.66 0.68 0.7 0.72 0.74 0.76 0.78 0.8 0.82 0.84 0.86 0.88 0.9 0.92 0.94 0.96 0.98 1
Stage (ft)
900 950 1,000 1,050 1,100 1,150 1,200 1,250 1,300 1,350 1,400 1,450 1,500 1,550
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-14	Trapezoidal	No	114.60	0.60	10.00	0.25	3.33
2	Weir-15	Trapezoidal	No	114.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	2.83
Peak Lateral Inflow (cfs)	0.57
Peak Outflow (cfs)	2.74
Peak Exfiltration Flow Rate (cfm)	0.51
Max HGL Elevation Attained (ft)	114.68
Max HGL Depth Attained (ft)	0.68
Average HGL Elevation Attained (ft)	114.43
Average HGL Depth Attained (ft)	0.43
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.597
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-04-Forebay

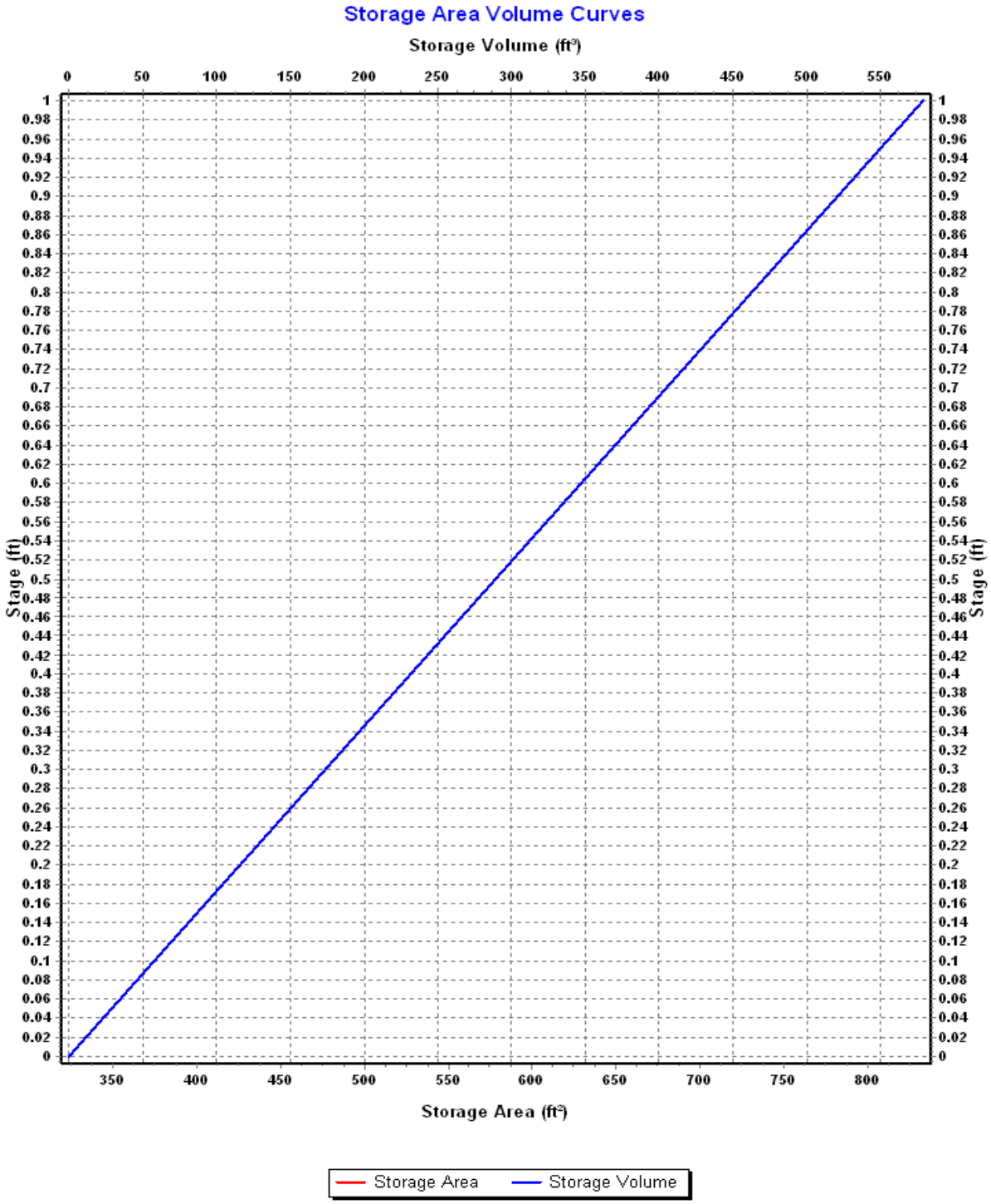
Input Data

Invert Elevation (ft)	114.00
Max (Rim) Elevation (ft)	115.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-114.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : BMP-04 Forebay

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	324	0.000
1	833	578.50


Storage Area Volume Curves
Storage Volume (ft³)
0 50 100 150 200 250 300 350 400 450 500 550
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
350 400 450 500 550 600 650 700 750 800
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-04-Forebay (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-13	Trapezoidal	No	114.60	0.60	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.91
Peak Lateral Inflow (cfs)	0.91
Peak Outflow (cfs)	0.83
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.72
Max HGL Depth Attained (ft)	0.72
Average HGL Elevation Attained (ft)	114.56
Average HGL Depth Attained (ft)	0.56
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : BMP-05

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	114.00
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

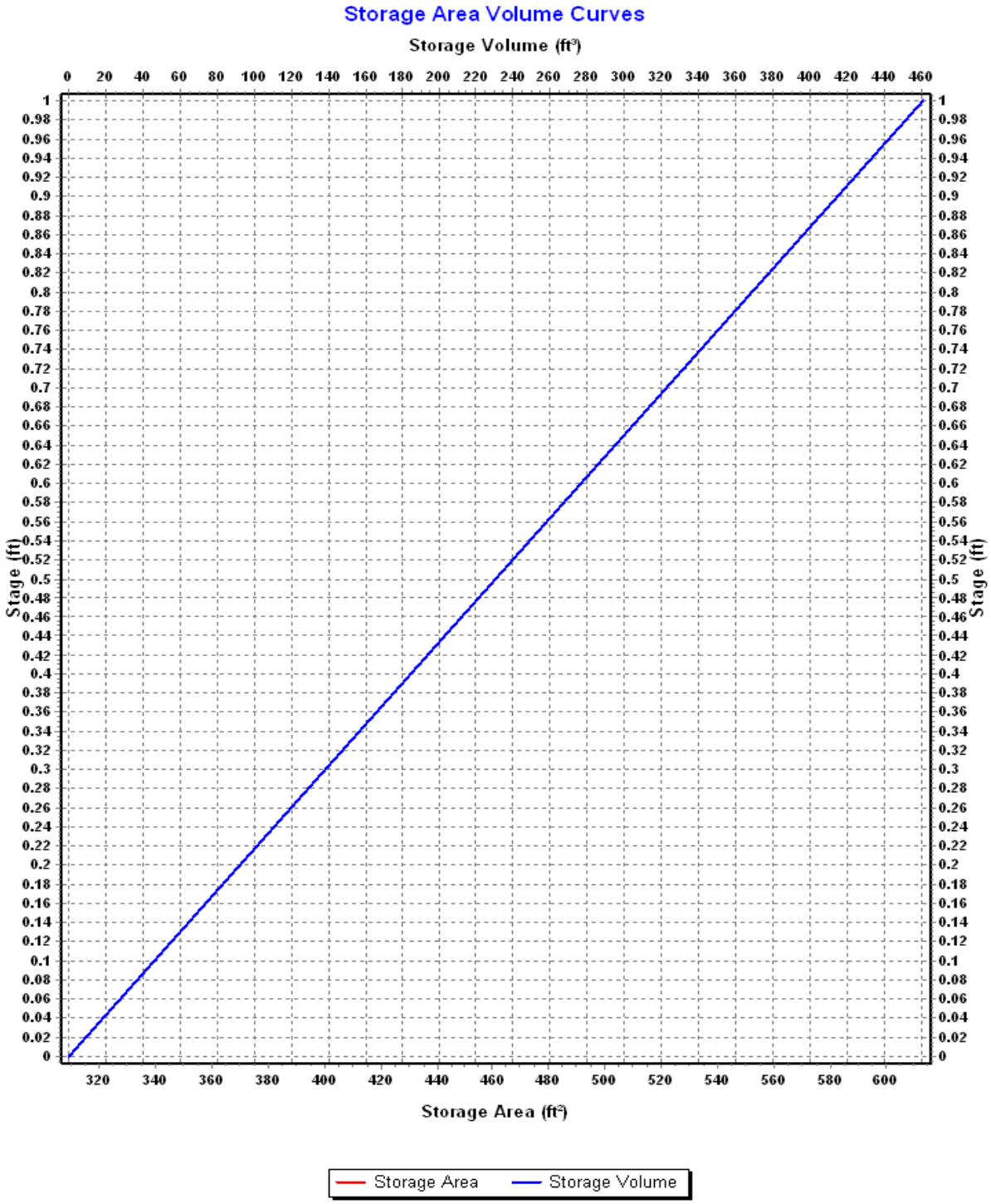
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : BMP-05

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	309	0.000
1	613	461.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
Stage (ft)
320 340 360 380 400 420 440 460 480 500 520 540 560 580 600
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : BMP-05 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-16	Trapezoidal	No	113.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.68
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.66
Peak Exfiltration Flow Rate (cfm)	0.18
Max HGL Elevation Attained (ft)	113.58
Max HGL Depth Attained (ft)	0.58
Average HGL Elevation Attained (ft)	113.43
Average HGL Depth Attained (ft)	0.43
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.225
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-01

Input Data

Invert Elevation (ft)	113.00
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.17
Peak Lateral Inflow (cfs)	0.65
Peak Outflow (cfs)	1.16
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.41
Max HGL Depth Attained (ft)	4.41
Average HGL Elevation Attained (ft)	117.03
Average HGL Depth Attained (ft)	4.03
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	113.15
Max (Rim) Elevation (ft)	120.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-113.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.52
Peak Lateral Inflow (cfs)	0.52
Peak Outflow (cfs)	0.52
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.54
Max HGL Depth Attained (ft)	4.39
Average HGL Elevation Attained (ft)	117.13
Average HGL Depth Attained (ft)	3.98
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	112.15
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.46
Peak Lateral Inflow (cfs)	0.46
Peak Outflow (cfs)	0.46
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.86
Max HGL Depth Attained (ft)	4.71
Average HGL Elevation Attained (ft)	116.12
Average HGL Depth Attained (ft)	3.97
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-04

Input Data

Invert Elevation (ft)	112.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.00
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.99
Peak Lateral Inflow (cfs)	1.55
Peak Outflow (cfs)	1.98
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.84
Max HGL Depth Attained (ft)	4.84
Average HGL Elevation Attained (ft)	116.17
Average HGL Depth Attained (ft)	4.17
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-05

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.10
Peak Lateral Inflow (cfs)	0.39
Peak Outflow (cfs)	1.10
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.89
Max HGL Depth Attained (ft)	4.39
Average HGL Elevation Attained (ft)	115.46
Average HGL Depth Attained (ft)	3.96
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-06

Input Data

Invert Elevation (ft)	111.65
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.72
Peak Lateral Inflow (cfs)	0.72
Peak Outflow (cfs)	0.71
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	116.11
Max HGL Depth Attained (ft)	4.46
Average HGL Elevation Attained (ft)	115.69
Average HGL Depth Attained (ft)	4.04
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-07

Input Data

Invert Elevation (ft)	108.65
Max (Rim) Elevation (ft)	115.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-108.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.72
Peak Lateral Inflow (cfs)	0.72
Peak Outflow (cfs)	0.68
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.70
Max HGL Depth Attained (ft)	6.05
Average HGL Elevation Attained (ft)	113.40
Average HGL Depth Attained (ft)	4.75
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-01

Input Data

Invert Elevation (ft)	109.90
Max (Rim) Elevation (ft)	116.90
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-109.90
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.39
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.37
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	114.66
Max HGL Depth Attained (ft)	4.76
Average HGL Elevation Attained (ft)	113.41
Average HGL Depth Attained (ft)	3.51
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-02

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	118.50
Max (Rim) Offset (ft)	7.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.85
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.85
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.98
Max HGL Depth Attained (ft)	4.48
Average HGL Elevation Attained (ft)	114.36
Average HGL Depth Attained (ft)	2.86
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-03

Input Data

Invert Elevation (ft)	111.50
Max (Rim) Elevation (ft)	117.50
Max (Rim) Offset (ft)	6.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-111.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.11
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.11
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	115.05
Max HGL Depth Attained (ft)	3.55
Average HGL Elevation Attained (ft)	113.94
Average HGL Depth Attained (ft)	2.44
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	107.65
Max (Rim) Elevation (ft)	114.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.65
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.02
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	2.02
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	112.18
Max HGL Depth Attained (ft)	4.53
Average HGL Elevation Attained (ft)	110.67
Average HGL Depth Attained (ft)	3.02
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-05

Input Data

Invert Elevation (ft)	107.00
Max (Rim) Elevation (ft)	113.50
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-107.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.66
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.65
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	111.92
Max HGL Depth Attained (ft)	4.92
Average HGL Elevation Attained (ft)	110.06
Average HGL Depth Attained (ft)	3.06
Time of Max HGL Occurrence (days hh:mm)	0 12:11
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Treebox_Filter

Input Data

Invert Elevation (ft)	112.50
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	6.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-112.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Output Summary Results

Peak Inflow (cfs)	1.98
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.98
Peak Exfiltration Flow Rate (cfm)	0.02
Max HGL Elevation Attained (ft)	116.36
Max HGL Depth Attained (ft)	3.86
Average HGL Elevation Attained (ft)	115.90
Average HGL Depth Attained (ft)	3.4
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.026
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-A

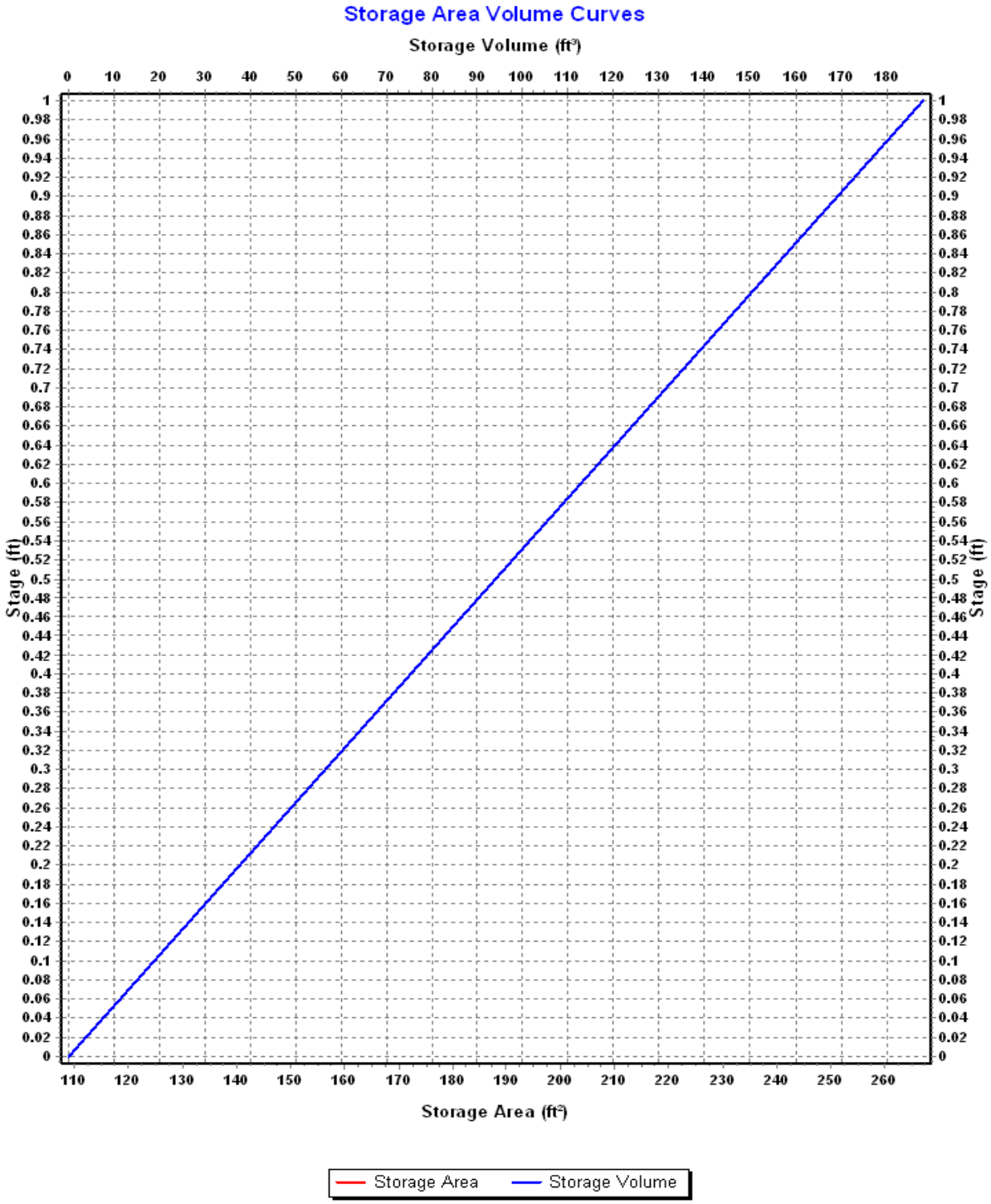
Input Data

Invert Elevation (ft) 118.00
Max (Rim) Elevation (ft) 119.00
Max (Rim) Offset (ft) 1.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -118.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : WQS-A

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	109	0.000
1	267	188.00


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : WQS-A (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-11	Trapezoidal	No	118.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.59
Peak Lateral Inflow (cfs)	0.59
Peak Outflow (cfs)	0.58
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	118.58
Max HGL Depth Attained (ft)	0.58
Average HGL Elevation Attained (ft)	118.50
Average HGL Depth Attained (ft)	0.5
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : WQS-B

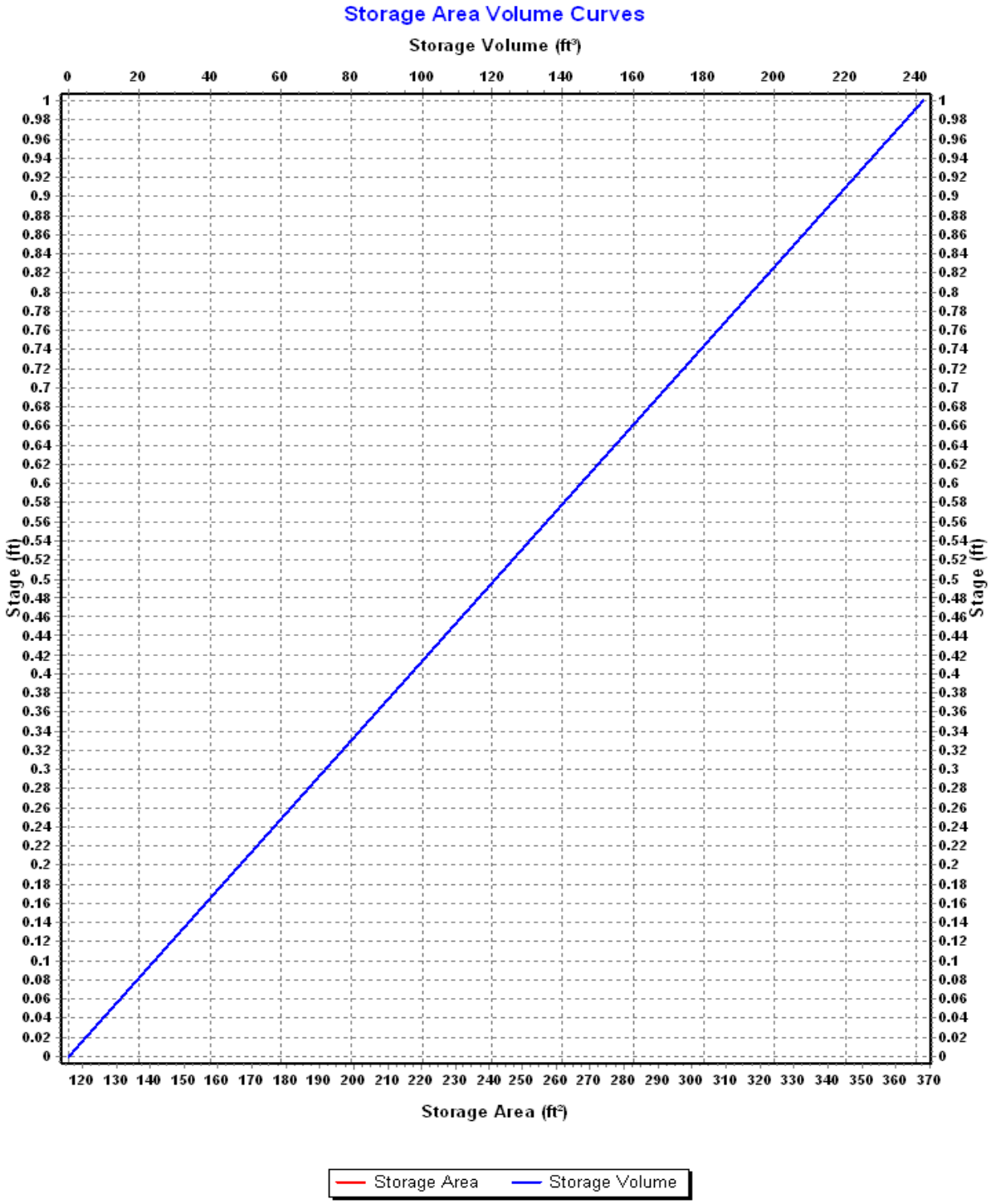
Input Data

Invert Elevation (ft) 117.00
Max (Rim) Elevation (ft) 118.00
Max (Rim) Offset (ft) 1.00
Initial Water Elevation (ft) 0.00
Initial Water Depth (ft) ..... -117.00
Ponded Area (ft²) 0.00
Evaporation Loss 0.00

Storage Area Volume Curves

Storage Curve : WQS-B

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	116	0.000
1	368	242.00


Storage Area Volume Curves
Storage Volume (ft³)
0 20 40 60 80 100 120 140 160 180 200 220 240
Stage (ft)
1 0.98 0.96 0.94 0.92 0.9 0.88 0.86 0.84 0.82 0.8 0.78 0.76 0.74 0.72 0.7 0.68 0.66 0.64 0.62 0.6 0.58 0.56 0.54 0.52 0.5 0.48 0.46 0.44 0.42 0.4 0.38 0.36 0.34 0.32 0.3 0.28 0.26 0.24 0.22 0.2 0.18 0.16 0.14 0.12 0.1 0.08 0.06 0.04 0.02 0
120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : WQS-B (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-12	Trapezoidal	No	117.50	0.50	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.58
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.57
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	117.58
Max HGL Depth Attained (ft)	0.58
Average HGL Elevation Attained (ft)	117.45
Average HGL Depth Attained (ft)	0.45
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

SSA Model Inputs and Outputs

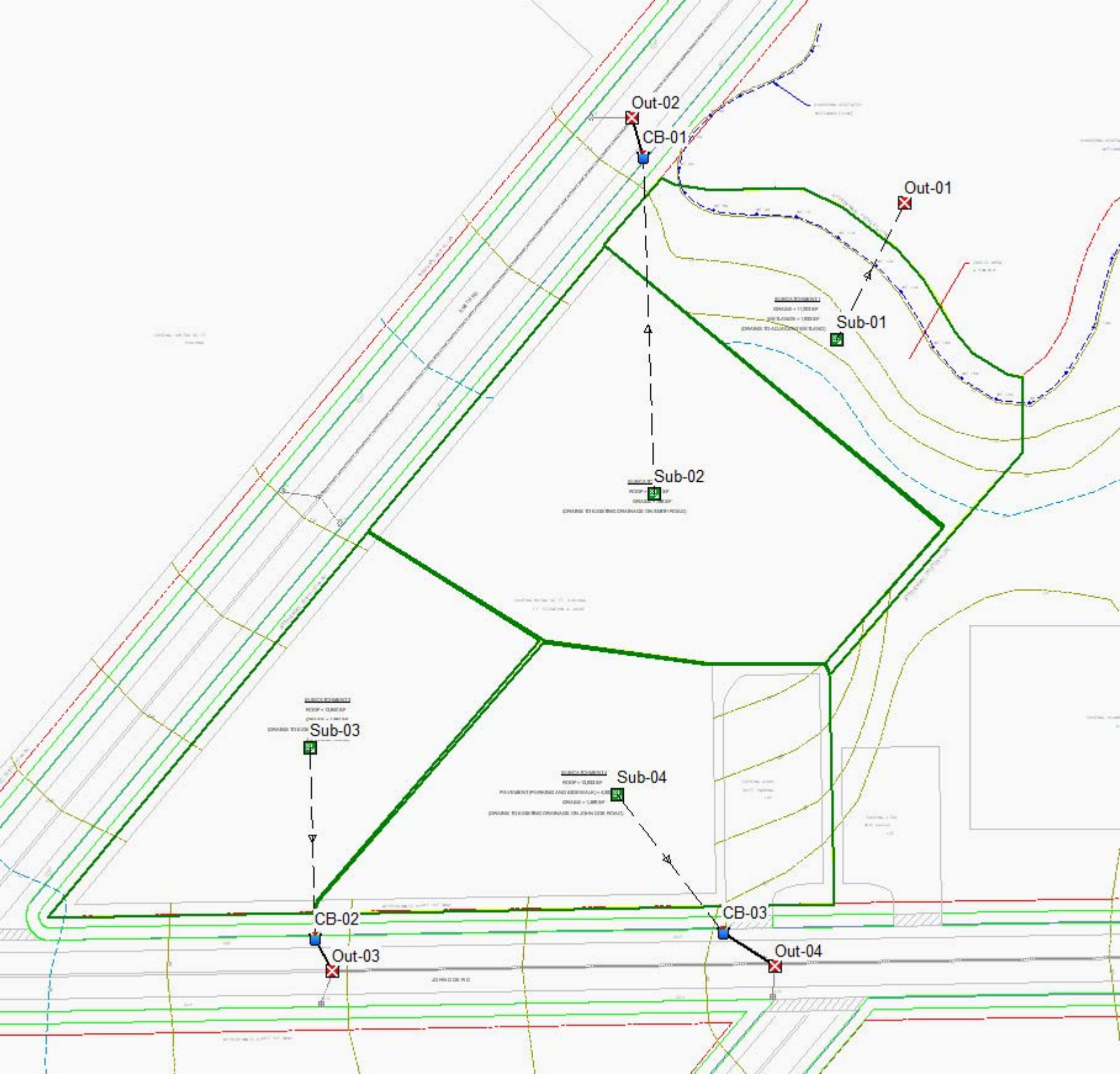
for

Scenario 3

Existing Conditions

Output List

- Model Schematic with Labels
- 2-year SCS Type III
- 2-year NOAA Atlas 14
- 2-year NOAA Atlas 14+
- 100-year SCS Type III
- 100-year NOAA Atlas 14
- 100-year NOAA Atlas 14+


Out-02
CB-01
Out-01
Sub-01
Sub-02
Sub-03
Sub-04
CB-02
CB-03
Out-03
Out-04

Project Description

File Name ..... Scen 3 Existing Conditions Model_2020 09 24.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	4
Nodes	7
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	3
Links	3
Channels	0
Pipes	3
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.30	484.00	72.68	3.10	0.90	0.27	0.24	0 00:10:43
2	Sub-02	0.56	484.00	97.23	3.10	2.78	1.56	0.82	0 00:43:35
3	Sub-03	0.35	484.00	95.54	3.10	2.60	0.92	0.54	0 00:36:31
4	Sub-04	0.43	484.00	96.11	3.10	2.66	1.15	0.77	0 00:26:54

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	21.00					0.24	21.00					
2	Out-02	Outfall	18.00					0.82	18.00					
3	Out-03	Outfall	21.00					0.53	21.00					
4	Out-04	Outfall	20.00					0.76	20.00					
5	CB-01	Storage Node	15.65	22.50	0.00		1000.00	0.82	19.98				0.00	0.00
6	CB-02	Storage Node	21.15	28.00	0.00		1000.00	0.53	25.48				0.00	0.00
7	CB-03	Storage Node	19.15	26.00	0.00		1000.00	0.76	23.58				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	Out-02	21.91	19.65	19.20	2.0500	18.000	0.0200	0.82	9.79	0.08	3.09	0.31	0.21	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	15.73	25.15	25.00	0.9500	18.000	0.0200	0.53	6.67	0.08	2.16	0.30	0.20	0.00	Calculated
3	Link-03	Pipe	CB-03	Out-04	25.99	23.15	23.00	0.5800	18.000	0.0200	0.76	5.19	0.15	2.17	0.38	0.25	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.30
Peak Rate Factor 484.00
Weighted Curve Number 72.68
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.26	C	74.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.30		72.68

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

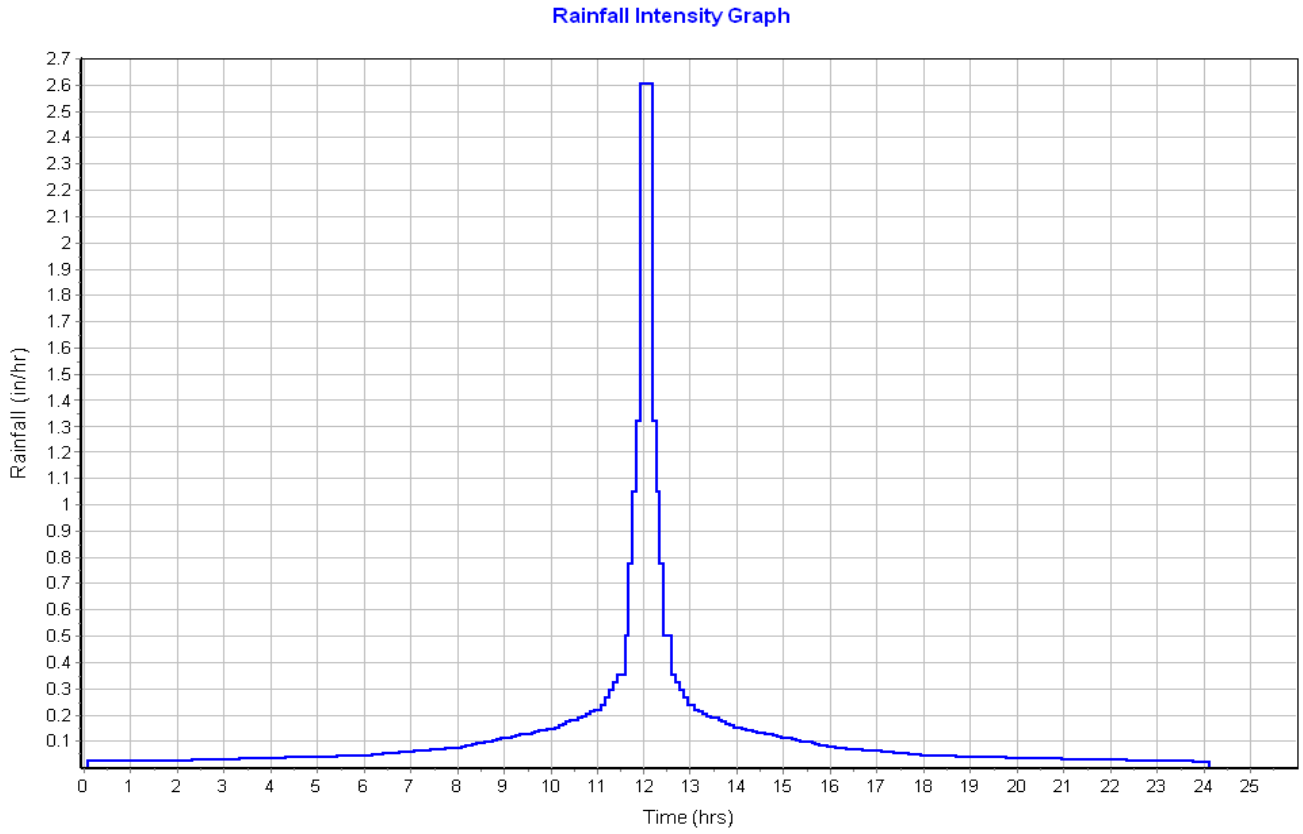
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	69.04	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.16	0.05	0.00
Computed Flow Time (min) :	7.28	3.45	0.00

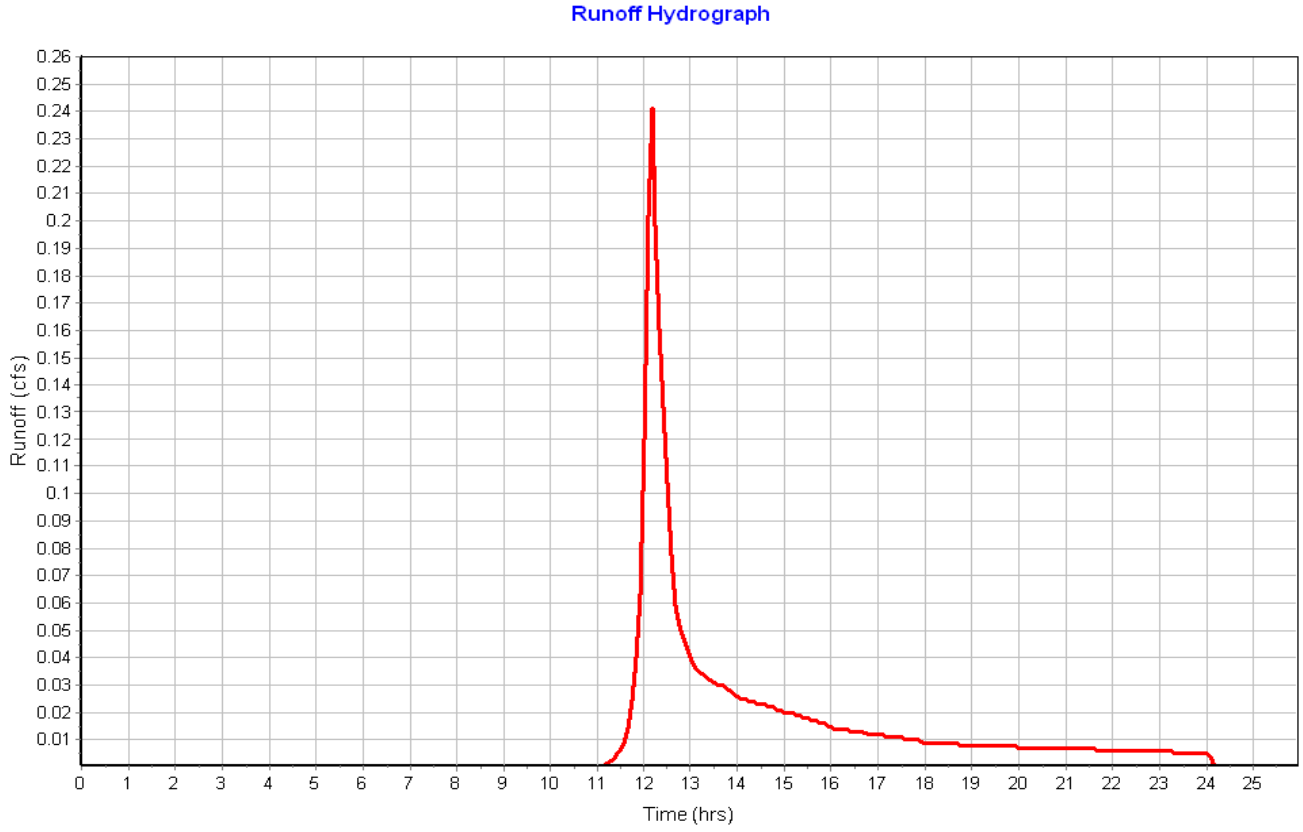
Total TOC (min) 10.73

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	0.90
Peak Runoff (cfs)	0.24
Weighted Curve Number	72.68
Time of Concentration (days hh:mm:ss)	0 00:10:44

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.56
Peak Rate Factor	484.00
Weighted Curve Number	97.23
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.54	C	98.00
> 75% grass cover, Good	0.02	C	74.00
Composite Area & Weighted CN	0.56		97.23

Time of Concentration

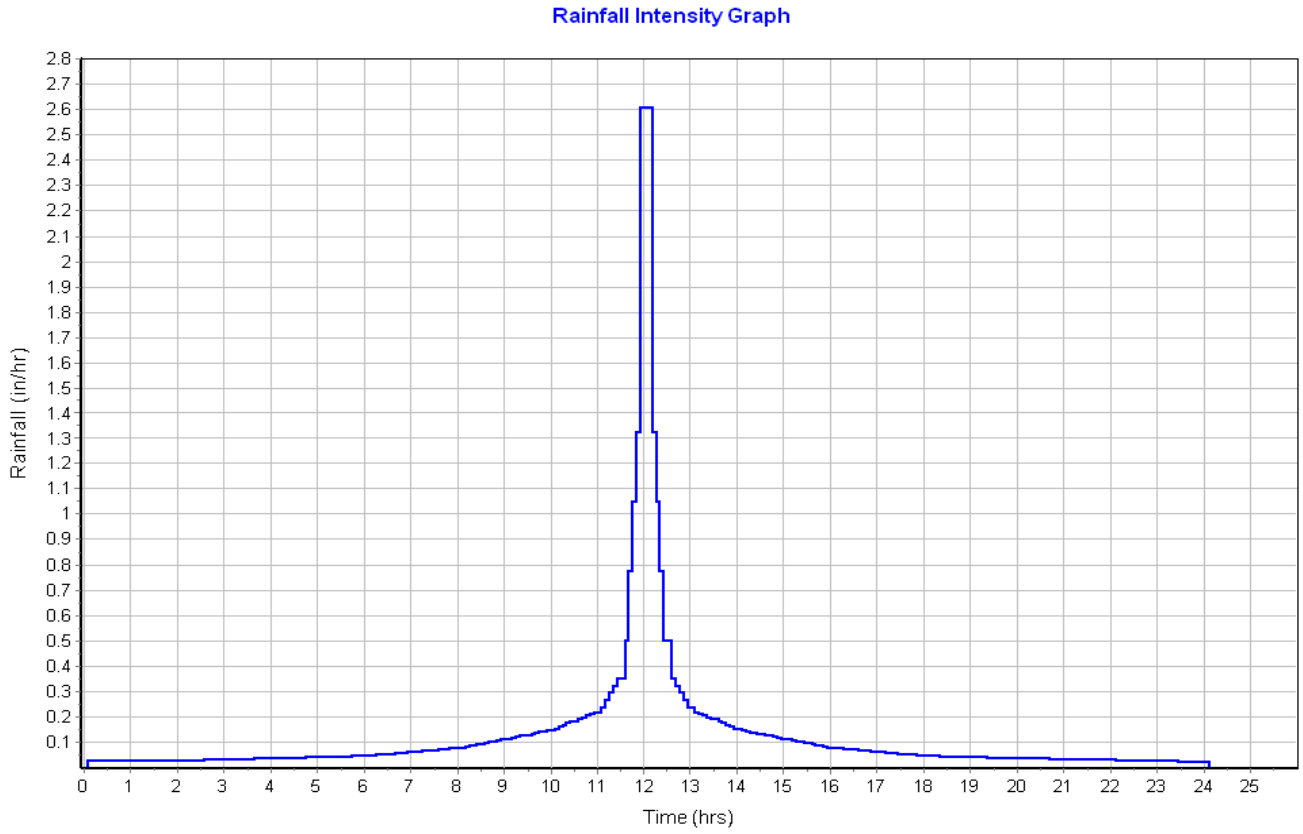
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	270.84	136.94	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.20	0.11	0.00
Computed Flow Time (min) :	22.35	21.24	0.00

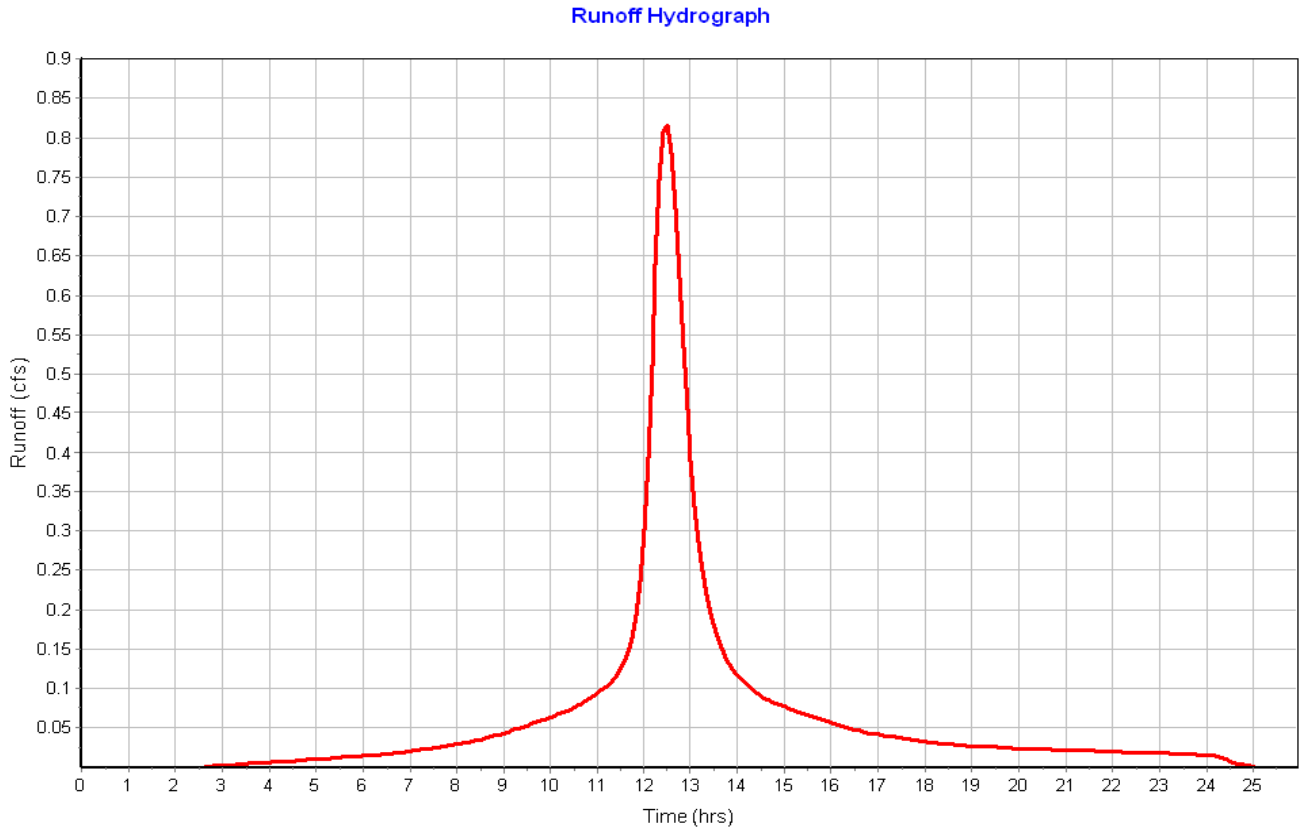
Total TOC (min) 43.59

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.78
Peak Runoff (cfs)	0.82
Weighted Curve Number	97.23
Time of Concentration (days hh:mm:ss)	0 00:43:35

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.35
Peak Rate Factor	484.00
Weighted Curve Number	95.54
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.32	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.36		95.54

Time of Concentration

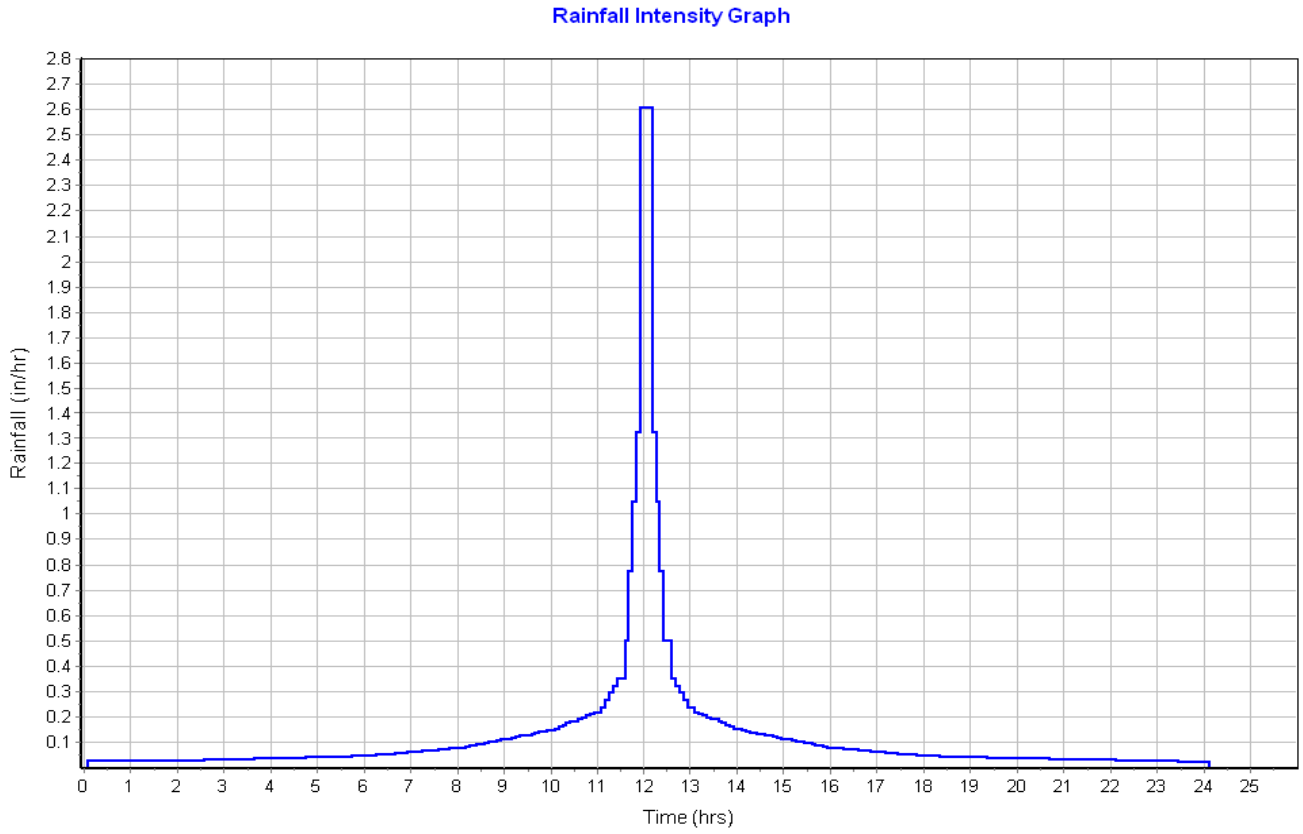
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	227	104.60	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.19	0.10	0.00
Computed Flow Time (min) :	19.41	17.12	0.00

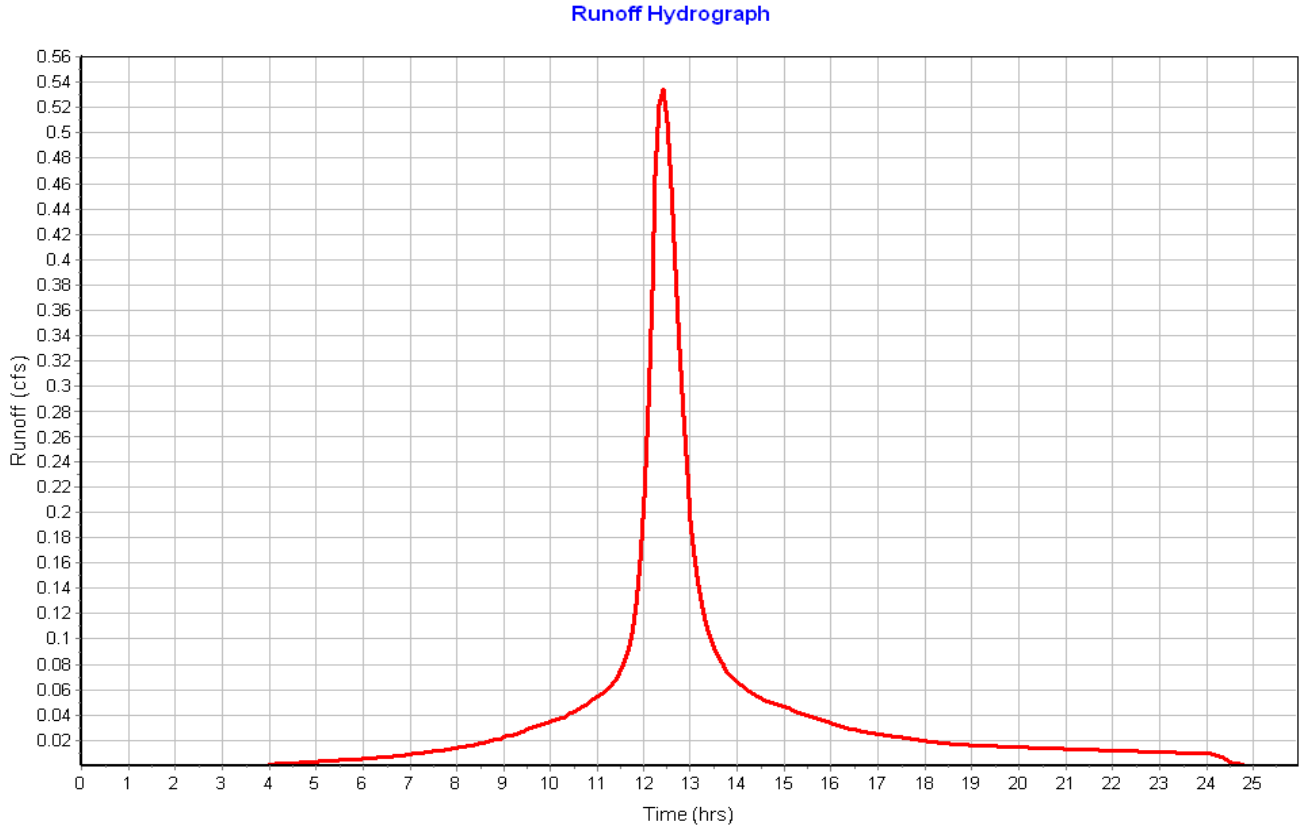
Total TOC (min) 36.53

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.60
Peak Runoff (cfs)	0.54
Weighted Curve Number	95.54
Time of Concentration (days hh:mm:ss)	0 00:36:32

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.43
Peak Rate Factor 484.00
Weighted Curve Number 96.11
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.29	C	98.00
Paved parking & roofs	0.10	C	98.00
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.42		96.11

Time of Concentration

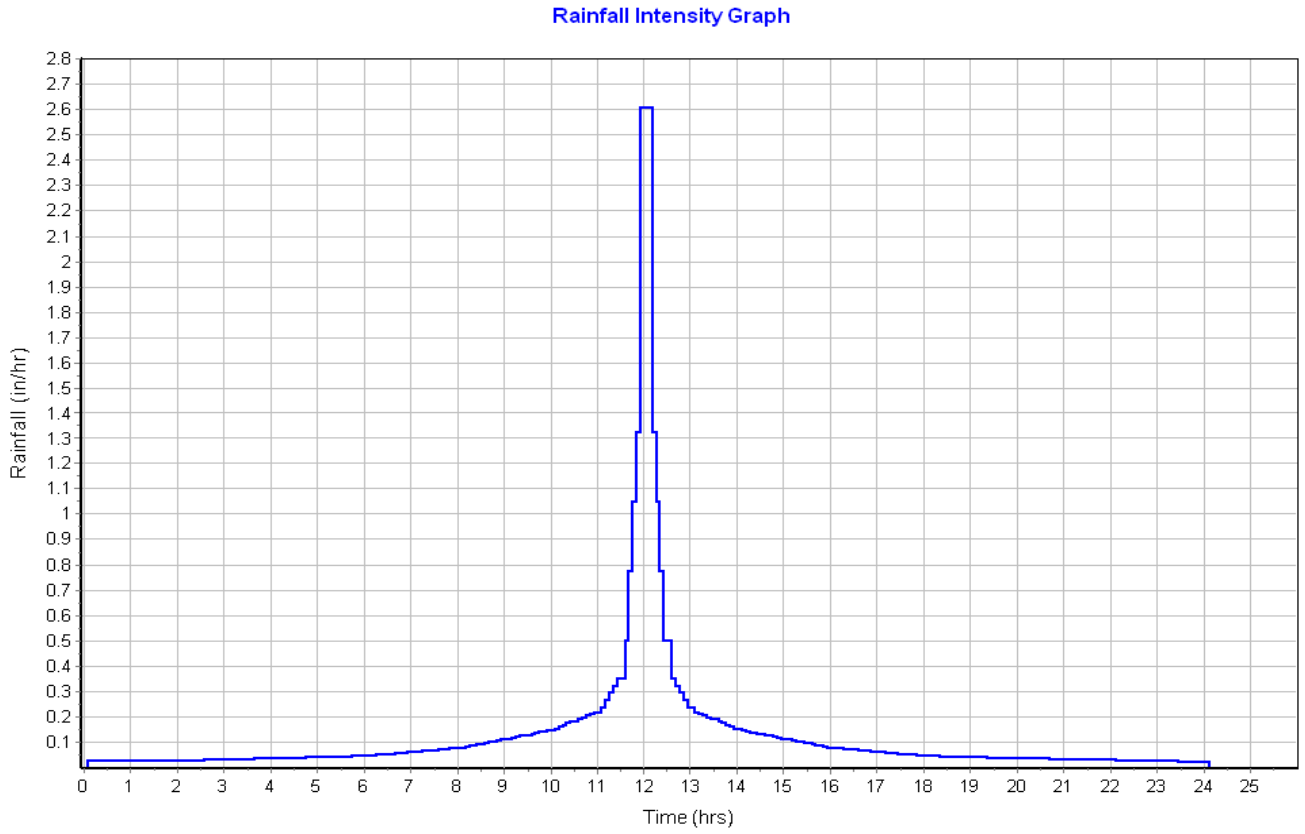
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	.01
Flow Length (ft) :	142.89	100	105.19
Slope (%) :	1	3	3
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	0.18	0.13	1.77
Computed Flow Time (min) :	13.40	12.52	0.99

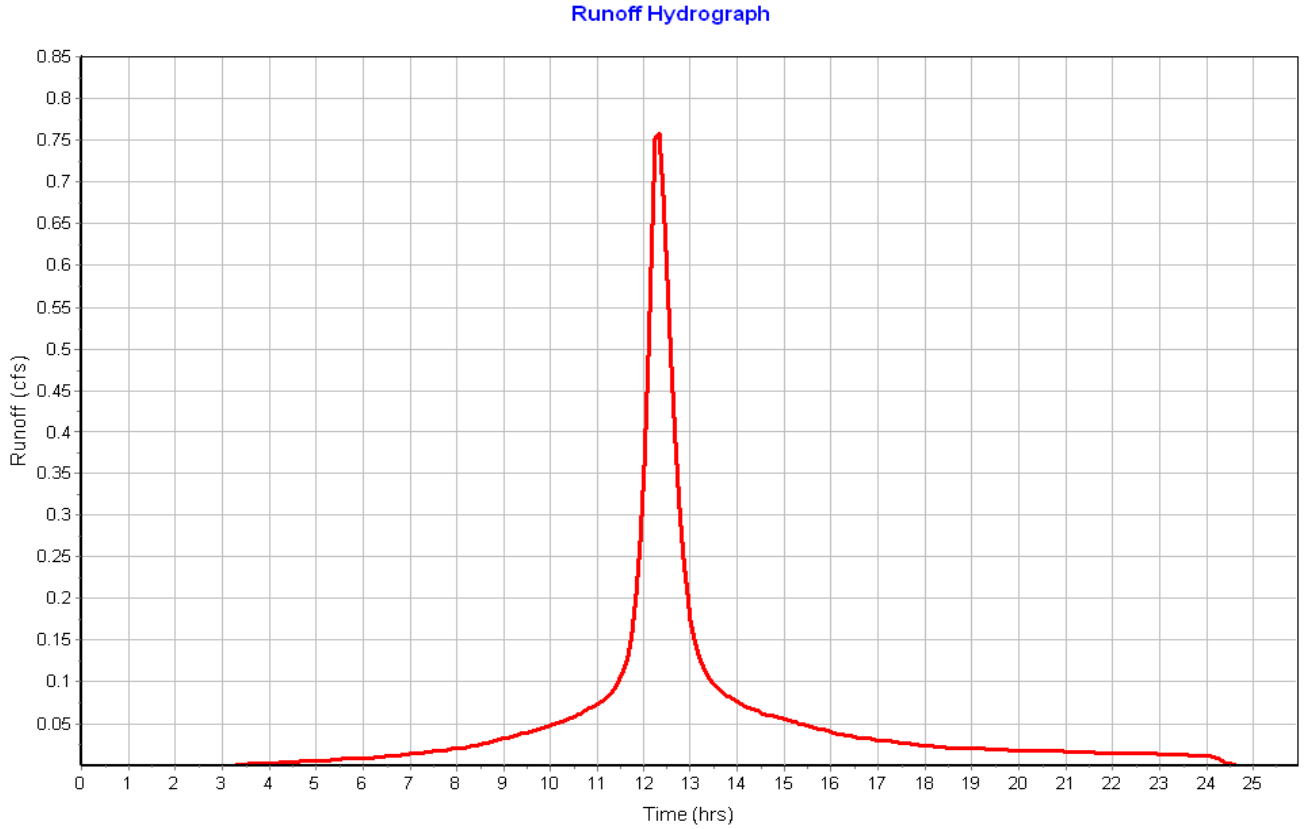
Total TOC (min) 26.91

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.66
Peak Runoff (cfs) 0.77
Weighted Curve Number 96.11
Time of Concentration (days hh:mm:ss) 0 00:26:55

Subbasin : Sub-04





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	21.91	19.65	4.00	19.20	1.20	0.45	2.0500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	15.73	25.15	4.00	25.00	4.00	0.15	0.9500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	25.99	23.15	4.00	23.00	3.00	0.15	0.5800	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.82	0 12:35	9.79	0.08	3.09	0.12	0.31	0.21	0.00		Calculated
2	Link-02	0.53	0 12:30	6.67	0.08	2.16	0.12	0.30	0.20	0.00		Calculated
3	Link-03	0.76	0 12:25	5.19	0.15	2.17	0.20	0.38	0.25	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	15.65
Max (Rim) Elevation (ft)	22.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-15.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.82
Peak Lateral Inflow (cfs)	0.82
Peak Outflow (cfs)	0.82
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	19.98
Max HGL Depth Attained (ft)	4.33
Average HGL Elevation Attained (ft)	19.27
Average HGL Depth Attained (ft)	3.62
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.53
Peak Lateral Inflow (cfs)	0.53
Peak Outflow (cfs)	0.53
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.48
Max HGL Depth Attained (ft)	4.33
Average HGL Elevation Attained (ft)	24.57
Average HGL Depth Attained (ft)	3.42
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	19.15
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-19.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.76
Peak Lateral Inflow (cfs)	0.76
Peak Outflow (cfs)	0.76
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	23.58
Max HGL Depth Attained (ft)	4.43
Average HGL Elevation Attained (ft)	22.69
Average HGL Depth Attained (ft)	3.54
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scen 3 Existing Conditions Model_2020 09 24.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	4
Nodes	7
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	3
Links	3
Channels	0
Pipes	3
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.30	484.00	72.68	3.21	0.97	0.29	0.28	0 00:10:43
2	Sub-02	0.56	484.00	97.23	3.21	2.89	1.62	0.79	0 00:43:35
3	Sub-03	0.35	484.00	95.54	3.21	2.71	0.96	0.52	0 00:36:31
4	Sub-04	0.43	484.00	96.11	3.21	2.77	1.20	0.76	0 00:26:54

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	21.00					0.28	21.00					
2	Out-02	Outfall	18.00					0.79	18.00					
3	Out-03	Outfall	21.00					0.52	21.00					
4	Out-04	Outfall	20.00					0.75	20.00					
5	CB-01	Storage Node	15.65	22.50	0.00		1000.00	0.79	19.97				0.00	0.00
6	CB-02	Storage Node	21.15	28.00	0.00		1000.00	0.52	25.47				0.00	0.00
7	CB-03	Storage Node	19.15	26.00	0.00		1000.00	0.75	23.58				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	Out-02	21.91	19.65	19.20	2.0500	18.000	0.0200	0.79	9.79	0.08	3.07	0.30	0.20	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	15.73	25.15	25.00	0.9500	18.000	0.0200	0.52	6.67	0.08	2.13	0.29	0.20	0.00	Calculated
3	Link-03	Pipe	CB-03	Out-04	25.99	23.15	23.00	0.5800	18.000	0.0200	0.75	5.19	0.15	2.16	0.38	0.25	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.30
Peak Rate Factor 484.00
Weighted Curve Number 72.68
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.26	C	74.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.30		72.68

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

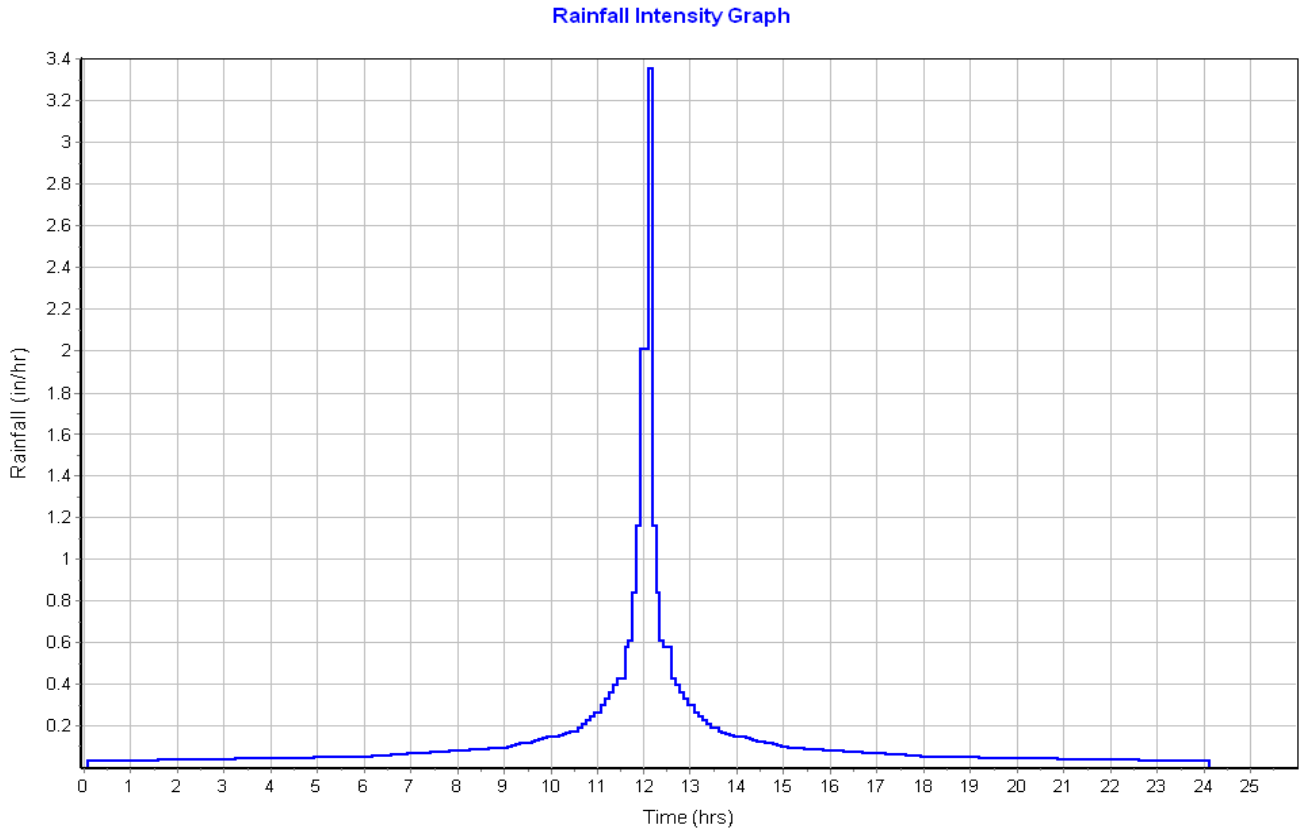
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	69.04	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.16	0.05	0.00
Computed Flow Time (min) :	7.28	3.45	0.00

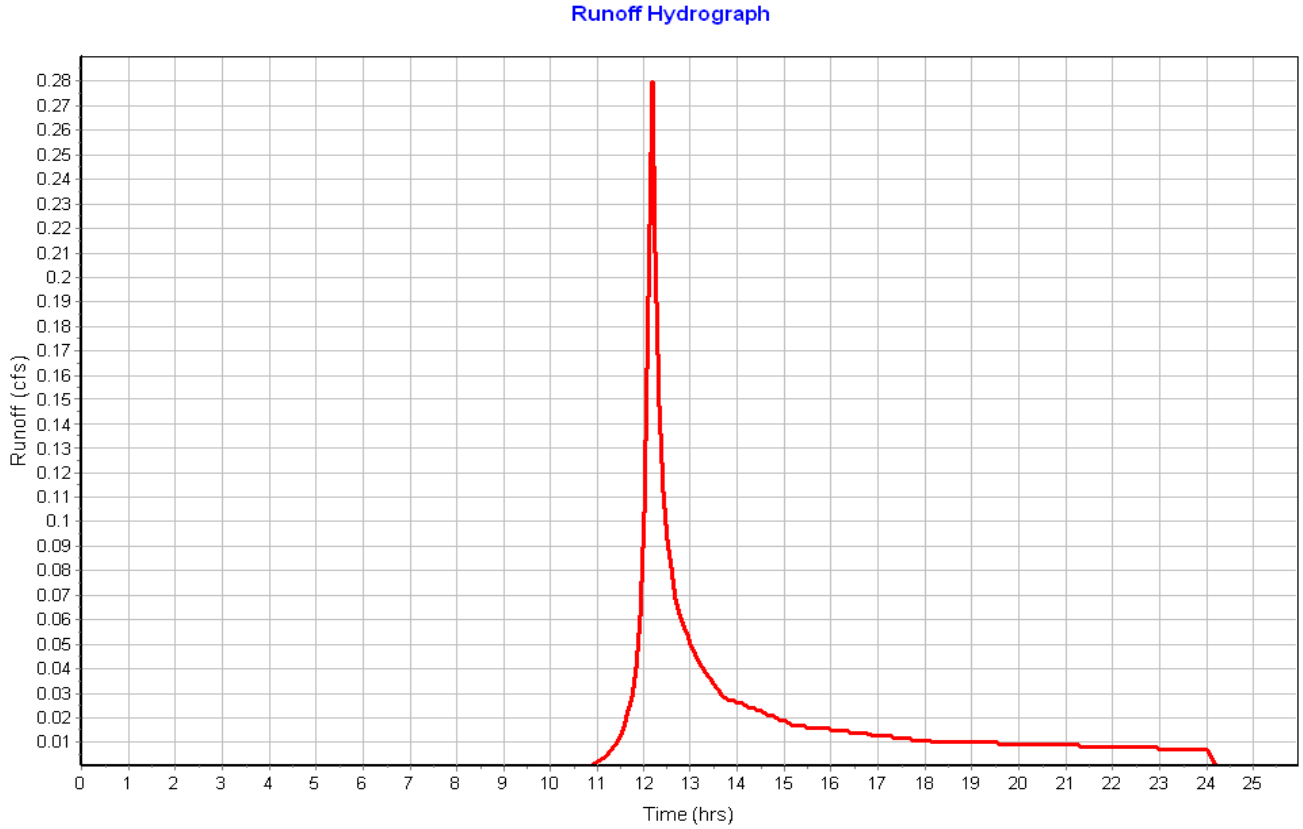
Total TOC (min) 10.73

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	0.97
Peak Runoff (cfs)	0.28
Weighted Curve Number	72.68
Time of Concentration (days hh:mm:ss)	0 00:10:44

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.56
Peak Rate Factor	484.00
Weighted Curve Number	97.23
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.54	C	98.00
> 75% grass cover, Good	0.02	C	74.00
Composite Area & Weighted CN	0.56		97.23

Time of Concentration

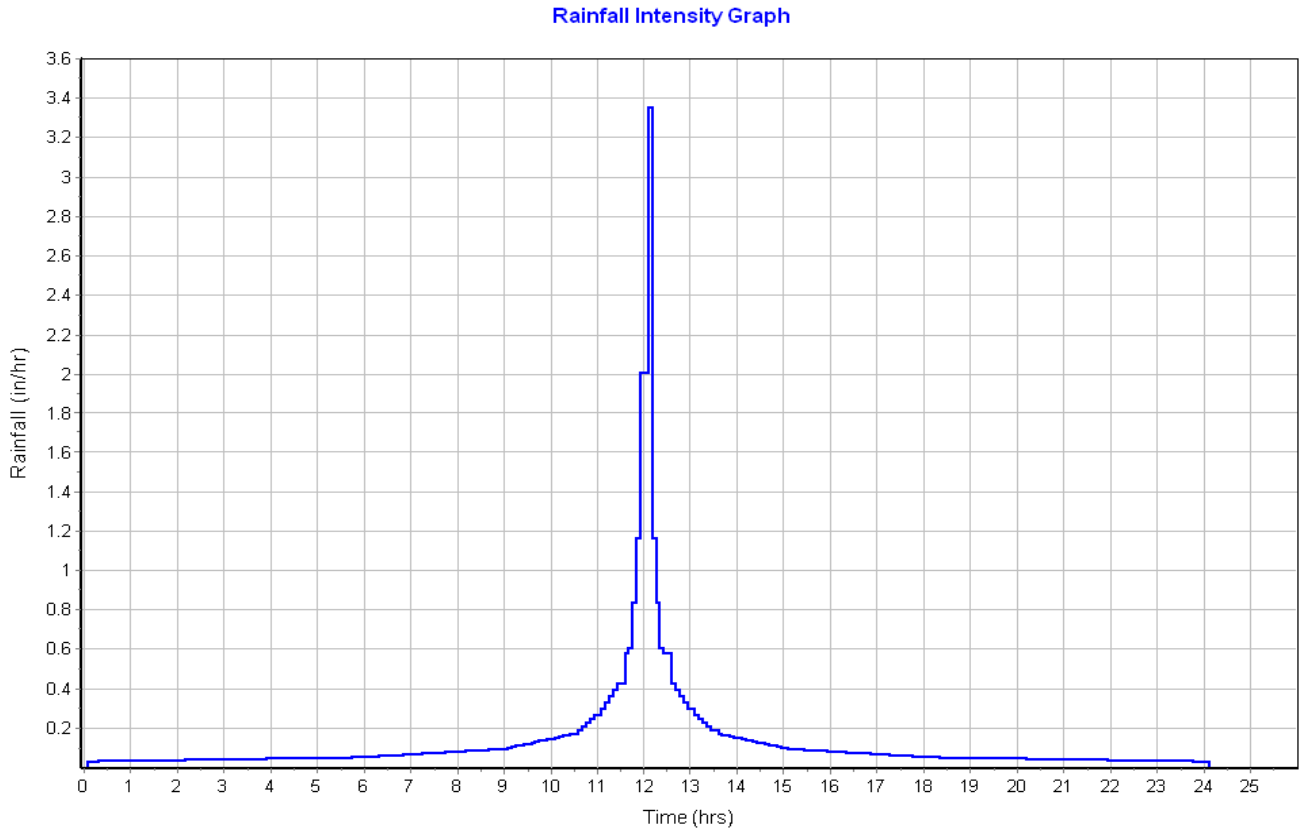
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	270.84	136.94	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.20	0.11	0.00
Computed Flow Time (min) :	22.35	21.24	0.00

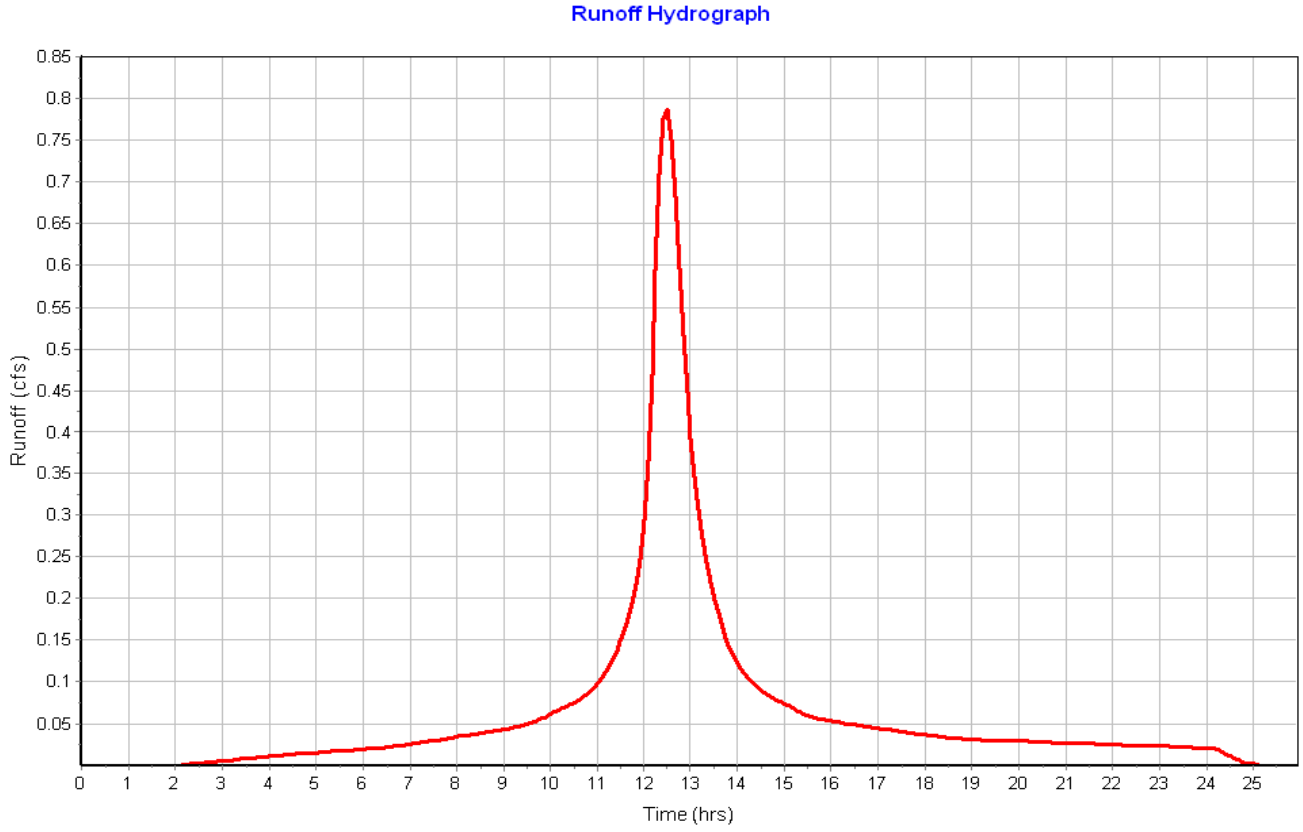
Total TOC (min) 43.59

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.89
Peak Runoff (cfs)	0.79
Weighted Curve Number	97.23
Time of Concentration (days hh:mm:ss)	0 00:43:35

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.35
Peak Rate Factor	484.00
Weighted Curve Number	95.54
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.32	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.36		95.54

Time of Concentration

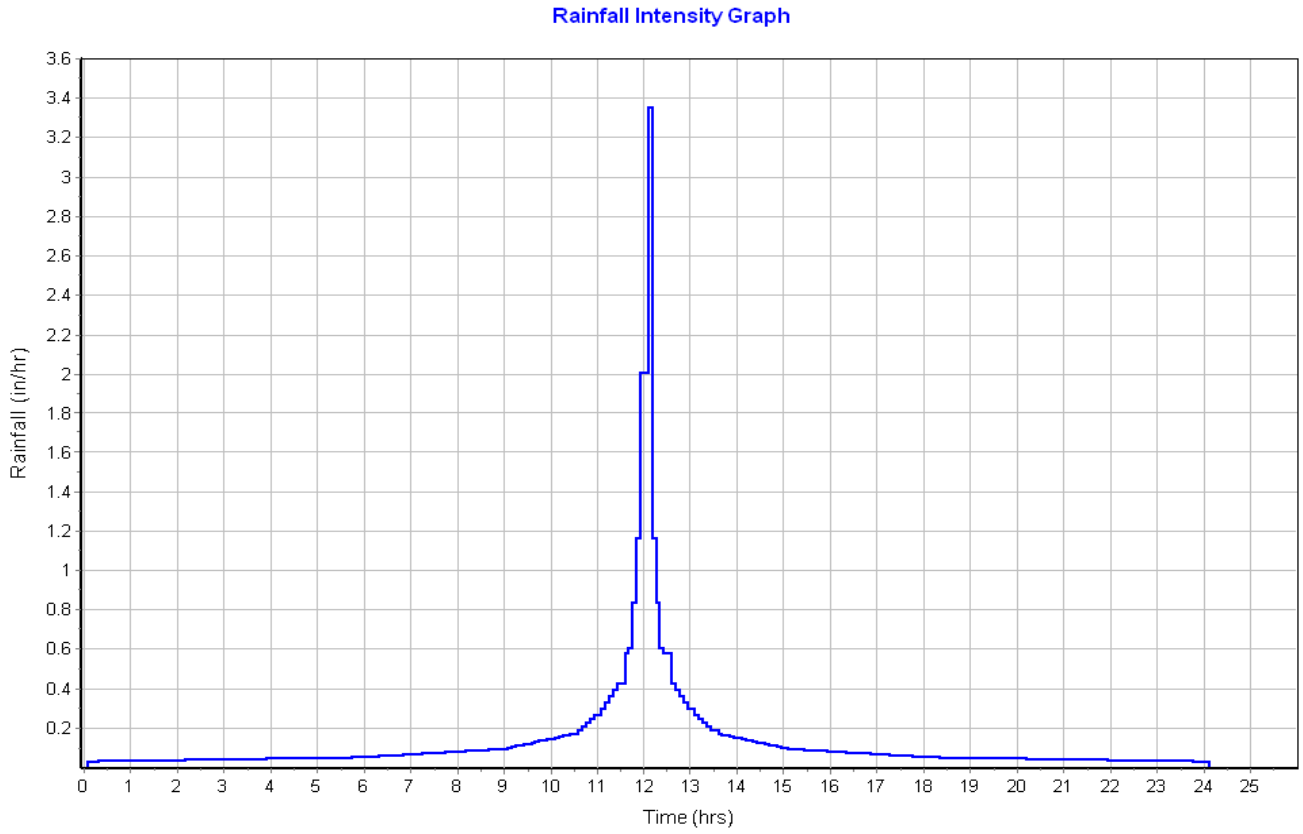
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	227	104.60	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.19	0.10	0.00
Computed Flow Time (min) :	19.41	17.12	0.00

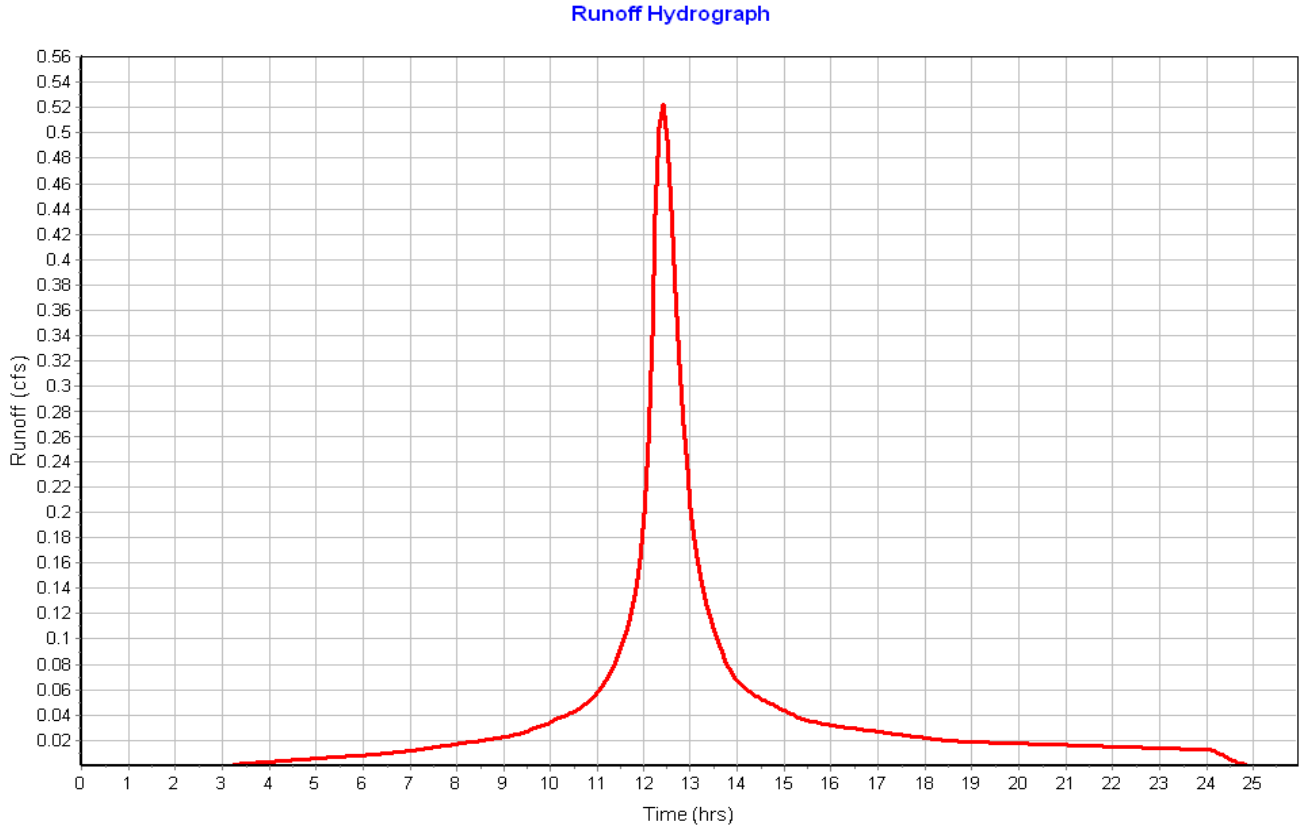
Total TOC (min) 36.53

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.71
Peak Runoff (cfs)	0.52
Weighted Curve Number	95.54
Time of Concentration (days hh:mm:ss)	0 00:36:32

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.43
Peak Rate Factor 484.00
Weighted Curve Number 96.11
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.29	C	98.00
Paved parking & roofs	0.10	C	98.00
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.42		96.11

Time of Concentration

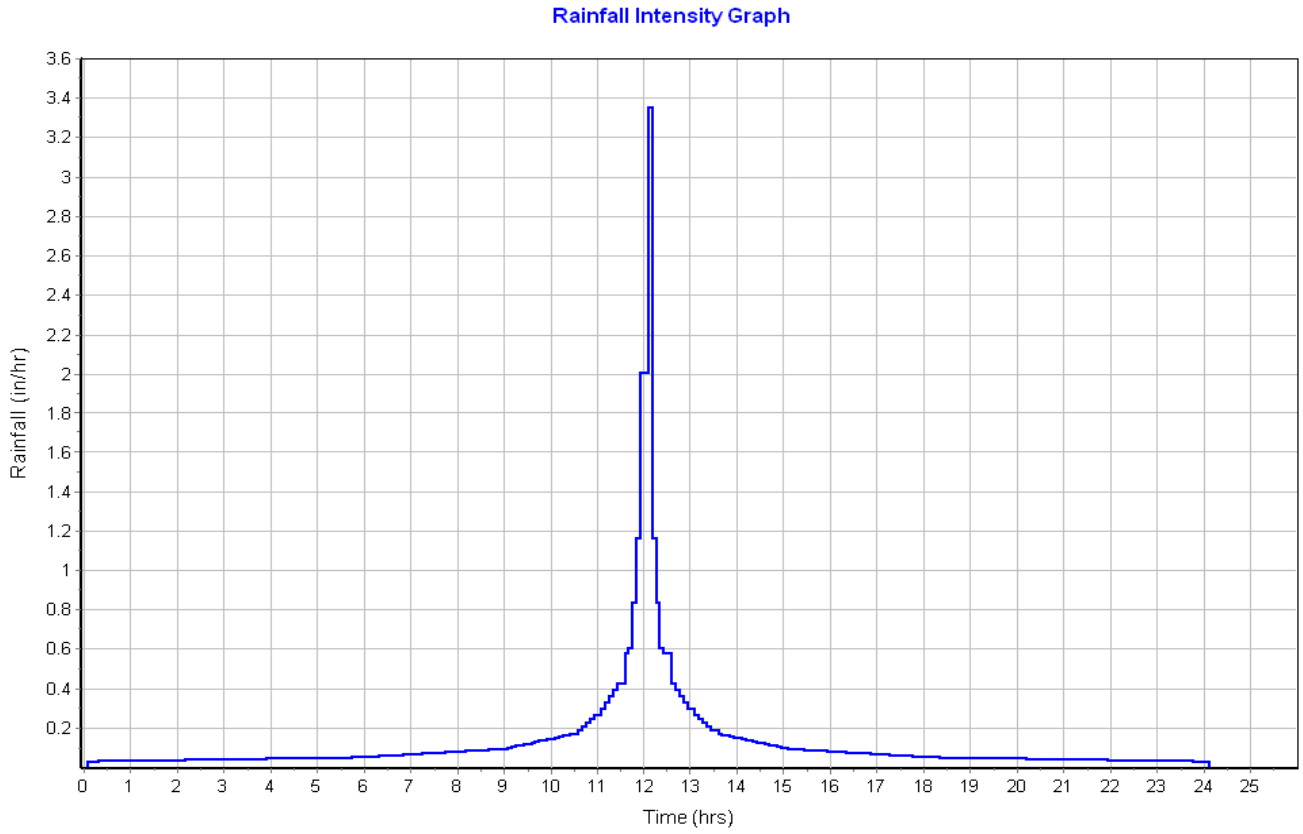
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	.01
Flow Length (ft) :	142.89	100	105.19
Slope (%) :	1	3	3
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	0.18	0.13	1.77
Computed Flow Time (min) :	13.40	12.52	0.99

