

Stormwater Report

For:

**49 Walnut Street
Wellesley, MA**

**Prepared For:
49 Walnut Street
Wellesley, MA**

Prepared By:



**Hardy + Man Design Group, PC
1285 Washington Street
Weymouth, MA 02189**

June 23, 2025



Existing Site Conditions

The existing site (limit of work area) is a 57,879 SF parcel of land located at 49 Walnut Street in Wellesley, Massachusetts. The parcel currently contains a total of 4 office buildings, a bituminous concrete paved driveway, and lawn area.

The topography of the site slopes from the northeast edge of the lot at elevation 54' towards the Charles River to elevation 43' on the northwest corner of the lot.

Based on the Geotechnical Report completed on June 4, 2024, the soil is classified as Hydrologic Group A, Loamy Sand, which has an infiltration rate of 2.41 inches/hour. Ground water is assumed at approximate elevation 43.0.

Methodology

This drainage analysis will utilize TR-55 drainage guidelines which is an industry standard for urban hydrology small watersheds. The accompanying calculations analyze the increase in runoff from the proposed site development under a 24-hour 8.12-inch rain event, which is approximate to a 100-year storm event. Calculations were also performed for 25-year, 10-year, 2-year storm events. The area analyzed under this report is 57,879 SF which consists of the limit of work area containing the roof areas, parking areas, driveways, walkways, and pervious grass area.

Proposed Conditions

The applicant proposes the construction of a single building of multi-family residential development with ground level parking under the building, and several visitor surface parking spots.

The proposed impervious coverage on the site will decrease from 48,503 SF to 46,204 SF, a net decrease of 2,299 SF. Runoff produced by the proposed roof area will be collected into the proposed stone rip-rap swale. Any runoff that does not exfiltrate within the swale shall be discharged into the Charles River on a controlled manner. All remaining open space within the limit of work area will naturally be surface flowed into the Charles River and wetland area. All proposed parking areas, driveways, and walkways shall consist of porous pavement to provide adequate retention for the remainder runoff of the site.

The stone rip-rap swale and porous pavement areas will provide a total of 10,942 cubic feet of storage and were sized and designed to mitigate runoff from the new improvement. Both runoff volume and peak flow rate will reduce nearly 50% during the 2-year, 10-year, 50-year, and 100-year rainfall events under the proposed conditions.

The following table depicts the peak runoff rates and volumes for the existing and proposed conditions for each storm event.

Peak Discharge Rates (cfs)

	2-year	10-year	25-year	100-year
Existing Conditions	4.97	8.61	10.87	14.08
Proposed Conditions	2.81	4.55	5.76	7.57

Runoff Volume (af)

	2-year	10-year	25-year	100-year
Existing Conditions	0.248	0.445	0.571	0.766
Proposed Conditions	0.061	0.134	0.187	0.309

Erosion and Sedimentation Control Measures

Erosion control measures to be employed include a staked "Filter Sock" erosion control barrier as depicted in the site plan. The barrier shall be inspected daily and be kept in place until such time that disturbed areas are re-vegetated or paved and are no longer a potential source of siltation. Additional erosion control measures include stone lined construction entrance.

Dewatering

The construction of this project will require dewatering using a flocculation tank for sedimentation and the discharge will be filtered prior to discharging into the nearby water body.

DEP Stormwater Management Standards

This project is considered a re-development project that the design will meet the DEP Stormwater Management Standards to the maximum extent. This project will provide BMP's to mitigate and reduce runoff from the proposed additional impervious sit coverage, will improve stormwater quality and provide maximum on-site infiltration for recharging groundwater and to reduce surface runoff impact to down-gradient communities.

Mitigation

The proposed project work is within FEMA Hazard Flood Area "Zone AE" with 100-year flood stage at elevation 48, NGVD 1988 datum. The proposed improvement will utilize porous pavement to fully retain pavement and hardscape runoff. The runoff from the new building will be collected by roof drain and discharge directly into the stone rip rap

water quality swale. The BMPs will greatly reduce both peak rate and volume of runoff from the site as well as improve water quality before discharging directly into the Charles River water body.

Conclusion

The stormwater management system will reduce the stormwater runoff volume and peak flowrate by providing storage within the proposed stone rip-rap swale as well as the porous pavement areas. These systems have been sized and designed to capture the stormwater from the building, hardscape and driveway. Existing peak flowrates and runoff volumes are reduced nearly 50% for the 2-year, 10-year, 50-year, and 100-year rainfall events under the proposed condition. The surface runoff quality will also be enhanced with the proposed BMPs by removal of TSS and TP.

During construction, the proposed erosion control measures protect sedimentation from construction activities from migrating from the site onto the wetland resource area, public street and abutting properties.

The proposed stormwater management and erosion control design of the proposed development will meet the Town of Wellesley Stormwater Ordinance.

Infiltration Structure Sizing Calculations

Volume of Infiltration Systems

Infiltration Systems:

Pond 1P – Infiltration Swale: Total Available Storage = 1,932 CF (HydroCAD Report Page 20)

Pond 2P – Porous Pavement: Total Available Storage = 7,919 CF (HydroCAD Report Page 25)

Pond 3P – Porous Pavement: Total Available Storage = 1,091 CF (HydroCAD Report Page 30)

Total Storage = 10,942 CF

Massachusetts Stormwater Standards – Required Recharge Volume

$R_v = F \times \text{Impervious Area}$

Where:

R_v = Required Recharged Volume

F = Target Depth Factor, for Type A Soils = 0.6 in/hr

Proposed Impervious Area = 46,204 SF

$R_v = 0.6 \times 1 \text{ ft}/12 \text{ inches} \times 46,204 \text{ sf} = \underline{2,310.2 \text{ CF}}$

2,310.2 CF << 10,942 CF Meets Standard

Massachusetts Stormwater Standards – Water Quality Volume

$W_v = f \times \text{Impervious Area}$

Where:

W_v = Required Recharged Volume

f = 1 Inch of Runoff

$W_v = 1 \text{ inch} \times 1 \text{ ft}/12 \text{ inches} \times 46,204 \text{ SF} = \underline{3,850.3 \text{ CF}}$

3,850.3 CF << 10,942 CF Meets Standard

Time to Infiltrate – Static Method

Time to Infiltrate = $R_v / (K \times \text{Bottom of Stone Area} \times n)$

Where:

R_v = Required Recharged Volume

K = Rawls Rate Hydrologic Soil Group A, Loamy Sand 2.41 inches/hour

n = stone voids = 0.40

Time to Infiltrate for Pond 1P = $(2,310.2 \text{ CF}) / [(2.41 \text{ in/hr}) \times (1 \text{ ft}/12 \text{ in}) \times (2,910 \text{ SF}) \times (0.40)] =$
9.88 hours

Time to Infiltrate for Pond 2P = $(2,310.2 \text{ CF}) / [(2.41 \text{ in/hr}) \times (1 \text{ ft}/12 \text{ in}) \times (13,199 \text{ SF}) \times (0.40)] =$
2.18 hours

Time to Infiltrate for Pond 3P = $(2,310.2 \text{ CF}) / [(2.41 \text{ in/hr}) \times (1 \text{ ft}/12 \text{ in}) \times (2,332 \text{ SF}) \times (0.40)] =$
12.33 hours

12.33 hours < 72 hours : Meets Standard

TSS Removal Calculation

TSS Removal Provided from Porous Pavement = 80%

P-Loading Calc:

Total Proposed Impervious = 46,204 SF

46,204 SF x 1/12 inches = 3,850.3 CF Storage Required

HSG = A

BMP = Infiltration

Infiltration Rate = 2.41 in/hr

Runoff Depth = Volume of Storage/ New Impervious Surface Area Runoff Depth =

$(10,942 \text{ CF}) / (46,204 \text{ SF}) = 0.23682 \text{ ft} = 2.84''$ of Runoff

(Per table 3-14 – MS4 General Permit)

TP Removal = 100%

Site Area = 73,930 S.F. = 1.70 acres

1.70 acres x 1.96 (lbs/ac)/yr = 3.332 lbs/yr

3.332 lbs/yr P Load Reduction

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: 49 Walnut Street, Wellesley, MA

TSS Removal Calculation Worksheet	B	C	D	E	
	BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	
	Porous Pavement	0.80	1.00	0.80	
		0.00	0.20	0.00	
		0.00	0.20	0.00	
		0.00	0.20	0.00	
		0.00	0.20	0.00	

Total TSS Removal = 80%

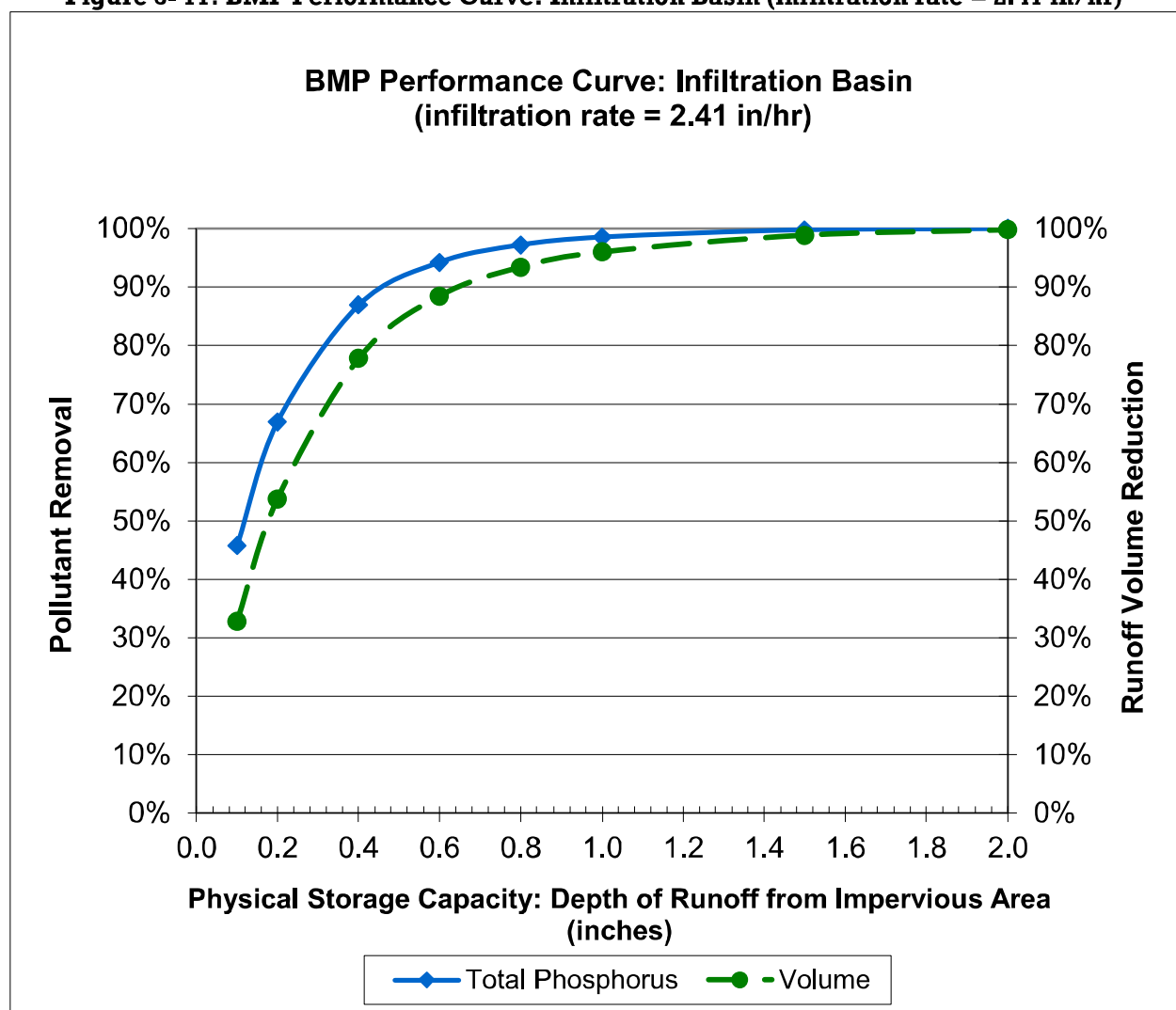
Project: 49 Walnut Street, Wellesley
Prepared By: JSG
Date: 6/23/2025

*Equals remaining load from p
which enters the BMP

Non-automated TSS Calculation Sheet
must be used if Proprietary BMP Proposed
1. From MassDEP Stormwater Handbook Vol. 1

Table 3- 14: Infiltration Basin (2.41 in/hr) BMP Performance Table

Infiltration Basin (2.41 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	32.8%	53.8%	77.8%	88.4%	93.4%	96.0%	98.8%	99.8%
Cumulative Phosphorus Load Reduction	46%	67%	87%	94%	97%	98%	100%	100%

Figure 3- 11: BMP Performance Curve: Infiltration Basin (infiltration rate = 2.41 in/hr)

Stormwater Operation and Maintenance Plan

49 Walnut Street, Wellesley, MA
June 23, 2025

The following Operation and Maintenance Plan is intended as a guide for maintaining the structural and non-structural BMP's post-construction. To ensure the proposed stormwater management system continues to function as designed and to prevent any adverse impacts down-gradient, proper maintenance is required.

Operation and Maintenance Plan During Construction

All erosion and sediment control measures must be in place prior to any disturbance.

Perimeter Silt Protection: A "Silt Sock" (or approved equal) perimeter fence must be installed around the perimeter of work limits and material stockpiles. Installation shall be in accordance with manufacturer specifications and attached details. Silt fence shall be inspected daily. Trapped sediments shall be removed and repaired shall be made promptly.

Operation and Maintenance Activities

Porous Pavement: Porous pavement shall be inspected once every 6 months for clogging. Uneven pavers shall be removed and reset. If ponding occurs on the porous pavement, the pavers shall be jet cleaned. Fine materials shall be removed from the pavers joints and replaced with fresh pea stones. Porous pavers shall be vacuum cleaned if sediment build up is present.

Stone Rip-Rap Swale: The stone rip rap swale shall be regularly maintained. Inspection and trash removal should be performed monthly. Dead vegetation shall be removed and replanted annually in Fall or Spring. Plant shall be inspected and pruned annually in Spring or Fall. The rip rap stone shall be inspected monthly and debris be removed.

Snow and Ice: During the winter snow season, snow shall be mechanically removed. Snow shall be stockpiled at the landscape areas on-site where it can naturally melt. Snow melt runoff can then be slowly infiltrated into the ground or treated by the stormwater management system. If excessive snow encountered, the excessive snow shall be removed by a private contractor for off-site disposal. At no time snow shall be pushed off site to the public right of way, abutting lands and the wetland resource area (including the river and water body).

LONG TERM MATERIAL HANDLING AND WASTE MANAGEMENT

Housekeeping Measures:

- 1.The Responsible Staff: Owner or Property Management Company representative will inspect daily for proper use, storage, and cleanup of material used on the job site.
- 2.Store only enough material on-site required for that job to satisfy current building maintenance needs.
- 3.Store required materials in tightly lidded containers under cover.
- 4.Store materials in original containers with clearly legible labels.
- 5.Store materials separately from each other.
- 6.Do not mix materials unless specifically in accordance with manufacturers' recommendations.
- 6.Use all products from a container before disposing of the container.
- 7.Follow manufacturers' instructions for handling, storage, and disposing of all materials.
8. Pet waste shall be picked up and properly disposed of in an enclosed container.

Hazardous Materials:

- 1.Keep products in their original containers.
- 2.Original container labels should be clearly visible.
- 3.Follow all state, local, and Federal regulations regarding the handling, use, storage, and disposal of hazardous material.

Fertilizers:

- 1.Fertilizers will be used at the application rates called for in the specifications for the project. Once applied, fertilizer will be worked into the soil to minimize wash off from irrigation and stormwater.
- 3.Fertilizer will be stored under cover.
- 4.The contents of partially used fertilizer bags will be transferred to resealable, watertight containers clearly labeled with their contents.

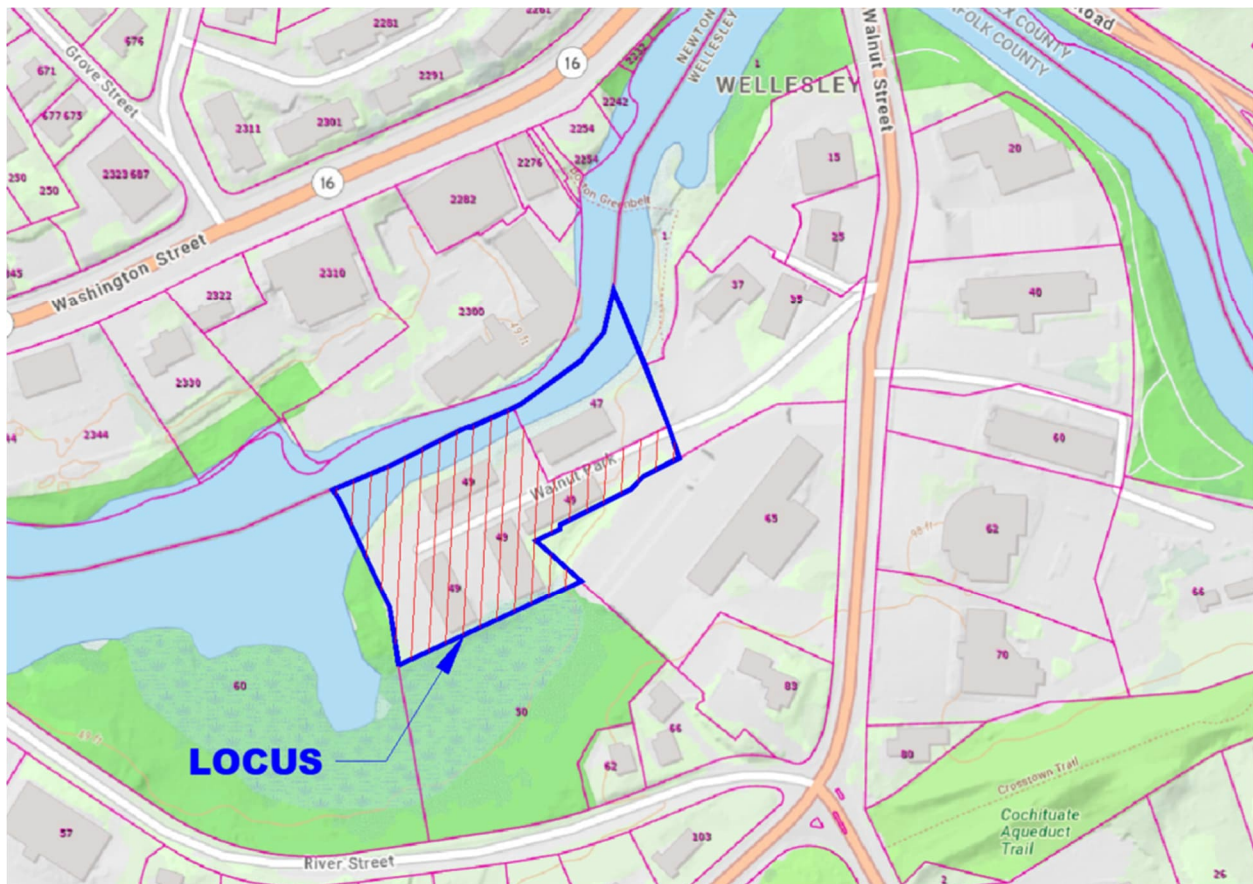
Paints:

- 1.All paint containers will be tightly sealed when not in use.
- 2.Remove excess paint in original labeled containers from the job site.
- 3.Paint will not be disposed of on-site. Remove excess paint material from the site and legally dispose of.
- 4.Paint shall not be disposed of in the storm drain system.

Washing of Applicators and Containers Used for Paint, Concrete, or Other Materials:

1. An effective means of eliminating the discharge of water from the washout and clean-out of stucco, paint, concrete, form release oils, curing compounds, and other construction materials.
2. All wash water must be directed into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation.
3. Washout and clean-out wastes should be handled as follows:
 - Do not dump liquid wastes into storm sewers
 - Dispose of liquid wastes in accordance with applicable requirements
 - Remove and dispose of hardened concrete waste consistent with the handling of other construction wastes.
4. Locate any washout or clean-out activities as far away as possible from surface waters and stormwater inlets or conveyances, and to the extent practicable, designate areas to be used for these activities.

LOCUS Map



Post Construction Operation and Maintenance Log
49 Walnut Street, Wellesley, MA 02481

Porous Pavement Inspection and Cleaning

January-February

☐

By: _____

April-May

☐

By: _____

August-September

☐

By: _____

November-December

☐

By: _____

Comments: _____

Stone Rip-Rap Swale

January-February

☐

By: _____

April-May

☐

By: _____

August-September

☐

By: _____

November-December

☐

By: _____

Comments: _____

Snow and Ice Removal
(And after all snow storms)

January-February

☐

By: _____

Flush Out: Yes No

April-May

☐

By: _____

Flush Out: Yes No

August-September

☐

By: _____

Flush Out: Yes No

November-December

☐

By: _____

Flush Out: Yes No

Comments: _____

Note: O & M Log and maintenance record to be kept in management office and retained for minimum 2 years and shall be made available for City inspection when necessary.

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

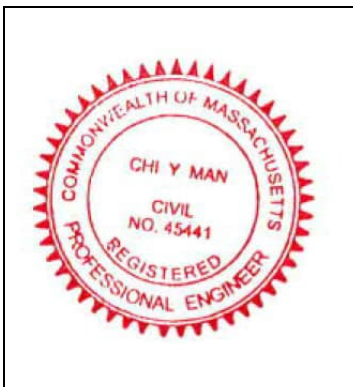
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



A handwritten signature in black ink, appearing to read "Chi Y Man".

06/23/2025

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- ☐ New development
- ☒ Redevelopment
- ☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☐ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☒ Reduced Impervious Area (Redevelopment Only)
- ☒ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
 - ☐ Credit 1
 - ☐ Credit 2
 - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☒ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☒ Other (describe): Porous Pavement

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- ☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- ☒ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- ☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- ☒ Soil Analysis provided.
- ☒ Required Recharge Volume calculation provided.
- ☐ Required Recharge volume reduced through use of the LID site Design Credits.
- ☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - ☒ Static
 - ☐ Simple Dynamic
 - ☐ Dynamic Field¹
- ☒ Runoff from all impervious areas at the site discharging to the infiltration BMP.
- ☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- ☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
 - ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
 - ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- ☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- ☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- ☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- ☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- ☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - ☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - ☐ is within the Zone II or Interim Wellhead Protection Area
 - ☐ is near or to other critical areas
 - ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - ☐ involves runoff from land uses with higher potential pollutant loads.
 - ☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - ☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- ☒ The BMP is sized (and calculations provided) based on:
 - ☒ The ½" or 1" Water Quality Volume or
 - ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- ☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- ☒ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- ☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- ☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- ☐ The NPDES Multi-Sector General Permit does **not** cover the land use.
- ☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- ☐ All exposure has been eliminated.
- ☐ All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- ☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- ☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- ☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- ☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - ☐ Limited Project
 - ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.
- ☒ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- ☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- ☐ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- ☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- ☐ The project is **not** covered by a NPDES Construction General Permit.
- ☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- ☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- ☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - ☒ Name of the stormwater management system owners;
 - ☒ Party responsible for operation and maintenance;
 - ☒ Schedule for implementation of routine and non-routine maintenance tasks;
 - ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
 - ☐ Description and delineation of public safety features;
 - ☒ Estimated operation and maintenance budget; and
 - ☒ Operation and Maintenance Log Form.
- ☐ The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- ☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☒ An Illicit Discharge Compliance Statement is attached;
- ☐ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

Town of Wellesley
Planning Board / Conservation Commission
Illicit Discharge Statement

I, as Owner Representative, certify that:

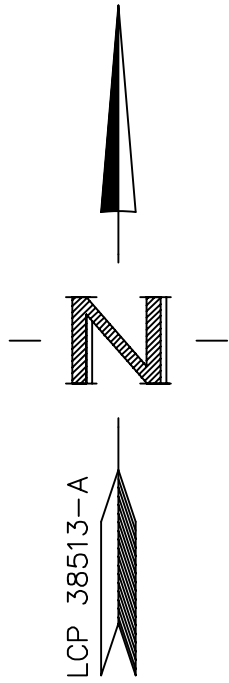
- 1) The existing buildings located at 49 Walnut Street, Wellesley, Massachusetts are to be demolished under the proposed Planning Board filing application. During the building demolition process, any illicit discharge, if exists, will be removed as part of the demolition process.
- 2) The plan accompanied the Planning Board application submittal clearly identifies the following:
 - The location of all on-site systems for conveying wastewater and stormwater.
 - The location of any measures taken to prevent the entry of illicit discharges into the Town of Wellesley storm drain system.
 - There is no connections between the wastewater management and the Town of Wellesley storm drain system.