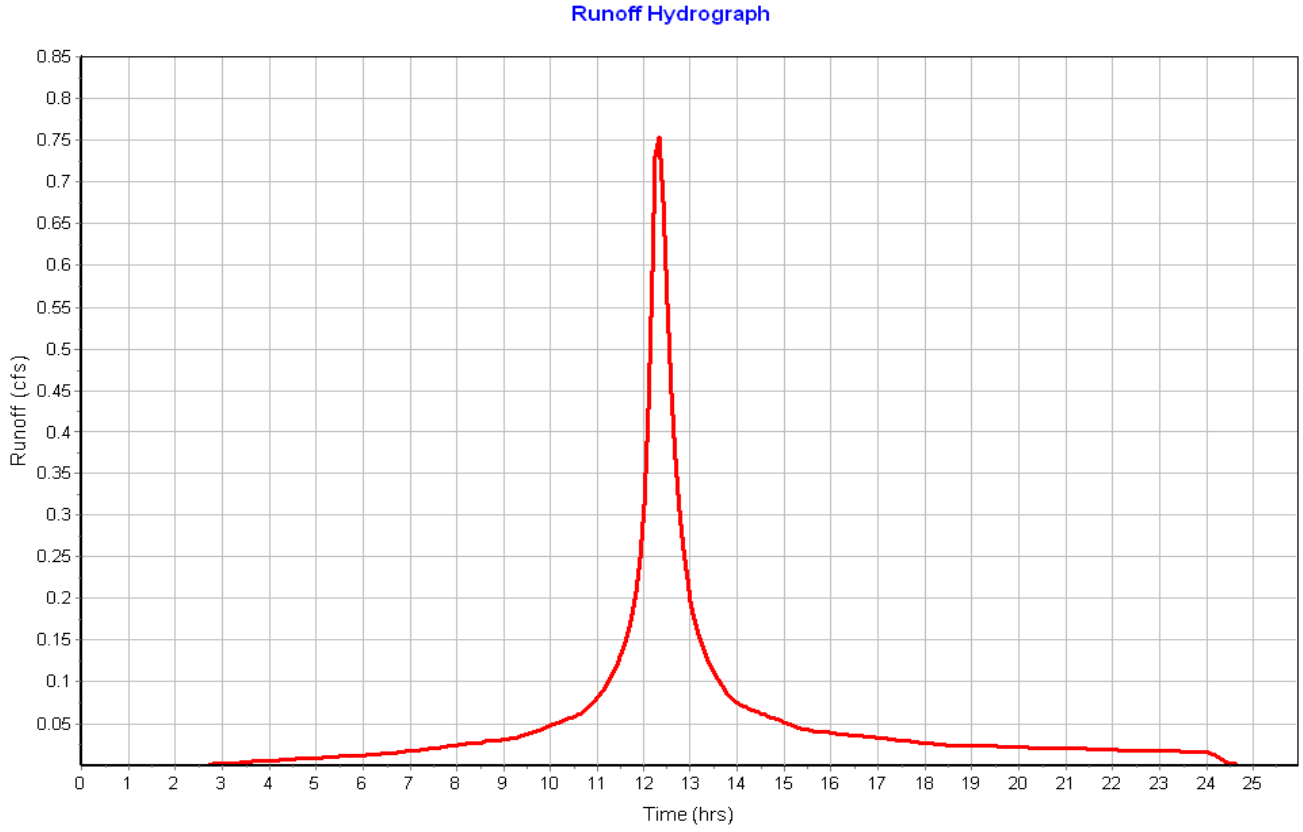
Total TOC (min) 26.91

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.77
Peak Runoff (cfs) 0.76
Weighted Curve Number 96.11
Time of Concentration (days hh:mm:ss) 0 00:26:55

Subbasin : Sub-04





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	21.91	19.65	4.00	19.20	1.20	0.45	2.0500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	15.73	25.15	4.00	25.00	4.00	0.15	0.9500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	25.99	23.15	4.00	23.00	3.00	0.15	0.5800	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.79	0 12:35	9.79	0.08	3.07	0.12	0.30	0.20	0.00		Calculated
2	Link-02	0.52	0 12:30	6.67	0.08	2.13	0.12	0.29	0.20	0.00		Calculated
3	Link-03	0.75	0 12:25	5.19	0.15	2.16	0.20	0.38	0.25	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	15.65
Max (Rim) Elevation (ft)	22.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-15.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.79
Peak Lateral Inflow (cfs)	0.79
Peak Outflow (cfs)	0.79
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	19.97
Max HGL Depth Attained (ft)	4.32
Average HGL Elevation Attained (ft)	19.34
Average HGL Depth Attained (ft)	3.69
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.52
Peak Lateral Inflow (cfs)	0.52
Peak Outflow (cfs)	0.52
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.47
Max HGL Depth Attained (ft)	4.32
Average HGL Elevation Attained (ft)	24.66
Average HGL Depth Attained (ft)	3.51
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	19.15
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-19.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.75
Peak Lateral Inflow (cfs)	0.75
Peak Outflow (cfs)	0.75
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	23.58
Max HGL Depth Attained (ft)	4.43
Average HGL Elevation Attained (ft)	22.78
Average HGL Depth Attained (ft)	3.63
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scen 3 Existing Conditions Model_2020 09 24.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	4
Nodes	7
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	3
Links	3
Channels	0
Pipes	3
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.30	484.00	72.68	3.50	1.16	0.35	0.34	0 00:10:43
2	Sub-02	0.56	484.00	97.23	3.50	3.18	1.78	0.86	0 00:43:35
3	Sub-03	0.35	484.00	95.54	3.50	3.00	1.06	0.57	0 00:36:31
4	Sub-04	0.43	484.00	96.11	3.50	3.06	1.32	0.84	0 00:26:54

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	21.00					0.34	21.00					
2	Out-02	Outfall	18.00					0.86	18.00					
3	Out-03	Outfall	21.00					0.57	21.00					
4	Out-04	Outfall	20.00					0.83	20.00					
5	CB-01	Storage Node	15.65	22.50	0.00		1000.00	0.86	19.99				0.00	0.00
6	CB-02	Storage Node	21.15	28.00	0.00		1000.00	0.57	25.49				0.00	0.00
7	CB-03	Storage Node	19.15	26.00	0.00		1000.00	0.83	23.60				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	Out-02	21.91	19.65	19.20	2.0500	18.000	0.0200	0.86	9.79	0.09	3.14	0.32	0.21	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	15.73	25.15	25.00	0.9500	18.000	0.0200	0.57	6.67	0.09	2.17	0.31	0.21	0.00	Calculated
3	Link-03	Pipe	CB-03	Out-04	25.99	23.15	23.00	0.5800	18.000	0.0200	0.83	5.19	0.16	2.22	0.40	0.26	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.30
Peak Rate Factor 484.00
Weighted Curve Number 72.68
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.26	C	74.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.30		72.68

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

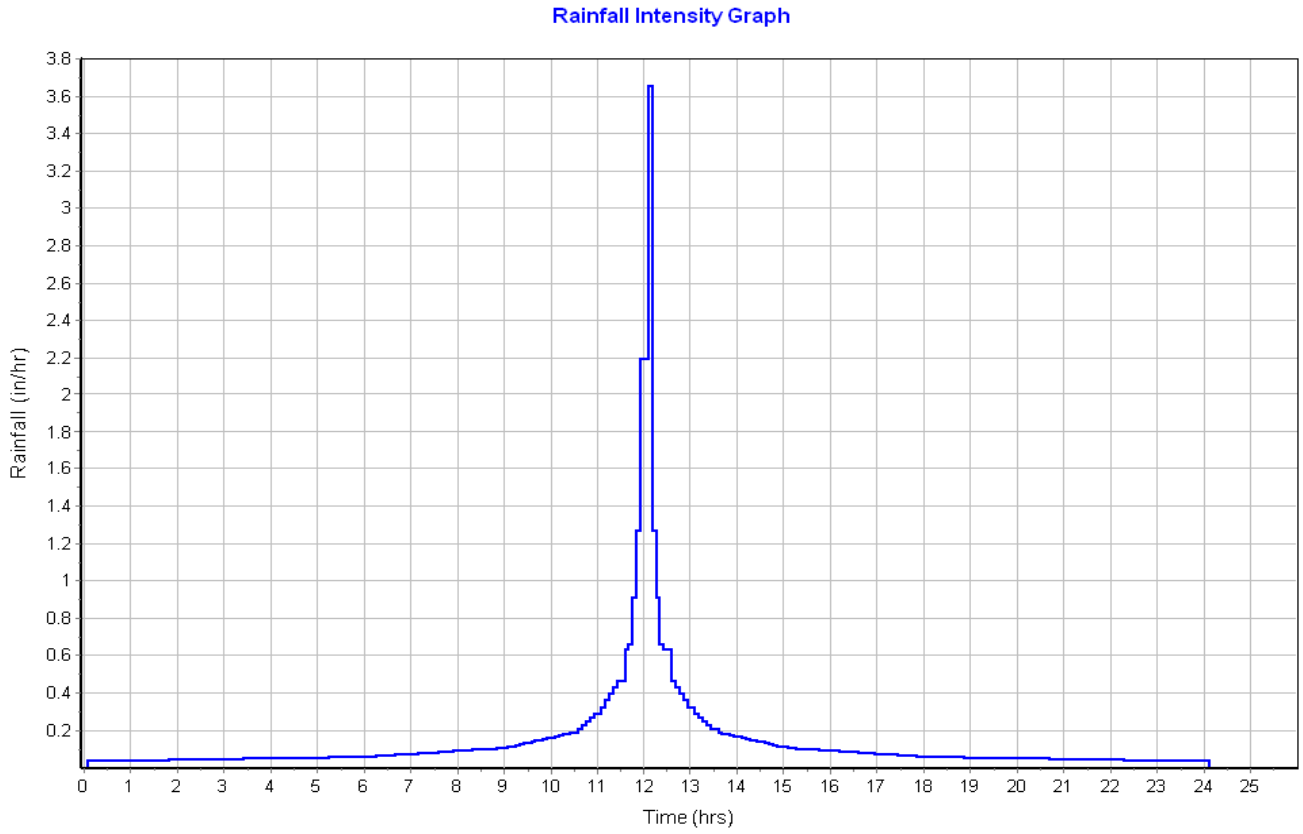
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	69.04	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.16	0.05	0.00
Computed Flow Time (min) :	7.28	3.45	0.00

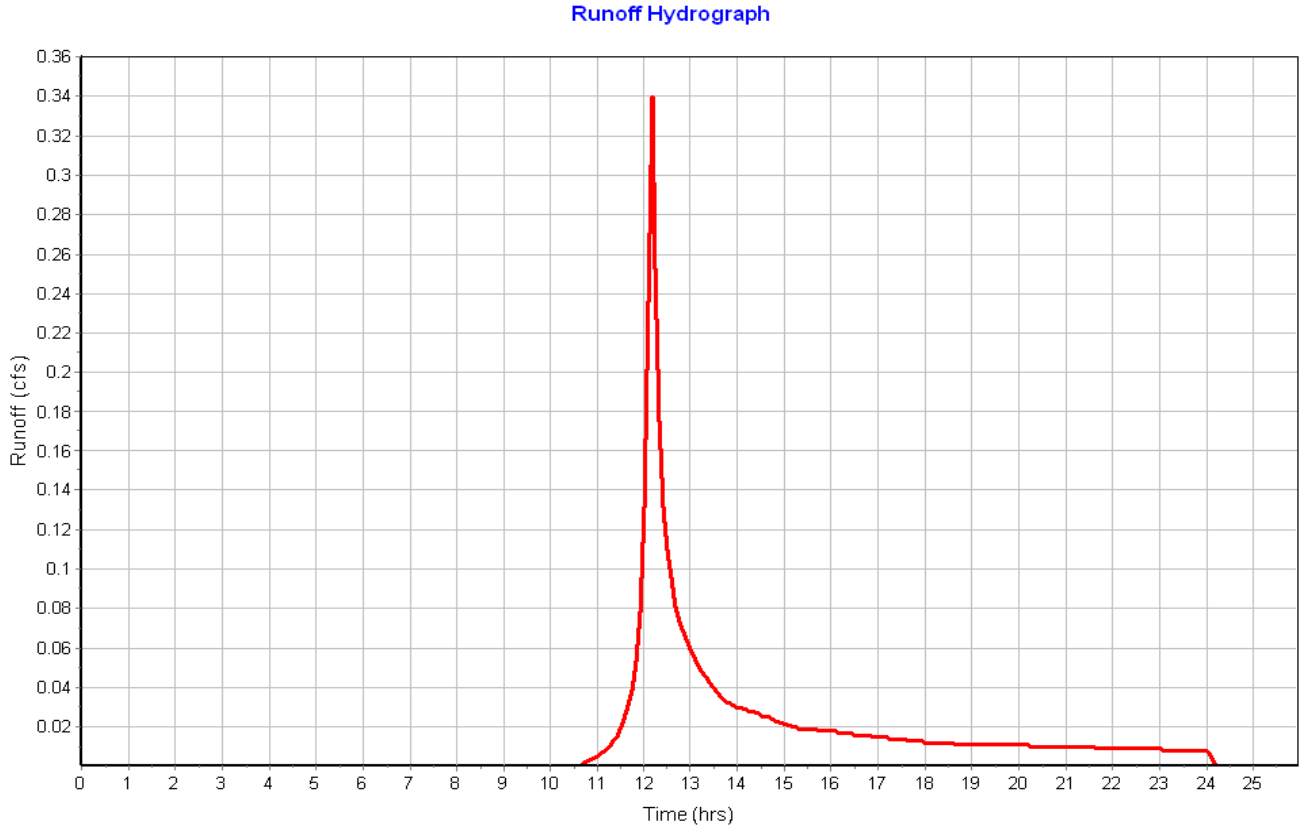
Total TOC (min) 10.73

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.16
Peak Runoff (cfs)	0.34
Weighted Curve Number	72.68
Time of Concentration (days hh:mm:ss)	0 00:10:44

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.56
Peak Rate Factor 484.00
Weighted Curve Number 97.23
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.54	C	98.00
> 75% grass cover, Good	0.02	C	74.00
Composite Area & Weighted CN	0.56		97.23

Time of Concentration

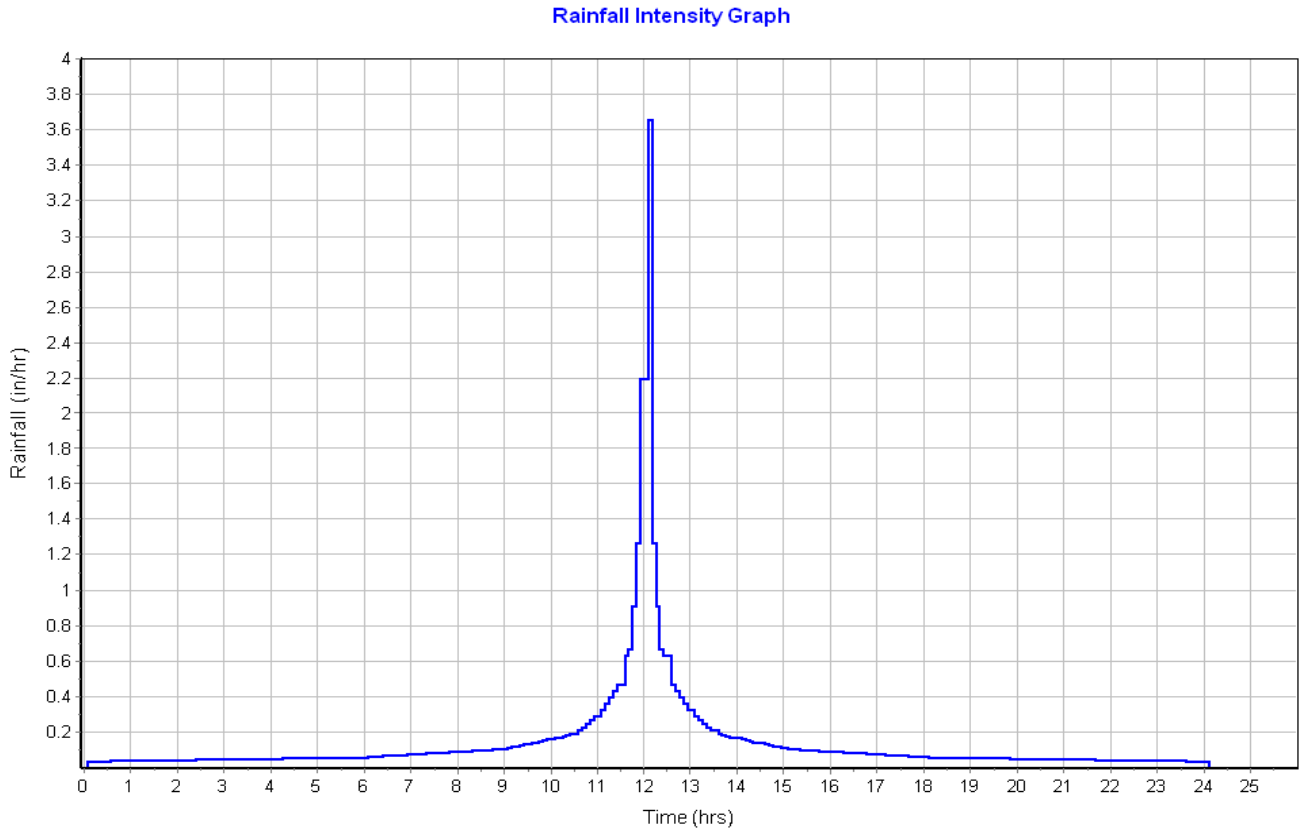
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	270.84	136.94	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.20	0.11	0.00
Computed Flow Time (min) :	22.35	21.24	0.00

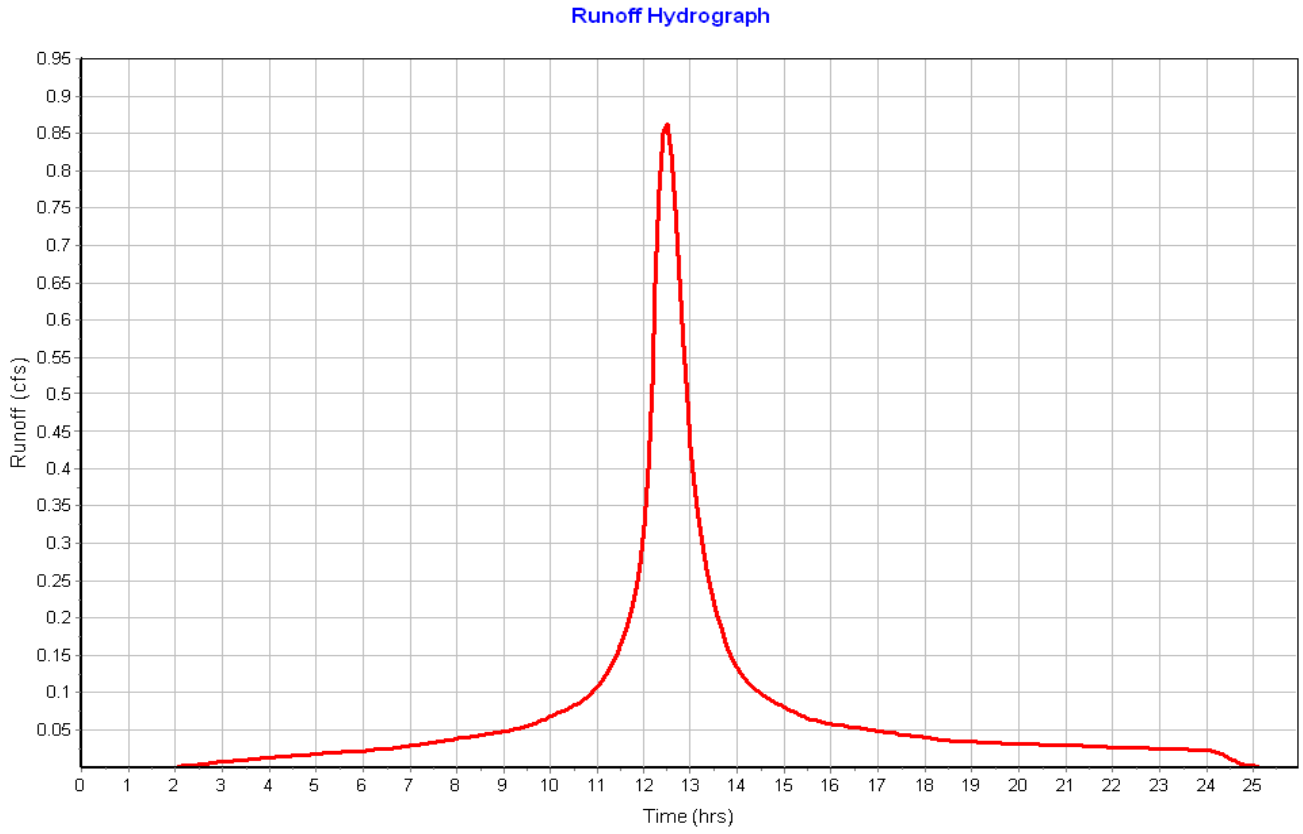
Total TOC (min) 43.59

Subbasin Runoff Results

Total Rainfall (in) 3.50
Total Runoff (in) 3.18
Peak Runoff (cfs) 0.86
Weighted Curve Number 97.23
Time of Concentration (days hh:mm:ss) 0 00:43:35

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.35
Peak Rate Factor	484.00
Weighted Curve Number	95.54
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.32	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.36		95.54

Time of Concentration

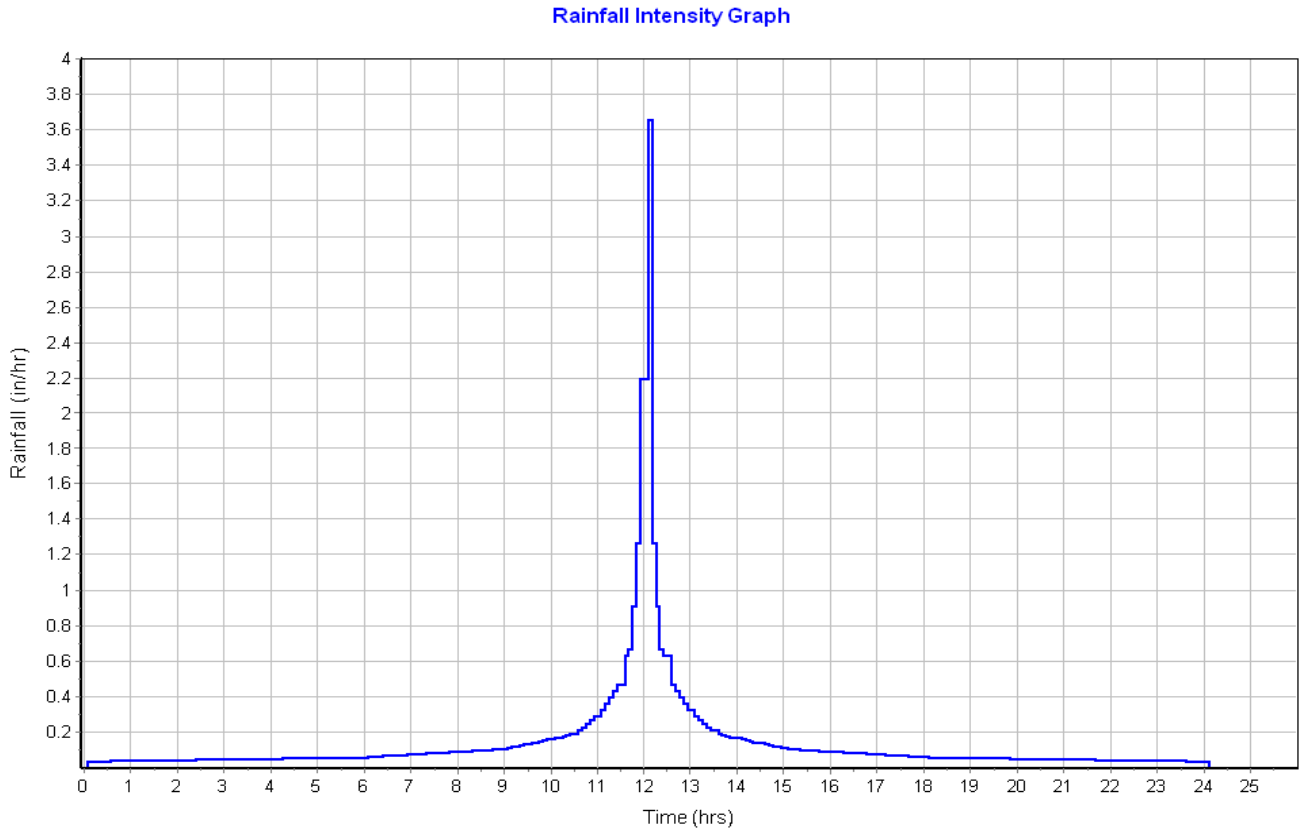
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	227	104.60	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.19	0.10	0.00
Computed Flow Time (min) :	19.41	17.12	0.00

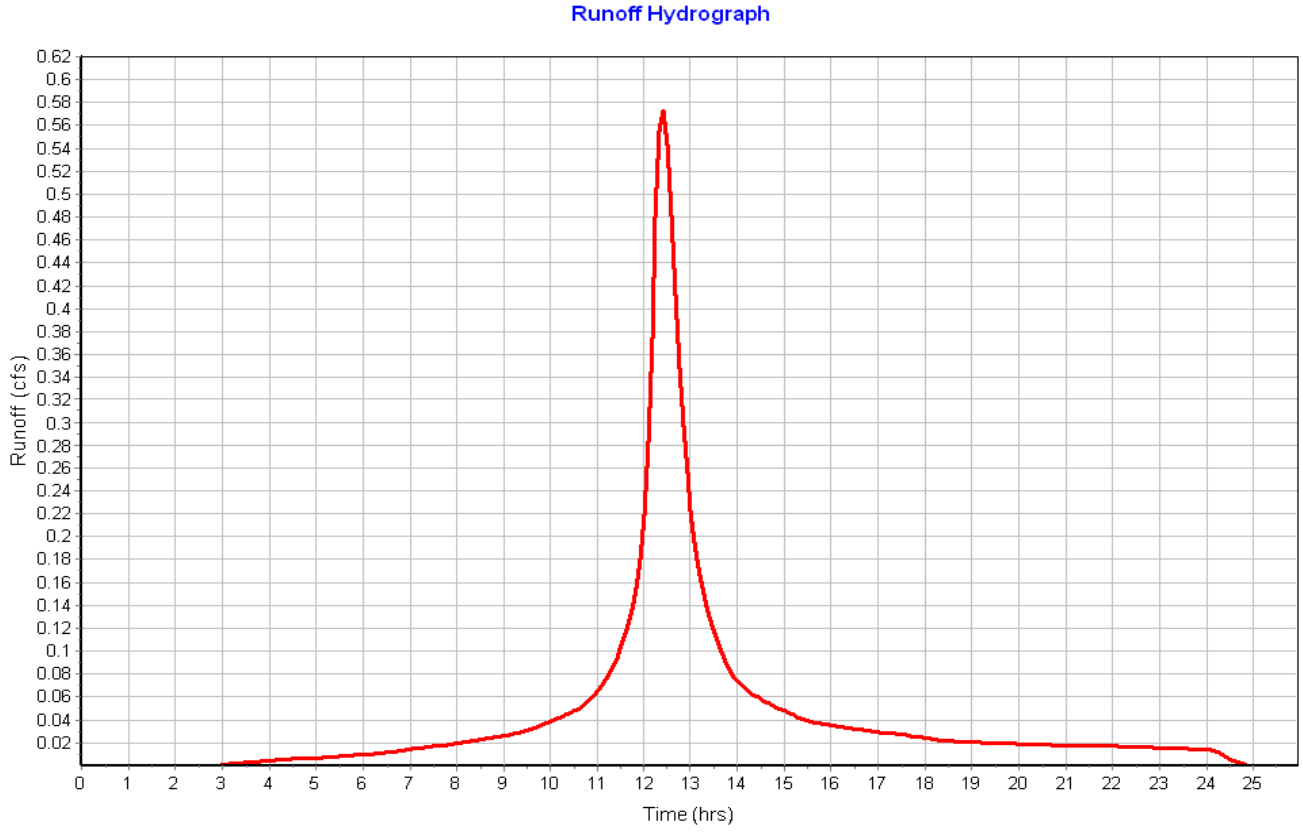
Total TOC (min) 36.53

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.00
Peak Runoff (cfs)	0.57
Weighted Curve Number	95.54
Time of Concentration (days hh:mm:ss)	0 00:36:32

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.43
Peak Rate Factor	484.00
Weighted Curve Number	96.11
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.29	C	98.00
Paved parking & roofs	0.10	C	98.00
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.42		96.11

Time of Concentration

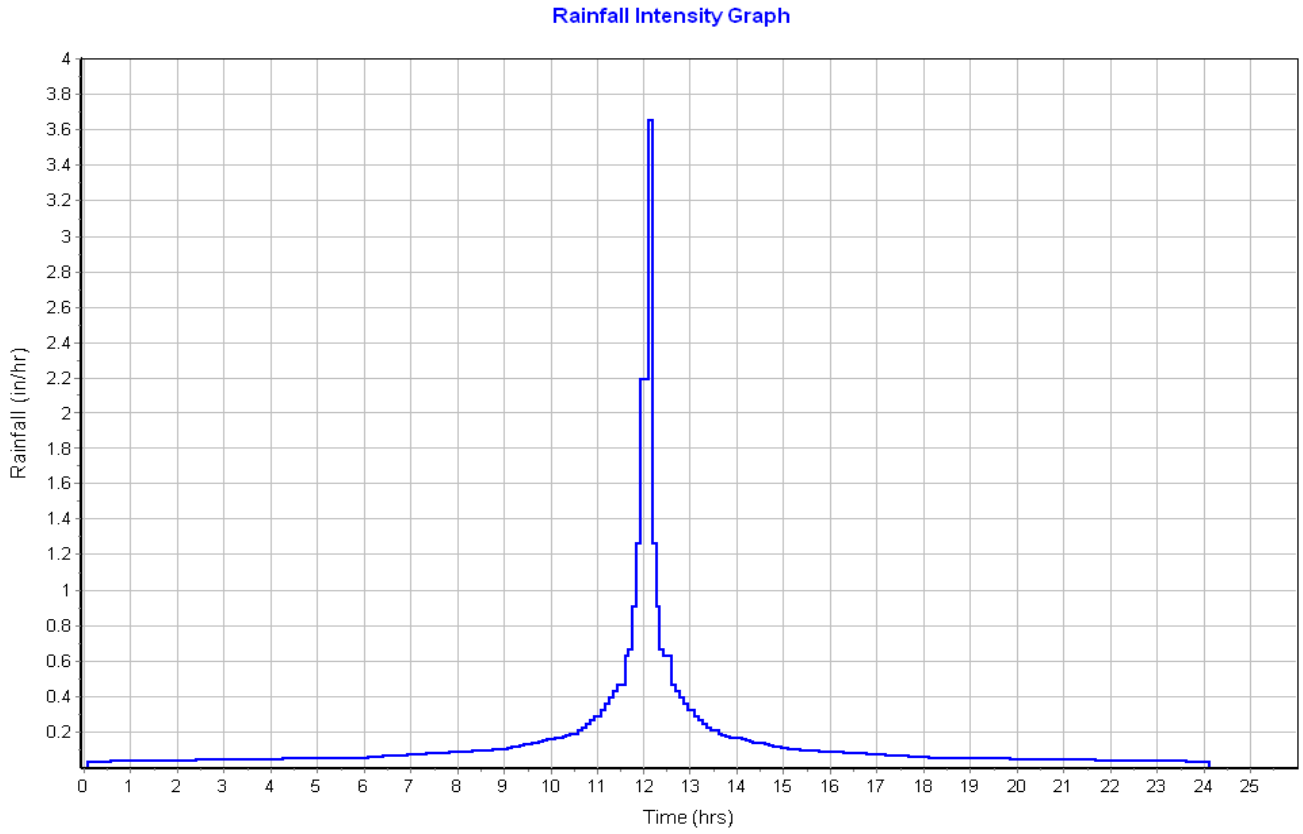
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	.01
Flow Length (ft) :	142.89	100	105.19
Slope (%) :	1	3	3
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	0.18	0.13	1.77
Computed Flow Time (min) :	13.40	12.52	0.99

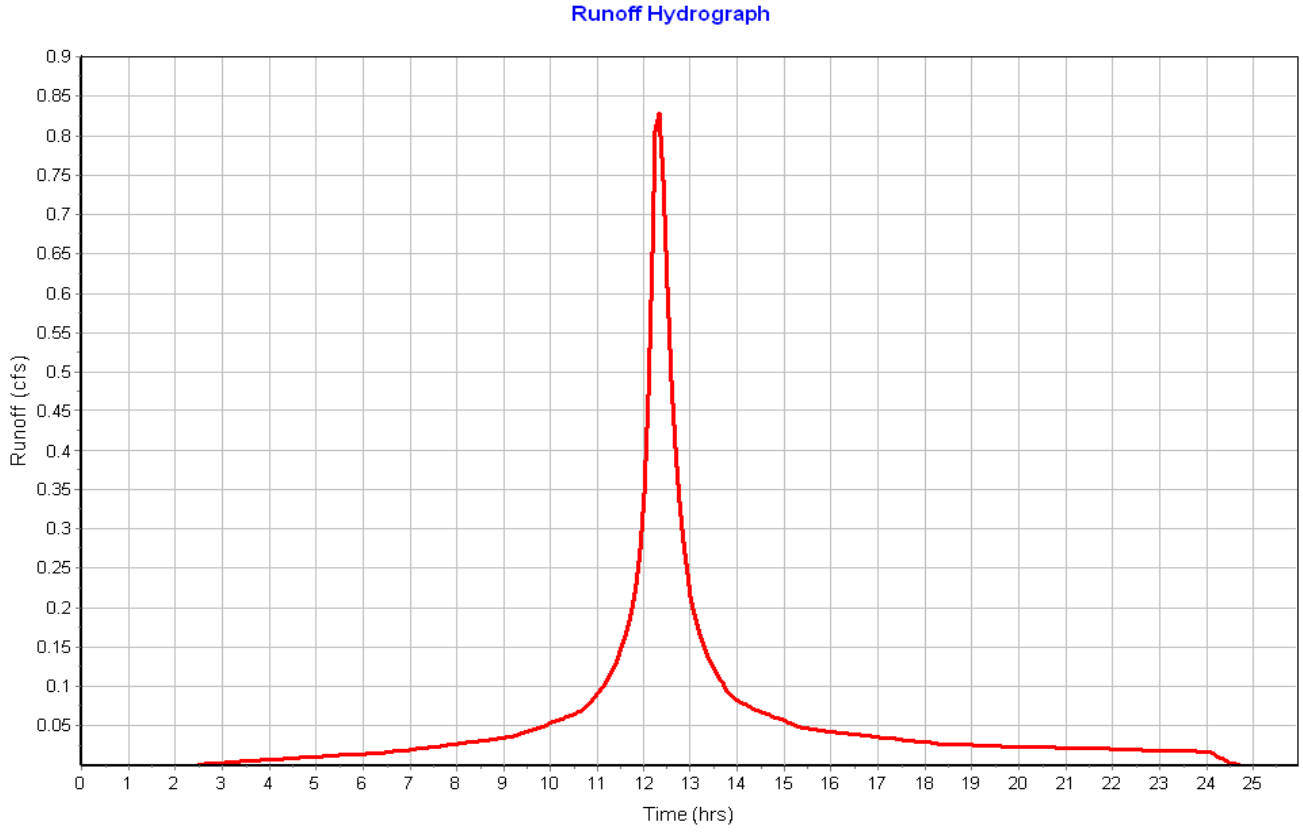
Total TOC (min) 26.91

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.06
Peak Runoff (cfs)	0.84
Weighted Curve Number	96.11
Time of Concentration (days hh:mm:ss)	0 00:26:55

Subbasin : Sub-04





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	21.91	19.65	4.00	19.20	1.20	0.45	2.0500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	15.73	25.15	4.00	25.00	4.00	0.15	0.9500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	25.99	23.15	4.00	23.00	3.00	0.15	0.5800	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	0.86	0 12:35	9.79	0.09	3.14	0.12	0.32	0.21	0.00		Calculated
2	Link-02	0.57	0 12:30	6.67	0.09	2.17	0.12	0.31	0.21	0.00		Calculated
3	Link-03	0.83	0 12:25	5.19	0.16	2.22	0.20	0.40	0.26	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	15.65
Max (Rim) Elevation (ft)	22.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-15.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.86
Peak Lateral Inflow (cfs)	0.86
Peak Outflow (cfs)	0.86
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	19.99
Max HGL Depth Attained (ft)	4.34
Average HGL Elevation Attained (ft)	19.39
Average HGL Depth Attained (ft)	3.74
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.57
Peak Lateral Inflow (cfs)	0.57
Peak Outflow (cfs)	0.57
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.49
Max HGL Depth Attained (ft)	4.34
Average HGL Elevation Attained (ft)	24.72
Average HGL Depth Attained (ft)	3.57
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	19.15
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-19.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.83
Peak Lateral Inflow (cfs)	0.83
Peak Outflow (cfs)	0.83
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	23.60
Max HGL Depth Attained (ft)	4.45
Average HGL Elevation Attained (ft)	22.84
Average HGL Depth Attained (ft)	3.69
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scen 3 Existing Conditions Model_2020 09 24.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	4
Nodes	7
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	3
Links	3
Channels	0
Pipes	3
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.30	484.00	72.68	6.50	3.48	1.05	0.99	0 00:10:43
2	Sub-02	0.56	484.00	97.23	6.50	6.17	3.46	1.75	0 00:43:35
3	Sub-03	0.35	484.00	95.54	6.50	5.97	2.11	1.18	0 00:36:31
4	Sub-04	0.43	484.00	96.11	6.50	6.04	2.62	1.67	0 00:26:54

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	21.00					0.97	21.00					
2	Out-02	Outfall	18.00					1.75	18.00					
3	Out-03	Outfall	21.00					1.17	21.00					
4	Out-04	Outfall	20.00					1.64	20.00					
5	CB-01	Storage Node	15.65	22.50	0.00		1000.00	1.75	20.15				0.00	0.00
6	CB-02	Storage Node	21.15	28.00	0.00		1000.00	1.17	25.66				0.00	0.00
7	CB-03	Storage Node	19.15	26.00	0.00		1000.00	1.64	23.81				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	Out-02	21.91	19.65	19.20	2.0500	18.000	0.0200	1.75	9.79	0.18	3.73	0.47	0.31	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	15.73	25.15	25.00	0.9500	18.000	0.0200	1.17	6.67	0.18	2.59	0.46	0.30	0.00	Calculated
3	Link-03	Pipe	CB-03	Out-04	25.99	23.15	23.00	0.5800	18.000	0.0200	1.64	5.19	0.32	2.66	0.57	0.38	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.30
Peak Rate Factor 484.00
Weighted Curve Number 72.68
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.26	C	74.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.30		72.68

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	69.04	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.16	0.05	0.00
Computed Flow Time (min) :	7.28	3.45	0.00

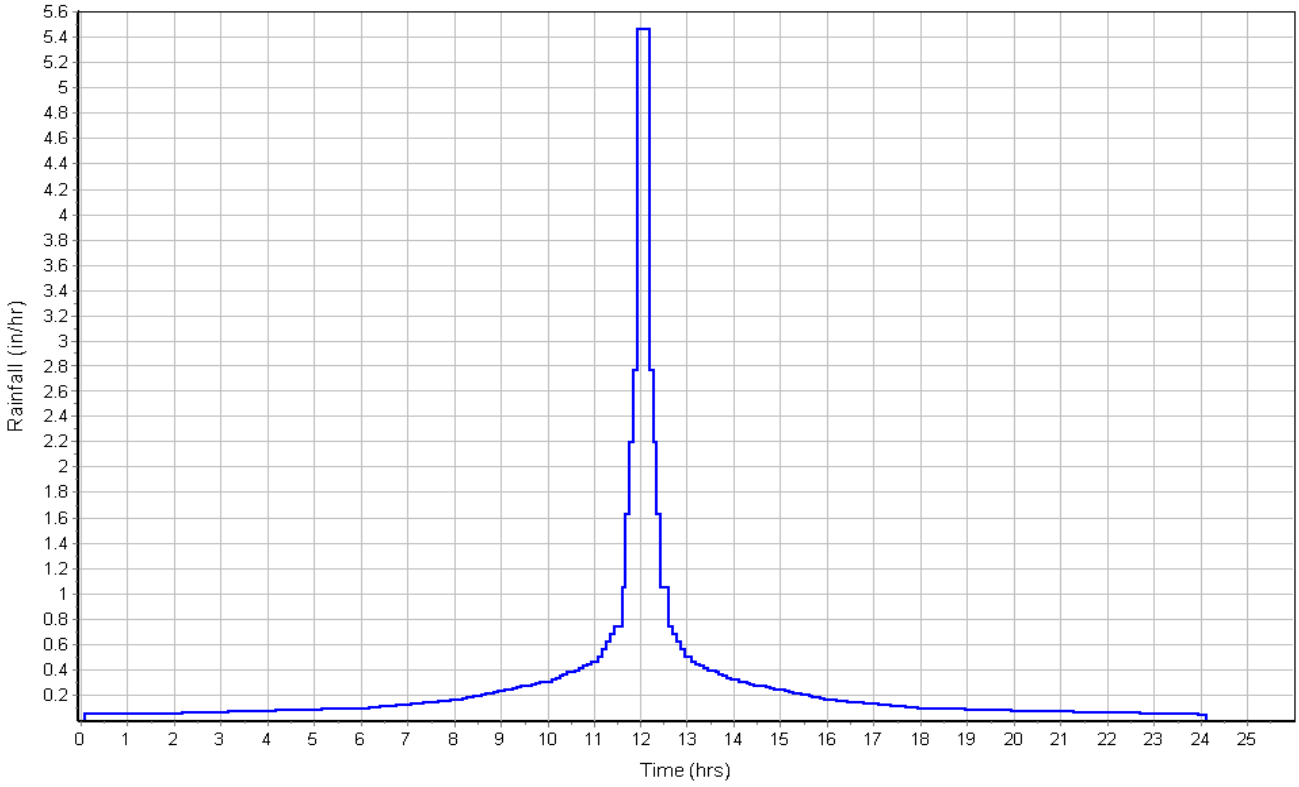
Total TOC (min) 10.73

Subbasin Runoff Results

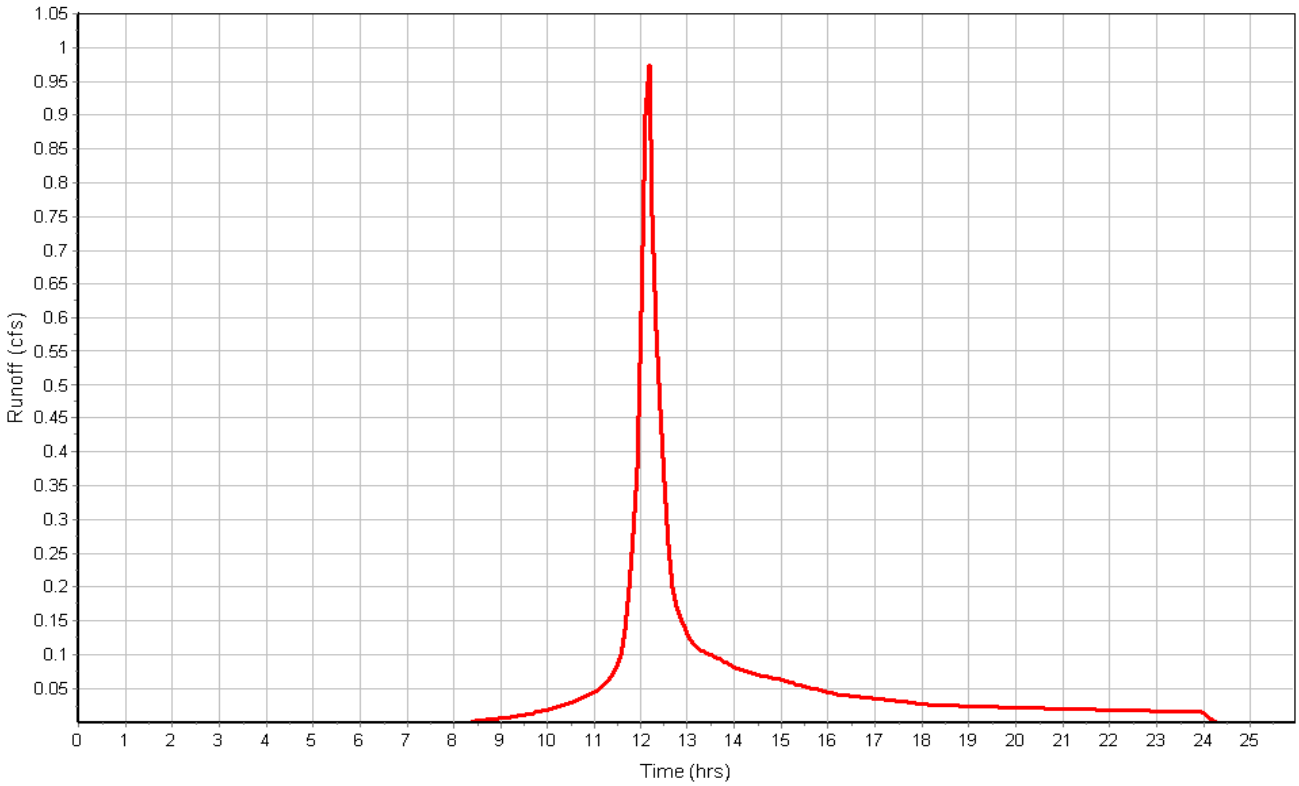
Total Rainfall (in)	6.50
Total Runoff (in)	3.48
Peak Runoff (cfs)	0.99
Weighted Curve Number	72.68
Time of Concentration (days hh:mm:ss)	0 00:10:44

Subbasin : Sub-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-02

Input Data

Area (ac) 0.56
Peak Rate Factor 484.00
Weighted Curve Number 97.23
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.54	C	98.00
> 75% grass cover, Good	0.02	C	74.00
Composite Area & Weighted CN	0.56		97.23

Time of Concentration

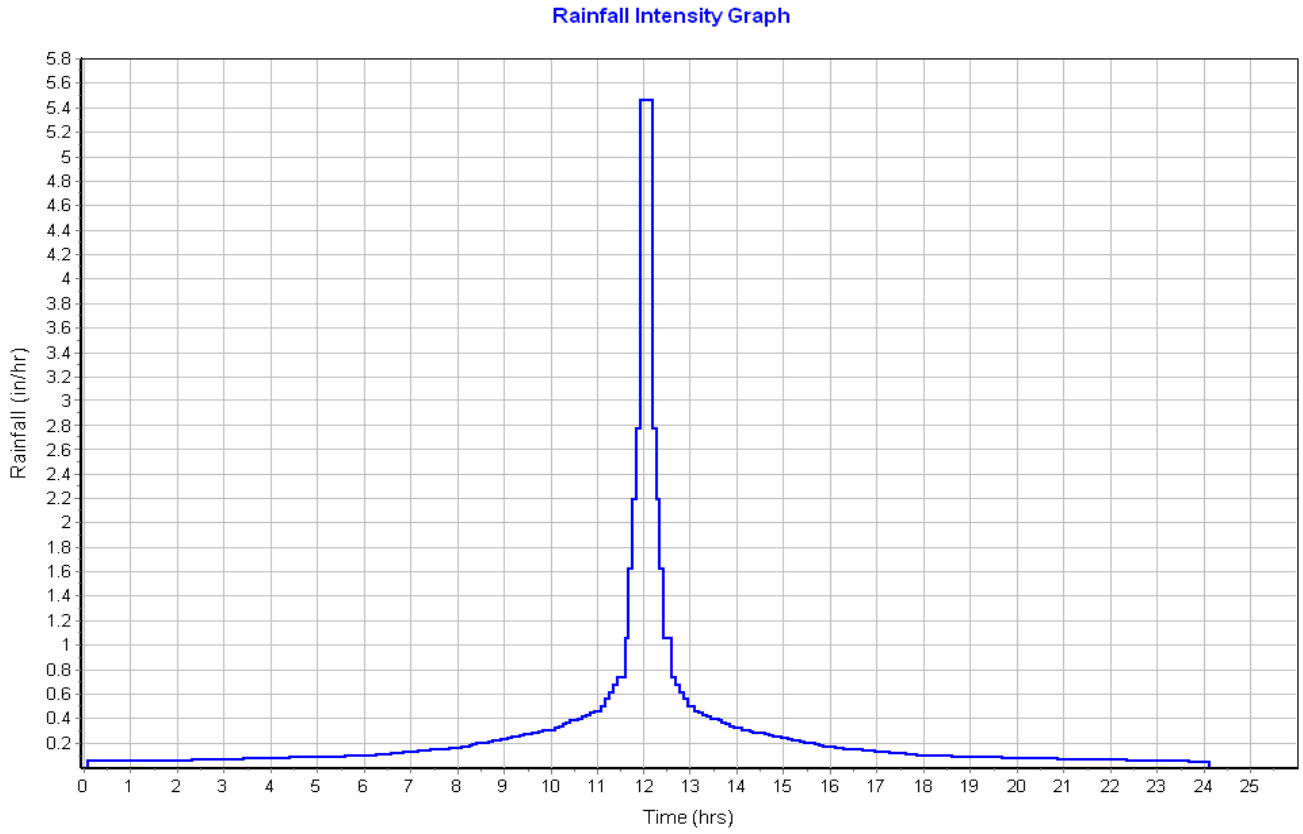
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	270.84	136.94	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.20	0.11	0.00
Computed Flow Time (min) :	22.35	21.24	0.00

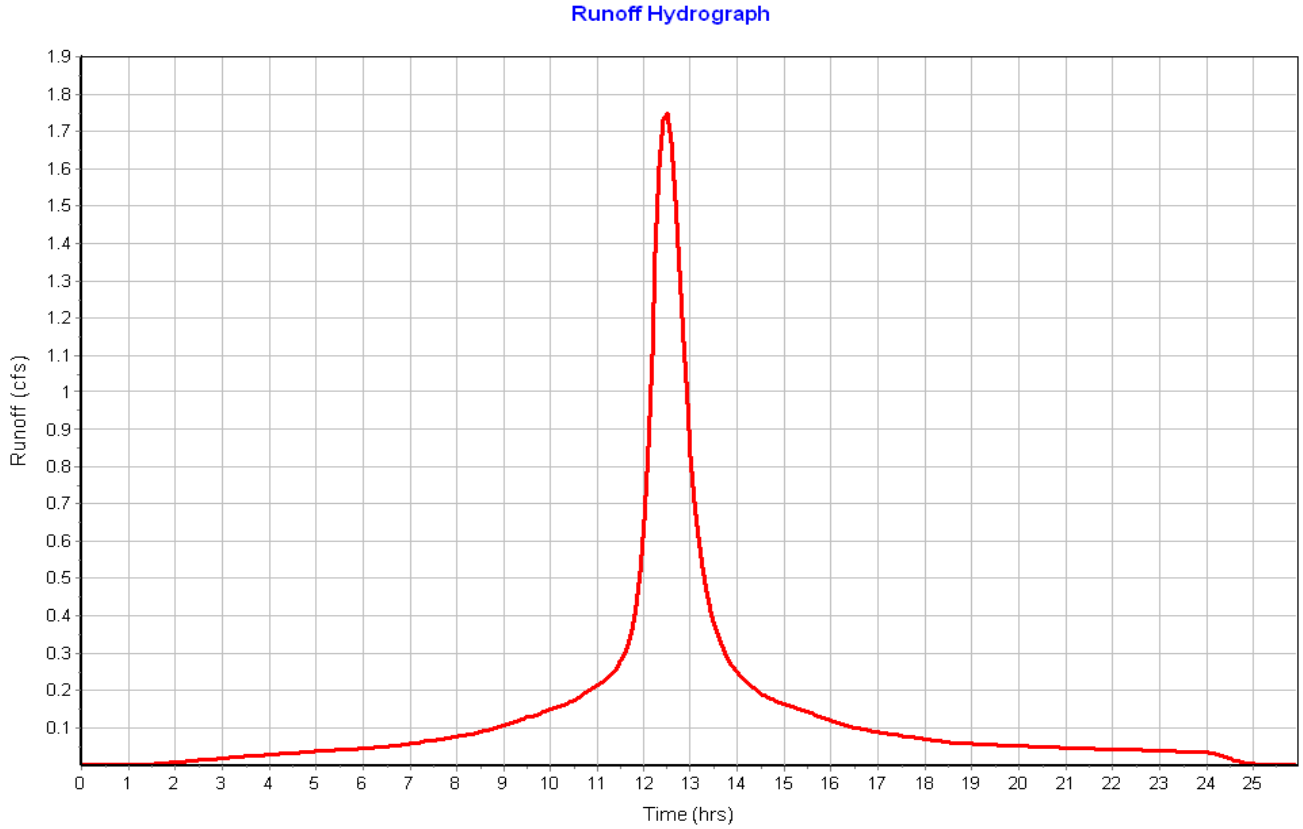
Total TOC (min) 43.59

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.17
Peak Runoff (cfs) 1.75
Weighted Curve Number 97.23
Time of Concentration (days hh:mm:ss) 0 00:43:35

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.35
Peak Rate Factor	484.00
Weighted Curve Number	95.54
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.32	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.36		95.54

Time of Concentration

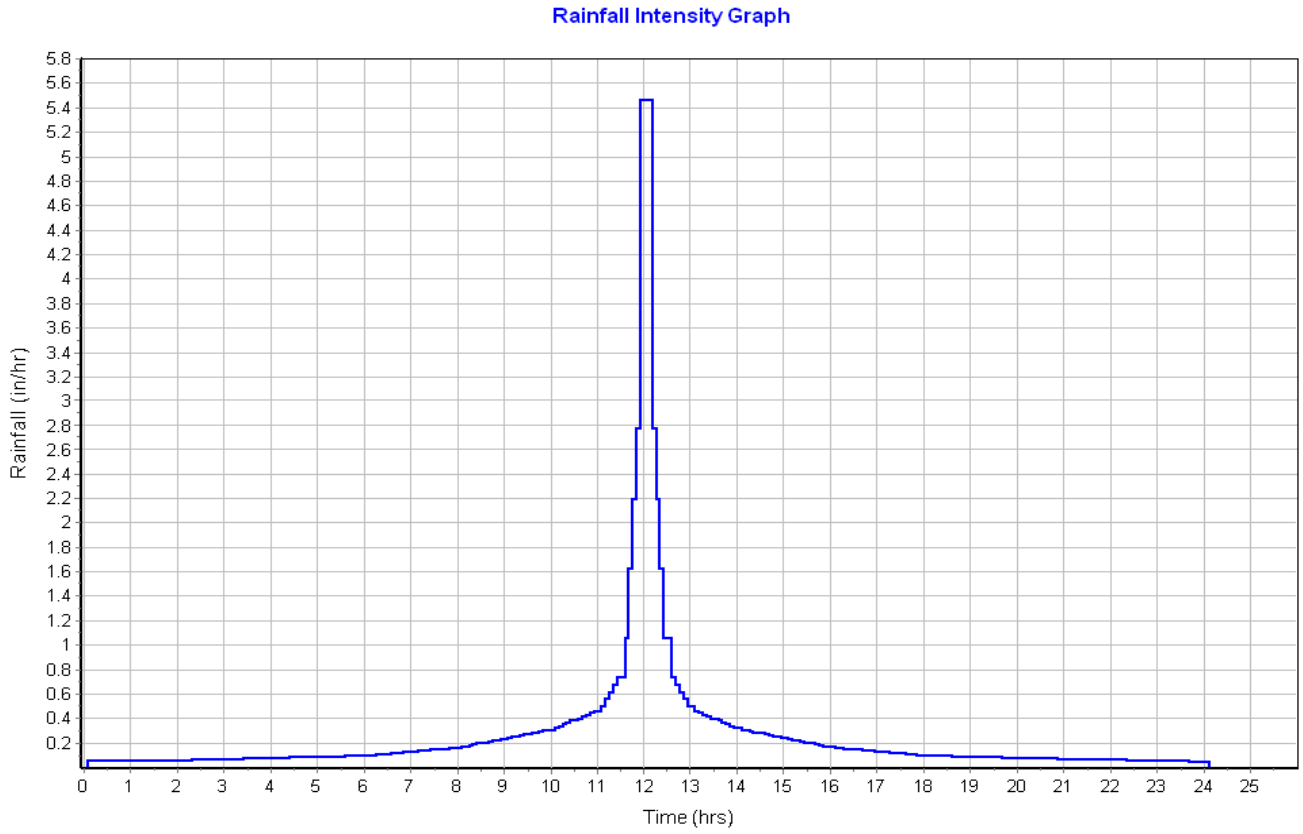
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	227	104.60	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.19	0.10	0.00
Computed Flow Time (min) :	19.41	17.12	0.00

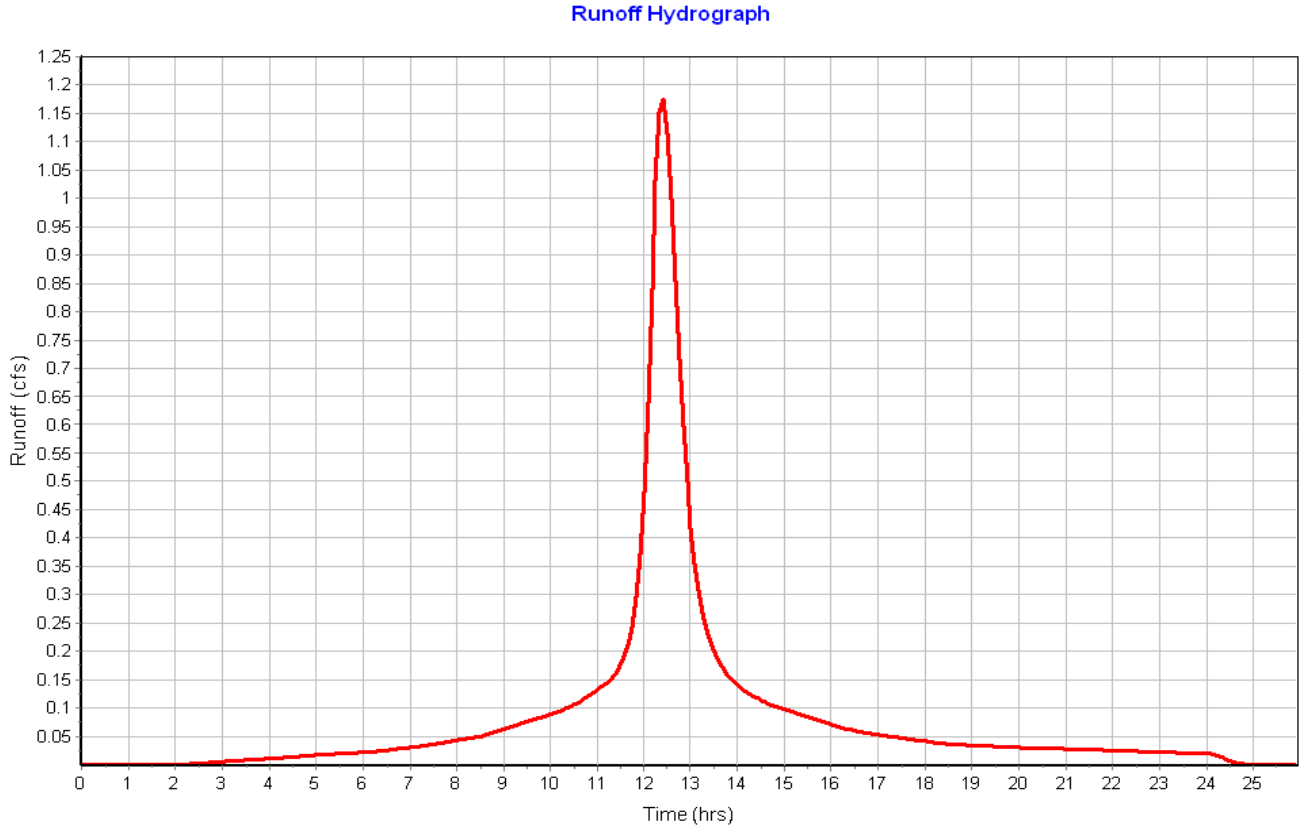
Total TOC (min) 36.53

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	5.97
Peak Runoff (cfs)	1.18
Weighted Curve Number	95.54
Time of Concentration (days hh:mm:ss)	0 00:36:32

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.43
Peak Rate Factor	484.00
Weighted Curve Number	96.11
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.29	C	98.00
Paved parking & roofs	0.10	C	98.00
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.42		96.11

Time of Concentration

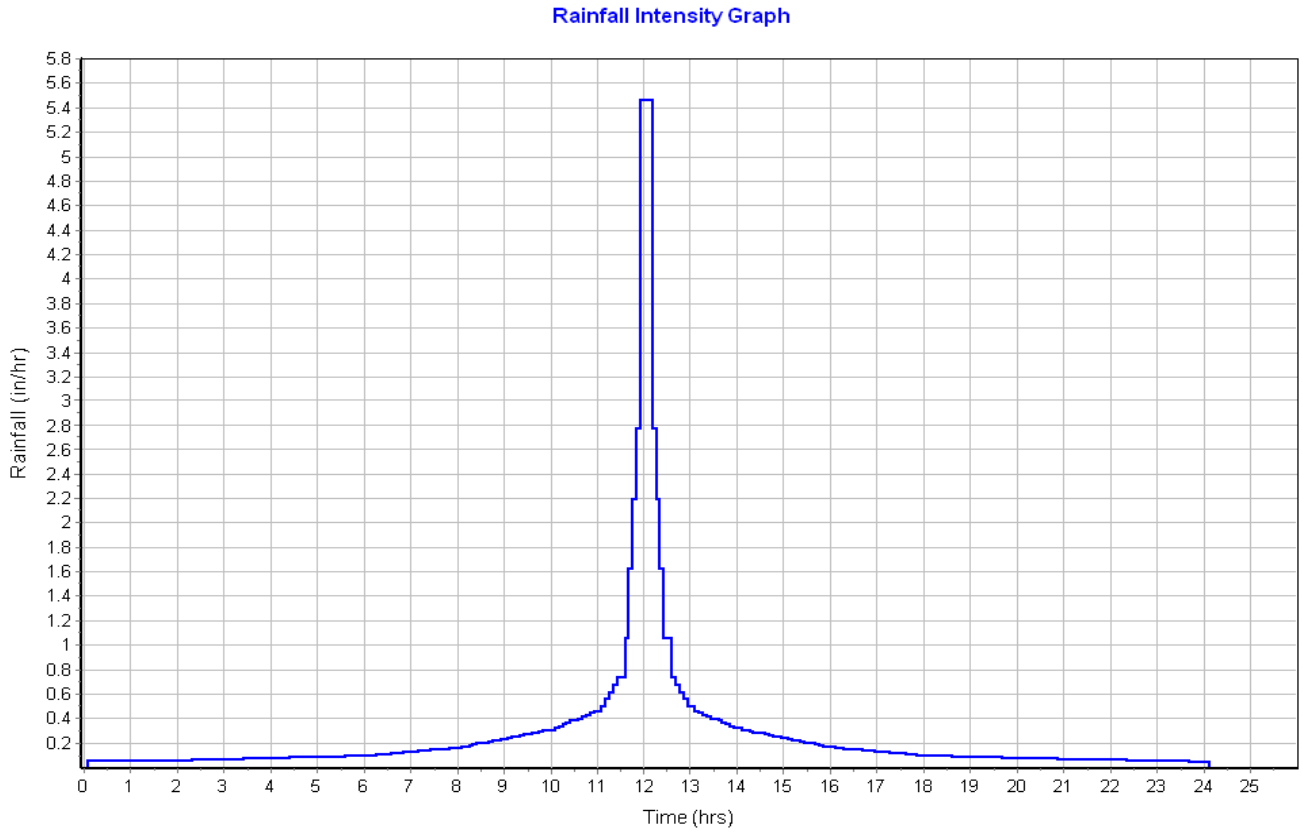
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	.01
Flow Length (ft) :	142.89	100	105.19
Slope (%) :	1	3	3
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	0.18	0.13	1.77
Computed Flow Time (min) :	13.40	12.52	0.99

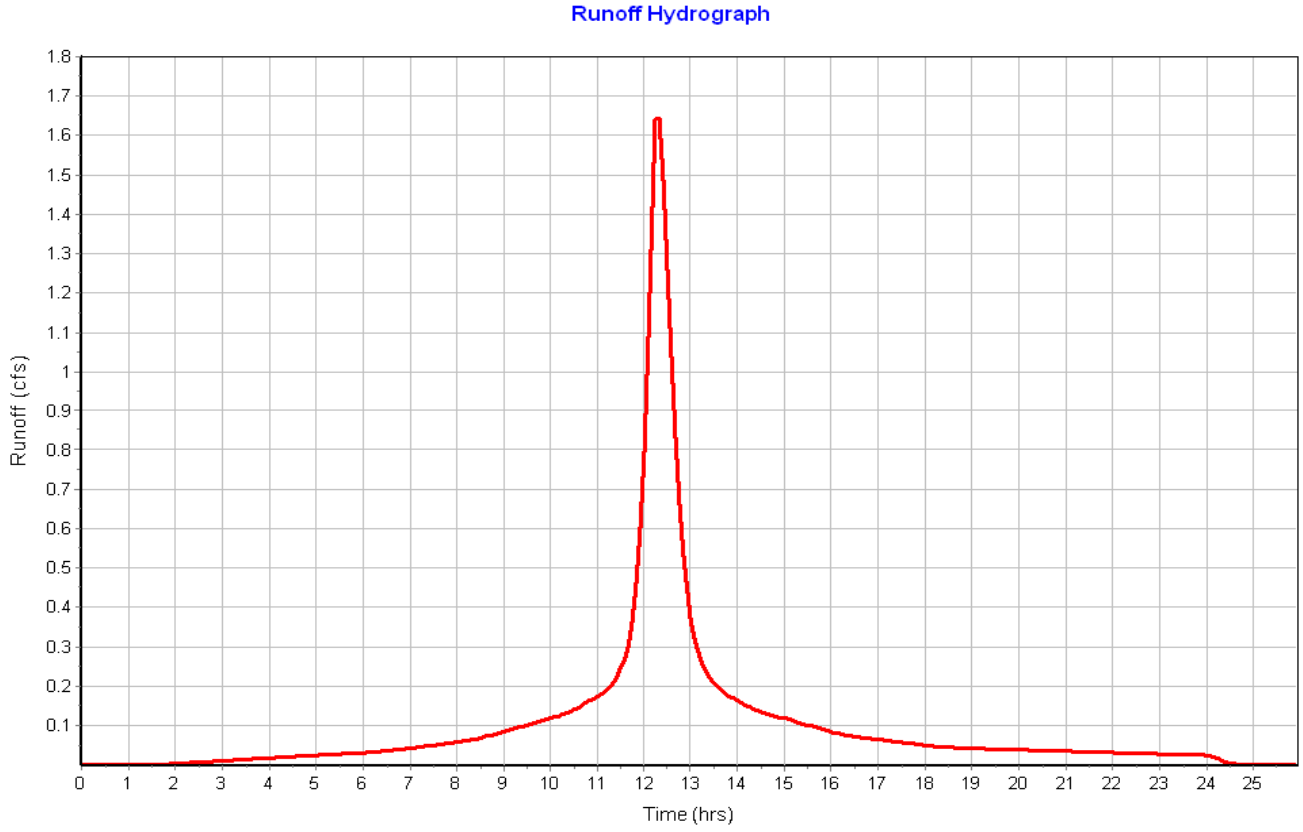
Total TOC (min) 26.91

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.04
Peak Runoff (cfs)	1.67
Weighted Curve Number	96.11
Time of Concentration (days hh:mm:ss)	0 00:26:55

Subbasin : Sub-04





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	21.91	19.65	4.00	19.20	1.20	0.45	2.0500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	15.73	25.15	4.00	25.00	4.00	0.15	0.9500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	25.99	23.15	4.00	23.00	3.00	0.15	0.5800	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	1.75	0 12:35	9.79	0.18	3.73	0.10	0.47	0.31	0.00		Calculated
2	Link-02	1.17	0 12:30	6.67	0.18	2.59	0.10	0.46	0.30	0.00		Calculated
3	Link-03	1.64	0 12:25	5.19	0.32	2.66	0.16	0.57	0.38	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	15.65
Max (Rim) Elevation (ft)	22.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-15.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.75
Peak Lateral Inflow (cfs)	1.75
Peak Outflow (cfs)	1.75
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	20.15
Max HGL Depth Attained (ft)	4.5
Average HGL Elevation Attained (ft)	19.64
Average HGL Depth Attained (ft)	3.99
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.17
Peak Lateral Inflow (cfs)	1.17
Peak Outflow (cfs)	1.17
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.66
Max HGL Depth Attained (ft)	4.51
Average HGL Elevation Attained (ft)	25.04
Average HGL Depth Attained (ft)	3.89
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	19.15
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-19.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.64
Peak Lateral Inflow (cfs)	1.64
Peak Outflow (cfs)	1.64
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	23.81
Max HGL Depth Attained (ft)	4.66
Average HGL Elevation Attained (ft)	23.14
Average HGL Depth Attained (ft)	3.99
Time of Max HGL Occurrence (days hh:mm)	0 12:24
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scen 3 Existing Conditions.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... NO

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	4
Nodes	7
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	3
Links	3
Channels	0
Pipes	3
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.30	484.00	72.68	7.86	4.65	1.40	1.40	0 00:10:43
2	Sub-02	0.56	484.00	97.23	7.86	7.53	4.23	1.98	0 00:43:35
3	Sub-03	0.35	484.00	95.54	7.86	7.33	2.59	1.34	0 00:36:31
4	Sub-04	0.43	484.00	96.11	7.86	7.39	3.20	1.93	0 00:26:54

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	21.00					1.40	21.00					
2	Out-02	Outfall	18.00					1.97	18.00					
3	Out-03	Outfall	21.00					1.34	21.00					
4	Out-04	Outfall	20.00					1.91	20.00					
5	CB-01	Storage Node	15.65	22.50	0.00		1000.00	1.97	20.19				0.00	0.00
6	CB-02	Storage Node	21.15	28.00	0.00		1000.00	1.34	25.70				0.00	0.00
7	CB-03	Storage Node	19.15	26.00	0.00		1000.00	1.92	23.87				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	Link-01	Pipe	CB-01	Out-02	21.91	19.65	19.20	2.0500	18.000	0.0200	1.97	9.79	0.20	3.84	0.50	0.33	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	15.73	25.15	25.00	0.9500	18.000	0.0200	1.34	6.67	0.20	2.68	0.49	0.33	0.00	Calculated
3	Link-03	Pipe	CB-03	Out-04	25.99	23.15	23.00	0.5800	18.000	0.0200	1.91	5.19	0.37	2.78	0.62	0.41	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.30
Peak Rate Factor 484.00
Weighted Curve Number 72.68
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.26	C	74.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.30		72.68

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

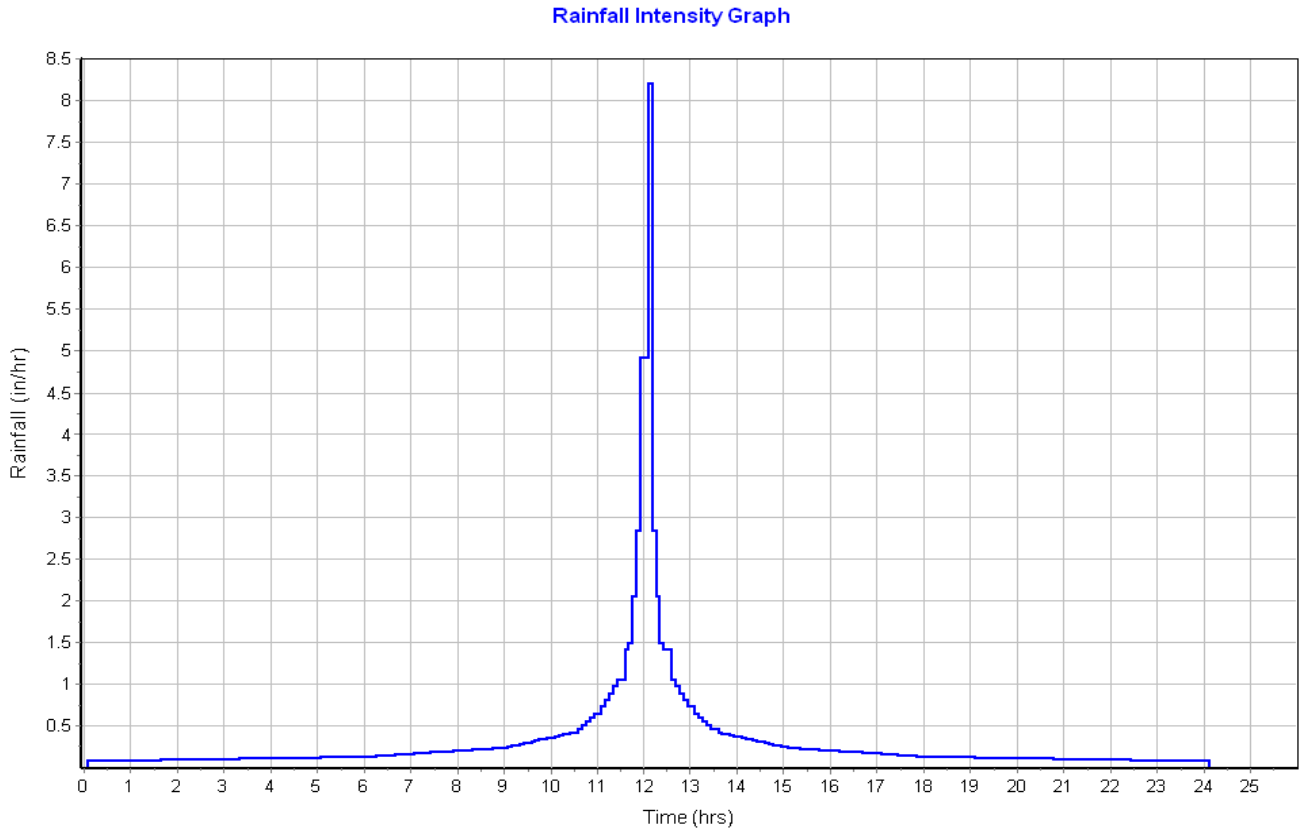
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	69.04	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.16	0.05	0.00
Computed Flow Time (min) :	7.28	3.45	0.00

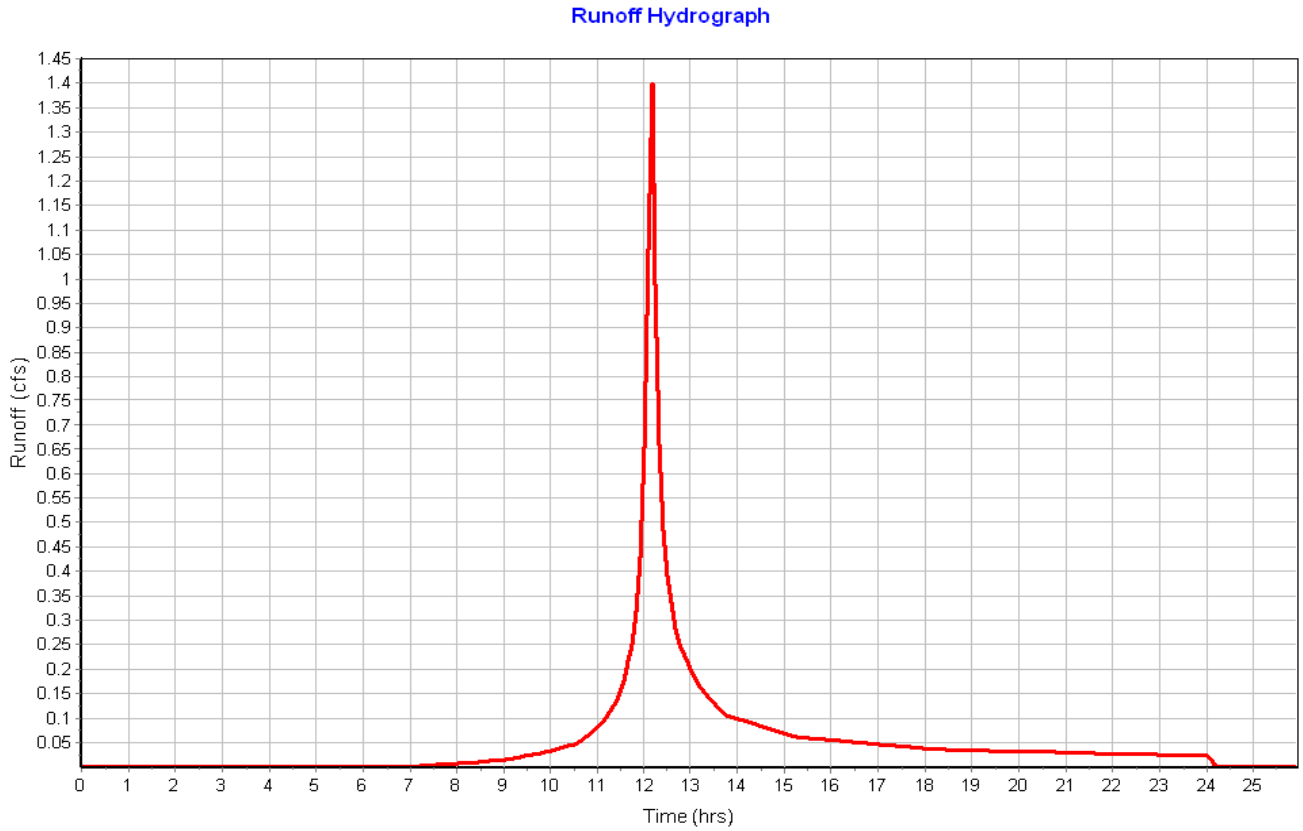
Total TOC (min) 10.73

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	4.65
Peak Runoff (cfs)	1.40
Weighted Curve Number	72.68
Time of Concentration (days hh:mm:ss)	0 00:10:44

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.56
Peak Rate Factor	484.00
Weighted Curve Number	97.23
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.54	C	98.00
> 75% grass cover, Good	0.02	C	74.00
Composite Area & Weighted CN	0.56		97.23

Time of Concentration

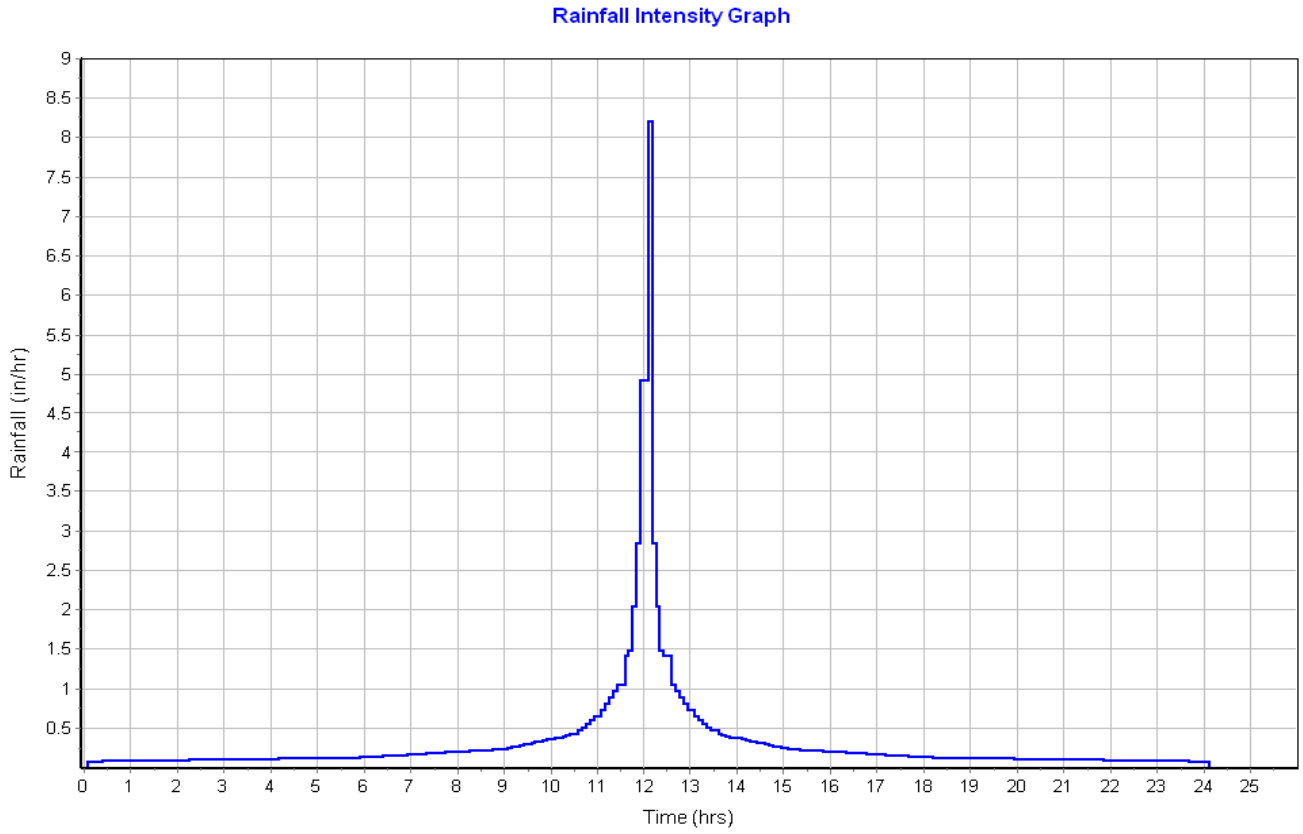
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	270.84	136.94	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.20	0.11	0.00
Computed Flow Time (min) :	22.35	21.24	0.00

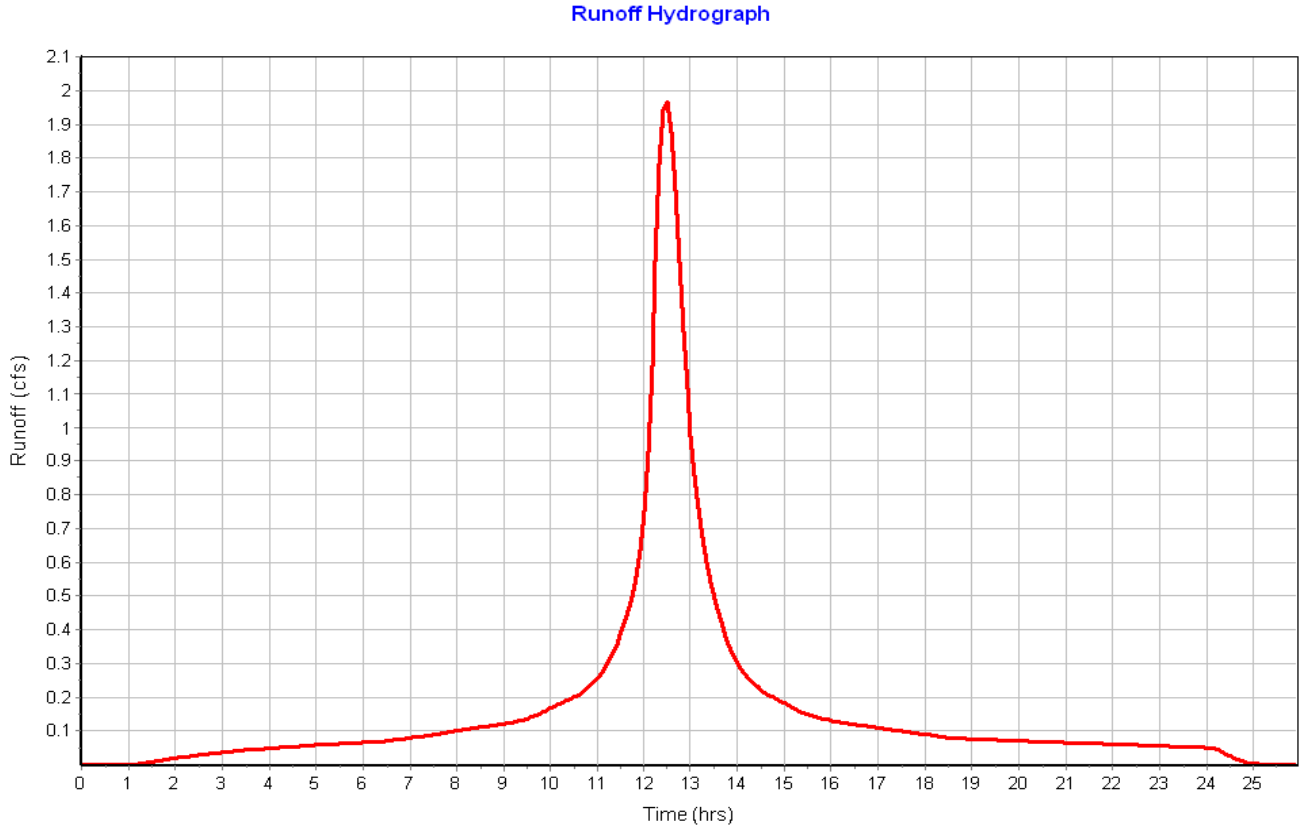
Total TOC (min) 43.59

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.53
Peak Runoff (cfs)	1.98
Weighted Curve Number	97.23
Time of Concentration (days hh:mm:ss)	0 00:43:35

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.35
Peak Rate Factor 484.00
Weighted Curve Number 95.54
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.32	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.36		95.54

Time of Concentration

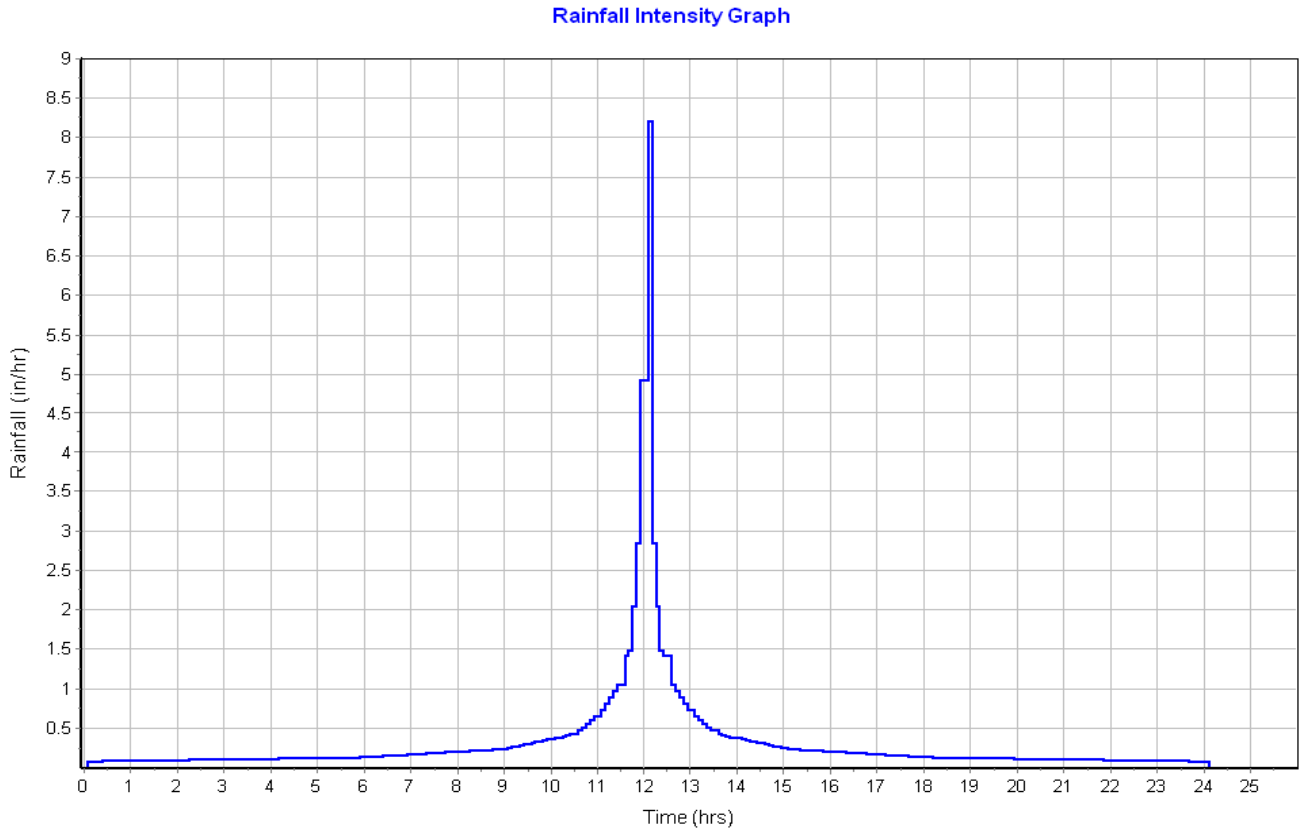
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	227	104.60	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.19	0.10	0.00
Computed Flow Time (min) :	19.41	17.12	0.00

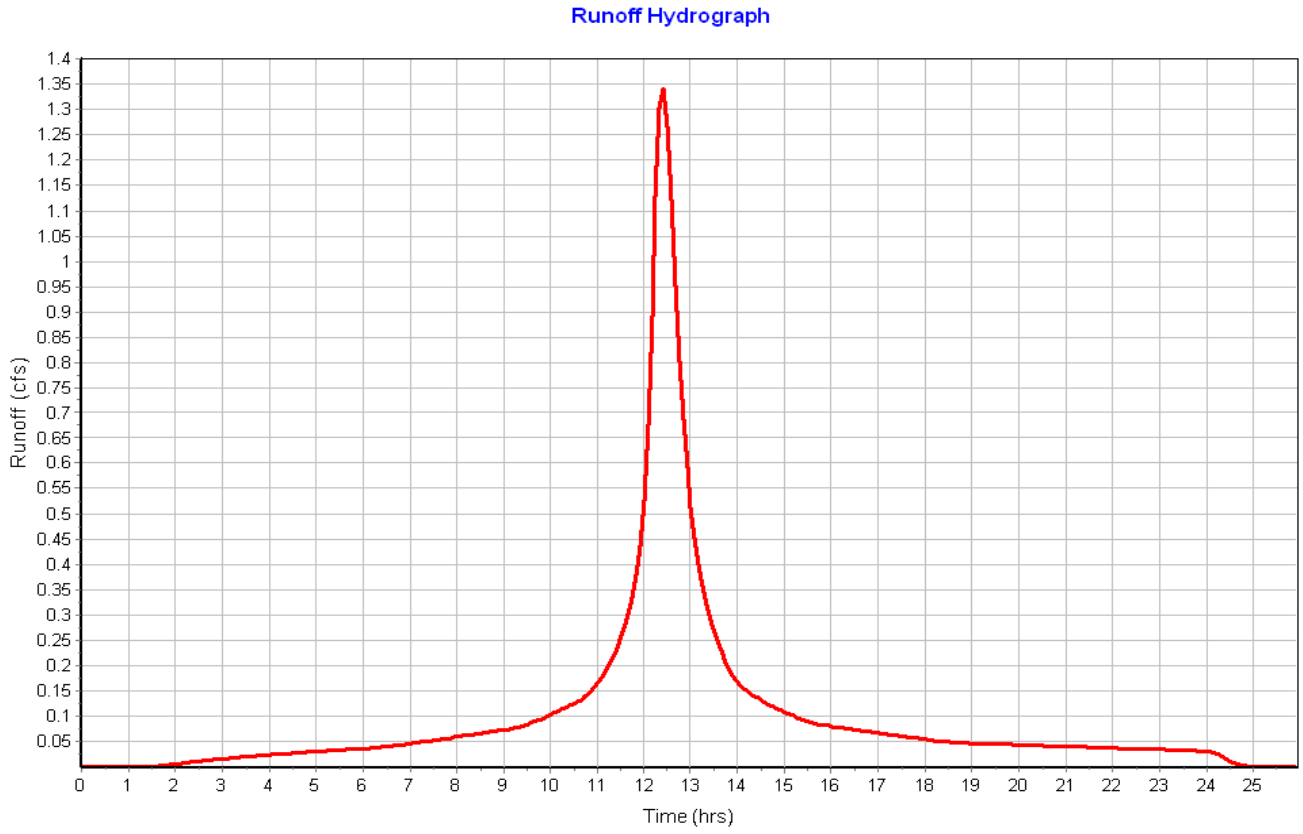
Total TOC (min) 36.53

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.33
Peak Runoff (cfs) 1.34
Weighted Curve Number 95.54
Time of Concentration (days hh:mm:ss) 0 00:36:32

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.43
Peak Rate Factor 484.00
Weighted Curve Number 96.11
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.29	C	98.00
Paved parking & roofs	0.10	C	98.00
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.42		96.11

Time of Concentration

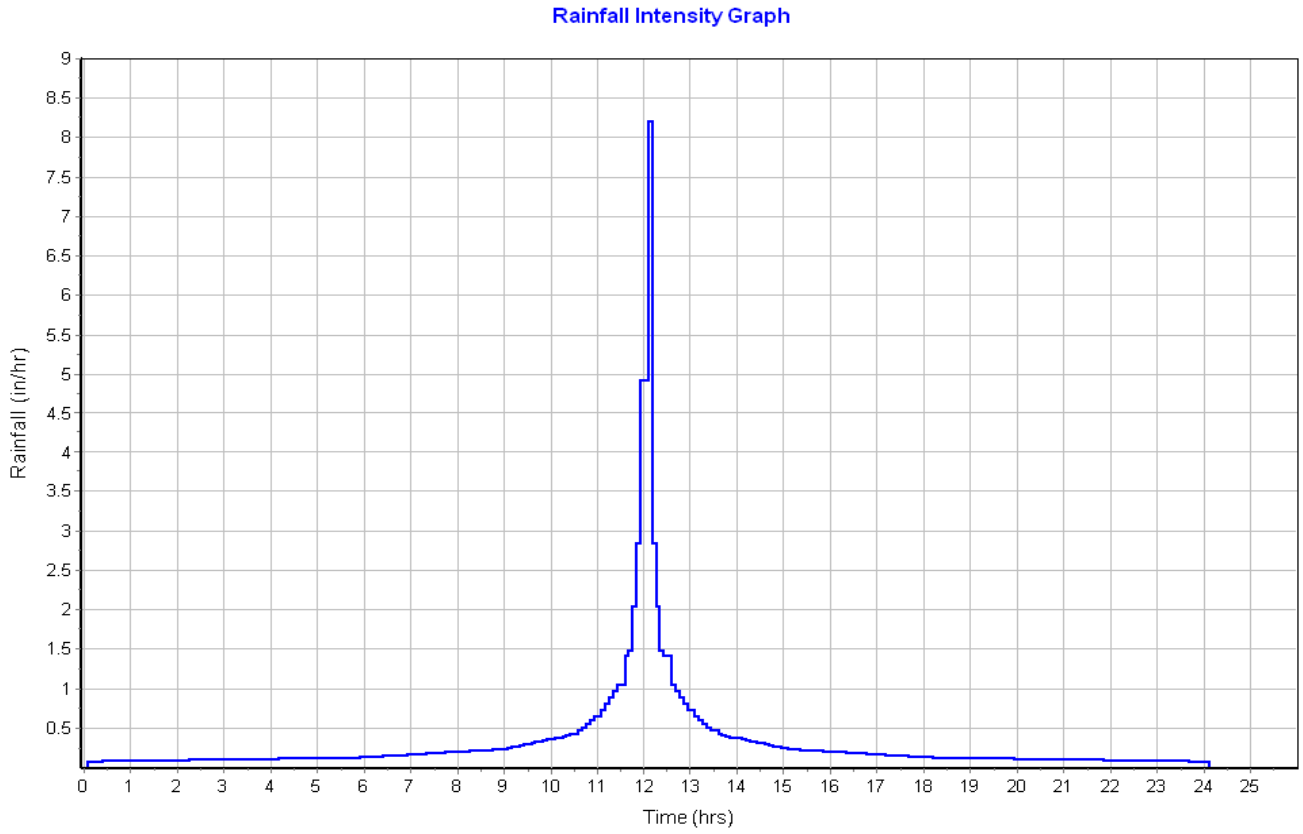
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	.01
Flow Length (ft) :	142.89	100	105.19
Slope (%) :	1	3	3
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	0.18	0.13	1.77
Computed Flow Time (min) :	13.40	12.52	0.99

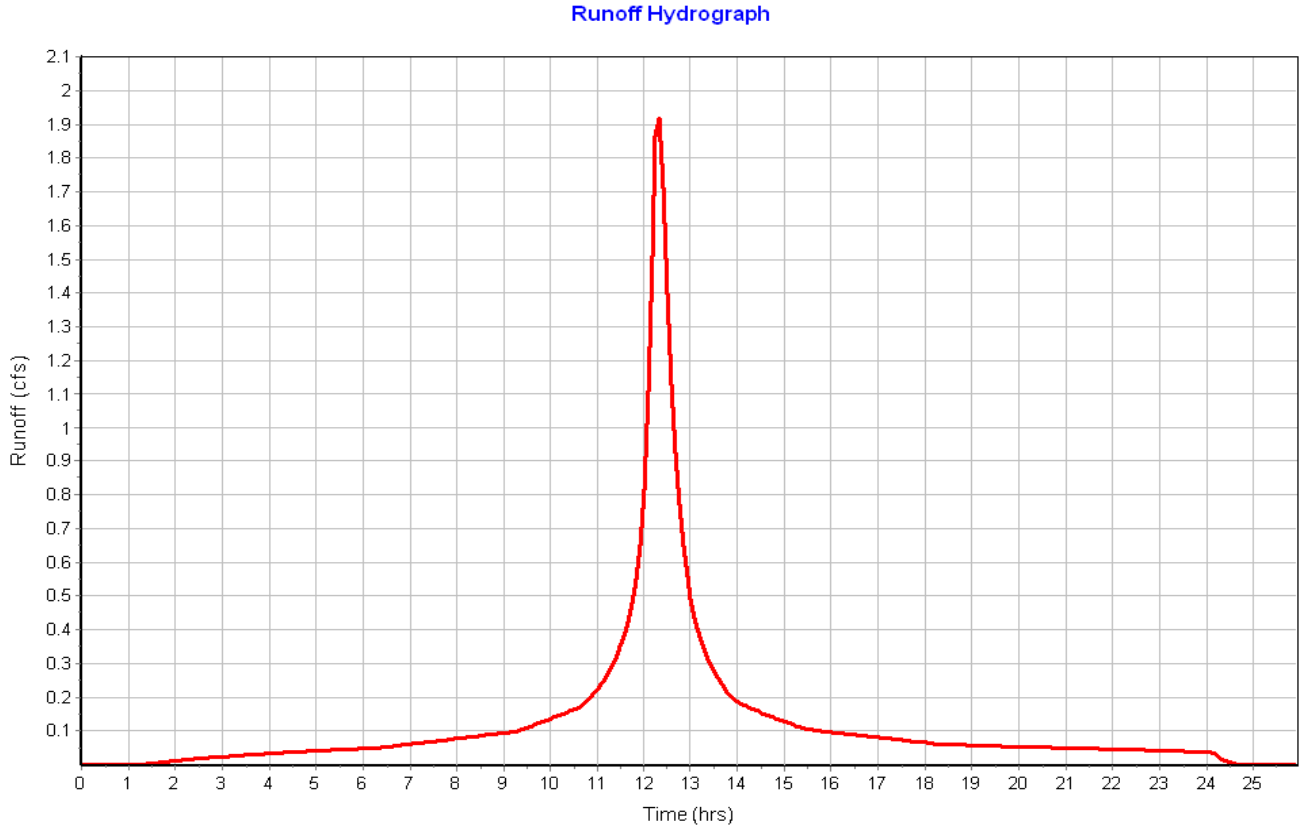
Total TOC (min) 26.91

Subbasin Runoff Results

Total Rainfall (in) 7.86
Total Runoff (in) 7.39
Peak Runoff (cfs) 1.93
Weighted Curve Number 96.11
Time of Concentration (days hh:mm:ss) 0 00:26:55

Subbasin : Sub-04





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	21.91	19.65	4.00	19.20	1.20	0.45	2.0500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	15.73	25.15	4.00	25.00	4.00	0.15	0.9500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	25.99	23.15	4.00	23.00	3.00	0.15	0.5800	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	1.97	0 12:35	9.79	0.20	3.84	0.10	0.50	0.33	0.00		Calculated
2	Link-02	1.34	0 12:30	6.67	0.20	2.68	0.10	0.49	0.33	0.00		Calculated
3	Link-03	1.91	0 12:25	5.19	0.37	2.78	0.16	0.62	0.41	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	15.65
Max (Rim) Elevation (ft)	22.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-15.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.97
Peak Lateral Inflow (cfs)	1.97
Peak Outflow (cfs)	1.97
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	20.19
Max HGL Depth Attained (ft)	4.54
Average HGL Elevation Attained (ft)	19.73
Average HGL Depth Attained (ft)	4.08
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.34
Peak Lateral Inflow (cfs)	1.34
Peak Outflow (cfs)	1.34
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.70
Max HGL Depth Attained (ft)	4.55
Average HGL Elevation Attained (ft)	25.17
Average HGL Depth Attained (ft)	4.02
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	19.15
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-19.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.92
Peak Lateral Inflow (cfs)	1.92
Peak Outflow (cfs)	1.91
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	23.87
Max HGL Depth Attained (ft)	4.72
Average HGL Elevation Attained (ft)	23.26
Average HGL Depth Attained (ft)	4.11
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scen 3 Existing Conditions.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	4
Nodes	7
Junctions	0
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	3
Links	3
Channels	0
Pipes	3
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.30	484.00	72.68	9.70	6.30	1.90	1.88	0 00:10:43
2	Sub-02	0.56	484.00	97.23	9.70	9.37	5.26	2.44	0 00:43:35
3	Sub-03	0.35	484.00	95.54	9.70	9.16	3.24	1.66	0 00:36:31
4	Sub-04	0.43	484.00	96.11	9.70	9.23	4.00	2.40	0 00:26:54

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	21.00					1.87	21.00					
2	Out-02	Outfall	18.00					2.44	18.00					
3	Out-03	Outfall	21.00					1.66	21.00					
4	Out-04	Outfall	20.00					2.37	20.00					
5	CB-01	Storage Node	15.65	22.50	0.00		1000.00	2.44	20.26				0.00	0.00
6	CB-02	Storage Node	21.15	28.00	0.00		1000.00	1.66	25.77				0.00	0.00
7	CB-03	Storage Node	19.15	26.00	0.00		1000.00	2.37	23.96				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	CB-01	Out-02	21.91	19.65	19.20	2.0500	18.000	0.0200	2.44	9.79	0.25	4.03	0.56	0.37	0.00	Calculated
2	Link-02	Pipe	CB-02	Out-03	15.73	25.15	25.00	0.9500	18.000	0.0200	1.66	6.67	0.25	2.82	0.55	0.37	0.00	Calculated
3	Link-03	Pipe	CB-03	Out-04	25.99	23.15	23.00	0.5800	18.000	0.0200	2.37	5.19	0.46	2.95	0.70	0.46	0.00	Calculated

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.30
Peak Rate Factor 484.00
Weighted Curve Number 72.68
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
> 75% grass cover, Good	0.26	C	74.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.30		72.68

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

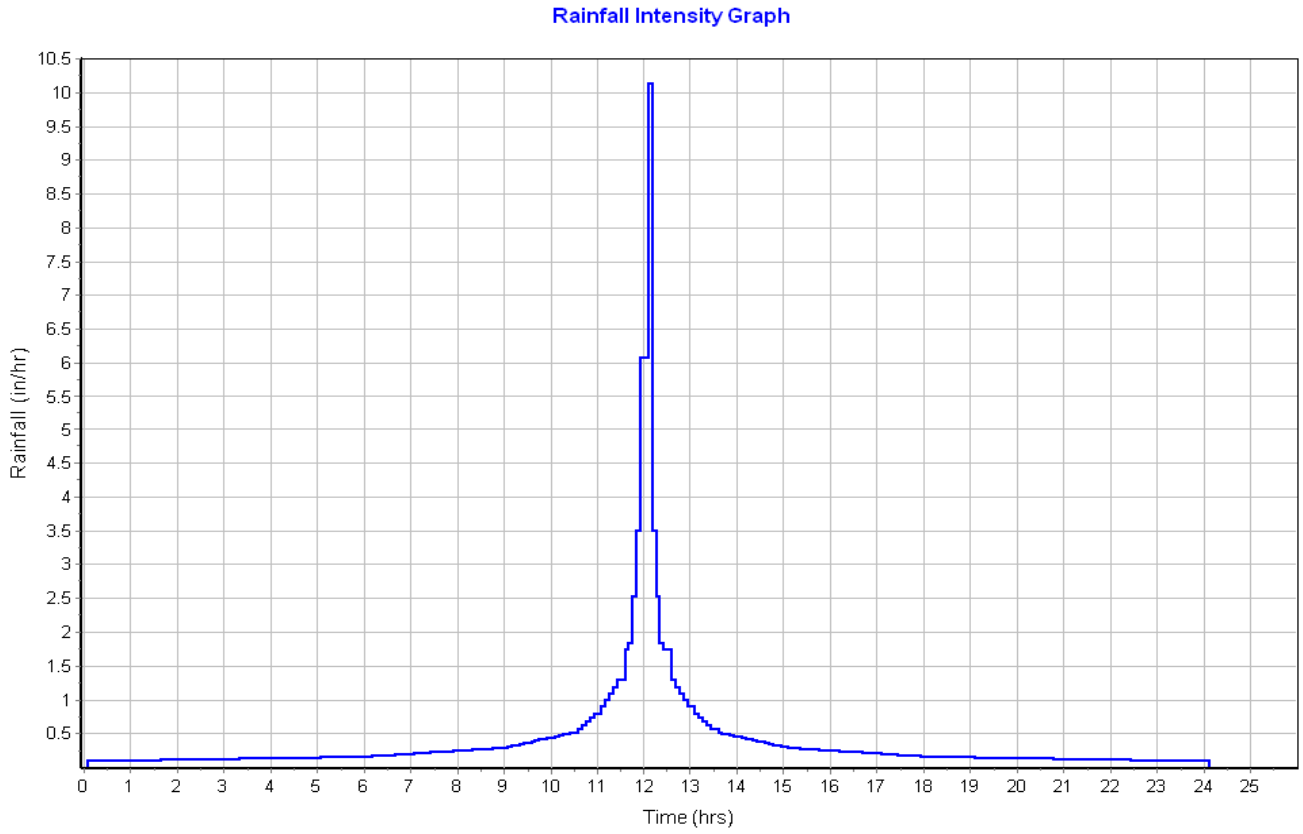
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	69.04	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.16	0.05	0.00
Computed Flow Time (min) :	7.28	3.45	0.00

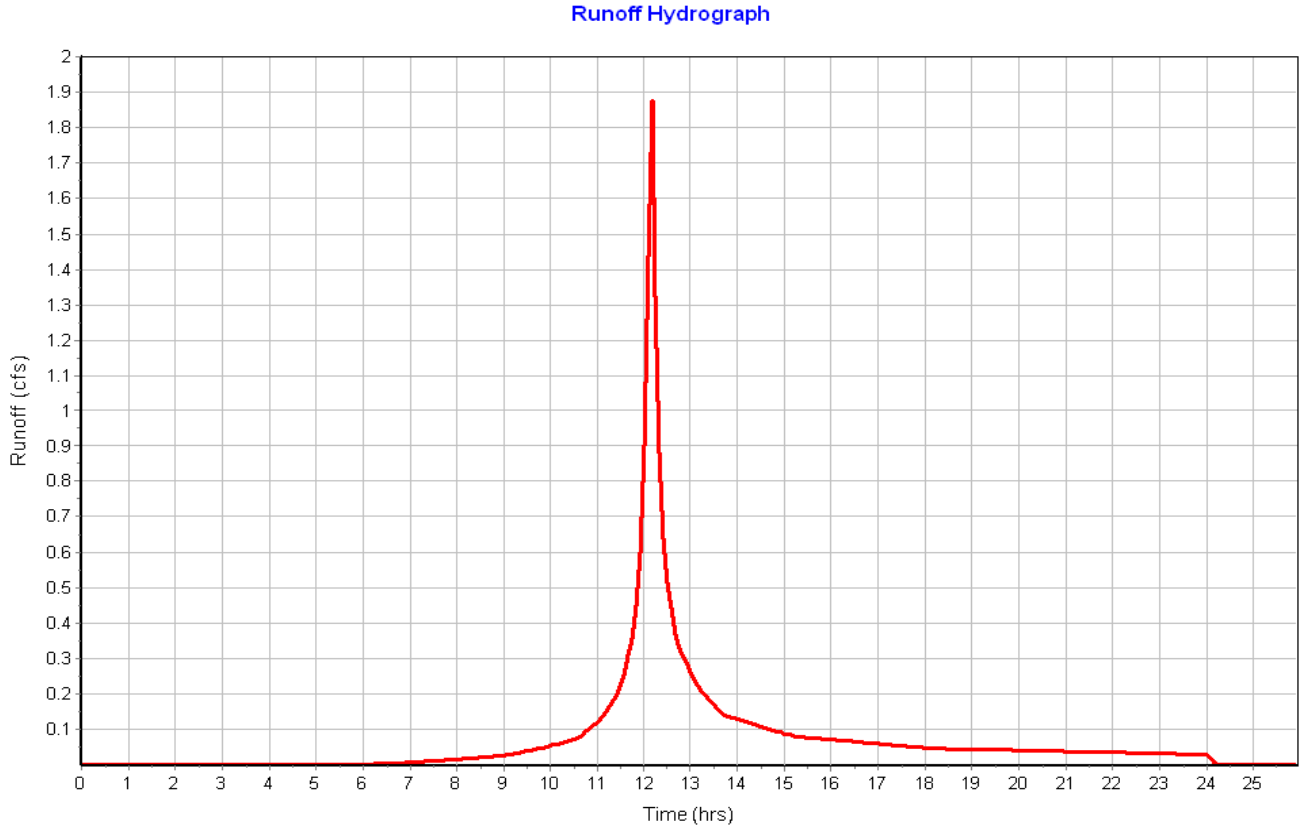
Total TOC (min) 10.73

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.30
Peak Runoff (cfs)	1.88
Weighted Curve Number	72.68
Time of Concentration (days hh:mm:ss)	0 00:10:44

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.56
Peak Rate Factor	484.00
Weighted Curve Number	97.23
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.54	C	98.00
> 75% grass cover, Good	0.02	C	74.00
Composite Area & Weighted CN	0.56		97.23

Time of Concentration

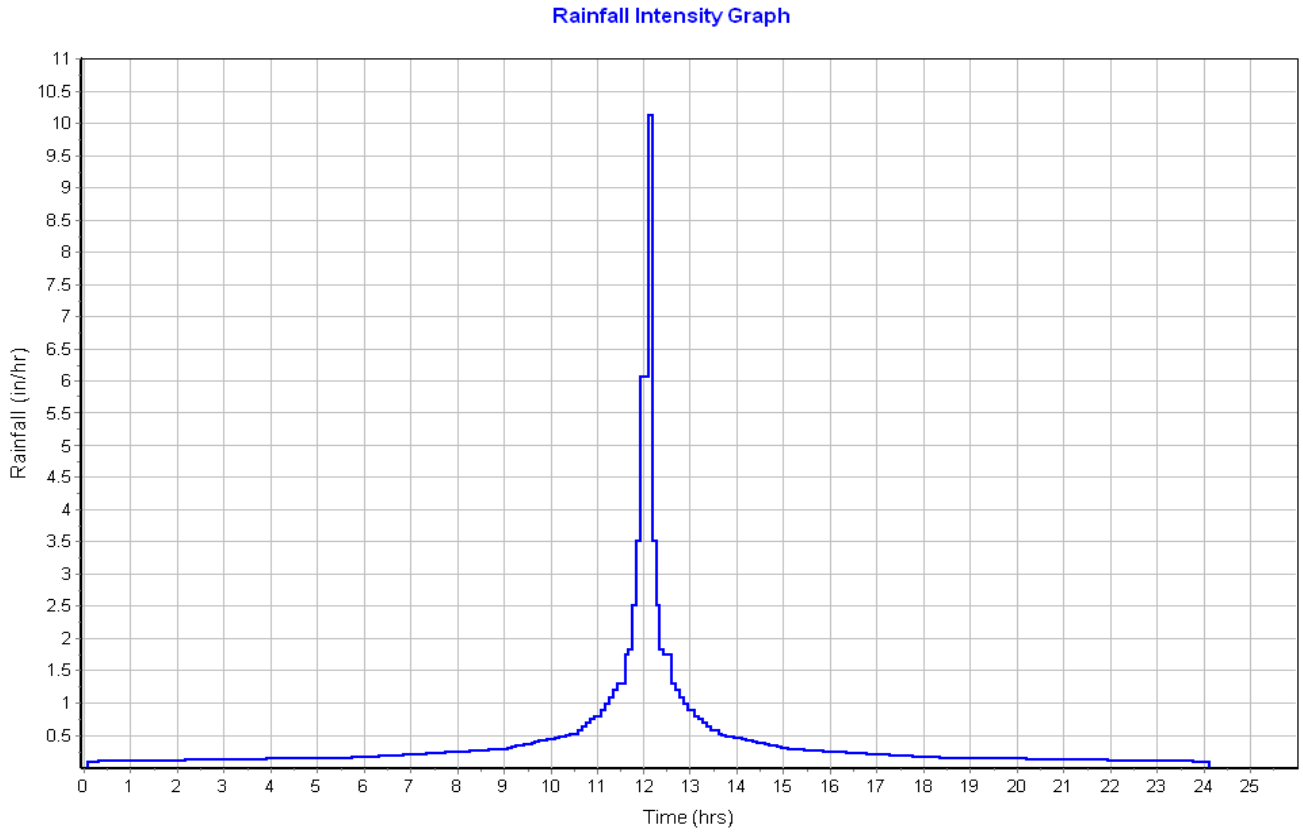
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	270.84	136.94	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.20	0.11	0.00
Computed Flow Time (min) :	22.35	21.24	0.00

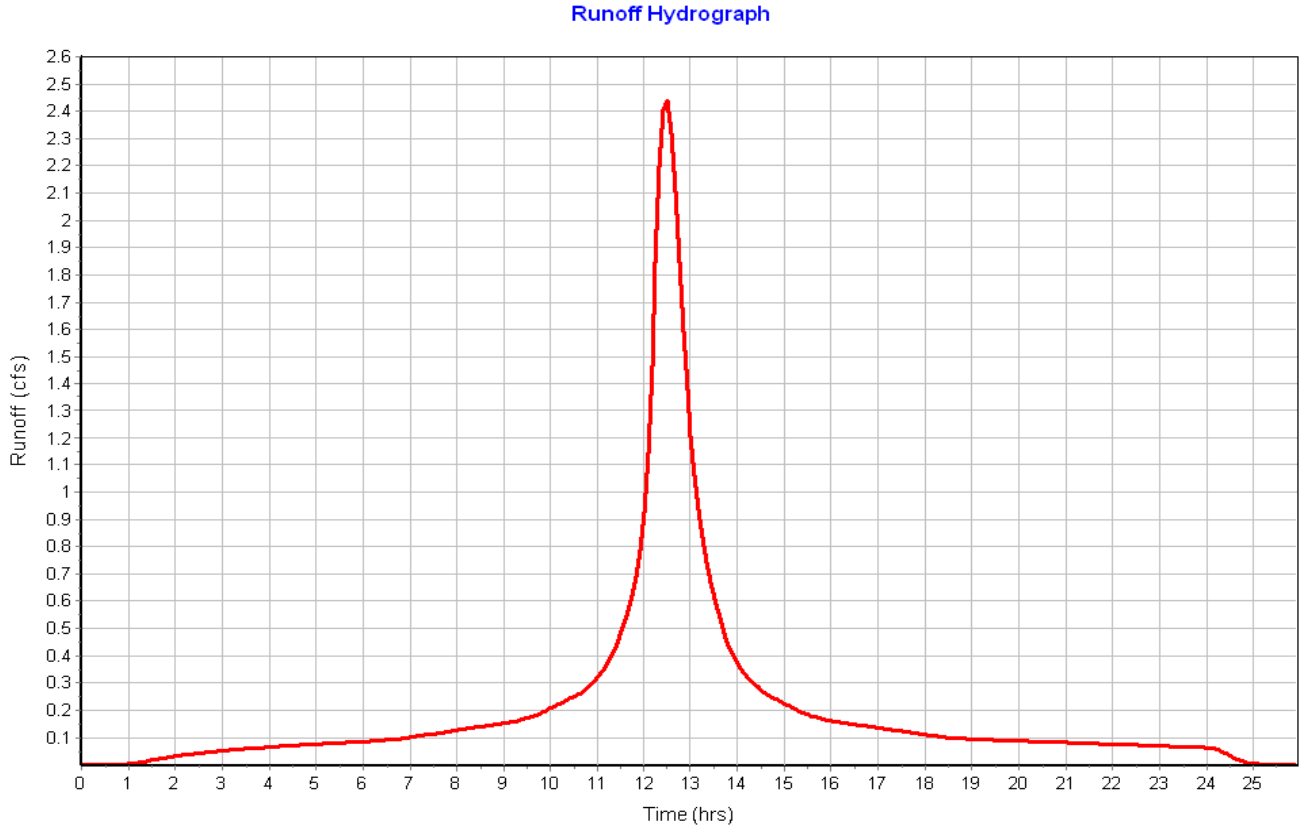
Total TOC (min) 43.59

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.37
Peak Runoff (cfs)	2.44
Weighted Curve Number	97.23
Time of Concentration (days hh:mm:ss)	0 00:43:35

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.35
Peak Rate Factor	484.00
Weighted Curve Number	95.54
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.32	C	98.00
> 75% grass cover, Good	0.04	C	74.00
Composite Area & Weighted CN	0.36		95.54

Time of Concentration

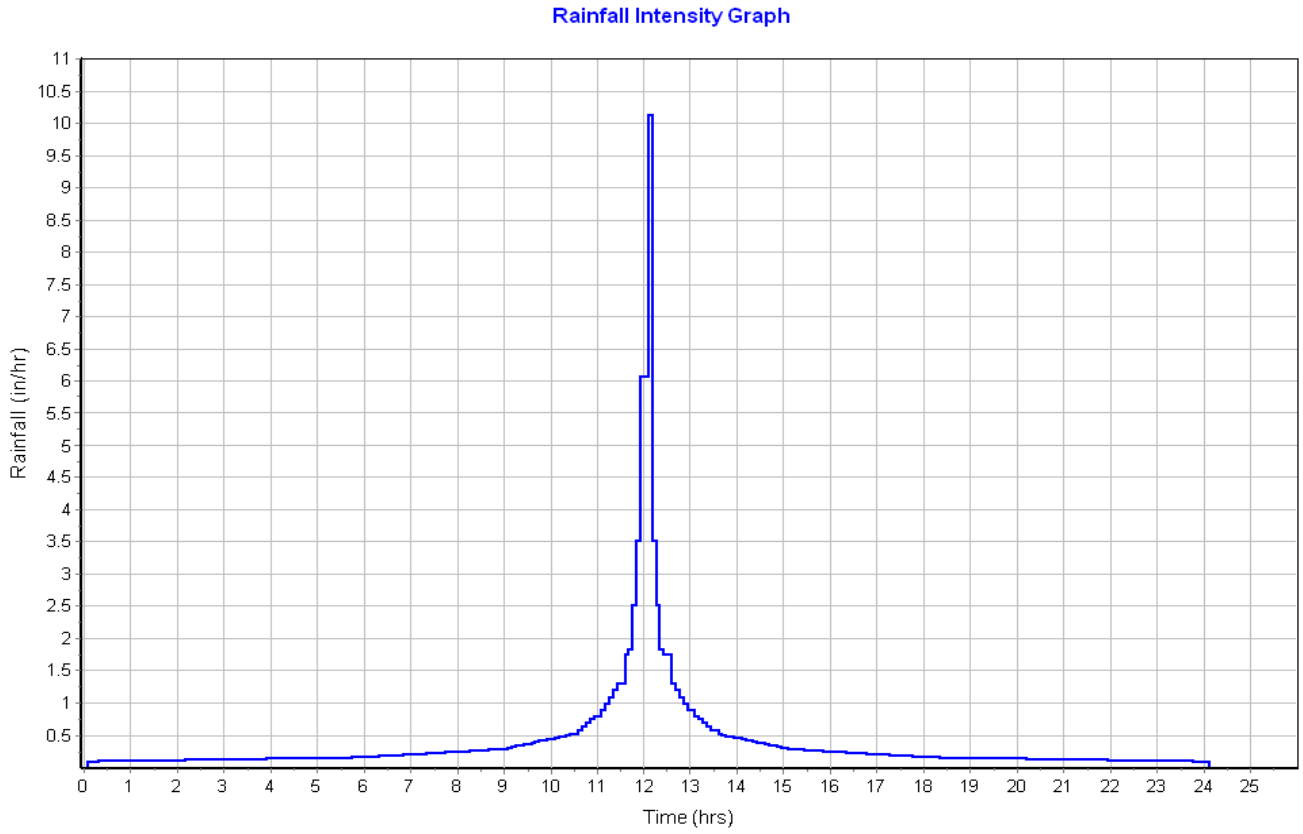
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	0.00
Flow Length (ft) :	227	104.60	0.00
Slope (%) :	1	1.5	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.19	0.10	0.00
Computed Flow Time (min) :	19.41	17.12	0.00

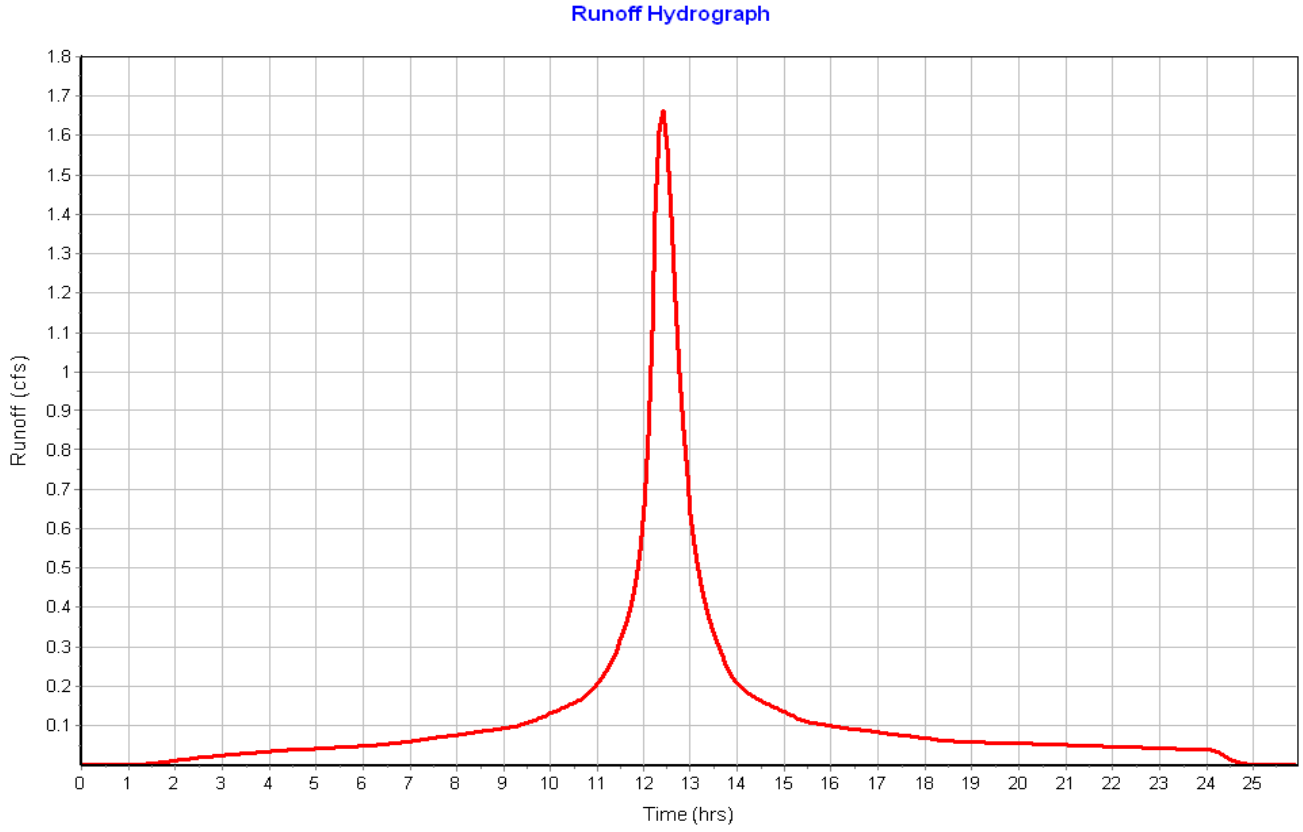
Total TOC (min) 36.53

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.16
Peak Runoff (cfs)	1.66
Weighted Curve Number	95.54
Time of Concentration (days hh:mm:ss)	0 00:36:32

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.43
Peak Rate Factor	484.00
Weighted Curve Number	96.11
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.29	C	98.00
Paved parking & roofs	0.10	C	98.00
> 75% grass cover, Good	0.03	C	74.00
Composite Area & Weighted CN	0.42		96.11

Time of Concentration

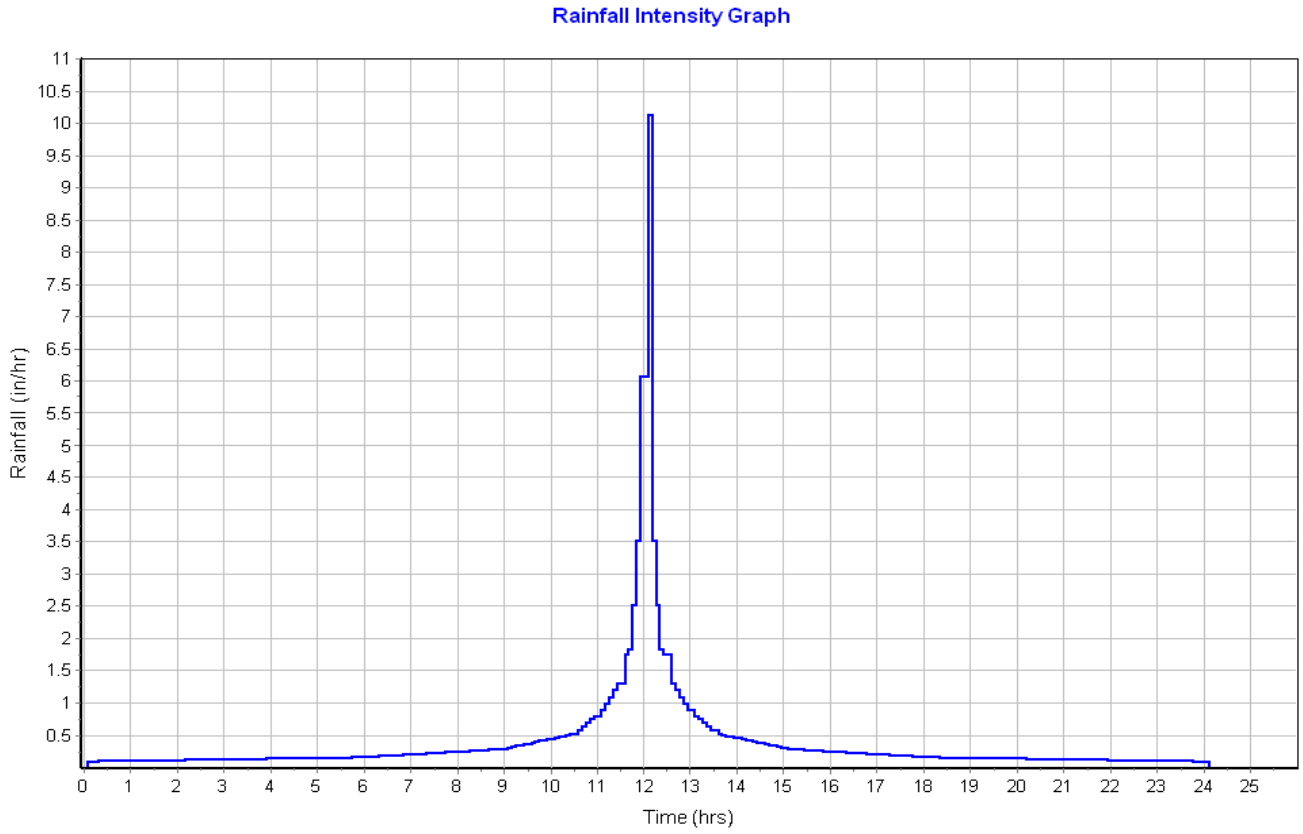
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.11	.25	.01
Flow Length (ft) :	142.89	100	105.19
Slope (%) :	1	3	3
2 yr, 24 hr Rainfall (in) :	3.21	3.21	3.21
Velocity (ft/sec) :	0.18	0.13	1.77
Computed Flow Time (min) :	13.40	12.52	0.99

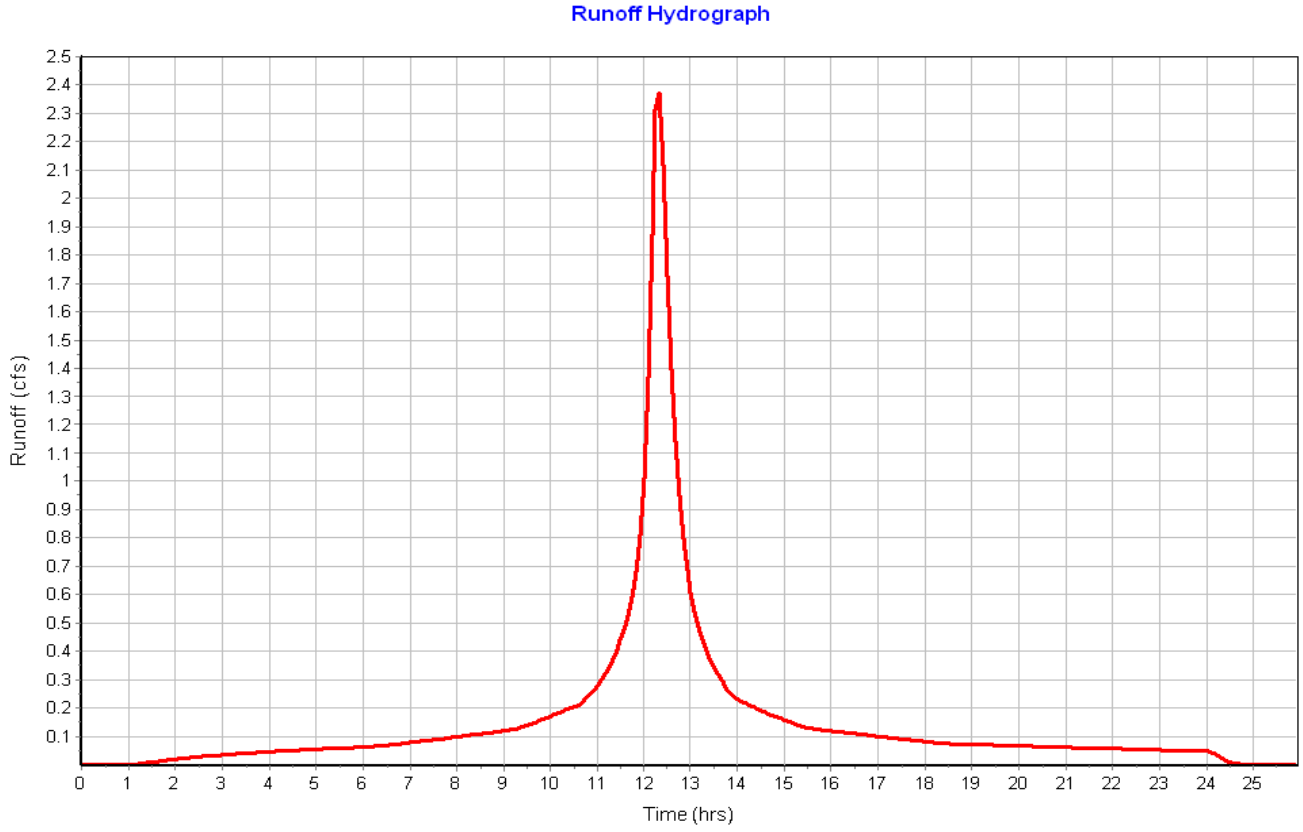
Total TOC (min) 26.91

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.23
Peak Runoff (cfs)	2.40
Weighted Curve Number	96.11
Time of Concentration (days hh:mm:ss)	0 00:26:55

Subbasin : Sub-04





Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-01	21.91	19.65	4.00	19.20	1.20	0.45	2.0500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
2	Link-02	15.73	25.15	4.00	25.00	4.00	0.15	0.9500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1
3	Link-03	25.99	23.15	4.00	23.00	3.00	0.15	0.5800	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	2.44	0 12:35	9.79	0.25	4.03	0.09	0.56	0.37	0.00		Calculated
2	Link-02	1.66	0 12:30	6.67	0.25	2.82	0.09	0.55	0.37	0.00		Calculated
3	Link-03	2.37	0 12:25	5.19	0.46	2.95	0.15	0.70	0.46	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	15.65
Max (Rim) Elevation (ft)	22.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-15.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.44
Peak Lateral Inflow (cfs)	2.44
Peak Outflow (cfs)	2.44
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	20.26
Max HGL Depth Attained (ft)	4.61
Average HGL Elevation Attained (ft)	19.80
Average HGL Depth Attained (ft)	4.15
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.66
Peak Lateral Inflow (cfs)	1.66
Peak Outflow (cfs)	1.66
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.77
Max HGL Depth Attained (ft)	4.62
Average HGL Elevation Attained (ft)	25.25
Average HGL Depth Attained (ft)	4.1
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-03

Input Data

Invert Elevation (ft)	19.15
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-19.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	2.37
Peak Lateral Inflow (cfs)	2.37
Peak Outflow (cfs)	2.37
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	23.96
Max HGL Depth Attained (ft)	4.81
Average HGL Elevation Attained (ft)	23.33
Average HGL Depth Attained (ft)	4.18
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

SSA Model Inputs and Outputs

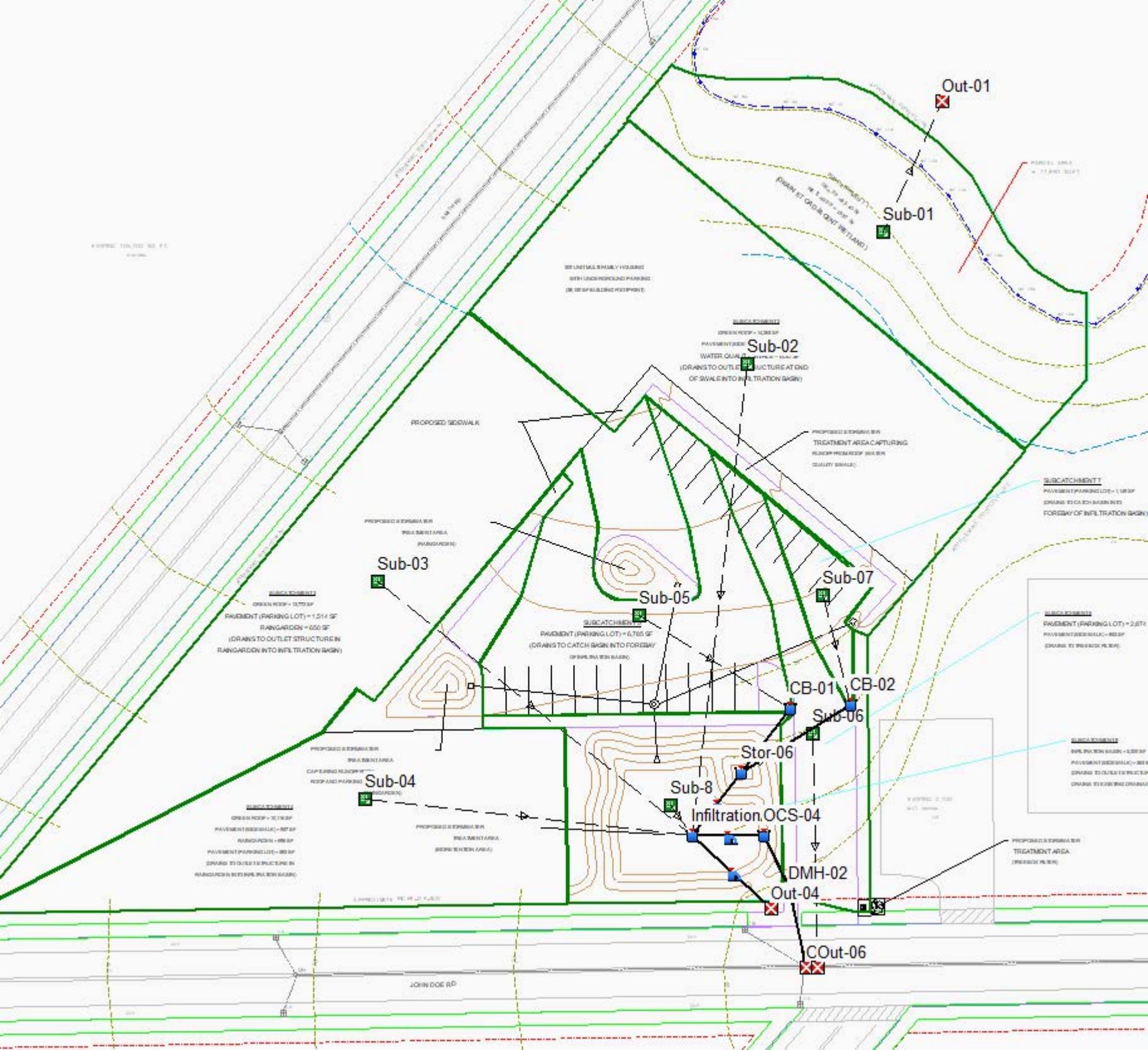
for

Scenario 3

Proposed Conditions Under Existing Regulations

Output List

- Model Schematic with Labels
- 2-year SCS Type III
- 100-year SCS Type III


Out-01
Sub-01
Sub-02
Sub-03
Sub-04
Sub-05
Sub-06
Sub-07
Sub-8
CB-01
CB-02
Stor-06
Infiltration OCS-04
DMH-02
Out-04
COut-06
PROPOSED SIDEWALK
JOHN DOE RD

Project Description

File Name ..... Scen 3 Proposed Conditions (Existing Regulation)_2020 10 19.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	8
Nodes	10
Junctions	1
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	5
Links	7
Channels	0
Pipes	4
Pumps	0
Orifices	0
Weirs	3
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.24	484.00	65.00	3.10	0.55	0.13	0.10	0 00:09:28
2	Sub-02	0.36	484.00	97.01	3.10	2.76	1.00	0.64	0 00:28:41
3	Sub-03	0.37	484.00	97.02	3.10	2.76	1.01	0.53	0 00:42:48
4	Sub-04	0.28	484.00	96.65	3.10	2.72	0.77	0.51	0 00:25:49
5	Sub-05	0.16	484.00	98.00	3.10	2.87	0.45	0.40	0 00:01:45
6	Sub-06	0.09	484.00	98.00	3.10	2.86	0.24	0.22	0 00:01:28
7	Sub-07	0.03	484.00	98.00	3.10	2.66	0.07	0.07	0 00:00:44
8	Sub-8	0.13	484.00	76.34	3.10	1.10	0.15	0.15	0 00:05:08

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	Junction	21.00	26.00	0.00	0.00	0.00	1.82	21.66	0.00	4.34	0 00:00	0.00	0.00
2	Out-01	Outfall	21.00					0.10	21.00					
3	Out-04	Outfall	0.00					0.00	0.00					
4	Out-05	Outfall	20.00					1.82	20.37					
5	Out-06	Outfall	19.00					0.22	19.00					
6	CB-01	Storage Node	21.65	28.50	0.00		1000.00	0.40	25.86				0.00	0.00
7	CB-02	Storage Node	21.15	28.00	0.00		1000.00	0.07	25.82				0.00	0.00
8	InfiltrationArea	Storage Node	24.50	25.50	0.00		0.00	1.85	25.34				0.00	0.00
9	OCS-04	Storage Node	20.25	25.18	0.00		0.00	1.82	22.84				0.00	0.00
10	Stor-06	Storage Node	24.00	26.00	0.00		0.00	0.46	25.73				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-06	Pipe	CB-01	Stor-06	20.00	25.65	25.00	3.2500	12.000	0.0200	0.40	4.17	0.10	1.43	0.47	0.47	0.00	Calculated
2	Link-07	Pipe	CB-02	Stor-06	47.56	25.65	25.40	0.5300	6.000	0.0200	0.07	0.26	0.25	0.76	0.25	0.50	0.00	Calculated
3	Link-09	Pipe	OCS-04	DMH-02	21.76	22.40	21.25	5.2800	12.000	0.0200	1.82	5.32	0.34	28.50	0.43	0.43	0.00	Calculated
4	Link-10	Pipe	DMH-02	Out-05	30.14	21.25	20.00	4.1500	18.000	0.0200	1.82	13.90	0.13	4.98	0.39	0.26	0.00	Calculated
5	Weir-04	Weir	InfiltrationArea	Out-04		24.50	0.00				0.00							
6	Weir-05	Weir	InfiltrationArea	OCS-04		24.50	20.25				1.82							
7	Weir-08	Weir	Stor-06	InfiltrationArea		24.00	24.50				0.46							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.24
Peak Rate Factor 484.00
Weighted Curve Number 65.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
LandscapeArea	0.20	C	65.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.24		65.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	54.57	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.15	0.05	0.00
Computed Flow Time (min) :	6.03	3.45	0.00

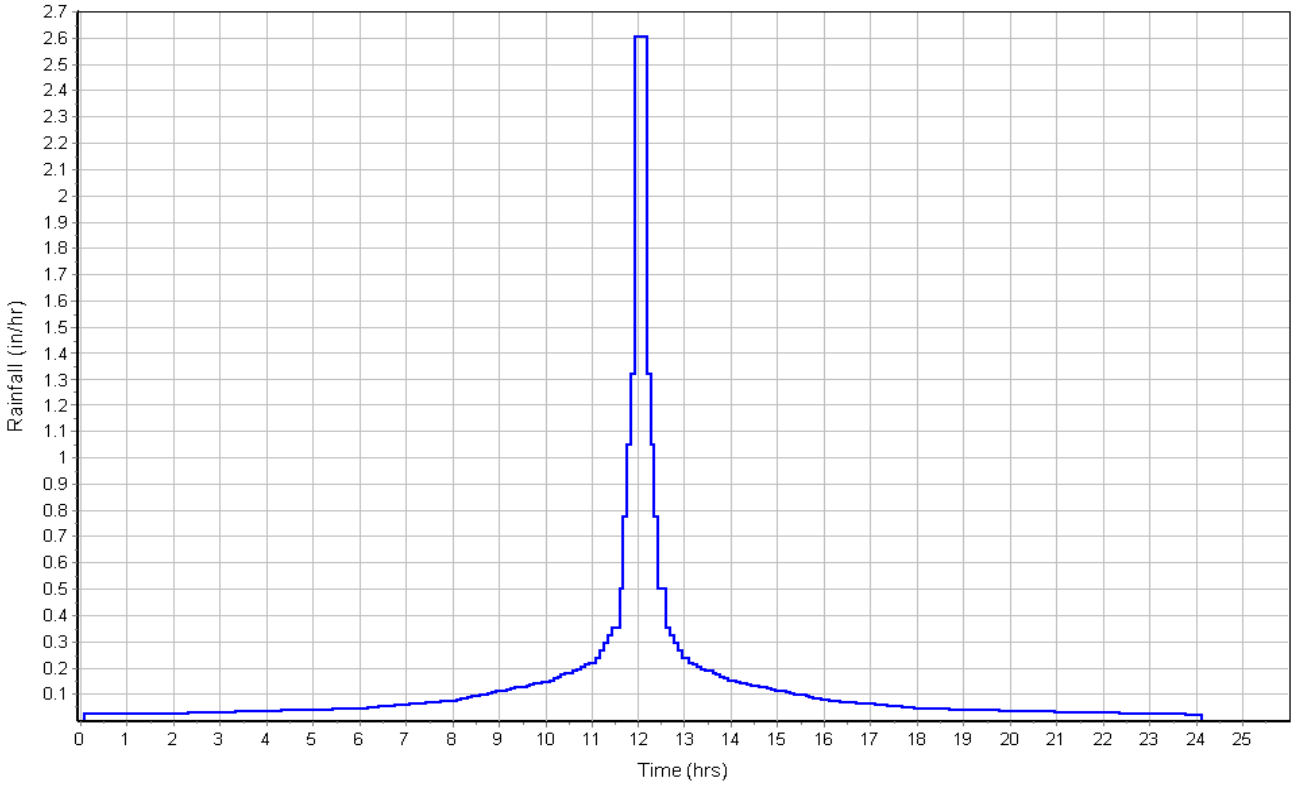
Total TOC (min) 9.48

Subbasin Runoff Results

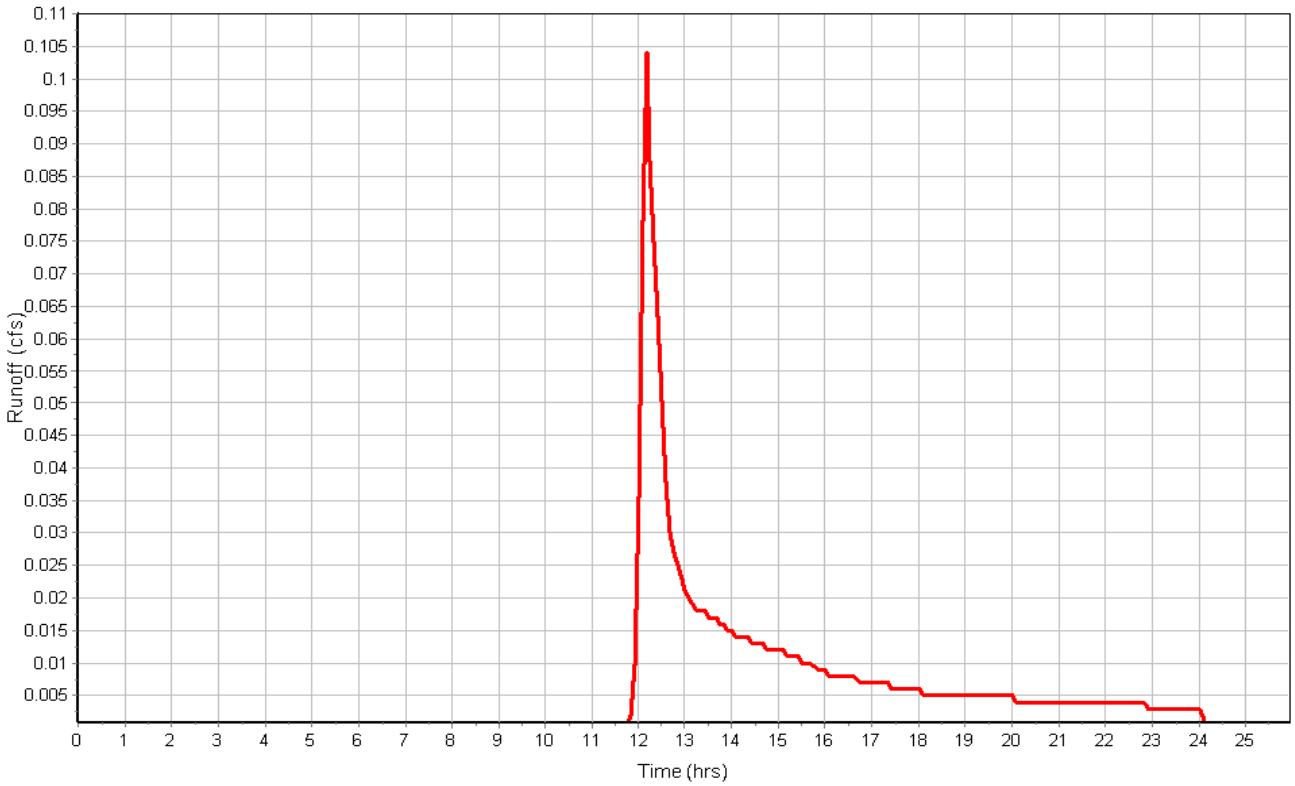
Total Rainfall (in)	3.10
Total Runoff (in)	0.55
Peak Runoff (cfs)	0.10
Weighted Curve Number	65.00
Time of Concentration (days hh:mm:ss)	0 00:09:29

Subbasin : Sub-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-02

Input Data

Area (ac) 0.36
Peak Rate Factor 484.00
Weighted Curve Number 97.01
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Sidewalk	0.02	C	98.00
Roof	0.33	C	98.00
Bioretention Swale	0.01	C	74.00
Composite Area & Weighted CN	0.36		97.01

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	156.39	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	27.78	0.00	0.00

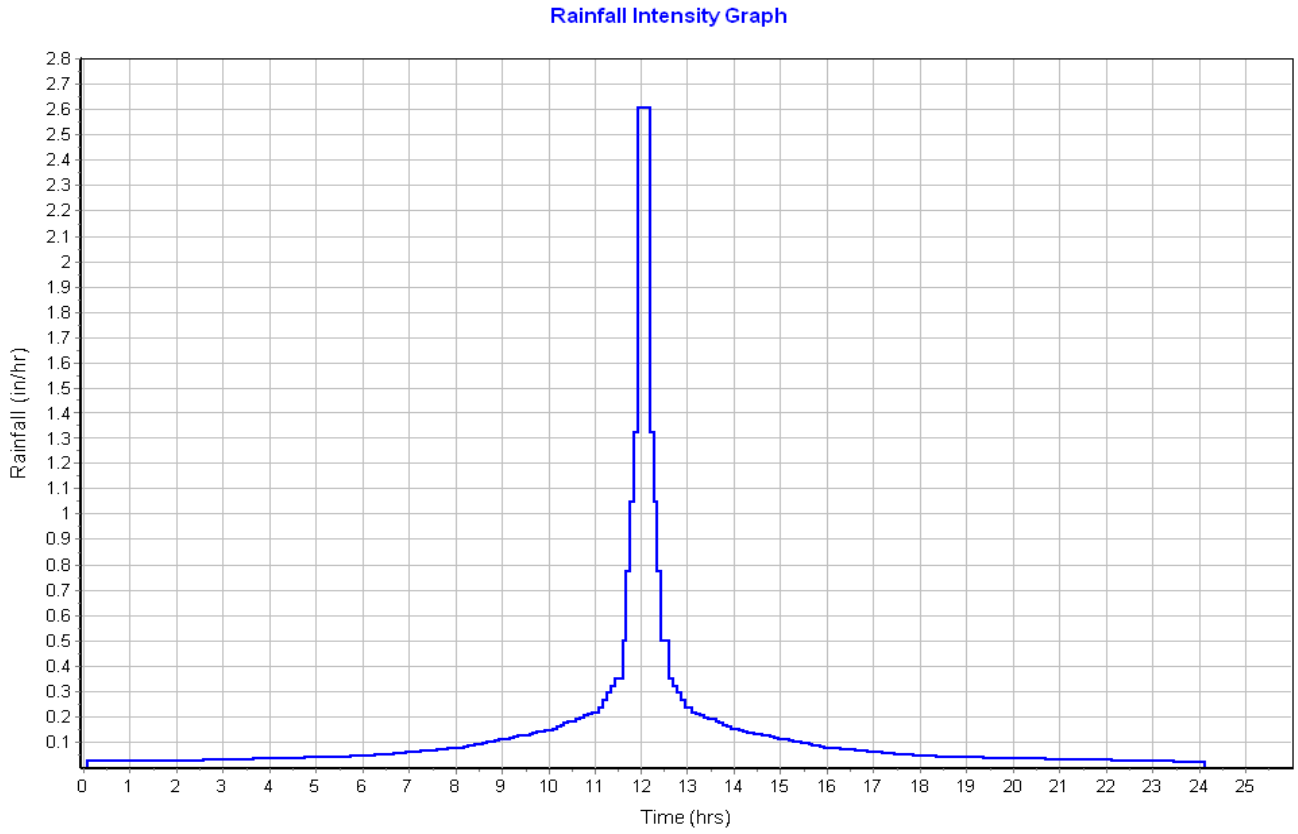
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	129.53	0.00	0.00
Slope (%) :	2.48	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.36	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

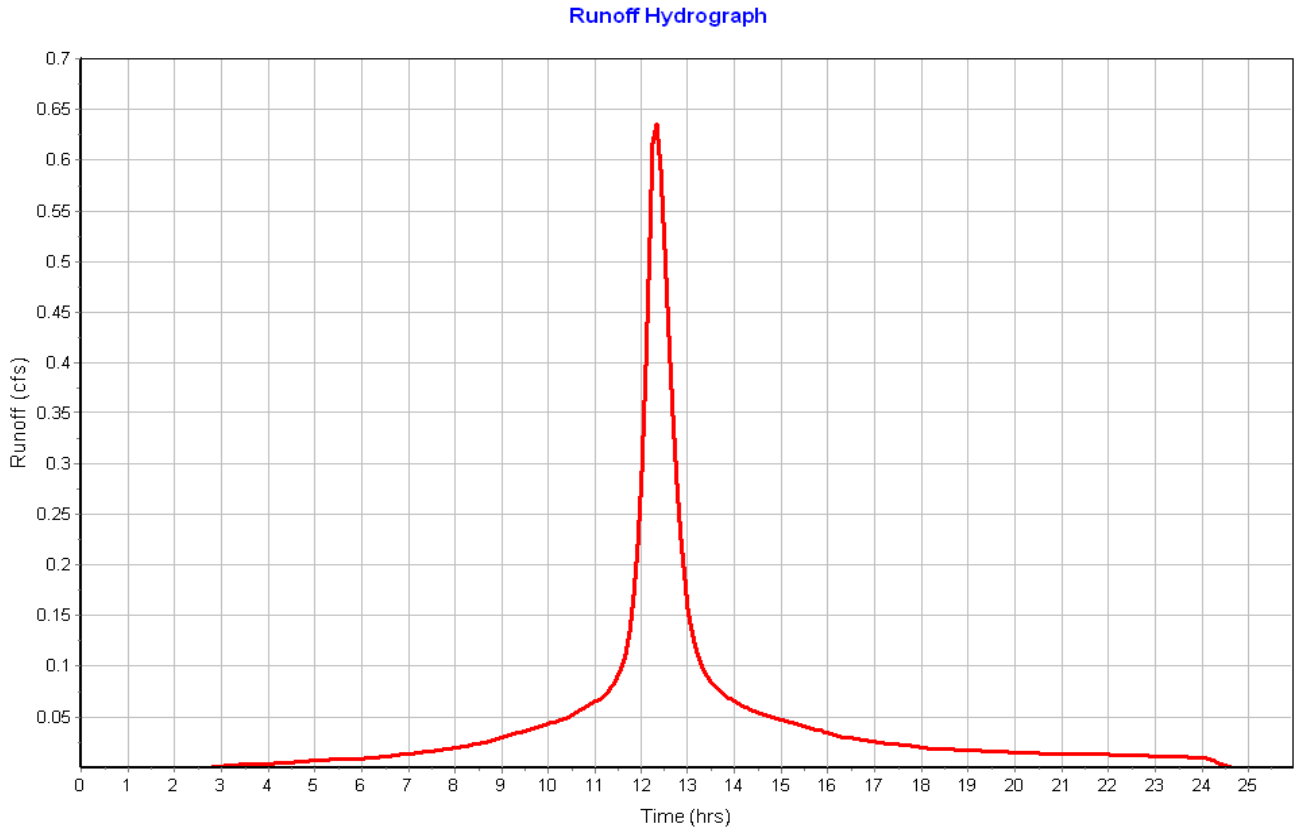
Total TOC (min) 28.69

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.76
Peak Runoff (cfs) 0.64
Weighted Curve Number 97.01
Time of Concentration (days hh:mm:ss) 0 00:28:41

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.37
Peak Rate Factor 484.00
Weighted Curve Number 97.02
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.32	C	98.00
Paved parking & roofs	0.03	C	98.00
Raingarden	0.01	C	74.00
Composite Area & Weighted CN	0.36		97.02

Time of Concentration

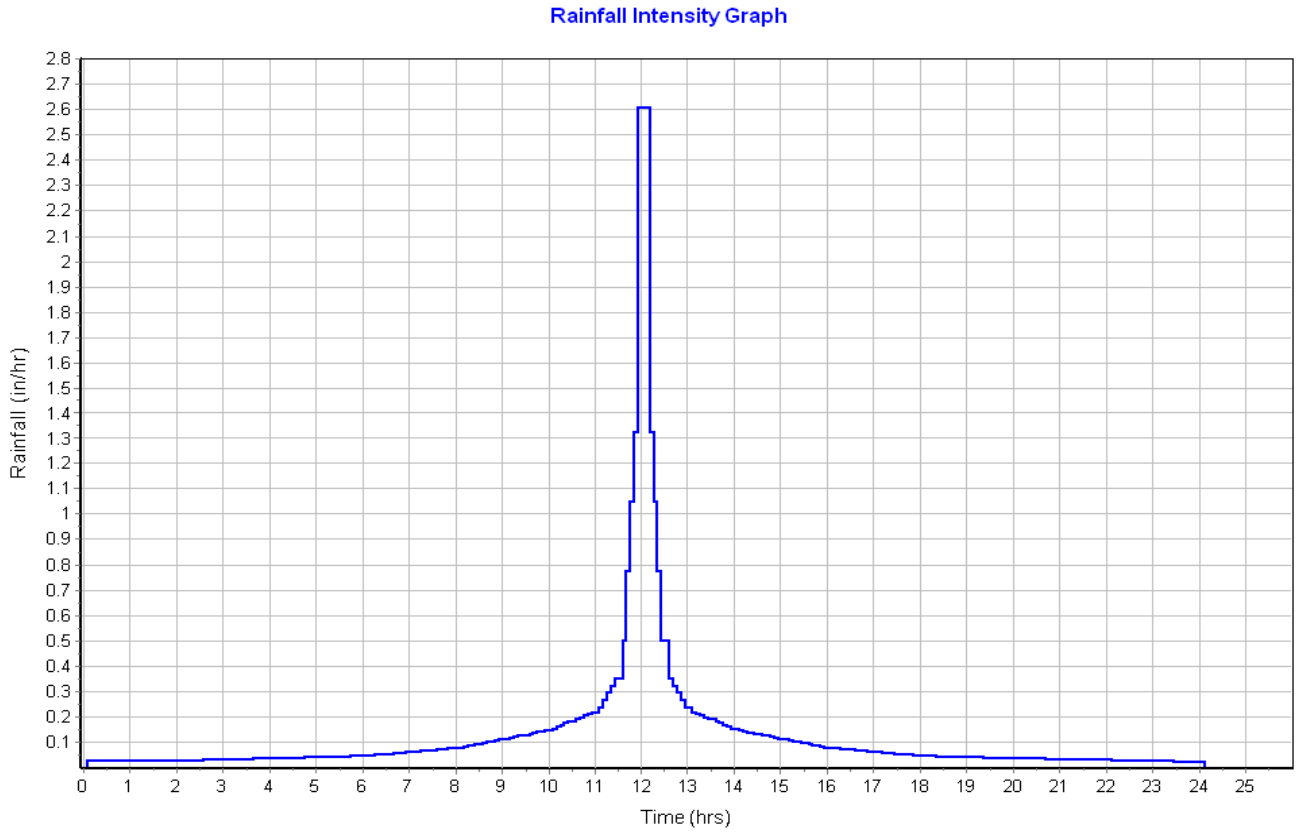
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.01	0.00
Flow Length (ft) :	262.66	64.37	0.00
Slope (%) :	1	2.3	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.10	1.44	0.00
Computed Flow Time (min) :	42.06	0.75	0.00

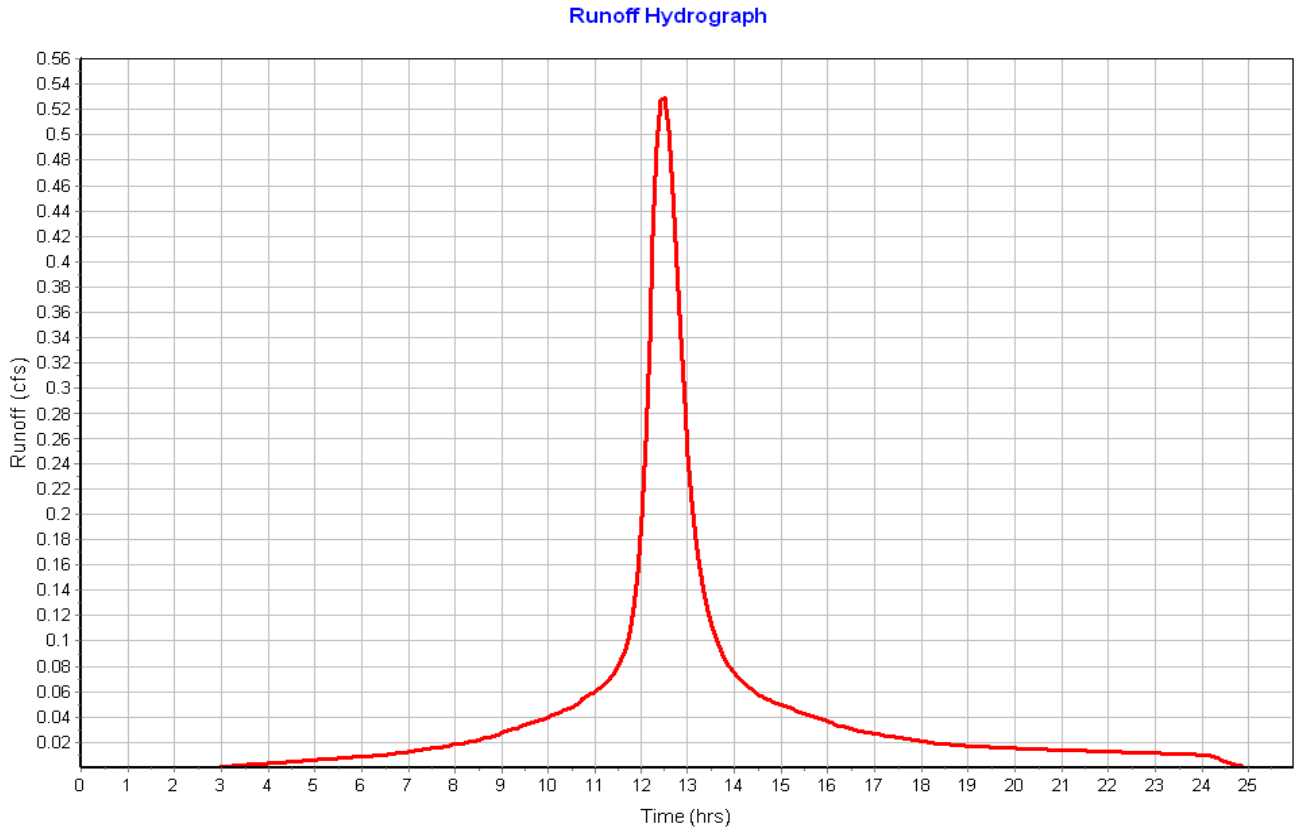
Total TOC (min) 42.80

Subbasin Runoff Results

Total Rainfall (in) 3.10
Total Runoff (in) 2.76
Peak Runoff (cfs) 0.53
Weighted Curve Number 97.02
Time of Concentration (days hh:mm:ss) 0 00:42:48

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.28
Peak Rate Factor	484.00
Weighted Curve Number	96.65
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.23	C	98.00
Sidewalk	0.02	C	98.00
Raingarden	0.02	C	74.00
Paved parking & roofs	0.01	C	98.00
Composite Area & Weighted CN	0.28		96.65

Time of Concentration

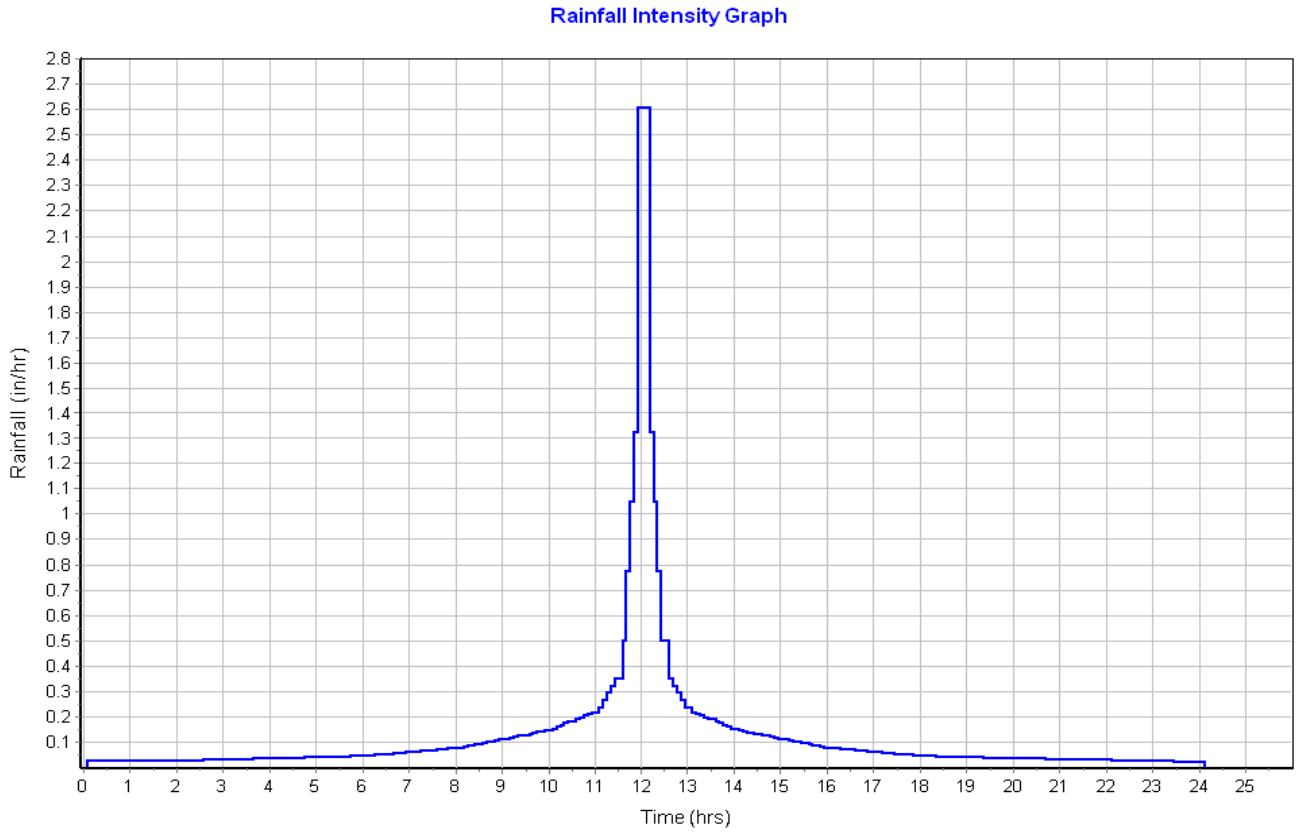
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	142.73	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	25.82	0.00	0.00

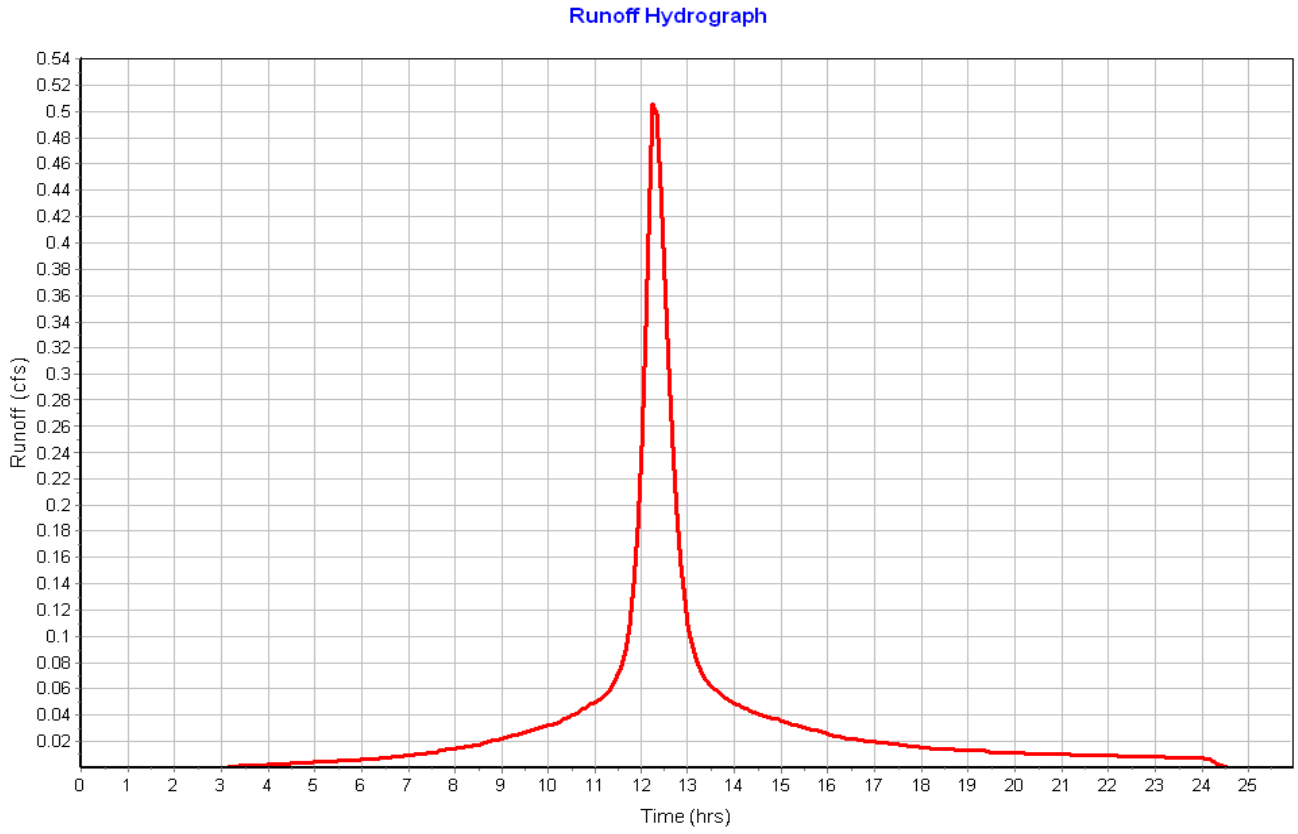
Total TOC (min) 25.82

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.72
Peak Runoff (cfs)	0.51
Weighted Curve Number	96.65
Time of Concentration (days hh:mm:ss)	0 00:25:49