Signature:



Chi Y. Man, PE
Hardy + Man Design Group, PC





COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
(SEE DOC. No. 425124 AND
AREA - 12,685 S.F.)

WELLES

CHARLES



43.3x

4

44.0

IB9

B4

46.71

13.1

B3

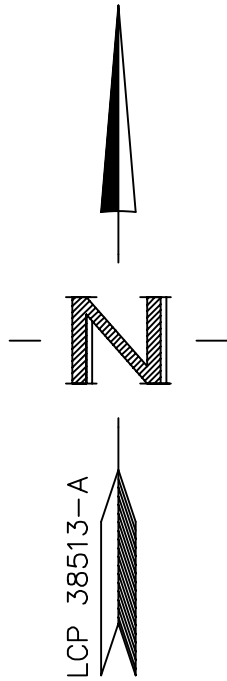
58

III

11

B7C

15



COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMUNITY DEVELOPMENT DEPARTMENT
(SEE DOC. No. 425124 AND
AREA - 12,685 S.F.)

WELLESLEY

BIOSWALE
RETENTION AREA

CHARLES

RIVER

44.0

43.1

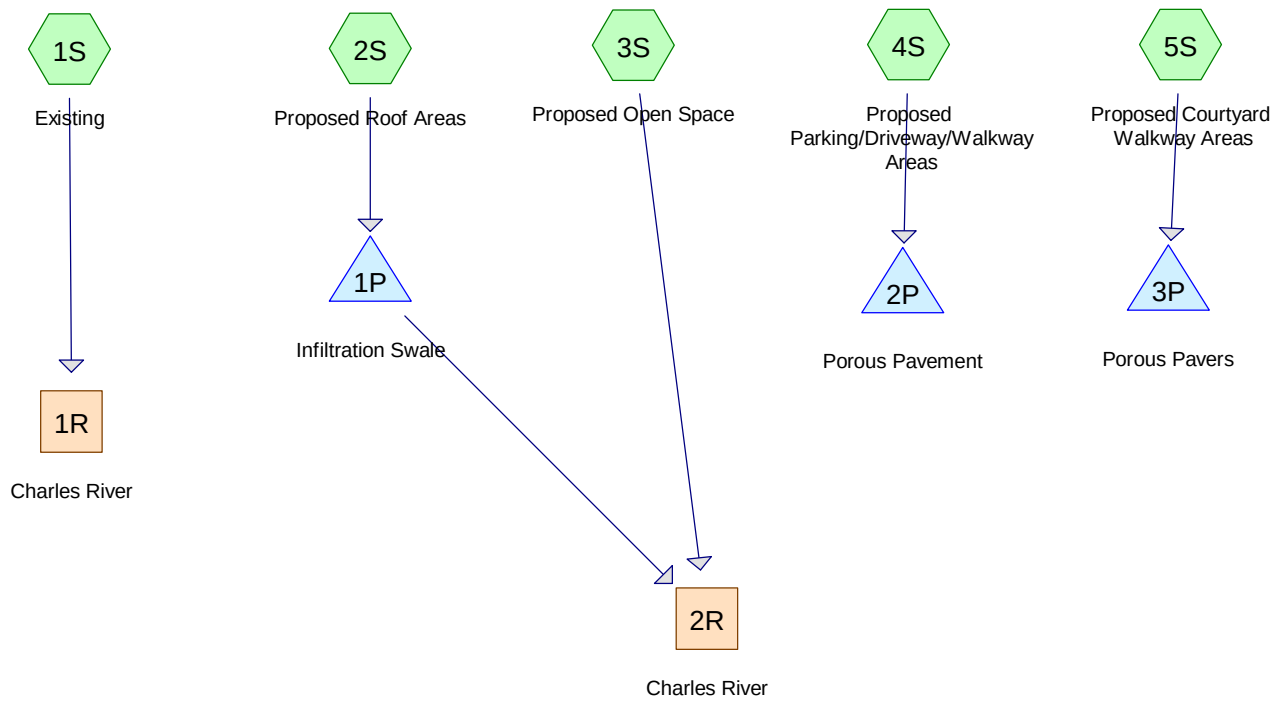
B3

IB9

IB10

B5

Dining Terrace



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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.215	49	50-75% Grass cover, Fair, HSG A (1S)
0.268	39	>75% Grass cover, Good, HSG A (3S)
1.073	98	Paved parking, HSG A (1S, 4S)
1.020	98	Roofs, HSG A (1S, 2S)
0.081	98	Walkway (4S, 5S)
2.657	88	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.576	HSG A	1S, 2S, 3S, 4S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.081	Other	4S, 5S
2.657		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.215	0.000	0.000	0.000	0.000	0.215	50-75% Grass cover, Fair	1S
0.268	0.000	0.000	0.000	0.000	0.268	>75% Grass cover, Good	3S
1.073	0.000	0.000	0.000	0.000	1.073	Paved parking	1S, 4S
1.020	0.000	0.000	0.000	0.000	1.020	Roofs	1S, 2S
0.000	0.000	0.000	0.000	0.081	0.081	Walkway	4S, 5S
2.576	0.000	0.000	0.000	0.081	2.657	TOTAL AREA	

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Type II 24-hr 2-year Rainfall=3.28"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing	Runoff Area=57,879 sf 83.80% Impervious Runoff Depth>2.24" Tc=6.0 min CN=90 Runoff=4.97 cfs 0.248 af
Subcatchment 2S: Proposed Roof Areas	Runoff Area=29,467 sf 100.00% Impervious Runoff Depth>3.04" Tc=6.0 min CN=98 Runoff=3.05 cfs 0.172 af
Subcatchment 3S: Proposed Open Space	Runoff Area=11,675 sf 0.00% Impervious Runoff Depth>0.00" Tc=6.0 min CN=39 Runoff=0.00 cfs 0.000 af
Subcatchment 4S: Proposed	Runoff Area=14,405 sf 100.00% Impervious Runoff Depth>3.04" Tc=6.0 min CN=98 Runoff=1.49 cfs 0.084 af
Subcatchment 5S: Proposed Courtyard	Runoff Area=2,332 sf 100.00% Impervious Runoff Depth>3.04" Tc=6.0 min CN=98 Runoff=0.24 cfs 0.014 af
Reach 1R: Charles River	Inflow=4.97 cfs 0.248 af Outflow=4.97 cfs 0.248 af
Reach 2R: Charles River	Inflow=2.81 cfs 0.061 af Outflow=2.81 cfs 0.061 af
Pond 1P: Infiltration Swale	Peak Elev=46.36' Storage=1,429 cf Inflow=3.05 cfs 0.172 af Discarded=0.15 cfs 0.110 af Primary=2.81 cfs 0.061 af Outflow=2.95 cfs 0.171 af
Pond 2P: Porous Pavement	Peak Elev=45.25' Storage=414 cf Inflow=1.49 cfs 0.084 af Outflow=0.77 cfs 0.084 af
Pond 3P: Porous Pavers	Peak Elev=44.90' Storage=61 cf Inflow=0.24 cfs 0.014 af Outflow=0.13 cfs 0.014 af

Total Runoff Area = 2.657 ac Runoff Volume = 0.517 af Average Runoff Depth = 2.34"
18.19% Pervious = 0.483 ac 81.81% Impervious = 2.174 ac

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Type II 24-hr 2-year Rainfall=3.28"

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Summary for Subcatchment 1S: Existing

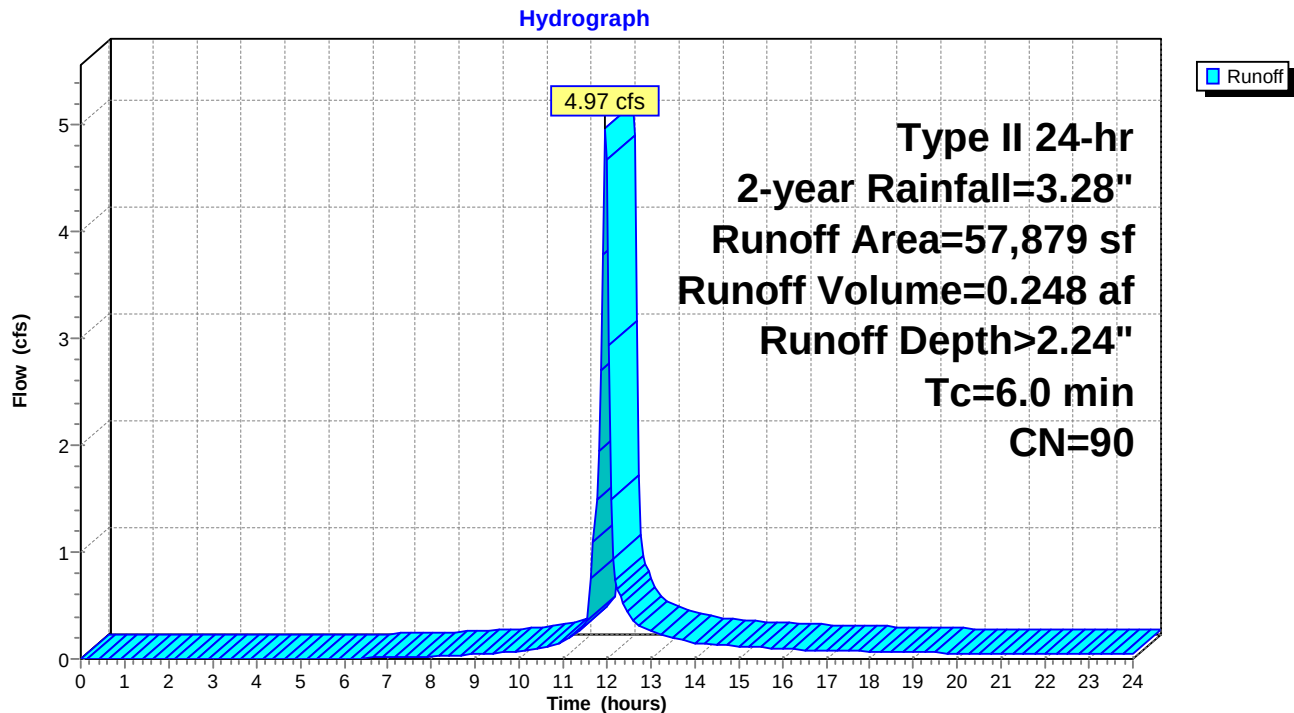
Runoff = 4.97 cfs @ 11.97 hrs, Volume= 0.248 af, Depth> 2.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=3.28"

Area (sf)	CN	Description
14,969	98	Roofs, HSG A
33,534	98	Paved parking, HSG A
9,376	49	50-75% Grass cover, Fair, HSG A
57,879	90	Weighted Average
9,376		16.20% Pervious Area
48,503		83.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: Existing



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Type II 24-hr 2-year Rainfall=3.28"

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Hydrograph for Subcatchment 1S: Existing

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.58	1.60	0.22
0.25	0.01	0.00	0.00	13.50	2.62	1.64	0.20
0.50	0.02	0.00	0.00	13.75	2.66	1.67	0.17
0.75	0.03	0.00	0.00	14.00	2.69	1.70	0.15
1.00	0.03	0.00	0.00	14.25	2.72	1.73	0.14
1.25	0.04	0.00	0.00	14.50	2.75	1.75	0.14
1.50	0.05	0.00	0.00	14.75	2.77	1.78	0.13
1.75	0.06	0.00	0.00	15.00	2.80	1.80	0.12
2.00	0.07	0.00	0.00	15.25	2.82	1.82	0.12
2.25	0.08	0.00	0.00	15.50	2.85	1.84	0.11
2.50	0.09	0.00	0.00	15.75	2.87	1.86	0.10
2.75	0.10	0.00	0.00	16.00	2.89	1.88	0.09
3.00	0.11	0.00	0.00	16.25	2.91	1.90	0.09
3.25	0.12	0.00	0.00	16.50	2.92	1.91	0.09
3.50	0.13	0.00	0.00	16.75	2.94	1.93	0.09
3.75	0.15	0.00	0.00	17.00	2.96	1.95	0.08
4.00	0.16	0.00	0.00	17.25	2.97	1.96	0.08
4.25	0.17	0.00	0.00	17.50	2.99	1.98	0.08
4.50	0.18	0.00	0.00	17.75	3.01	1.99	0.08
4.75	0.19	0.00	0.00	18.00	3.02	2.00	0.07
5.00	0.21	0.00	0.00	18.25	3.04	2.02	0.07
5.25	0.22	0.00	0.00	18.50	3.05	2.03	0.07
5.50	0.23	0.00	0.00	18.75	3.06	2.04	0.07
5.75	0.25	0.00	0.00	19.00	3.08	2.05	0.06
6.00	0.26	0.00	0.00	19.25	3.09	2.07	0.06
6.25	0.28	0.00	0.01	19.50	3.10	2.08	0.06
6.50	0.29	0.00	0.01	19.75	3.11	2.09	0.06
6.75	0.31	0.01	0.01	20.00	3.12	2.10	0.05
7.00	0.32	0.01	0.01	20.25	3.13	2.11	0.05
7.25	0.34	0.01	0.02	20.50	3.14	2.12	0.05
7.50	0.36	0.01	0.02	20.75	3.15	2.13	0.05
7.75	0.38	0.02	0.02	21.00	3.16	2.14	0.05
8.00	0.39	0.02	0.02	21.25	3.17	2.15	0.05
8.25	0.41	0.03	0.03	21.50	3.18	2.15	0.05
8.50	0.43	0.03	0.03	21.75	3.19	2.16	0.05
8.75	0.46	0.04	0.04	22.00	3.20	2.17	0.05
9.00	0.48	0.05	0.05	22.25	3.21	2.18	0.05
9.25	0.51	0.06	0.05	22.50	3.22	2.19	0.05
9.50	0.53	0.07	0.05	22.75	3.23	2.20	0.05
9.75	0.56	0.08	0.06	23.00	3.24	2.21	0.05
10.00	0.59	0.09	0.07	23.25	3.25	2.22	0.05
10.25	0.63	0.11	0.09	23.50	3.26	2.23	0.05
10.50	0.67	0.13	0.11	23.75	3.27	2.23	0.05
10.75	0.72	0.15	0.13	24.00	3.28	2.24	0.05
11.00	0.77	0.18	0.16				
11.25	0.84	0.22	0.22				
11.50	0.93	0.27	0.30				
11.75	1.27	0.51	1.49				
12.00	2.17	1.24	4.67				
12.25	2.32	1.37	0.65				
12.50	2.41	1.45	0.42				
12.75	2.48	1.51	0.31				
13.00	2.53	1.56	0.26				

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Type II 24-hr 2-year Rainfall=3.28"

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Summary for Subcatchment 2S: Proposed Roof Areas

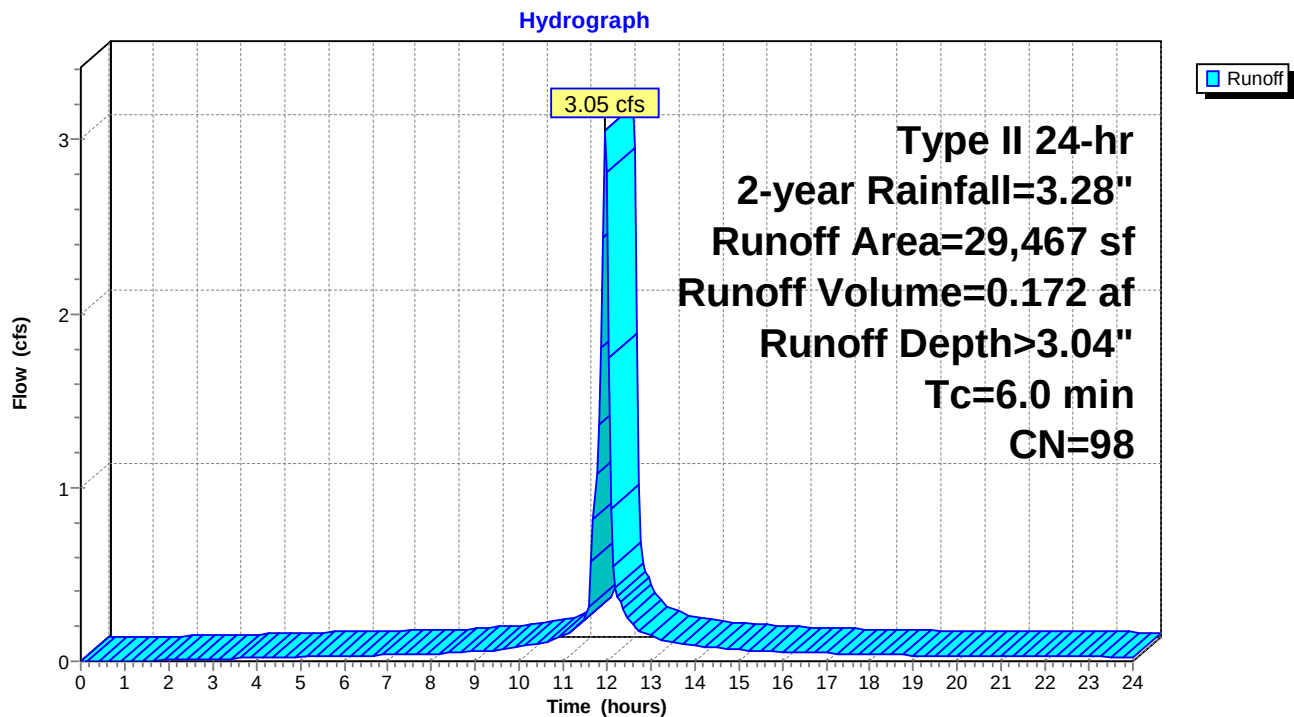
Runoff = 3.05 cfs @ 11.96 hrs, Volume= 0.172 af, Depth> 3.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=3.28"

Area (sf)	CN	Description
29,006	98	Roofs, HSG A
461	98	Roofs, HSG A
29,467	98	Weighted Average
29,467		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: Proposed Roof Areas



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Type II 24-hr 2-year Rainfall=3.28"

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Hydrograph for Subcatchment 2S: Proposed Roof Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.58	2.35	0.13
0.25	0.01	0.00	0.00	13.50	2.62	2.39	0.11
0.50	0.02	0.00	0.00	13.75	2.66	2.43	0.10
0.75	0.03	0.00	0.00	14.00	2.69	2.46	0.09
1.00	0.03	0.00	0.00	14.25	2.72	2.49	0.08
1.25	0.04	0.00	0.00	14.50	2.75	2.52	0.08
1.50	0.05	0.00	0.00	14.75	2.77	2.54	0.07
1.75	0.06	0.00	0.00	15.00	2.80	2.57	0.07
2.00	0.07	0.00	0.01	15.25	2.82	2.59	0.06
2.25	0.08	0.01	0.01	15.50	2.85	2.61	0.06
2.50	0.09	0.01	0.01	15.75	2.87	2.64	0.06
2.75	0.10	0.01	0.01	16.00	2.89	2.66	0.05
3.00	0.11	0.02	0.01	16.25	2.91	2.67	0.05
3.25	0.12	0.02	0.01	16.50	2.92	2.69	0.05
3.50	0.13	0.03	0.02	16.75	2.94	2.71	0.05
3.75	0.15	0.04	0.02	17.00	2.96	2.73	0.05
4.00	0.16	0.04	0.02	17.25	2.97	2.74	0.04
4.25	0.17	0.05	0.02	17.50	2.99	2.76	0.04
4.50	0.18	0.06	0.02	17.75	3.01	2.77	0.04
4.75	0.19	0.07	0.02	18.00	3.02	2.79	0.04
5.00	0.21	0.07	0.02	18.25	3.04	2.80	0.04
5.25	0.22	0.08	0.03	18.50	3.05	2.82	0.04
5.50	0.23	0.09	0.03	18.75	3.06	2.83	0.04
5.75	0.25	0.10	0.03	19.00	3.08	2.84	0.04
6.00	0.26	0.12	0.03	19.25	3.09	2.86	0.03
6.25	0.28	0.13	0.03	19.50	3.10	2.87	0.03
6.50	0.29	0.14	0.03	19.75	3.11	2.88	0.03
6.75	0.31	0.15	0.03	20.00	3.12	2.89	0.03
7.00	0.32	0.17	0.04	20.25	3.13	2.90	0.03
7.25	0.34	0.18	0.04	20.50	3.14	2.91	0.03
7.50	0.36	0.19	0.04	20.75	3.15	2.92	0.03
7.75	0.38	0.21	0.04	21.00	3.16	2.93	0.03
8.00	0.39	0.22	0.04	21.25	3.17	2.94	0.03
8.25	0.41	0.24	0.05	21.50	3.18	2.95	0.03
8.50	0.43	0.26	0.05	21.75	3.19	2.96	0.03
8.75	0.46	0.28	0.06	22.00	3.20	2.97	0.03
9.00	0.48	0.30	0.06	22.25	3.21	2.98	0.03
9.25	0.51	0.33	0.06	22.50	3.22	2.99	0.03
9.50	0.53	0.35	0.07	22.75	3.23	3.00	0.03
9.75	0.56	0.38	0.07	23.00	3.24	3.01	0.03
10.00	0.59	0.40	0.08	23.25	3.25	3.02	0.03
10.25	0.63	0.44	0.09	23.50	3.26	3.03	0.03
10.50	0.67	0.47	0.10	23.75	3.27	3.04	0.02
10.75	0.72	0.52	0.12	24.00	3.28	3.05	0.02
11.00	0.77	0.57	0.15				
11.25	0.84	0.64	0.19				
11.50	0.93	0.72	0.24				
11.75	1.27	1.05	1.07				
12.00	2.17	1.95	2.82				
12.25	2.32	2.09	0.37				
12.50	2.41	2.18	0.24				
12.75	2.48	2.25	0.18				
13.00	2.53	2.30	0.15				

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Type II 24-hr 2-year Rainfall=3.28"

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Summary for Subcatchment 3S: Proposed Open Space

[73] Warning: Peak may fall outside time span

Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth> 0.00"

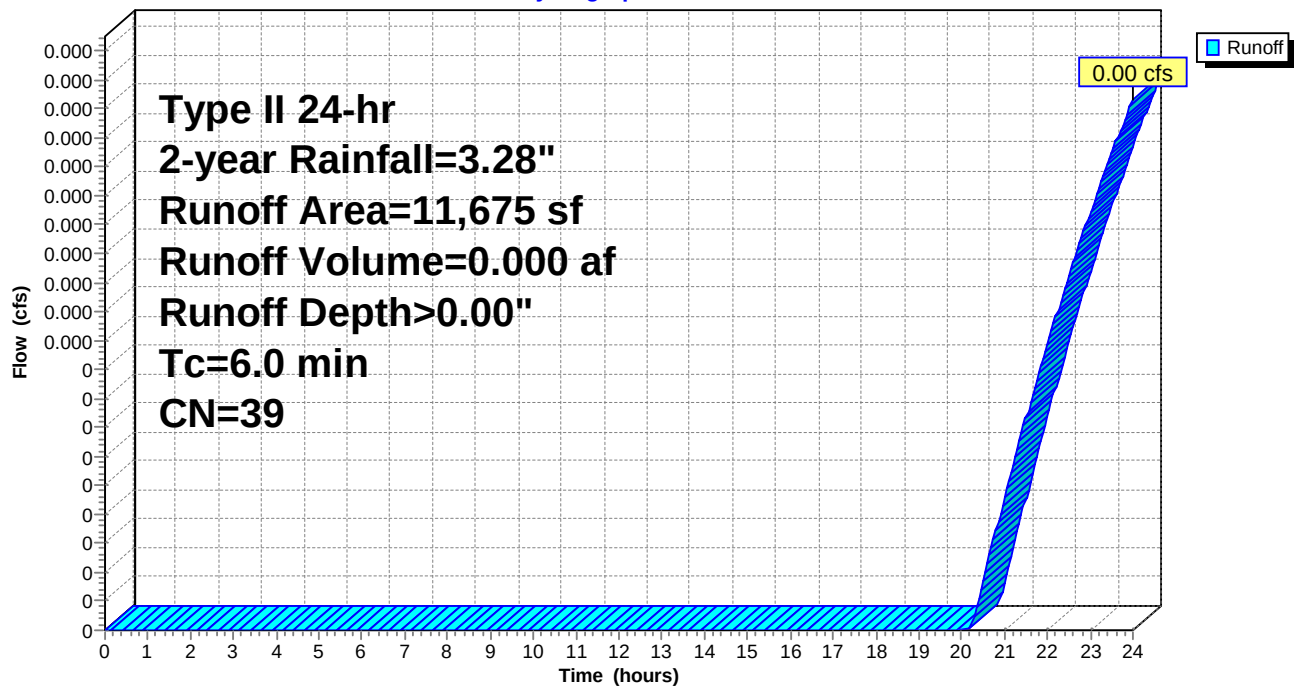
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=3.28"

Area (sf)	CN	Description
11,675	39	>75% Grass cover, Good, HSG A
11,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Grass