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.16
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.16	C	98.00
Composite Area & Weighted CN	0.16		98.00

Time of Concentration

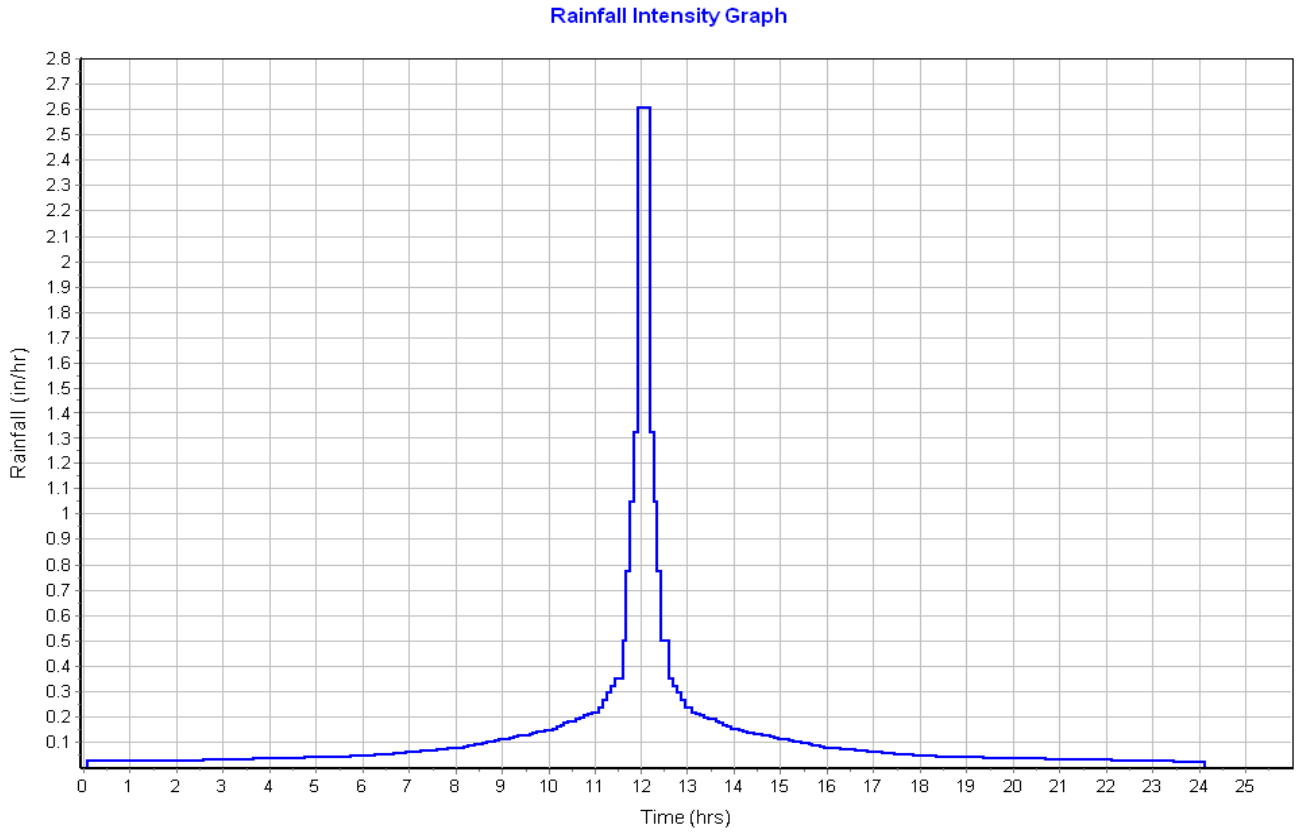
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	175.64	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	1.76	0.00	0.00

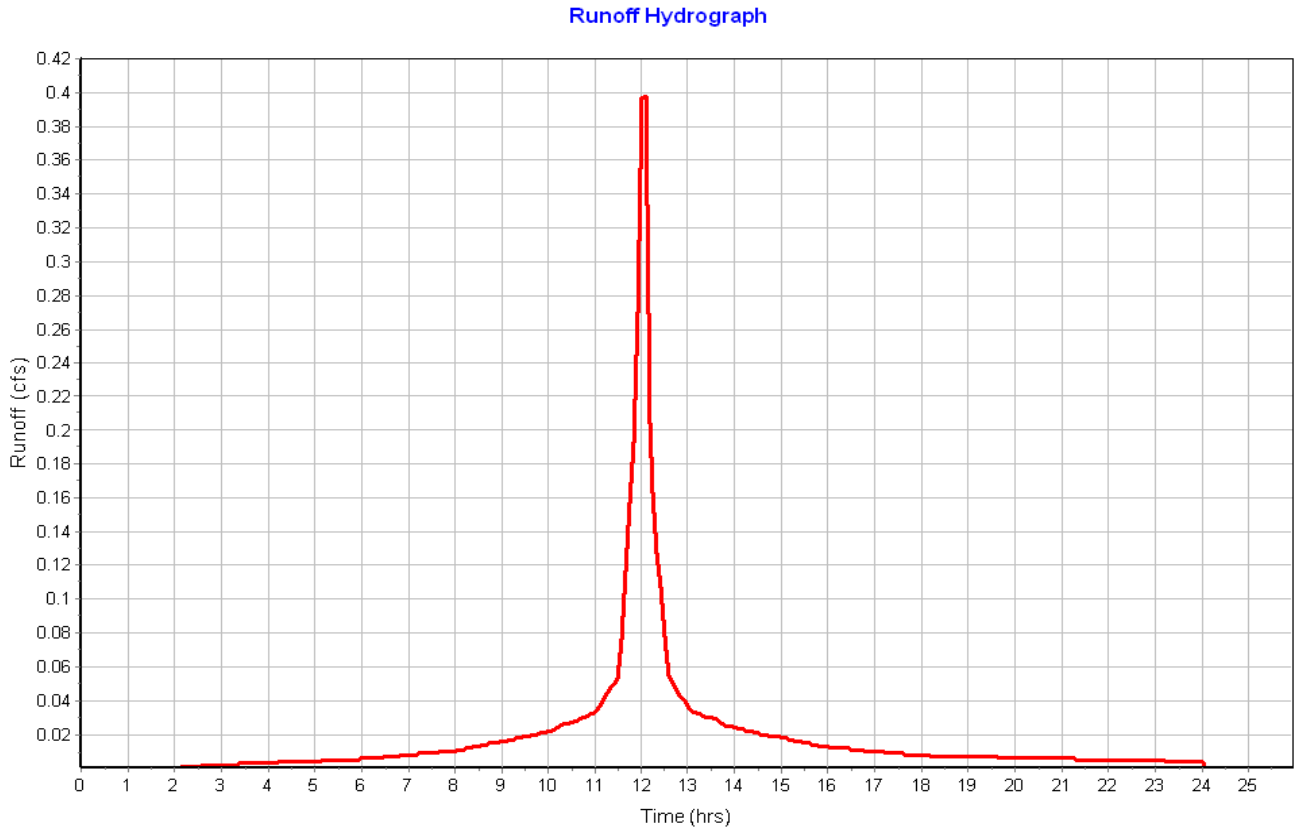
Total TOC (min) 1.76

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.87
Peak Runoff (cfs)	0.40
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:46

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.07	C	98.00
Sidewalk	0.02	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

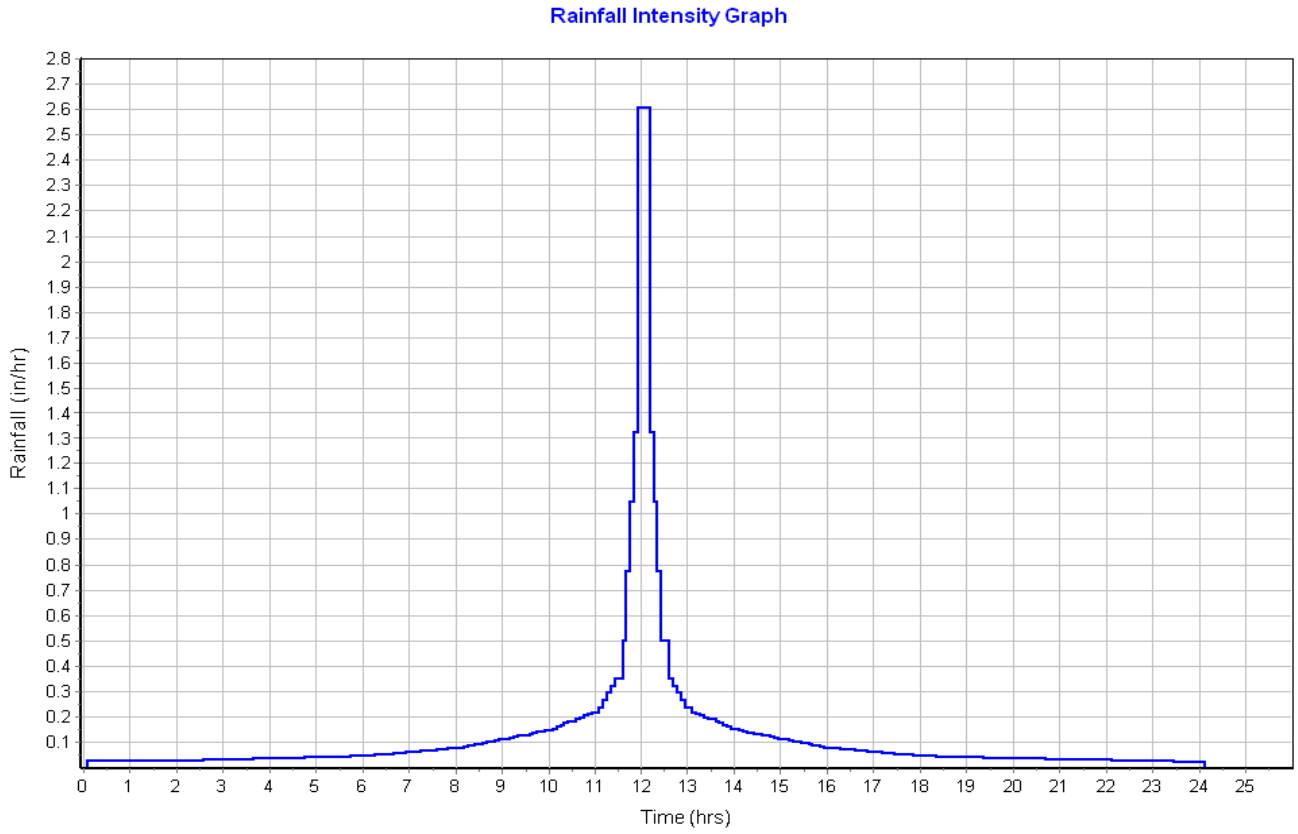
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	176.60	0.00	0.00
Slope (%) :	3.125	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.99	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

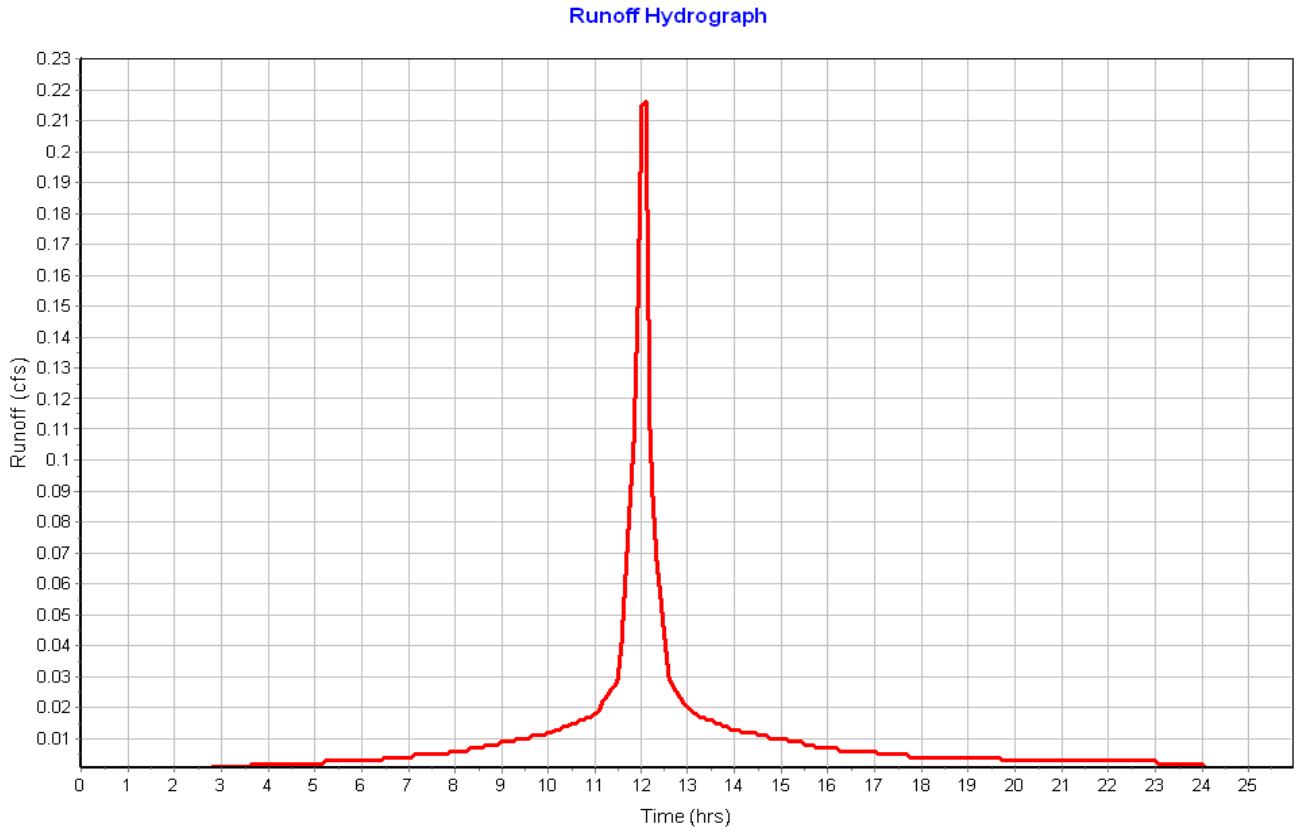
Total TOC (min) 1.48

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.86
Peak Runoff (cfs)	0.22
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.03	C	98.00
Composite Area & Weighted CN	0.03		98.00

Time of Concentration

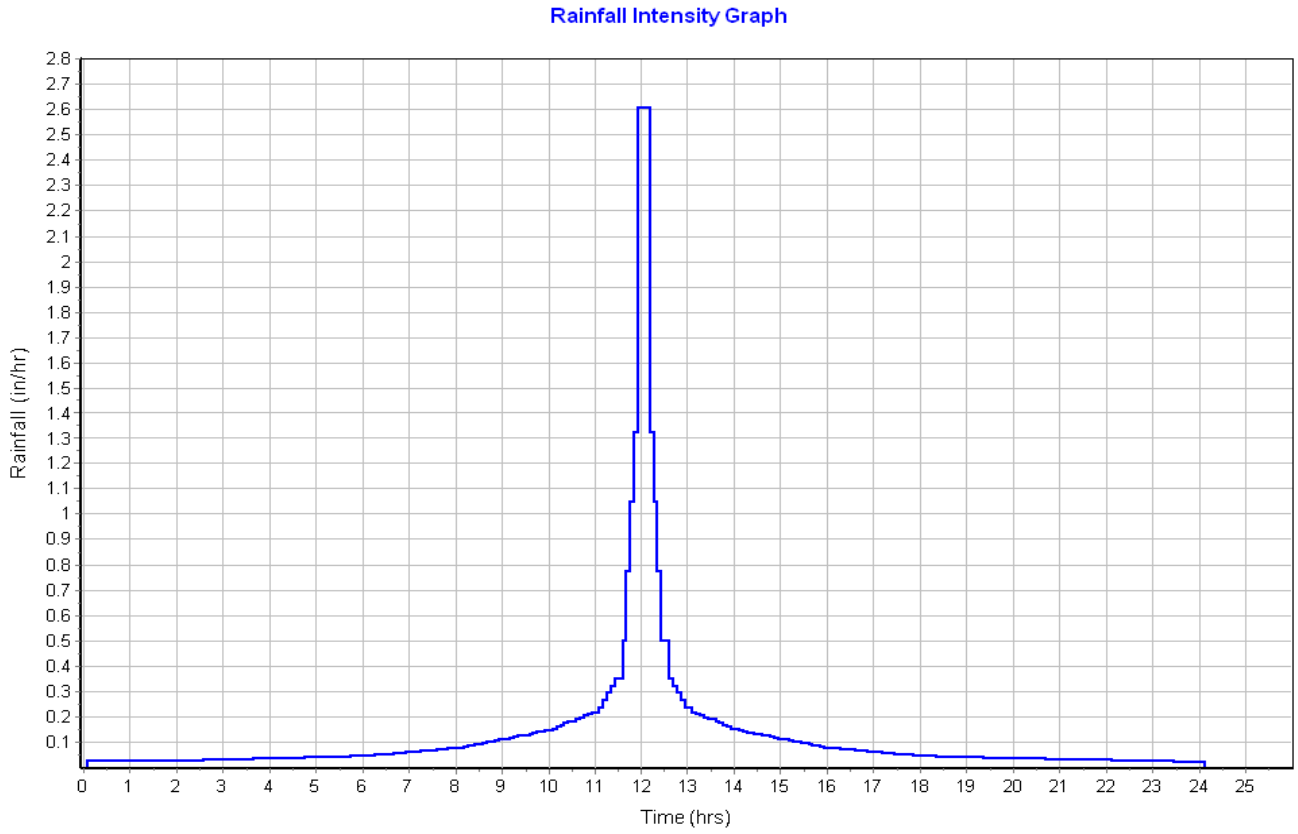
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	81.23	0.00	0.00
Slope (%) :	3.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.82	0.00	0.00
Computed Flow Time (min) :	0.74	0.00	0.00

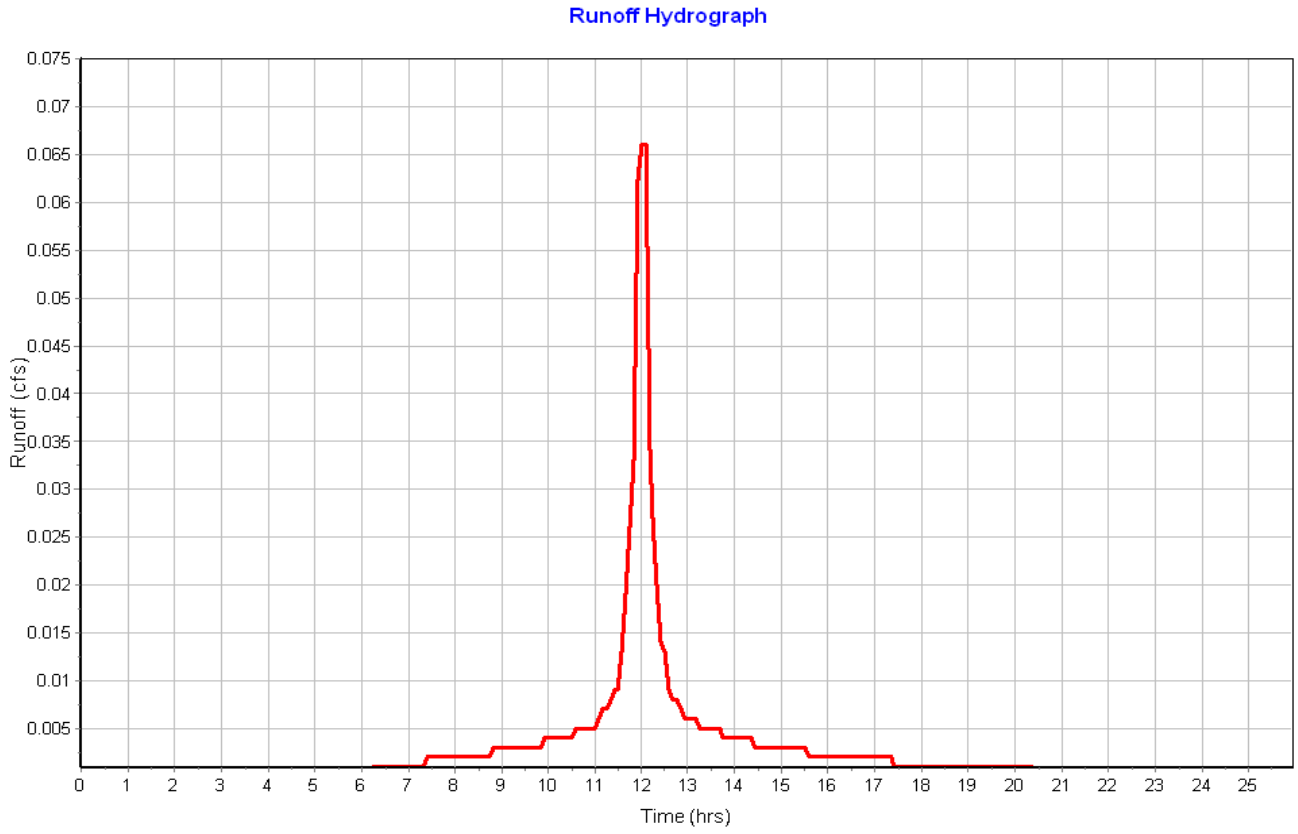
Total TOC (min) 0.74

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	2.66
Peak Runoff (cfs)	0.07
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-07





Subbasin : Sub-8

Input Data

Area (ac)	0.13
Peak Rate Factor	484.00
Weighted Curve Number	76.34
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Infiltration Basin	0.12	C	74.00
Sidewalk	0.01	C	98.00
Composite Area & Weighted CN	0.13		76.34

Time of Concentration

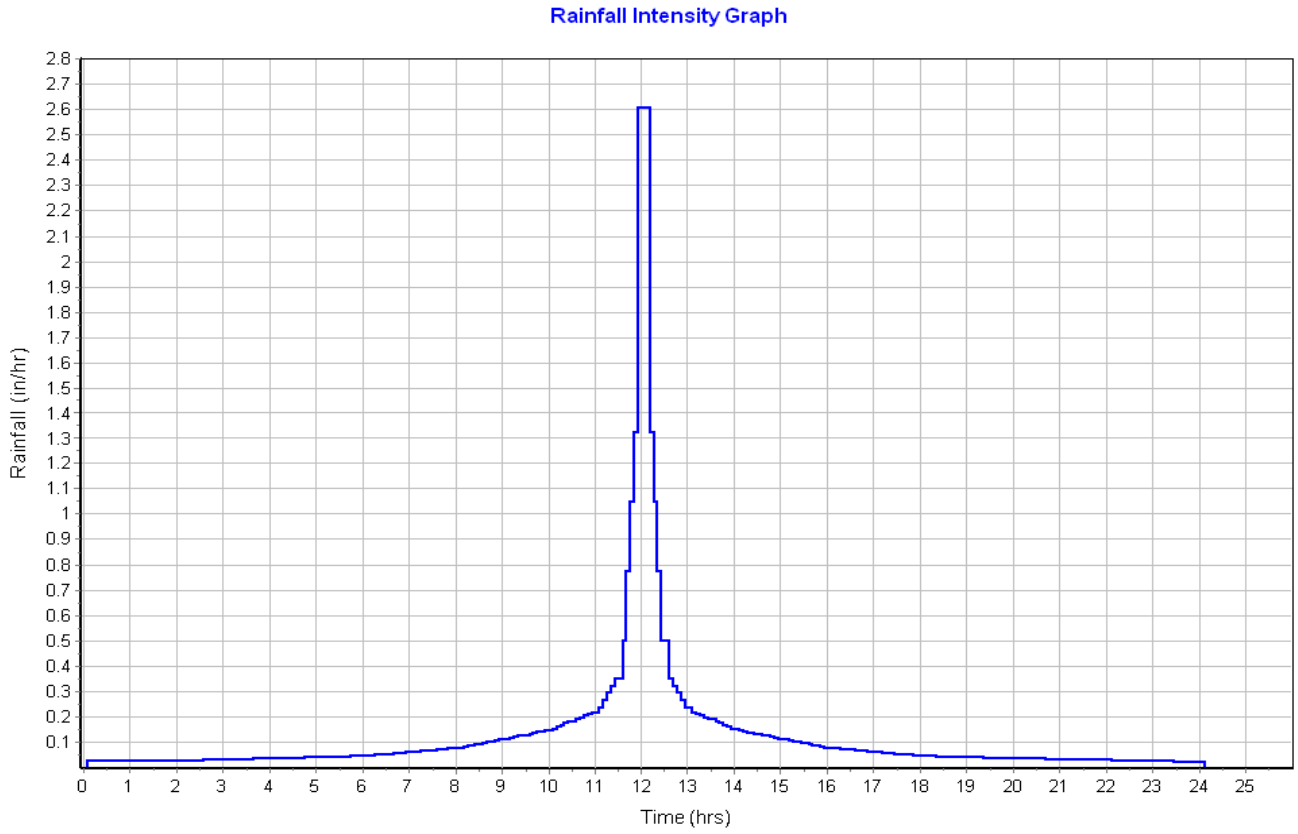
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	60	0.00	0.00
Slope (%) :	10	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	5.14	0.00	0.00

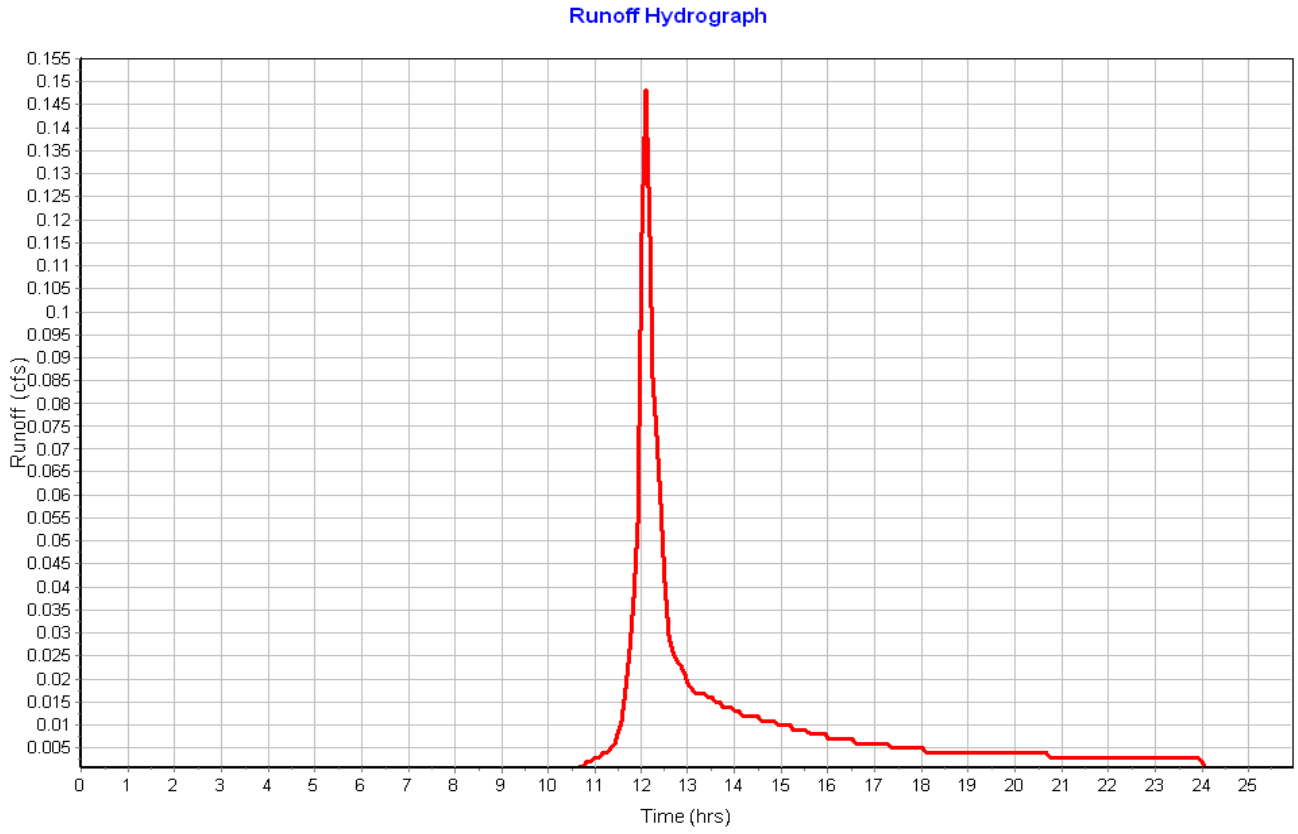
Total TOC (min) 5.14

Subbasin Runoff Results

Total Rainfall (in)	3.10
Total Runoff (in)	1.10
Peak Runoff (cfs)	0.15
Weighted Curve Number	76.34
Time of Concentration (days hh:mm:ss)	0 00:05:08

Subbasin : Sub-8





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-02	21.00	26.00	5.00	0.00	-21.00	0.00	-26.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	1.82	0.00	21.66	0.66	0.00	4.34	21.36	0.36	0 12:25	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-06	20.00	25.65	4.00	25.00	1.00	0.65	3.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-07	47.56	25.65	4.50	25.40	1.40	0.25	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-09	21.76	22.40	2.15	21.25	0.25	1.15	5.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-10	30.14	21.25	0.25	20.00	0.00	1.25	4.1500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-06	0.40	0 12:10	4.17	0.10	1.43	0.23	0.47	0.47	0.00		Calculated
2	Link-07	0.07	0 12:10	0.26	0.25	0.76	1.04	0.25	0.50	0.00		Calculated
3	Link-09	1.82	0 12:25	5.32	0.34	28.50	0.01	0.43	0.43	0.00		Calculated
4	Link-10	1.82	0 12:25	13.90	0.13	4.98	0.10	0.39	0.26	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	21.65
Max (Rim) Elevation (ft)	28.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.40
Peak Lateral Inflow (cfs)	0.40
Peak Outflow (cfs)	0.40
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.86
Max HGL Depth Attained (ft)	4.21
Average HGL Elevation Attained (ft)	25.35
Average HGL Depth Attained (ft)	3.7
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.07
Peak Lateral Inflow (cfs)	0.07
Peak Outflow (cfs)	0.07
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.82
Max HGL Depth Attained (ft)	4.67
Average HGL Elevation Attained (ft)	24.73
Average HGL Depth Attained (ft)	3.58
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : InfiltrationArea

Input Data

Invert Elevation (ft)	24.50
Max (Rim) Elevation (ft)	25.50
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-24.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

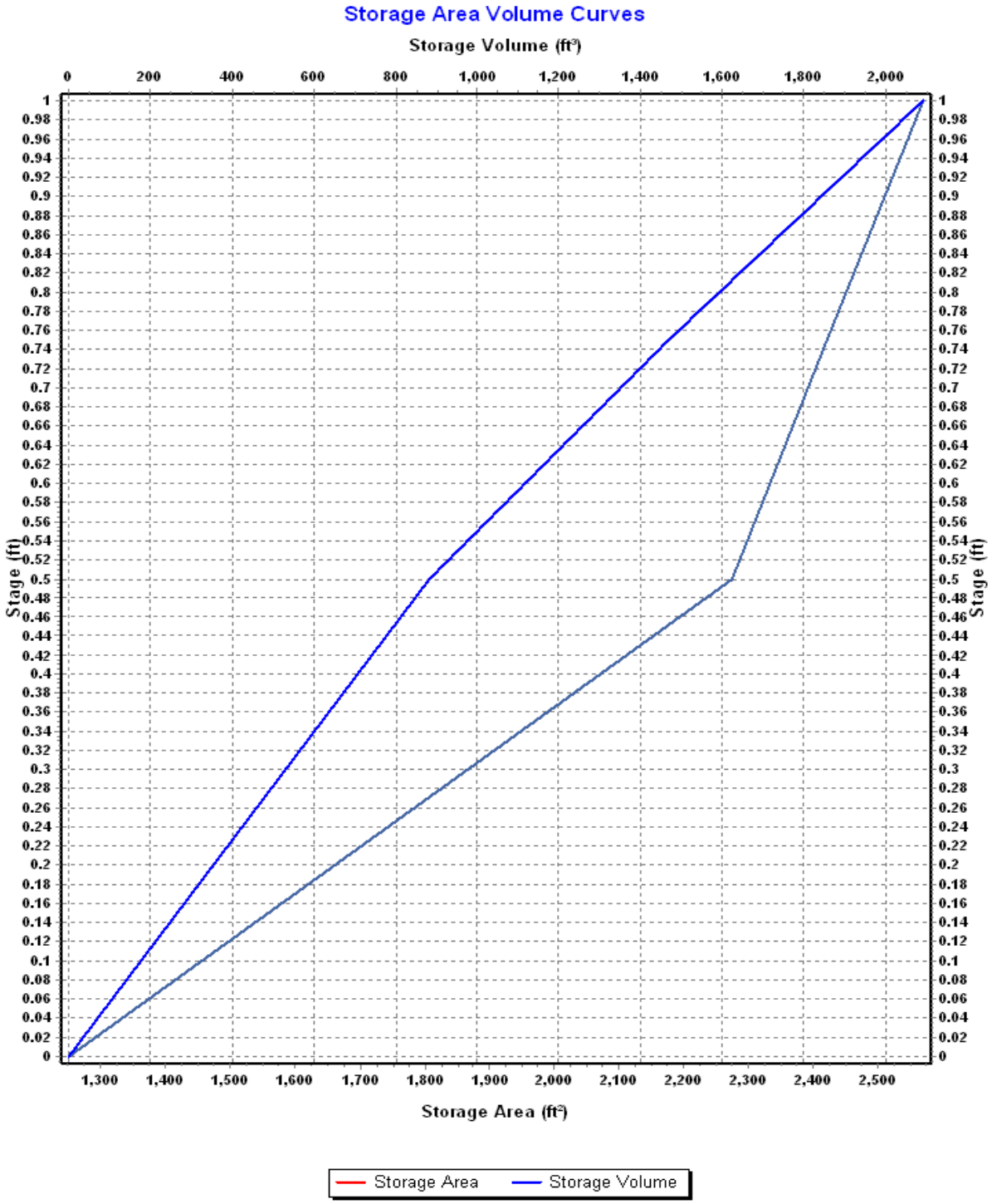
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : Infiltration Area

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1251	0.000
0.5	2274	881.25
0.75	2420	1468.00
1	2569	2091.63


Storage Area Volume Curves
Storage Volume (ft³)
0
200
400
600
800
1,000
1,200
1,400
1,600
1,800
2,000
Stage (ft)
Stage (ft)
1
0.98
0.96
0.94
0.92
0.9
0.88
0.86
0.84
0.82
0.8
0.78
0.76
0.74
0.72
0.7
0.68
0.66
0.64
0.62
0.6
0.58
0.56
0.54
0.52
0.5
0.48
0.46
0.44
0.42
0.4
0.38
0.36
0.34
0.32
0.3
0.28
0.26
0.24
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
1,300
1,400
1,500
1,600
1,700
1,800
1,900
2,000
2,100
2,200
2,300
2,400
2,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : InfiltrationArea (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	25.40	0.90	20.00	1.00	3.33
2	Weir-05	Trapezoidal	No	25.18	0.68	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	1.85
Peak Lateral Inflow (cfs)	1.70
Peak Outflow (cfs)	1.82
Peak Exfiltration Flow Rate (cfm)	0.93
Max HGL Elevation Attained (ft)	25.34
Max HGL Depth Attained (ft)	0.84
Average HGL Elevation Attained (ft)	25.12
Average HGL Depth Attained (ft)	0.62
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	1.090
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	20.25
Max (Rim) Elevation (ft)	25.18
Max (Rim) Offset (ft)	4.93
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-20.25
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.82
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.82
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	22.84
Max HGL Depth Attained (ft)	2.59
Average HGL Elevation Attained (ft)	22.10
Average HGL Depth Attained (ft)	1.85
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

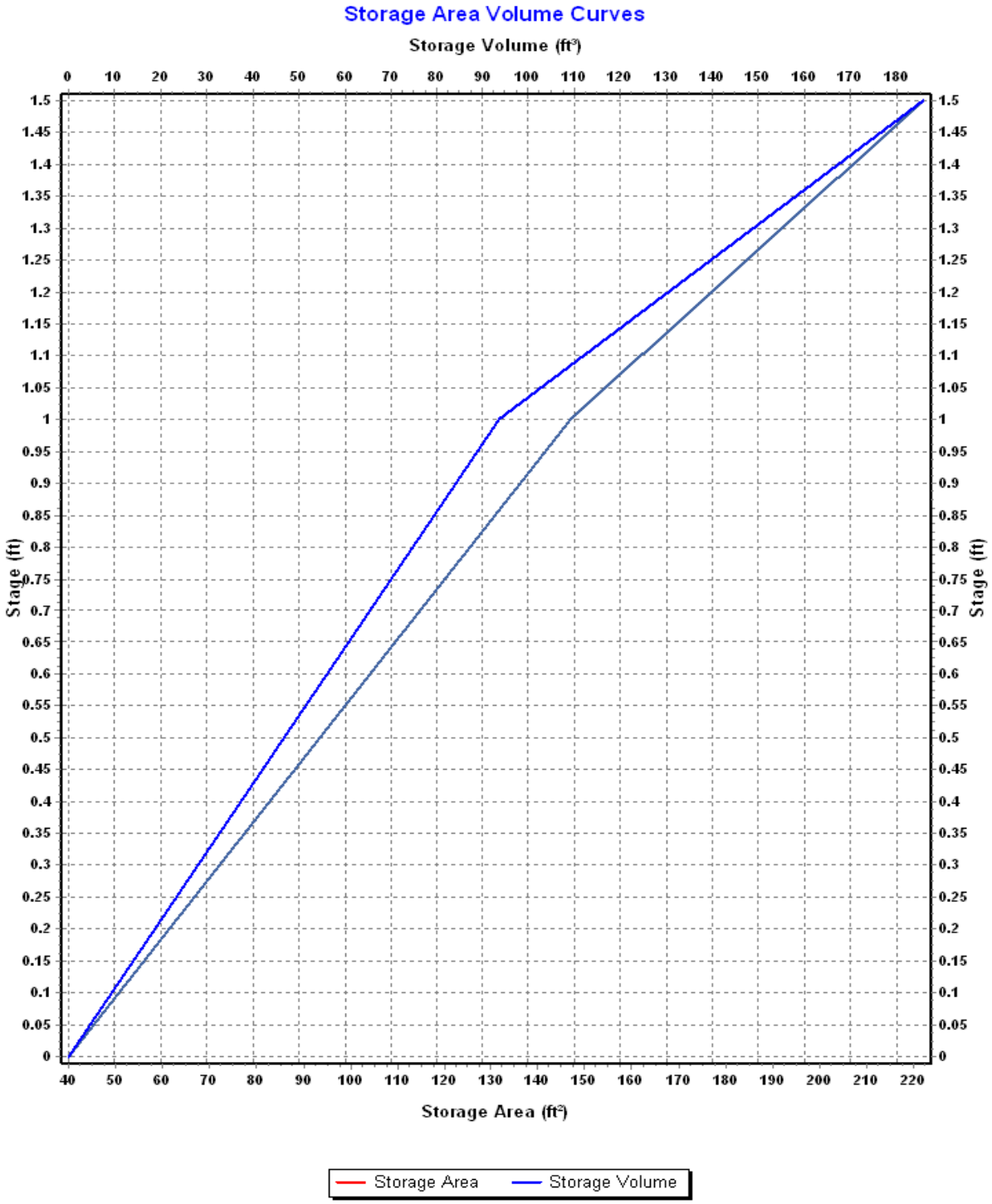
Input Data

Invert Elevation (ft)	24.00
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-24.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay for Infiltration Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	40	0.000
1	147	93.50
1.5	222	185.75


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-06 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	25.70	1.70	25.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.46
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.46
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.73
Max HGL Depth Attained (ft)	1.73
Average HGL Elevation Attained (ft)	25.43
Average HGL Depth Attained (ft)	1.43
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scen 3 Proposed Conditions (Existing Regulation)_2020 10 19.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	8
Nodes	10
Junctions	1
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	5
Links	7
Channels	0
Pipes	4
Pumps	0
Orifices	0
Weirs	3
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_SCSIII	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.24	484.00	65.00	6.50	2.72	0.65	0.64	0 00:09:28
2	Sub-02	0.36	484.00	97.01	6.50	6.14	2.22	1.37	0 00:28:41
3	Sub-03	0.37	484.00	97.02	6.50	6.14	2.25	1.15	0 00:42:48
4	Sub-04	0.28	484.00	96.65	6.50	6.10	1.73	1.10	0 00:25:49
5	Sub-05	0.16	484.00	98.00	6.50	6.26	0.98	0.84	0 00:01:45
6	Sub-06	0.09	484.00	98.00	6.50	6.26	0.54	0.46	0 00:01:28
7	Sub-07	0.03	484.00	98.00	6.50	6.22	0.16	0.14	0 00:00:44
8	Sub-8	0.13	484.00	76.34	6.50	3.85	0.51	0.54	0 00:05:08

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	Junction	21.00	26.00	0.00	0.00	0.00	3.54	21.86	0.00	4.14	0 00:00	0.00	0.00
2	Out-01	Outfall	21.00					0.62	21.00					
3	Out-04	Outfall	0.00					0.48	0.00					
4	Out-05	Outfall	20.00					3.54	20.52					
5	Out-06	Outfall	19.00					0.46	19.00					
6	CB-01	Storage Node	21.65	28.50	0.00		1000.00	0.84	25.95				0.00	0.00
7	CB-02	Storage Node	21.15	28.00	0.00		1000.00	0.14	25.91				0.00	0.00
8	InfiltrationArea	Storage Node	24.50	25.50	0.00		0.00	4.04	25.44				0.00	0.00
9	OCS-04	Storage Node	20.25	25.18	0.00		0.00	3.54	23.10				0.00	0.00
10	Stor-06	Storage Node	24.00	26.00	0.00		0.00	1.49	25.77				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-06	Pipe	CB-01	Stor-06	20.00	25.65	25.00	3.2500	12.000	0.0200	1.49	4.17	0.36	3.09	0.53	0.59	0.00	Calculated
2	Link-07	Pipe	CB-02	Stor-06	47.56	25.65	25.40	0.5300	6.000	0.0200	0.14	0.26	0.53	1.12	0.31	0.61	0.00	Calculated
3	Link-09	Pipe	OCS-04	DMH-02	21.76	22.40	21.25	5.2800	12.000	0.0200	3.54	5.32	0.66	6.49	0.65	0.65	0.00	Calculated
4	Link-10	Pipe	DMH-02	Out-05	30.14	21.25	20.00	4.1500	18.000	0.0200	3.54	13.90	0.25	5.81	0.56	0.38	0.00	Calculated
5	Weir-04	Weir	InfiltrationArea	Out-04		24.50	0.00				0.48							
6	Weir-05	Weir	InfiltrationArea	OCS-04		24.50	20.25				3.54							
7	Weir-08	Weir	Stor-06	InfiltrationArea		24.00	24.50				1.42							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.24
Peak Rate Factor 484.00
Weighted Curve Number 65.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
LandscapeArea	0.20	C	65.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.24		65.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

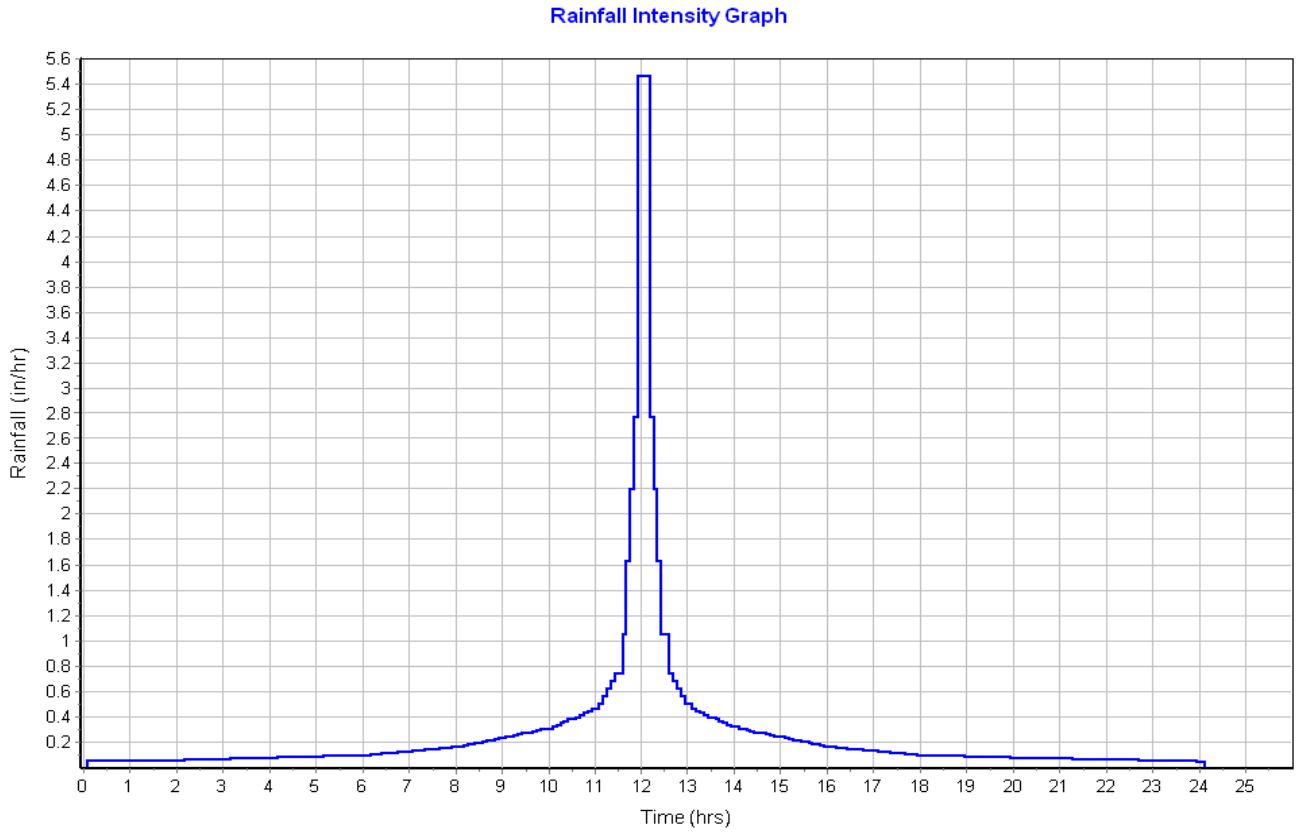
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	54.57	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.15	0.05	0.00
Computed Flow Time (min) :	6.03	3.45	0.00

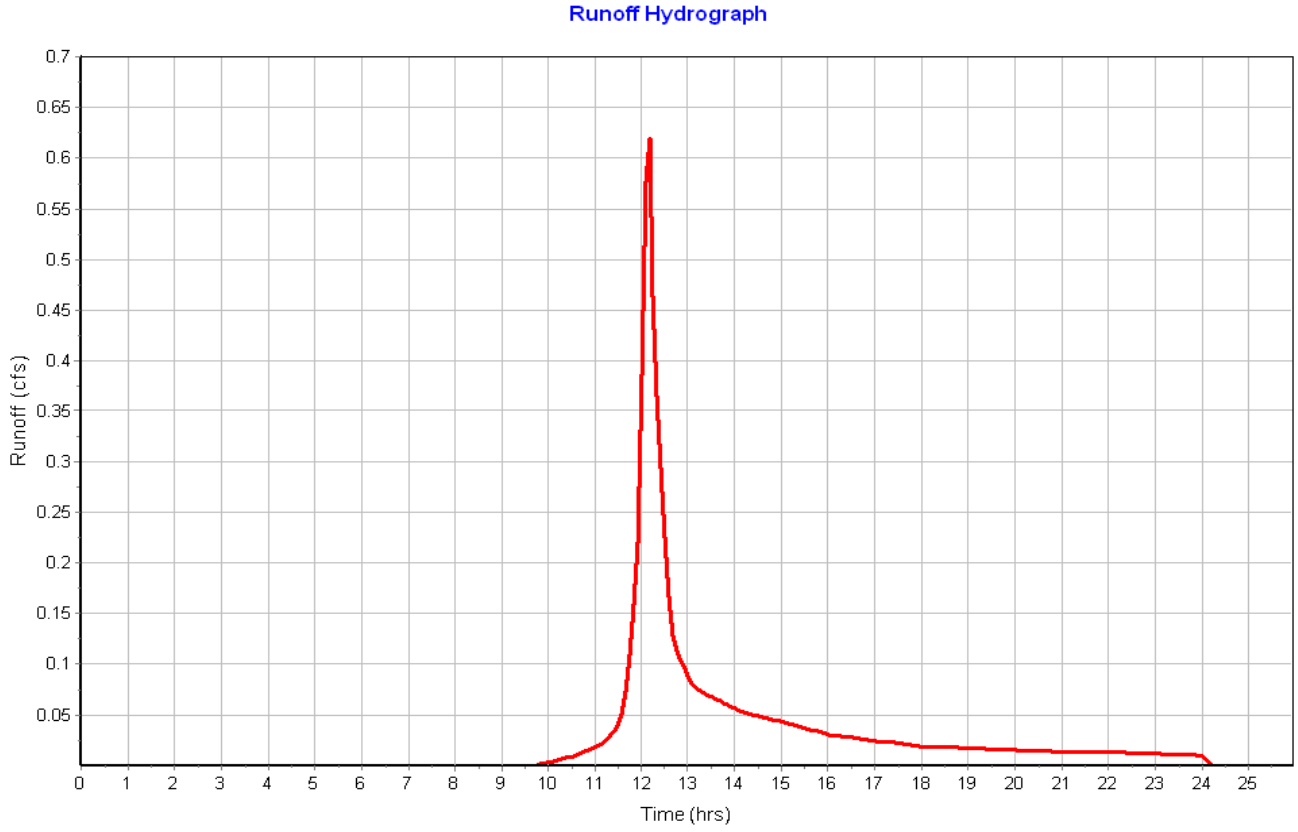
Total TOC (min) 9.48

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	2.72
Peak Runoff (cfs)	0.64
Weighted Curve Number	65.00
Time of Concentration (days hh:mm:ss)	0 00:09:29

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.36
Peak Rate Factor 484.00
Weighted Curve Number 97.01
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Sidewalk	0.02	C	98.00
Roof	0.33	C	98.00
Bioretention Swale	0.01	C	74.00
Composite Area & Weighted CN	0.36		97.01

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	156.39	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	27.78	0.00	0.00

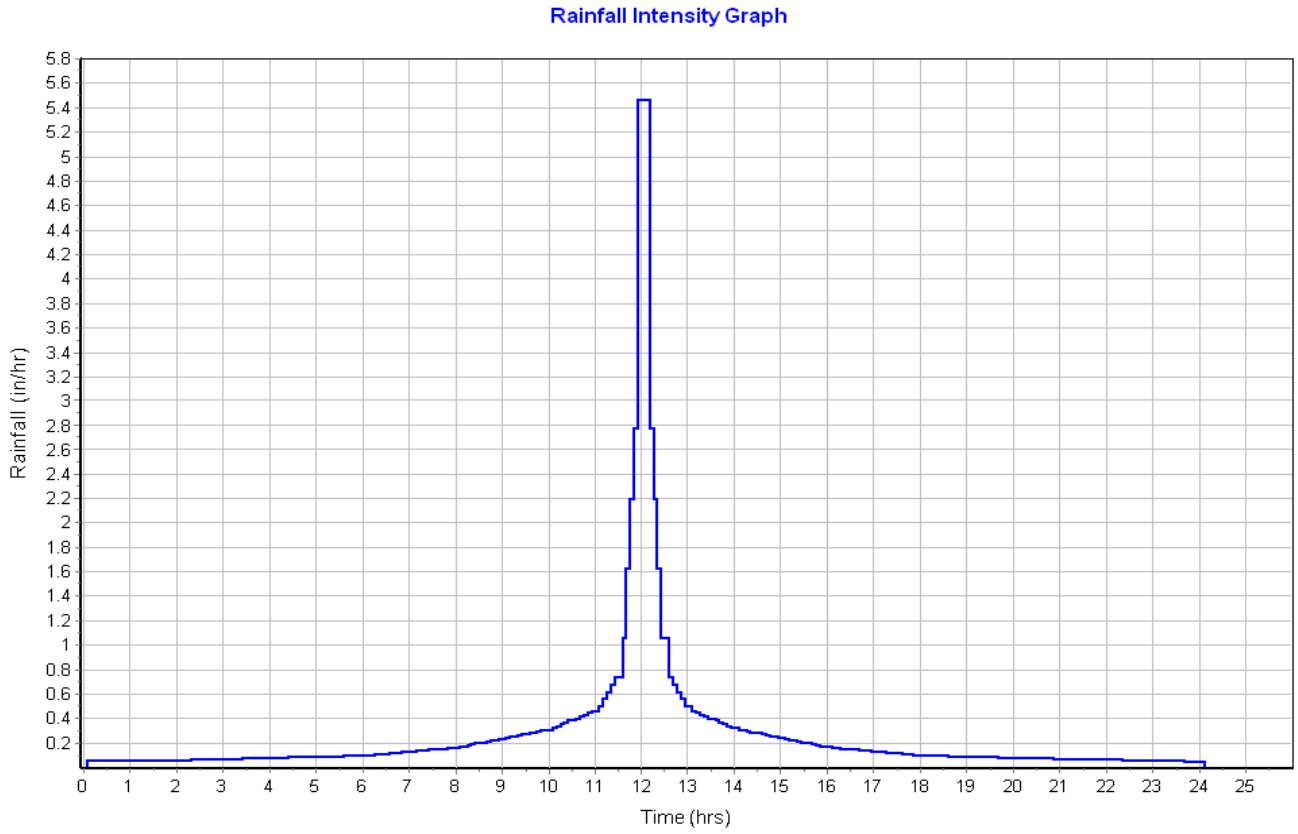
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	129.53	0.00	0.00
Slope (%) :	2.48	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.36	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

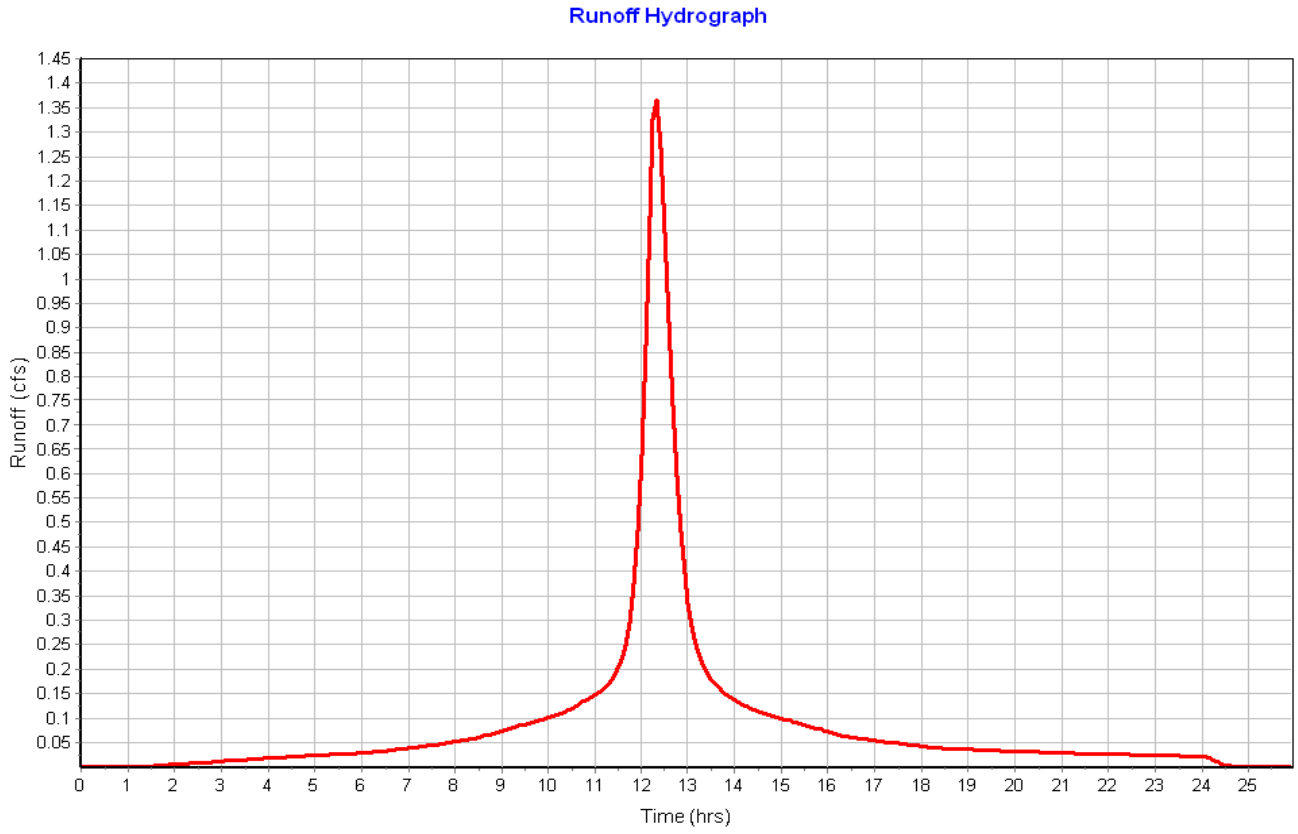
Total TOC (min) 28.69

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.14
Peak Runoff (cfs) 1.37
Weighted Curve Number 97.01
Time of Concentration (days hh:mm:ss) 0 00:28:41

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.37
Peak Rate Factor 484.00
Weighted Curve Number 97.02
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.32	C	98.00
Paved parking & roofs	0.03	C	98.00
Raingarden	0.01	C	74.00
Composite Area & Weighted CN	0.36		97.02

Time of Concentration

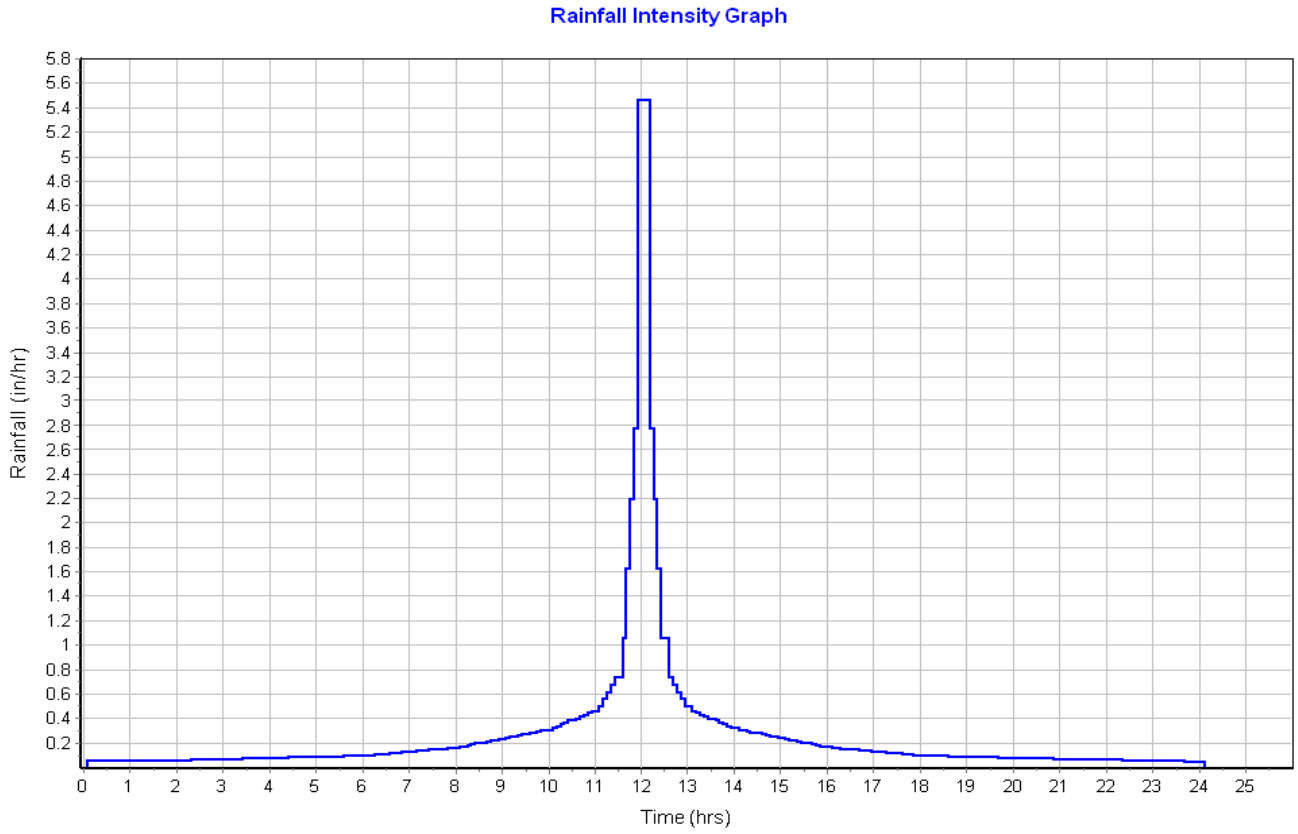
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.01	0.00
Flow Length (ft) :	262.66	64.37	0.00
Slope (%) :	1	2.3	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.10	1.44	0.00
Computed Flow Time (min) :	42.06	0.75	0.00

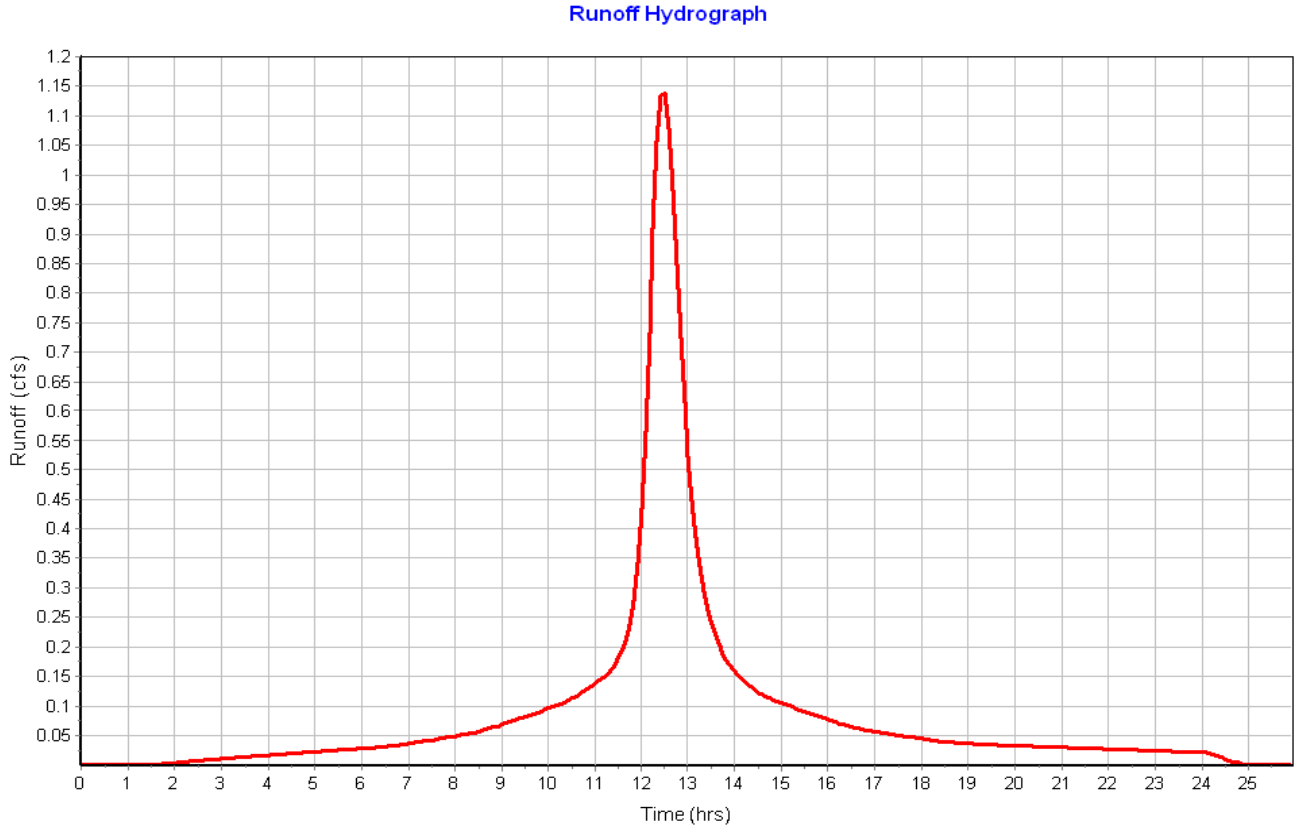
Total TOC (min) 42.80

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.14
Peak Runoff (cfs) 1.15
Weighted Curve Number 97.02
Time of Concentration (days hh:mm:ss) 0 00:42:48

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.28
Peak Rate Factor	484.00
Weighted Curve Number	96.65
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.23	C	98.00
Sidewalk	0.02	C	98.00
Raingarden	0.02	C	74.00
Paved parking & roofs	0.01	C	98.00
Composite Area & Weighted CN	0.28		96.65

Time of Concentration

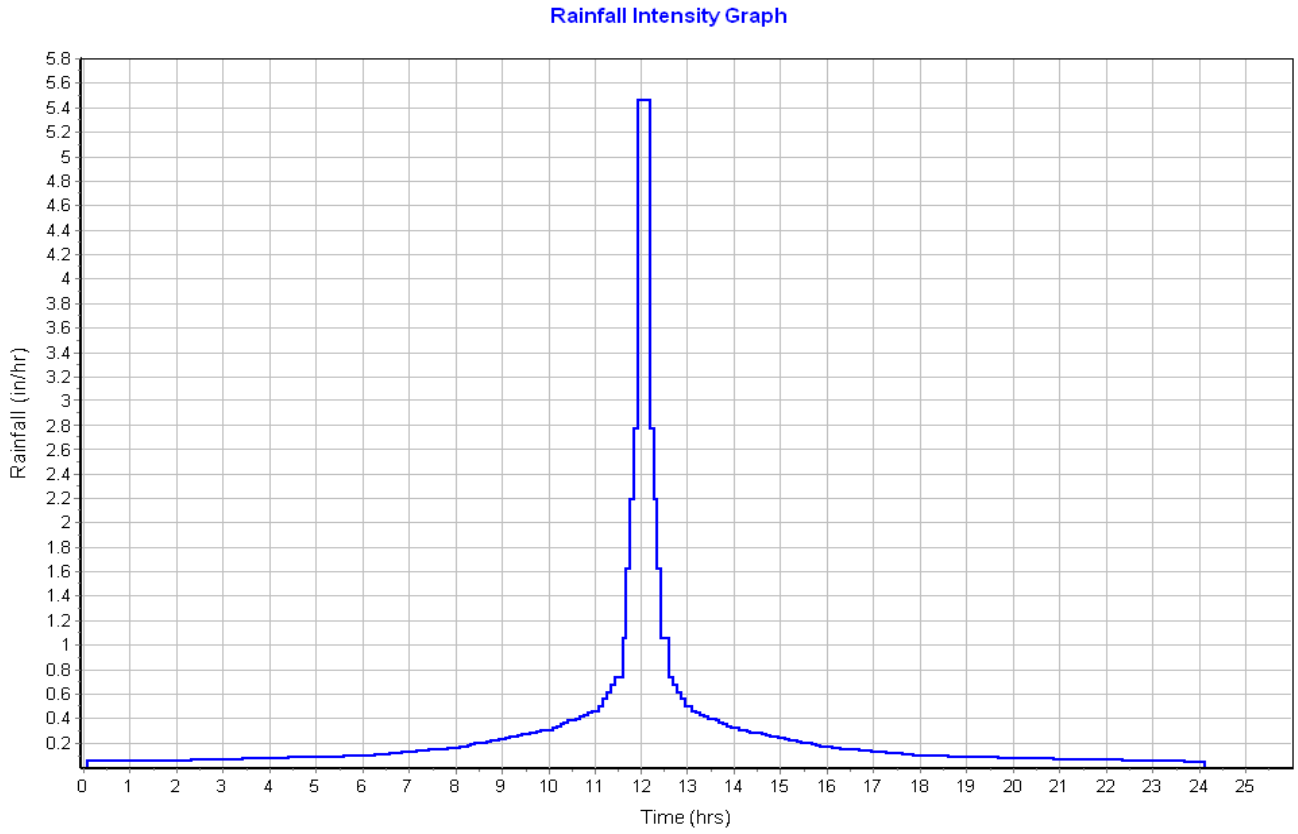
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	142.73	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	25.82	0.00	0.00

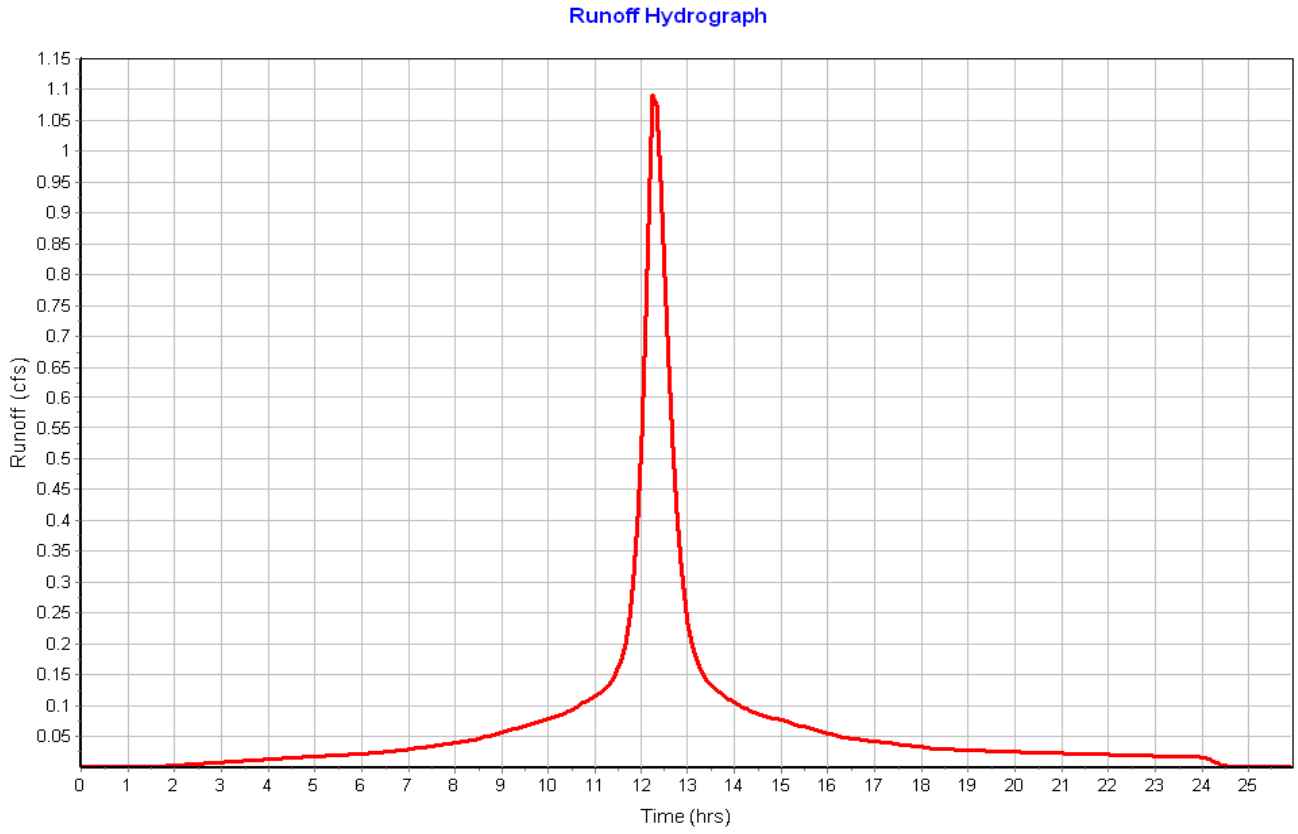
Total TOC (min) 25.82

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.10
Peak Runoff (cfs)	1.10
Weighted Curve Number	96.65
Time of Concentration (days hh:mm:ss)	0 00:25:49

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac) 0.16
Peak Rate Factor 484.00
Weighted Curve Number 98.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.16	C	98.00
Composite Area & Weighted CN	0.16		98.00

Time of Concentration

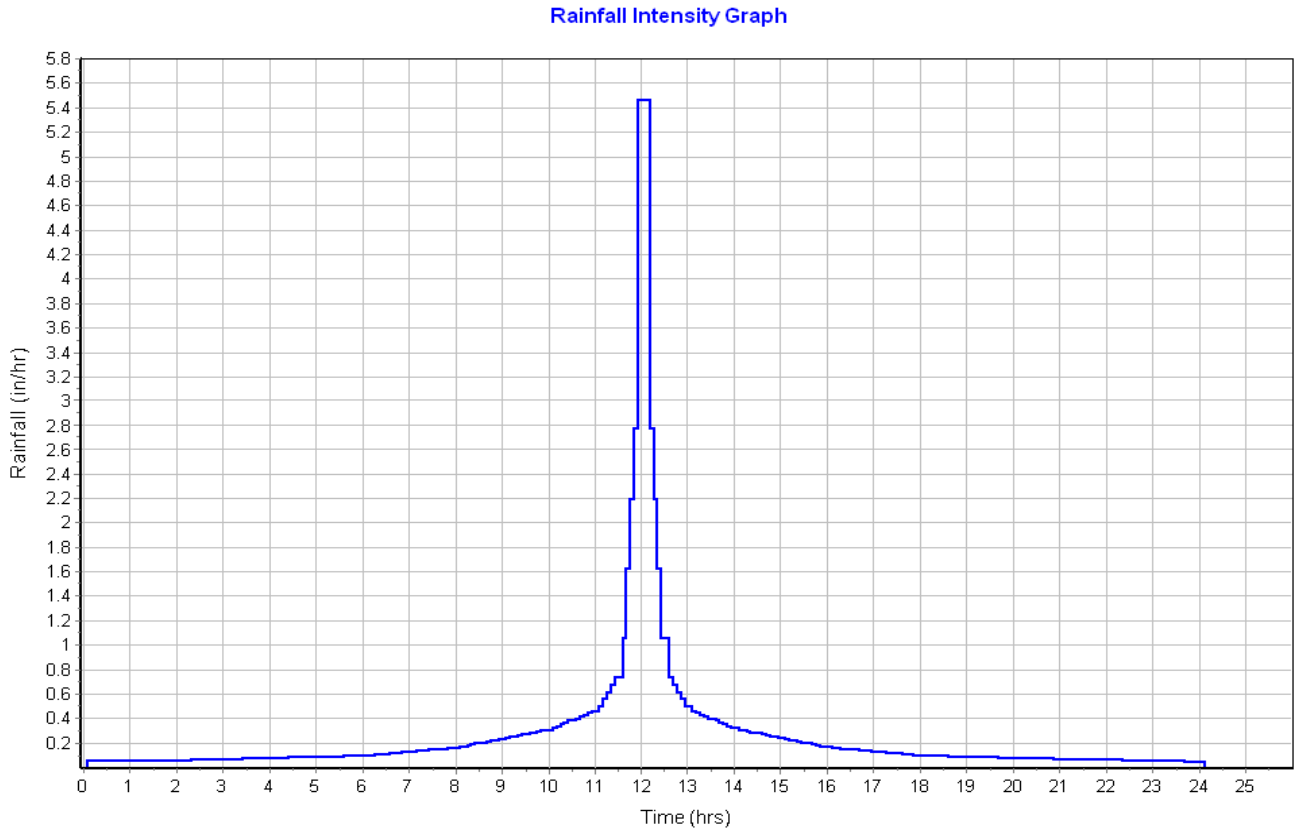
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	175.64	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	1.76	0.00	0.00

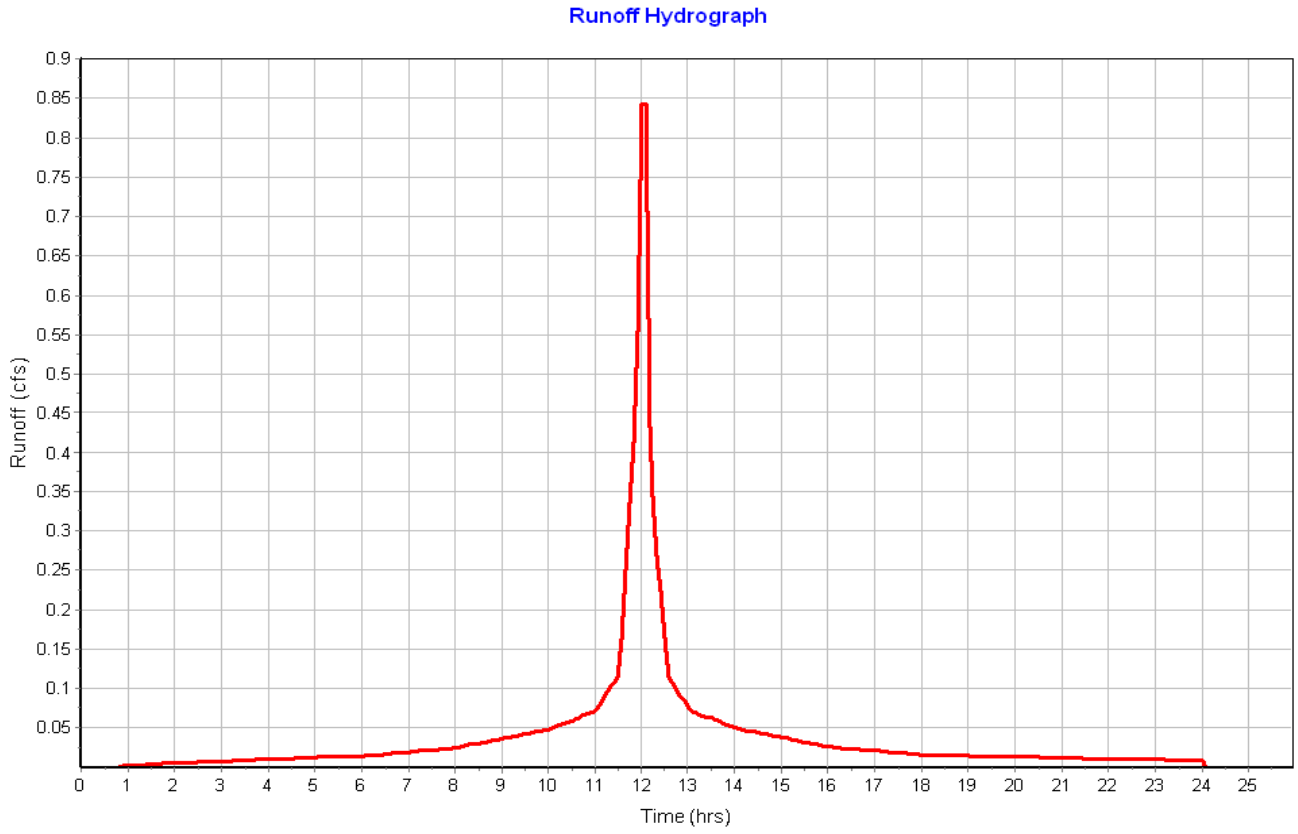
Total TOC (min) 1.76

Subbasin Runoff Results

Total Rainfall (in) 6.50
Total Runoff (in) 6.26
Peak Runoff (cfs) 0.84
Weighted Curve Number 98.00
Time of Concentration (days hh:mm:ss) 0 00:01:46

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.07	C	98.00
Sidewalk	0.02	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

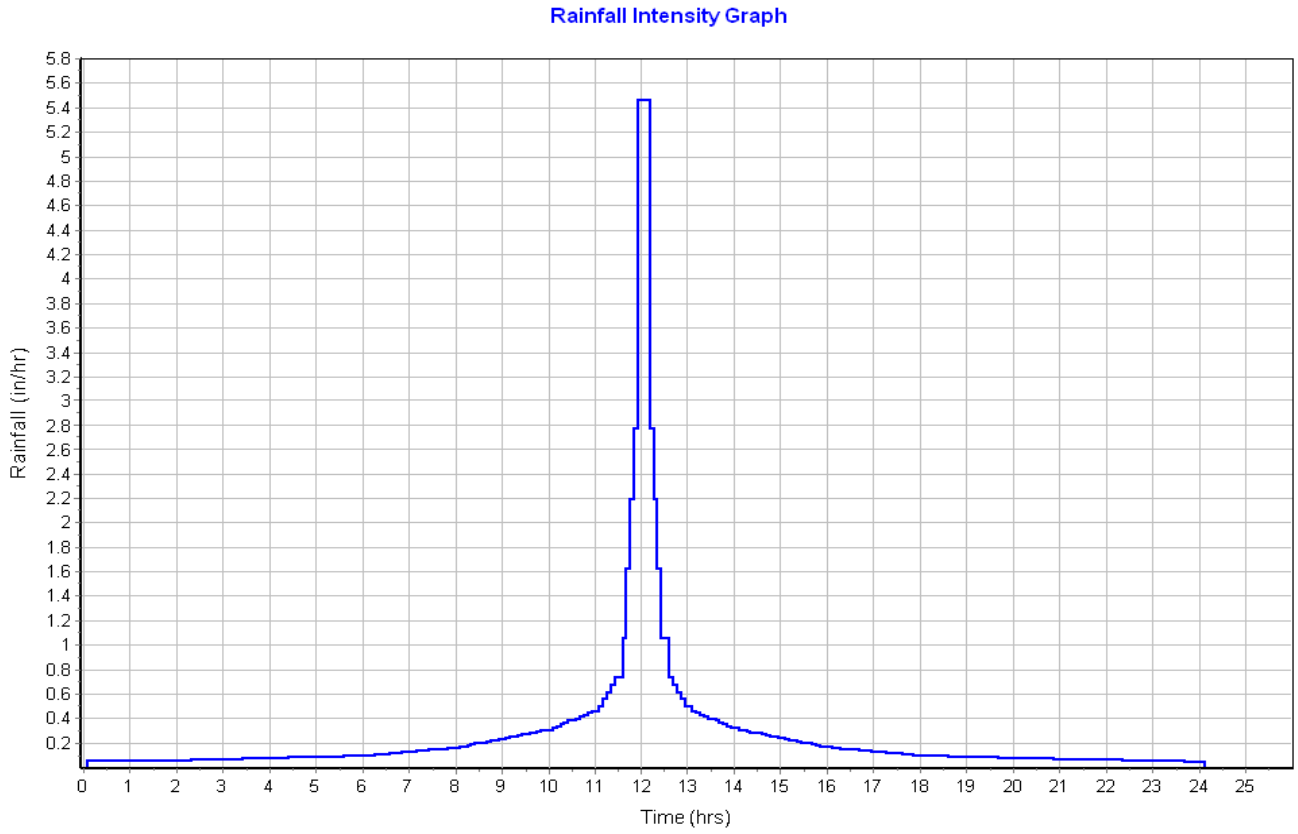
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	176.60	0.00	0.00
Slope (%) :	3.125	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.99	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

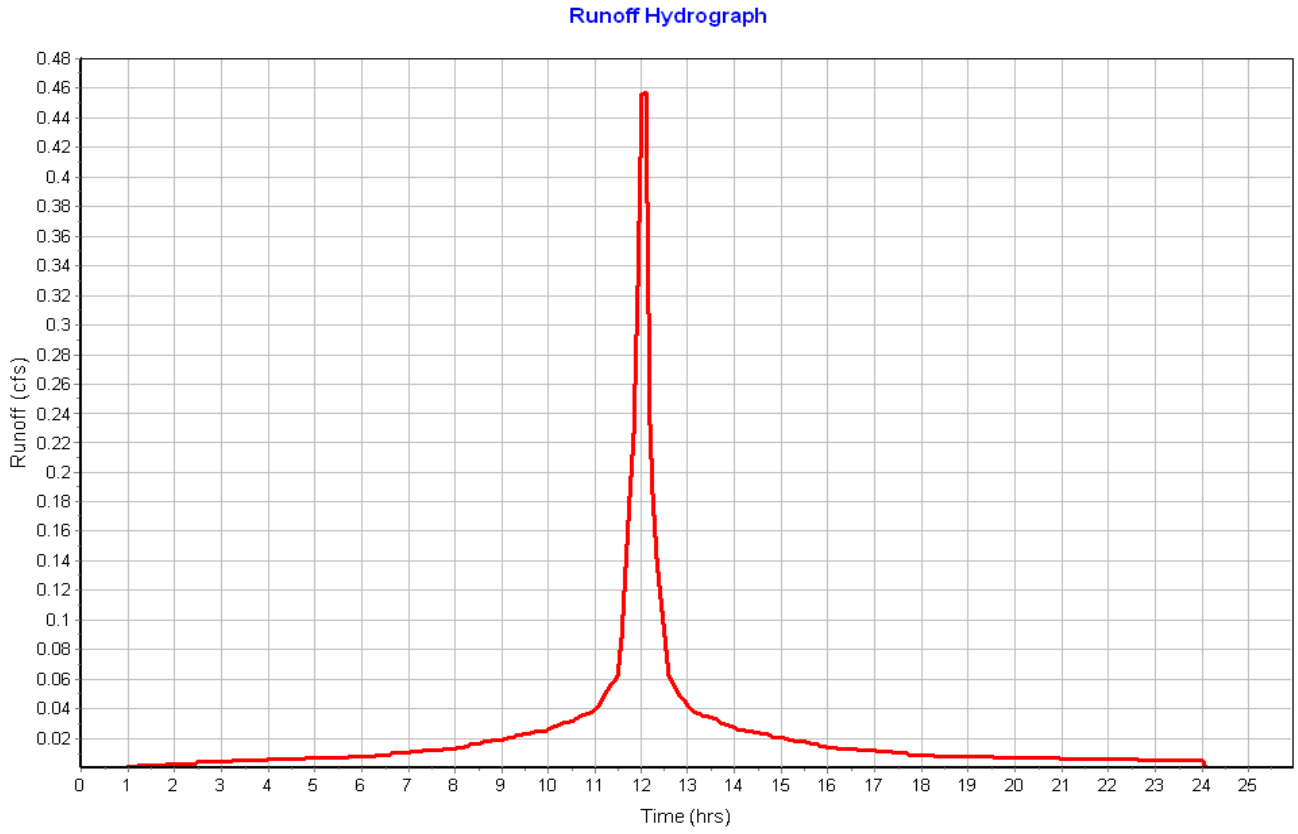
Total TOC (min) 1.48

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.26
Peak Runoff (cfs)	0.46
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.03	C	98.00
Composite Area & Weighted CN	0.03		98.00

Time of Concentration

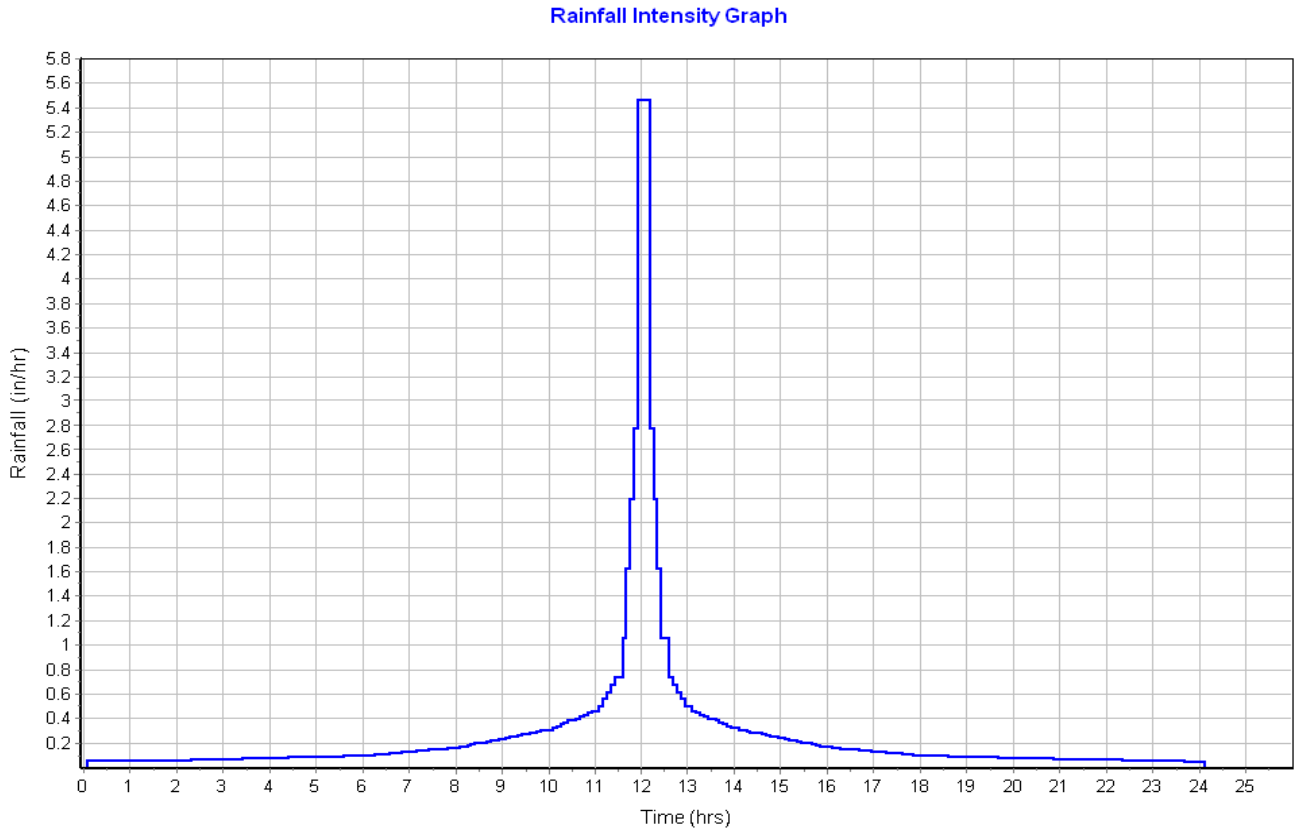
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	81.23	0.00	0.00
Slope (%) :	3.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.82	0.00	0.00
Computed Flow Time (min) :	0.74	0.00	0.00

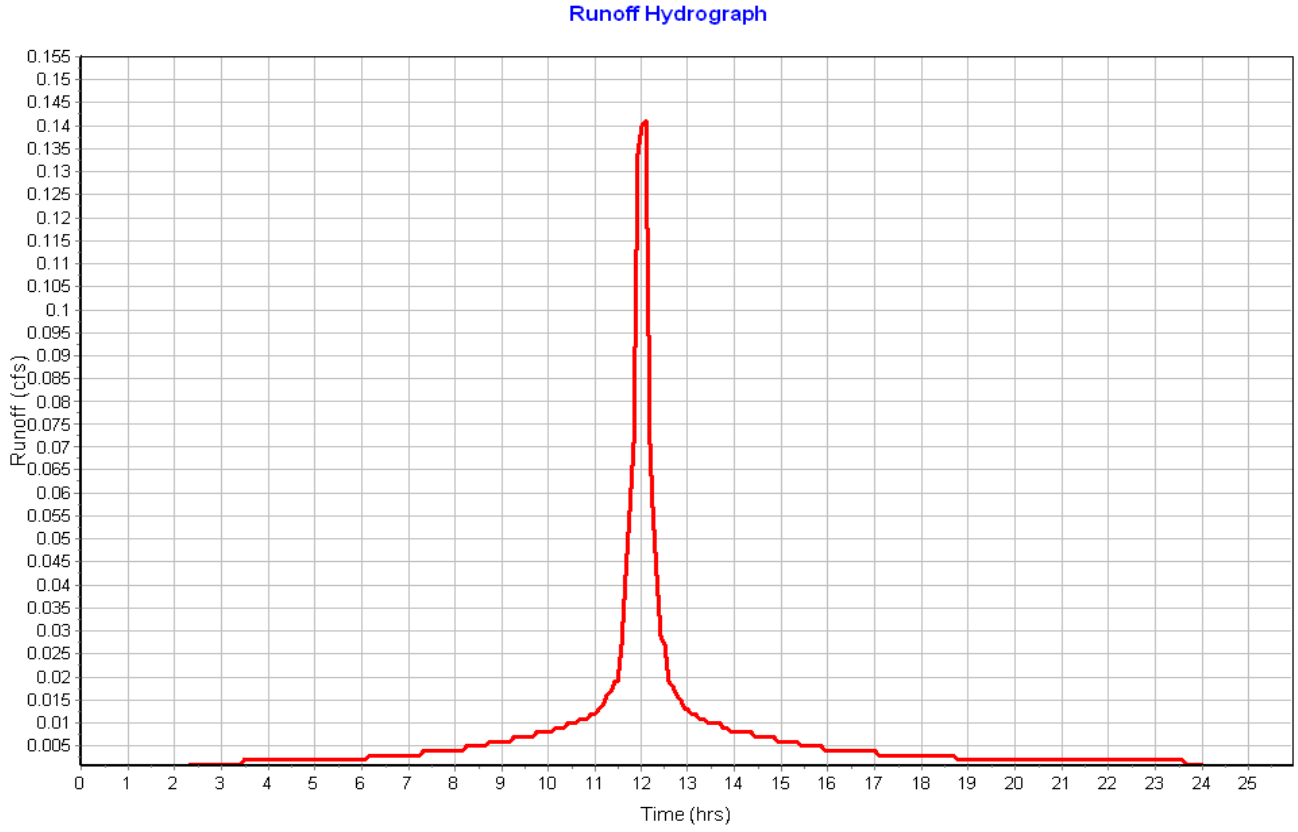
Total TOC (min) 0.74

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	6.22
Peak Runoff (cfs)	0.14
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-07





Subbasin : Sub-8

Input Data

Area (ac)	0.13
Peak Rate Factor	484.00
Weighted Curve Number	76.34
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Infiltration Basin	0.12	C	74.00
Sidewalk	0.01	C	98.00
Composite Area & Weighted CN	0.13		76.34

Time of Concentration

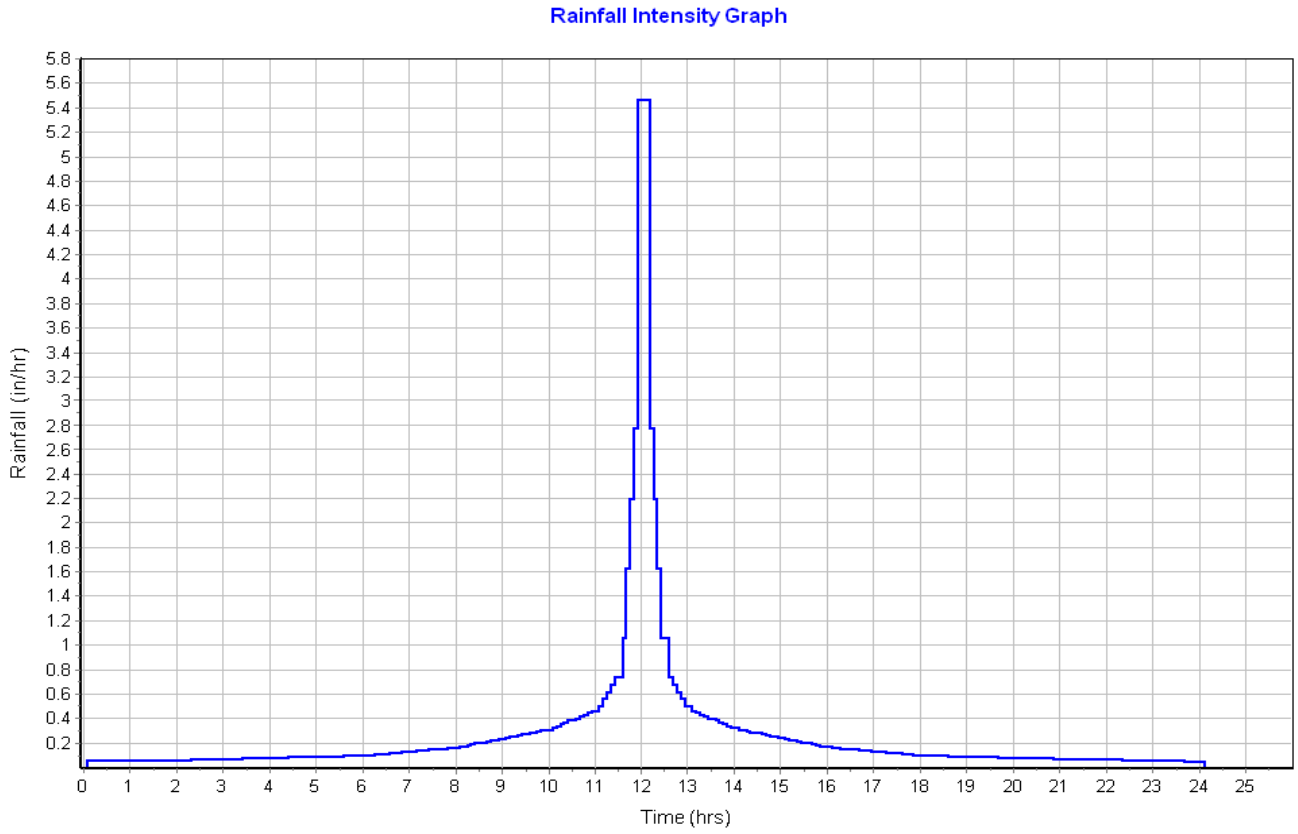
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	60	0.00	0.00
Slope (%) :	10	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	5.14	0.00	0.00

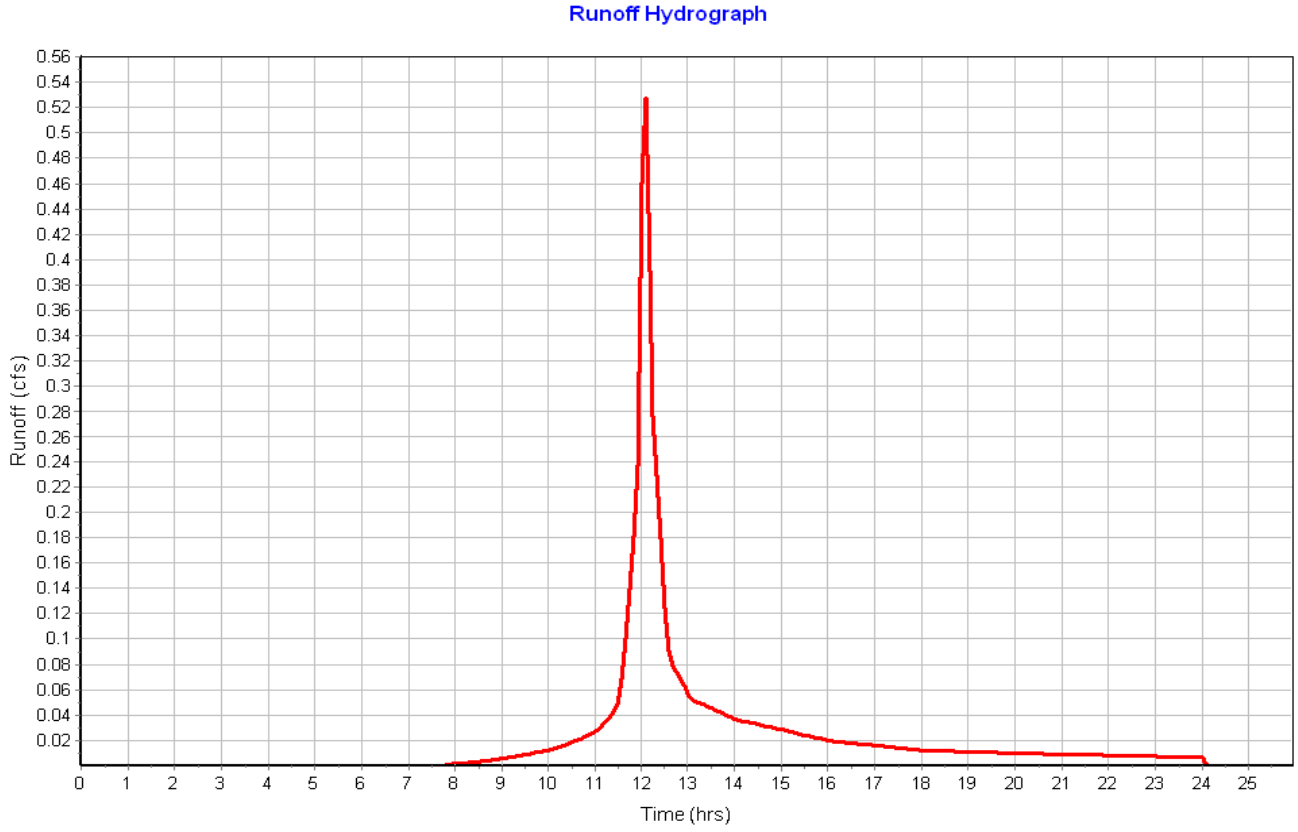
Total TOC (min) 5.14

Subbasin Runoff Results

Total Rainfall (in)	6.50
Total Runoff (in)	3.85
Peak Runoff (cfs)	0.54
Weighted Curve Number	76.34
Time of Concentration (days hh:mm:ss)	0 00:05:08

Subbasin : Sub-8





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-02	21.00	26.00	5.00	0.00	-21.00	0.00	-26.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	3.54	0.00	21.86	0.86	0.00	4.14	21.47	0.47	0 12:25	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-06	20.00	25.65	4.00	25.00	1.00	0.65	3.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-07	47.56	25.65	4.50	25.40	1.40	0.25	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-09	21.76	22.40	2.15	21.25	0.25	1.15	5.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-10	30.14	21.25	0.25	20.00	0.00	1.25	4.1500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-06	1.49	1 00:18	4.17	0.36	3.09	0.11	0.53	0.59	0.00		Calculated
2	Link-07	0.14	0 12:10	0.26	0.53	1.12	0.71	0.31	0.61	0.00		Calculated
3	Link-09	3.54	0 12:25	5.32	0.66	6.49	0.06	0.65	0.65	0.00		Calculated
4	Link-10	3.54	0 12:25	13.90	0.25	5.81	0.09	0.56	0.38	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	21.65
Max (Rim) Elevation (ft)	28.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.84
Peak Lateral Inflow (cfs)	0.84
Peak Outflow (cfs)	1.49
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.95
Max HGL Depth Attained (ft)	4.3
Average HGL Elevation Attained (ft)	25.57
Average HGL Depth Attained (ft)	3.92
Time of Max HGL Occurrence (days hh:mm)	0 12:09
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.14
Peak Lateral Inflow (cfs)	0.14
Peak Outflow (cfs)	0.14
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.91
Max HGL Depth Attained (ft)	4.76
Average HGL Elevation Attained (ft)	25.33
Average HGL Depth Attained (ft)	4.18
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : InfiltrationArea

Input Data

Invert Elevation (ft)	24.50
Max (Rim) Elevation (ft)	25.50
Max (Rim) Offset (ft)	1.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-24.50
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

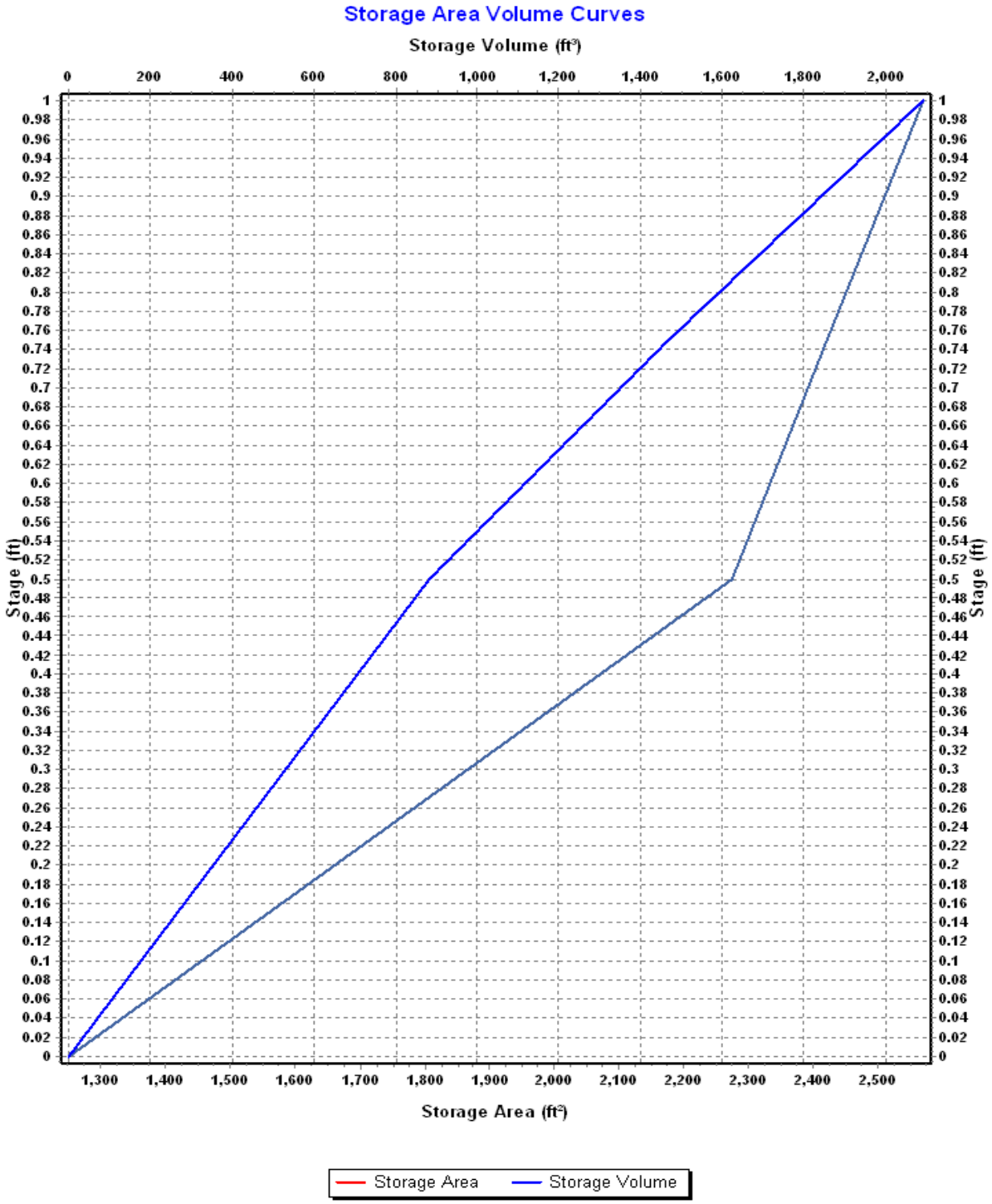
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : Infiltration Area

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1251	0.000
0.5	2274	881.25
0.75	2420	1468.00
1	2569	2091.63


Storage Area Volume Curves
Storage Volume (ft³)
0
200
400
600
800
1,000
1,200
1,400
1,600
1,800
2,000
Stage (ft)
Stage (ft)
1
0.98
0.96
0.94
0.92
0.9
0.88
0.86
0.84
0.82
0.8
0.78
0.76
0.74
0.72
0.7
0.68
0.66
0.64
0.62
0.6
0.58
0.56
0.54
0.52
0.5
0.48
0.46
0.44
0.42
0.4
0.38
0.36
0.34
0.32
0.3
0.28
0.26
0.24
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
1,300
1,400
1,500
1,600
1,700
1,800
1,900
2,000
2,100
2,200
2,300
2,400
2,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : InfiltrationArea (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	25.40	0.90	20.00	1.00	3.33
2	Weir-05	Trapezoidal	No	25.18	0.68	8.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	4.04
Peak Lateral Inflow (cfs)	3.73
Peak Outflow (cfs)	4.02
Peak Exfiltration Flow Rate (cfm)	0.95
Max HGL Elevation Attained (ft)	25.44
Max HGL Depth Attained (ft)	0.94
Average HGL Elevation Attained (ft)	25.23
Average HGL Depth Attained (ft)	0.73
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	1.222
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	20.25
Max (Rim) Elevation (ft)	25.18
Max (Rim) Offset (ft)	4.93
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-20.25
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.54
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	3.54
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	23.10
Max HGL Depth Attained (ft)	2.85
Average HGL Elevation Attained (ft)	22.47
Average HGL Depth Attained (ft)	2.22
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

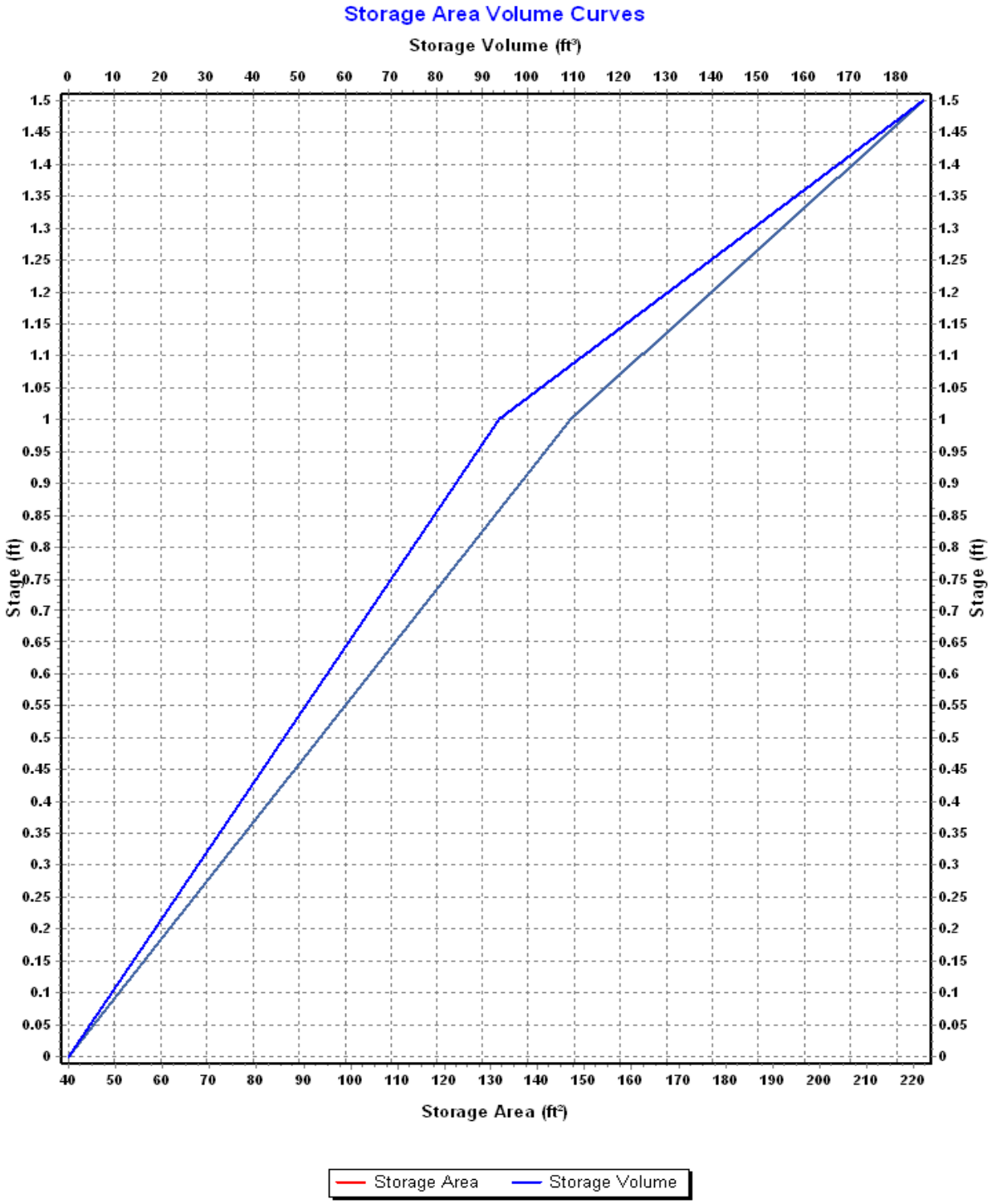
Input Data

Invert Elevation (ft)	24.00
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-24.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay for Infiltration Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	40	0.000
1	147	93.50
1.5	222	185.75


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-06 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	25.70	1.70	25.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	1.49
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.45
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	25.62
Average HGL Depth Attained (ft)	1.62
Time of Max HGL Occurrence (days hh:mm)	1 00:18
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

SSA Model Inputs and Outputs

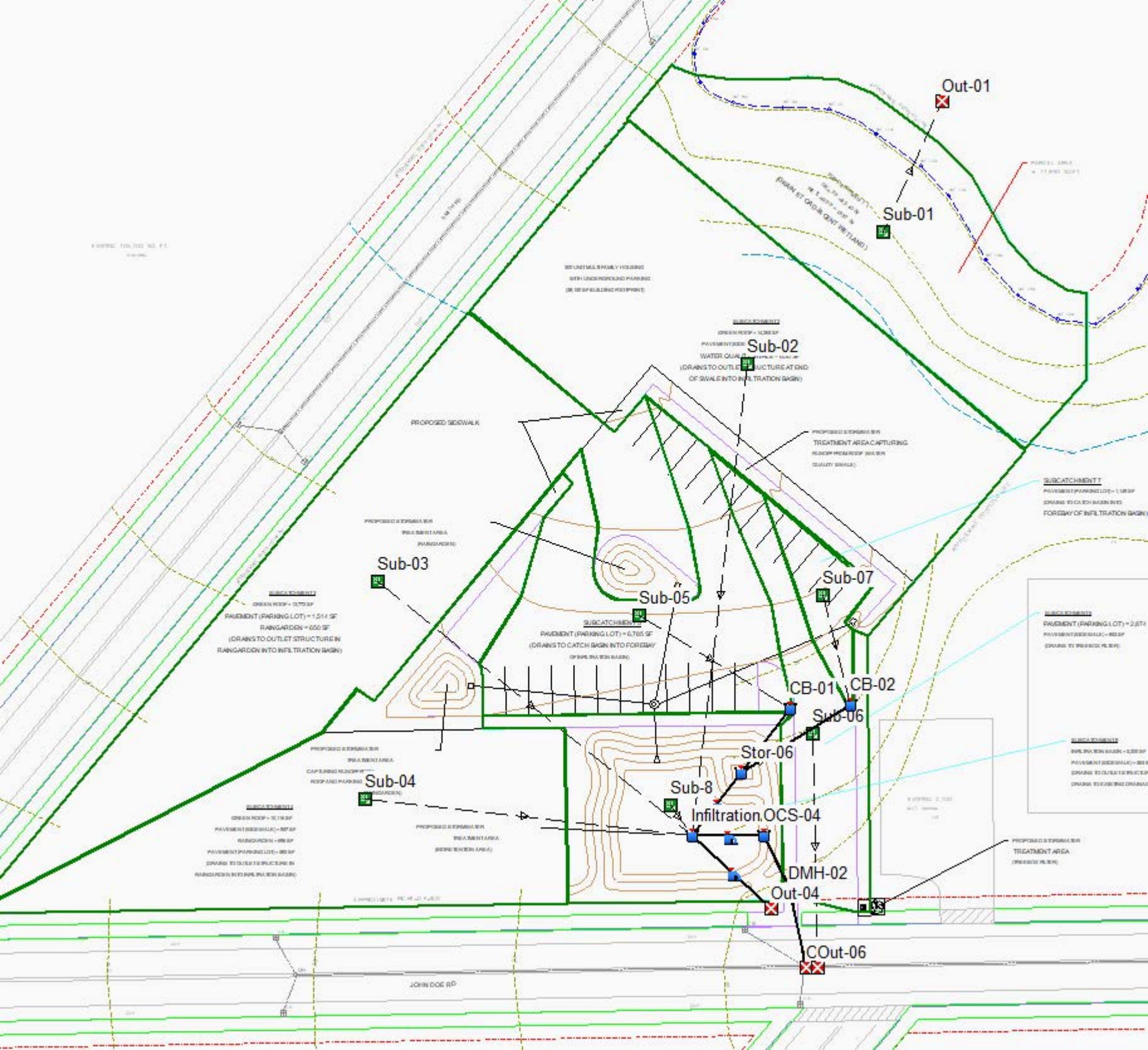
for

Scenario 3

Proposed Conditions Under Potential Regulations

Output List

- Model Schematic with Labels
- 2-year NOAA Atlas 14
- 2-year NOAA Atlas 14+
- 100-year NOAA Atlas 14
- 100-year NOAA Atlas 14+


Out-01
Sub-01
Sub-02
Sub-03
Sub-04
Sub-05
Sub-06
Sub-07
Sub-8
CB-01
CB-02
Stor-06
Infiltration OCS-04
DMH-02
Out-04
COut-06
PROPOSED SIDEWALK
JOHN DOE RD

Project Description

File Name ..... Scen 3 Proposed Conditions (Proposed Regulations)_2020 10 19.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	8
Nodes	10
Junctions	1
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	5
Links	8
Channels	0
Pipes	4
Pumps	0
Orifices	1
Weirs	3
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.24	484.00	65.00	3.21	0.61	0.15	0.13	0 00:09:28
2	Sub-02	0.36	484.00	88.77	3.21	2.07	0.75	0.49	0 00:28:41
3	Sub-03	0.37	484.00	97.02	3.21	2.87	1.05	0.51	0 00:42:48
4	Sub-04	0.28	484.00	96.65	3.21	2.83	0.80	0.51	0 00:25:49
5	Sub-05	0.16	484.00	98.00	3.21	2.98	0.46	0.51	0 00:01:45
6	Sub-06	0.09	484.00	98.00	3.21	2.97	0.25	0.28	0 00:01:28
7	Sub-07	0.03	484.00	98.00	3.21	2.85	0.08	0.09	0 00:00:44
8	Sub-8	0.13	484.00	76.34	3.21	1.18	0.16	0.19	0 00:05:08

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	Junction	21.00	26.00	0.00	0.00	0.00	1.38	21.60	0.00	4.40	0 00:00	0.00	0.00
2	Out-01	Outfall	21.00					0.13	21.00					
3	Out-04	Outfall	20.00					0.00	20.00					
4	Out-05	Outfall	20.00					1.38	20.32					
5	Out-06	Outfall	19.00					0.28	19.00					
6	CB-01	Storage Node	21.65	28.50	0.00		1000.00	0.51	25.89				0.00	0.00
7	CB-02	Storage Node	21.15	28.00	0.00		1000.00	0.09	25.84				0.00	0.00
8	InfiltrationArea	Storage Node	23.00	25.50	0.00		0.00	1.64	25.37				0.00	0.00
9	OCS-04	Storage Node	20.25	25.25	0.00		0.00	1.38	22.78				0.00	0.00
10	Stor-06	Storage Node	24.00	26.00	0.00		0.00	1.49	25.77				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	Link-06	Pipe	CB-01	Stor-06	20.00	25.65	25.00	3.2500	12.000	0.0200	1.49	4.17	0.36	3.09	0.49	0.59	0.00	Calculated
2	Link-07	Pipe	CB-02	Stor-06	47.56	25.65	25.40	0.5300	6.000	0.0200	0.08	0.26	0.31	0.79	0.26	0.53	0.00	Calculated
3	Link-09	Pipe	OCS-04	DMH-02	21.76	22.40	21.25	5.2800	12.000	0.0200	1.38	5.32	0.26	5.30	0.37	0.37	0.00	Calculated
4	Link-10	Pipe	DMH-02	Out-05	30.14	21.25	20.00	4.1500	18.000	0.0200	1.38	13.90	0.10	4.66	0.34	0.22	0.00	Calculated
5	Orifice-01	Orifice	InfiltrationArea	OCS-04		23.00	20.25		3.000		0.24							
6	Weir-04	Weir	InfiltrationArea	Out-04		23.00	20.00				0.00							
7	Weir-05	Weir	InfiltrationArea	OCS-04		23.00	20.25				1.14							
8	Weir-08	Weir	Stor-06	InfiltrationArea		24.00	23.00				1.42							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.24
Peak Rate Factor 484.00
Weighted Curve Number 65.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
LandscapedArea	0.20	C	65.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.24		65.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

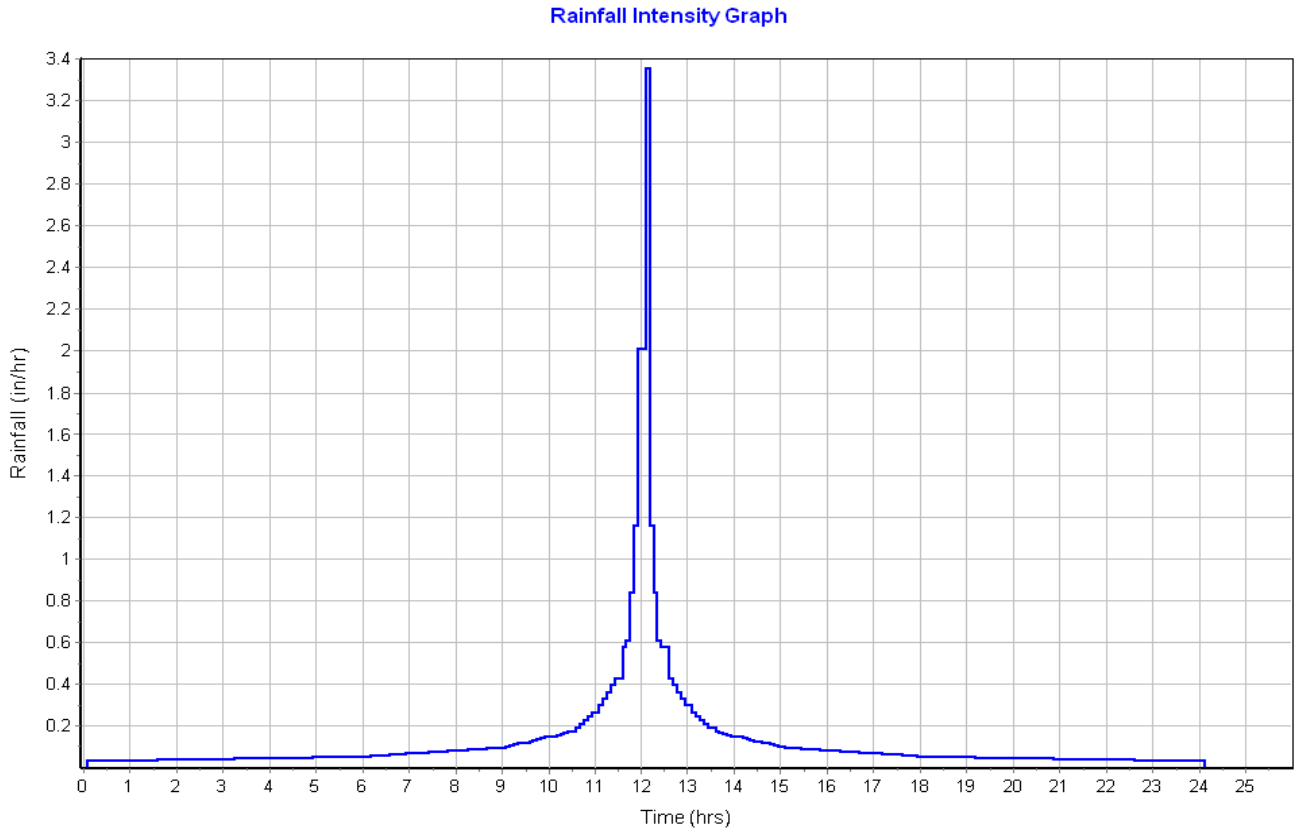
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	54.57	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.15	0.05	0.00
Computed Flow Time (min) :	6.03	3.45	0.00

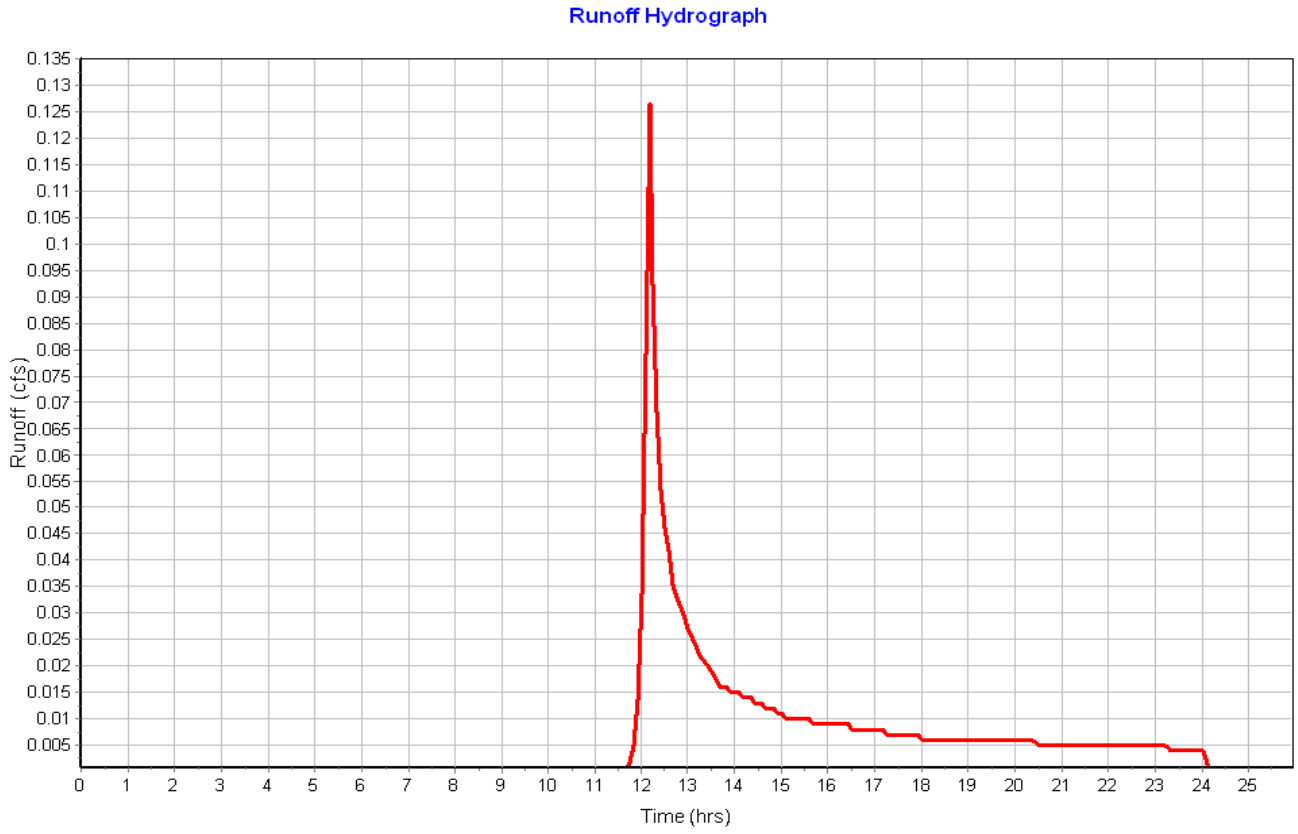
Total TOC (min) 9.48

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	0.61
Peak Runoff (cfs)	0.13
Weighted Curve Number	65.00
Time of Concentration (days hh:mm:ss)	0 00:09:29

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.36
Peak Rate Factor	484.00
Weighted Curve Number	88.77
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Sidewalk	0.02	C	98.00
Roof	0.10	C	98.00
Bioretention Swale	0.01	C	74.00
GreenRoof	0.23	C	85.00
Composite Area & Weighted CN	0.36		88.77

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	156.39	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	27.78	0.00	0.00

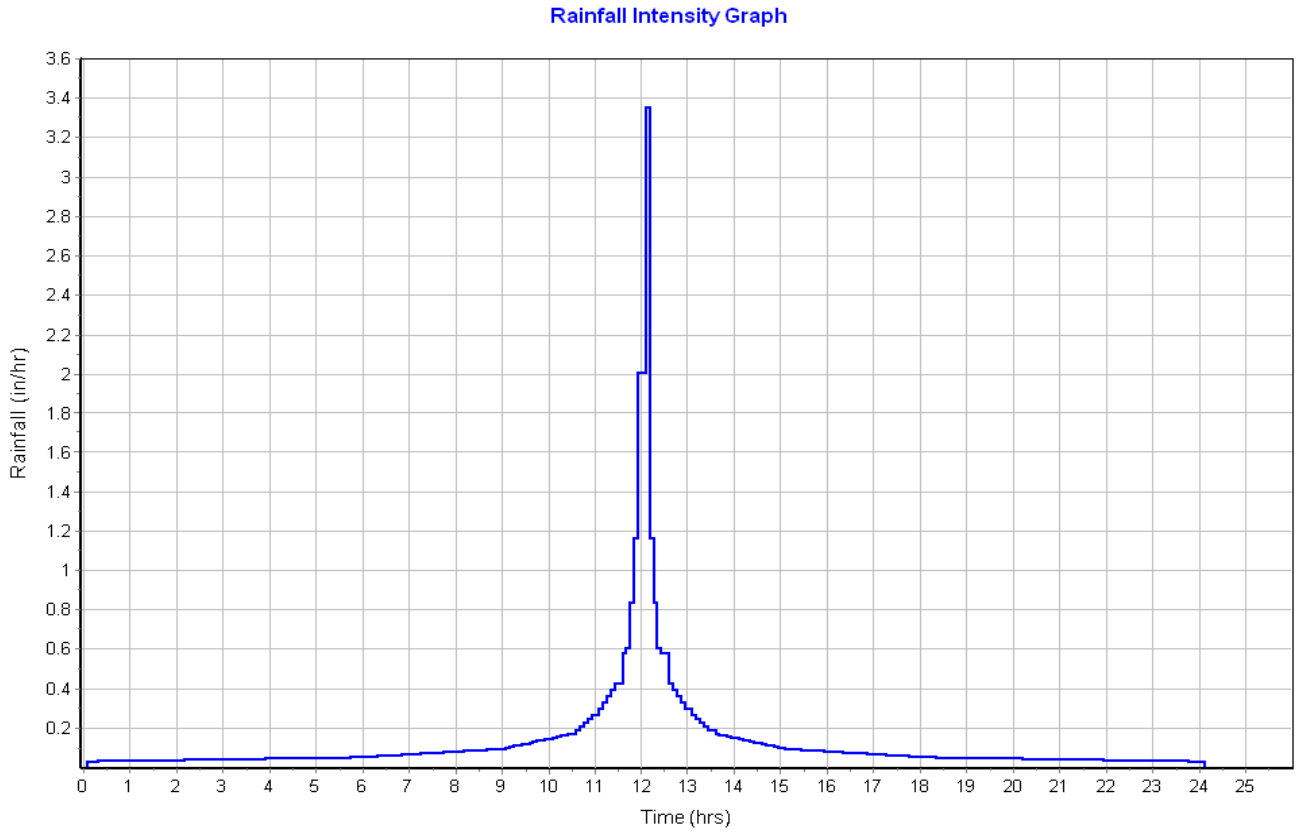
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	129.53	0.00	0.00
Slope (%) :	2.48	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.36	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

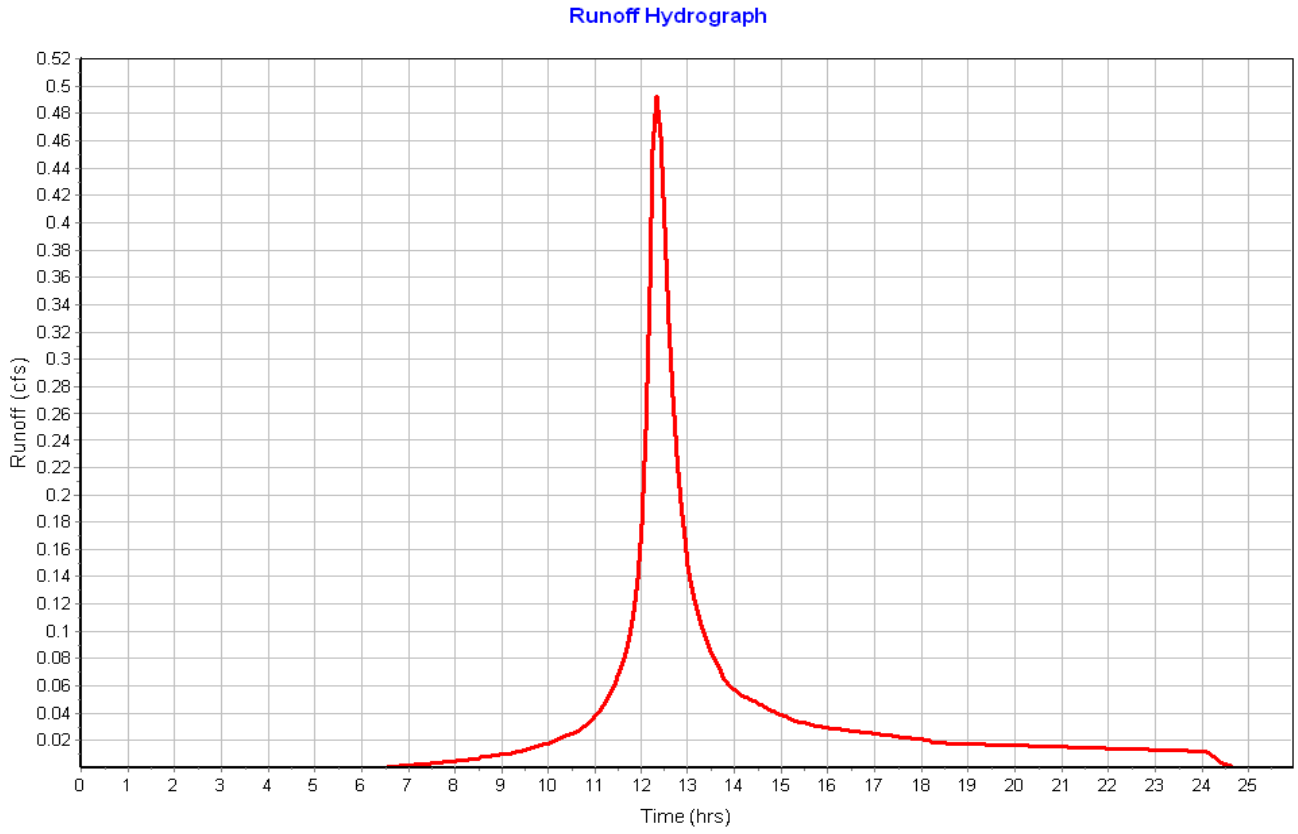
Total TOC (min) 28.69

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.07
Peak Runoff (cfs)	0.49
Weighted Curve Number	88.77
Time of Concentration (days hh:mm:ss)	0 00:28:41

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.37
Peak Rate Factor 484.00
Weighted Curve Number 97.02
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.32	C	98.00
Paved parking & roofs	0.03	C	98.00
Raingarden	0.01	C	74.00
Composite Area & Weighted CN	0.36		97.02

Time of Concentration

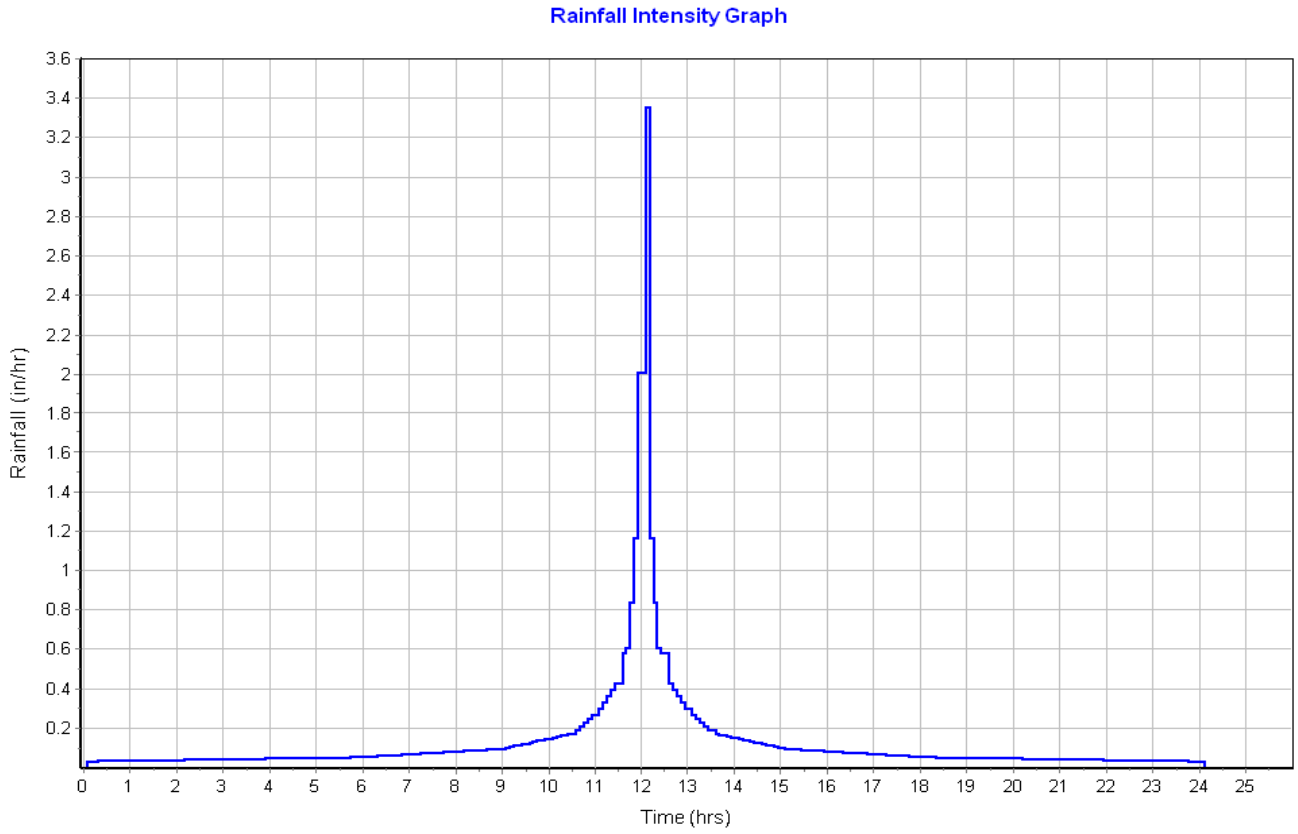
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.01	0.00
Flow Length (ft) :	262.66	64.37	0.00
Slope (%) :	1	2.3	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.10	1.44	0.00
Computed Flow Time (min) :	42.06	0.75	0.00

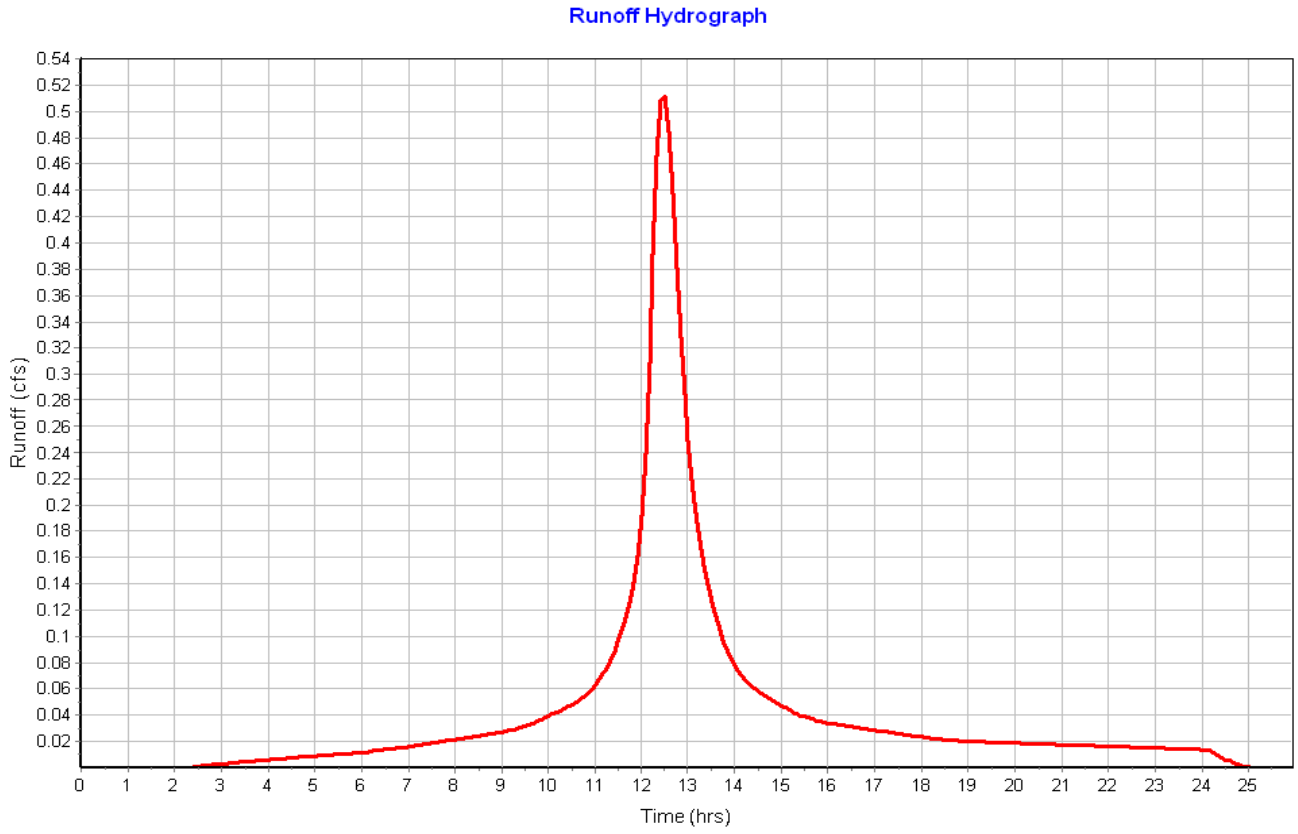
Total TOC (min) 42.80

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.87
Peak Runoff (cfs) 0.51
Weighted Curve Number 97.02
Time of Concentration (days hh:mm:ss) 0 00:42:48

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac) 0.28
Peak Rate Factor 484.00
Weighted Curve Number 96.65
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.23	C	98.00
Sidewalk	0.02	C	98.00
Raingarden	0.02	C	74.00
Paved parking & roofs	0.01	C	98.00
Composite Area & Weighted CN	0.28		96.65

Time of Concentration

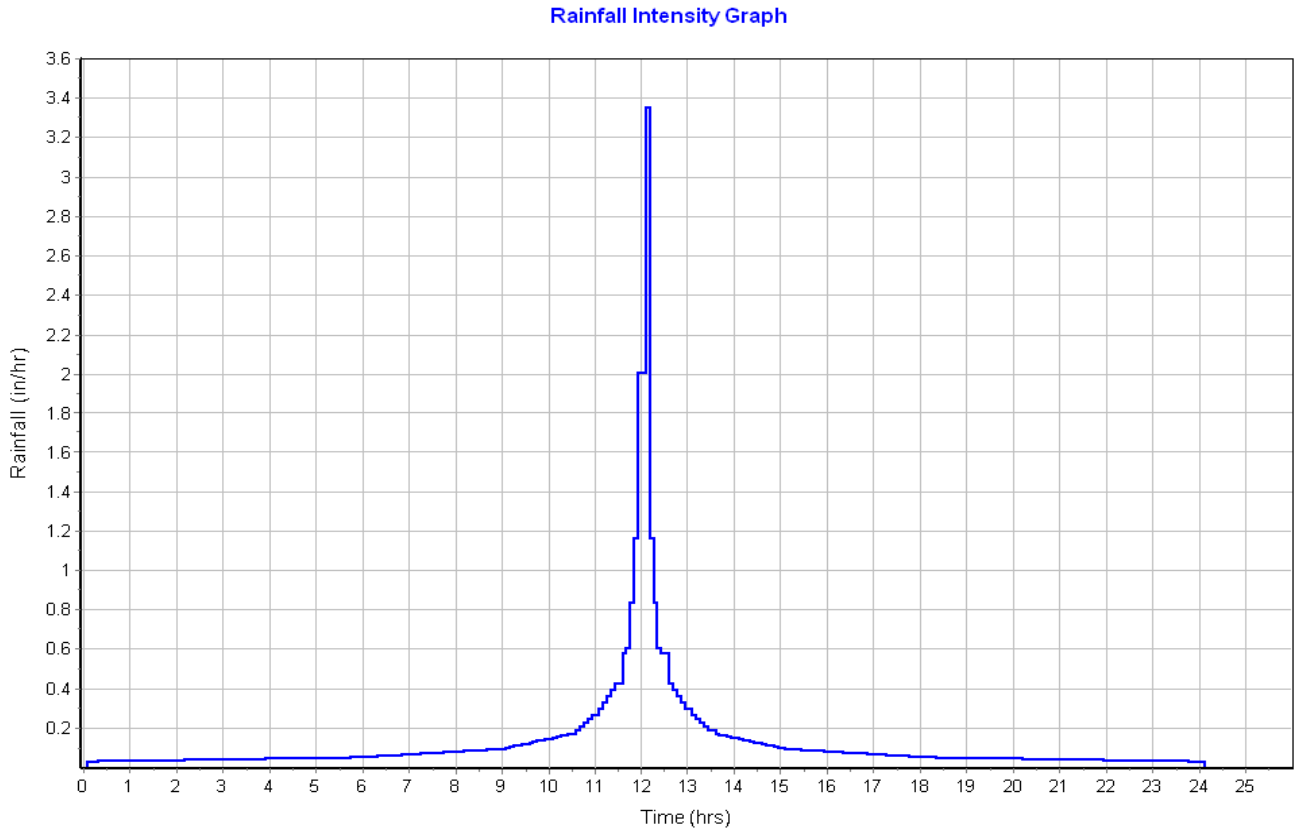
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	142.73	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	25.82	0.00	0.00

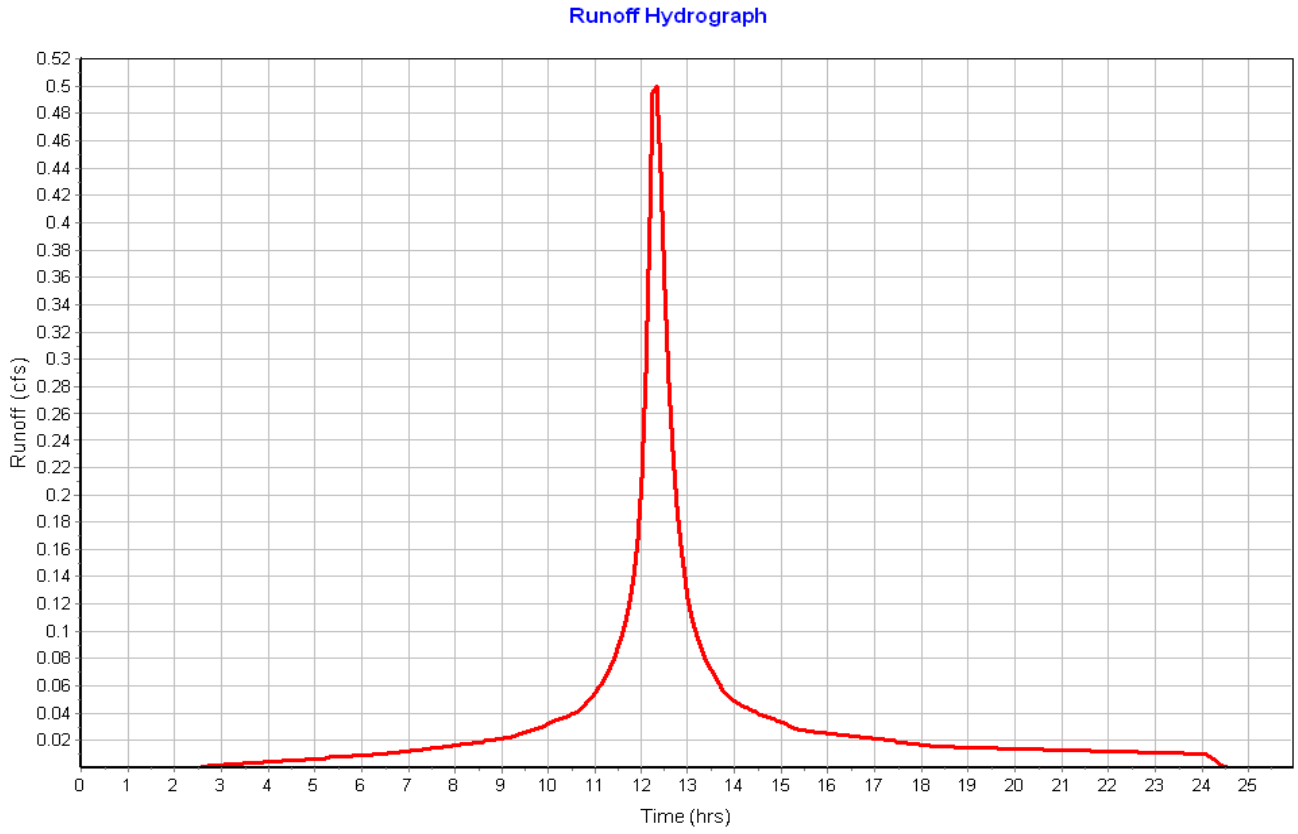
Total TOC (min) 25.82

Subbasin Runoff Results

Total Rainfall (in) 3.21
Total Runoff (in) 2.83
Peak Runoff (cfs) 0.51
Weighted Curve Number 96.65
Time of Concentration (days hh:mm:ss) 0 00:25:49

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.16
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.16	C	98.00
Composite Area & Weighted CN	0.16		98.00

Time of Concentration

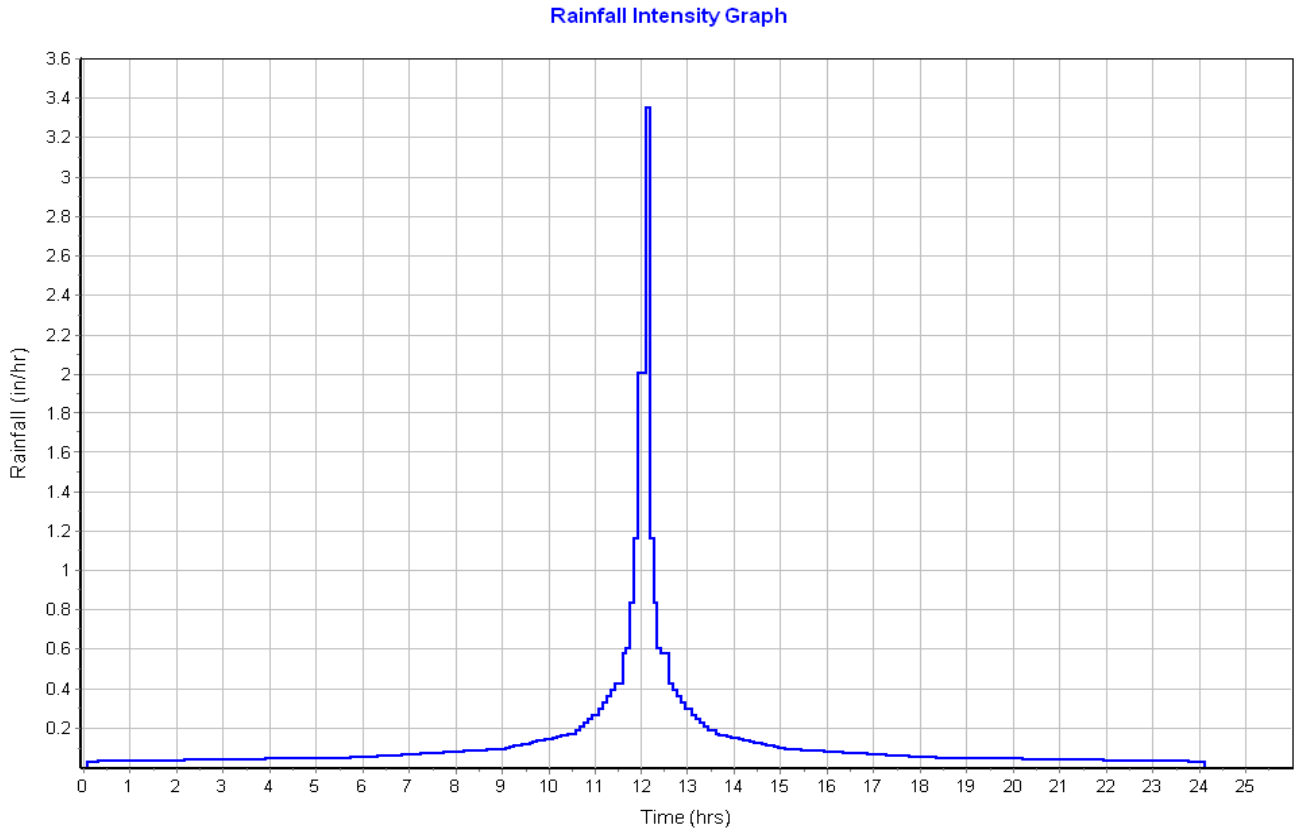
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	175.64	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	1.76	0.00	0.00

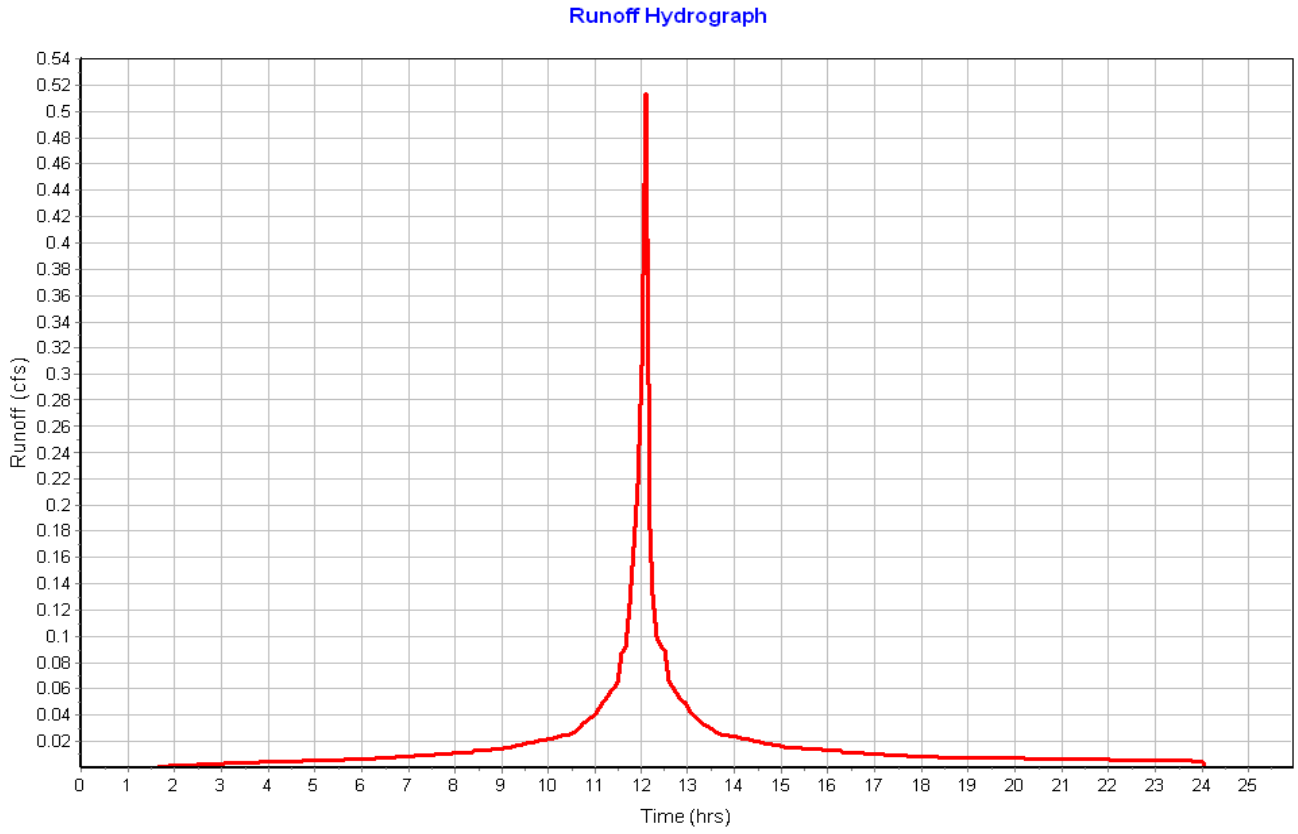
Total TOC (min) 1.76

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.98
Peak Runoff (cfs)	0.51
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:46

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.07	C	98.00
Sidewalk	0.02	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

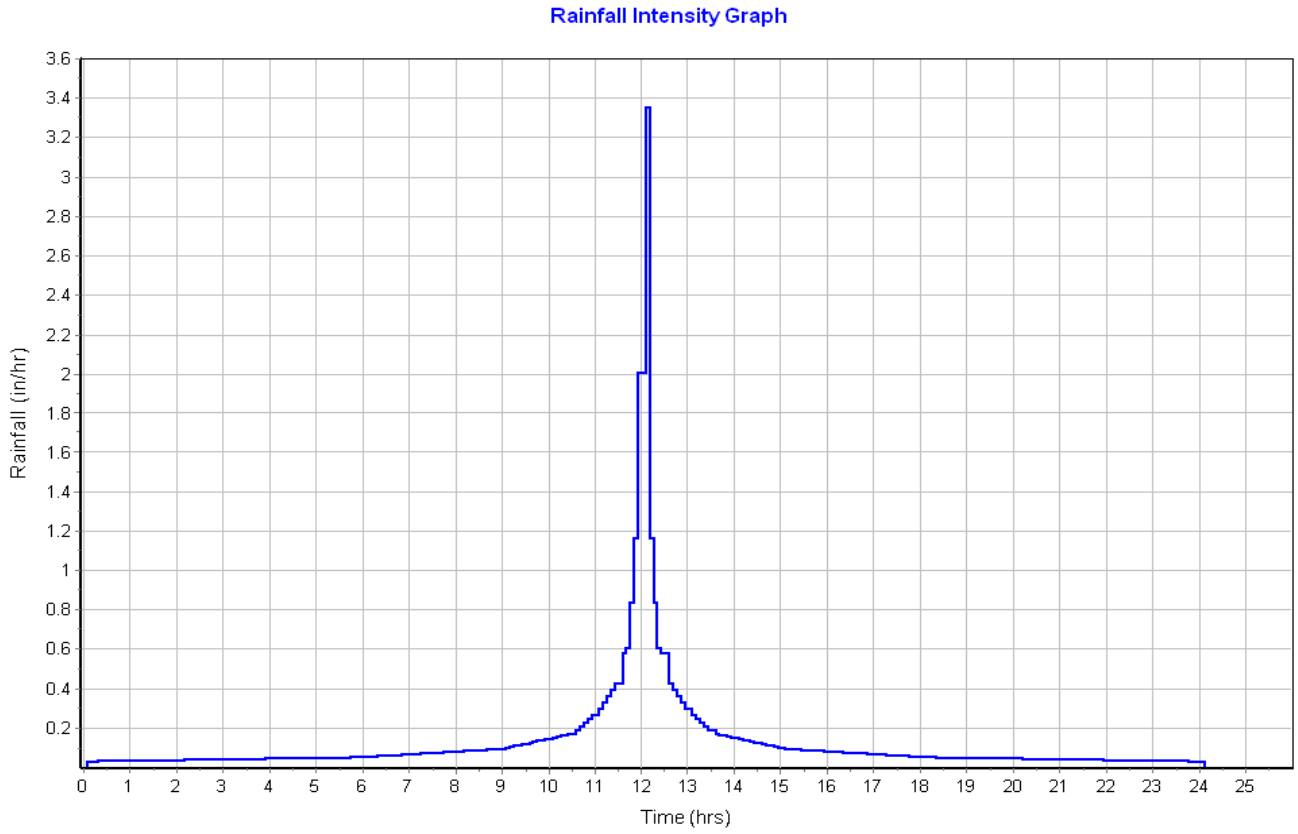
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	176.60	0.00	0.00
Slope (%) :	3.125	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.99	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

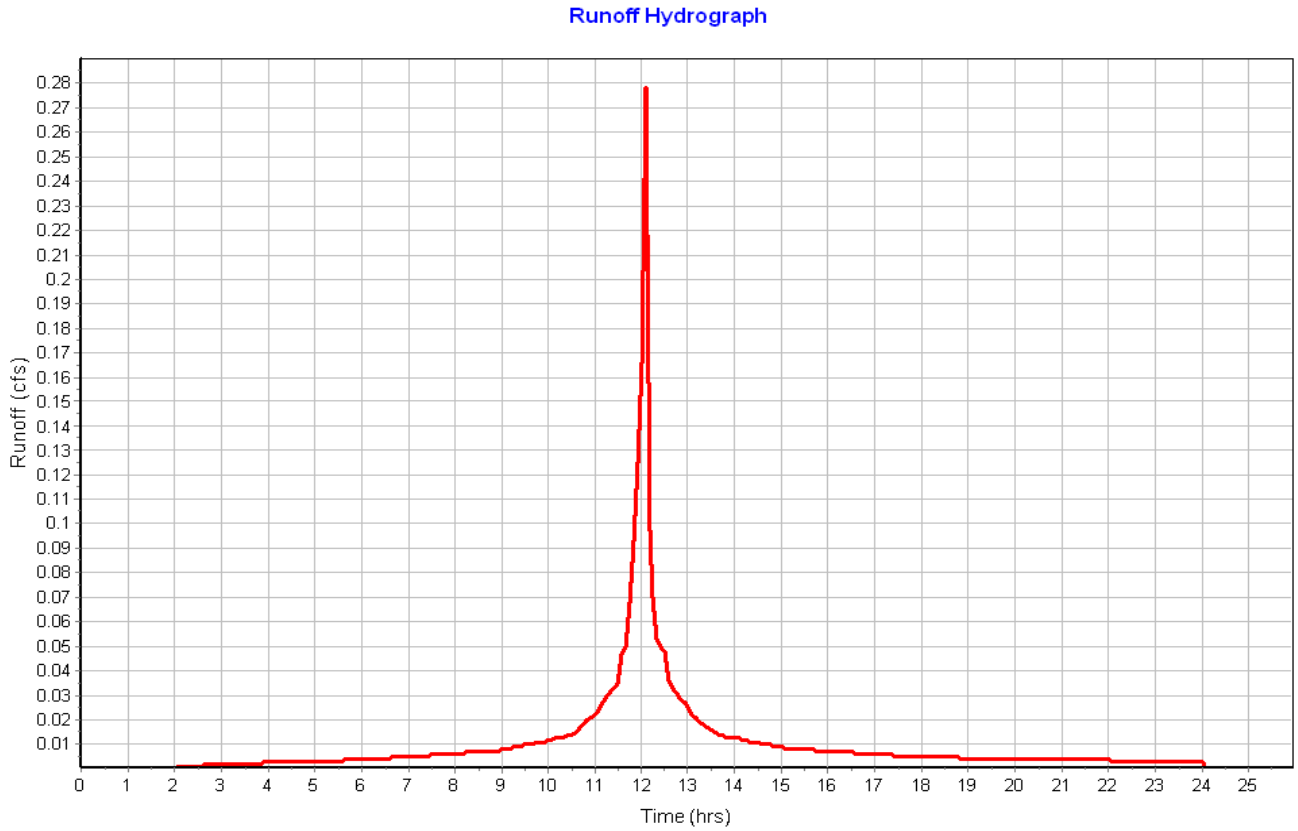
Total TOC (min) 1.48

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.97
Peak Runoff (cfs)	0.28
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.03	C	98.00
Composite Area & Weighted CN	0.03		98.00

Time of Concentration

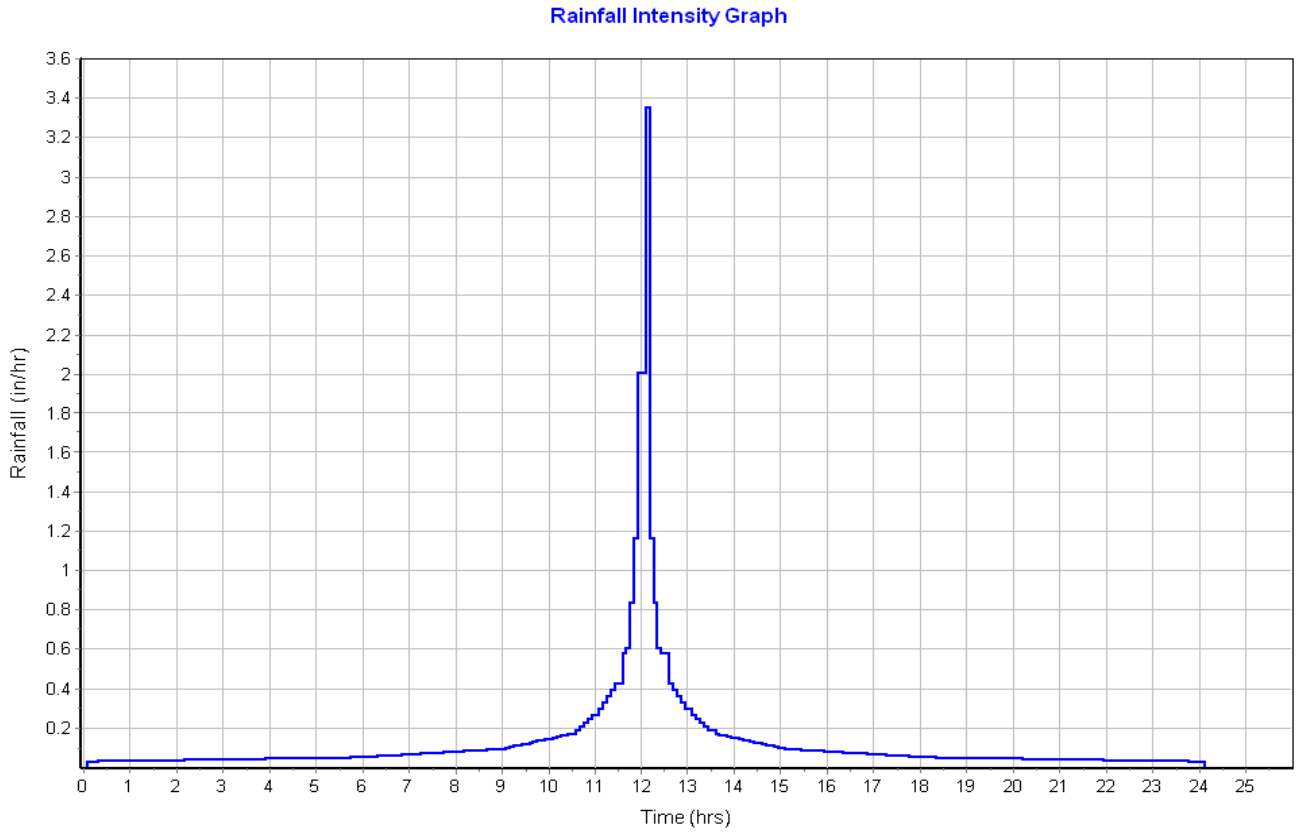
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	81.23	0.00	0.00
Slope (%) :	3.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.82	0.00	0.00
Computed Flow Time (min) :	0.74	0.00	0.00

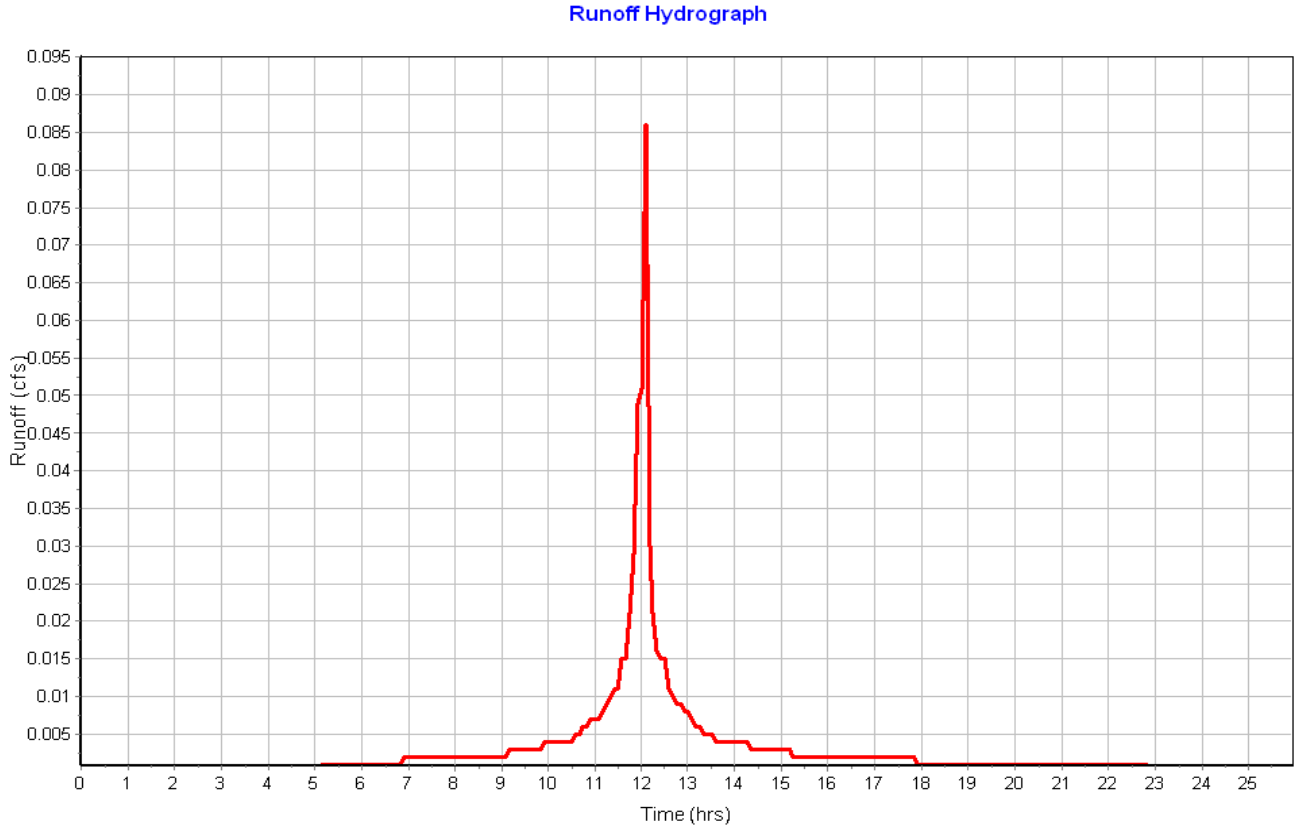
Total TOC (min) 0.74

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	2.85
Peak Runoff (cfs)	0.09
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-07