Subcatchment 3S: Proposed Open Space

Hydrograph



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Type II 24-hr 2-year Rainfall=3.28"

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Hydrograph for Subcatchment 3S: Proposed Open Space

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.58	0.00	0.00
0.25	0.01	0.00	0.00	13.50	2.62	0.00	0.00
0.50	0.02	0.00	0.00	13.75	2.66	0.00	0.00
0.75	0.03	0.00	0.00	14.00	2.69	0.00	0.00
1.00	0.03	0.00	0.00	14.25	2.72	0.00	0.00
1.25	0.04	0.00	0.00	14.50	2.75	0.00	0.00
1.50	0.05	0.00	0.00	14.75	2.77	0.00	0.00
1.75	0.06	0.00	0.00	15.00	2.80	0.00	0.00
2.00	0.07	0.00	0.00	15.25	2.82	0.00	0.00
2.25	0.08	0.00	0.00	15.50	2.85	0.00	0.00
2.50	0.09	0.00	0.00	15.75	2.87	0.00	0.00
2.75	0.10	0.00	0.00	16.00	2.89	0.00	0.00
3.00	0.11	0.00	0.00	16.25	2.91	0.00	0.00
3.25	0.12	0.00	0.00	16.50	2.92	0.00	0.00
3.50	0.13	0.00	0.00	16.75	2.94	0.00	0.00
3.75	0.15	0.00	0.00	17.00	2.96	0.00	0.00
4.00	0.16	0.00	0.00	17.25	2.97	0.00	0.00
4.25	0.17	0.00	0.00	17.50	2.99	0.00	0.00
4.50	0.18	0.00	0.00	17.75	3.01	0.00	0.00
4.75	0.19	0.00	0.00	18.00	3.02	0.00	0.00
5.00	0.21	0.00	0.00	18.25	3.04	0.00	0.00
5.25	0.22	0.00	0.00	18.50	3.05	0.00	0.00
5.50	0.23	0.00	0.00	18.75	3.06	0.00	0.00
5.75	0.25	0.00	0.00	19.00	3.08	0.00	0.00
6.00	0.26	0.00	0.00	19.25	3.09	0.00	0.00
6.25	0.28	0.00	0.00	19.50	3.10	0.00	0.00
6.50	0.29	0.00	0.00	19.75	3.11	0.00	0.00
6.75	0.31	0.00	0.00	20.00	3.12	0.00	0.00
7.00	0.32	0.00	0.00	20.25	3.13	0.00	0.00
7.25	0.34	0.00	0.00	20.50	3.14	0.00	0.00
7.50	0.36	0.00	0.00	20.75	3.15	0.00	0.00
7.75	0.38	0.00	0.00	21.00	3.16	0.00	0.00
8.00	0.39	0.00	0.00	21.25	3.17	0.00	0.00
8.25	0.41	0.00	0.00	21.50	3.18	0.00	0.00
8.50	0.43	0.00	0.00	21.75	3.19	0.00	0.00
8.75	0.46	0.00	0.00	22.00	3.20	0.00	0.00
9.00	0.48	0.00	0.00	22.25	3.21	0.00	0.00
9.25	0.51	0.00	0.00	22.50	3.22	0.00	0.00
9.50	0.53	0.00	0.00	22.75	3.23	0.00	0.00
9.75	0.56	0.00	0.00	23.00	3.24	0.00	0.00
10.00	0.59	0.00	0.00	23.25	3.25	0.00	0.00
10.25	0.63	0.00	0.00	23.50	3.26	0.00	0.00
10.50	0.67	0.00	0.00	23.75	3.27	0.00	0.00
10.75	0.72	0.00	0.00	24.00	3.28	0.00	0.00
11.00	0.77	0.00	0.00				
11.25	0.84	0.00	0.00				
11.50	0.93	0.00	0.00				
11.75	1.27	0.00	0.00				
12.00	2.17	0.00	0.00				
12.25	2.32	0.00	0.00				
12.50	2.41	0.00	0.00				
12.75	2.48	0.00	0.00				
13.00	2.53	0.00	0.00				

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Type II 24-hr 2-year Rainfall=3.28"

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Summary for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

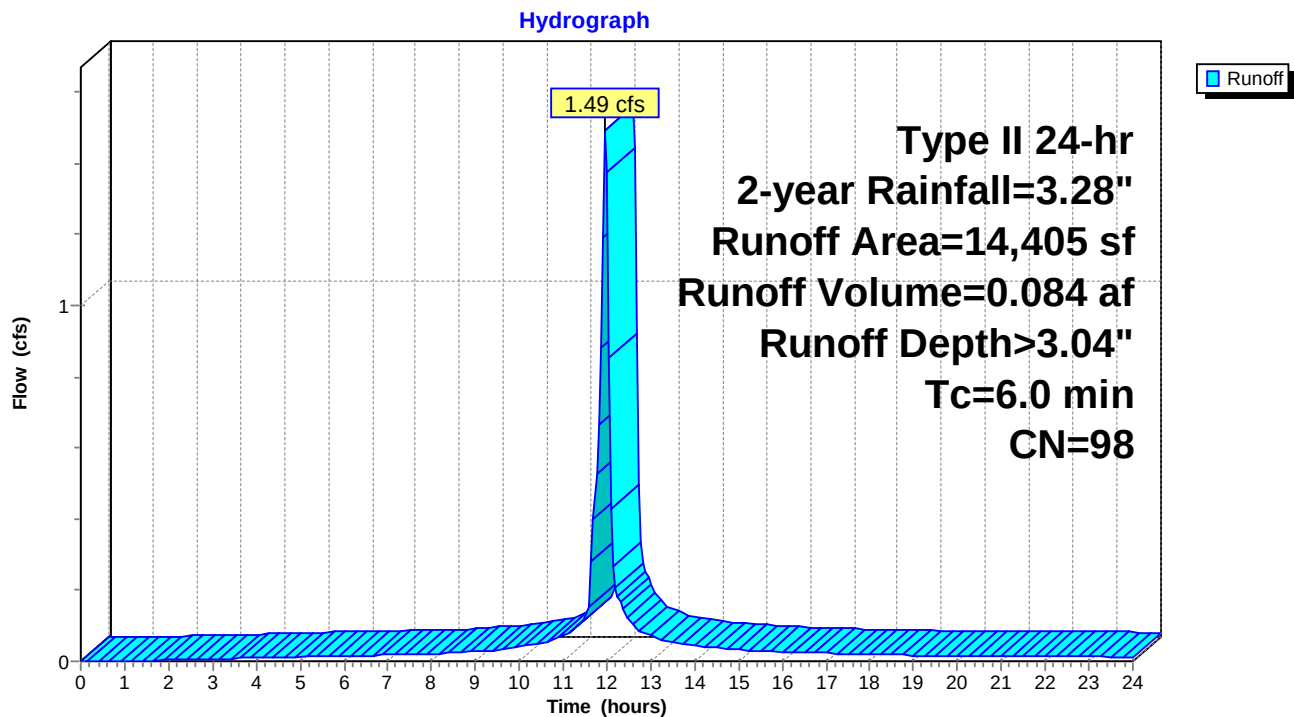
Runoff = 1.49 cfs @ 11.96 hrs, Volume= 0.084 af, Depth> 3.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=3.28"

Area (sf)	CN	Description
13,199	98	Paved parking, HSG A
* 1,206	98	Walkway
14,405	98	Weighted Average
14,405		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavement

Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas



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Hydrograph for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.58	2.35	0.06
0.25	0.01	0.00	0.00	13.50	2.62	2.39	0.05
0.50	0.02	0.00	0.00	13.75	2.66	2.43	0.05
0.75	0.03	0.00	0.00	14.00	2.69	2.46	0.04
1.00	0.03	0.00	0.00	14.25	2.72	2.49	0.04
1.25	0.04	0.00	0.00	14.50	2.75	2.52	0.04
1.50	0.05	0.00	0.00	14.75	2.77	2.54	0.04
1.75	0.06	0.00	0.00	15.00	2.80	2.57	0.03
2.00	0.07	0.00	0.00	15.25	2.82	2.59	0.03
2.25	0.08	0.01	0.00	15.50	2.85	2.61	0.03
2.50	0.09	0.01	0.00	15.75	2.87	2.64	0.03
2.75	0.10	0.01	0.01	16.00	2.89	2.66	0.03
3.00	0.11	0.02	0.01	16.25	2.91	2.67	0.02
3.25	0.12	0.02	0.01	16.50	2.92	2.69	0.02
3.50	0.13	0.03	0.01	16.75	2.94	2.71	0.02
3.75	0.15	0.04	0.01	17.00	2.96	2.73	0.02
4.00	0.16	0.04	0.01	17.25	2.97	2.74	0.02
4.25	0.17	0.05	0.01	17.50	2.99	2.76	0.02
4.50	0.18	0.06	0.01	17.75	3.01	2.77	0.02
4.75	0.19	0.07	0.01	18.00	3.02	2.79	0.02
5.00	0.21	0.07	0.01	18.25	3.04	2.80	0.02
5.25	0.22	0.08	0.01	18.50	3.05	2.82	0.02
5.50	0.23	0.09	0.01	18.75	3.06	2.83	0.02
5.75	0.25	0.10	0.01	19.00	3.08	2.84	0.02
6.00	0.26	0.12	0.01	19.25	3.09	2.86	0.02
6.25	0.28	0.13	0.02	19.50	3.10	2.87	0.02
6.50	0.29	0.14	0.02	19.75	3.11	2.88	0.02
6.75	0.31	0.15	0.02	20.00	3.12	2.89	0.01
7.00	0.32	0.17	0.02	20.25	3.13	2.90	0.01
7.25	0.34	0.18	0.02	20.50	3.14	2.91	0.01
7.50	0.36	0.19	0.02	20.75	3.15	2.92	0.01
7.75	0.38	0.21	0.02	21.00	3.16	2.93	0.01
8.00	0.39	0.22	0.02	21.25	3.17	2.94	0.01
8.25	0.41	0.24	0.02	21.50	3.18	2.95	0.01
8.50	0.43	0.26	0.03	21.75	3.19	2.96	0.01
8.75	0.46	0.28	0.03	22.00	3.20	2.97	0.01
9.00	0.48	0.30	0.03	22.25	3.21	2.98	0.01
9.25	0.51	0.33	0.03	22.50	3.22	2.99	0.01
9.50	0.53	0.35	0.03	22.75	3.23	3.00	0.01
9.75	0.56	0.38	0.03	23.00	3.24	3.01	0.01
10.00	0.59	0.40	0.04	23.25	3.25	3.02	0.01
10.25	0.63	0.44	0.04	23.50	3.26	3.03	0.01
10.50	0.67	0.47	0.05	23.75	3.27	3.04	0.01
10.75	0.72	0.52	0.06	24.00	3.28	3.05	0.01
11.00	0.77	0.57	0.07				
11.25	0.84	0.64	0.09				
11.50	0.93	0.72	0.12				
11.75	1.27	1.05	0.53				
12.00	2.17	1.95	1.38				
12.25	2.32	2.09	0.18				
12.50	2.41	2.18	0.12				
12.75	2.48	2.25	0.09				
13.00	2.53	2.30	0.07				

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Type II 24-hr 2-year Rainfall=3.28"

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Summary for Subcatchment 5S: Proposed Courtyard Walkway Areas

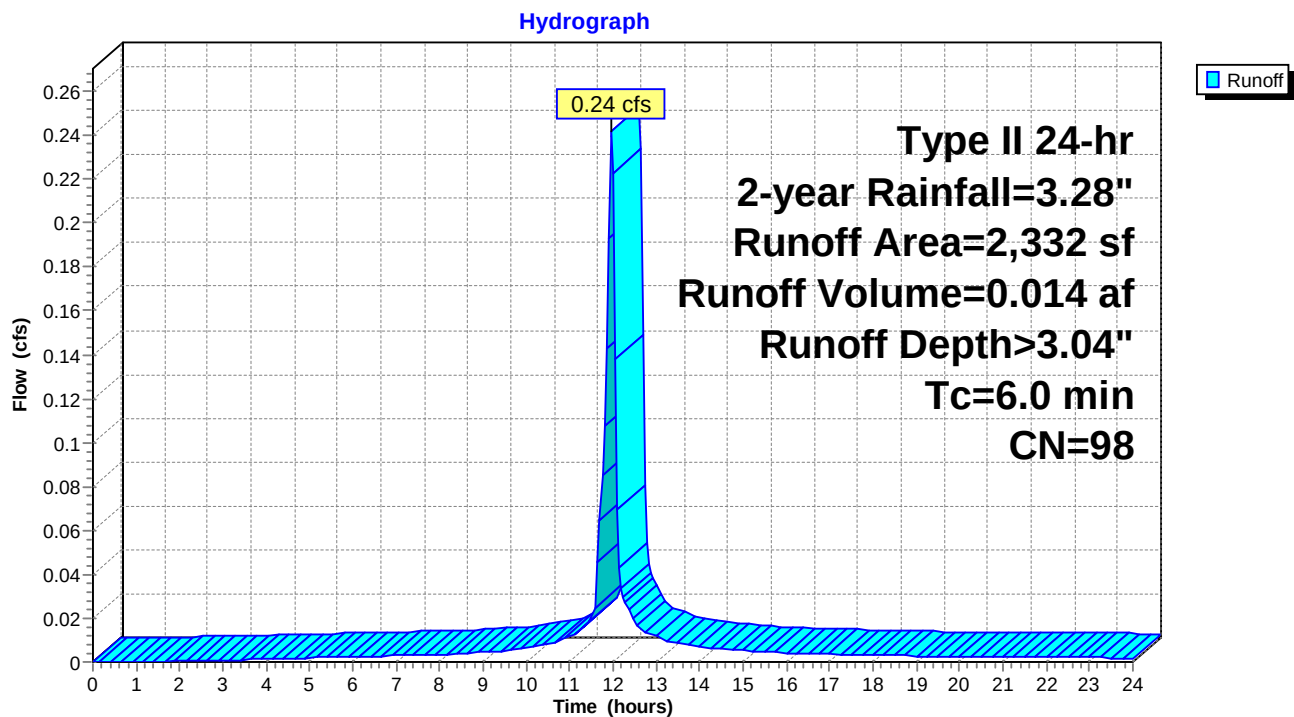
Runoff = 0.24 cfs @ 11.96 hrs, Volume= 0.014 af, Depth> 3.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=3.28"

	Area (sf)	CN	Description
*	2,332	98	Walkway
	2,332		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavers

Subcatchment 5S: Proposed Courtyard Walkway Areas



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Type II 24-hr 2-year Rainfall=3.28"

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Hydrograph for Subcatchment 5S: Proposed Courtyard Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.58	2.35	0.01
0.25	0.01	0.00	0.00	13.50	2.62	2.39	0.01
0.50	0.02	0.00	0.00	13.75	2.66	2.43	0.01
0.75	0.03	0.00	0.00	14.00	2.69	2.46	0.01
1.00	0.03	0.00	0.00	14.25	2.72	2.49	0.01
1.25	0.04	0.00	0.00	14.50	2.75	2.52	0.01
1.50	0.05	0.00	0.00	14.75	2.77	2.54	0.01
1.75	0.06	0.00	0.00	15.00	2.80	2.57	0.01
2.00	0.07	0.00	0.00	15.25	2.82	2.59	0.01
2.25	0.08	0.01	0.00	15.50	2.85	2.61	0.00
2.50	0.09	0.01	0.00	15.75	2.87	2.64	0.00
2.75	0.10	0.01	0.00	16.00	2.89	2.66	0.00
3.00	0.11	0.02	0.00	16.25	2.91	2.67	0.00
3.25	0.12	0.02	0.00	16.50	2.92	2.69	0.00
3.50	0.13	0.03	0.00	16.75	2.94	2.71	0.00
3.75	0.15	0.04	0.00	17.00	2.96	2.73	0.00
4.00	0.16	0.04	0.00	17.25	2.97	2.74	0.00
4.25	0.17	0.05	0.00	17.50	2.99	2.76	0.00
4.50	0.18	0.06	0.00	17.75	3.01	2.77	0.00
4.75	0.19	0.07	0.00	18.00	3.02	2.79	0.00
5.00	0.21	0.07	0.00	18.25	3.04	2.80	0.00
5.25	0.22	0.08	0.00	18.50	3.05	2.82	0.00
5.50	0.23	0.09	0.00	18.75	3.06	2.83	0.00
5.75	0.25	0.10	0.00	19.00	3.08	2.84	0.00
6.00	0.26	0.12	0.00	19.25	3.09	2.86	0.00
6.25	0.28	0.13	0.00	19.50	3.10	2.87	0.00
6.50	0.29	0.14	0.00	19.75	3.11	2.88	0.00
6.75	0.31	0.15	0.00	20.00	3.12	2.89	0.00
7.00	0.32	0.17	0.00	20.25	3.13	2.90	0.00
7.25	0.34	0.18	0.00	20.50	3.14	2.91	0.00
7.50	0.36	0.19	0.00	20.75	3.15	2.92	0.00
7.75	0.38	0.21	0.00	21.00	3.16	2.93	0.00
8.00	0.39	0.22	0.00	21.25	3.17	2.94	0.00
8.25	0.41	0.24	0.00	21.50	3.18	2.95	0.00
8.50	0.43	0.26	0.00	21.75	3.19	2.96	0.00
8.75	0.46	0.28	0.00	22.00	3.20	2.97	0.00
9.00	0.48	0.30	0.00	22.25	3.21	2.98	0.00
9.25	0.51	0.33	0.01	22.50	3.22	2.99	0.00
9.50	0.53	0.35	0.01	22.75	3.23	3.00	0.00
9.75	0.56	0.38	0.01	23.00	3.24	3.01	0.00
10.00	0.59	0.40	0.01	23.25	3.25	3.02	0.00
10.25	0.63	0.44	0.01	23.50	3.26	3.03	0.00
10.50	0.67	0.47	0.01	23.75	3.27	3.04	0.00
10.75	0.72	0.52	0.01	24.00	3.28	3.05	0.00
11.00	0.77	0.57	0.01				
11.25	0.84	0.64	0.01				
11.50	0.93	0.72	0.02				
11.75	1.27	1.05	0.09				
12.00	2.17	1.95	0.22				
12.25	2.32	2.09	0.03				
12.50	2.41	2.18	0.02				
12.75	2.48	2.25	0.01				
13.00	2.53	2.30	0.01				

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Type II 24-hr 2-year Rainfall=3.28"

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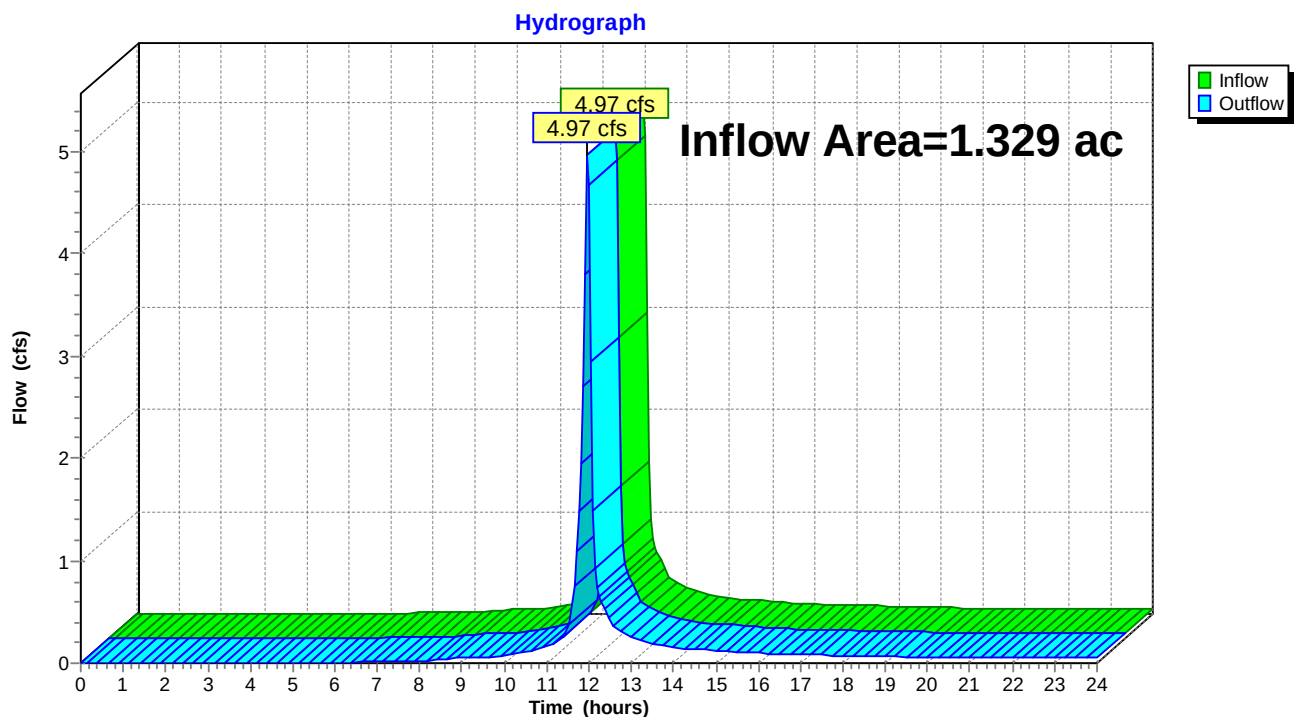
Summary for Reach 1R: Charles River

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.329 ac, 83.80% Impervious, Inflow Depth > 2.24" for 2-year event
Inflow = 4.97 cfs @ 11.97 hrs, Volume= 0.248 af
Outflow = 4.97 cfs @ 11.97 hrs, Volume= 0.248 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Charles River



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Hydrograph for Reach 1R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.22		0.22
0.25	0.00		0.00	13.50	0.20		0.20
0.50	0.00		0.00	13.75	0.17		0.17
0.75	0.00		0.00	14.00	0.15		0.15
1.00	0.00		0.00	14.25	0.14		0.14
1.25	0.00		0.00	14.50	0.14		0.14
1.50	0.00		0.00	14.75	0.13		0.13
1.75	0.00		0.00	15.00	0.12		0.12
2.00	0.00		0.00	15.25	0.12		0.12
2.25	0.00		0.00	15.50	0.11		0.11
2.50	0.00		0.00	15.75	0.10		0.10
2.75	0.00		0.00	16.00	0.09		0.09
3.00	0.00		0.00	16.25	0.09		0.09
3.25	0.00		0.00	16.50	0.09		0.09
3.50	0.00		0.00	16.75	0.09		0.09
3.75	0.00		0.00	17.00	0.08		0.08
4.00	0.00		0.00	17.25	0.08		0.08
4.25	0.00		0.00	17.50	0.08		0.08
4.50	0.00		0.00	17.75	0.08		0.08
4.75	0.00		0.00	18.00	0.07		0.07
5.00	0.00		0.00	18.25	0.07		0.07
5.25	0.00		0.00	18.50	0.07		0.07
5.50	0.00		0.00	18.75	0.07		0.07
5.75	0.00		0.00	19.00	0.06		0.06
6.00	0.00		0.00	19.25	0.06		0.06
6.25	0.01		0.01	19.50	0.06		0.06
6.50	0.01		0.01	19.75	0.06		0.06
6.75	0.01		0.01	20.00	0.05		0.05
7.00	0.01		0.01	20.25	0.05		0.05
7.25	0.02		0.02	20.50	0.05		0.05
7.50	0.02		0.02	20.75	0.05		0.05
7.75	0.02		0.02	21.00	0.05		0.05
8.00	0.02		0.02	21.25	0.05		0.05
8.25	0.03		0.03	21.50	0.05		0.05
8.50	0.03		0.03	21.75	0.05		0.05
8.75	0.04		0.04	22.00	0.05		0.05
9.00	0.05		0.05	22.25	0.05		0.05
9.25	0.05		0.05	22.50	0.05		0.05
9.50	0.05		0.05	22.75	0.05		0.05
9.75	0.06		0.06	23.00	0.05		0.05
10.00	0.07		0.07	23.25	0.05		0.05
10.25	0.09		0.09	23.50	0.05		0.05
10.50	0.11		0.11	23.75	0.05		0.05
10.75	0.13		0.13	24.00	0.05		0.05
11.00	0.16		0.16				
11.25	0.22		0.22				
11.50	0.30		0.30				
11.75	1.49		1.49				
12.00	4.67		4.67				
12.25	0.65		0.65				
12.50	0.42		0.42				
12.75	0.31		0.31				
13.00	0.26		0.26				

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Type II 24-hr 2-year Rainfall=3.28"