Subbasin : Sub-8

Input Data

Area (ac)	0.13
Peak Rate Factor	484.00
Weighted Curve Number	76.34
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Infiltration Basin	0.12	C	74.00
Sidewalk	0.01	C	98.00
Composite Area & Weighted CN	0.13		76.34

Time of Concentration

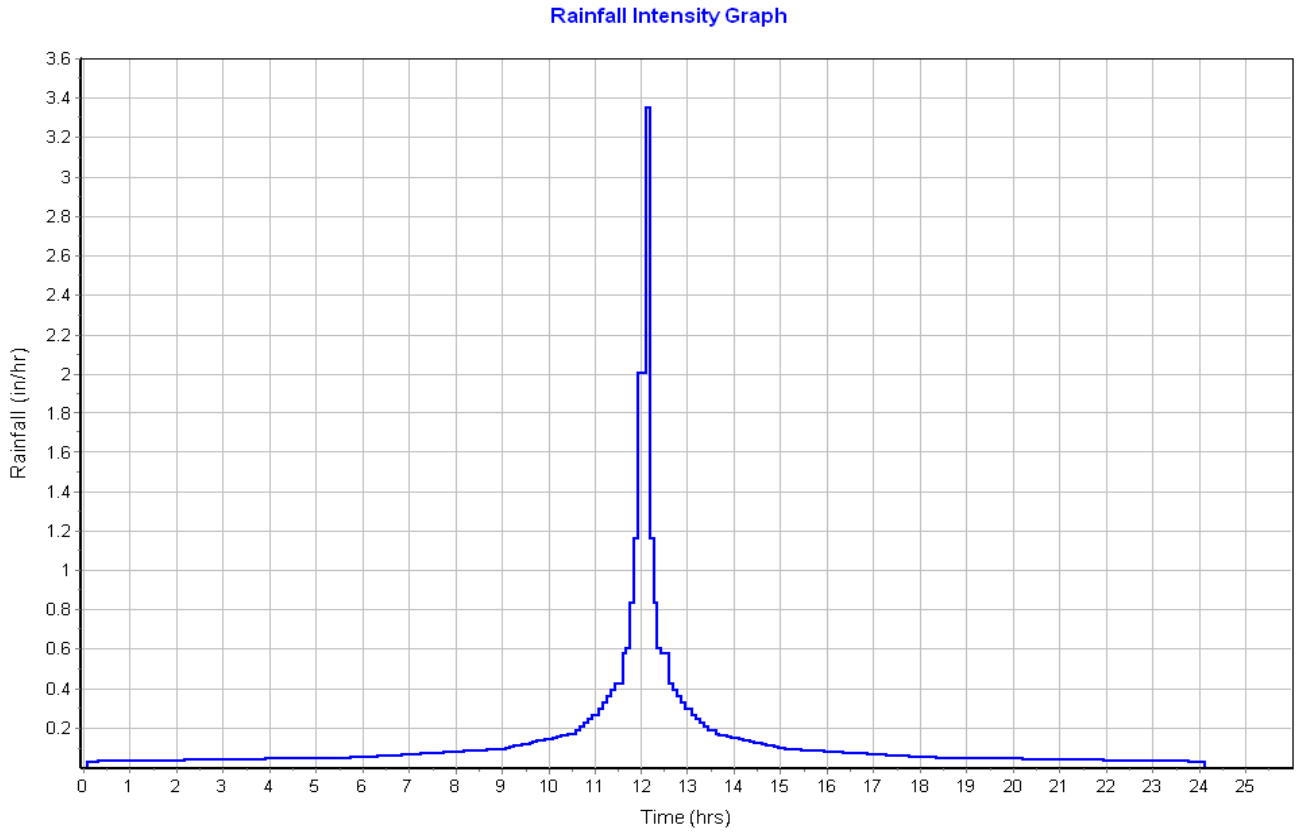
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	60	0.00	0.00
Slope (%) :	10	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	5.14	0.00	0.00

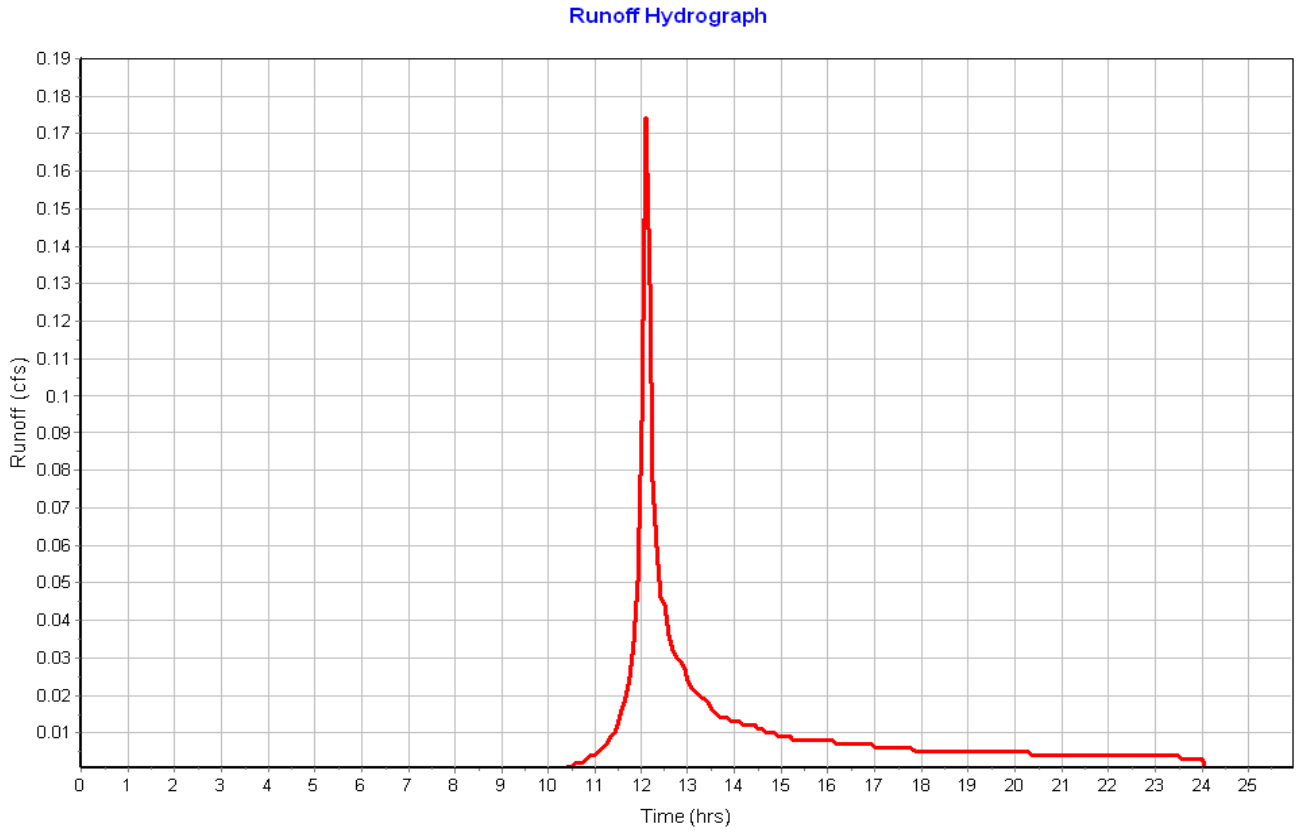
Total TOC (min) 5.14

Subbasin Runoff Results

Total Rainfall (in)	3.21
Total Runoff (in)	1.18
Peak Runoff (cfs)	0.19
Weighted Curve Number	76.34
Time of Concentration (days hh:mm:ss)	0 00:05:08

Subbasin : Sub-8





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-02	21.00	26.00	5.00	0.00	-21.00	0.00	-26.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	1.38	0.00	21.60	0.60	0.00	4.40	21.30	0.30	0 12:35	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-06	20.00	25.65	4.00	25.00	1.00	0.65	3.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-07	47.56	25.65	4.50	25.40	1.40	0.25	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-09	21.76	22.40	2.15	21.25	0.25	1.15	5.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-10	30.14	21.25	0.25	20.00	0.00	1.25	4.1500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-06	1.49	1 00:17	4.17	0.36	3.09	0.11	0.49	0.59	0.00		Calculated
2	Link-07	0.08	0 12:10	0.26	0.31	0.79	1.00	0.26	0.53	0.00		Calculated
3	Link-09	1.38	0 12:35	5.32	0.26	5.30	0.07	0.37	0.37	0.00		Calculated
4	Link-10	1.38	0 12:35	13.90	0.10	4.66	0.11	0.34	0.22	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	21.65
Max (Rim) Elevation (ft)	28.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.51
Peak Lateral Inflow (cfs)	0.51
Peak Outflow (cfs)	1.49
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.89
Max HGL Depth Attained (ft)	4.24
Average HGL Elevation Attained (ft)	25.20
Average HGL Depth Attained (ft)	3.55
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.09
Peak Lateral Inflow (cfs)	0.09
Peak Outflow (cfs)	0.08
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.84
Max HGL Depth Attained (ft)	4.69
Average HGL Elevation Attained (ft)	24.54
Average HGL Depth Attained (ft)	3.39
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : InfiltrationArea

Input Data

Invert Elevation (ft)	23.00
Max (Rim) Elevation (ft)	25.50
Max (Rim) Offset (ft)	2.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-23.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

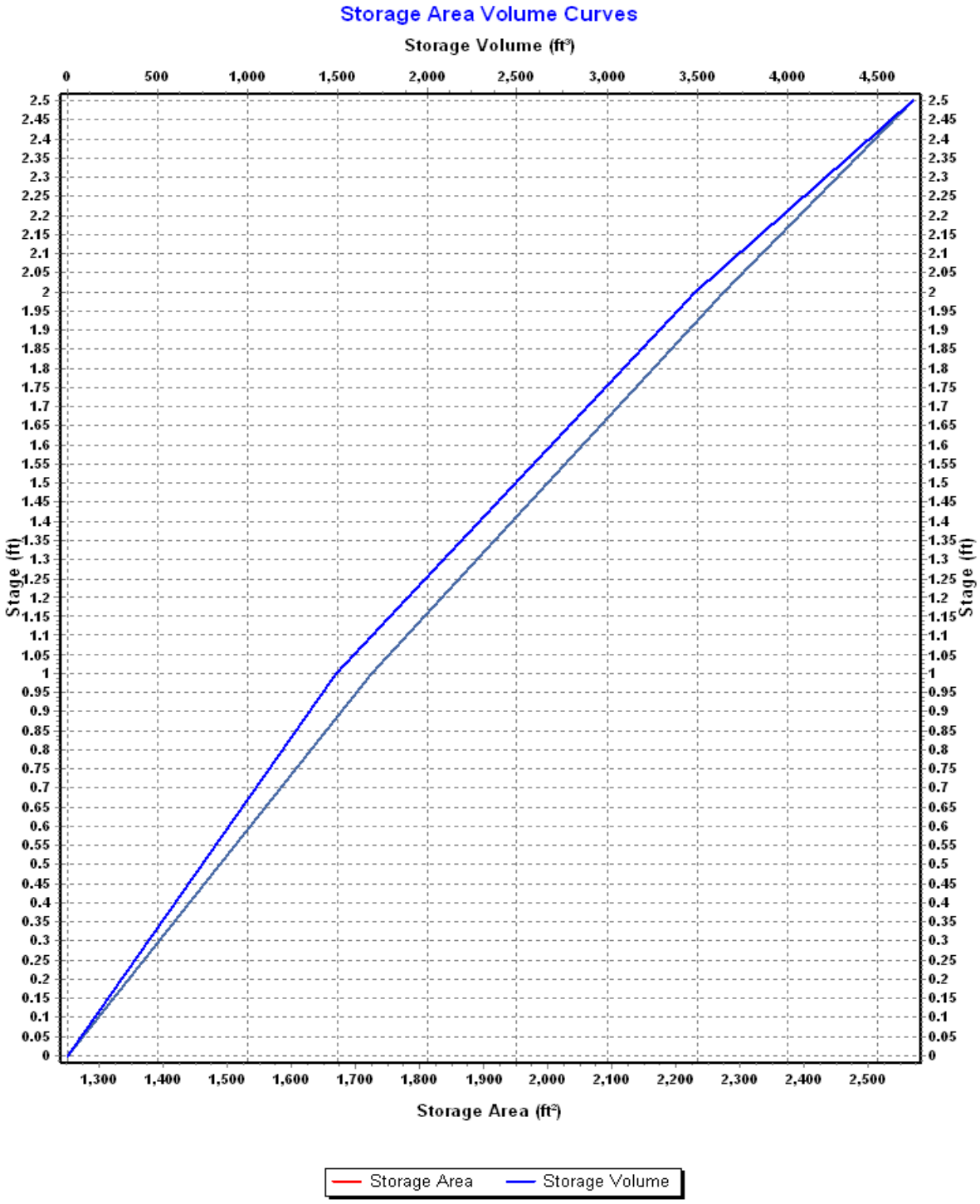
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : Infiltration Area

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1251	0.000
1	1724	1487.50
2	2275	3487.00
2.5	2570	4698.25


Storage Area Volume Curves
Storage Volume (ft³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
Stage (ft)
Stage (ft)
2.5
2.45
2.4
2.35
2.3
2.25
2.2
2.15
2.1
2.05
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
1,300
1,400
1,500
1,600
1,700
1,800
1,900
2,000
2,100
2,200
2,300
2,400
2,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : InfiltrationArea (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	25.40	2.40	20.00	1.00	3.33
2	Weir-05	Trapezoidal	No	25.25	2.25	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-01	Side	CIRCULAR	No	3.00			24.26	0.61

Output Summary Results

Peak Inflow (cfs)	1.64
Peak Lateral Inflow (cfs)	1.52
Peak Outflow (cfs)	1.38
Peak Exfiltration Flow Rate (cfm)	0.94
Max HGL Elevation Attained (ft)	25.37
Max HGL Depth Attained (ft)	2.37
Average HGL Elevation Attained (ft)	24.52
Average HGL Depth Attained (ft)	1.52
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.955
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	20.25
Max (Rim) Elevation (ft)	25.25
Max (Rim) Offset (ft)	5.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-20.25
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.38
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.38
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	22.78
Max HGL Depth Attained (ft)	2.53
Average HGL Elevation Attained (ft)	21.91
Average HGL Depth Attained (ft)	1.66
Time of Max HGL Occurrence (days hh:mm)	0 12:35
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

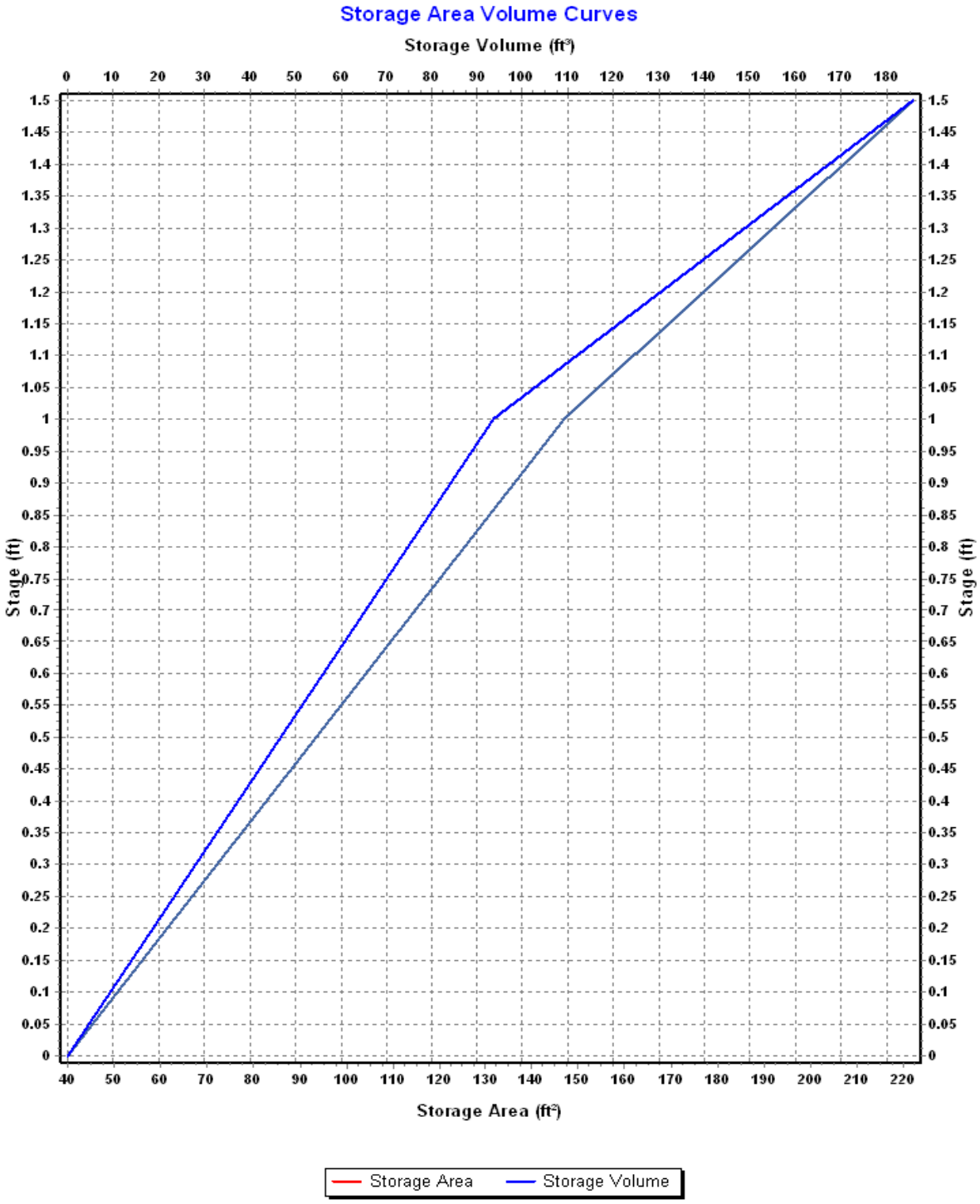
Input Data

Invert Elevation (ft)	24.00
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-24.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay for Infiltration Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	40	0.000
1	147	93.50
1.5	222	185.75


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-06 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	25.70	1.70	25.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	1.49
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.45
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	25.41
Average HGL Depth Attained (ft)	1.41
Time of Max HGL Occurrence (days hh:mm)	1 00:17
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scen 3 Proposed Conditions (Proposed Regulations)_2020 10 19.SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	8
Nodes	10
Junctions	1
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	5
Links	8
Channels	0
Pipes	4
Pumps	0
Orifices	1
Weirs	3
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	2yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.24	484.00	65.00	3.50	0.75	0.18	0.17	0 00:09:28
2	Sub-02	0.36	484.00	88.77	3.50	2.34	0.85	0.55	0 00:28:41
3	Sub-03	0.37	484.00	97.02	3.50	3.16	1.15	0.56	0 00:42:48
4	Sub-04	0.28	484.00	96.65	3.50	3.12	0.88	0.56	0 00:25:49
5	Sub-05	0.16	484.00	98.00	3.50	3.27	0.51	0.56	0 00:01:45
6	Sub-06	0.09	484.00	98.00	3.50	3.26	0.28	0.30	0 00:01:28
7	Sub-07	0.03	484.00	98.00	3.50	3.18	0.08	0.09	0 00:00:44
8	Sub-8	0.13	484.00	76.34	3.50	1.39	0.18	0.23	0 00:05:08

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	Junction	21.00	26.00	0.00	0.00	0.00	1.68	21.64	0.00	4.36	0 00:00	0.00	0.00
2	Out-01	Outfall	21.00					0.17	21.00					
3	Out-04	Outfall	20.00					0.00	20.00					
4	Out-05	Outfall	20.00					1.68	20.35					
5	Out-06	Outfall	19.00					0.30	19.00					
6	CB-01	Storage Node	21.65	28.50	0.00		1000.00	0.56	25.90				0.00	0.00
7	CB-02	Storage Node	21.15	28.00	0.00		1000.00	0.09	25.85				0.00	0.00
8	InfiltrationArea	Storage Node	23.00	25.50	0.00		0.00	1.81	25.39				0.00	0.00
9	OCS-04	Storage Node	20.25	25.25	0.00		0.00	1.68	22.82				0.00	0.00
10	Stor-06	Storage Node	24.00	26.00	0.00		0.00	0.65	25.74				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-06	Pipe	CB-01	Stor-06	20.00	25.65	25.00	3.2500	12.000	0.0200	0.56	4.17	0.13	1.53	0.49	0.49	0.00	Calculated
2	Link-07	Pipe	CB-02	Stor-06	47.56	25.65	25.40	0.5300	6.000	0.0200	0.09	0.26	0.34	0.83	0.27	0.54	0.00	Calculated
3	Link-09	Pipe	OCS-04	DMH-02	21.76	22.40	21.25	5.2800	12.000	0.0200	1.68	5.32	0.32	5.55	0.41	0.41	0.00	Calculated
4	Link-10	Pipe	DMH-02	Out-05	30.14	21.25	20.00	4.1500	18.000	0.0200	1.68	13.90	0.12	4.88	0.37	0.25	0.00	Calculated
5	Orifice-01	Orifice	InfiltrationArea	OCS-04		23.00	20.25		3.000		0.24							
6	Weir-04	Weir	InfiltrationArea	Out-04		23.00	20.00				0.00							
7	Weir-05	Weir	InfiltrationArea	OCS-04		23.00	20.25				1.44							
8	Weir-08	Weir	Stor-06	InfiltrationArea		24.00	23.00				0.64							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.24
Peak Rate Factor 484.00
Weighted Curve Number 65.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
LandscapedArea	0.20	C	65.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.24		65.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

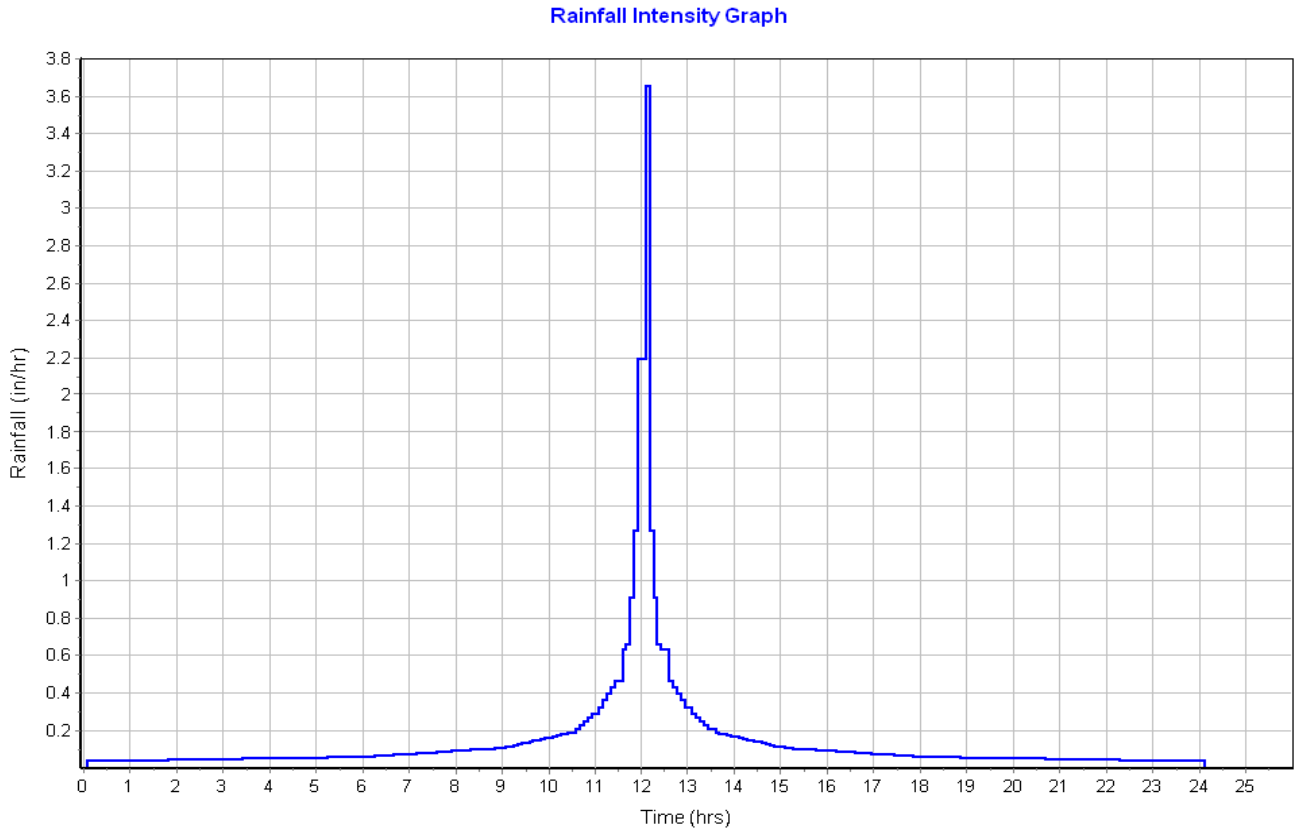
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	54.57	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.15	0.05	0.00
Computed Flow Time (min) :	6.03	3.45	0.00

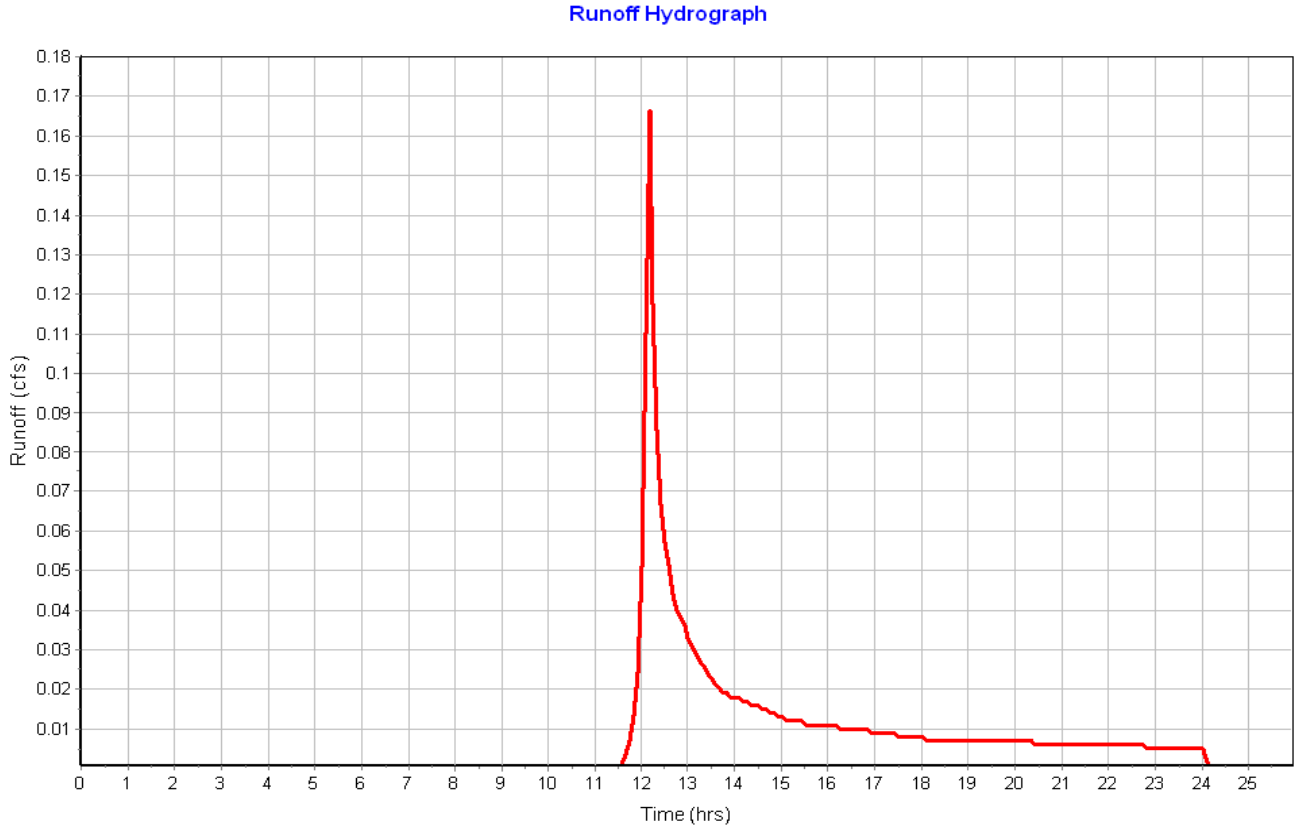
Total TOC (min) 9.48

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	0.75
Peak Runoff (cfs)	0.17
Weighted Curve Number	65.00
Time of Concentration (days hh:mm:ss)	0 00:09:29

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.36
Peak Rate Factor	484.00
Weighted Curve Number	88.77
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Sidewalk	0.02	C	98.00
Roof	0.10	C	98.00
Bioretention Swale	0.01	C	74.00
GreenRoof	0.23	C	85.00
Composite Area & Weighted CN	0.36		88.77

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	156.39	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	27.78	0.00	0.00

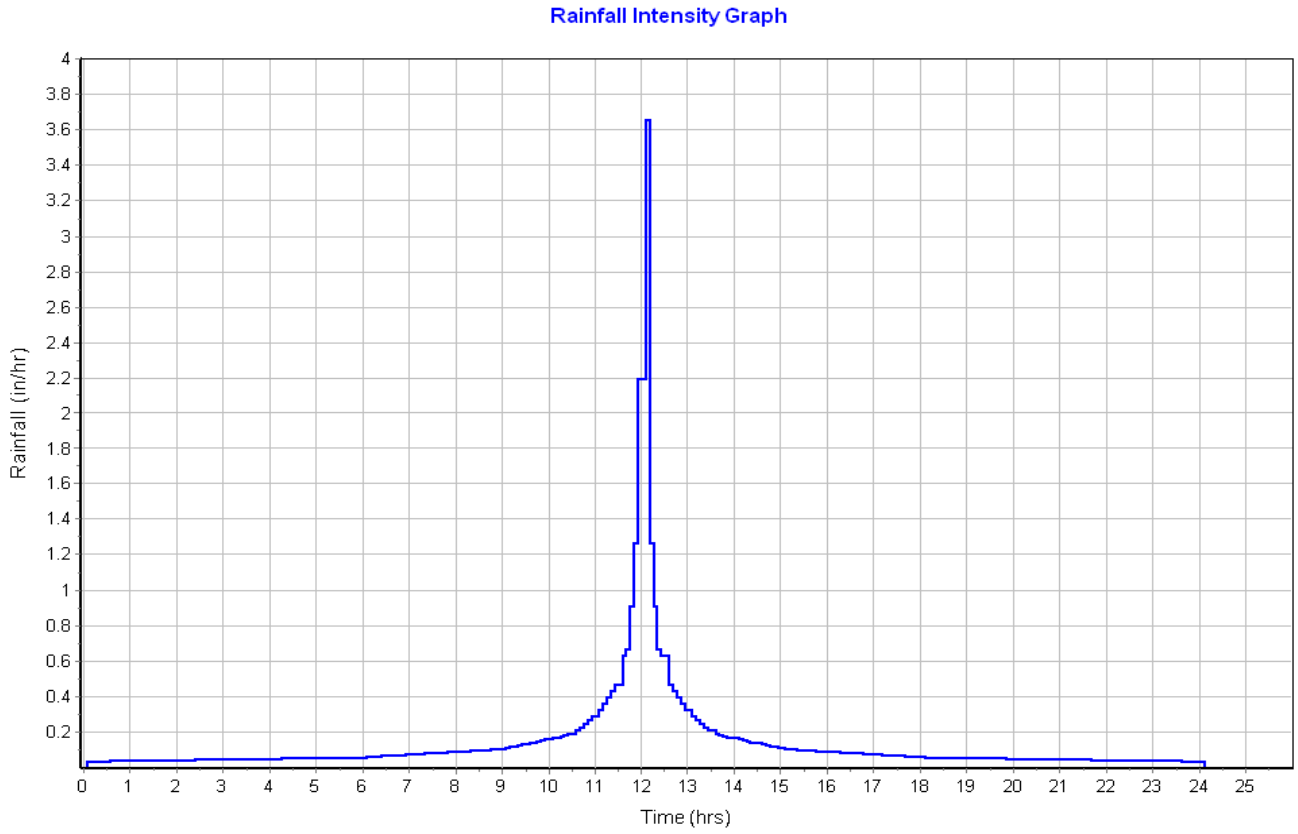
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	129.53	0.00	0.00
Slope (%) :	2.48	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.36	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

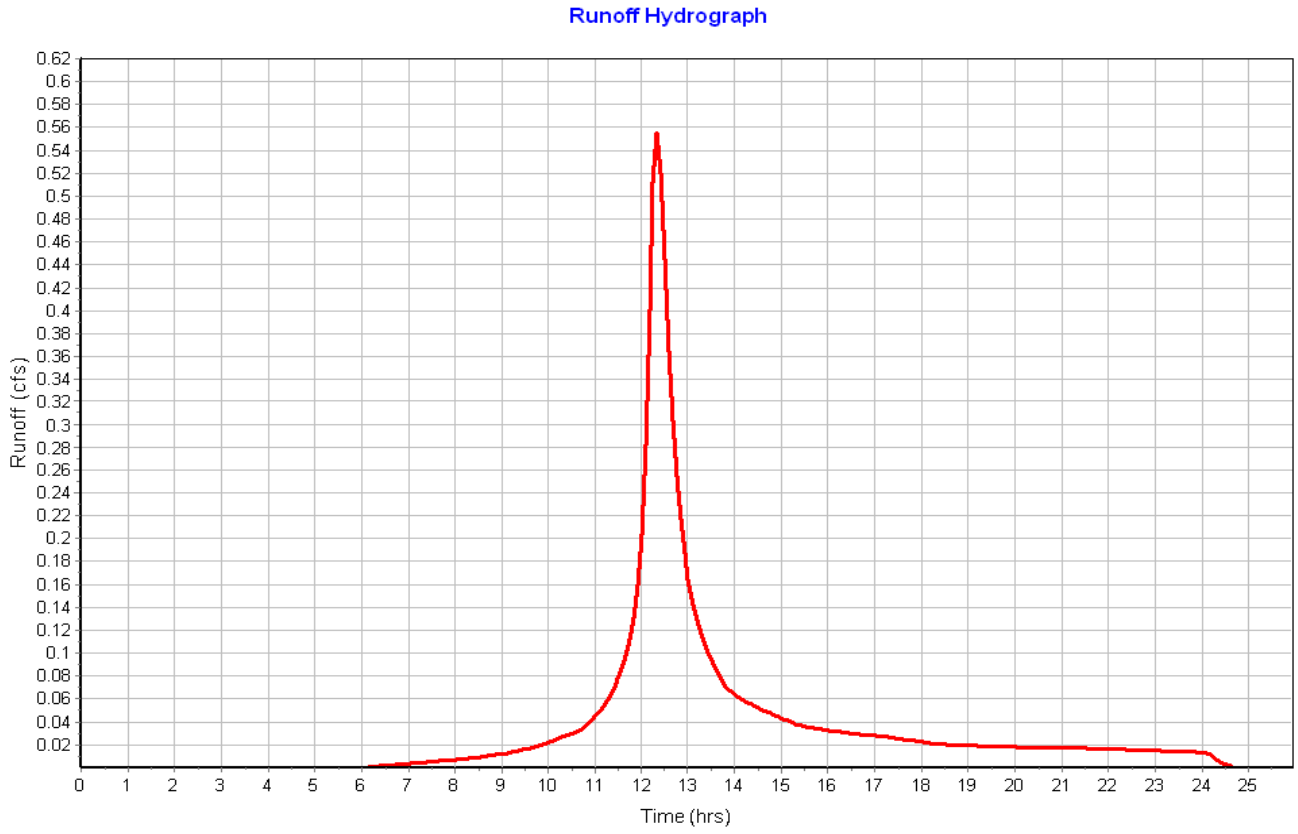
Total TOC (min) 28.69

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	2.34
Peak Runoff (cfs)	0.55
Weighted Curve Number	88.77
Time of Concentration (days hh:mm:ss)	0 00:28:41

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.37
Peak Rate Factor	484.00
Weighted Curve Number	97.02
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.32	C	98.00
Paved parking & roofs	0.03	C	98.00
Raingarden	0.01	C	74.00
Composite Area & Weighted CN	0.36		97.02

Time of Concentration

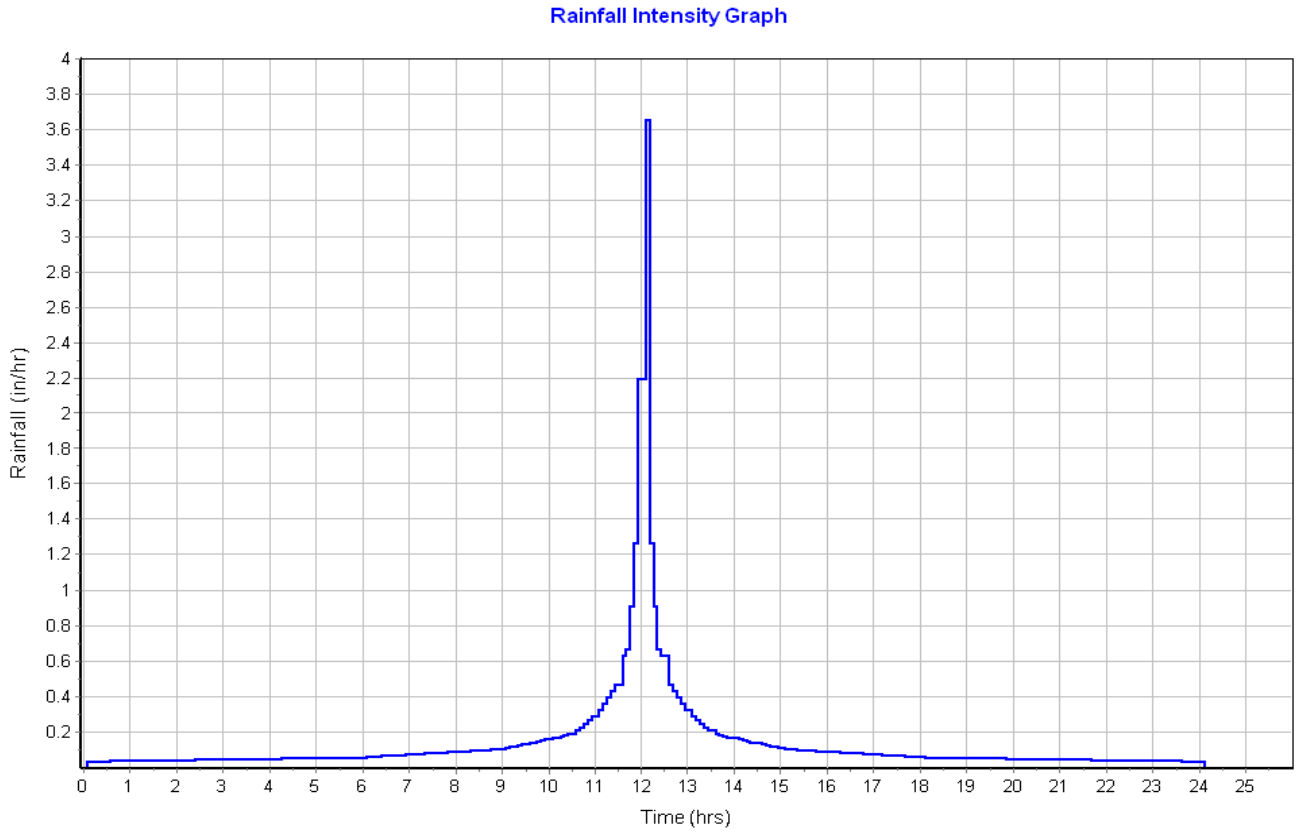
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.01	0.00
Flow Length (ft) :	262.66	64.37	0.00
Slope (%) :	1	2.3	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.10	1.44	0.00
Computed Flow Time (min) :	42.06	0.75	0.00

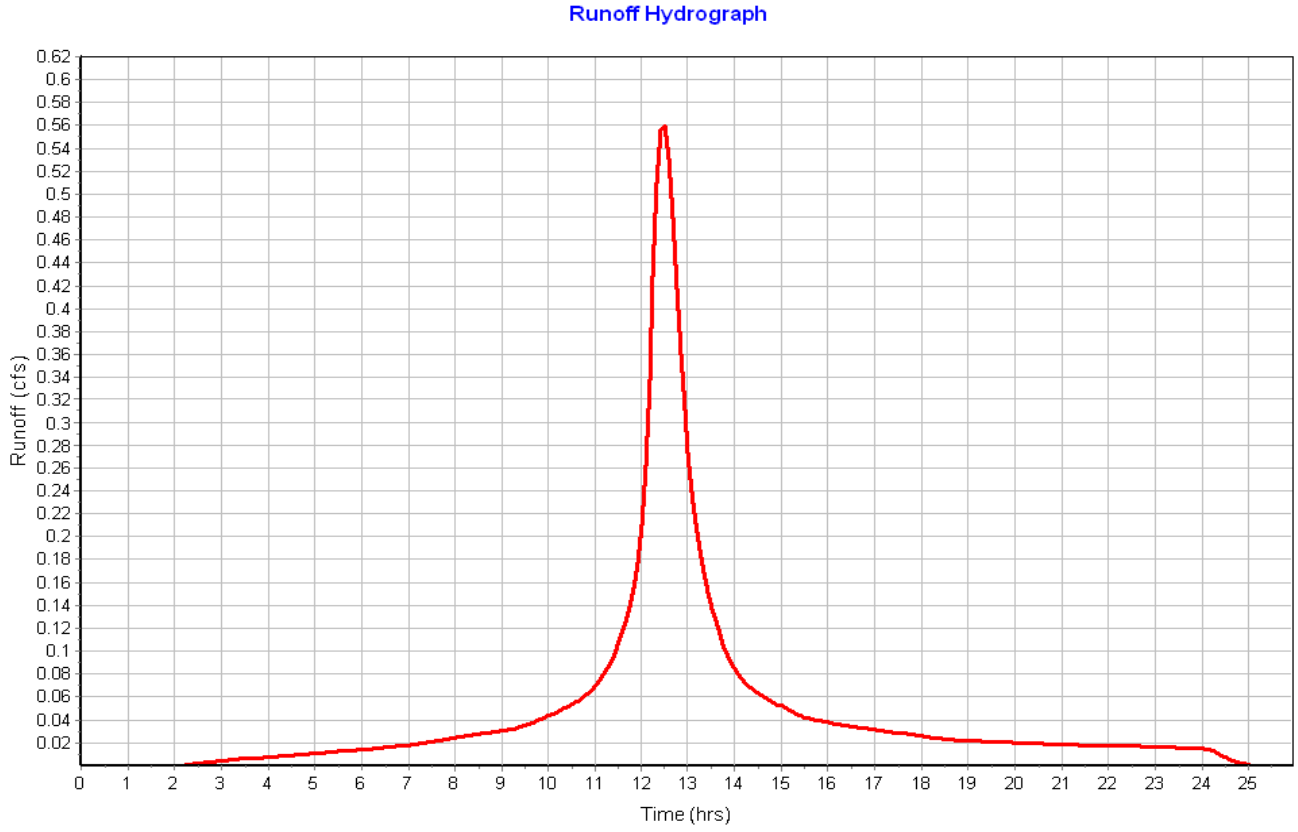
Total TOC (min) 42.80

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.16
Peak Runoff (cfs)	0.56
Weighted Curve Number	97.02
Time of Concentration (days hh:mm:ss)	0 00:42:48

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.28
Peak Rate Factor	484.00
Weighted Curve Number	96.65
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.23	C	98.00
Sidewalk	0.02	C	98.00
Raingarden	0.02	C	74.00
Paved parking & roofs	0.01	C	98.00
Composite Area & Weighted CN	0.28		96.65

Time of Concentration

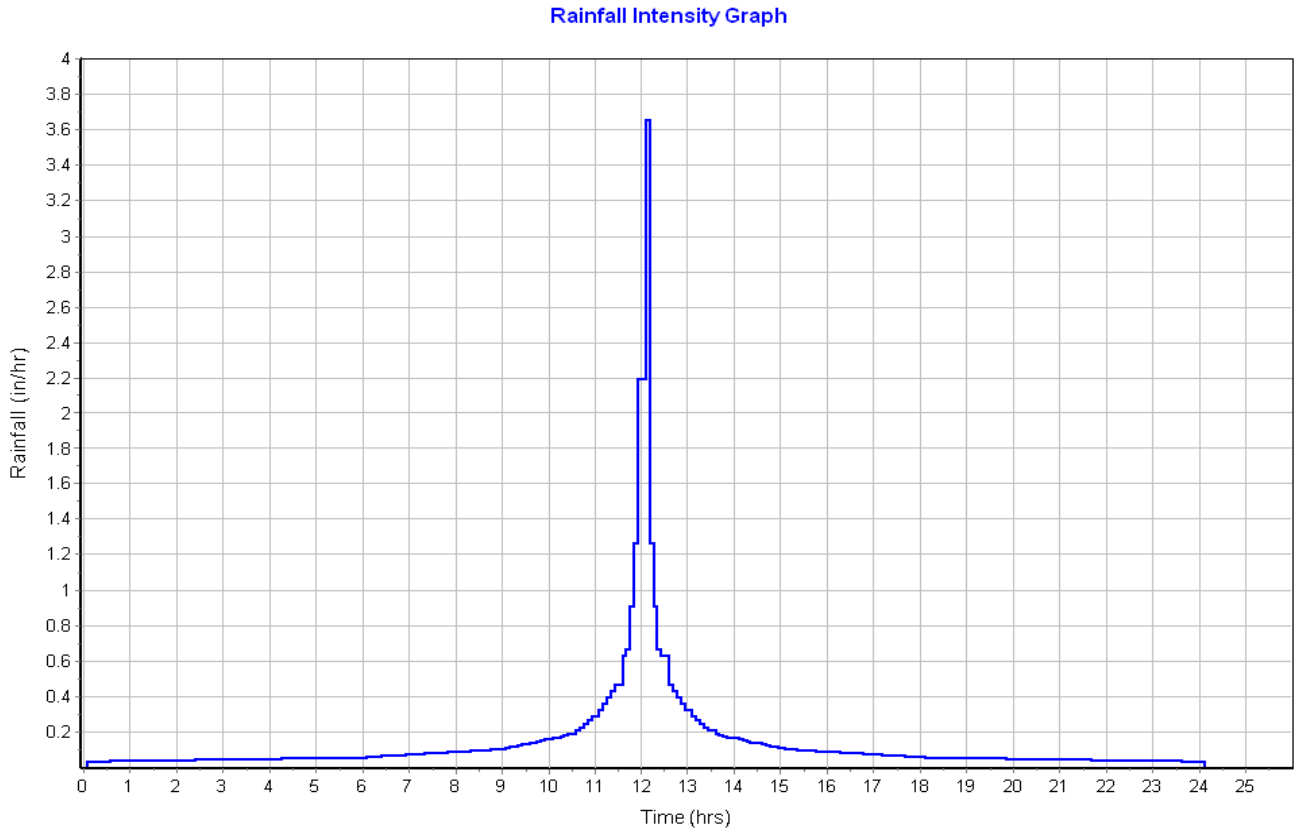
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	142.73	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	25.82	0.00	0.00

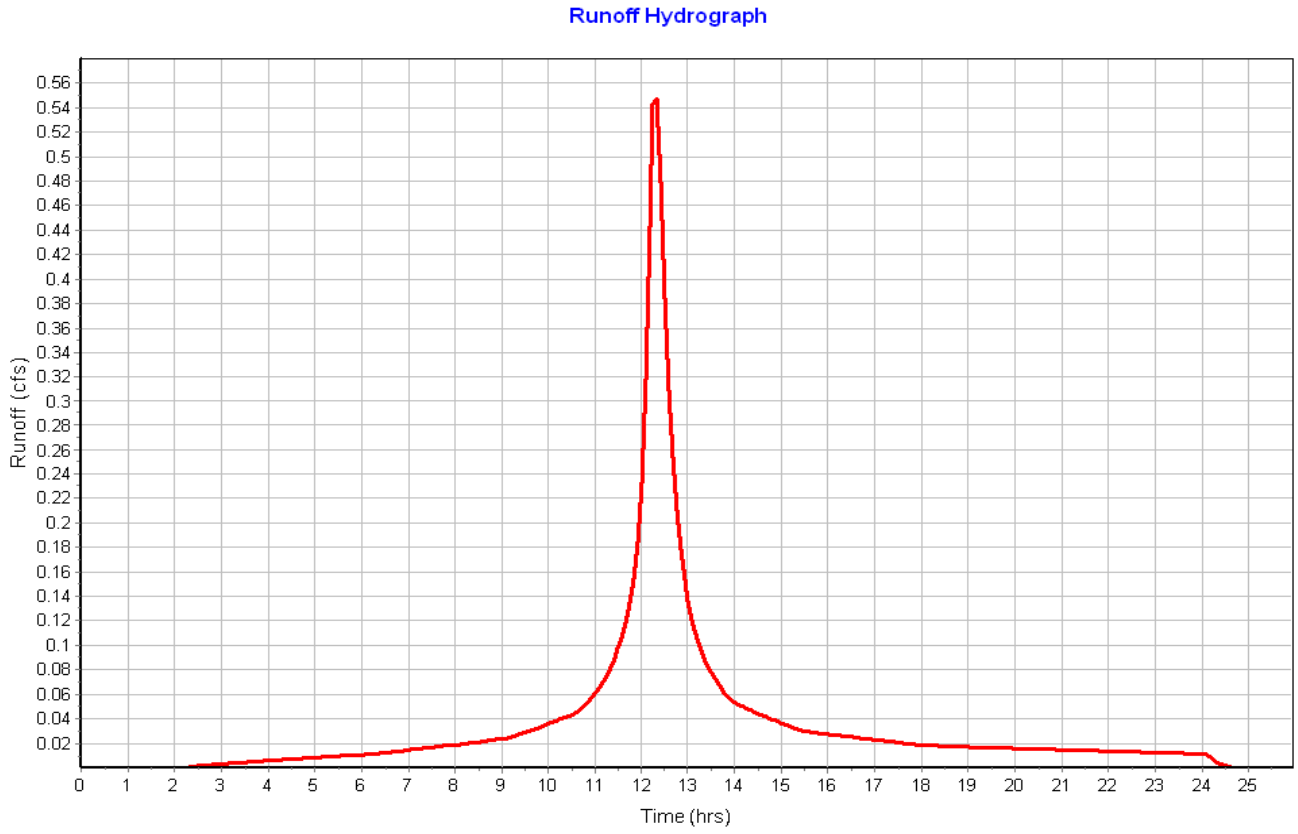
Total TOC (min) 25.82

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.12
Peak Runoff (cfs)	0.56
Weighted Curve Number	96.65
Time of Concentration (days hh:mm:ss)	0 00:25:49

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.16
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.16	C	98.00
Composite Area & Weighted CN	0.16		98.00

Time of Concentration

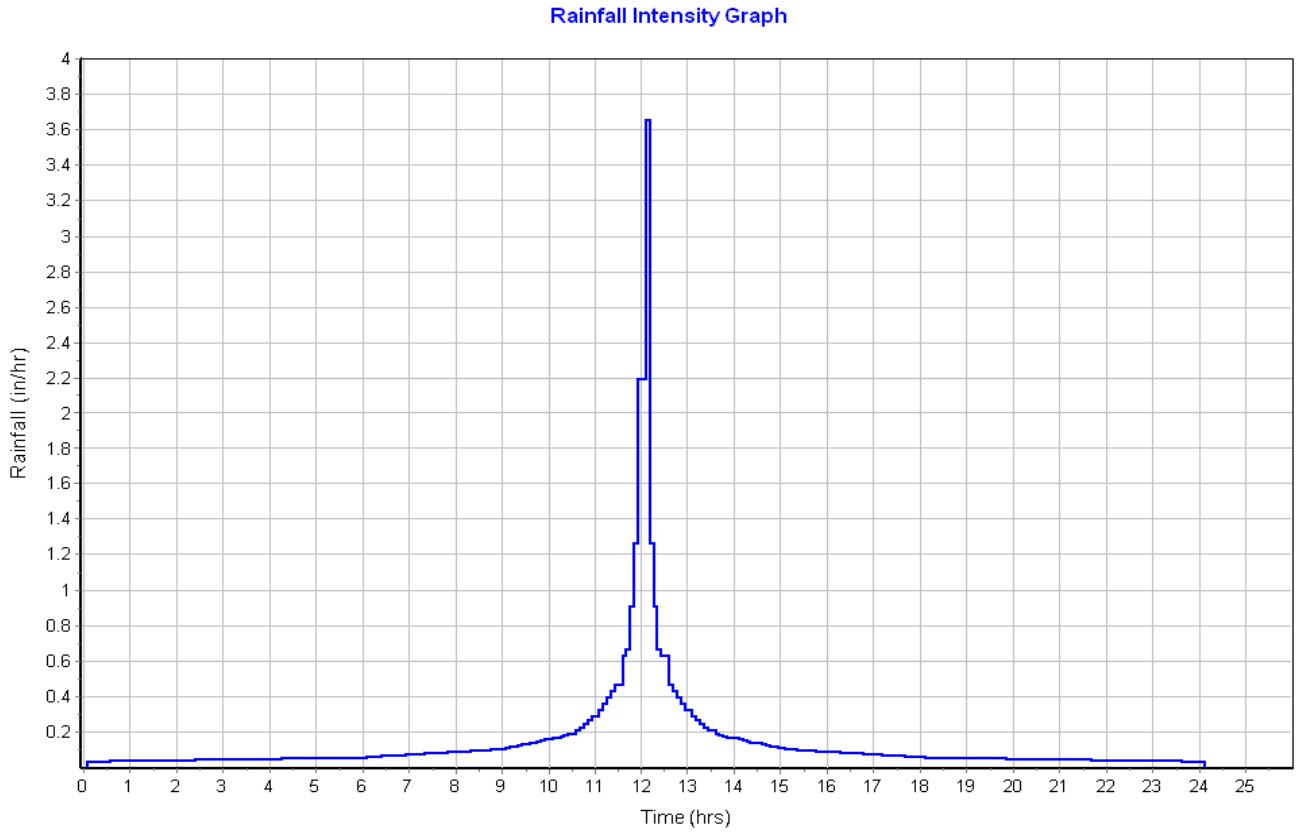
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	175.64	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	1.76	0.00	0.00

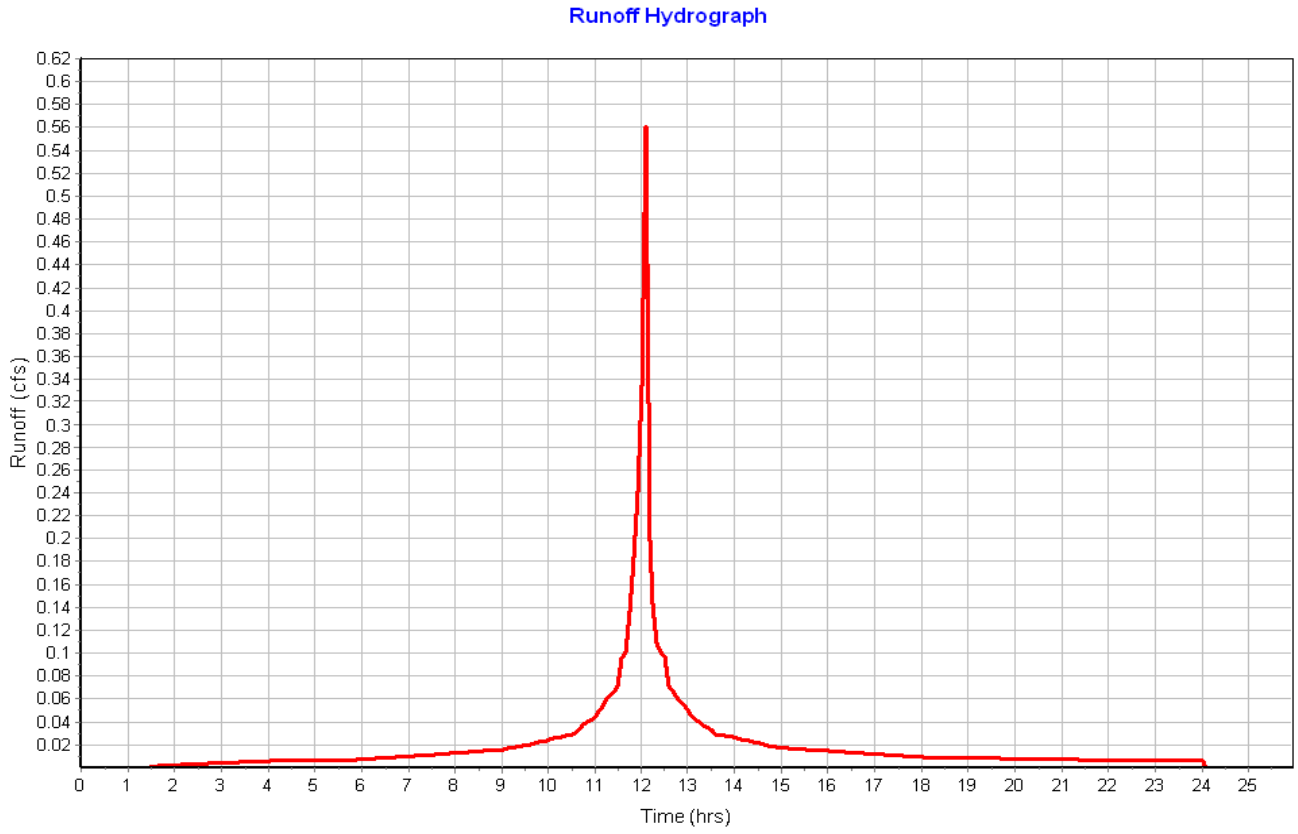
Total TOC (min) 1.76

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.27
Peak Runoff (cfs)	0.56
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:46

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.07	C	98.00
Sidewalk	0.02	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

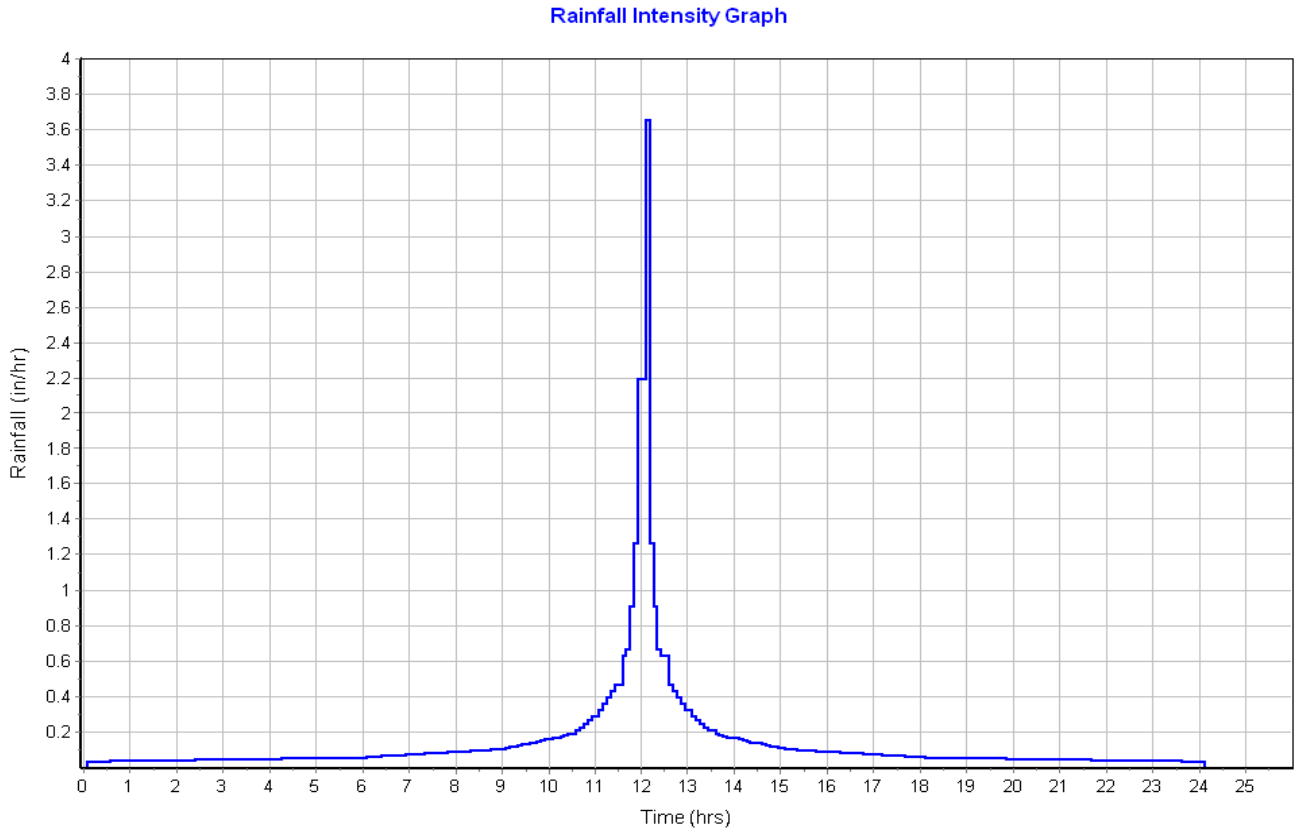
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	176.60	0.00	0.00
Slope (%) :	3.125	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.99	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

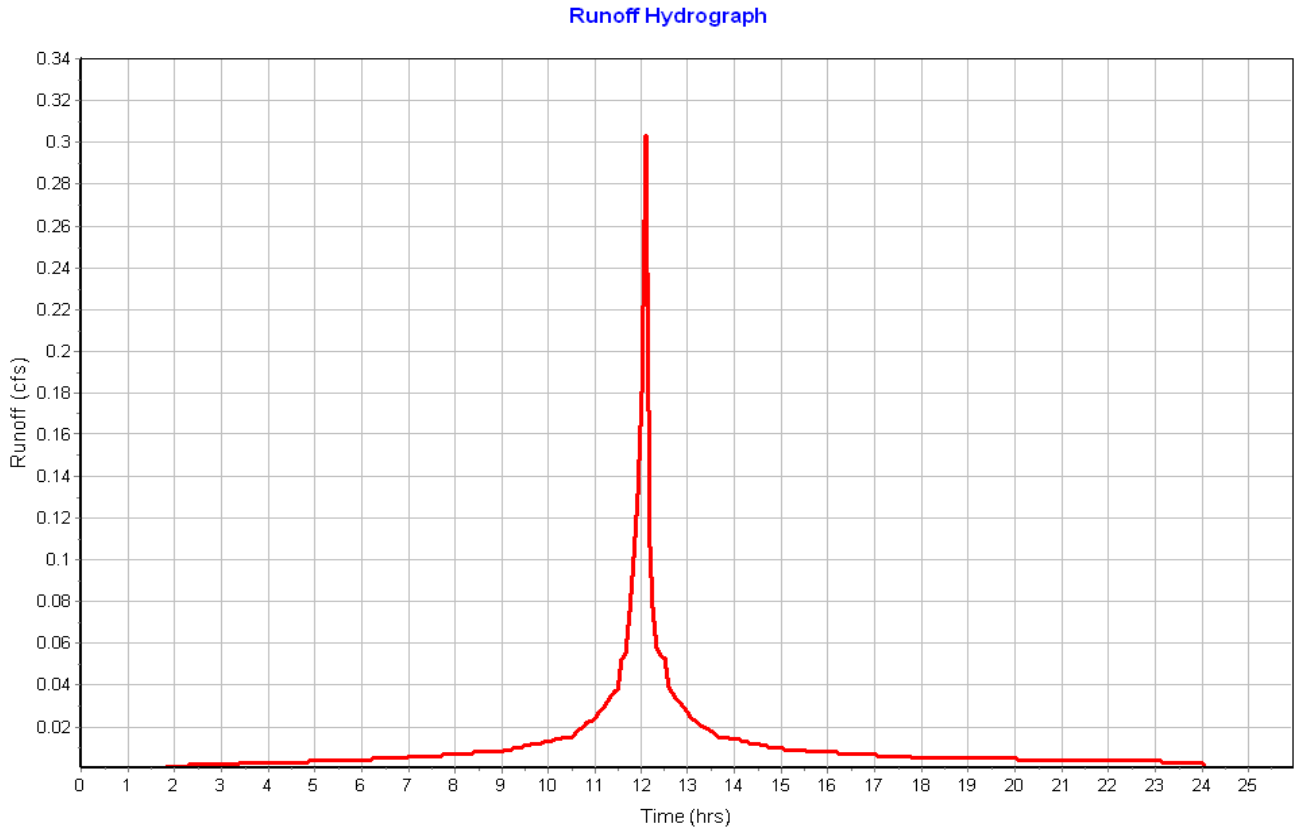
Total TOC (min) 1.48

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.26
Peak Runoff (cfs)	0.30
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.03	C	98.00
Composite Area & Weighted CN	0.03		98.00

Time of Concentration

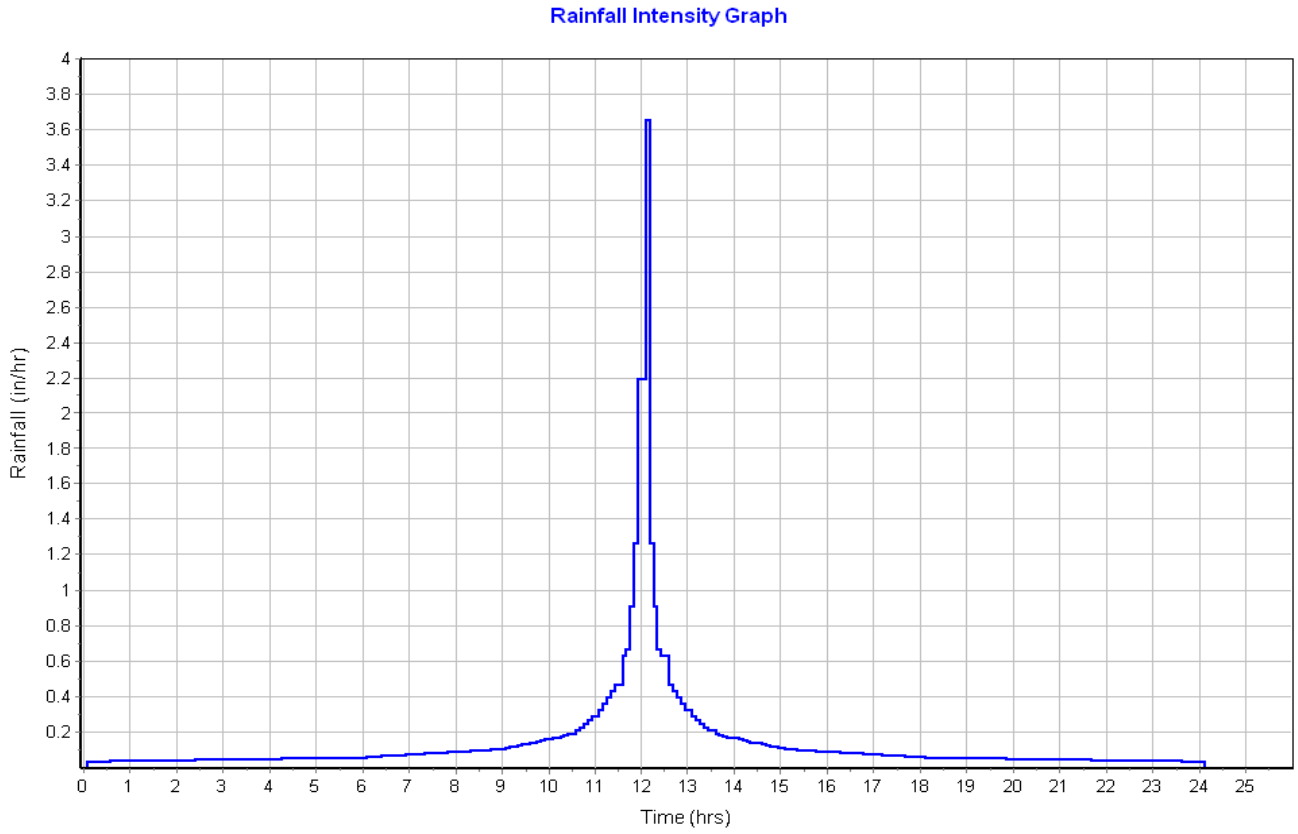
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	81.23	0.00	0.00
Slope (%) :	3.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.82	0.00	0.00
Computed Flow Time (min) :	0.74	0.00	0.00

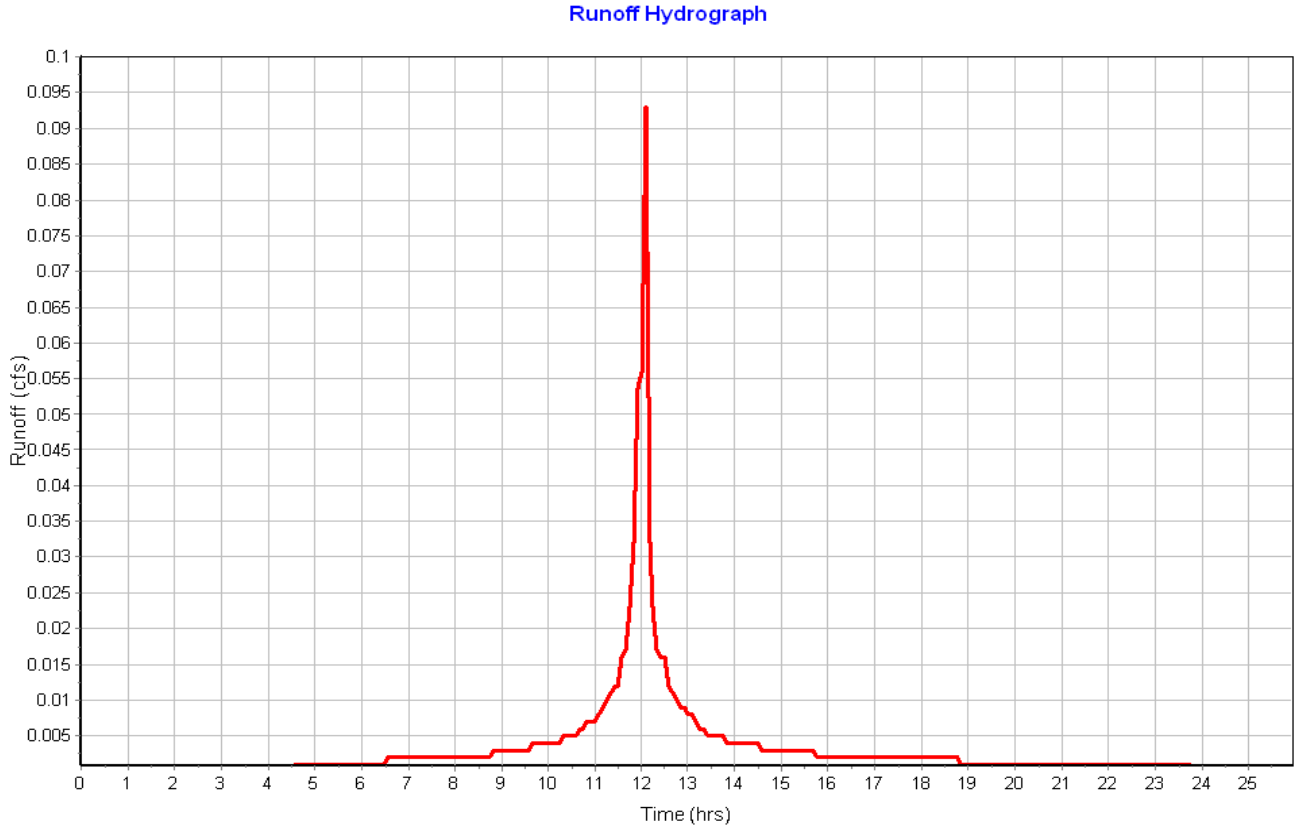
Total TOC (min) 0.74

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	3.18
Peak Runoff (cfs)	0.09
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-07





Subbasin : Sub-8

Input Data

Area (ac)	0.13
Peak Rate Factor	484.00
Weighted Curve Number	76.34
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Infiltration Basin	0.12	C	74.00
Sidewalk	0.01	C	98.00
Composite Area & Weighted CN	0.13		76.34

Time of Concentration

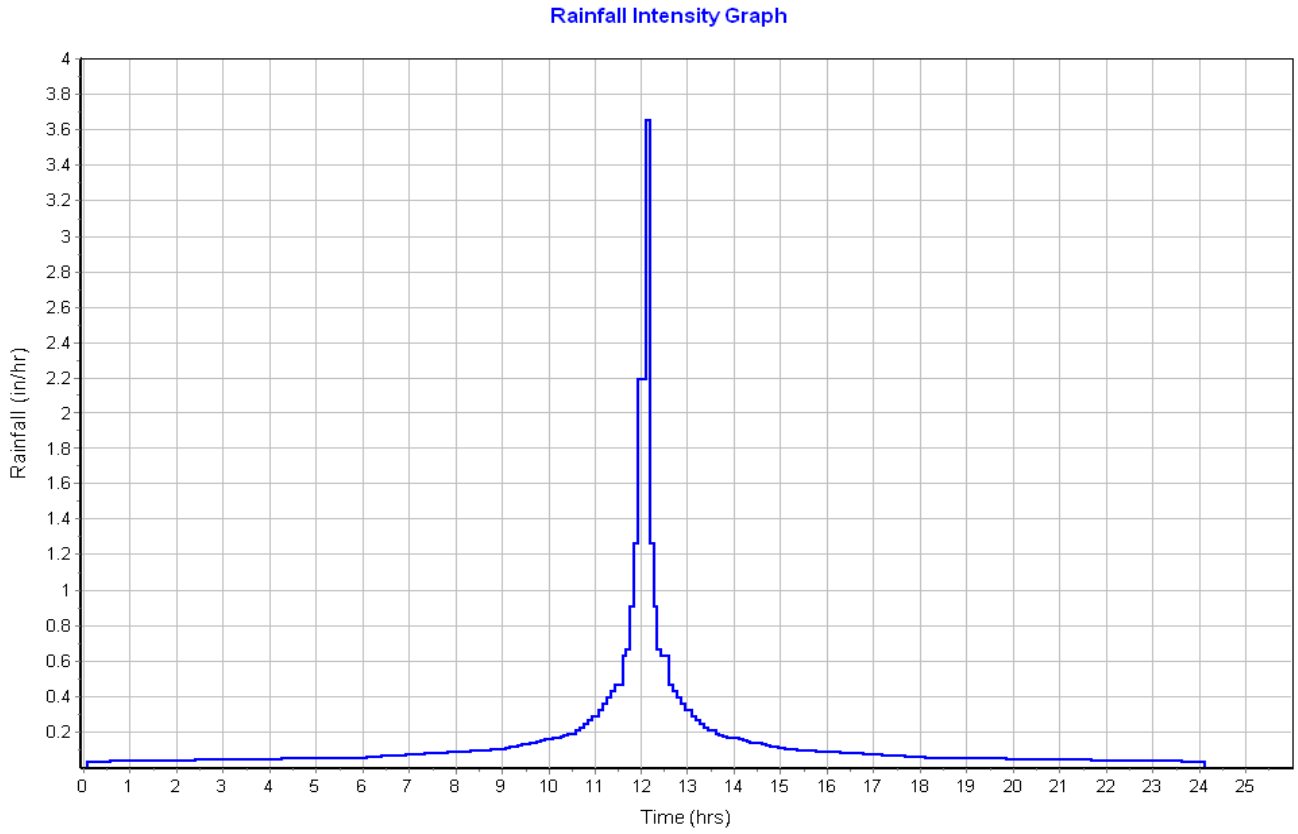
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	60	0.00	0.00
Slope (%) :	10	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	5.14	0.00	0.00

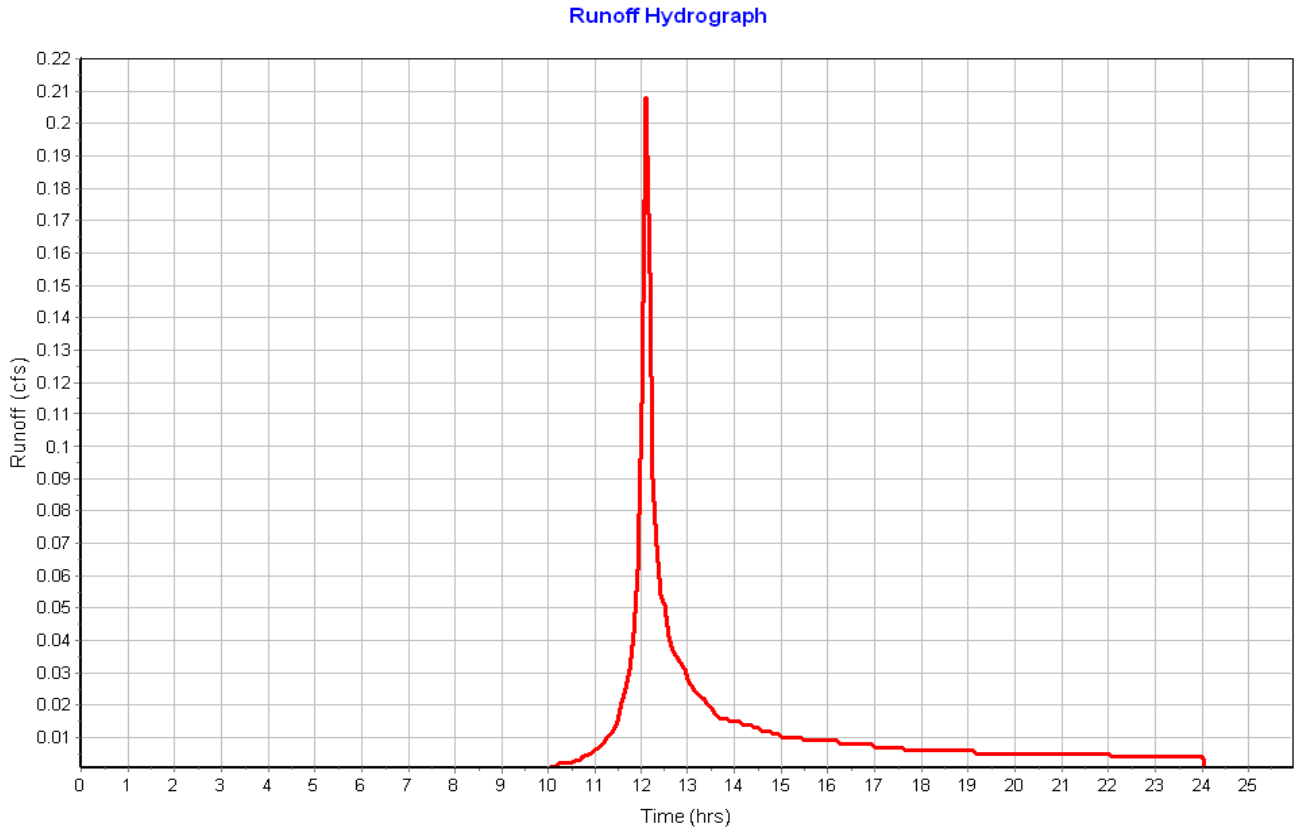
Total TOC (min) 5.14

Subbasin Runoff Results

Total Rainfall (in)	3.50
Total Runoff (in)	1.39
Peak Runoff (cfs)	0.23
Weighted Curve Number	76.34
Time of Concentration (days hh:mm:ss)	0 00:05:08

Subbasin : Sub-8





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-02	21.00	26.00	5.00	0.00	-21.00	0.00	-26.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	1.68	0.00	21.64	0.64	0.00	4.36	21.32	0.32	0 12:31	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-06	20.00	25.65	4.00	25.00	1.00	0.65	3.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-07	47.56	25.65	4.50	25.40	1.40	0.25	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-09	21.76	22.40	2.15	21.25	0.25	1.15	5.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-10	30.14	21.25	0.25	20.00	0.00	1.25	4.1500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-06	0.56	0 12:10	4.17	0.13	1.53	0.22	0.49	0.49	0.00		Calculated
2	Link-07	0.09	0 12:10	0.26	0.34	0.83	0.96	0.27	0.54	0.00		Calculated
3	Link-09	1.68	0 12:30	5.32	0.32	5.55	0.07	0.41	0.41	0.00		Calculated
4	Link-10	1.68	0 12:31	13.90	0.12	4.88	0.10	0.37	0.25	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	21.65
Max (Rim) Elevation (ft)	28.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.56
Peak Lateral Inflow (cfs)	0.56
Peak Outflow (cfs)	0.56
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.90
Max HGL Depth Attained (ft)	4.25
Average HGL Elevation Attained (ft)	25.41
Average HGL Depth Attained (ft)	3.76
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.09
Peak Lateral Inflow (cfs)	0.09
Peak Outflow (cfs)	0.09
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.85
Max HGL Depth Attained (ft)	4.7
Average HGL Elevation Attained (ft)	24.78
Average HGL Depth Attained (ft)	3.63
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : InfiltrationArea

Input Data

Invert Elevation (ft)	23.00
Max (Rim) Elevation (ft)	25.50
Max (Rim) Offset (ft)	2.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-23.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

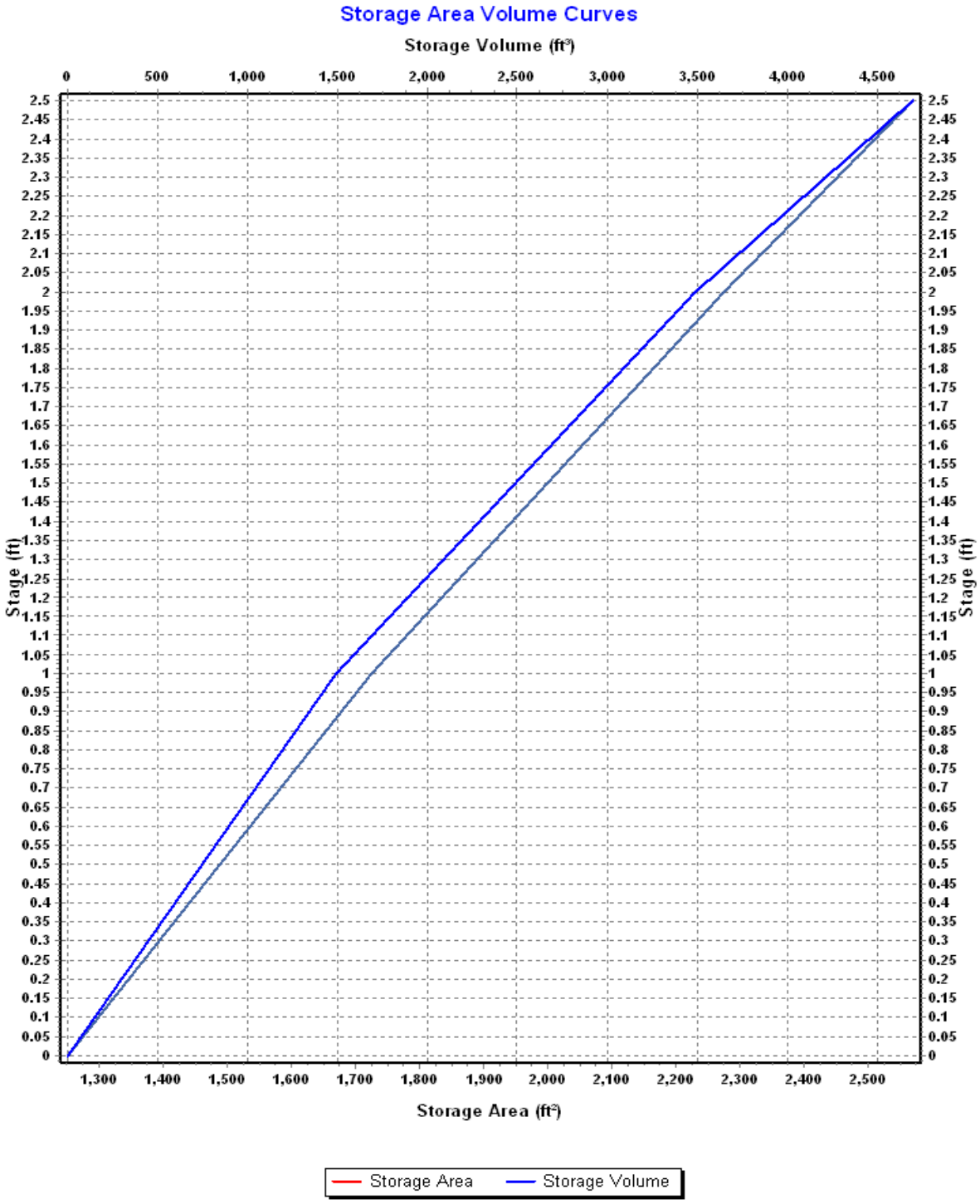
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : Infiltration Area

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1251	0.000
1	1724	1487.50
2	2275	3487.00
2.5	2570	4698.25


Storage Area Volume Curves
Storage Volume (ft³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
Stage (ft)
Stage (ft)
2.5
2.45
2.4
2.35
2.3
2.25
2.2
2.15
2.1
2.05
2
1.95
1.9
1.85
1.8
1.75
1.7
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1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
1,300
1,400
1,500
1,600
1,700
1,800
1,900
2,000
2,100
2,200
2,300
2,400
2,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : InfiltrationArea (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	25.40	2.40	20.00	1.00	3.33
2	Weir-05	Trapezoidal	No	25.25	2.25	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-01	Side	CIRCULAR	No	3.00			24.26	0.61

Output Summary Results

Peak Inflow (cfs)	1.81
Peak Lateral Inflow (cfs)	1.68
Peak Outflow (cfs)	1.68
Peak Exfiltration Flow Rate (cfm)	0.94
Max HGL Elevation Attained (ft)	25.39
Max HGL Depth Attained (ft)	2.39
Average HGL Elevation Attained (ft)	24.60
Average HGL Depth Attained (ft)	1.6
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.971
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	20.25
Max (Rim) Elevation (ft)	25.25
Max (Rim) Offset (ft)	5.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-20.25
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.68
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.68
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	22.82
Max HGL Depth Attained (ft)	2.57
Average HGL Elevation Attained (ft)	21.99
Average HGL Depth Attained (ft)	1.74
Time of Max HGL Occurrence (days hh:mm)	0 12:30
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

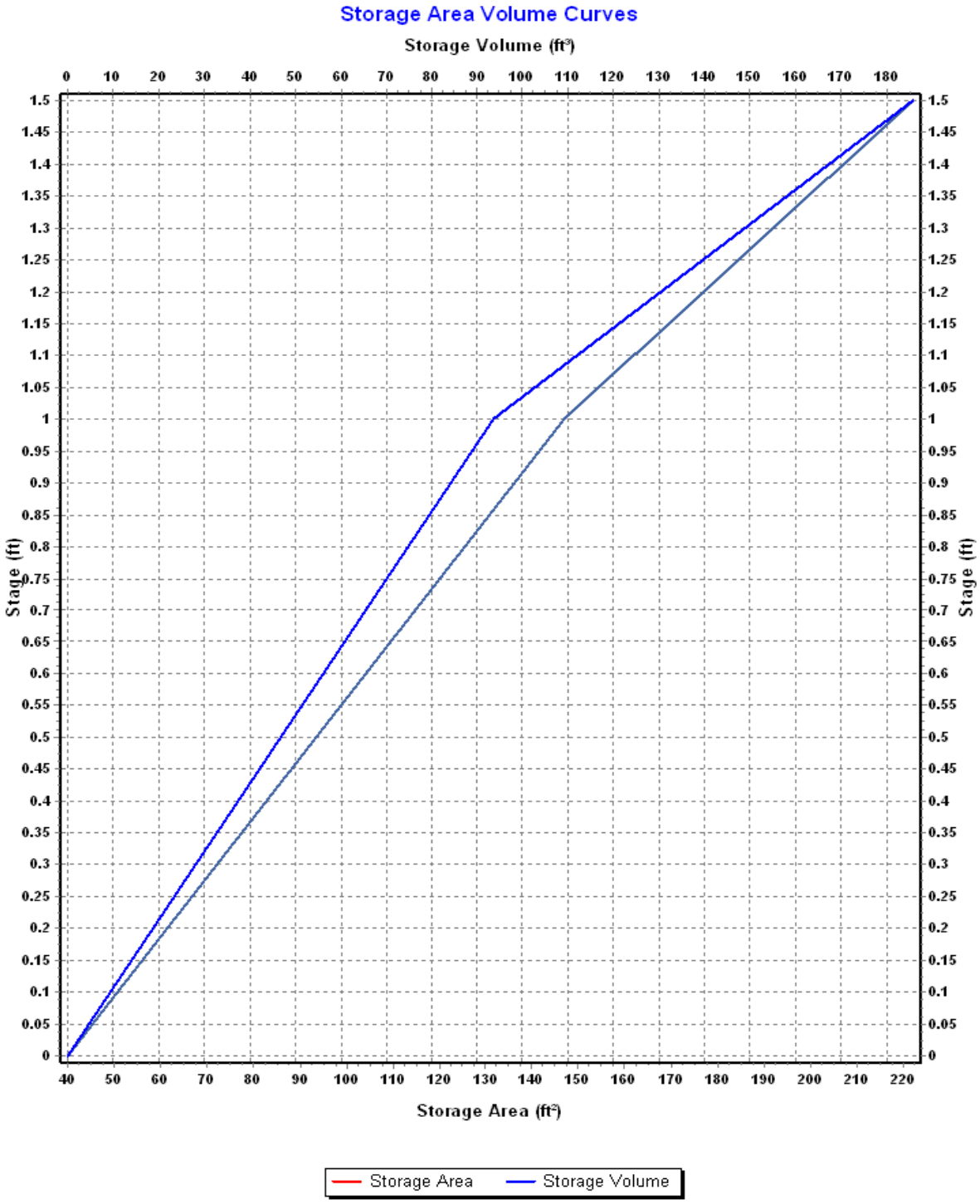
Input Data

Invert Elevation (ft)	24.00
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-24.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay for Infiltration Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	40	0.000
1	147	93.50
1.5	222	185.75


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-06 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	25.70	1.70	25.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	0.65
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	0.64
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.74
Max HGL Depth Attained (ft)	1.74
Average HGL Elevation Attained (ft)	25.44
Average HGL Depth Attained (ft)	1.44
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scen 3 Proposed Conditions (Proposed Regulations).SPF

Project Options

Flow Units ..... CFS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... SCS TR-55
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

Start Analysis On ..... Sep 01, 2020 00:00:00
End Analysis On ..... Sep 02, 2020 02:00:00
Start Reporting On ..... Sep 01, 2020 00:00:00
Antecedent Dry Days ..... 0 days
Runoff (Dry Weather) Time Step ..... 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step ..... 0 00:05:00 days hh:mm:ss
Reporting Time Step ..... 0 00:05:00 days hh:mm:ss
Routing Time Step ..... 30 seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	8
Nodes	10
Junctions	1
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	5
Links	8
Channels	0
Pipes	4
Pumps	0
Orifices	1
Weirs	3
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.24	484.00	65.00	7.86	3.78	0.91	0.97	0 00:09:28
2	Sub-02	0.36	484.00	88.77	7.86	6.52	2.36	1.48	0 00:28:41
3	Sub-03	0.37	484.00	97.02	7.86	7.50	2.74	1.29	0 00:42:48
4	Sub-04	0.28	484.00	96.65	7.86	7.46	2.11	1.28	0 00:25:49
5	Sub-05	0.16	484.00	98.00	7.86	7.62	1.19	1.27	0 00:01:45
6	Sub-06	0.09	484.00	98.00	7.86	7.62	0.65	0.69	0 00:01:28
7	Sub-07	0.03	484.00	98.00	7.86	7.61	0.20	0.21	0 00:00:44
8	Sub-8	0.13	484.00	76.34	7.86	5.07	0.67	0.82	0 00:05:08

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	Junction	21.00	26.00	0.00	0.00	0.00	3.10	21.82	0.00	4.18	0 00:00	0.00	0.00
2	Out-01	Outfall	21.00					0.95	21.00					
3	Out-04	Outfall	20.00					1.29	20.00					
4	Out-05	Outfall	20.00					3.10	20.48					
5	Out-06	Outfall	19.00					0.69	19.00					
6	CB-01	Storage Node	21.65	28.50	0.00		1000.00	1.27	26.03				0.00	0.00
7	CB-02	Storage Node	21.15	28.00	0.00		1000.00	0.21	25.99				0.00	0.00
8	InfiltrationArea	Storage Node	23.00	25.50	0.00		0.00	4.43	25.47				0.00	0.00
9	OCS-04	Storage Node	20.25	25.25	0.00		0.00	3.10	23.03				0.00	0.00
10	Stor-06	Storage Node	24.00	26.00	0.00		0.00	1.47	25.77				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-06	Pipe	CB-01	Stor-06	20.00	25.65	25.00	3.2500	12.000	0.0200	1.26	4.17	0.30	2.72	0.57	0.57	0.00	Calculated
2	Link-07	Pipe	CB-02	Stor-06	47.56	25.65	25.40	0.5300	6.000	0.0200	0.20	0.26	0.77	1.38	0.35	0.71	0.00	Calculated
3	Link-09	Pipe	OCS-04	DMH-02	21.76	22.40	21.25	5.2800	12.000	0.0200	3.10	5.32	0.58	6.32	0.60	0.60	0.00	Calculated
4	Link-10	Pipe	DMH-02	Out-05	30.14	21.25	20.00	4.1500	18.000	0.0200	3.10	13.90	0.22	5.64	0.52	0.35	0.00	Calculated
5	Orifice-01	Orifice	InfiltrationArea	OCS-04		23.00	20.25		3.000		0.25							
6	Weir-04	Weir	InfiltrationArea	Out-04		23.00	20.00				1.29							
7	Weir-05	Weir	InfiltrationArea	OCS-04		23.00	20.25				2.85							
8	Weir-08	Weir	Stor-06	InfiltrationArea		24.00	23.00				1.46							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.24
Peak Rate Factor 484.00
Weighted Curve Number 65.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
LandscapedArea	0.20	C	65.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.24		65.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

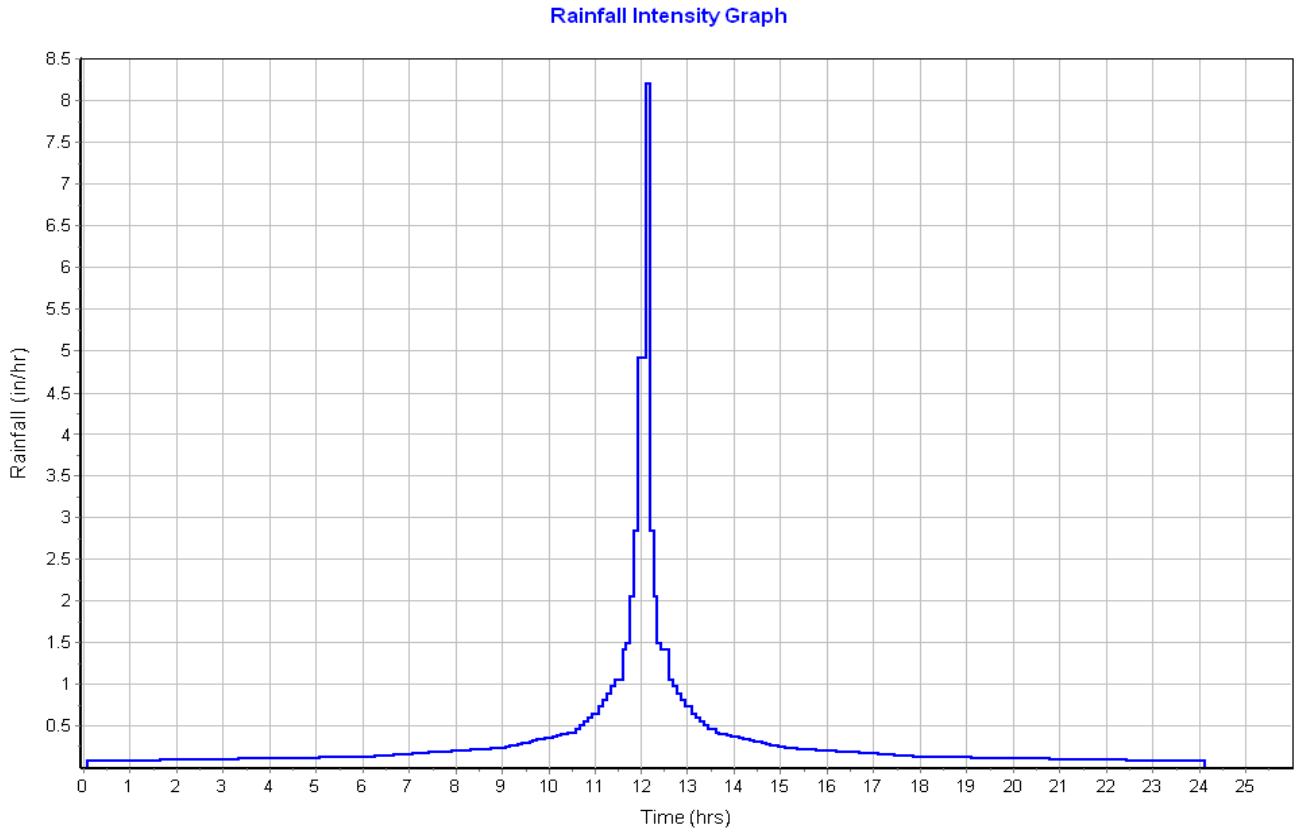
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	54.57	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.15	0.05	0.00
Computed Flow Time (min) :	6.03	3.45	0.00

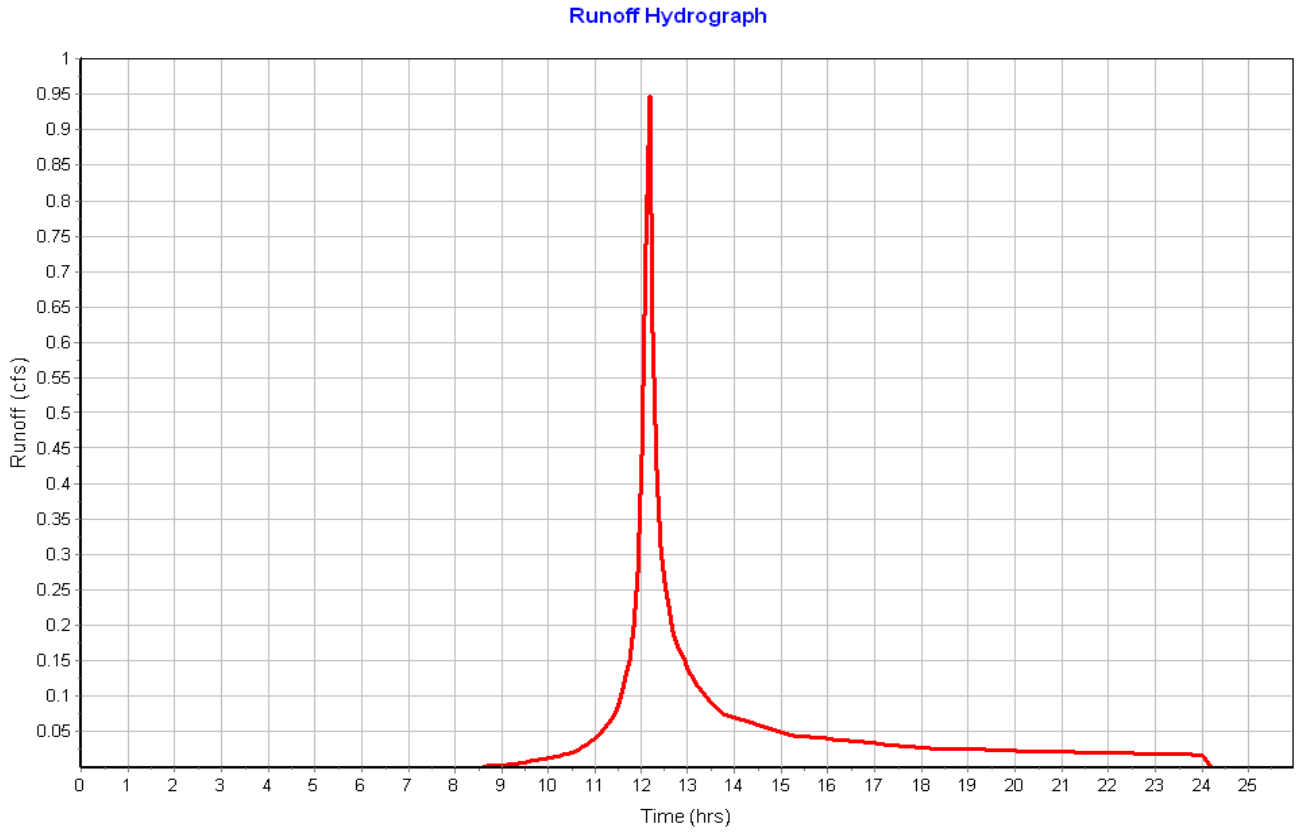
Total TOC (min) 9.48

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	3.78
Peak Runoff (cfs)	0.97
Weighted Curve Number	65.00
Time of Concentration (days hh:mm:ss)	0 00:09:29

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac)	0.36
Peak Rate Factor	484.00
Weighted Curve Number	88.77
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Sidewalk	0.02	C	98.00
Roof	0.10	C	98.00
Bioretention Swale	0.01	C	74.00
GreenRoof	0.23	C	85.00
Composite Area & Weighted CN	0.36		88.77

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	156.39	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	27.78	0.00	0.00

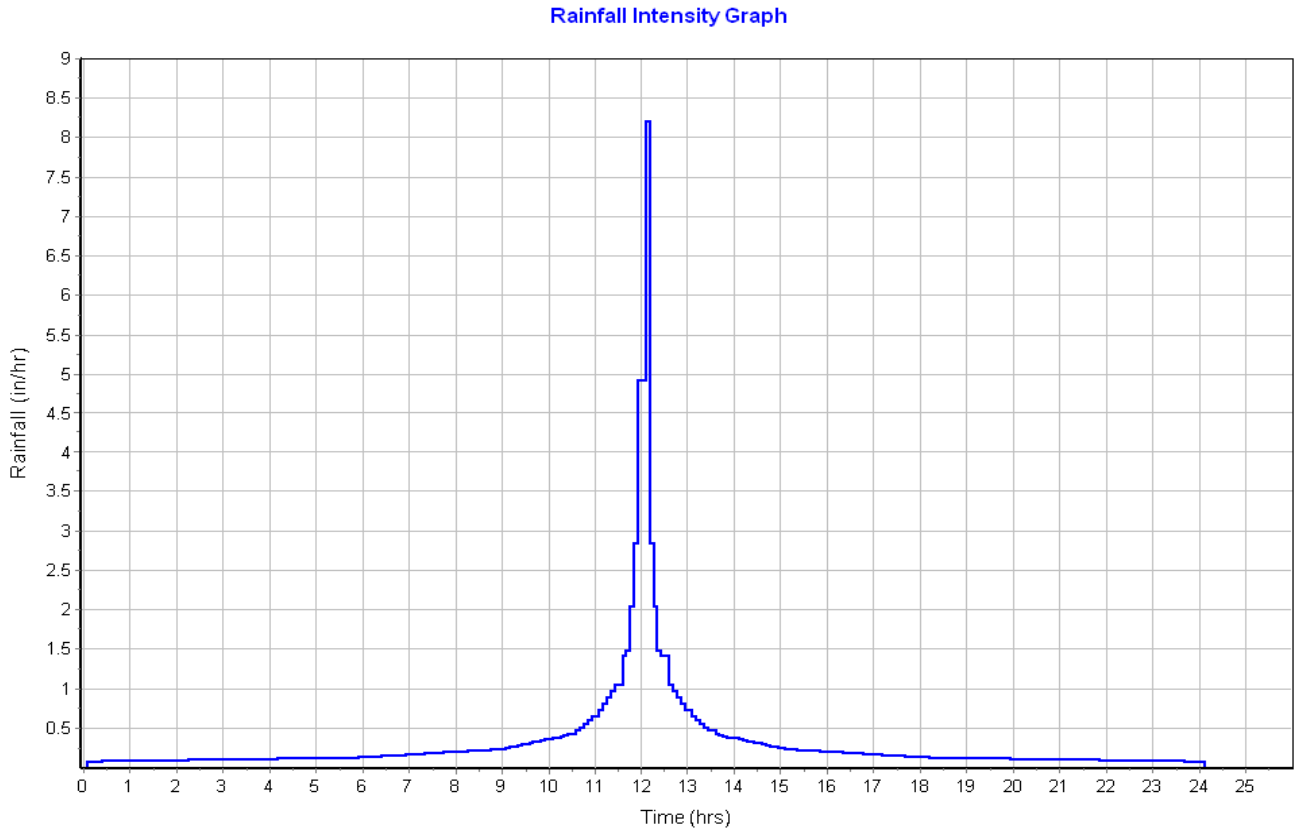
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	129.53	0.00	0.00
Slope (%) :	2.48	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.36	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

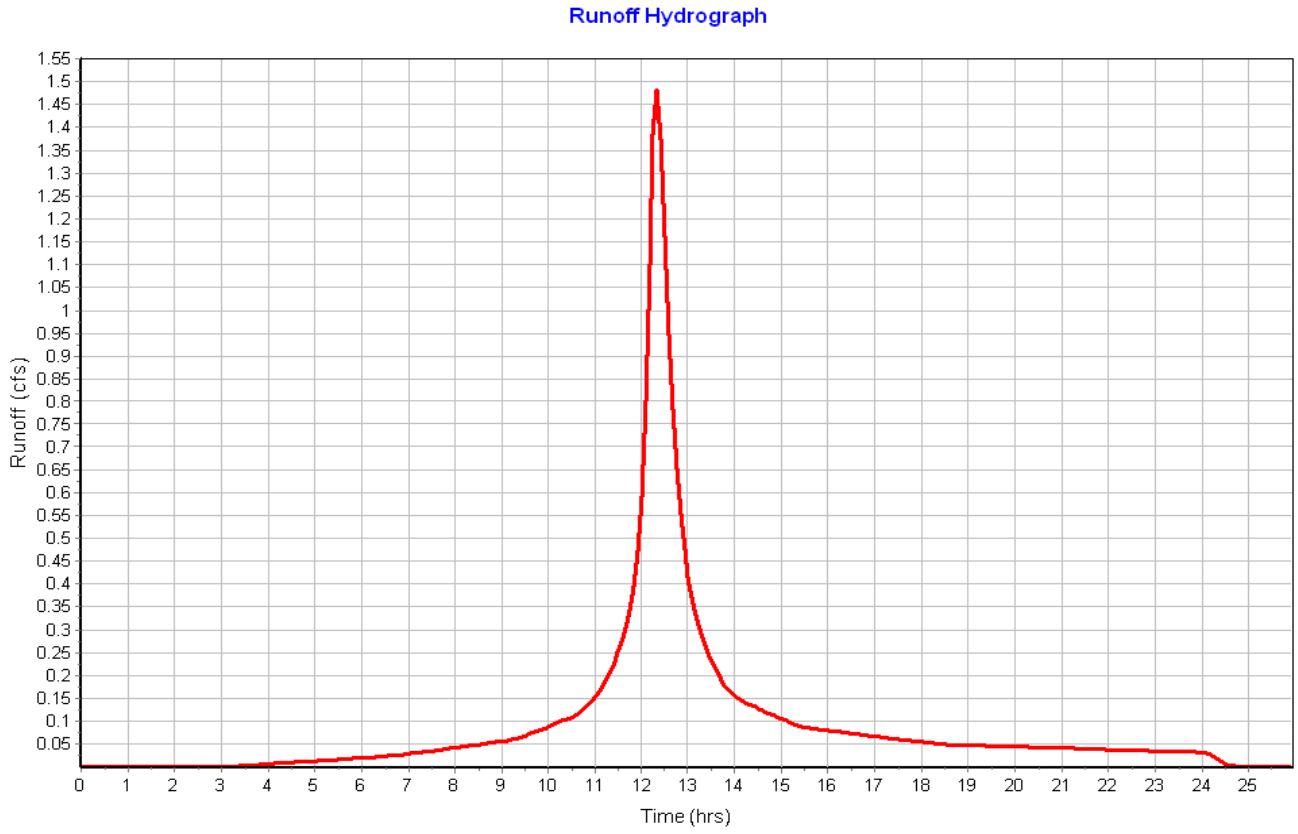
Total TOC (min) 28.69

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	6.52
Peak Runoff (cfs)	1.48
Weighted Curve Number	88.77
Time of Concentration (days hh:mm:ss)	0 00:28:41

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac)	0.37
Peak Rate Factor	484.00
Weighted Curve Number	97.02
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.32	C	98.00
Paved parking & roofs	0.03	C	98.00
Raingarden	0.01	C	74.00
Composite Area & Weighted CN	0.36		97.02

Time of Concentration

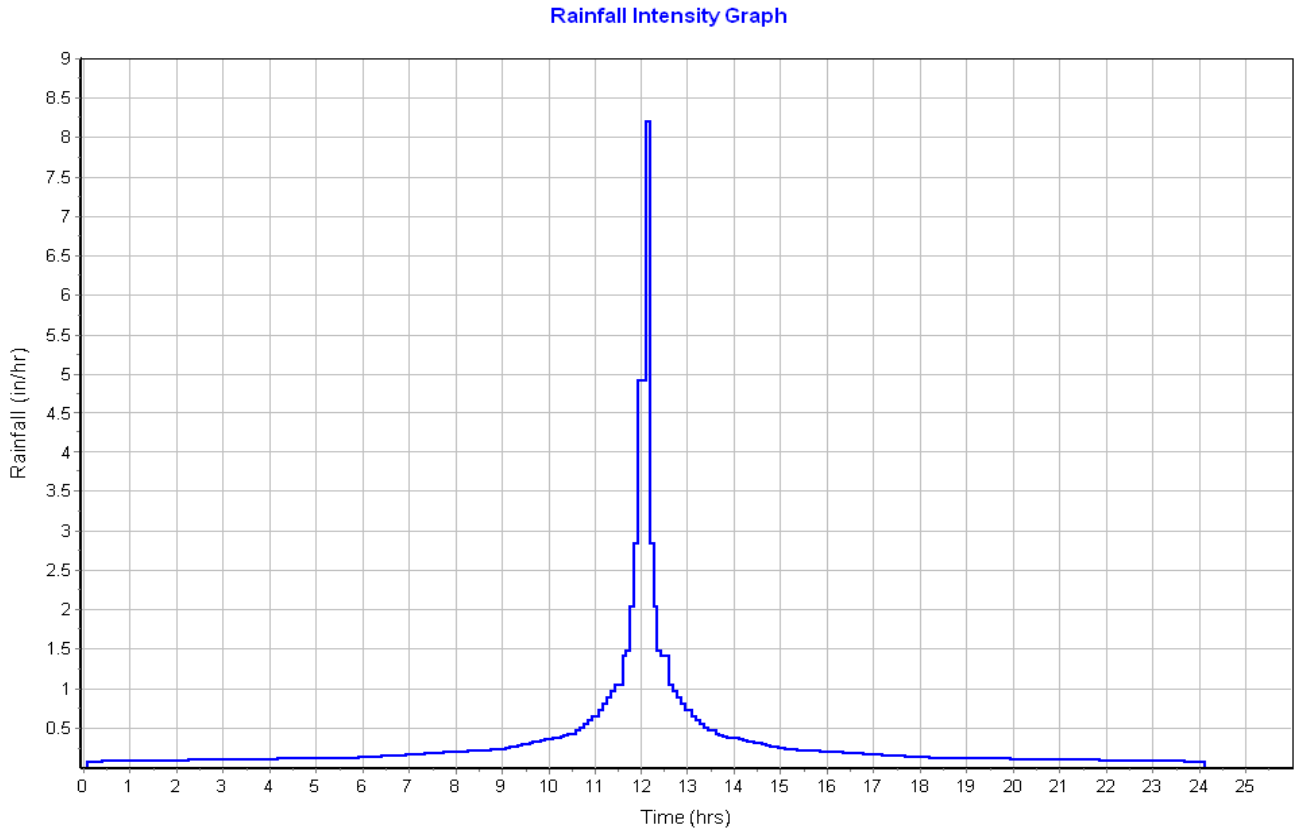
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.01	0.00
Flow Length (ft) :	262.66	64.37	0.00
Slope (%) :	1	2.3	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.10	1.44	0.00
Computed Flow Time (min) :	42.06	0.75	0.00

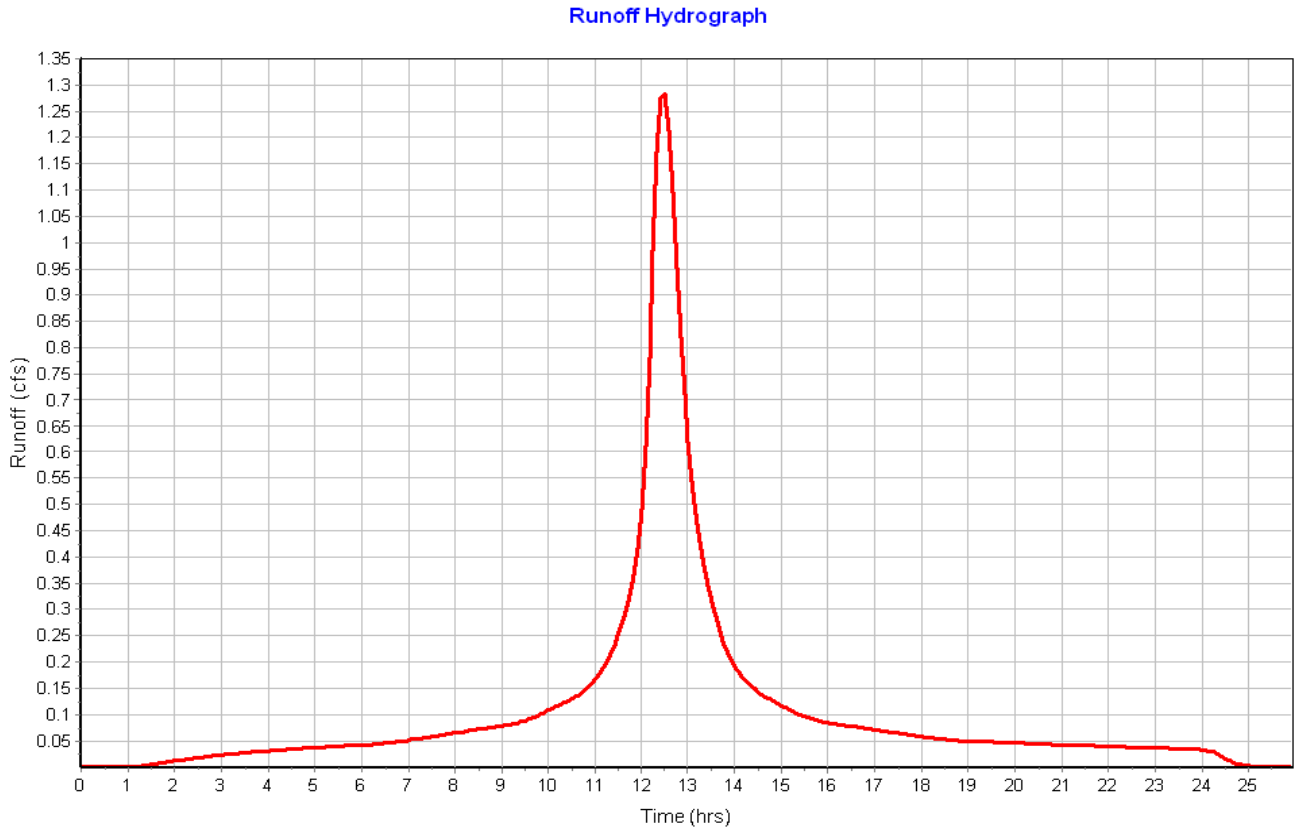
Total TOC (min) 42.80

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.50
Peak Runoff (cfs)	1.29
Weighted Curve Number	97.02
Time of Concentration (days hh:mm:ss)	0 00:42:48

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.28
Peak Rate Factor	484.00
Weighted Curve Number	96.65
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.23	C	98.00
Sidewalk	0.02	C	98.00
Raingarden	0.02	C	74.00
Paved parking & roofs	0.01	C	98.00
Composite Area & Weighted CN	0.28		96.65

Time of Concentration

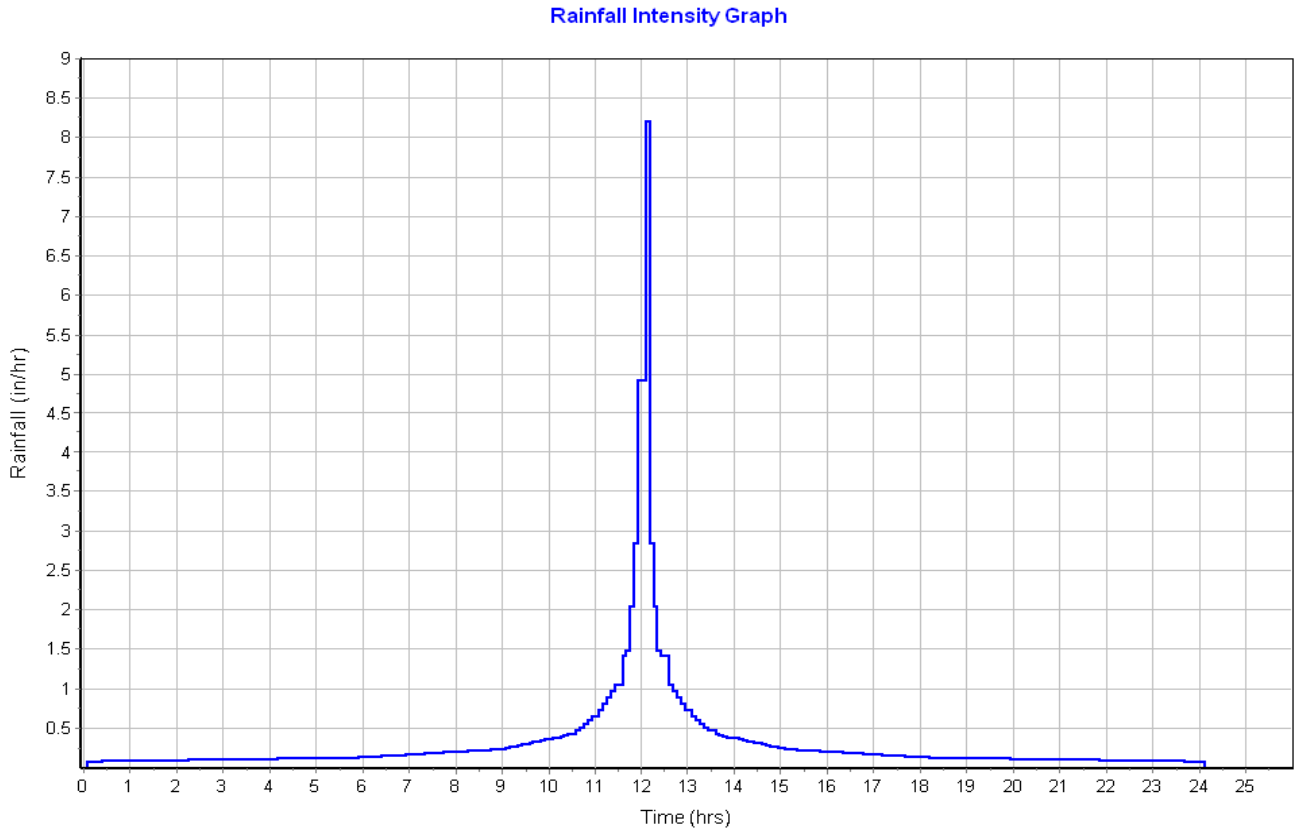
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	142.73	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	25.82	0.00	0.00

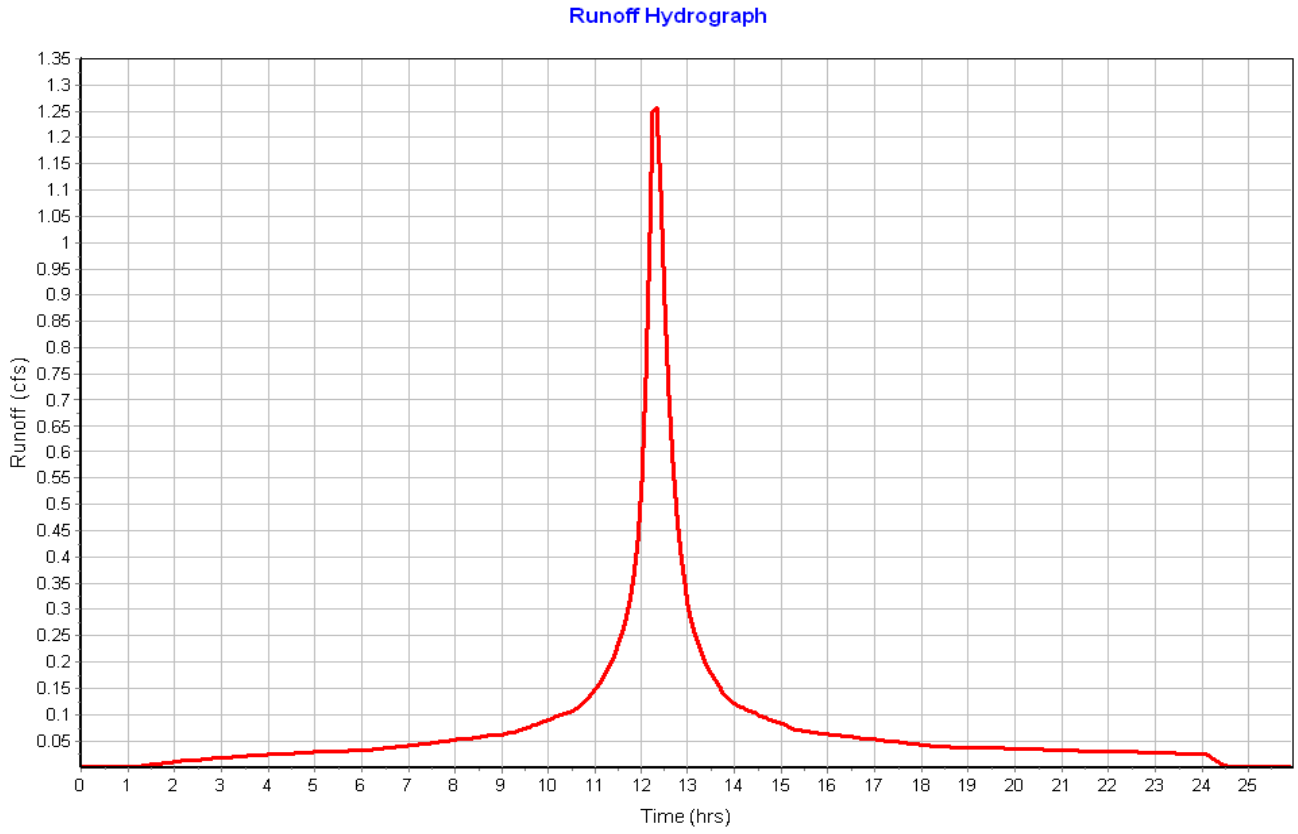
Total TOC (min) 25.82

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.46
Peak Runoff (cfs)	1.28
Weighted Curve Number	96.65
Time of Concentration (days hh:mm:ss)	0 00:25:49

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.16
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.16	C	98.00
Composite Area & Weighted CN	0.16		98.00

Time of Concentration

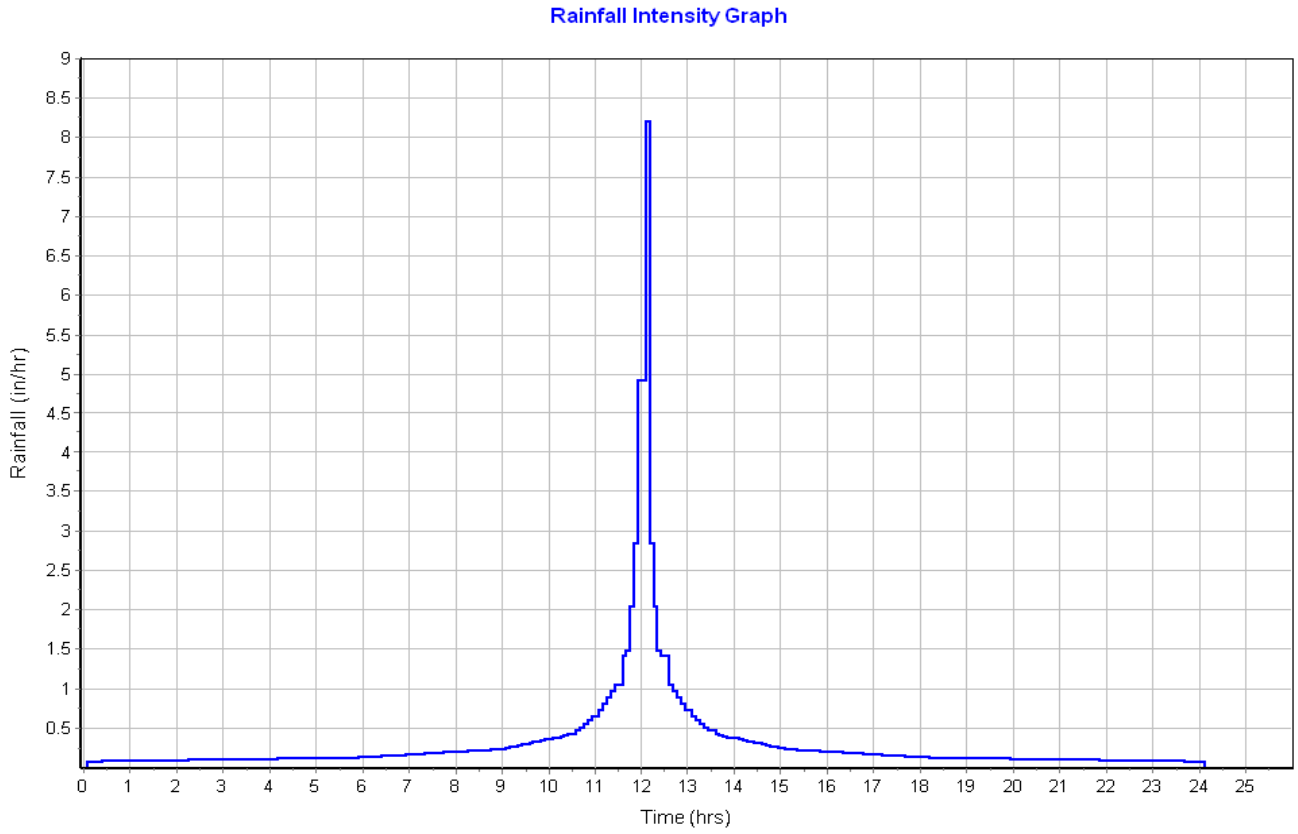
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	175.64	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	1.76	0.00	0.00

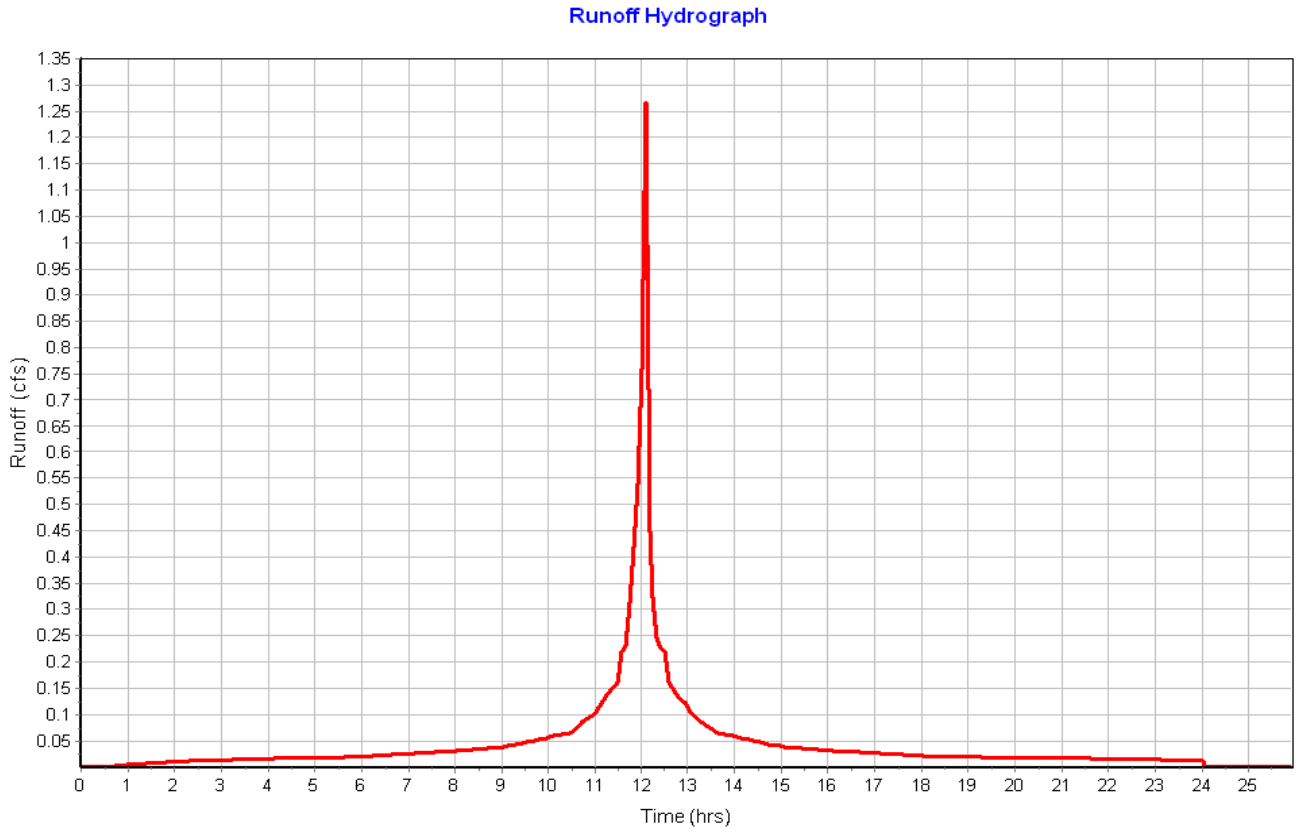
Total TOC (min) 1.76

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	1.27
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:46

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.07	C	98.00
Sidewalk	0.02	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

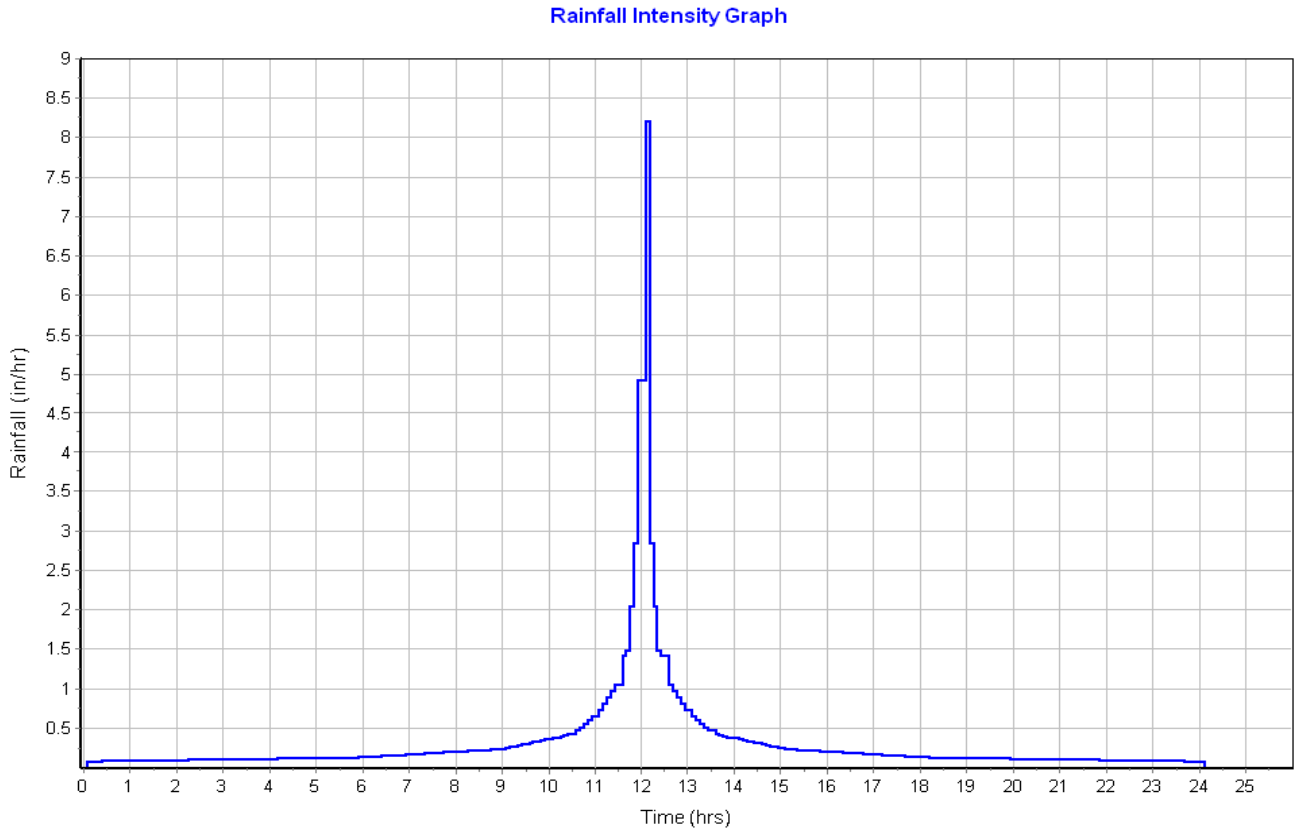
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	176.60	0.00	0.00
Slope (%) :	3.125	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.99	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

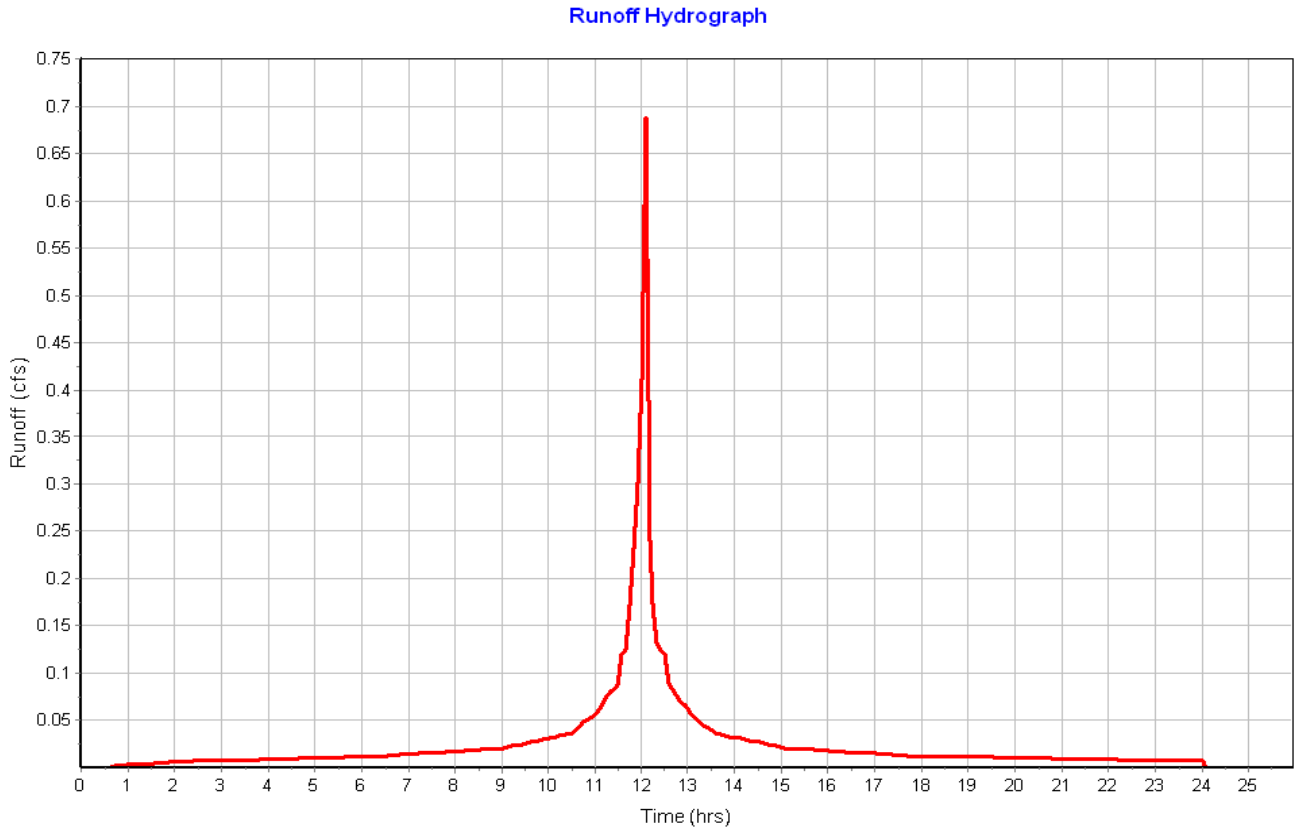
Total TOC (min) 1.48

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.62
Peak Runoff (cfs)	0.69
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.03	C	98.00
Composite Area & Weighted CN	0.03		98.00

Time of Concentration

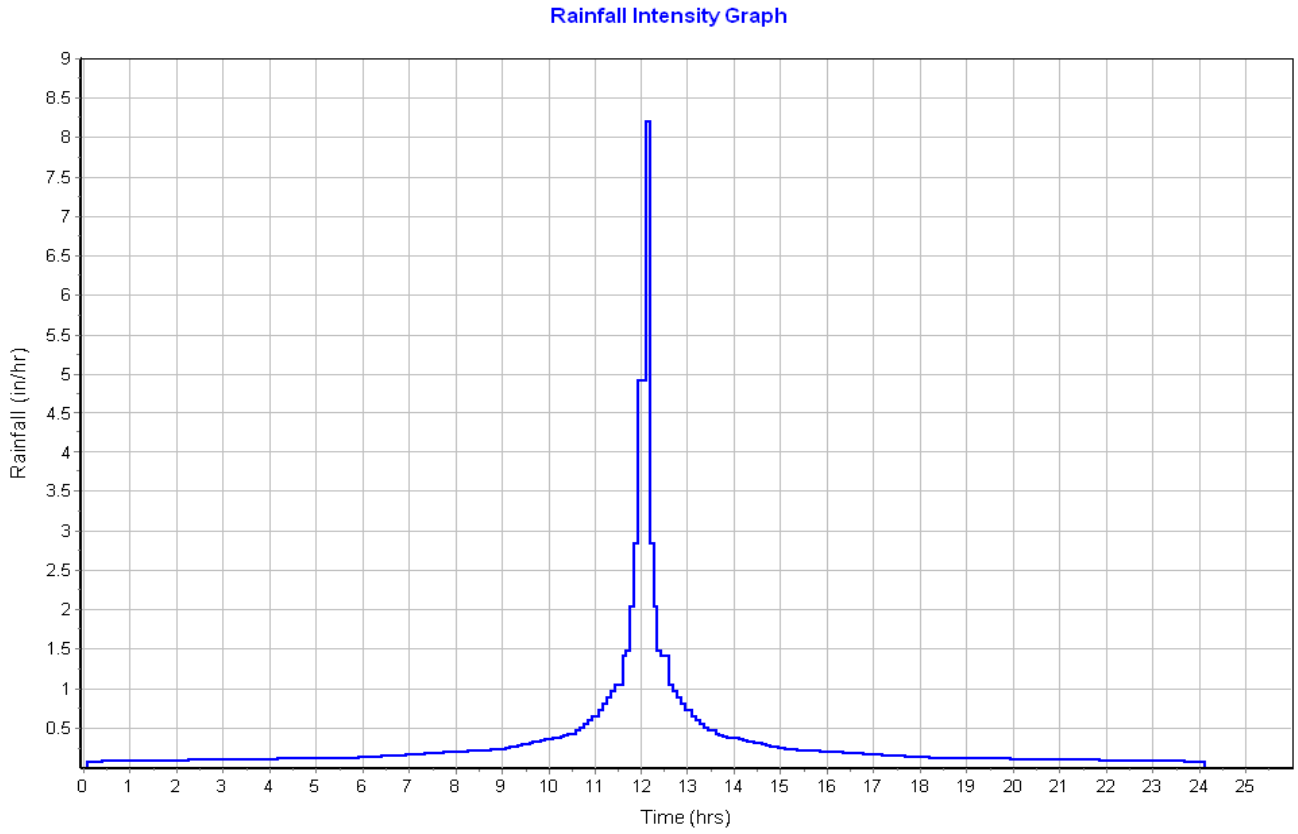
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	81.23	0.00	0.00
Slope (%) :	3.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.82	0.00	0.00
Computed Flow Time (min) :	0.74	0.00	0.00

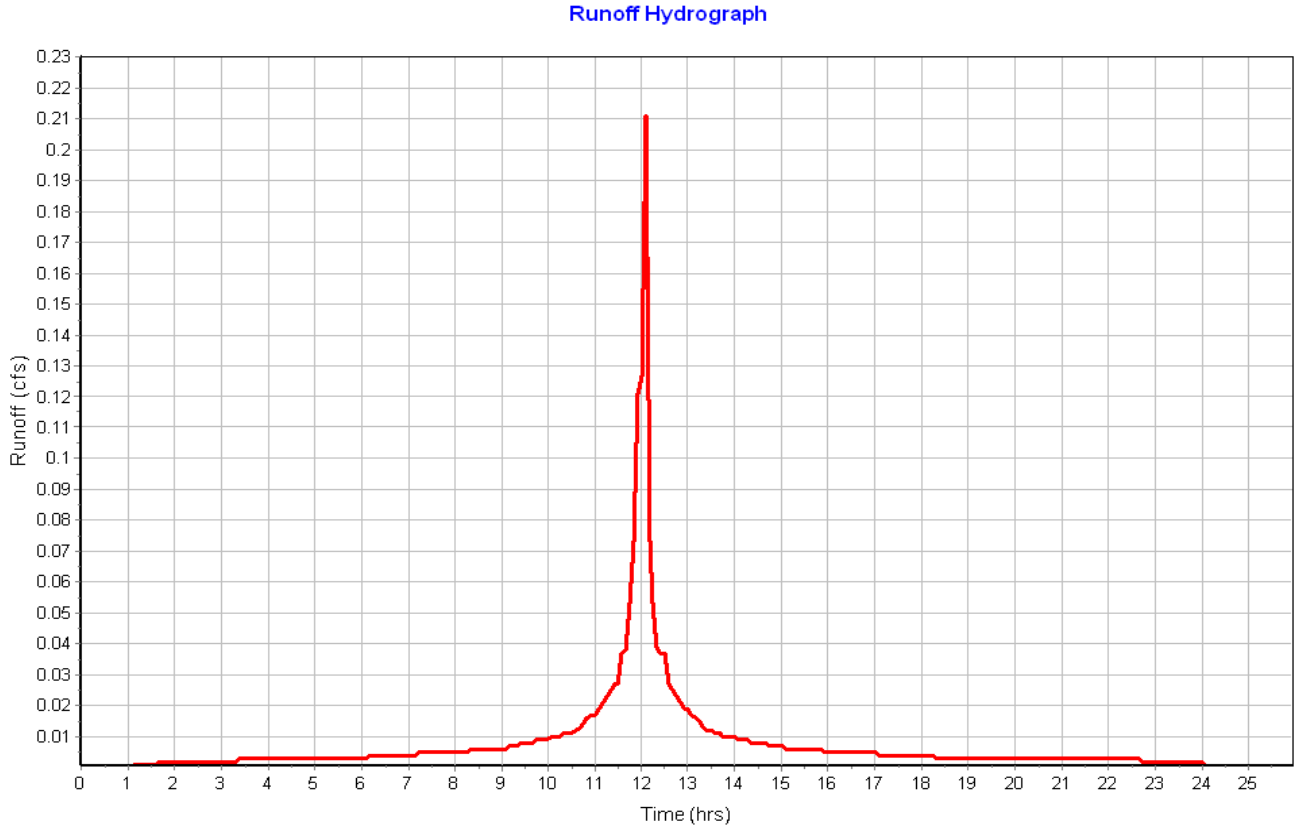
Total TOC (min) 0.74

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	7.61
Peak Runoff (cfs)	0.21
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-07





Subbasin : Sub-8

Input Data

Area (ac)	0.13
Peak Rate Factor	484.00
Weighted Curve Number	76.34
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Infiltration Basin	0.12	C	74.00
Sidewalk	0.01	C	98.00
Composite Area & Weighted CN	0.13		76.34

Time of Concentration

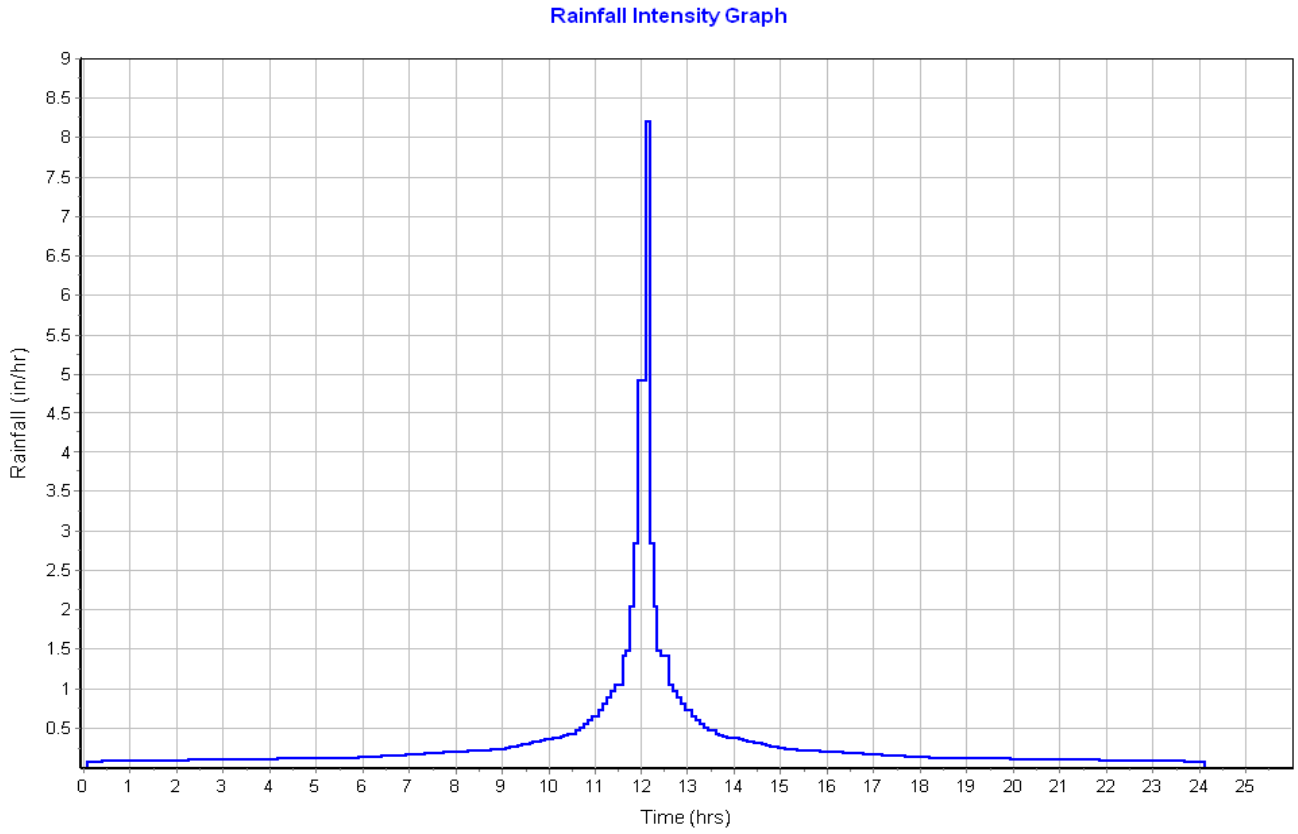
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	60	0.00	0.00
Slope (%) :	10	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	5.14	0.00	0.00

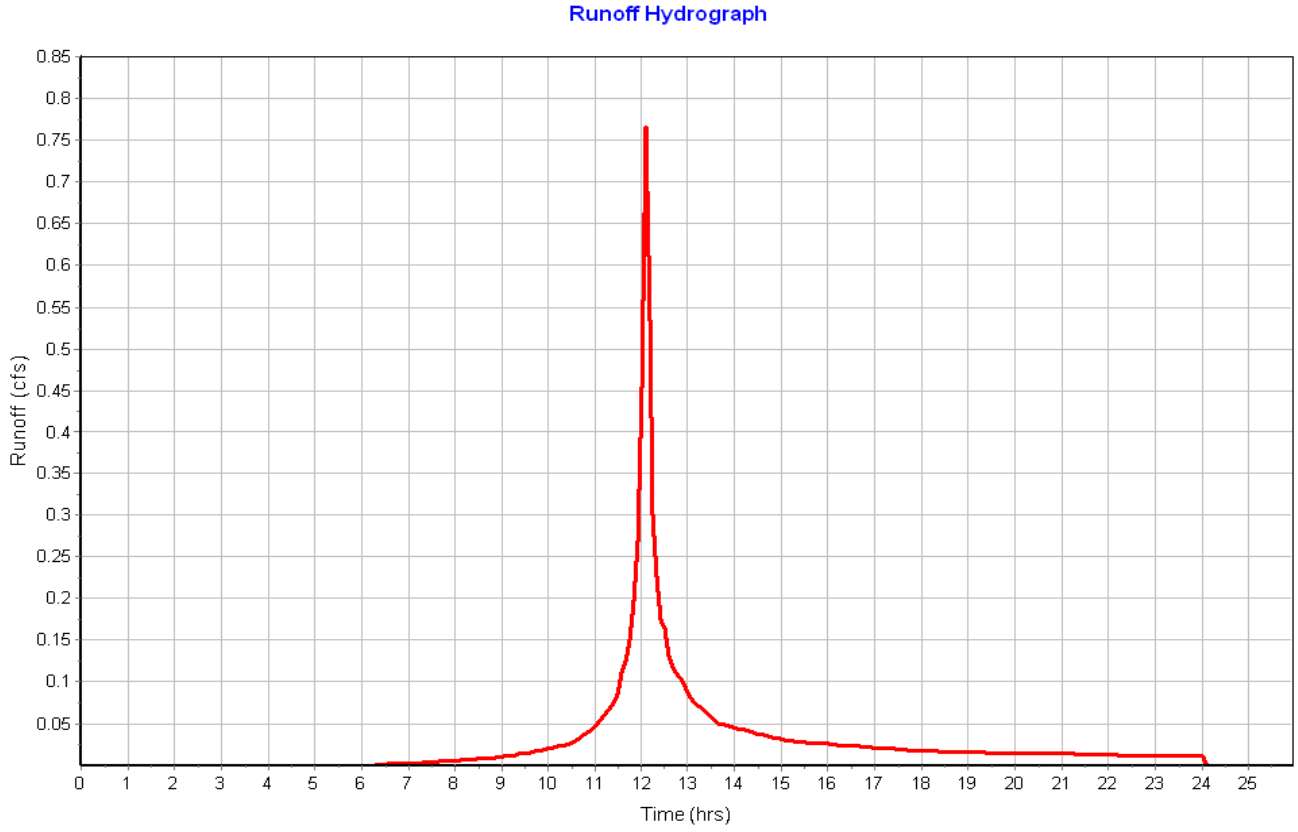
Total TOC (min) 5.14

Subbasin Runoff Results

Total Rainfall (in)	7.86
Total Runoff (in)	5.07
Peak Runoff (cfs)	0.82
Weighted Curve Number	76.34
Time of Concentration (days hh:mm:ss)	0 00:05:08

Subbasin : Sub-8





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-02	21.00	26.00	5.00	0.00	-21.00	0.00	-26.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	3.10	0.00	21.82	0.82	0.00	4.18	21.48	0.48	0 12:25	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-06	20.00	25.65	4.00	25.00	1.00	0.65	3.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-07	47.56	25.65	4.50	25.40	1.40	0.25	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-09	21.76	22.40	2.15	21.25	0.25	1.15	5.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-10	30.14	21.25	0.25	20.00	0.00	1.25	4.1500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-06	1.26	0 12:10	4.17	0.30	2.72	0.12	0.57	0.57	0.00		Calculated
2	Link-07	0.20	0 12:10	0.26	0.77	1.38	0.57	0.35	0.71	0.00		Calculated
3	Link-09	3.10	0 12:25	5.32	0.58	6.32	0.06	0.60	0.60	0.00		Calculated
4	Link-10	3.10	0 12:25	13.90	0.22	5.64	0.09	0.52	0.35	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	21.65
Max (Rim) Elevation (ft)	28.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.27
Peak Lateral Inflow (cfs)	1.27
Peak Outflow (cfs)	1.26
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	26.03
Max HGL Depth Attained (ft)	4.38
Average HGL Elevation Attained (ft)	25.67
Average HGL Depth Attained (ft)	4.02
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.21
Peak Lateral Inflow (cfs)	0.21
Peak Outflow (cfs)	0.20
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.99
Max HGL Depth Attained (ft)	4.84
Average HGL Elevation Attained (ft)	25.44
Average HGL Depth Attained (ft)	4.29
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : InfiltrationArea

Input Data

Invert Elevation (ft)	23.00
Max (Rim) Elevation (ft)	25.50
Max (Rim) Offset (ft)	2.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-23.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

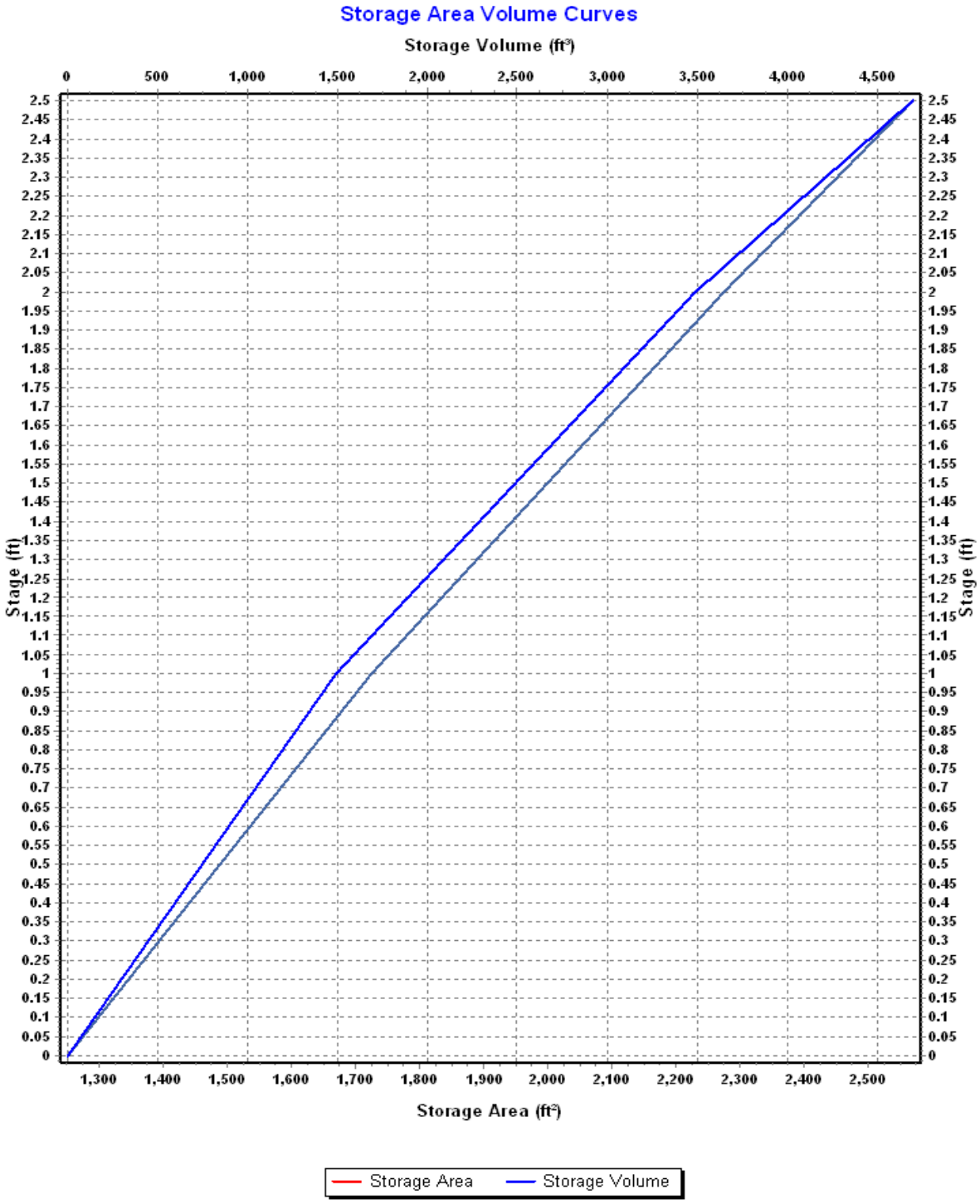
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : Infiltration Area

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1251	0.000
1	1724	1487.50
2	2275	3487.00
2.5	2570	4698.25


Storage Area Volume Curves
Storage Volume (ft³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
Stage (ft)
Stage (ft)
2.5
2.45
2.4
2.35
2.3
2.25
2.2
2.15
2.1
2.05
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
1,300
1,400
1,500
1,600
1,700
1,800
1,900
2,000
2,100
2,200
2,300
2,400
2,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : InfiltrationArea (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	25.40	2.40	20.00	1.00	3.33
2	Weir-05	Trapezoidal	No	25.25	2.25	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-01	Side	CIRCULAR	No	3.00			24.26	0.61

Output Summary Results

Peak Inflow (cfs)	4.43
Peak Lateral Inflow (cfs)	4.13
Peak Outflow (cfs)	4.39
Peak Exfiltration Flow Rate (cfm)	0.96
Max HGL Elevation Attained (ft)	25.47
Max HGL Depth Attained (ft)	2.47
Average HGL Elevation Attained (ft)	25.09
Average HGL Depth Attained (ft)	2.09
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	1.143
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	20.25
Max (Rim) Elevation (ft)	25.25
Max (Rim) Offset (ft)	5.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-20.25
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.10
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	3.10
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	23.03
Max HGL Depth Attained (ft)	2.78
Average HGL Elevation Attained (ft)	22.46
Average HGL Depth Attained (ft)	2.21
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

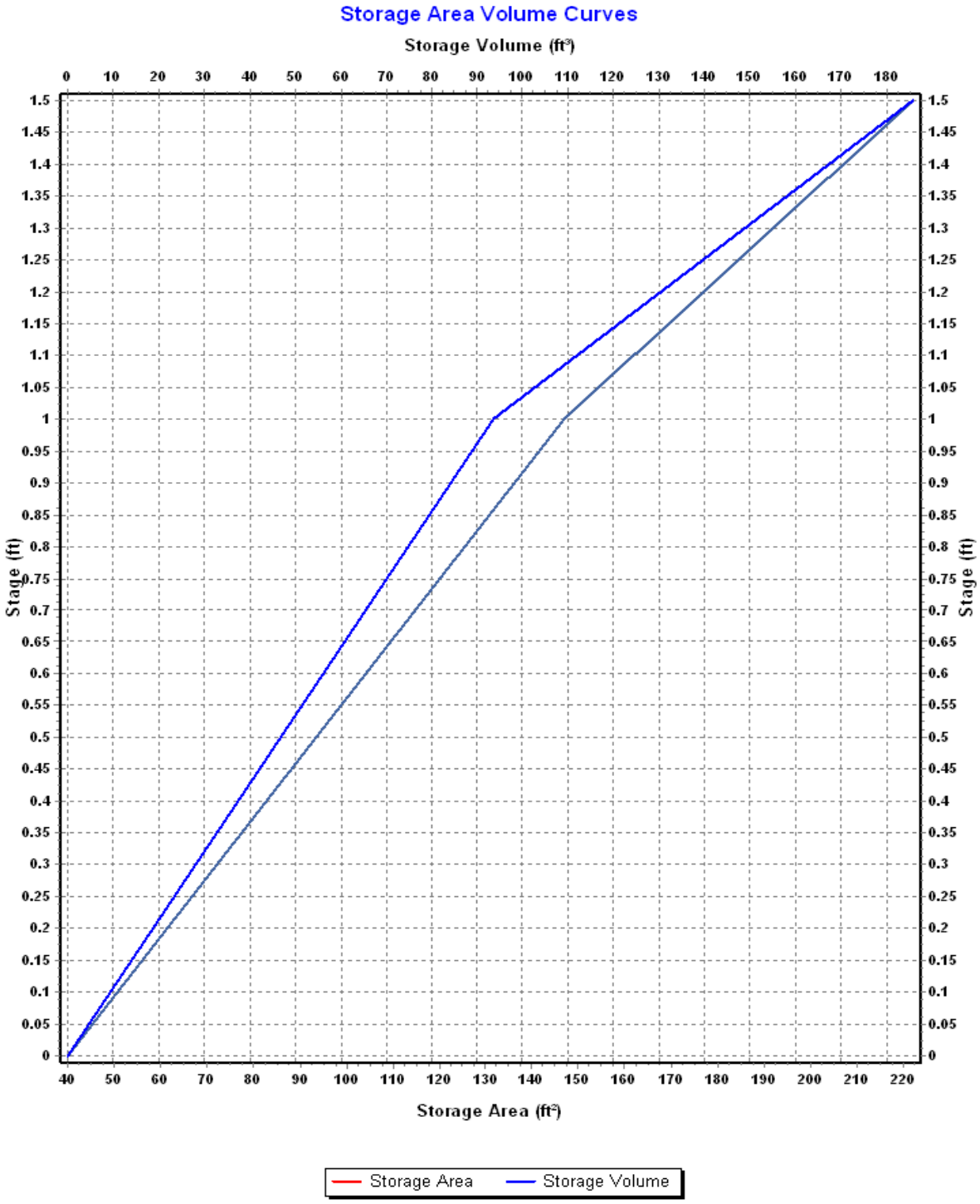
Input Data

Invert Elevation (ft)	24.00
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-24.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay for Infiltration Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	40	0.000
1	147	93.50
1.5	222	185.75


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-06 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	25.70	1.70	25.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	1.47
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.46
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.77
Max HGL Depth Attained (ft)	1.77
Average HGL Elevation Attained (ft)	25.63
Average HGL Depth Attained (ft)	1.63
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Project Description

File Name ..... Scen 3 Proposed Conditions (Proposed Regulations).SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	Sep 01, 2020	00:00:00
End Analysis On	Sep 02, 2020	02:00:00
Start Reporting On	Sep 01, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	8
Nodes	10
Junctions	1
Outfalls	4
Flow Diversions	0
Inlets	0
Storage Nodes	5
Links	8
Channels	0
Pipes	4
Pumps	0
Orifices	1
Weirs	3
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	100yr_NOAA14_plus	Cumulative	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.24	484.00	65.00	9.70	5.31	1.28	1.36	0 00:09:28
2	Sub-02	0.36	484.00	88.77	9.70	8.33	3.02	1.86	0 00:28:41
3	Sub-03	0.37	484.00	97.02	9.70	9.34	3.42	1.60	0 00:42:48
4	Sub-04	0.28	484.00	96.65	9.70	9.30	2.64	1.59	0 00:25:49
5	Sub-05	0.16	484.00	98.00	9.70	9.46	1.47	1.57	0 00:01:45
6	Sub-06	0.09	484.00	98.00	9.70	9.46	0.81	0.85	0 00:01:28
7	Sub-07	0.03	484.00	98.00	9.70	9.45	0.25	0.26	0 00:00:44
8	Sub-8	0.13	484.00	76.34	9.70	6.77	0.90	1.08	0 00:05:08

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	Junction	21.00	26.00	0.00	0.00	0.00	3.55	21.87	0.00	4.13	0 00:00	0.00	0.00
2	Out-01	Outfall	21.00					1.32	21.00					
3	Out-04	Outfall	20.00					1.94	20.00					
4	Out-05	Outfall	20.00					3.55	20.52					
5	Out-06	Outfall	19.00					0.85	19.00					
6	CB-01	Storage Node	21.65	28.50	0.00		1000.00	1.56	26.08				0.00	0.00
7	CB-02	Storage Node	21.15	28.00	0.00		1000.00	0.26	26.06				0.00	0.00
8	InfiltrationArea	Storage Node	23.00	25.50	0.00		0.00	5.53	25.49				0.00	0.00
9	OCS-04	Storage Node	20.25	25.25	0.00		0.00	3.55	23.10				0.00	0.00
10	Stor-06	Storage Node	24.00	26.00	0.00		0.00	1.81	25.78				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	Link-06	Pipe	CB-01	Stor-06	20.00	25.65	25.00	3.2500	12.000	0.0200	1.56	4.17	0.37	3.14	0.60	0.60	0.00	Calculated
2	Link-07	Pipe	CB-02	Stor-06	47.56	25.65	25.40	0.5300	6.000	0.0200	0.25	0.26	0.96	1.53	0.39	0.78	0.00	Calculated
3	Link-09	Pipe	OCS-04	DMH-02	21.76	22.40	21.25	5.2800	12.000	0.0200	3.55	5.32	0.67	6.50	0.66	0.66	0.00	Calculated
4	Link-10	Pipe	DMH-02	Out-05	30.14	21.25	20.00	4.1500	18.000	0.0200	3.55	13.90	0.26	5.82	0.57	0.38	0.00	Calculated
5	Orifice-01	Orifice	InfiltrationArea	OCS-04		23.00	20.25		3.000		0.26							
6	Weir-04	Weir	InfiltrationArea	Out-04		23.00	20.00				1.94							
7	Weir-05	Weir	InfiltrationArea	OCS-04		23.00	20.25				3.30							
8	Weir-08	Weir	Stor-06	InfiltrationArea		24.00	23.00				1.80							

Subbasin Hydrology

Subbasin : Sub-01

Input Data

Area (ac) 0.24
Peak Rate Factor 484.00
Weighted Curve Number 65.00
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
LandscapedArea	0.20	C	65.00
Brush, Good	0.04	C	65.00
Composite Area & Weighted CN	0.24		65.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

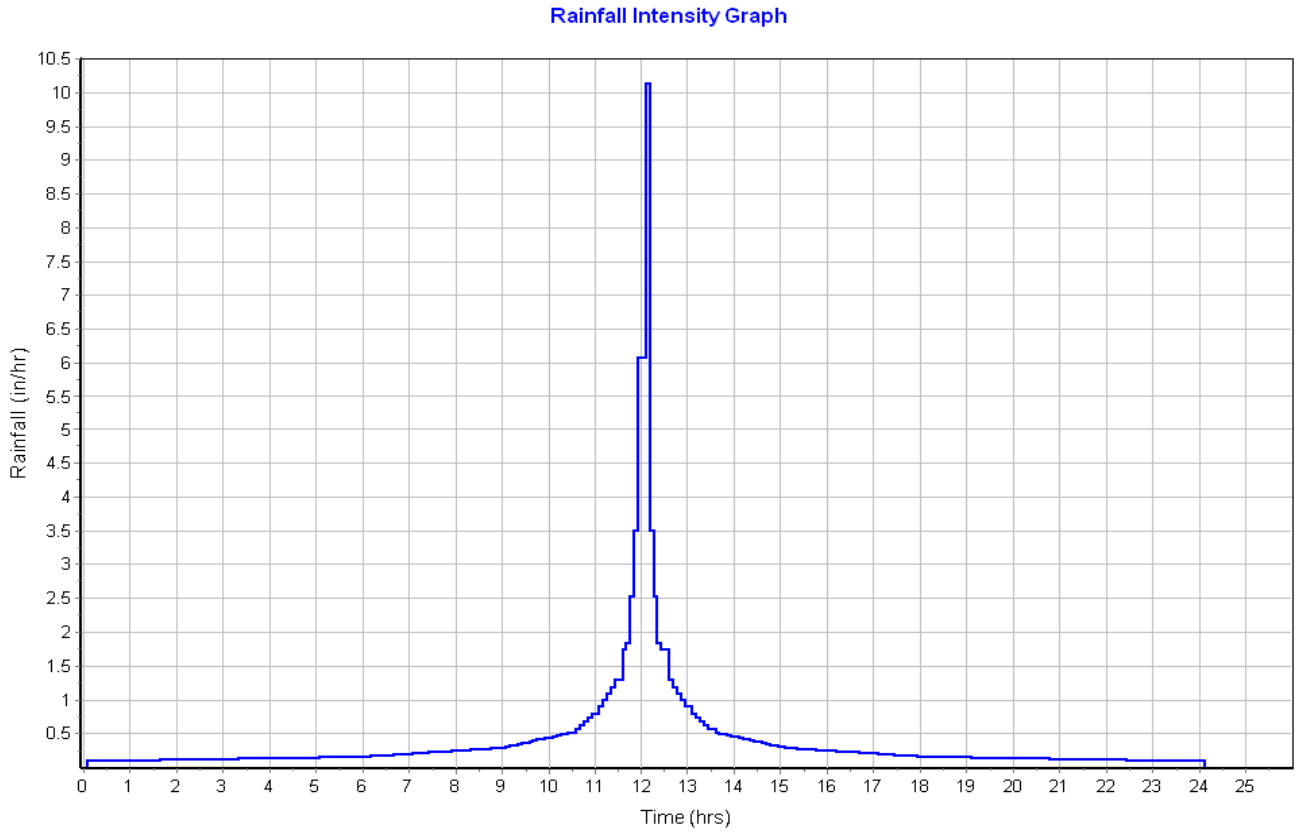
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.6	0.00
Flow Length (ft) :	54.57	11.32	0.00
Slope (%) :	5.55	5.55	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.15	0.05	0.00
Computed Flow Time (min) :	6.03	3.45	0.00