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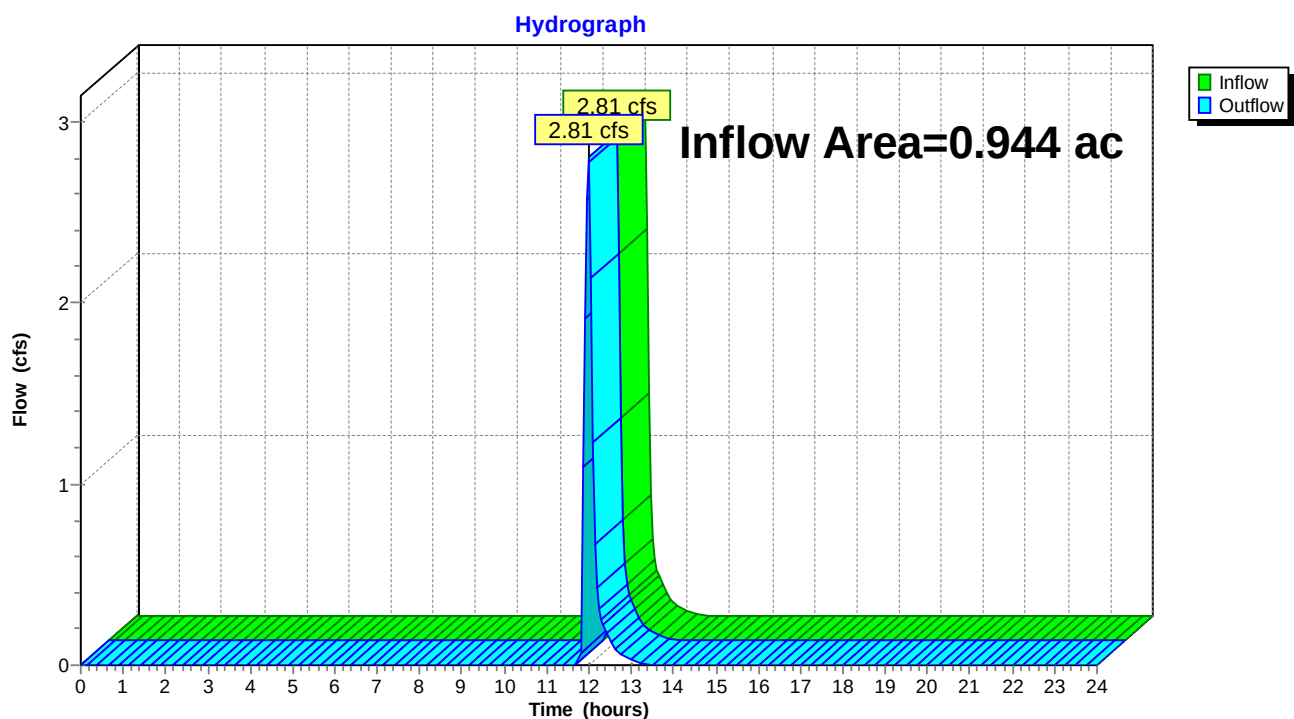
Summary for Reach 2R: Charles River

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.944 ac, 71.62% Impervious, Inflow Depth = 0.78" for 2-year event
Inflow = 2.81 cfs @ 11.99 hrs, Volume= 0.061 af
Outflow = 2.81 cfs @ 11.99 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 2R: Charles River



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Type II 24-hr 2-year Rainfall=3.28"

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Hydrograph for Reach 2R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.01		0.01
0.25	0.00		0.00	13.50	0.00		0.00
0.50	0.00		0.00	13.75	0.00		0.00
0.75	0.00		0.00	14.00	0.00		0.00
1.00	0.00		0.00	14.25	0.00		0.00
1.25	0.00		0.00	14.50	0.00		0.00
1.50	0.00		0.00	14.75	0.00		0.00
1.75	0.00		0.00	15.00	0.00		0.00
2.00	0.00		0.00	15.25	0.00		0.00
2.25	0.00		0.00	15.50	0.00		0.00
2.50	0.00		0.00	15.75	0.00		0.00
2.75	0.00		0.00	16.00	0.00		0.00
3.00	0.00		0.00	16.25	0.00		0.00
3.25	0.00		0.00	16.50	0.00		0.00
3.50	0.00		0.00	16.75	0.00		0.00
3.75	0.00		0.00	17.00	0.00		0.00
4.00	0.00		0.00	17.25	0.00		0.00
4.25	0.00		0.00	17.50	0.00		0.00
4.50	0.00		0.00	17.75	0.00		0.00
4.75	0.00		0.00	18.00	0.00		0.00
5.00	0.00		0.00	18.25	0.00		0.00
5.25	0.00		0.00	18.50	0.00		0.00
5.50	0.00		0.00	18.75	0.00		0.00
5.75	0.00		0.00	19.00	0.00		0.00
6.00	0.00		0.00	19.25	0.00		0.00
6.25	0.00		0.00	19.50	0.00		0.00
6.50	0.00		0.00	19.75	0.00		0.00
6.75	0.00		0.00	20.00	0.00		0.00
7.00	0.00		0.00	20.25	0.00		0.00
7.25	0.00		0.00	20.50	0.00		0.00
7.50	0.00		0.00	20.75	0.00		0.00
7.75	0.00		0.00	21.00	0.00		0.00
8.00	0.00		0.00	21.25	0.00		0.00
8.25	0.00		0.00	21.50	0.00		0.00
8.50	0.00		0.00	21.75	0.00		0.00
8.75	0.00		0.00	22.00	0.00		0.00
9.00	0.00		0.00	22.25	0.00		0.00
9.25	0.00		0.00	22.50	0.00		0.00
9.50	0.00		0.00	22.75	0.00		0.00
9.75	0.00		0.00	23.00	0.00		0.00
10.00	0.00		0.00	23.25	0.00		0.00
10.25	0.00		0.00	23.50	0.00		0.00
10.50	0.00		0.00	23.75	0.00		0.00
10.75	0.00		0.00	24.00	0.00		0.00
11.00	0.00		0.00				
11.25	0.00		0.00				
11.50	0.00		0.00				
11.75	0.00		0.00				
12.00	2.78		2.78				
12.25	0.31		0.31				
12.50	0.14		0.14				
12.75	0.06		0.06				
13.00	0.03		0.03				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 2-year Rainfall=3.28"

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Summary for Pond 1P: Infiltration Swale

Inflow Area = 0.676 ac, 100.00% Impervious, Inflow Depth > 3.04" for 2-year event
Inflow = 3.05 cfs @ 11.96 hrs, Volume= 0.172 af
Outflow = 2.95 cfs @ 11.99 hrs, Volume= 0.171 af, Atten= 3%, Lag= 1.5 min
Discarded = 0.15 cfs @ 11.99 hrs, Volume= 0.110 af
Primary = 2.81 cfs @ 11.99 hrs, Volume= 0.061 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 46.36' @ 11.99 hrs Surf.Area= 2,622 sf Storage= 1,429 cf

Plug-Flow detention time= 56.0 min calculated for 0.171 af (100% of inflow)
Center-of-Mass det. time= 55.0 min (806.4 - 751.4)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	1,932 cf	2.00'W x 220.00'L x 2.80'H Prismatic Z=2.0 4,830 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	44.00'	2.410 in/hr Exfiltration over Surface area
#2	Primary	46.00'	45.0 deg x 4.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir Cv= 2.56 (C= 3.20)

Discarded OutFlow Max=0.15 cfs @ 11.99 hrs HW=46.35' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=2.73 cfs @ 11.99 hrs HW=46.35' (Free Discharge)
↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 2.73 cfs @ 1.88 fps)

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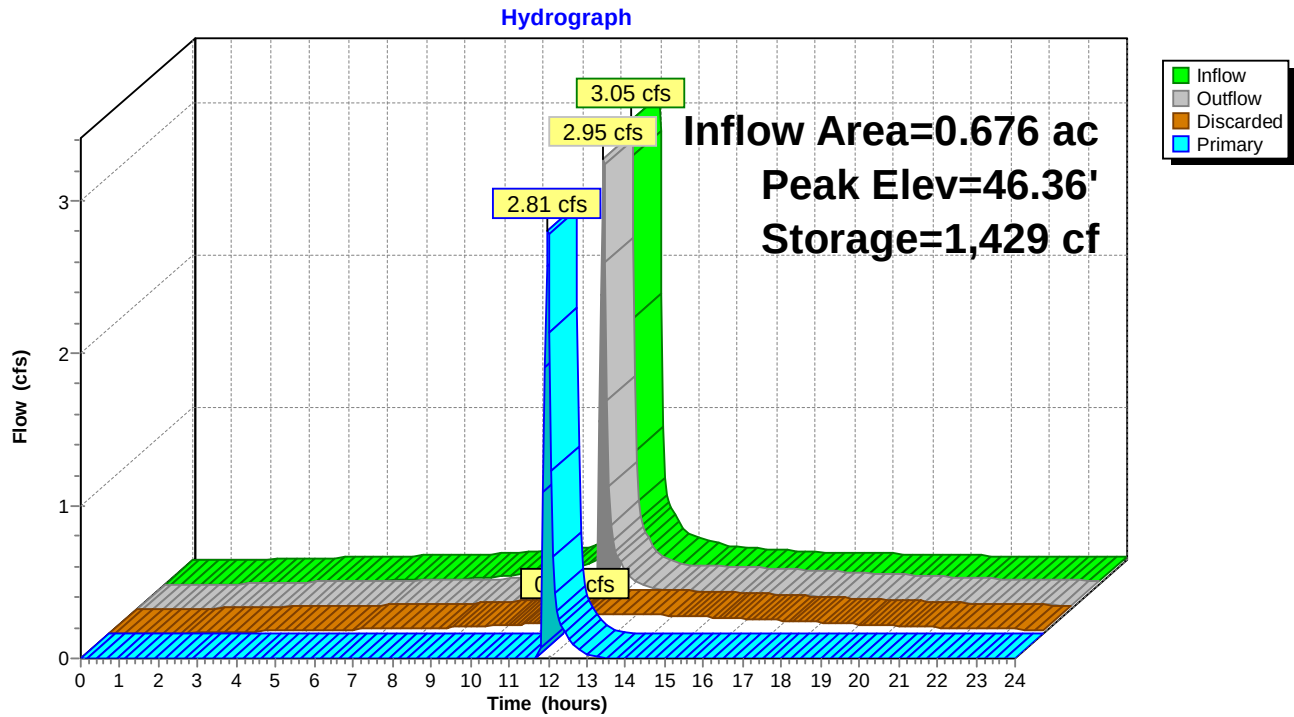
49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 2-year Rainfall=3.28"

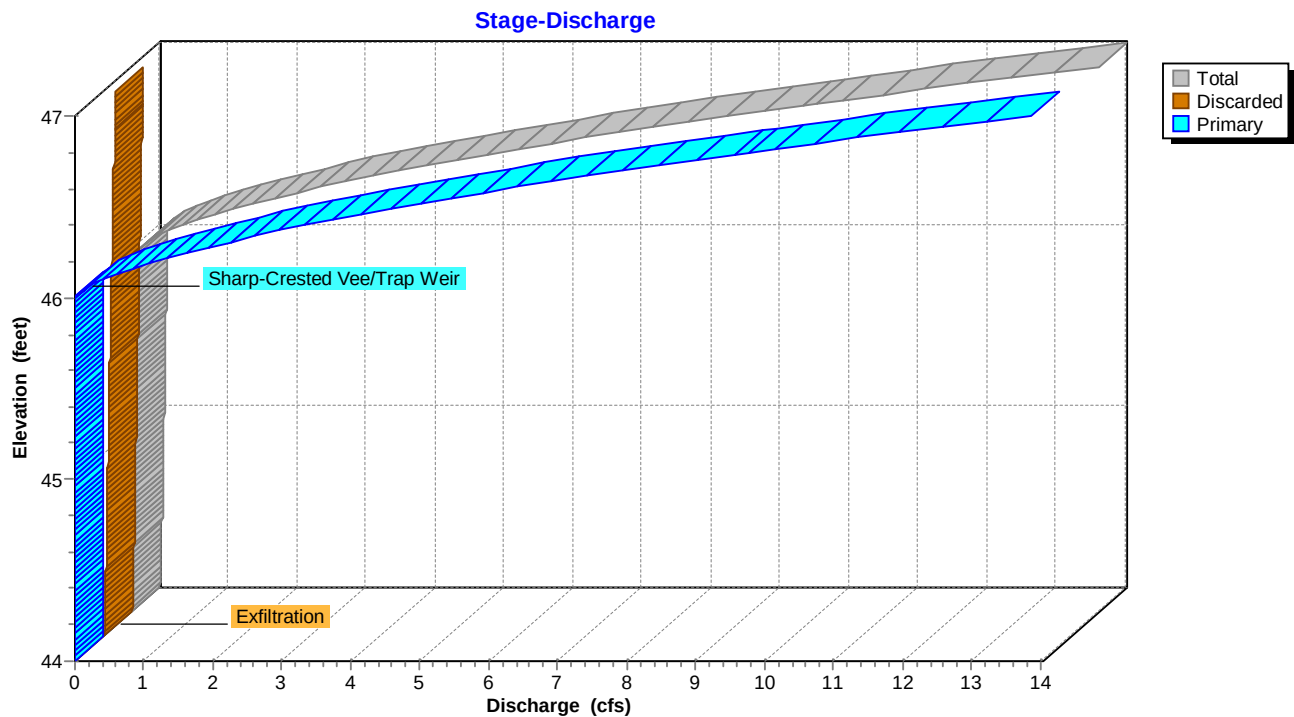
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Pond 1P: Infiltration Swale

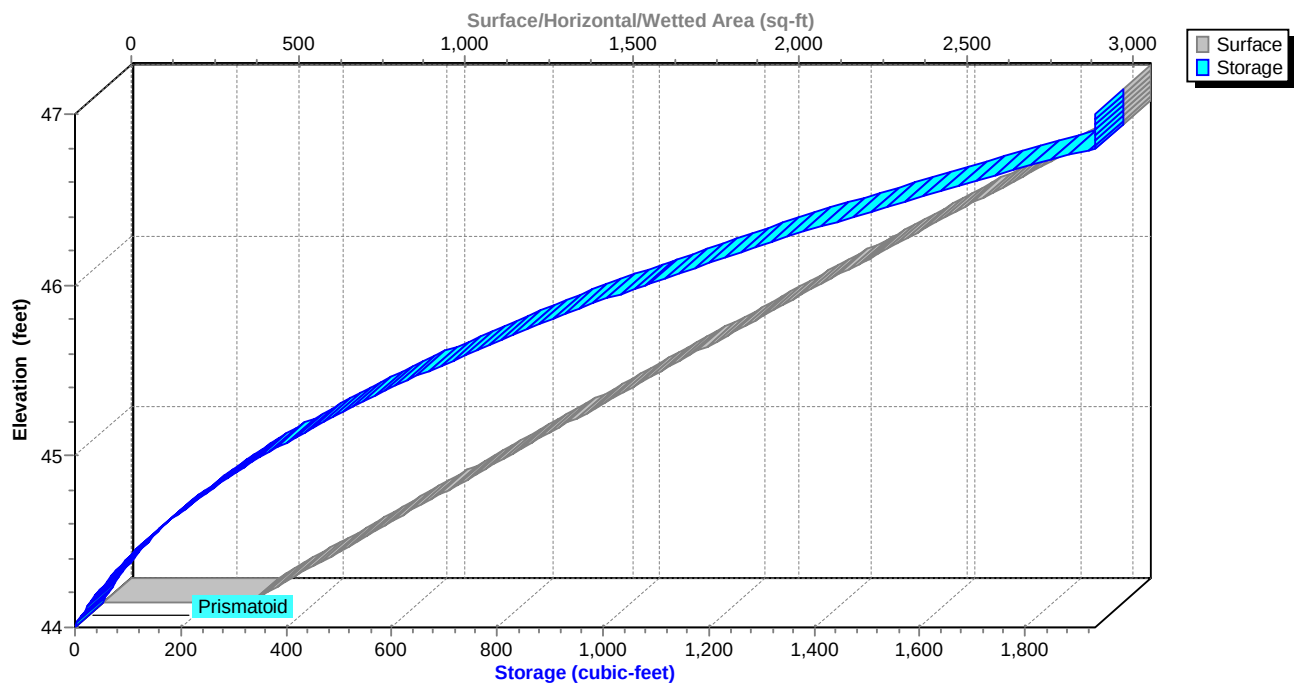


Pond 1P: Infiltration Swale



Pond 1P: Infiltration Swale

Stage-Area-Storage



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Hydrograph for Pond 1P: Infiltration Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	44.00	0.00	0.00	0.00
0.50	0.00	0	44.00	0.00	0.00	0.00
1.00	0.00	0	44.00	0.00	0.00	0.00
1.50	0.00	0	44.00	0.00	0.00	0.00
2.00	0.01	1	44.01	0.01	0.01	0.00
2.50	0.01	2	44.01	0.01	0.01	0.00
3.00	0.01	3	44.01	0.01	0.01	0.00
3.50	0.02	3	44.02	0.02	0.02	0.00
4.00	0.02	4	44.02	0.02	0.02	0.00
4.50	0.02	4	44.02	0.02	0.02	0.00
5.00	0.02	5	44.03	0.02	0.02	0.00
5.50	0.03	6	44.03	0.03	0.03	0.00
6.00	0.03	10	44.05	0.03	0.03	0.00
6.50	0.03	17	44.09	0.03	0.03	0.00
7.00	0.04	26	44.13	0.03	0.03	0.00
7.50	0.04	36	44.17	0.03	0.03	0.00
8.00	0.04	48	44.22	0.04	0.04	0.00
8.50	0.05	64	44.28	0.04	0.04	0.00
9.00	0.06	93	44.38	0.04	0.04	0.00
9.50	0.07	126	44.48	0.05	0.05	0.00
10.00	0.08	163	44.58	0.05	0.05	0.00
10.50	0.10	224	44.73	0.06	0.06	0.00
11.00	0.15	327	44.95	0.07	0.07	0.00
11.50	0.24	521	45.28	0.09	0.09	0.00
12.00	2.82	1,427	46.35	2.93	0.15	2.78
12.50	0.24	1,124	46.05	0.27	0.13	0.14
13.00	0.15	1,093	46.02	0.16	0.13	0.03
13.50	0.11	1,075	45.99	0.13	0.13	0.00
14.00	0.09	1,025	45.94	0.12	0.12	0.00
14.50	0.08	950	45.85	0.12	0.12	0.00
15.00	0.07	869	45.76	0.11	0.11	0.00
15.50	0.06	784	45.65	0.11	0.11	0.00
16.00	0.05	696	45.53	0.10	0.10	0.00
16.50	0.05	608	45.41	0.10	0.10	0.00
17.00	0.05	526	45.29	0.09	0.09	0.00
17.50	0.04	450	45.17	0.08	0.08	0.00
18.00	0.04	381	45.05	0.08	0.08	0.00
18.50	0.04	318	44.93	0.07	0.07	0.00
19.00	0.04	261	44.81	0.07	0.07	0.00
19.50	0.03	209	44.70	0.06	0.06	0.00
20.00	0.03	163	44.58	0.05	0.05	0.00
20.50	0.03	123	44.47	0.05	0.05	0.00
21.00	0.03	92	44.38	0.04	0.04	0.00
21.50	0.03	67	44.29	0.04	0.04	0.00
22.00	0.03	49	44.23	0.04	0.04	0.00
22.50	0.03	35	44.17	0.03	0.03	0.00
23.00	0.03	25	44.12	0.03	0.03	0.00
23.50	0.03	17	44.09	0.03	0.03	0.00
24.00	0.02	11	44.06	0.03	0.03	0.00

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 2-year Rainfall=3.28"

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Stage-Discharge for Pond 1P: Infiltration Swale

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
44.00	0.00	0.00	0.00	46.65	7.23	0.16	7.07
44.05	0.03	0.03	0.00	46.70	8.10	0.16	7.93
44.10	0.03	0.03	0.00	46.75	9.00	0.17	8.83
44.15	0.03	0.03	0.00	46.80	9.94	0.17	9.77
44.20	0.03	0.03	0.00	46.85	10.91	0.17	10.74
44.25	0.04	0.04	0.00	46.90	11.91	0.17	11.74
44.30	0.04	0.04	0.00	46.95	12.96	0.17	12.78
44.35	0.04	0.04	0.00	47.00	14.03	0.17	13.86
44.40	0.04	0.04	0.00				
44.45	0.05	0.05	0.00				
44.50	0.05	0.05	0.00				
44.55	0.05	0.05	0.00				
44.60	0.05	0.05	0.00				
44.65	0.06	0.06	0.00				
44.70	0.06	0.06	0.00				
44.75	0.06	0.06	0.00				
44.80	0.06	0.06	0.00				
44.85	0.07	0.07	0.00				
44.90	0.07	0.07	0.00				
44.95	0.07	0.07	0.00				
45.00	0.07	0.07	0.00				
45.05	0.08	0.08	0.00				
45.10	0.08	0.08	0.00				
45.15	0.08	0.08	0.00				
45.20	0.09	0.09	0.00				
45.25	0.09	0.09	0.00				
45.30	0.09	0.09	0.00				
45.35	0.09	0.09	0.00				
45.40	0.10	0.10	0.00				
45.45	0.10	0.10	0.00				
45.50	0.10	0.10	0.00				
45.55	0.10	0.10	0.00				
45.60	0.11	0.11	0.00				
45.65	0.11	0.11	0.00				
45.70	0.11	0.11	0.00				
45.75	0.11	0.11	0.00				
45.80	0.12	0.12	0.00				
45.85	0.12	0.12	0.00				
45.90	0.12	0.12	0.00				
45.95	0.12	0.12	0.00				
46.00	0.13	0.13	0.00				
46.05	0.27	0.13	0.14				
46.10	0.54	0.13	0.41				
46.15	0.89	0.14	0.75				
46.20	1.30	0.14	1.16				
46.25	1.77	0.14	1.63				
46.30	2.30	0.14	2.16				
46.35	2.87	0.15	2.73				
46.40	3.49	0.15	3.35				
46.45	4.16	0.15	4.01				
46.50	4.87	0.15	4.71				
46.55	5.62	0.16	5.46				
46.60	6.40	0.16	6.24				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 2-year Rainfall=3.28"

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Summary for Pond 2P: Porous Pavement

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth > 3.04" for 2-year event
Inflow = 1.49 cfs @ 11.96 hrs, Volume= 0.084 af
Outflow = 0.77 cfs @ 11.90 hrs, Volume= 0.084 af, Atten= 49%, Lag= 0.0 min
Discarded = 0.77 cfs @ 11.90 hrs, Volume= 0.084 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 45.25' @ 12.06 hrs Surf.Area= 13,199 sf Storage= 414 cf

Plug-Flow detention time= 3.0 min calculated for 0.084 af (100% of inflow)
Center-of-Mass det. time= 2.7 min (754.2 - 751.4)

Volume	Invert	Avail.Storage	Storage Description
#1	45.17'	7,919 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 19,799 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.17	13,199	0	0
46.67	13,199	19,799	19,799

Device	Routing	Invert	Outlet Devices
#1	Discarded	45.17'	2.510 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.77 cfs @ 11.90 hrs HW=45.19' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.77 cfs)

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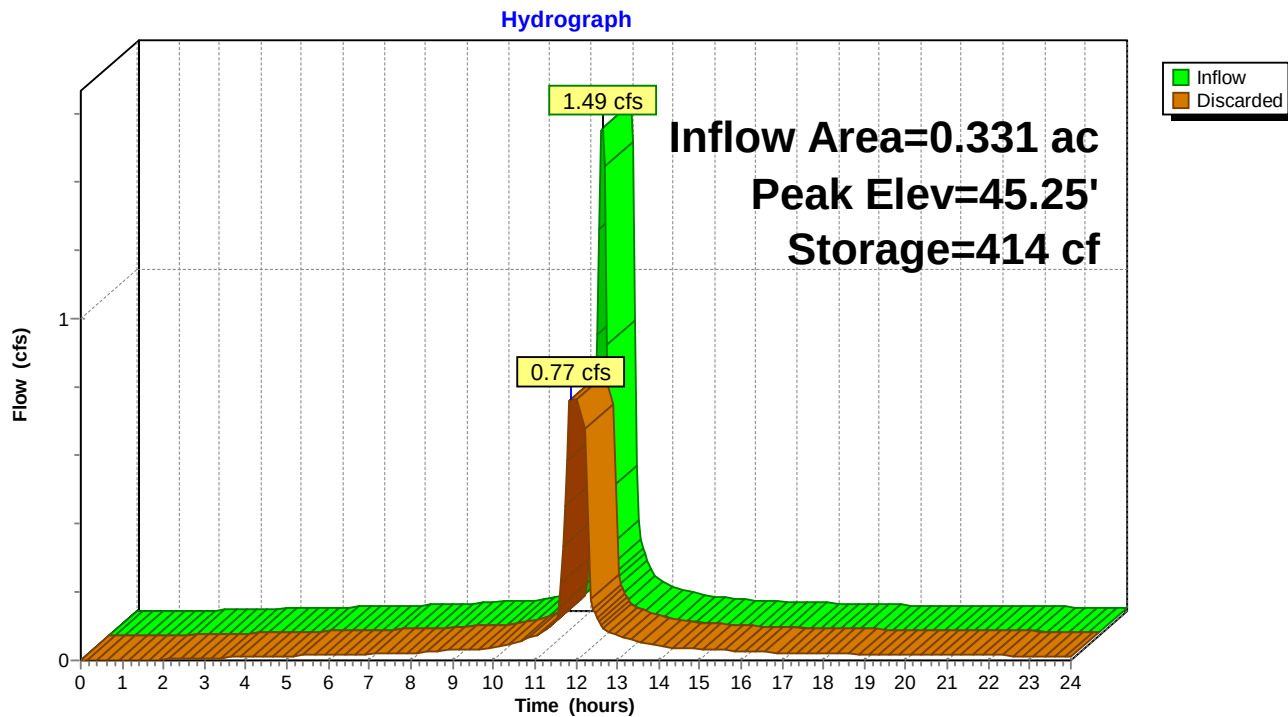
49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 2-year Rainfall=3.28"