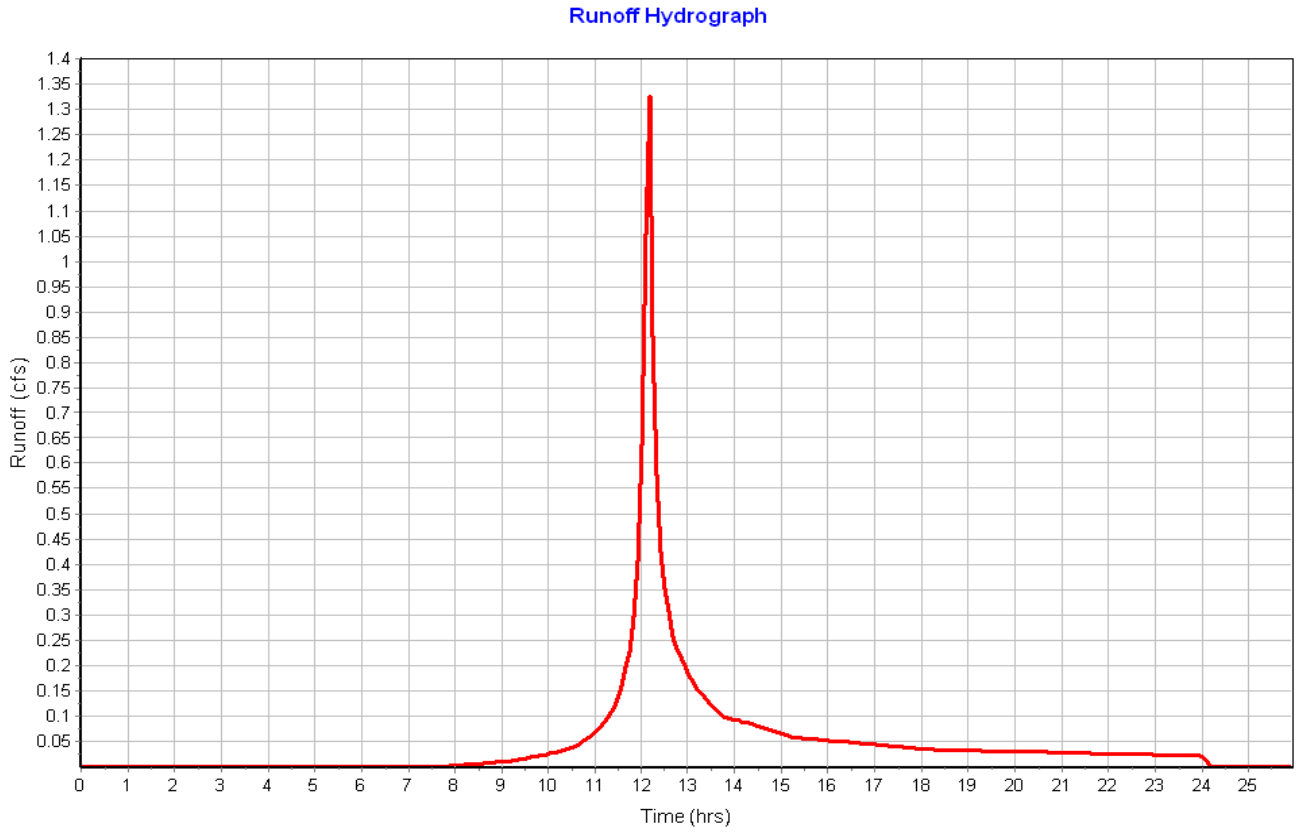
Total TOC (min) 9.48

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	5.31
Peak Runoff (cfs)	1.36
Weighted Curve Number	65.00
Time of Concentration (days hh:mm:ss)	0 00:09:29

Subbasin : Sub-01





Subbasin : Sub-02

Input Data

Area (ac) 0.36
Peak Rate Factor 484.00
Weighted Curve Number 88.77
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Sidewalk	0.02	C	98.00
Roof	0.10	C	98.00
Bioretention Swale	0.01	C	74.00
GreenRoof	0.23	C	85.00
Composite Area & Weighted CN	0.36		88.77

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	156.39	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	27.78	0.00	0.00

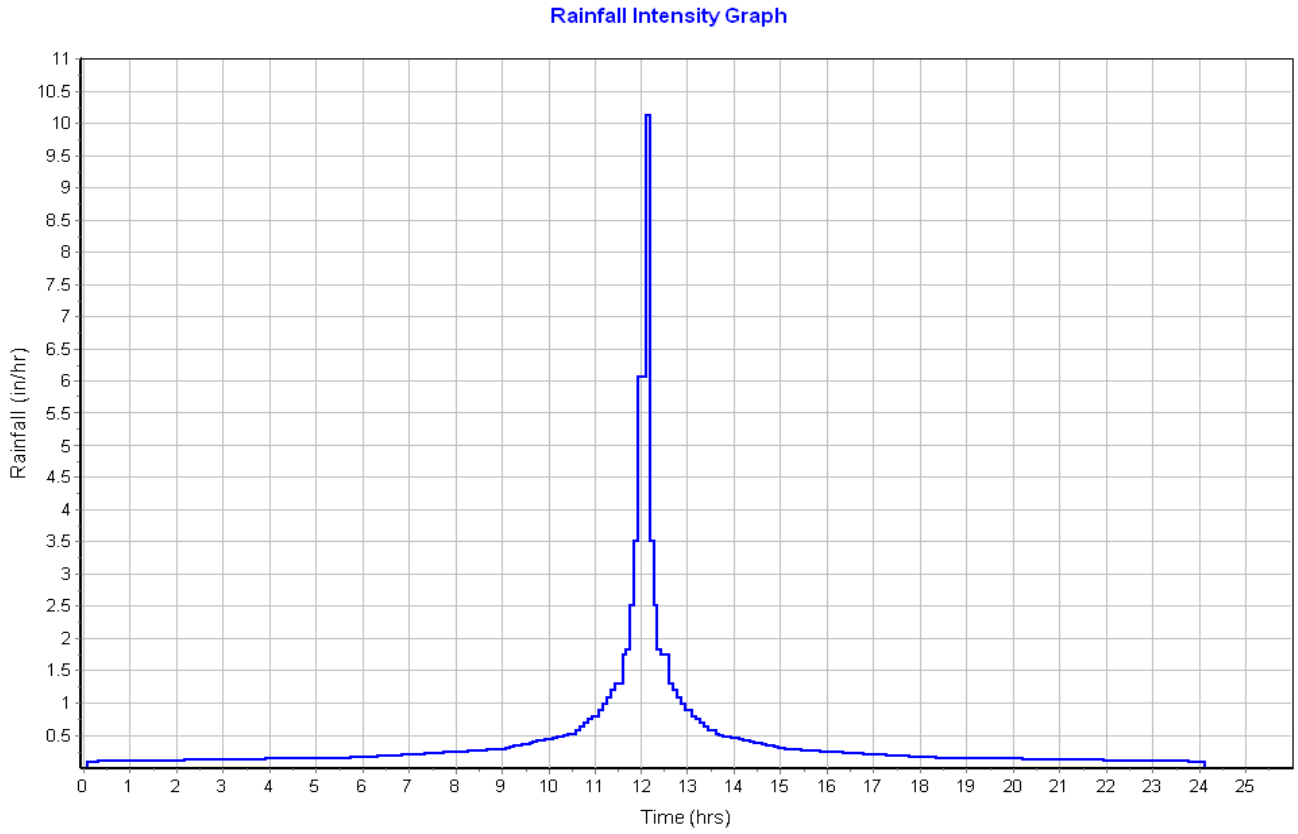
Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	129.53	0.00	0.00
Slope (%) :	2.48	0.00	0.00
Surface Type :	Grassed waterway	Unpaved	Unpaved
Velocity (ft/sec) :	2.36	0.00	0.00
Computed Flow Time (min) :	0.91	0.00	0.00

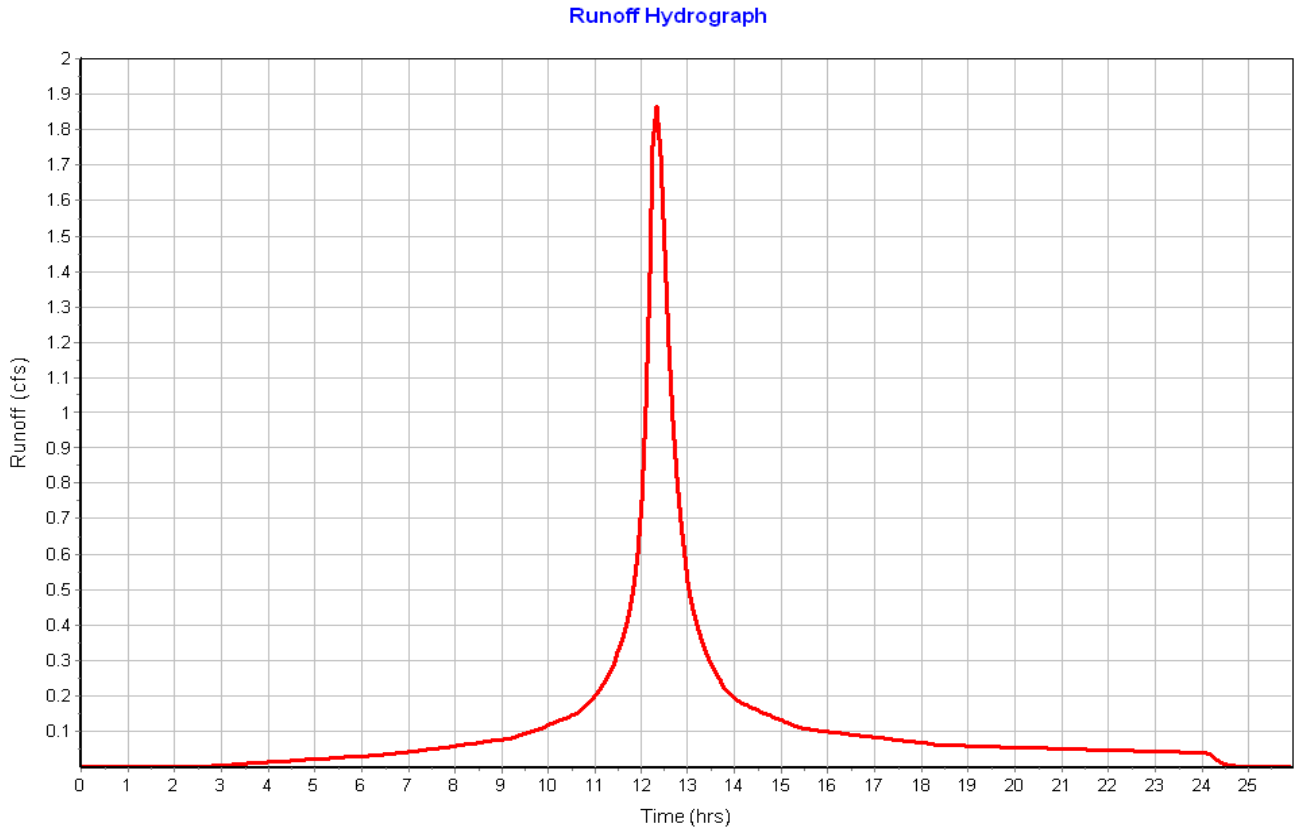
Total TOC (min) 28.69

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 8.33
Peak Runoff (cfs) 1.86
Weighted Curve Number 88.77
Time of Concentration (days hh:mm:ss) 0 00:28:41

Subbasin : Sub-02





Subbasin : Sub-03

Input Data

Area (ac) 0.37
Peak Rate Factor 484.00
Weighted Curve Number 97.02
Rain Gage ID ..... Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.32	C	98.00
Paved parking & roofs	0.03	C	98.00
Raingarden	0.01	C	74.00
Composite Area & Weighted CN	0.36		97.02

Time of Concentration

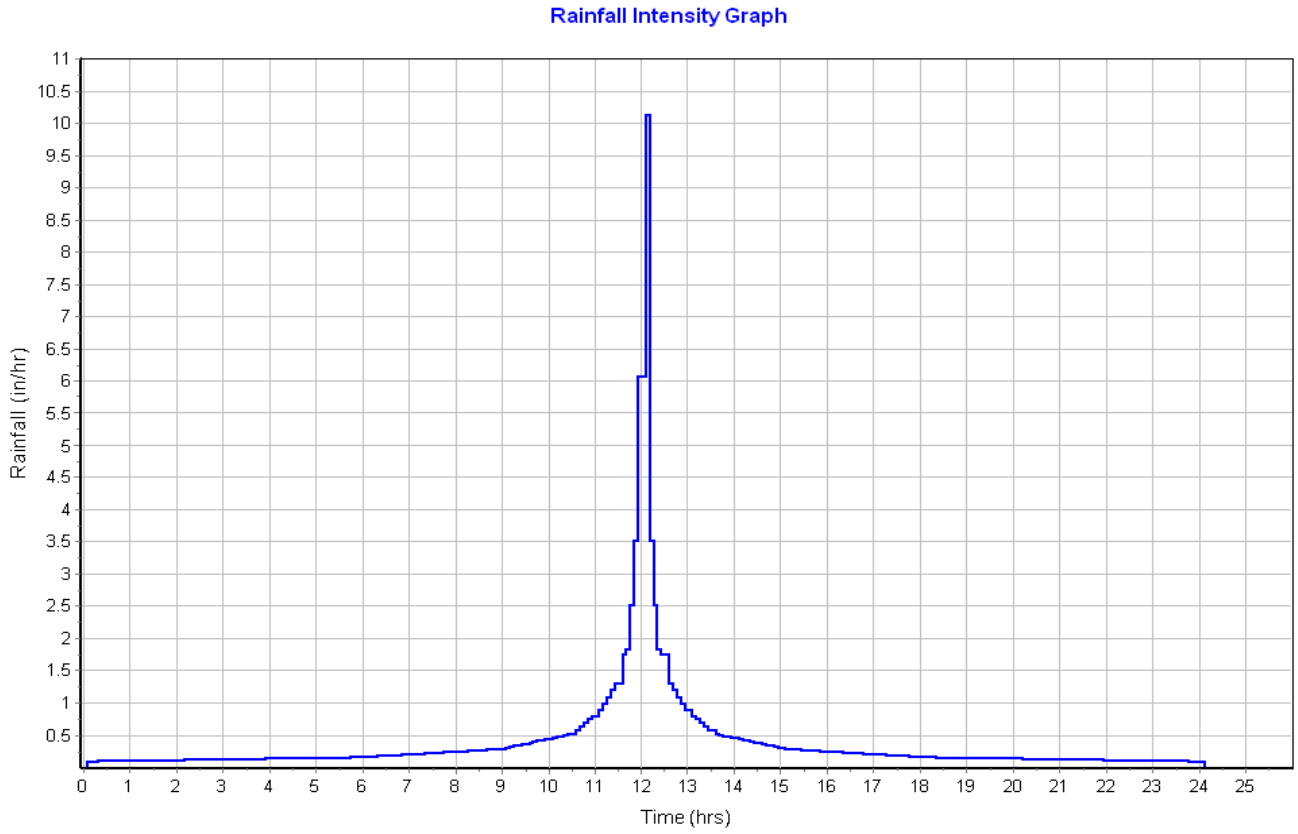
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	.01	0.00
Flow Length (ft) :	262.66	64.37	0.00
Slope (%) :	1	2.3	0.00
2 yr, 24 hr Rainfall (in) :	3.21	3.21	0.00
Velocity (ft/sec) :	0.10	1.44	0.00
Computed Flow Time (min) :	42.06	0.75	0.00

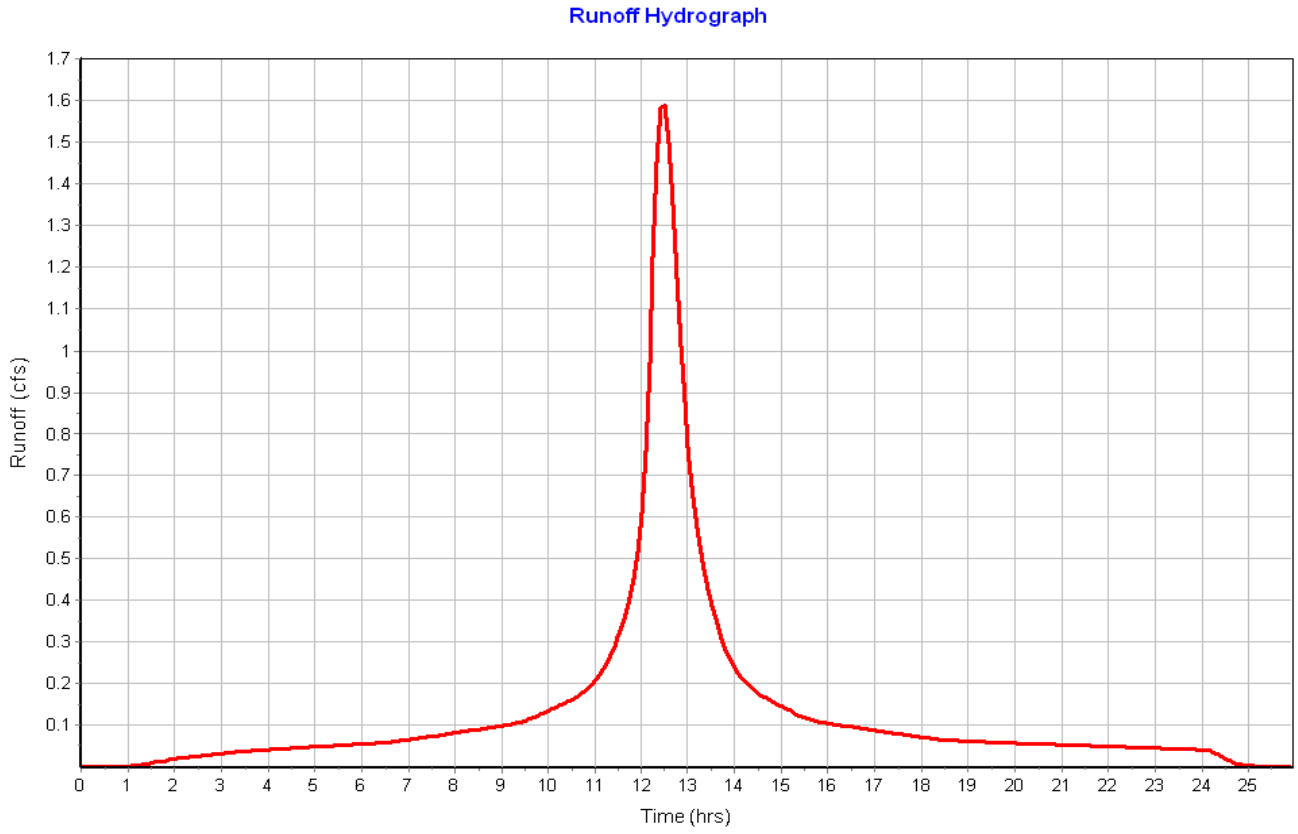
Total TOC (min) 42.80

Subbasin Runoff Results

Total Rainfall (in) 9.70
Total Runoff (in) 9.34
Peak Runoff (cfs) 1.60
Weighted Curve Number 97.02
Time of Concentration (days hh:mm:ss) 0 00:42:48

Subbasin : Sub-03





Subbasin : Sub-04

Input Data

Area (ac)	0.28
Peak Rate Factor	484.00
Weighted Curve Number	96.65
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Roof	0.23	C	98.00
Sidewalk	0.02	C	98.00
Raingarden	0.02	C	74.00
Paved parking & roofs	0.01	C	98.00
Composite Area & Weighted CN	0.28		96.65

Time of Concentration

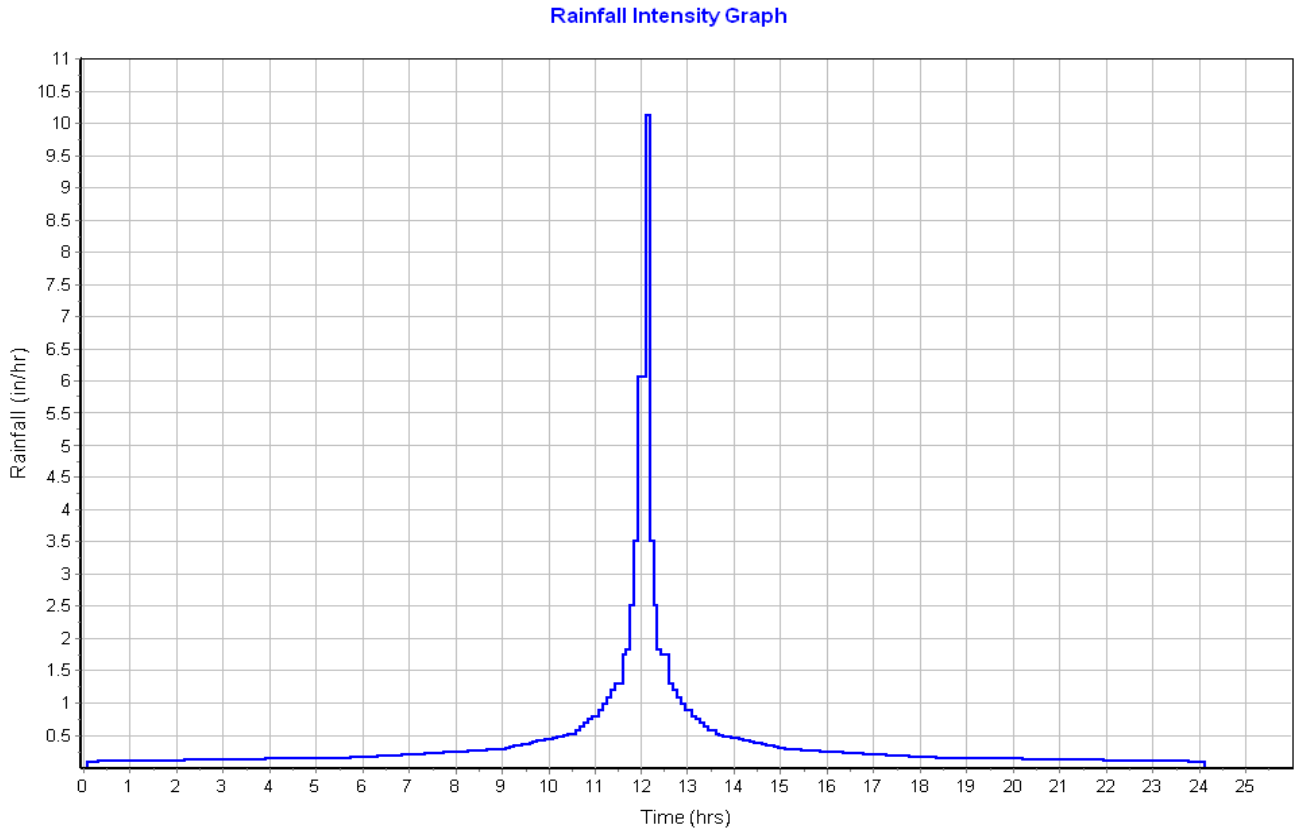
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	142.73	0.00	0.00
Slope (%) :	1	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.09	0.00	0.00
Computed Flow Time (min) :	25.82	0.00	0.00

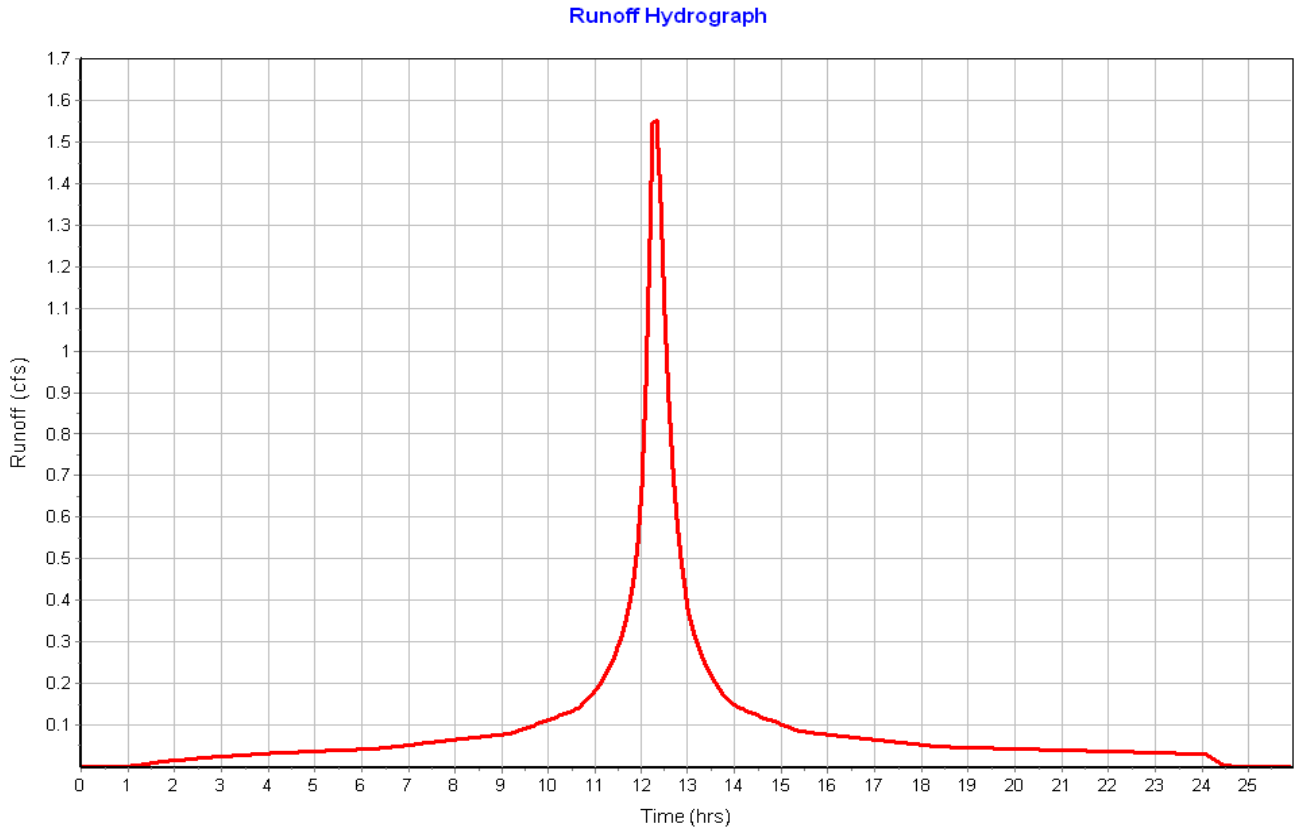
Total TOC (min) 25.82

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.30
Peak Runoff (cfs)	1.59
Weighted Curve Number	96.65
Time of Concentration (days hh:mm:ss)	0 00:25:49

Subbasin : Sub-04





Subbasin : Sub-05

Input Data

Area (ac)	0.16
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.16	C	98.00
Composite Area & Weighted CN	0.16		98.00

Time of Concentration

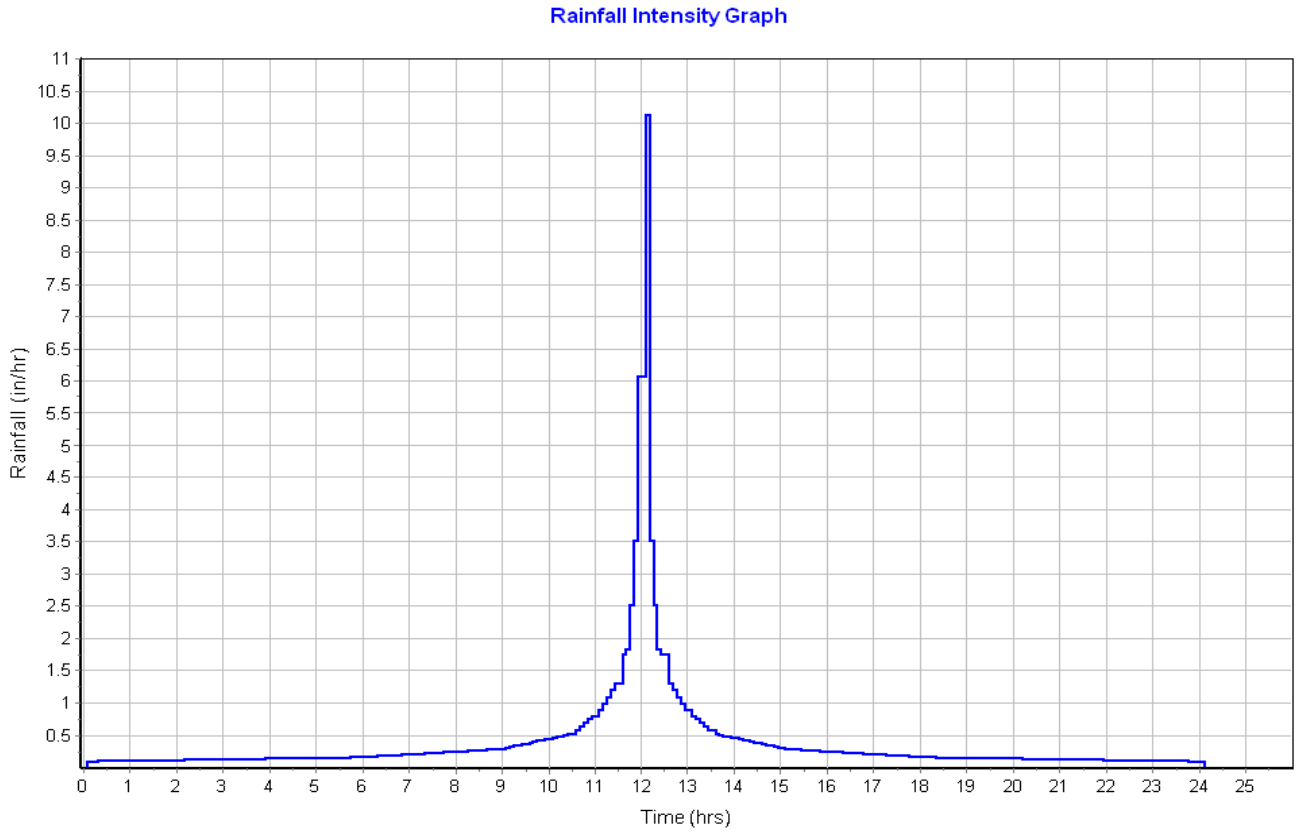
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	175.64	0.00	0.00
Slope (%) :	2	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.66	0.00	0.00
Computed Flow Time (min) :	1.76	0.00	0.00

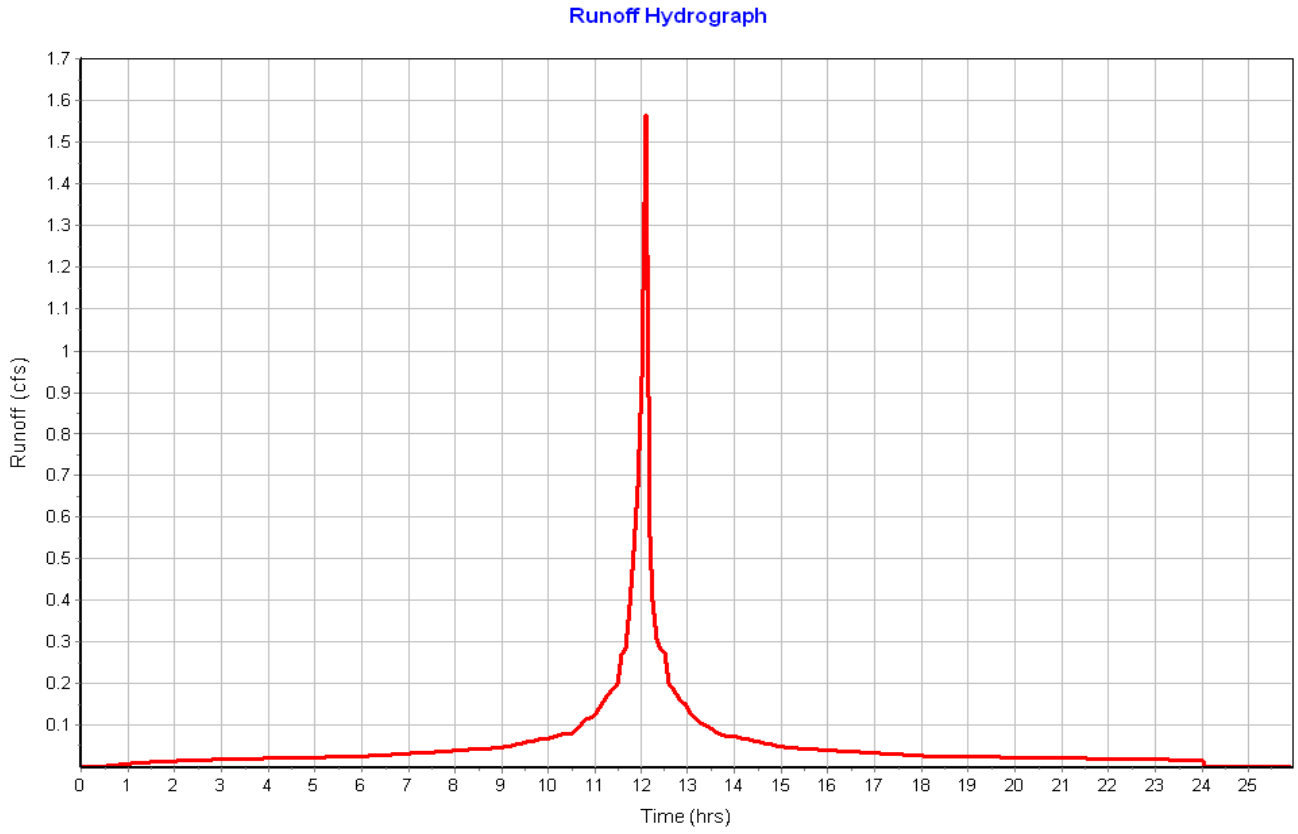
Total TOC (min) 1.76

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	1.57
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:46

Subbasin : Sub-05





Subbasin : Sub-06

Input Data

Area (ac)	0.09
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.07	C	98.00
Sidewalk	0.02	C	98.00
Composite Area & Weighted CN	0.09		98.00

Time of Concentration

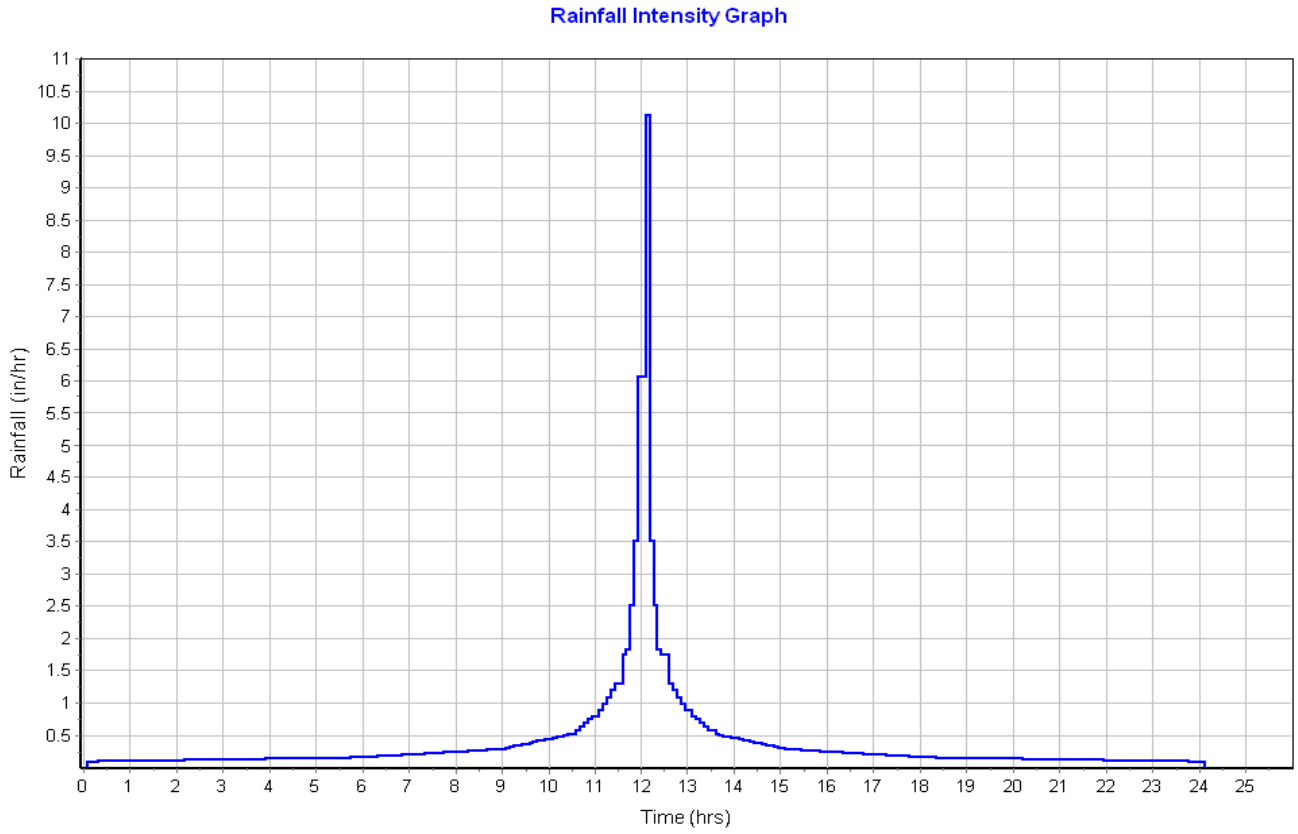
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	176.60	0.00	0.00
Slope (%) :	3.125	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.99	0.00	0.00
Computed Flow Time (min) :	1.48	0.00	0.00

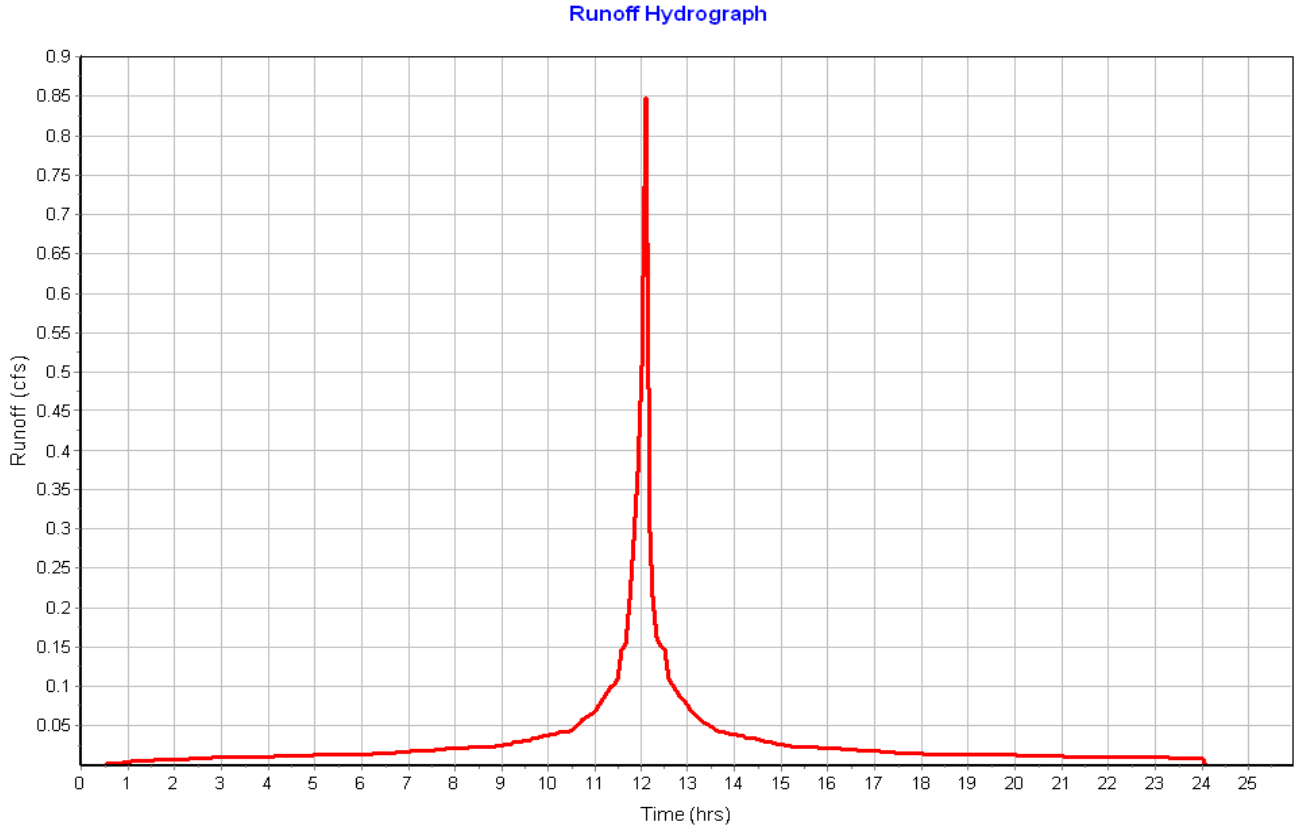
Total TOC (min) 1.48

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.46
Peak Runoff (cfs)	0.85
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-06





Subbasin : Sub-07

Input Data

Area (ac)	0.03
Peak Rate Factor	484.00
Weighted Curve Number	98.00
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.03	C	98.00
Composite Area & Weighted CN	0.03		98.00

Time of Concentration

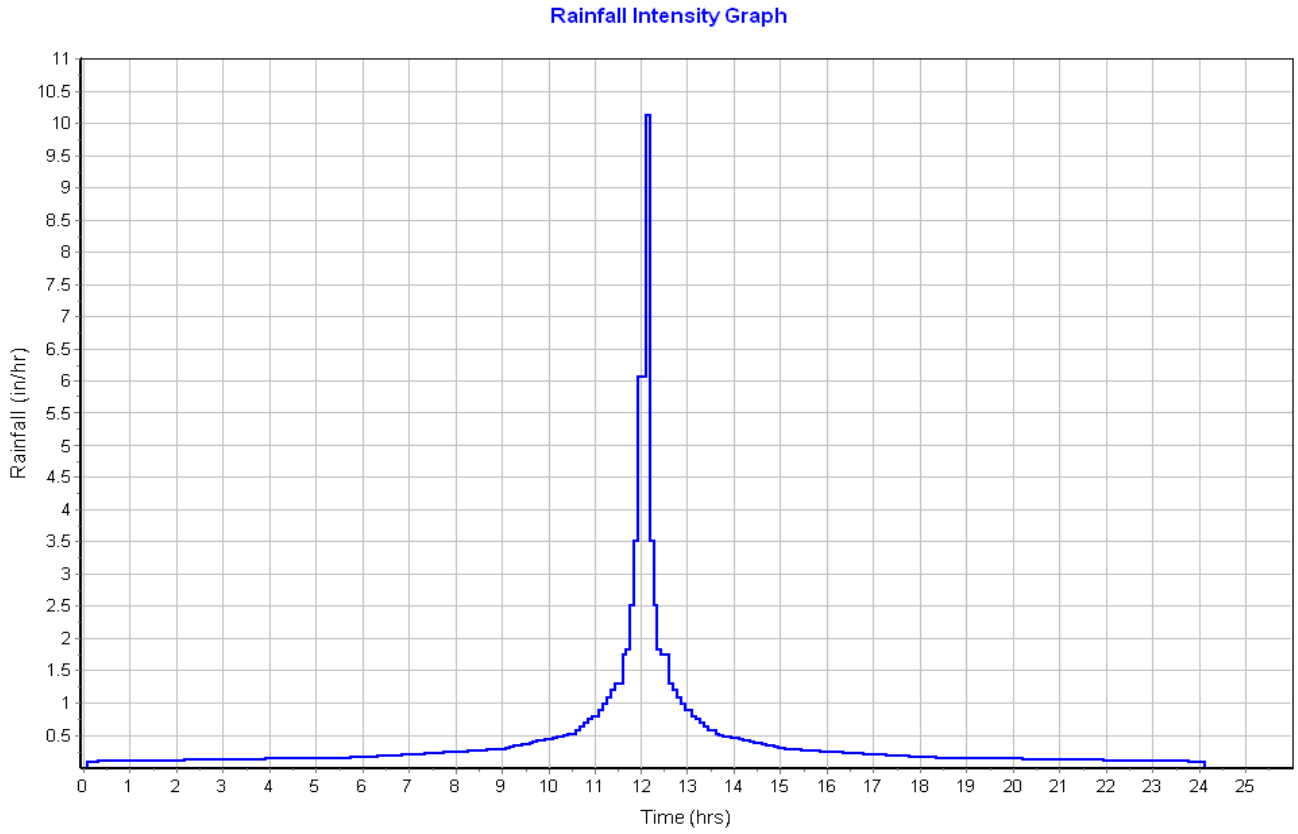
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.01	0.00	0.00
Flow Length (ft) :	81.23	0.00	0.00
Slope (%) :	3.69	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	1.82	0.00	0.00
Computed Flow Time (min) :	0.74	0.00	0.00

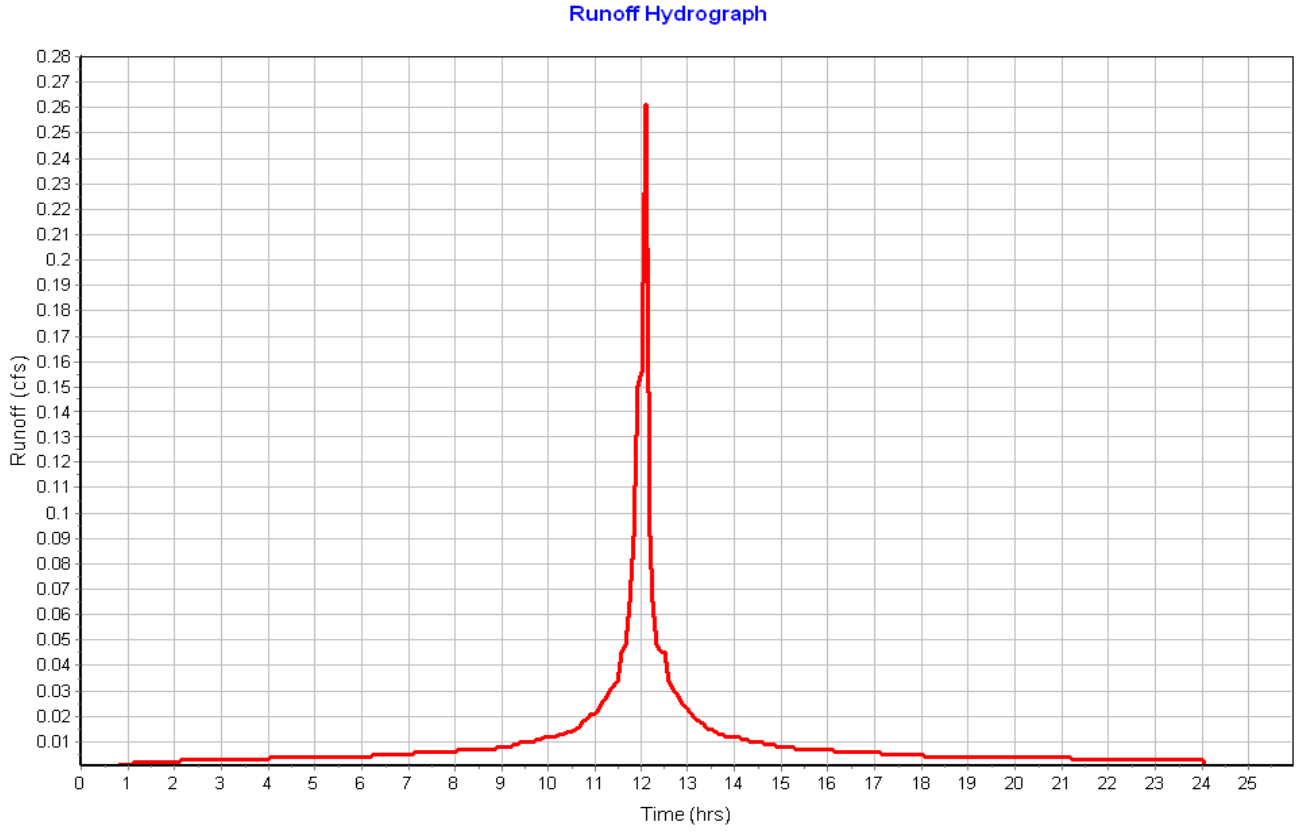
Total TOC (min) 0.74

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	9.45
Peak Runoff (cfs)	0.26
Weighted Curve Number	98.00
Time of Concentration (days hh:mm:ss)	0 00:00:44

Subbasin : Sub-07





Subbasin : Sub-8

Input Data

Area (ac)	0.13
Peak Rate Factor	484.00
Weighted Curve Number	76.34
Rain Gage ID	Rain Gage-01

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Infiltration Basin	0.12	C	74.00
Sidewalk	0.01	C	98.00
Composite Area & Weighted CN	0.13		76.34

Time of Concentration

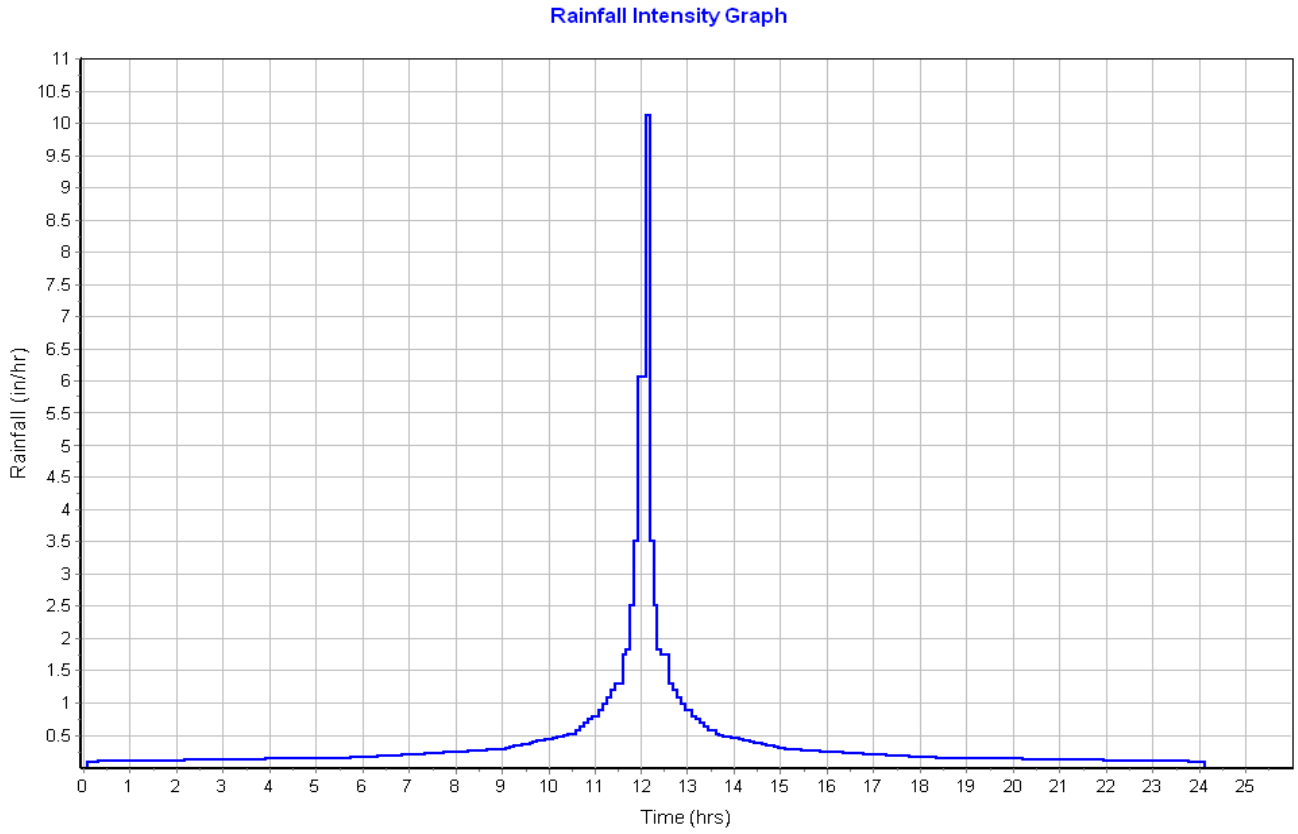
Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.25	0.00	0.00
Flow Length (ft) :	60	0.00	0.00
Slope (%) :	10	0.00	0.00
2 yr, 24 hr Rainfall (in) :	3.21	0.00	0.00
Velocity (ft/sec) :	0.19	0.00	0.00
Computed Flow Time (min) :	5.14	0.00	0.00

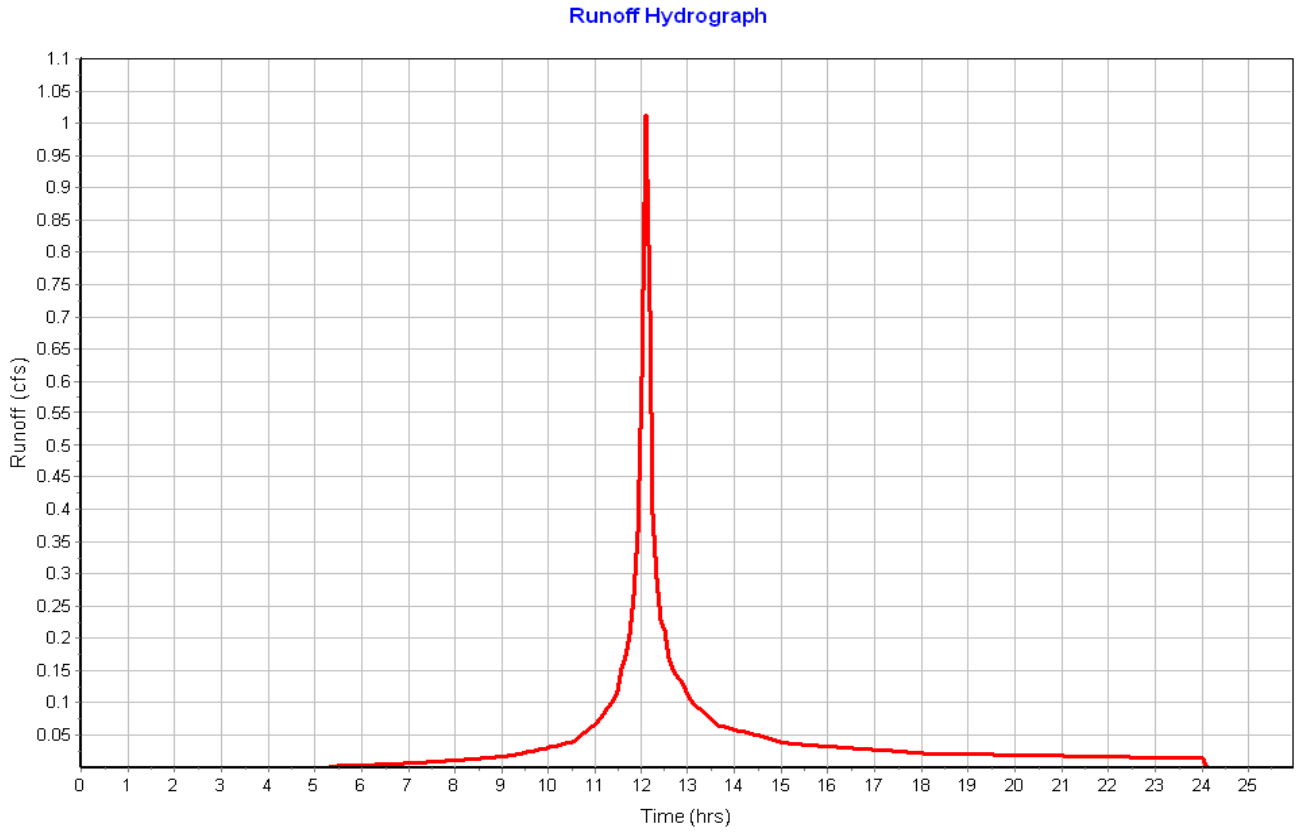
Total TOC (min) 5.14

Subbasin Runoff Results

Total Rainfall (in)	9.70
Total Runoff (in)	6.77
Peak Runoff (cfs)	1.08
Weighted Curve Number	76.34
Time of Concentration (days hh:mm:ss)	0 00:05:08

Subbasin : Sub-8





Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	DMH-02	21.00	26.00	5.00	0.00	-21.00	0.00	-26.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	DMH-02	3.55	0.00	21.87	0.87	0.00	4.13	21.50	0.50	0 12:25	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-06	20.00	25.65	4.00	25.00	1.00	0.65	3.2500	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
2	Link-07	47.56	25.65	4.50	25.40	1.40	0.25	0.5300	CIRCULAR	6.000	6.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
3	Link-09	21.76	22.40	2.15	21.25	0.25	1.15	5.2800	CIRCULAR	12.000	12.000	0.0200	0.2000	0.5000	0.0000	0.00	No	1
4	Link-10	30.14	21.25	0.25	20.00	0.00	1.25	4.1500	CIRCULAR	18.000	18.000	0.0200	0.2000	1.0000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-06	1.56	0 12:10	4.17	0.37	3.14	0.11	0.60	0.60	0.00		Calculated
2	Link-07	0.25	0 12:10	0.26	0.96	1.53	0.52	0.39	0.78	0.00		Calculated
3	Link-09	3.55	0 12:25	5.32	0.67	6.50	0.06	0.66	0.66	0.00		Calculated
4	Link-10	3.55	0 12:25	13.90	0.26	5.82	0.09	0.57	0.38	0.00		Calculated

Storage Nodes

Storage Node : CB-01

Input Data

Invert Elevation (ft)	21.65
Max (Rim) Elevation (ft)	28.50
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.65
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	1.56
Peak Lateral Inflow (cfs)	1.56
Peak Outflow (cfs)	1.56
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	26.08
Max HGL Depth Attained (ft)	4.43
Average HGL Elevation Attained (ft)	25.64
Average HGL Depth Attained (ft)	3.99
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : CB-02

Input Data

Invert Elevation (ft)	21.15
Max (Rim) Elevation (ft)	28.00
Max (Rim) Offset (ft)	6.85
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-21.15
Ponded Area (ft²)	1000.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	0.26
Peak Lateral Inflow (cfs)	0.26
Peak Outflow (cfs)	0.25
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	26.06
Max HGL Depth Attained (ft)	4.91
Average HGL Elevation Attained (ft)	25.48
Average HGL Depth Attained (ft)	4.33
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : InfiltrationArea

Input Data

Invert Elevation (ft)	23.00
Max (Rim) Elevation (ft)	25.50
Max (Rim) Offset (ft)	2.50
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-23.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

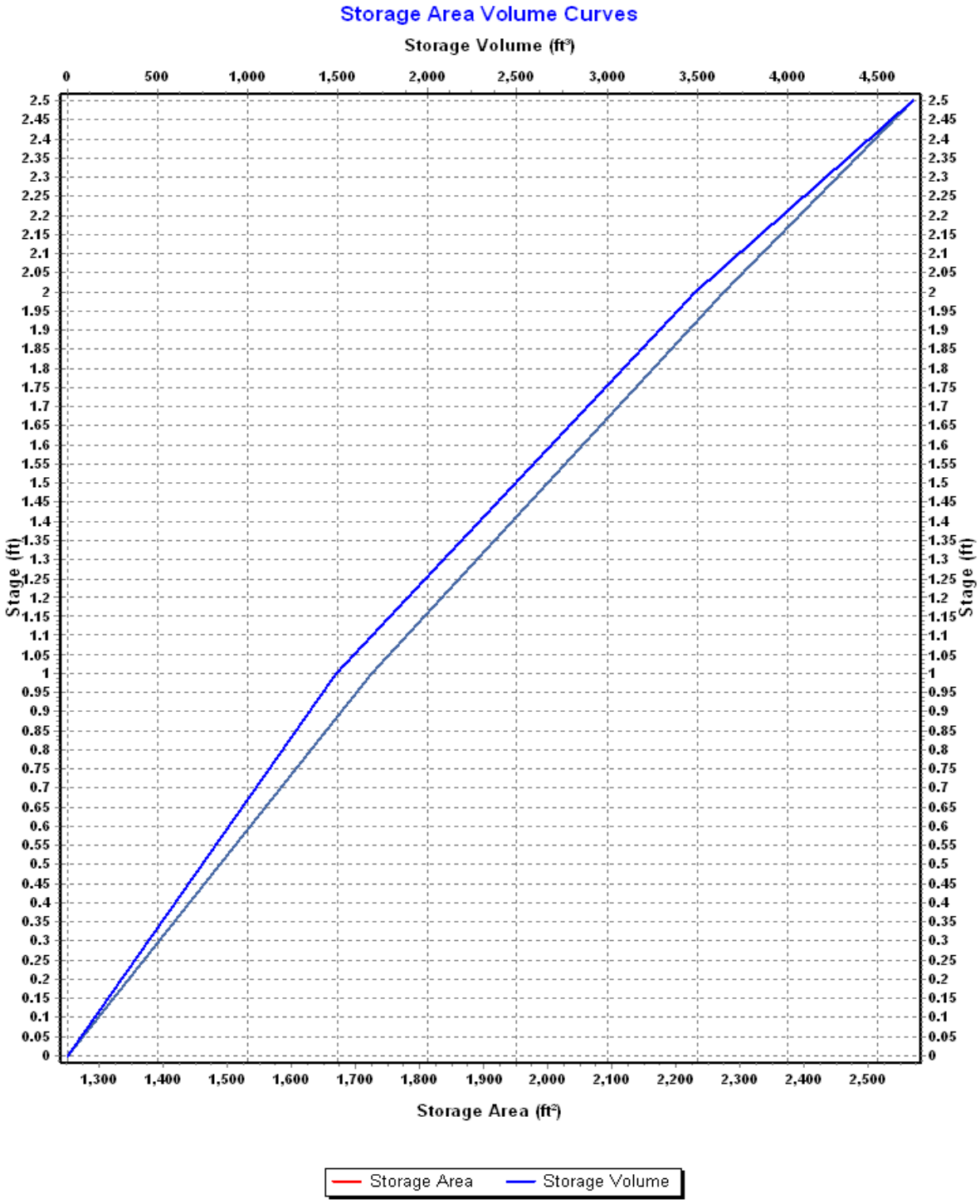
Infiltration/Exfiltration

Exfiltration Rate (in/hr)	0.2700

Storage Area Volume Curves

Storage Curve : Infiltration Area

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	1251	0.000
1	1724	1487.50
2	2275	3487.00
2.5	2570	4698.25


Storage Area Volume Curves
Storage Volume (ft³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
Stage (ft)
Stage (ft)
2.5
2.45
2.4
2.35
2.3
2.25
2.2
2.15
2.1
2.05
2
1.95
1.9
1.85
1.8
1.75
1.7
1.65
1.6
1.55
1.5
1.45
1.4
1.35
1.3
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
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0.65
0.6
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0.5
0.45
0.4
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0.3
0.25
0.2
0.15
0.1
0.05
0
1,300
1,400
1,500
1,600
1,700
1,800
1,900
2,000
2,100
2,200
2,300
2,400
2,500
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : InfiltrationArea (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	25.40	2.40	20.00	1.00	3.33
2	Weir-05	Trapezoidal	No	25.25	2.25	8.00	0.25	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-01	Side	CIRCULAR	No	3.00			24.26	0.61

Output Summary Results

Peak Inflow (cfs)	5.53
Peak Lateral Inflow (cfs)	5.16
Peak Outflow (cfs)	5.49
Peak Exfiltration Flow Rate (cfm)	0.96
Max HGL Elevation Attained (ft)	25.49
Max HGL Depth Attained (ft)	2.49
Average HGL Elevation Attained (ft)	25.17
Average HGL Depth Attained (ft)	2.17
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	1.190
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : OCS-04

Input Data

Invert Elevation (ft)	20.25
Max (Rim) Elevation (ft)	25.25
Max (Rim) Offset (ft)	5.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-20.25
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Output Summary Results

Peak Inflow (cfs)	3.55
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	3.55
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	23.10
Max HGL Depth Attained (ft)	2.85
Average HGL Elevation Attained (ft)	22.54
Average HGL Depth Attained (ft)	2.29
Time of Max HGL Occurrence (days hh:mm)	0 12:25
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Storage Node : Stor-06

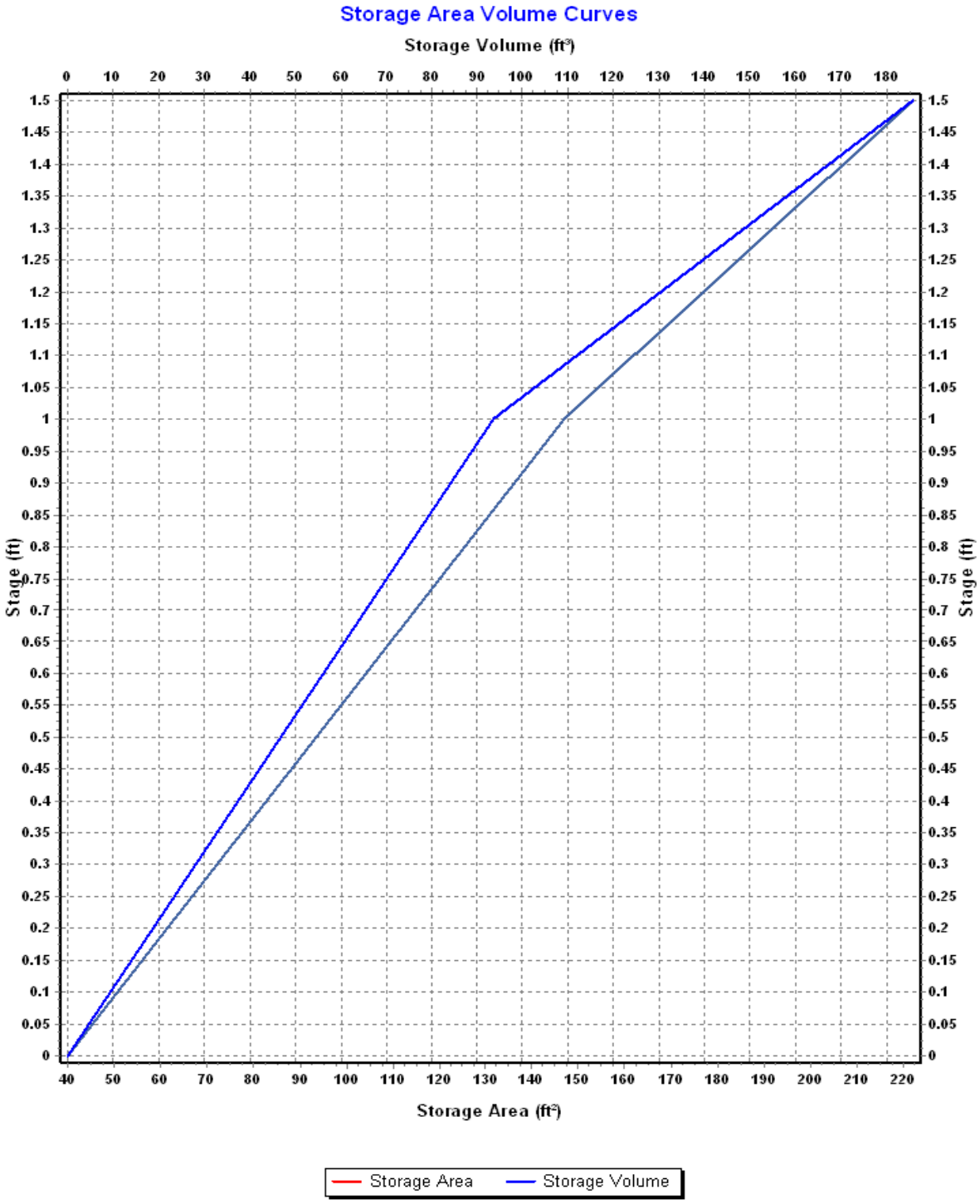
Input Data

Invert Elevation (ft)	24.00
Max (Rim) Elevation (ft)	26.00
Max (Rim) Offset (ft)	2.00
Initial Water Elevation (ft)	0.00
Initial Water Depth (ft)	-24.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Forebay for Infiltration Basin

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	40	0.000
1	147	93.50
1.5	222	185.75


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180
1.5 1.45 1.4 1.35 1.3 1.25 1.2 1.15 1.1 1.05 1 0.95 0.9 0.85 0.8 0.75 0.7 0.65 0.6 0.55 0.5 0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05 0
Stage (ft)
Stage (ft)
40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220
Storage Area (ft²)
Storage Area
Storage Volume

Storage Node : Stor-06 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-08	Trapezoidal	No	25.70	1.70	25.00	0.25	3.33

Output Summary Results

Peak Inflow (cfs)	1.81
Peak Lateral Inflow (cfs)	0.00
Peak Outflow (cfs)	1.80
Peak Exfiltration Flow Rate (cfm)	0.00
Max HGL Elevation Attained (ft)	25.78
Max HGL Depth Attained (ft)	1.78
Average HGL Elevation Attained (ft)	25.66
Average HGL Depth Attained (ft)	1.66
Time of Max HGL Occurrence (days hh:mm)	0 12:10
Total Exfiltration Volume (1000-ft³)	0.000
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0.00

Appendix D

Stormwater Management System Cost Estimtaes

Appendix D. Order-of-Magnitude Stormwater Management System Cost Estimates

Notes:
1. See report **Section 3.4** for cost estimate methods, including discuss of costing for NOAA Atlas 14 vs. NOAA Atlas 14+.
2. Costs are order-of-magnitude based on preliminary conceptual designs and are intended to enable comparison amongst options.
3. Unit pricing for drainage infrastructure (i.e., manholes, pipes, CB's, outlet structure) based on unit costs from MassDOT Weighted B
4. Unit pricing for treatment features (e.g., infiltration basin, porous asphalt) based on EPA Nomographs (rounded to nearest dollar).
5. Green roof costing based on literarature review of projects in the Boston Area.

Scenario 1 - Existing Standards (TP 40)

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST PER UNIT	TOTAL COST
1	DEEP SUMP CATCH BASIN	19	EA	$ 5,500	$ 104,500
2	DRAINAGE MANHOLE	11	EA	$ 6,500	$ 71,500
3	OUTLET CONTROL STRUCTURE	4	EA	$ 7,500	$ 30,000
4	12-INCH DRAINAGE PIPE	1031	LF	$ 150	$ 154,650
5	18-INCH DRAINAGE PIPE	910	LF	$ 175	$ 159,250
6	24-INCH DRAINAGE PIPE	332	LF	$ 185	$ 61,420
7	FLARED END SECTION	10	EA	$ 1,500	$ 15,000
8	DRY WELL FOR ROOF TREATMENT	52	EA	$ 2,500	$ 130,000
9	SEDIMENT FOREBAY	660	CF	$ 9	$ 5,940
10	INFILTRATION BASIN	14400	CF	$ 9	$ 129,600
11	EXTENDED DRY DETENTION BASIN	1200	CF	$ 9	$ 10,800
				Estimated Cost:	**$ 872,660**
				15% Contingency:	**$ 130,899**
				Final Estimated Cost with Contingency:	**$ 1,004,000**
				**Round to nearest Thousand*	

Scenario 1 - Potential Revisions to Existing Standards (NOAA Atlas 14)

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST PER UNIT	TOTAL COST
1	DEEP SUMP CATCH BASIN	15	EA	$ 5,500	$ 82,500
2	DRAINAGE MANHOLE	6	EA	$ 6,500	$ 39,000
3	OUTLET CONTROL STRUCTURE	4	EA	$ 7,500	$ 30,000
4	12-INCH DRAINAGE PIPE	1443	LF	$ 150	$ 216,450
5	18-INCH DRAINAGE PIPE	829	LF	$ 175	$ 145,075
6	24-INCH DRAINAGE PIPE	136	LF	$ 185	$ 25,160
7	FLARED END SECTION	10	EA	$ 1,500	$ 15,000
8	DRY WELL FOR ROOF TREATMENT	52	EA	$ 2,500	$ 130,000
9	RAINGARDENS	2300	CF	$ 21	$ 48,300
10	SEDIMENT FOREBAY	558	CF	$ 9	$ 5,022
11	INFILTRATION BASIN	45756	CF	$ 9	$ 411,804
				Estimated Cost:	**$ 1,148,311**
				15% Contingency:	**$ 172,247**
				Final Estimated Cost with Contingency:	**$ 1,321,000**
				**Round to nearest Thousand*	

Scenario 1 - Potential Revisions to Existing Standards (NOAA Atlas 14+)

ITEM #	DESCRIPTION	QUANTITY	UNIT	COST PER UNIT	TOTAL COST
1	DEEP SUMP CATCH BASIN	15	EA	$ 5,500	$ 82,500
2	DRAINAGE MANHOLE	6	EA	$ 6,500	$ 39,000
3	OUTLET CONTROL STRUCTURE	4	EA	$ 7,500	$ 30,000
4	12-INCH DRAINAGE PIPE	1443	LF	$ 150	$ 216,450
5	18-INCH DRAINAGE PIPE	829	LF	$ 175	$ 145,075
6	24-INCH DRAINAGE PIPE	136	LF	$ 185	$ 25,160
7	FLARED END SECTION	10	EA	$ 1,500	$ 15,000
8	DRY WELL FOR ROOF TREATMENT	52	EA	$ 2,500	$ 130,000
9	RAINGARDENS	2300	CF	$ 21	$ 48,300
10	SEDIMENT FOREBAY	750	CF	$ 9	$ 6,750
11	INFILTRATION BASIN	61500	CF	$ 9	$ 553,500
				Estimated Cost:	**$ 1,291,735**
				15% Contingency:	**$ 193,760**
				Final Estimated Cost with Contingency:	**$ 1,485,000**
				**Round to nearest Thousand*	

Scenario 2 - Existing Standards (TP 40)					
ITEM #	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST PER UNIT**	**TOTAL COST**
1	DEEP SUMP CATCH BASIN	7	EA	$ 5,500	$ 38,500
2	OUTLET CONTROL STRUCTURE	5	EA	$ 7,500	$ 37,500
3	TREEBOX FILTER	3	EA	$ 12,000	$ 36,000
4	12-INCH DRAINAGE PIPE	210	LF	$ 150	$ 31,500
5	6-INCH DRAINAGE PIPE	20	LF	$ 90	$ 1,800
6	FLARED END SECTION	9	EA	$ 1,500	$ 13,500
7	POROUS PAVEMENT	6722	SF	$ 11	$ 73,942
8	WATER QUALITY SWALE	950	SF	$ 10	$ 9,500
9	SEDIMENT FOREBAY	300	CF	$ 12	$ 3,600
10	INFILTRATION BASIN	1275	CF	$ 13	$ 16,575
				Estimated Cost:	**$ 262,417**
				15% Contingency:	**$ 39,363**
				Final Estimated Cost with Contingency:	**$ 302,000**
				**Round to nearest Thousand*	

Scenario 2 - Potential Revisions to Existing Standards (NOAA Atlas 14)					
ITEM #	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST PER UNIT**	**TOTAL COST**
1	DEEP SUMP CATCH BASIN	7	EA	$ 5,500	$ 38,500
2	OUTLET CONTROL STRUCTURE	5	EA	$ 7,500	$ 37,500
3	TREEBOX FILTER	3	EA	$ 12,000	$ 36,000
4	12-INCH DRAINAGE PIPE	210	LF	$ 150	$ 31,500
5	6-INCH DRAINAGE PIPE	20	LF	$ 90	$ 1,800
6	FLARED END SECTION	9	EA	$ 1,500	$ 13,500
7	POROUS PAVEMENT	6722	SF	$ 11	$ 73,942
8	WATER QUALITY SWALE	950	SF	$ 10	$ 9,500
9	SEDIMENT FOREBAY	500	CF	$ 12	$ 6,000
10	INFILTRATION BASIN	1515	CF	$ 13	$ 19,695
				Estimated Cost:	**$ 267,937**
				15% Contingency:	**$ 40,191**
				Final Estimated Cost with Contingency:	**$ 308,000**
				**Round to nearest Thousand*	

Scenario 2 - Potential Revisions to Existing Standards (NOAA Atlas 14+)					
ITEM #	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST PER UNIT**	**TOTAL COST**
1	DEEP SUMP CATCH BASIN	7	EA	$ 5,500	$ 38,500
2	OUTLET CONTROL STRUCTURE	5	EA	$ 7,500	$ 37,500
3	TREEBOX FILTER	3	EA	$ 12,000	$ 36,000
4	12-INCH DRAINAGE PIPE	210	LF	$ 150	$ 31,500
5	6-INCH DRAINAGE PIPE	20	LF	$ 90	$ 1,800
6	FLARED END SECTION	9	EA	$ 1,500	$ 13,500
7	POROUS PAVEMENT	6722	SF	$ 11	$ 73,942
8	WATER QUALITY SWALE	950	SF	$ 10	$ 9,500
9	SEDIMENT FOREBAY	500	CF	$ 12	$ 6,000
10	INFILTRATION BASIN	1515	CF	$ 13	$ 19,695
				Estimated Cost:	**$ 267,937**
				15% Contingency:	**$ 40,191**
				Final Estimated Cost with Contingency:	**$ 308,000**
				**Round to nearest Thousand*	

Scenario 3 - Existing Standards (TP 40)					
ITEM #	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST PER UNIT**	**TOTAL COST**
1	DRAINAGE MANHOLE	2	EA	$ 6,500	$ 13,000
2	DEEP SUMP CATCH BASIN	2	EA	$ 5,500	$ 11,000
3	OUTLET CONTROL STRUCTURE	3	EA	$ 7,500	$ 22,500
4	TREEBOX FILTER	1	EA	$ 12,000	$ 12,000
5	12-INCH DRAINAGE PIPE	280	LF	$ 150	$ 42,000
6	18-INCH DRAINAGE PIPE	45	LF	$ 175	$ 7,875
7	FLARED END SECTION	3	EA	$ 1,500	$ 4,500
8	WATER QUALITY SWALE	650	SF	$ 10	$ 6,500
9	SEDIMENT FOREBAY	186	CF	$ 3	$ 558
10	INFILTRATION BASIN	1,300	CF	$ 13	$ 16,900
11	RAINGARDEN	1,275	CF	$ 31	$ 39,525
12	GREEN ROOF	0	SF	$ 15	$ -
13	LANDSCAPING (SHRUBS, WILDFLOWER MIX)	8,540	SF	$ 8	$ 68,320
				Estimated Cost:	**$ 244,678**
				15% Contingency:	**$ 36,702**
				Final Estimated Cost with Contingency:	**$ 281,000**
				**Round to nearest Thousand*	

Scenario 3 - Potential Revisions to Existing Standards (NOAA Atlas 14)					
ITEM #	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST PER UNIT**	**TOTAL COST**
1	DRAINAGE MANHOLE	2	EA	$ 6,500	$ 13,000
2	DEEP SUMP CATCH BASIN	2	EA	$ 5,500	$ 11,000
3	OUTLET CONTROL STRUCTURE	3	EA	$ 7,500	$ 22,500
4	TREEBOX FILTER	1	EA	$ 12,000	$ 12,000
5	12-INCH DRAINAGE PIPE	280	LF	$ 150	$ 42,000
6	18-INCH DRAINAGE PIPE	45	LF	$ 175	$ 7,875
7	FLARED END SECTION	3	EA	$ 1,500	$ 4,500
8	WATER QUALITY SWALE	650	SF	$ 10	$ 6,500
9	SEDIMENT FOREBAY	186	CF	$ 3	$ 558
10	INFILTRATION BASIN	4,000	CF	$ 13	$ 52,000
11	RAINGARDEN	1,275	CF	$ 31	$ 39,525
12	GREEN ROOF	0	SF	$ 15	$ -
13	LANDSCAPING (SHRUBS, WILDFLOWER MIX)	8,540	SF	$ 8	$ 68,320
				Estimated Cost:	**$ 279,778**
				15% Contingency:	**$ 41,967**
				Final Estimated Cost with Contingency:	**$ 322,000**
				**Round to nearest Thousand*	

Scenario 3 - Potential Revisions to Existing Standards (NOAA Atlas 14+)					
ITEM #	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST PER UNIT**	**TOTAL COST**
1	DRAINAGE MANHOLE	2	EA	$ 6,500	$ 13,000
2	DEEP SUMP CATCH BASIN	2	EA	$ 5,500	$ 11,000
3	OUTLET CONTROL STRUCTURE	3	EA	$ 7,500	$ 22,500
4	TREEBOX FILTER	1	EA	$ 12,000	$ 12,000
5	12-INCH DRAINAGE PIPE	280	LF	$ 150	$ 42,000
6	18-INCH DRAINAGE PIPE	45	LF	$ 175	$ 7,875
7	FLARED END SECTION	3	EA	$ 1,500	$ 4,500
8	WATER QUALITY SWALE	650	SF	$ 10	$ 6,500
9	SEDIMENT FOREBAY	186	CF	$ 3	$ 558
10	INFILTRATION BASIN	4,000	CF	$ 13	$ 52,000
11	RAINGARDEN	1,275	CF	$ 31	$ 39,525
12	GREEN ROOF	10,000	SF	$ 15	$ 150,000
13	LANDSCAPING (SHRUBS, WILDFLOWER MIX)	8,540	SF	$ 8	$ 68,320
				Estimated Cost:	**$ 429,778**
				15% Contingency:	**$ 64,467**
				Final Estimated Cost with Contingency:	**$ 494,000**
				**Round to nearest Thousand*	

Appendix E

Site Runoff and Outflow Results

Appendix E. Site Runoff and Outflow Results

Notes:
1. Results obtained from raw SSA model output (Appendix C).

Scenario 1							
Handbook Evaluation Type:		**Existing Standards**		**Potential Revisions to Existing Standards**			
Return Period:		**2-year**	**100-year**	**2-year**		**100-year**	
Method:		TP40	TP40	NOAA Atlas 14	NOAA Atlas 14+	NOAA Atlas 14	NOAA Atlas 14+
Precip. Depth (in):		3.1	6.5	3.2	3.5	7.9	9.7
Total Rainfall (cf)		451,132.8	945,923.6	465,685.4	509,343.5	1,149,660.9	1,411,609.0
Existing Conditions	Max Runoff (cfs)	17.1	68.3	17.0	20.6	84.0	112.9
	Total Runoff (cf)	140,054.8	522,429.9	150,423.7	178,781.0	695,372.7	937,910.1
	Peak Outflow (cfs)	12.6	64.1	12.6	15.2	83.8	112.9
	Total Outflow (cf)	104,229.5	480,981.7	111,934.0	137,093.9	653,134.6	895,880.7
Proposed Conditions	Max Runoff (cfs)	17.7	69.5	18.0	21.7	86.7	116.4
	Total Runoff (cf)	162,454.5	554,177.5	173,059.9	202,528.3	728,827.0	973,729.0
	Peak Outflow (cfs)	10.1	59.3	6.6	8.5	72.7	110.3
	Total Outflow (cf)	94,867.2	474,675.3	72,640.8	92,000.9	596,783.4	837,907.8
% Peak Runoff Change		3.9%	1.8%	5.9%	5.4%	3.1%	3.0%
% Peak Outflow Change		-20.0%	-7.4%	-47.5%	-43.8%	-13.3%	-2.3%
Prop. Max. Outflow < Ex.?		**YES**	**YES**	**YES**	**YES**	**YES**	**YES**

Scenario 2							
Handbook Evaluation Type:		**Existing Standards**		**Potential Revisions to Existing Standards**			
Return Period:		**2-year**	**100-year**	**2-year**		**100-year**	
Method:		TP40	TP40	NOAA Atlas 14	NOAA Atlas 14+	NOAA Atlas 14	NOAA Atlas 14+
Precip. Depth (in):		3.1	6.5	3.2	3.5	7.9	9.7
Total Rainfall (cf)		25,156.0	52,746.4	25,967.5	28,401.9	64,107.2	78,713.9
Existing Conditions	Max Runoff (cfs)	3.5	9.8	4.5	5.1	15.4	19.9
	Total Runoff (cf)	12,975.3	36,455.0	13,594.4	15,429.7	46,312.9	60,224.0
	Peak Outflow (cfs)	3.5	9.8	4.5	5.1	15.3	19.8
	Total Outflow (cf)	12,451.1	35,893.1	13,156.1	14,981.4	45,854.4	59,762.4
Proposed Conditions	Max Runoff (cfs)	3.6	9.9	4.6	5.3	15.3	19.7
	Total Runoff (cf)	13,551.8	37,605.8	14,199.8	16,085.1	47,581.9	61,676.4
	Peak Outflow (cfs)	3.3	9.8	3.7	4.6	14.6	18.8
	Total Outflow (cf)	9,928.4	33,672.1	10,290.3	12,025.7	43,296.3	57,334.1
% Peak Runoff Change		2.9%	0.2%	2.9%	2.5%	-0.6%	-1.1%
% Peak Outflow Change		-4.6%	-0.2%	-16.2%	-10.1%	-4.7%	-4.8%
Prop. Max. Outflow < Ex.?		**YES**	**YES**	**YES**	**YES**	**YES**	**YES**

Scenario 3							
Handbook Evaluation Type:		**Existing Standards**		**Potential Revisions to Existing Standards**			
Return Period:		**2-year**	**100-year**	**2-year**		**100-year**	
Method:		TP40	TP40	NOAA Atlas 14	NOAA Atlas 14+	NOAA Atlas 14	NOAA Atlas 14+
Precip. Depth (in):		3.1	6.5	3.2	3.5	7.9	9.7
Total Rainfall (cf)		18,588.1	38,975.1	19,187.7	20,986.6	47,369.7	58,162.8
Existing Conditions	Max Runoff (cfs)	2.2	5.0	2.2	2.3	5.7	7.1
	Total Runoff (cf)	14,203.9	33,572.5	14,811.8	16,423.7	41,505.4	52,315.8
	Peak Outflow (cfs)	2.2	5.0	2.1	2.3	5.7	7.1
	Total Outflow (cf)	14,203.9	33,572.5	14,811.8	16,423.7	41,505.4	52,315.8
Proposed Conditions	Max Runoff (cfs)	2.0	4.7	1.9	2.1	5.8	7.4
	Total Runoff (cf)	13,806.5	32,737.4	13,330.0	14,868.8	39,198.9	49,829.7
	Peak Outflow (cfs)	2.0	4.6	1.5	1.8	5.5	7.1
	Total Outflow (cf)	11,081.0	29,973.5	10,021.1	11,448.5	35,437.2	45,928.5
% Peak Runoff Change		-9.1%	-5.4%	-13.2%	-8.2%	2.8%	5.2%
% Peak Outflow Change		-10.6%	-8.0%	-30.3%	-23.2%	-3.0%	0.0%
Prop. Max. Outflow < Ex.?		**YES**	**YES**	**YES**	**YES**	**YES**	**NO**