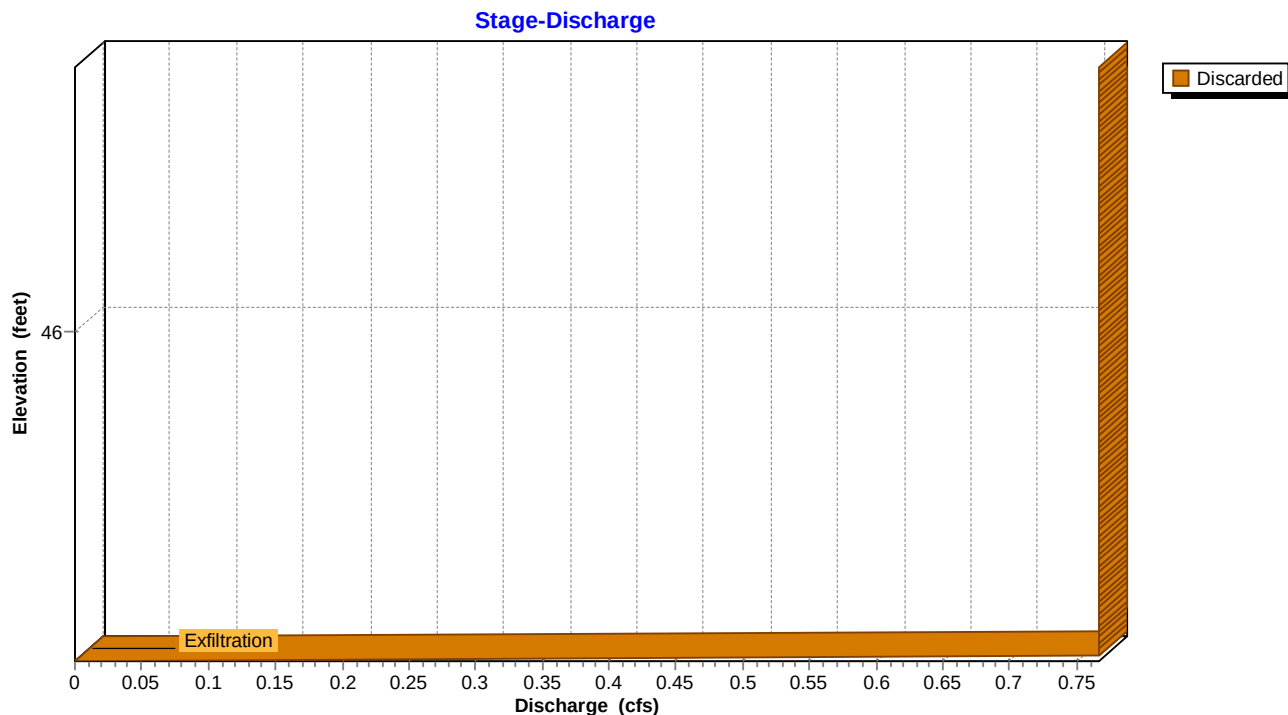
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Pond 2P: Porous Pavement

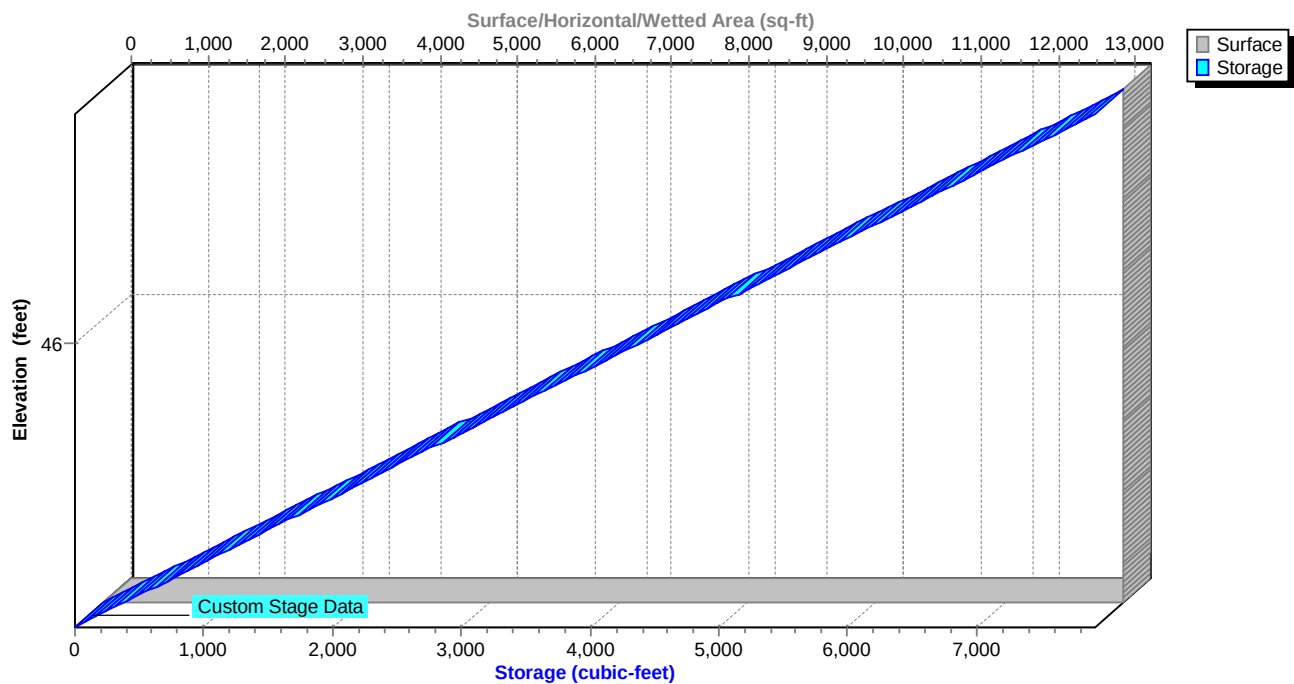


Pond 2P: Porous Pavement



Pond 2P: Porous Pavement

Stage-Area-Storage



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Hydrograph for Pond 2P: Porous Pavement

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	45.17	0.00
0.50	0.00	0	45.17	0.00
1.00	0.00	0	45.17	0.00
1.50	0.00	0	45.17	0.00
2.00	0.00	0	45.17	0.00
2.50	0.00	0	45.17	0.00
3.00	0.01	1	45.17	0.01
3.50	0.01	1	45.17	0.01
4.00	0.01	1	45.17	0.01
4.50	0.01	1	45.17	0.01
5.00	0.01	1	45.17	0.01
5.50	0.01	1	45.17	0.01
6.00	0.01	2	45.17	0.01
6.50	0.02	2	45.17	0.02
7.00	0.02	2	45.17	0.02
7.50	0.02	2	45.17	0.02
8.00	0.02	2	45.17	0.02
8.50	0.03	3	45.17	0.02
9.00	0.03	3	45.17	0.03
9.50	0.03	3	45.17	0.03
10.00	0.04	4	45.17	0.04
10.50	0.05	5	45.17	0.05
11.00	0.07	7	45.17	0.07
11.50	0.12	12	45.17	0.11
12.00	1.38	349	45.24	0.77
12.50	0.12	13	45.17	0.12
13.00	0.07	8	45.17	0.07
13.50	0.05	6	45.17	0.05
14.00	0.04	4	45.17	0.04
14.50	0.04	4	45.17	0.04
15.00	0.03	3	45.17	0.03
15.50	0.03	3	45.17	0.03
16.00	0.03	3	45.17	0.03
16.50	0.02	2	45.17	0.02
17.00	0.02	2	45.17	0.02
17.50	0.02	2	45.17	0.02
18.00	0.02	2	45.17	0.02
18.50	0.02	2	45.17	0.02
19.00	0.02	2	45.17	0.02
19.50	0.02	2	45.17	0.02
20.00	0.01	1	45.17	0.01
20.50	0.01	1	45.17	0.01
21.00	0.01	1	45.17	0.01
21.50	0.01	1	45.17	0.01
22.00	0.01	1	45.17	0.01
22.50	0.01	1	45.17	0.01
23.00	0.01	1	45.17	0.01
23.50	0.01	1	45.17	0.01
24.00	0.01	1	45.17	0.01

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Type II 24-hr 2-year Rainfall=3.28"

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Stage-Discharge for Pond 2P: Porous Pavement

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
45.17	0.00	45.70	0.77	46.23	0.77
45.18	0.77	45.71	0.77	46.24	0.77
45.19	0.77	45.72	0.77	46.25	0.77
45.20	0.77	45.73	0.77	46.26	0.77
45.21	0.77	45.74	0.77	46.27	0.77
45.22	0.77	45.75	0.77	46.28	0.77
45.23	0.77	45.76	0.77	46.29	0.77
45.24	0.77	45.77	0.77	46.30	0.77
45.25	0.77	45.78	0.77	46.31	0.77
45.26	0.77	45.79	0.77	46.32	0.77
45.27	0.77	45.80	0.77	46.33	0.77
45.28	0.77	45.81	0.77	46.34	0.77
45.29	0.77	45.82	0.77	46.35	0.77
45.30	0.77	45.83	0.77	46.36	0.77
45.31	0.77	45.84	0.77	46.37	0.77
45.32	0.77	45.85	0.77	46.38	0.77
45.33	0.77	45.86	0.77	46.39	0.77
45.34	0.77	45.87	0.77	46.40	0.77
45.35	0.77	45.88	0.77	46.41	0.77
45.36	0.77	45.89	0.77	46.42	0.77
45.37	0.77	45.90	0.77	46.43	0.77
45.38	0.77	45.91	0.77	46.44	0.77
45.39	0.77	45.92	0.77	46.45	0.77
45.40	0.77	45.93	0.77	46.46	0.77
45.41	0.77	45.94	0.77	46.47	0.77
45.42	0.77	45.95	0.77	46.48	0.77
45.43	0.77	45.96	0.77	46.49	0.77
45.44	0.77	45.97	0.77	46.50	0.77
45.45	0.77	45.98	0.77	46.51	0.77
45.46	0.77	45.99	0.77	46.52	0.77
45.47	0.77	46.00	0.77	46.53	0.77
45.48	0.77	46.01	0.77	46.54	0.77
45.49	0.77	46.02	0.77	46.55	0.77
45.50	0.77	46.03	0.77	46.56	0.77
45.51	0.77	46.04	0.77	46.57	0.77
45.52	0.77	46.05	0.77	46.58	0.77
45.53	0.77	46.06	0.77	46.59	0.77
45.54	0.77	46.07	0.77	46.60	0.77
45.55	0.77	46.08	0.77	46.61	0.77
45.56	0.77	46.09	0.77	46.62	0.77
45.57	0.77	46.10	0.77	46.63	0.77
45.58	0.77	46.11	0.77	46.64	0.77
45.59	0.77	46.12	0.77	46.65	0.77
45.60	0.77	46.13	0.77	46.66	0.77
45.61	0.77	46.14	0.77	46.67	0.77
45.62	0.77	46.15	0.77		
45.63	0.77	46.16	0.77		
45.64	0.77	46.17	0.77		
45.65	0.77	46.18	0.77		
45.66	0.77	46.19	0.77		
45.67	0.77	46.20	0.77		
45.68	0.77	46.21	0.77		
45.69	0.77	46.22	0.77		

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 2-year Rainfall=3.28"

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Summary for Pond 3P: Porous Pavers

Inflow Area = 0.054 ac, 100.00% Impervious, Inflow Depth > 3.04" for 2-year event
Inflow = 0.24 cfs @ 11.96 hrs, Volume= 0.014 af
Outflow = 0.13 cfs @ 11.90 hrs, Volume= 0.014 af, Atten= 46%, Lag= 0.0 min
Discarded = 0.13 cfs @ 11.90 hrs, Volume= 0.014 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 44.90' @ 12.06 hrs Surf.Area= 2,332 sf Storage= 61 cf

Plug-Flow detention time= 2.5 min calculated for 0.014 af (100% of inflow)

Center-of-Mass det. time= 2.3 min (753.7 - 751.4)

Volume	Invert	Avail.Storage	Storage Description
#1	44.83'	1,091 cf	Custom Stage Data (Prismatic) Listed below 2,728 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.83	2,332	0	0
46.00	2,332	2,728	2,728

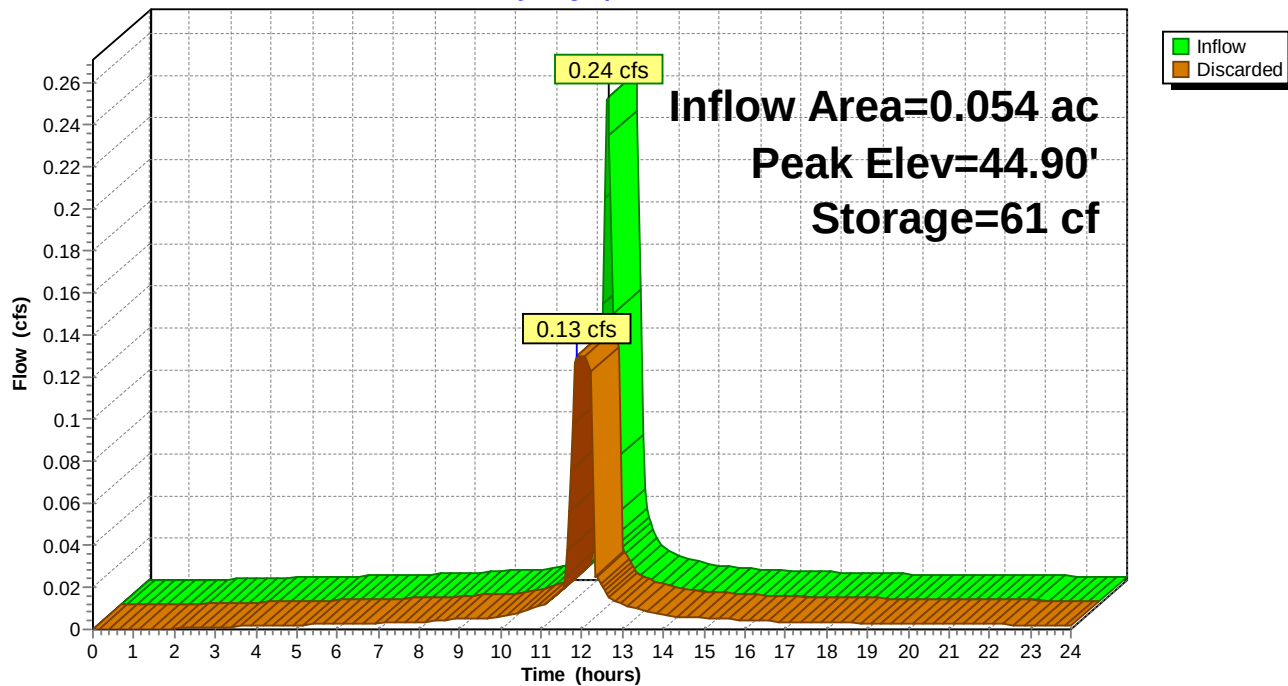
Device	Routing	Invert	Outlet Devices
#1	Discarded	44.83'	2.410 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.13 cfs @ 11.90 hrs HW=44.85' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

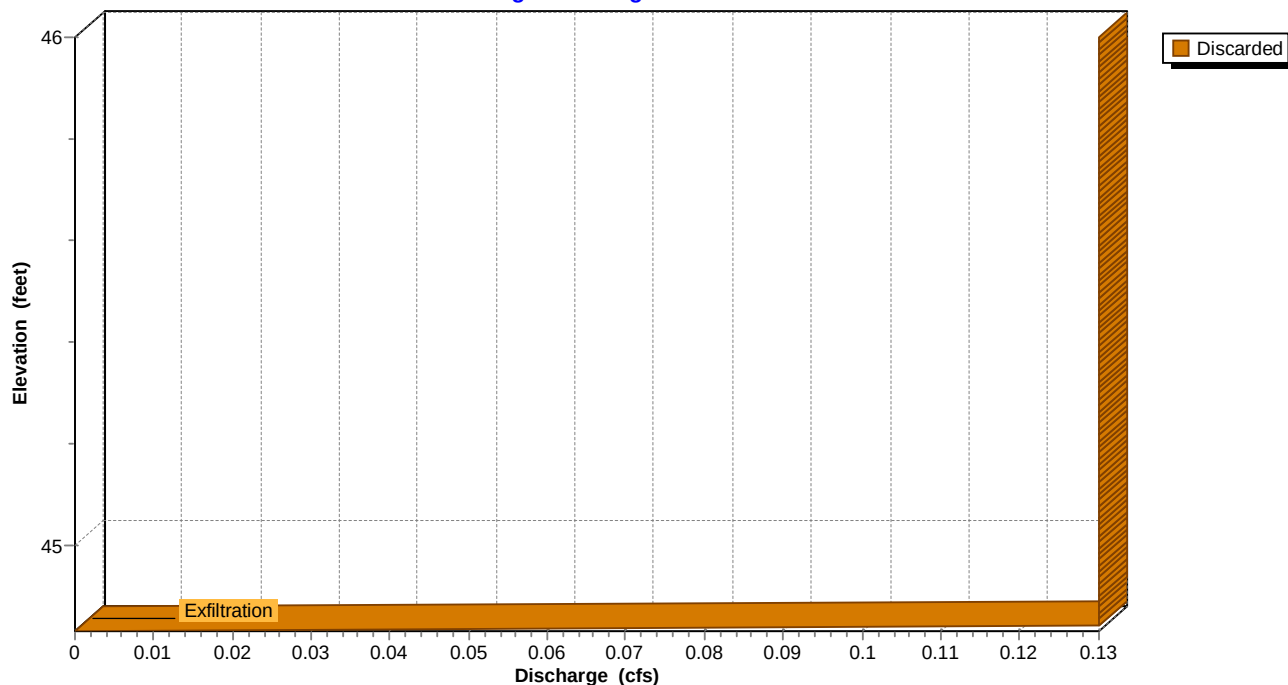
Pond 3P: Porous Pavers

Hydrograph



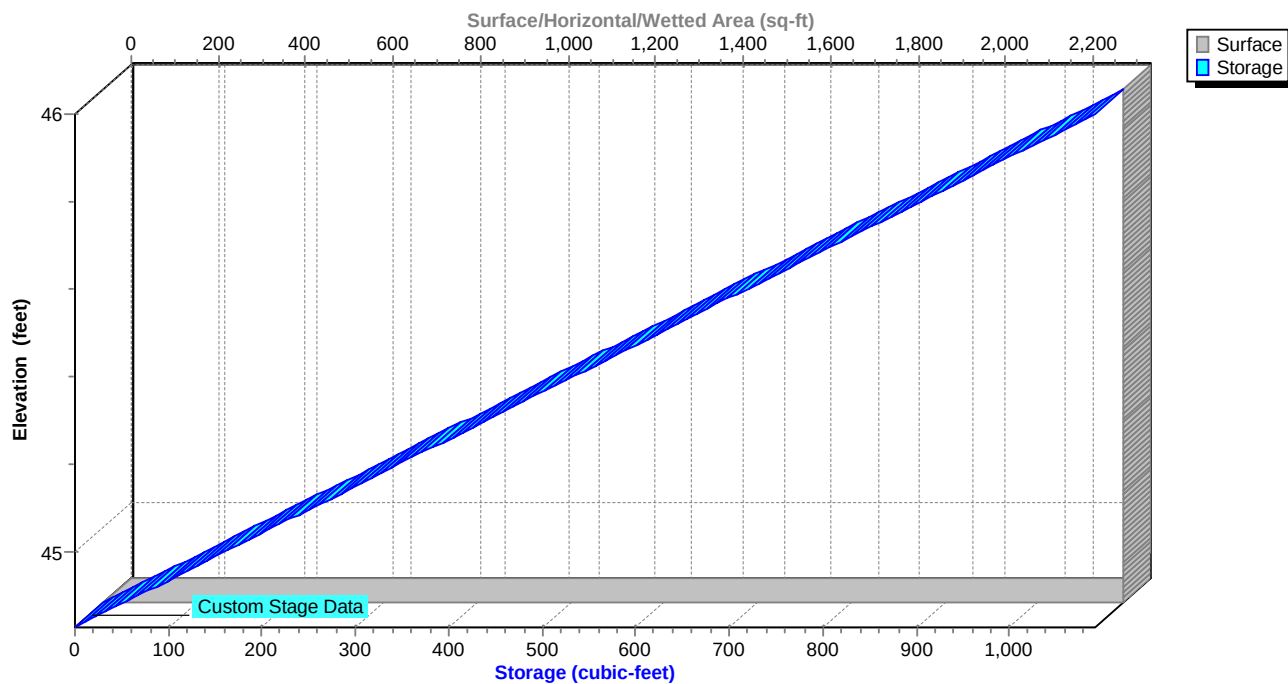
Pond 3P: Porous Pavers

Stage-Discharge



Pond 3P: Porous Pavers

Stage-Area-Storage



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Hydrograph for Pond 3P: Porous Pavers

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	44.83	0.00
0.50	0.00	0	44.83	0.00
1.00	0.00	0	44.83	0.00
1.50	0.00	0	44.83	0.00
2.00	0.00	0	44.83	0.00
2.50	0.00	0	44.83	0.00
3.00	0.00	0	44.83	0.00
3.50	0.00	0	44.83	0.00
4.00	0.00	0	44.83	0.00
4.50	0.00	0	44.83	0.00
5.00	0.00	0	44.83	0.00
5.50	0.00	0	44.83	0.00
6.00	0.00	0	44.83	0.00
6.50	0.00	0	44.83	0.00
7.00	0.00	0	44.83	0.00
7.50	0.00	0	44.83	0.00
8.00	0.00	0	44.83	0.00
8.50	0.00	0	44.83	0.00
9.00	0.00	0	44.83	0.00
9.50	0.01	0	44.83	0.01
10.00	0.01	1	44.83	0.01
10.50	0.01	1	44.83	0.01
11.00	0.01	1	44.83	0.01
11.50	0.02	2	44.83	0.02
12.00	0.22	51	44.89	0.13
12.50	0.02	2	44.83	0.02
13.00	0.01	1	44.83	0.01
13.50	0.01	1	44.83	0.01
14.00	0.01	1	44.83	0.01
14.50	0.01	1	44.83	0.01
15.00	0.01	0	44.83	0.01
15.50	0.00	0	44.83	0.00
16.00	0.00	0	44.83	0.00
16.50	0.00	0	44.83	0.00
17.00	0.00	0	44.83	0.00
17.50	0.00	0	44.83	0.00
18.00	0.00	0	44.83	0.00
18.50	0.00	0	44.83	0.00
19.00	0.00	0	44.83	0.00
19.50	0.00	0	44.83	0.00
20.00	0.00	0	44.83	0.00
20.50	0.00	0	44.83	0.00
21.00	0.00	0	44.83	0.00
21.50	0.00	0	44.83	0.00
22.00	0.00	0	44.83	0.00
22.50	0.00	0	44.83	0.00
23.00	0.00	0	44.83	0.00
23.50	0.00	0	44.83	0.00
24.00	0.00	0	44.83	0.00

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Type II 24-hr 2-year Rainfall=3.28"

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Stage-Discharge for Pond 3P: Porous Pavers

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
44.83	0.00	45.36	0.13	45.89	0.13
44.84	0.13	45.37	0.13	45.90	0.13
44.85	0.13	45.38	0.13	45.91	0.13
44.86	0.13	45.39	0.13	45.92	0.13
44.87	0.13	45.40	0.13	45.93	0.13
44.88	0.13	45.41	0.13	45.94	0.13
44.89	0.13	45.42	0.13	45.95	0.13
44.90	0.13	45.43	0.13	45.96	0.13
44.91	0.13	45.44	0.13	45.97	0.13
44.92	0.13	45.45	0.13	45.98	0.13
44.93	0.13	45.46	0.13	45.99	0.13
44.94	0.13	45.47	0.13	46.00	0.13
44.95	0.13	45.48	0.13		
44.96	0.13	45.49	0.13		
44.97	0.13	45.50	0.13		
44.98	0.13	45.51	0.13		
44.99	0.13	45.52	0.13		
45.00	0.13	45.53	0.13		
45.01	0.13	45.54	0.13		
45.02	0.13	45.55	0.13		
45.03	0.13	45.56	0.13		
45.04	0.13	45.57	0.13		
45.05	0.13	45.58	0.13		
45.06	0.13	45.59	0.13		
45.07	0.13	45.60	0.13		
45.08	0.13	45.61	0.13		
45.09	0.13	45.62	0.13		
45.10	0.13	45.63	0.13		
45.11	0.13	45.64	0.13		
45.12	0.13	45.65	0.13		
45.13	0.13	45.66	0.13		
45.14	0.13	45.67	0.13		
45.15	0.13	45.68	0.13		
45.16	0.13	45.69	0.13		
45.17	0.13	45.70	0.13		
45.18	0.13	45.71	0.13		
45.19	0.13	45.72	0.13		
45.20	0.13	45.73	0.13		
45.21	0.13	45.74	0.13		
45.22	0.13	45.75	0.13		
45.23	0.13	45.76	0.13		
45.24	0.13	45.77	0.13		
45.25	0.13	45.78	0.13		
45.26	0.13	45.79	0.13		
45.27	0.13	45.80	0.13		
45.28	0.13	45.81	0.13		
45.29	0.13	45.82	0.13		
45.30	0.13	45.83	0.13		
45.31	0.13	45.84	0.13		
45.32	0.13	45.85	0.13		
45.33	0.13	45.86	0.13		
45.34	0.13	45.87	0.13		
45.35	0.13	45.88	0.13		

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing	Runoff Area=57,879 sf 83.80% Impervious Runoff Depth>4.02" Tc=6.0 min CN=90 Runoff=8.61 cfs 0.445 af
Subcatchment 2S: Proposed Roof Areas	Runoff Area=29,467 sf 100.00% Impervious Runoff Depth>4.91" Tc=6.0 min CN=98 Runoff=4.82 cfs 0.277 af
Subcatchment 3S: Proposed Open Space	Runoff Area=11,675 sf 0.00% Impervious Runoff Depth>0.23" Tc=6.0 min CN=39 Runoff=0.01 cfs 0.005 af
Subcatchment 4S: Proposed	Runoff Area=14,405 sf 100.00% Impervious Runoff Depth>4.91" Tc=6.0 min CN=98 Runoff=2.36 cfs 0.135 af
Subcatchment 5S: Proposed Courtyard	Runoff Area=2,332 sf 100.00% Impervious Runoff Depth>4.91" Tc=6.0 min CN=98 Runoff=0.38 cfs 0.022 af
Reach 1R: Charles River	Inflow=8.61 cfs 0.445 af Outflow=8.61 cfs 0.445 af
Reach 2R: Charles River	Inflow=4.55 cfs 0.134 af Outflow=4.55 cfs 0.134 af
Pond 1P: Infiltration Swale	Peak Elev=46.49' Storage=1,571 cf Inflow=4.82 cfs 0.277 af Discarded=0.15 cfs 0.145 af Primary=4.55 cfs 0.129 af Outflow=4.70 cfs 0.274 af
Pond 2P: Porous Pavement	Peak Elev=45.38' Storage=1,086 cf Inflow=2.36 cfs 0.135 af Outflow=0.77 cfs 0.135 af
Pond 3P: Porous Pavers	Peak Elev=45.01' Storage=167 cf Inflow=0.38 cfs 0.022 af Outflow=0.13 cfs 0.022 af

Total Runoff Area = 2.657 ac Runoff Volume = 0.884 af Average Runoff Depth = 3.99"
18.19% Pervious = 0.483 ac 81.81% Impervious = 2.174 ac

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Summary for Subcatchment 1S: Existing

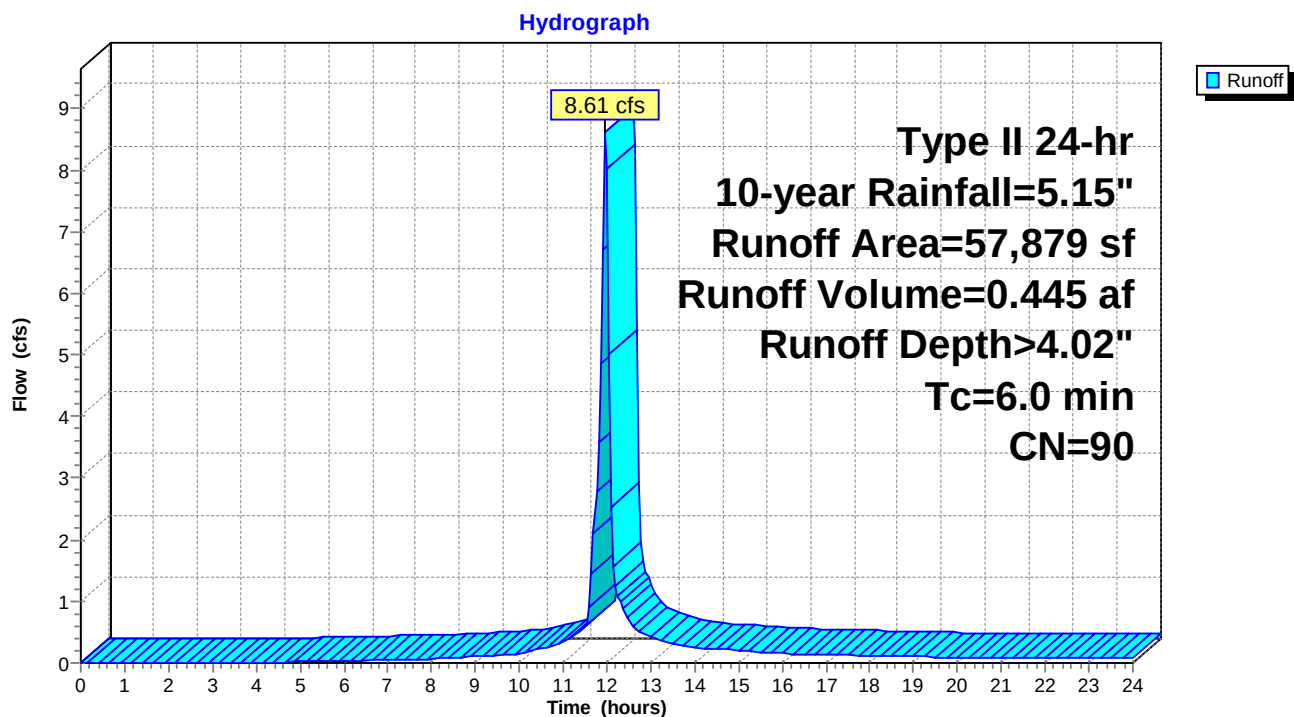
Runoff = 8.61 cfs @ 11.96 hrs, Volume= 0.445 af, Depth> 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=5.15"

Area (sf)	CN	Description
14,969	98	Roofs, HSG A
33,534	98	Paved parking, HSG A
9,376	49	50-75% Grass cover, Fair, HSG A
57,879	90	Weighted Average
9,376		16.20% Pervious Area
48,503		83.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: Existing



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Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Subcatchment 1S: Existing

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.05	2.97	0.37
0.25	0.01	0.00	0.00	13.50	4.11	3.03	0.33
0.50	0.03	0.00	0.00	13.75	4.17	3.08	0.29
0.75	0.04	0.00	0.00	14.00	4.22	3.13	0.26
1.00	0.05	0.00	0.00	14.25	4.27	3.18	0.24
1.25	0.07	0.00	0.00	14.50	4.31	3.22	0.22
1.50	0.08	0.00	0.00	14.75	4.36	3.26	0.21
1.75	0.10	0.00	0.00	15.00	4.40	3.30	0.20
2.00	0.11	0.00	0.00	15.25	4.43	3.33	0.19
2.25	0.13	0.00	0.00	15.50	4.47	3.37	0.18
2.50	0.14	0.00	0.00	15.75	4.50	3.40	0.17
2.75	0.16	0.00	0.00	16.00	4.53	3.43	0.16
3.00	0.18	0.00	0.00	16.25	4.56	3.45	0.15
3.25	0.19	0.00	0.00	16.50	4.59	3.48	0.15
3.50	0.21	0.00	0.00	16.75	4.62	3.51	0.14
3.75	0.23	0.00	0.00	17.00	4.64	3.53	0.14
4.00	0.25	0.00	0.00	17.25	4.67	3.56	0.13
4.25	0.27	0.00	0.01	17.50	4.70	3.58	0.13
4.50	0.28	0.00	0.01	17.75	4.72	3.61	0.12
4.75	0.30	0.01	0.01	18.00	4.74	3.63	0.12
5.00	0.32	0.01	0.02	18.25	4.77	3.65	0.12
5.25	0.35	0.01	0.02	18.50	4.79	3.67	0.11
5.50	0.37	0.02	0.02	18.75	4.81	3.69	0.11
5.75	0.39	0.02	0.03	19.00	4.83	3.71	0.10
6.00	0.41	0.03	0.03	19.25	4.85	3.73	0.10
6.25	0.44	0.03	0.04	19.50	4.87	3.75	0.10
6.50	0.46	0.04	0.04	19.75	4.89	3.77	0.09
6.75	0.48	0.05	0.04	20.00	4.90	3.78	0.09
7.00	0.51	0.06	0.05	20.25	4.92	3.80	0.09
7.25	0.54	0.07	0.05	20.50	4.94	3.81	0.09
7.50	0.56	0.08	0.06	20.75	4.95	3.83	0.08
7.75	0.59	0.09	0.06	21.00	4.97	3.85	0.08
8.00	0.62	0.10	0.07	21.25	4.98	3.86	0.08
8.25	0.65	0.12	0.08	21.50	5.00	3.88	0.08
8.50	0.68	0.13	0.09	21.75	5.02	3.89	0.08
8.75	0.72	0.15	0.10	22.00	5.03	3.91	0.08
9.00	0.76	0.17	0.11	22.25	5.05	3.92	0.08
9.25	0.80	0.20	0.12	22.50	5.06	3.94	0.08
9.50	0.84	0.22	0.13	22.75	5.08	3.95	0.08
9.75	0.88	0.25	0.14	23.00	5.09	3.97	0.08
10.00	0.93	0.28	0.16	23.25	5.11	3.98	0.08
10.25	0.99	0.31	0.19	23.50	5.12	3.99	0.08
10.50	1.05	0.35	0.23	23.75	5.14	4.01	0.07
10.75	1.12	0.40	0.28	24.00	5.15	4.02	0.07
11.00	1.21	0.47	0.33				
11.25	1.32	0.54	0.44				
11.50	1.46	0.65	0.59				
11.75	1.99	1.09	2.79				
12.00	3.41	2.37	8.03				
12.25	3.64	2.58	1.09				
12.50	3.79	2.72	0.70				
12.75	3.89	2.81	0.51				
13.00	3.98	2.90	0.43				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Summary for Subcatchment 2S: Proposed Roof Areas

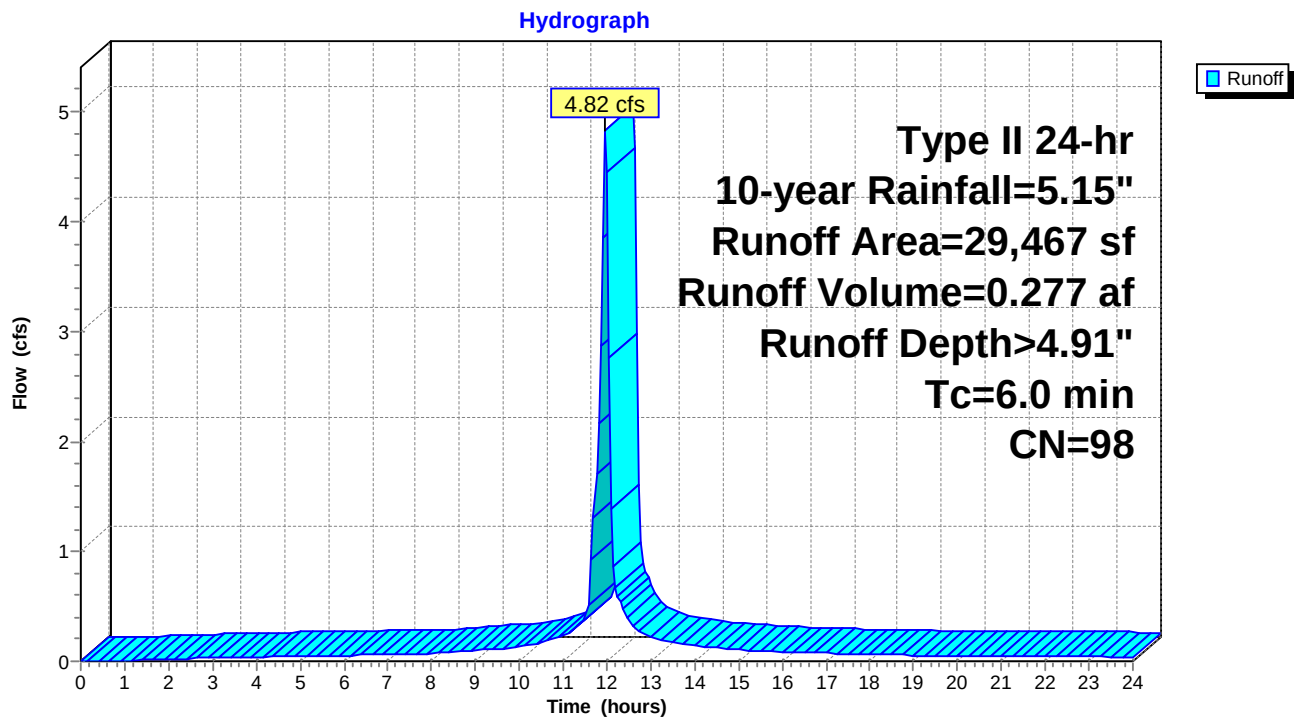
Runoff = 4.82 cfs @ 11.96 hrs, Volume= 0.277 af, Depth> 4.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=5.15"

Area (sf)	CN	Description
29,006	98	Roofs, HSG A
461	98	Roofs, HSG A
29,467	98	Weighted Average
29,467		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: Proposed Roof Areas



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Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Subcatchment 2S: Proposed Roof Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.05	3.81	0.20
0.25	0.01	0.00	0.00	13.50	4.11	3.88	0.17
0.50	0.03	0.00	0.00	13.75	4.17	3.94	0.15
0.75	0.04	0.00	0.00	14.00	4.22	3.99	0.14
1.00	0.05	0.00	0.00	14.25	4.27	4.03	0.13
1.25	0.07	0.00	0.01	14.50	4.31	4.08	0.12
1.50	0.08	0.01	0.01	14.75	4.36	4.12	0.11
1.75	0.10	0.01	0.01	15.00	4.40	4.16	0.11
2.00	0.11	0.02	0.02	15.25	4.43	4.20	0.10
2.25	0.13	0.03	0.02	15.50	4.47	4.23	0.10
2.50	0.14	0.04	0.02	15.75	4.50	4.27	0.09
2.75	0.16	0.04	0.03	16.00	4.53	4.30	0.08
3.00	0.18	0.05	0.03	16.25	4.56	4.33	0.08
3.25	0.19	0.07	0.03	16.50	4.59	4.35	0.08
3.50	0.21	0.08	0.03	16.75	4.62	4.38	0.07
3.75	0.23	0.09	0.03	17.00	4.64	4.41	0.07
4.00	0.25	0.10	0.04	17.25	4.67	4.43	0.07
4.25	0.27	0.12	0.04	17.50	4.70	4.46	0.07
4.50	0.28	0.13	0.04	17.75	4.72	4.48	0.07
4.75	0.30	0.15	0.04	18.00	4.74	4.51	0.06
5.00	0.32	0.16	0.05	18.25	4.77	4.53	0.06
5.25	0.35	0.18	0.05	18.50	4.79	4.55	0.06
5.50	0.37	0.20	0.05	18.75	4.81	4.57	0.06
5.75	0.39	0.22	0.05	19.00	4.83	4.59	0.06
6.00	0.41	0.24	0.05	19.25	4.85	4.61	0.05
6.25	0.44	0.26	0.06	19.50	4.87	4.63	0.05
6.50	0.46	0.28	0.06	19.75	4.89	4.65	0.05
6.75	0.48	0.30	0.06	20.00	4.90	4.67	0.05
7.00	0.51	0.33	0.06	20.25	4.92	4.68	0.05
7.25	0.54	0.35	0.07	20.50	4.94	4.70	0.04
7.50	0.56	0.38	0.07	20.75	4.95	4.72	0.04
7.75	0.59	0.40	0.07	21.00	4.97	4.73	0.04
8.00	0.62	0.43	0.07	21.25	4.98	4.75	0.04
8.25	0.65	0.45	0.08	21.50	5.00	4.76	0.04
8.50	0.68	0.49	0.09	21.75	5.02	4.78	0.04
8.75	0.72	0.52	0.09	22.00	5.03	4.79	0.04
9.00	0.76	0.56	0.10	22.25	5.05	4.81	0.04
9.25	0.80	0.60	0.11	22.50	5.06	4.83	0.04
9.50	0.84	0.64	0.11	22.75	5.08	4.84	0.04
9.75	0.88	0.68	0.12	23.00	5.09	4.86	0.04
10.00	0.93	0.73	0.13	23.25	5.11	4.87	0.04
10.25	0.99	0.78	0.15	23.50	5.12	4.88	0.04
10.50	1.05	0.84	0.17	23.75	5.14	4.90	0.04
10.75	1.12	0.91	0.20	24.00	5.15	4.91	0.04
11.00	1.21	1.00	0.23				
11.25	1.32	1.10	0.30				
11.50	1.46	1.24	0.38				
11.75	1.99	1.77	1.71				
12.00	3.41	3.18	4.45				
12.25	3.64	3.40	0.59				
12.50	3.79	3.55	0.38				
12.75	3.89	3.65	0.28				
13.00	3.98	3.74	0.23				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Summary for Subcatchment 3S: Proposed Open Space

Runoff = 0.01 cfs @ 12.07 hrs, Volume= 0.005 af, Depth> 0.23"

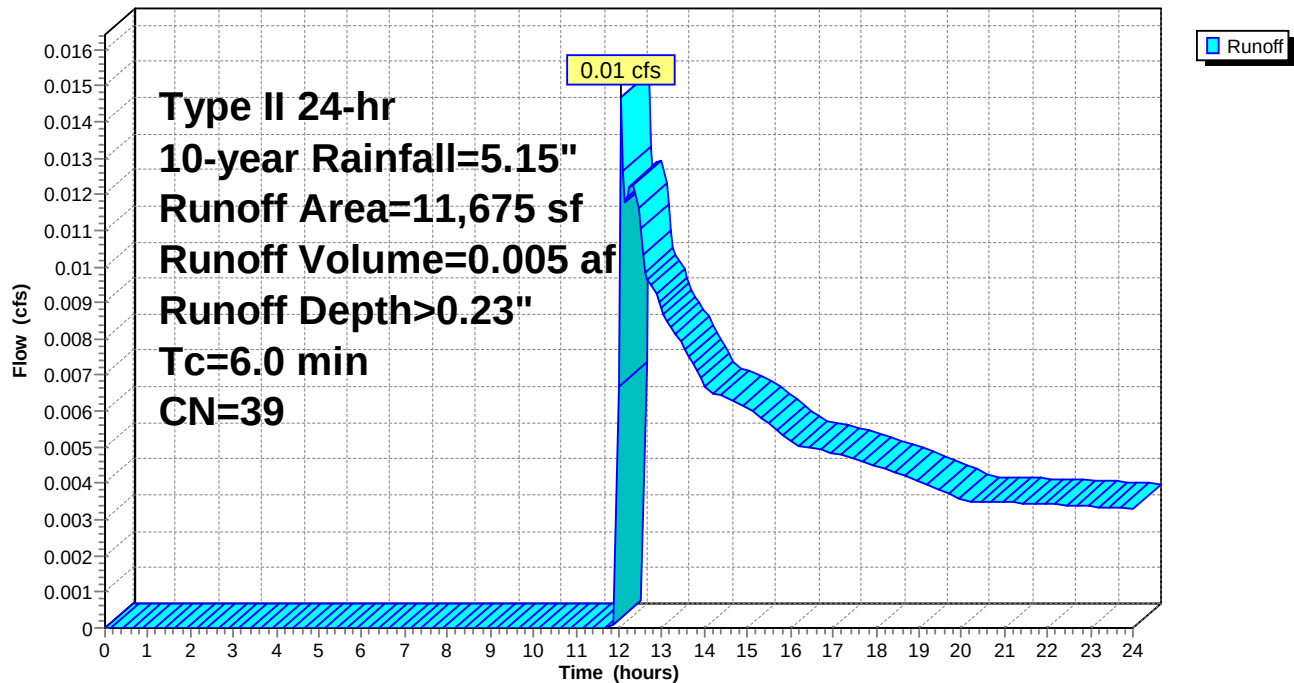
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=5.15"

Area (sf)	CN	Description
11,675	39	>75% Grass cover, Good, HSG A
11,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Grass

Subcatchment 3S: Proposed Open Space

Hydrograph



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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Subcatchment 3S: Proposed Open Space

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.05	0.05	0.01
0.25	0.01	0.00	0.00	13.50	4.11	0.06	0.01
0.50	0.03	0.00	0.00	13.75	4.17	0.07	0.01
0.75	0.04	0.00	0.00	14.00	4.22	0.07	0.01
1.00	0.05	0.00	0.00	14.25	4.27	0.08	0.01
1.25	0.07	0.00	0.00	14.50	4.31	0.08	0.01
1.50	0.08	0.00	0.00	14.75	4.36	0.09	0.01
1.75	0.10	0.00	0.00	15.00	4.40	0.09	0.01
2.00	0.11	0.00	0.00	15.25	4.43	0.10	0.01
2.25	0.13	0.00	0.00	15.50	4.47	0.11	0.01
2.50	0.14	0.00	0.00	15.75	4.50	0.11	0.01
2.75	0.16	0.00	0.00	16.00	4.53	0.12	0.01
3.00	0.18	0.00	0.00	16.25	4.56	0.12	0.01
3.25	0.19	0.00	0.00	16.50	4.59	0.12	0.00
3.50	0.21	0.00	0.00	16.75	4.62	0.13	0.00
3.75	0.23	0.00	0.00	17.00	4.64	0.13	0.00
4.00	0.25	0.00	0.00	17.25	4.67	0.14	0.00
4.25	0.27	0.00	0.00	17.50	4.70	0.14	0.00
4.50	0.28	0.00	0.00	17.75	4.72	0.15	0.00
4.75	0.30	0.00	0.00	18.00	4.74	0.15	0.00
5.00	0.32	0.00	0.00	18.25	4.77	0.16	0.00
5.25	0.35	0.00	0.00	18.50	4.79	0.16	0.00
5.50	0.37	0.00	0.00	18.75	4.81	0.16	0.00
5.75	0.39	0.00	0.00	19.00	4.83	0.17	0.00
6.00	0.41	0.00	0.00	19.25	4.85	0.17	0.00
6.25	0.44	0.00	0.00	19.50	4.87	0.17	0.00
6.50	0.46	0.00	0.00	19.75	4.89	0.18	0.00
6.75	0.48	0.00	0.00	20.00	4.90	0.18	0.00
7.00	0.51	0.00	0.00	20.25	4.92	0.18	0.00
7.25	0.54	0.00	0.00	20.50	4.94	0.19	0.00
7.50	0.56	0.00	0.00	20.75	4.95	0.19	0.00
7.75	0.59	0.00	0.00	21.00	4.97	0.19	0.00
8.00	0.62	0.00	0.00	21.25	4.98	0.20	0.00
8.25	0.65	0.00	0.00	21.50	5.00	0.20	0.00
8.50	0.68	0.00	0.00	21.75	5.02	0.20	0.00
8.75	0.72	0.00	0.00	22.00	5.03	0.21	0.00
9.00	0.76	0.00	0.00	22.25	5.05	0.21	0.00
9.25	0.80	0.00	0.00	22.50	5.06	0.21	0.00
9.50	0.84	0.00	0.00	22.75	5.08	0.22	0.00
9.75	0.88	0.00	0.00	23.00	5.09	0.22	0.00
10.00	0.93	0.00	0.00	23.25	5.11	0.22	0.00
10.25	0.99	0.00	0.00	23.50	5.12	0.23	0.00
10.50	1.05	0.00	0.00	23.75	5.14	0.23	0.00
10.75	1.12	0.00	0.00	24.00	5.15	0.23	0.00
11.00	1.21	0.00	0.00				
11.25	1.32	0.00	0.00				
11.50	1.46	0.00	0.00				
11.75	1.99	0.00	0.00				
12.00	3.41	0.01	0.01				
12.25	3.64	0.02	0.01				
12.50	3.79	0.03	0.01				
12.75	3.89	0.04	0.01				
13.00	3.98	0.04	0.01				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Summary for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

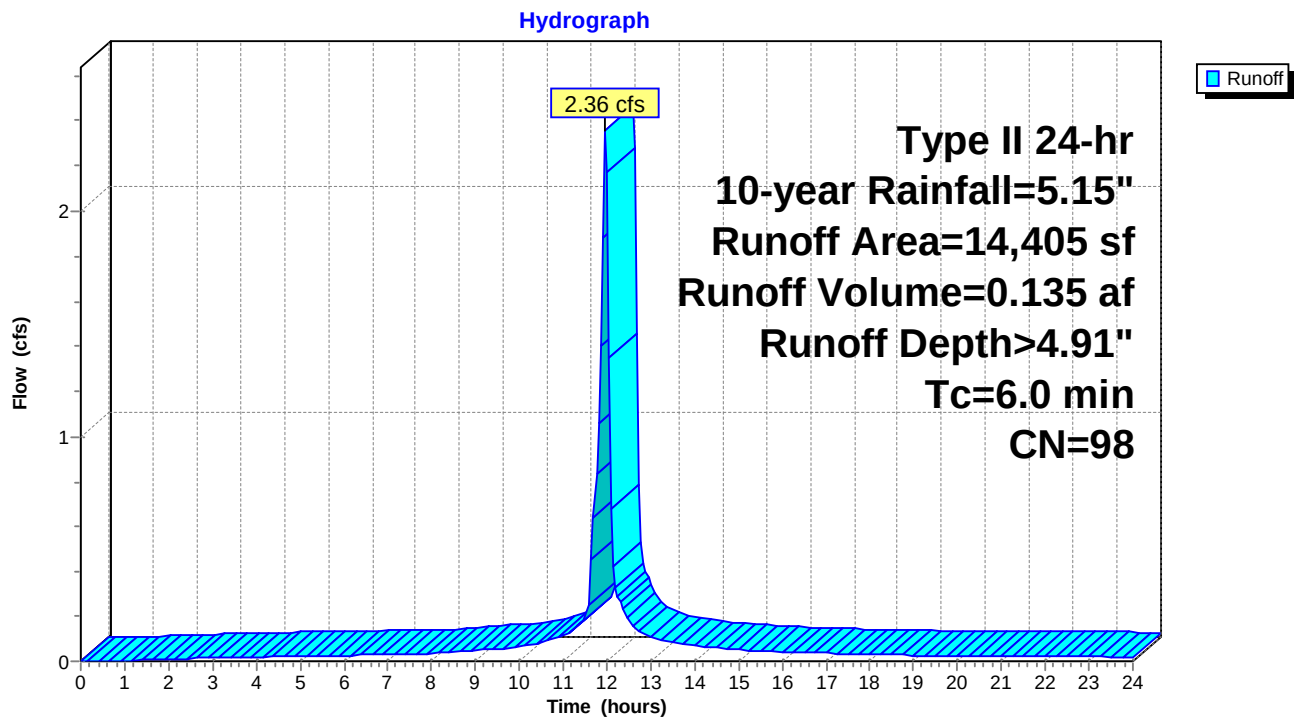
Runoff = 2.36 cfs @ 11.96 hrs, Volume= 0.135 af, Depth> 4.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=5.15"

Area (sf)	CN	Description
13,199	98	Paved parking, HSG A
* 1,206	98	Walkway
14,405	98	Weighted Average
14,405		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavement

Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas



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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.05	3.81	0.10
0.25	0.01	0.00	0.00	13.50	4.11	3.88	0.08
0.50	0.03	0.00	0.00	13.75	4.17	3.94	0.08
0.75	0.04	0.00	0.00	14.00	4.22	3.99	0.07
1.00	0.05	0.00	0.00	14.25	4.27	4.03	0.06
1.25	0.07	0.00	0.00	14.50	4.31	4.08	0.06
1.50	0.08	0.01	0.01	14.75	4.36	4.12	0.06
1.75	0.10	0.01	0.01	15.00	4.40	4.16	0.05
2.00	0.11	0.02	0.01	15.25	4.43	4.20	0.05
2.25	0.13	0.03	0.01	15.50	4.47	4.23	0.05
2.50	0.14	0.04	0.01	15.75	4.50	4.27	0.04
2.75	0.16	0.04	0.01	16.00	4.53	4.30	0.04
3.00	0.18	0.05	0.01	16.25	4.56	4.33	0.04
3.25	0.19	0.07	0.01	16.50	4.59	4.35	0.04
3.50	0.21	0.08	0.02	16.75	4.62	4.38	0.04
3.75	0.23	0.09	0.02	17.00	4.64	4.41	0.04
4.00	0.25	0.10	0.02	17.25	4.67	4.43	0.03
4.25	0.27	0.12	0.02	17.50	4.70	4.46	0.03
4.50	0.28	0.13	0.02	17.75	4.72	4.48	0.03
4.75	0.30	0.15	0.02	18.00	4.74	4.51	0.03
5.00	0.32	0.16	0.02	18.25	4.77	4.53	0.03
5.25	0.35	0.18	0.02	18.50	4.79	4.55	0.03
5.50	0.37	0.20	0.02	18.75	4.81	4.57	0.03
5.75	0.39	0.22	0.03	19.00	4.83	4.59	0.03
6.00	0.41	0.24	0.03	19.25	4.85	4.61	0.03
6.25	0.44	0.26	0.03	19.50	4.87	4.63	0.02
6.50	0.46	0.28	0.03	19.75	4.89	4.65	0.02
6.75	0.48	0.30	0.03	20.00	4.90	4.67	0.02
7.00	0.51	0.33	0.03	20.25	4.92	4.68	0.02
7.25	0.54	0.35	0.03	20.50	4.94	4.70	0.02
7.50	0.56	0.38	0.03	20.75	4.95	4.72	0.02
7.75	0.59	0.40	0.03	21.00	4.97	4.73	0.02
8.00	0.62	0.43	0.03	21.25	4.98	4.75	0.02
8.25	0.65	0.45	0.04	21.50	5.00	4.76	0.02
8.50	0.68	0.49	0.04	21.75	5.02	4.78	0.02
8.75	0.72	0.52	0.05	22.00	5.03	4.79	0.02
9.00	0.76	0.56	0.05	22.25	5.05	4.81	0.02
9.25	0.80	0.60	0.05	22.50	5.06	4.83	0.02
9.50	0.84	0.64	0.05	22.75	5.08	4.84	0.02
9.75	0.88	0.68	0.06	23.00	5.09	4.86	0.02
10.00	0.93	0.73	0.06	23.25	5.11	4.87	0.02
10.25	0.99	0.78	0.07	23.50	5.12	4.88	0.02
10.50	1.05	0.84	0.08	23.75	5.14	4.90	0.02
10.75	1.12	0.91	0.10	24.00	5.15	4.91	0.02
11.00	1.21	1.00	0.11				
11.25	1.32	1.10	0.15				
11.50	1.46	1.24	0.19				
11.75	1.99	1.77	0.84				
12.00	3.41	3.18	2.18				
12.25	3.64	3.40	0.29				
12.50	3.79	3.55	0.19				
12.75	3.89	3.65	0.14				
13.00	3.98	3.74	0.11				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Summary for Subcatchment 5S: Proposed Courtyard Walkway Areas

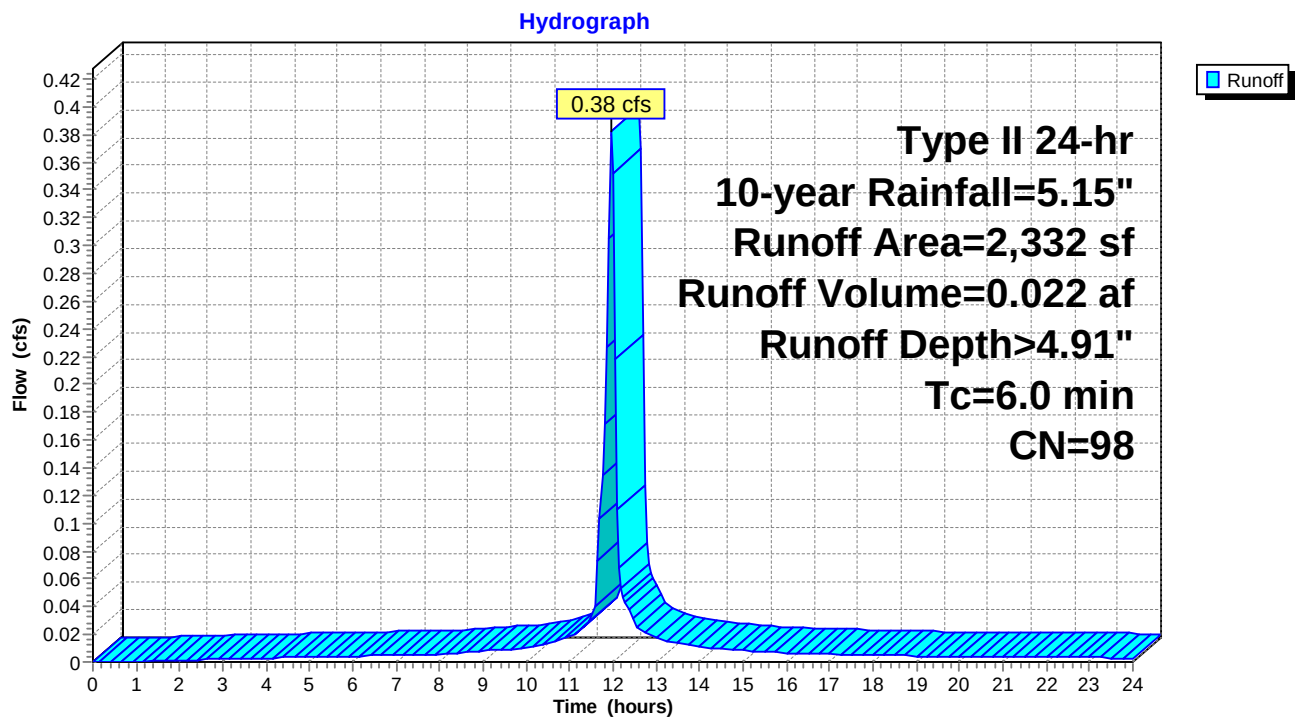
Runoff = 0.38 cfs @ 11.96 hrs, Volume= 0.022 af, Depth> 4.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=5.15"

	Area (sf)	CN	Description
*	2,332	98	Walkway
	2,332		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavers

Subcatchment 5S: Proposed Courtyard Walkway Areas



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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Subcatchment 5S: Proposed Courtyard Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.05	3.81	0.02
0.25	0.01	0.00	0.00	13.50	4.11	3.88	0.01
0.50	0.03	0.00	0.00	13.75	4.17	3.94	0.01
0.75	0.04	0.00	0.00	14.00	4.22	3.99	0.01
1.00	0.05	0.00	0.00	14.25	4.27	4.03	0.01
1.25	0.07	0.00	0.00	14.50	4.31	4.08	0.01
1.50	0.08	0.01	0.00	14.75	4.36	4.12	0.01
1.75	0.10	0.01	0.00	15.00	4.40	4.16	0.01
2.00	0.11	0.02	0.00	15.25	4.43	4.20	0.01
2.25	0.13	0.03	0.00	15.50	4.47	4.23	0.01
2.50	0.14	0.04	0.00	15.75	4.50	4.27	0.01
2.75	0.16	0.04	0.00	16.00	4.53	4.30	0.01
3.00	0.18	0.05	0.00	16.25	4.56	4.33	0.01
3.25	0.19	0.07	0.00	16.50	4.59	4.35	0.01
3.50	0.21	0.08	0.00	16.75	4.62	4.38	0.01
3.75	0.23	0.09	0.00	17.00	4.64	4.41	0.01
4.00	0.25	0.10	0.00	17.25	4.67	4.43	0.01
4.25	0.27	0.12	0.00	17.50	4.70	4.46	0.01
4.50	0.28	0.13	0.00	17.75	4.72	4.48	0.01
4.75	0.30	0.15	0.00	18.00	4.74	4.51	0.01
5.00	0.32	0.16	0.00	18.25	4.77	4.53	0.00
5.25	0.35	0.18	0.00	18.50	4.79	4.55	0.00
5.50	0.37	0.20	0.00	18.75	4.81	4.57	0.00
5.75	0.39	0.22	0.00	19.00	4.83	4.59	0.00
6.00	0.41	0.24	0.00	19.25	4.85	4.61	0.00
6.25	0.44	0.26	0.00	19.50	4.87	4.63	0.00
6.50	0.46	0.28	0.00	19.75	4.89	4.65	0.00
6.75	0.48	0.30	0.00	20.00	4.90	4.67	0.00
7.00	0.51	0.33	0.00	20.25	4.92	4.68	0.00
7.25	0.54	0.35	0.01	20.50	4.94	4.70	0.00
7.50	0.56	0.38	0.01	20.75	4.95	4.72	0.00
7.75	0.59	0.40	0.01	21.00	4.97	4.73	0.00
8.00	0.62	0.43	0.01	21.25	4.98	4.75	0.00
8.25	0.65	0.45	0.01	21.50	5.00	4.76	0.00
8.50	0.68	0.49	0.01	21.75	5.02	4.78	0.00
8.75	0.72	0.52	0.01	22.00	5.03	4.79	0.00
9.00	0.76	0.56	0.01	22.25	5.05	4.81	0.00
9.25	0.80	0.60	0.01	22.50	5.06	4.83	0.00
9.50	0.84	0.64	0.01	22.75	5.08	4.84	0.00
9.75	0.88	0.68	0.01	23.00	5.09	4.86	0.00
10.00	0.93	0.73	0.01	23.25	5.11	4.87	0.00
10.25	0.99	0.78	0.01	23.50	5.12	4.88	0.00
10.50	1.05	0.84	0.01	23.75	5.14	4.90	0.00
10.75	1.12	0.91	0.02	24.00	5.15	4.91	0.00
11.00	1.21	1.00	0.02				
11.25	1.32	1.10	0.02				
11.50	1.46	1.24	0.03				
11.75	1.99	1.77	0.14				
12.00	3.41	3.18	0.35				
12.25	3.64	3.40	0.05				
12.50	3.79	3.55	0.03				
12.75	3.89	3.65	0.02				
13.00	3.98	3.74	0.02				

Summary for Reach 1R: Charles River

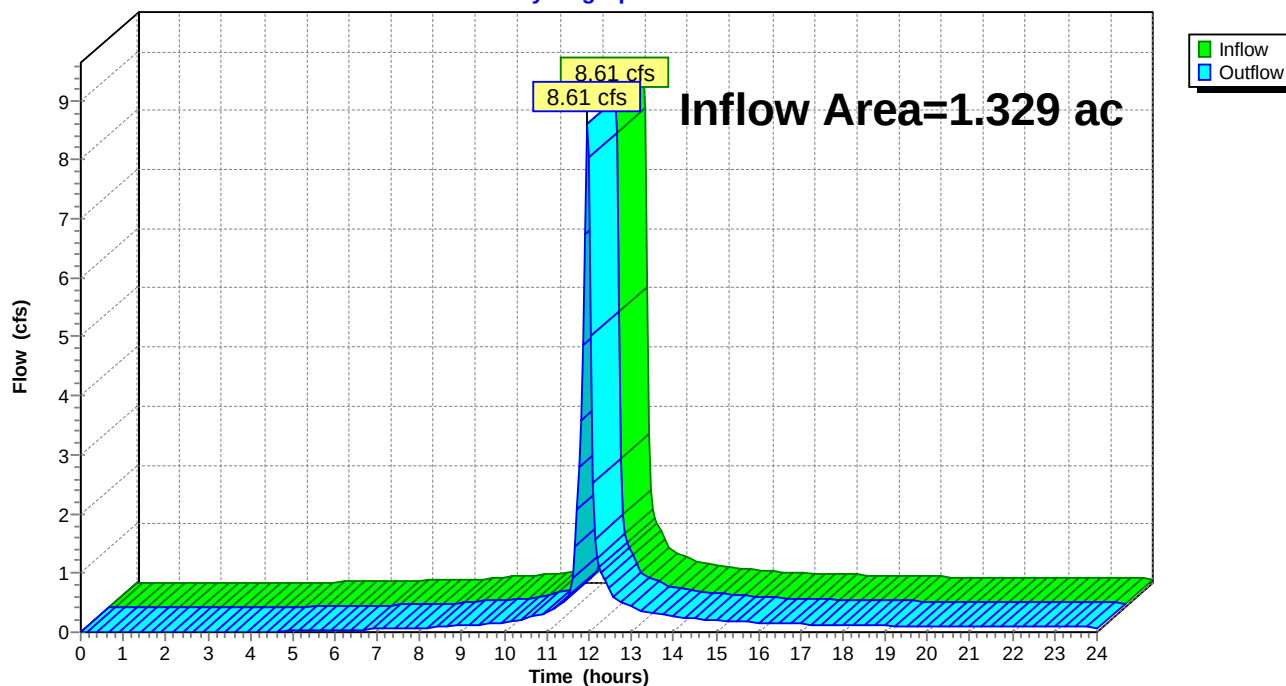
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.329 ac, 83.80% Impervious, Inflow Depth > 4.02" for 10-year event
 Inflow = 8.61 cfs @ 11.96 hrs, Volume= 0.445 af
 Outflow = 8.61 cfs @ 11.96 hrs, Volume= 0.445 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Charles River

Hydrograph



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Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Reach 1R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.37		0.37
0.25	0.00		0.00	13.50	0.33		0.33
0.50	0.00		0.00	13.75	0.29		0.29
0.75	0.00		0.00	14.00	0.26		0.26
1.00	0.00		0.00	14.25	0.24		0.24
1.25	0.00		0.00	14.50	0.22		0.22
1.50	0.00		0.00	14.75	0.21		0.21
1.75	0.00		0.00	15.00	0.20		0.20
2.00	0.00		0.00	15.25	0.19		0.19
2.25	0.00		0.00	15.50	0.18		0.18
2.50	0.00		0.00	15.75	0.17		0.17
2.75	0.00		0.00	16.00	0.16		0.16
3.00	0.00		0.00	16.25	0.15		0.15
3.25	0.00		0.00	16.50	0.15		0.15
3.50	0.00		0.00	16.75	0.14		0.14
3.75	0.00		0.00	17.00	0.14		0.14
4.00	0.00		0.00	17.25	0.13		0.13
4.25	0.01		0.01	17.50	0.13		0.13
4.50	0.01		0.01	17.75	0.12		0.12
4.75	0.01		0.01	18.00	0.12		0.12
5.00	0.02		0.02	18.25	0.12		0.12
5.25	0.02		0.02	18.50	0.11		0.11
5.50	0.02		0.02	18.75	0.11		0.11
5.75	0.03		0.03	19.00	0.10		0.10
6.00	0.03		0.03	19.25	0.10		0.10
6.25	0.04		0.04	19.50	0.10		0.10
6.50	0.04		0.04	19.75	0.09		0.09
6.75	0.04		0.04	20.00	0.09		0.09
7.00	0.05		0.05	20.25	0.09		0.09
7.25	0.05		0.05	20.50	0.09		0.09
7.50	0.06		0.06	20.75	0.08		0.08
7.75	0.06		0.06	21.00	0.08		0.08
8.00	0.07		0.07	21.25	0.08		0.08
8.25	0.08		0.08	21.50	0.08		0.08
8.50	0.09		0.09	21.75	0.08		0.08
8.75	0.10		0.10	22.00	0.08		0.08
9.00	0.11		0.11	22.25	0.08		0.08
9.25	0.12		0.12	22.50	0.08		0.08
9.50	0.13		0.13	22.75	0.08		0.08
9.75	0.14		0.14	23.00	0.08		0.08
10.00	0.16		0.16	23.25	0.08		0.08
10.25	0.19		0.19	23.50	0.08		0.08
10.50	0.23		0.23	23.75	0.07		0.07
10.75	0.28		0.28	24.00	0.07		0.07
11.00	0.33		0.33				
11.25	0.44		0.44				
11.50	0.59		0.59				
11.75	2.79		2.79				
12.00	8.03		8.03				
12.25	1.09		1.09				
12.50	0.70		0.70				
12.75	0.51		0.51				
13.00	0.43		0.43				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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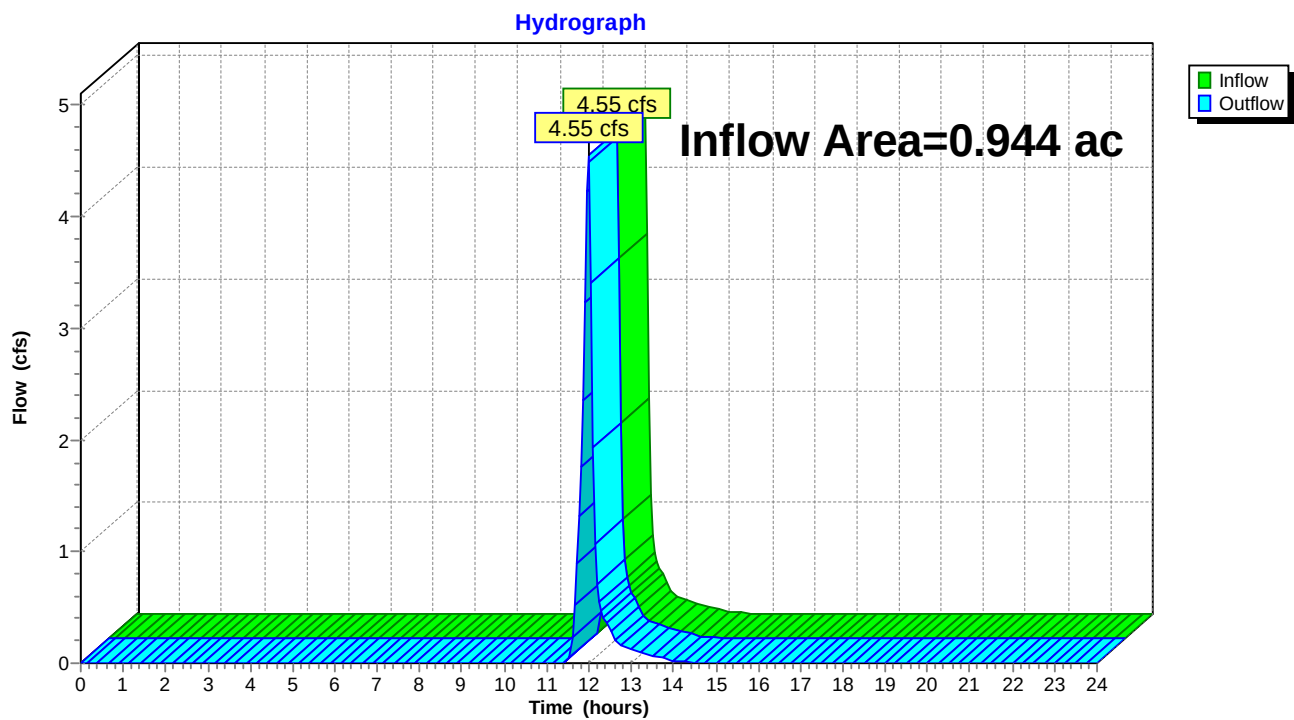
Summary for Reach 2R: Charles River

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.944 ac, 71.62% Impervious, Inflow Depth > 1.70" for 10-year event
Inflow = 4.55 cfs @ 11.98 hrs, Volume= 0.134 af
Outflow = 4.55 cfs @ 11.98 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 2R: Charles River



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Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Reach 2R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.09		0.09
0.25	0.00		0.00	13.50	0.06		0.06
0.50	0.00		0.00	13.75	0.04		0.04
0.75	0.00		0.00	14.00	0.02		0.02
1.00	0.00		0.00	14.25	0.01		0.01
1.25	0.00		0.00	14.50	0.01		0.01
1.50	0.00		0.00	14.75	0.01		0.01
1.75	0.00		0.00	15.00	0.01		0.01
2.00	0.00		0.00	15.25	0.01		0.01
2.25	0.00		0.00	15.50	0.01		0.01
2.50	0.00		0.00	15.75	0.01		0.01
2.75	0.00		0.00	16.00	0.01		0.01
3.00	0.00		0.00	16.25	0.01		0.01
3.25	0.00		0.00	16.50	0.00		0.00
3.50	0.00		0.00	16.75	0.00		0.00
3.75	0.00		0.00	17.00	0.00		0.00
4.00	0.00		0.00	17.25	0.00		0.00
4.25	0.00		0.00	17.50	0.00		0.00
4.50	0.00		0.00	17.75	0.00		0.00
4.75	0.00		0.00	18.00	0.00		0.00
5.00	0.00		0.00	18.25	0.00		0.00
5.25	0.00		0.00	18.50	0.00		0.00
5.50	0.00		0.00	18.75	0.00		0.00
5.75	0.00		0.00	19.00	0.00		0.00
6.00	0.00		0.00	19.25	0.00		0.00
6.25	0.00		0.00	19.50	0.00		0.00
6.50	0.00		0.00	19.75	0.00		0.00
6.75	0.00		0.00	20.00	0.00		0.00
7.00	0.00		0.00	20.25	0.00		0.00
7.25	0.00		0.00	20.50	0.00		0.00
7.50	0.00		0.00	20.75	0.00		0.00
7.75	0.00		0.00	21.00	0.00		0.00
8.00	0.00		0.00	21.25	0.00		0.00
8.25	0.00		0.00	21.50	0.00		0.00
8.50	0.00		0.00	21.75	0.00		0.00
8.75	0.00		0.00	22.00	0.00		0.00
9.00	0.00		0.00	22.25	0.00		0.00
9.25	0.00		0.00	22.50	0.00		0.00
9.50	0.00		0.00	22.75	0.00		0.00
9.75	0.00		0.00	23.00	0.00		0.00
10.00	0.00		0.00	23.25	0.00		0.00
10.25	0.00		0.00	23.50	0.00		0.00
10.50	0.00		0.00	23.75	0.00		0.00
10.75	0.00		0.00	24.00	0.00		0.00
11.00	0.00		0.00				
11.25	0.00		0.00				
11.50	0.00		0.00				
11.75	1.31		1.31				
12.00	4.49		4.49				
12.25	0.55		0.55				
12.50	0.30		0.30				
12.75	0.17		0.17				
13.00	0.12		0.12				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Summary for Pond 1P: Infiltration Swale

Inflow Area = 0.676 ac, 100.00% Impervious, Inflow Depth > 4.91" for 10-year event
Inflow = 4.82 cfs @ 11.96 hrs, Volume= 0.277 af
Outflow = 4.70 cfs @ 11.98 hrs, Volume= 0.274 af, Atten= 3%, Lag= 1.4 min
Discarded = 0.15 cfs @ 11.98 hrs, Volume= 0.145 af
Primary = 4.55 cfs @ 11.98 hrs, Volume= 0.129 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 46.49' @ 11.98 hrs Surf.Area= 2,749 sf Storage= 1,571 cf

Plug-Flow detention time= 53.3 min calculated for 0.274 af (99% of inflow)
Center-of-Mass det. time= 46.3 min (789.2 - 742.9)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	1,932 cf	2.00'W x 220.00'L x 2.80'H Prismatic Z=2.0 4,830 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	44.00'	2.410 in/hr Exfiltration over Surface area
#2	Primary	46.00'	45.0 deg x 4.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir Cv= 2.56 (C= 3.20)

Discarded OutFlow Max=0.15 cfs @ 11.98 hrs HW=46.48' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=4.40 cfs @ 11.98 hrs HW=46.48' (Free Discharge)
↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 4.40 cfs @ 2.19 fps)

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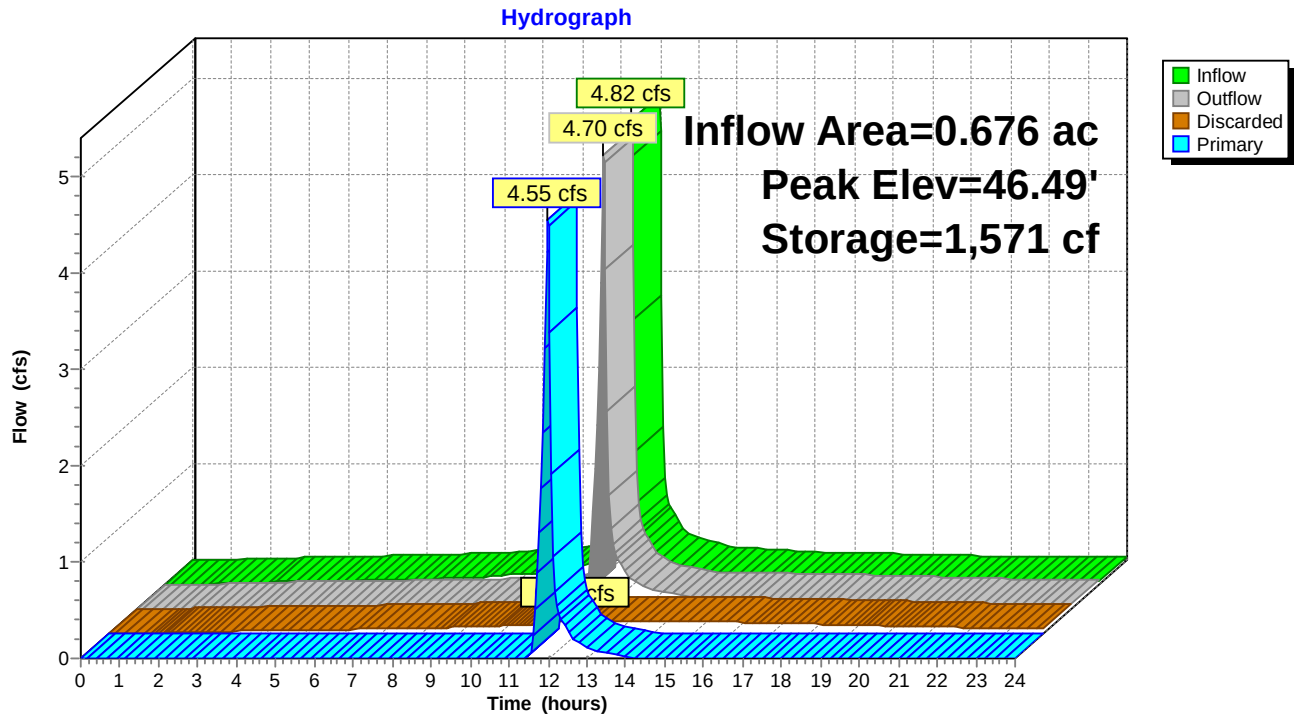
49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

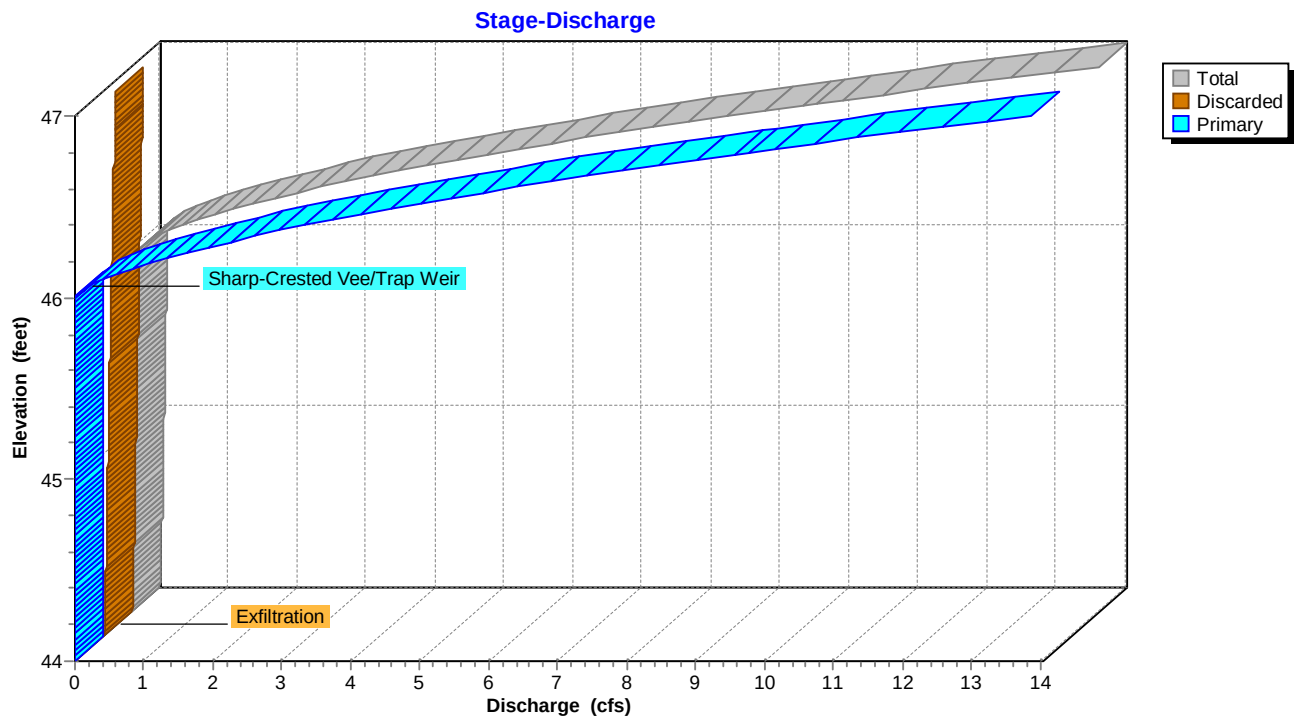
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Pond 1P: Infiltration Swale

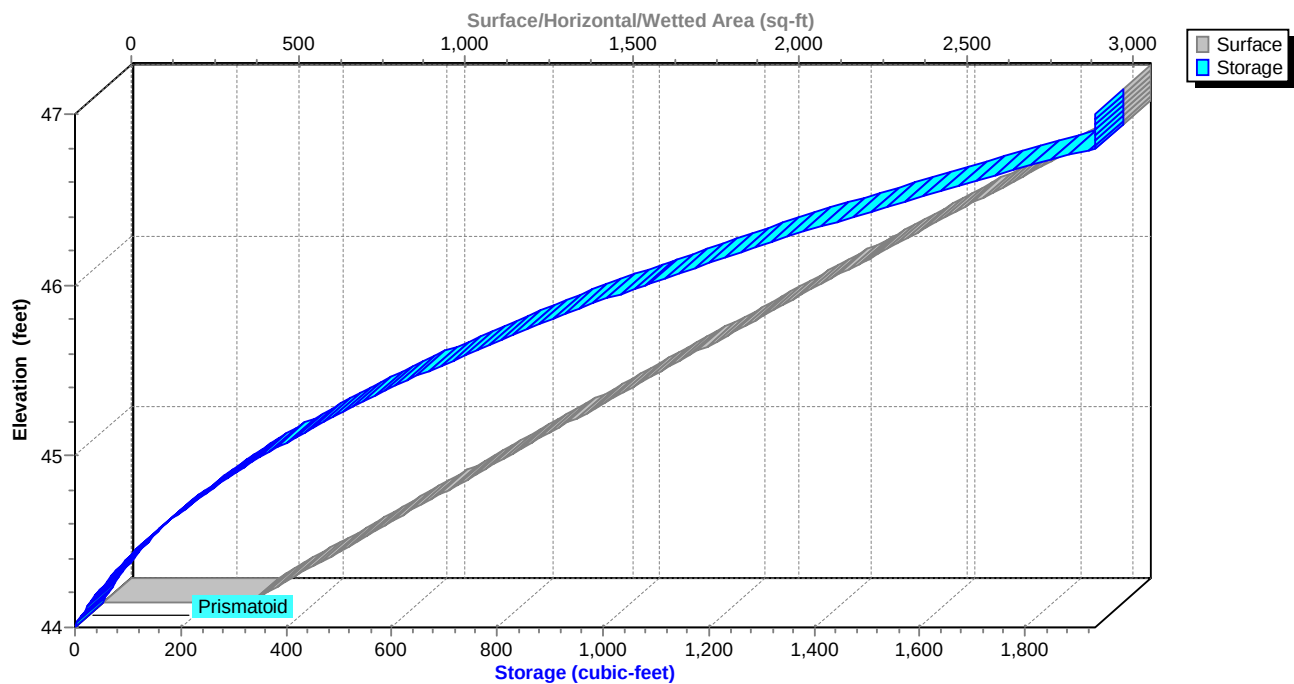


Pond 1P: Infiltration Swale



Pond 1P: Infiltration Swale

Stage-Area-Storage



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Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Pond 1P: Infiltration Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	44.00	0.00	0.00	0.00
0.50	0.00	0	44.00	0.00	0.00	0.00
1.00	0.00	0	44.00	0.00	0.00	0.00
1.50	0.01	2	44.01	0.01	0.01	0.00
2.00	0.02	4	44.02	0.02	0.02	0.00
2.50	0.02	5	44.03	0.02	0.02	0.00
3.00	0.03	6	44.04	0.03	0.03	0.00
3.50	0.03	13	44.07	0.03	0.03	0.00
4.00	0.04	23	44.12	0.03	0.03	0.00
4.50	0.04	35	44.17	0.03	0.03	0.00
5.00	0.05	51	44.23	0.04	0.04	0.00
5.50	0.05	69	44.30	0.04	0.04	0.00
6.00	0.05	89	44.37	0.04	0.04	0.00
6.50	0.06	110	44.44	0.05	0.05	0.00
7.00	0.06	134	44.50	0.05	0.05	0.00
7.50	0.07	158	44.57	0.05	0.05	0.00
8.00	0.07	184	44.64	0.06	0.06	0.00
8.50	0.09	219	44.72	0.06	0.06	0.00
9.00	0.10	275	44.84	0.07	0.07	0.00
9.50	0.11	341	44.97	0.07	0.07	0.00
10.00	0.13	414	45.10	0.08	0.08	0.00
10.50	0.17	529	45.29	0.09	0.09	0.00
11.00	0.23	715	45.56	0.10	0.10	0.00
11.50	0.38	1,054	45.97	0.13	0.13	0.00
12.00	4.45	1,566	46.48	4.64	0.15	4.49
12.50	0.38	1,152	46.08	0.42	0.13	0.28
13.00	0.23	1,118	46.04	0.24	0.13	0.11
13.50	0.17	1,101	46.02	0.18	0.13	0.05
14.00	0.14	1,089	46.01	0.14	0.13	0.01
14.50	0.12	1,077	46.00	0.13	0.13	0.00
15.00	0.11	1,054	45.97	0.13	0.13	0.00
15.50	0.10	1,012	45.93	0.12	0.12	0.00
16.00	0.08	954	45.86	0.12	0.12	0.00
16.50	0.08	885	45.78	0.12	0.12	0.00
17.00	0.07	816	45.69	0.11	0.11	0.00
17.50	0.07	748	45.60	0.11	0.11	0.00
18.00	0.06	680	45.51	0.10	0.10	0.00
18.50	0.06	613	45.42	0.10	0.10	0.00
19.00	0.06	547	45.32	0.09	0.09	0.00
19.50	0.05	482	45.22	0.09	0.09	0.00
20.00	0.05	419	45.11	0.08	0.08	0.00
20.50	0.04	360	45.01	0.08	0.08	0.00
21.00	0.04	309	44.91	0.07	0.07	0.00
21.50	0.04	265	44.82	0.07	0.07	0.00
22.00	0.04	227	44.74	0.06	0.06	0.00
22.50	0.04	195	44.66	0.06	0.06	0.00
23.00	0.04	168	44.60	0.05	0.05	0.00
23.50	0.04	145	44.53	0.05	0.05	0.00
24.00	0.04	126	44.48	0.05	0.05	0.00

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Type II 24-hr 10-year Rainfall=5.15"

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Stage-Discharge for Pond 1P: Infiltration Swale

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
44.00	0.00	0.00	0.00	46.65	7.23	0.16	7.07
44.05	0.03	0.03	0.00	46.70	8.10	0.16	7.93
44.10	0.03	0.03	0.00	46.75	9.00	0.17	8.83
44.15	0.03	0.03	0.00	46.80	9.94	0.17	9.77
44.20	0.03	0.03	0.00	46.85	10.91	0.17	10.74
44.25	0.04	0.04	0.00	46.90	11.91	0.17	11.74
44.30	0.04	0.04	0.00	46.95	12.96	0.17	12.78
44.35	0.04	0.04	0.00	47.00	14.03	0.17	13.86
44.40	0.04	0.04	0.00				
44.45	0.05	0.05	0.00				
44.50	0.05	0.05	0.00				
44.55	0.05	0.05	0.00				
44.60	0.05	0.05	0.00				
44.65	0.06	0.06	0.00				
44.70	0.06	0.06	0.00				
44.75	0.06	0.06	0.00				
44.80	0.06	0.06	0.00				
44.85	0.07	0.07	0.00				
44.90	0.07	0.07	0.00				
44.95	0.07	0.07	0.00				
45.00	0.07	0.07	0.00				
45.05	0.08	0.08	0.00				
45.10	0.08	0.08	0.00				
45.15	0.08	0.08	0.00				
45.20	0.09	0.09	0.00				
45.25	0.09	0.09	0.00				
45.30	0.09	0.09	0.00				
45.35	0.09	0.09	0.00				
45.40	0.10	0.10	0.00				
45.45	0.10	0.10	0.00				
45.50	0.10	0.10	0.00				
45.55	0.10	0.10	0.00				
45.60	0.11	0.11	0.00				
45.65	0.11	0.11	0.00				
45.70	0.11	0.11	0.00				
45.75	0.11	0.11	0.00				
45.80	0.12	0.12	0.00				
45.85	0.12	0.12	0.00				
45.90	0.12	0.12	0.00				
45.95	0.12	0.12	0.00				
46.00	0.13	0.13	0.00				
46.05	0.27	0.13	0.14				
46.10	0.54	0.13	0.41				
46.15	0.89	0.14	0.75				
46.20	1.30	0.14	1.16				
46.25	1.77	0.14	1.63				
46.30	2.30	0.14	2.16				
46.35	2.87	0.15	2.73				
46.40	3.49	0.15	3.35				
46.45	4.16	0.15	4.01				
46.50	4.87	0.15	4.71				
46.55	5.62	0.16	5.46				
46.60	6.40	0.16	6.24				

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Type II 24-hr 10-year Rainfall=5.15"

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Summary for Pond 2P: Porous Pavement

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth > 4.91" for 10-year event
 Inflow = 2.36 cfs @ 11.96 hrs, Volume= 0.135 af
 Outflow = 0.77 cfs @ 11.80 hrs, Volume= 0.135 af, Atten= 67%, Lag= 0.0 min
 Discarded = 0.77 cfs @ 11.80 hrs, Volume= 0.135 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 45.38' @ 12.10 hrs Surf.Area= 13,199 sf Storage= 1,086 cf

Plug-Flow detention time= 6.5 min calculated for 0.135 af (100% of inflow)
 Center-of-Mass det. time= 6.3 min (749.1 - 742.9)

Volume	Invert	Avail.Storage	Storage Description
#1	45.17'	7,919 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 19,799 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.17	13,199	0	0
46.67	13,199	19,799	19,799

Device	Routing	Invert	Outlet Devices
#1	Discarded	45.17'	2.510 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.77 cfs @ 11.80 hrs HW=45.19' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.77 cfs)

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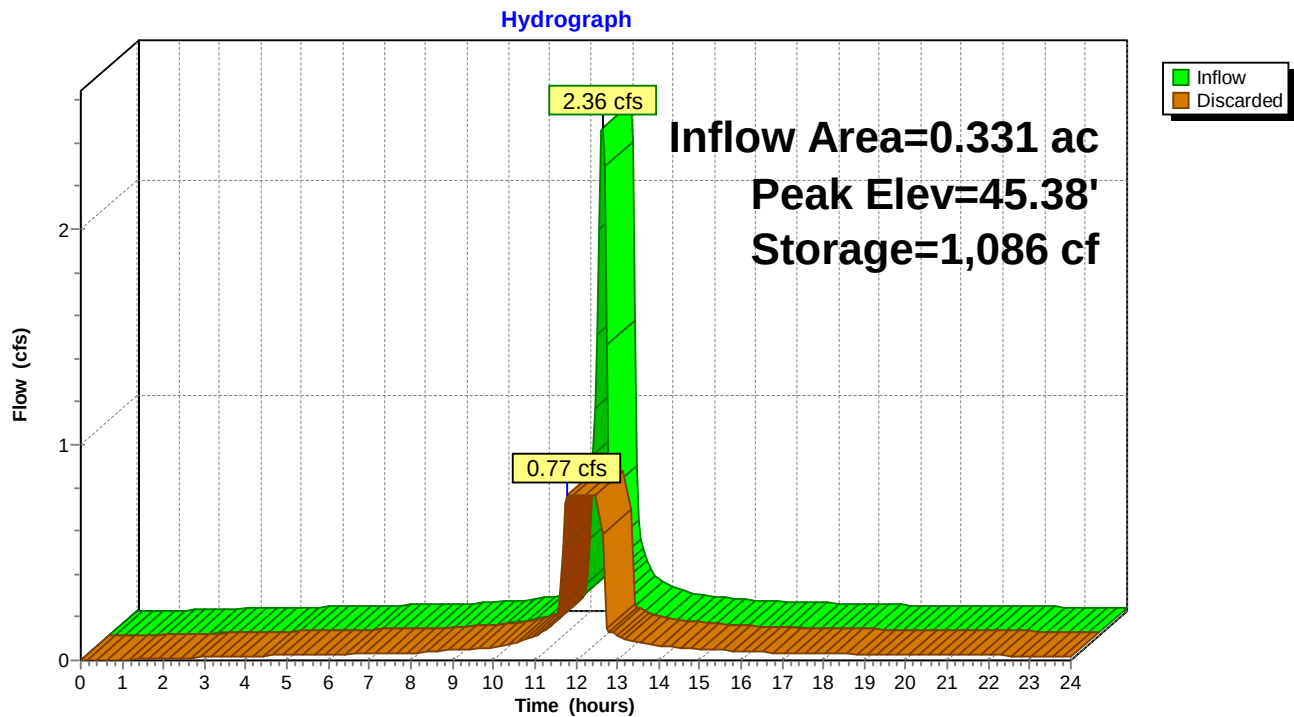
49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

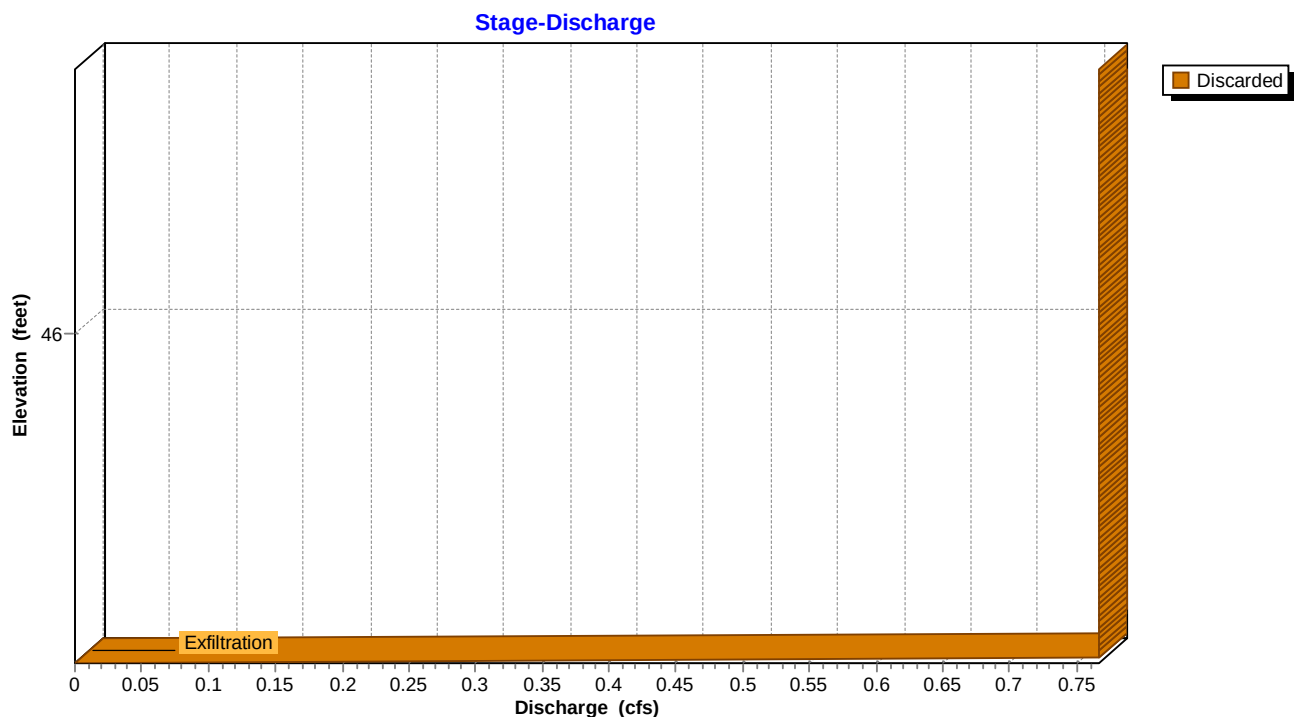
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Pond 2P: Porous Pavement

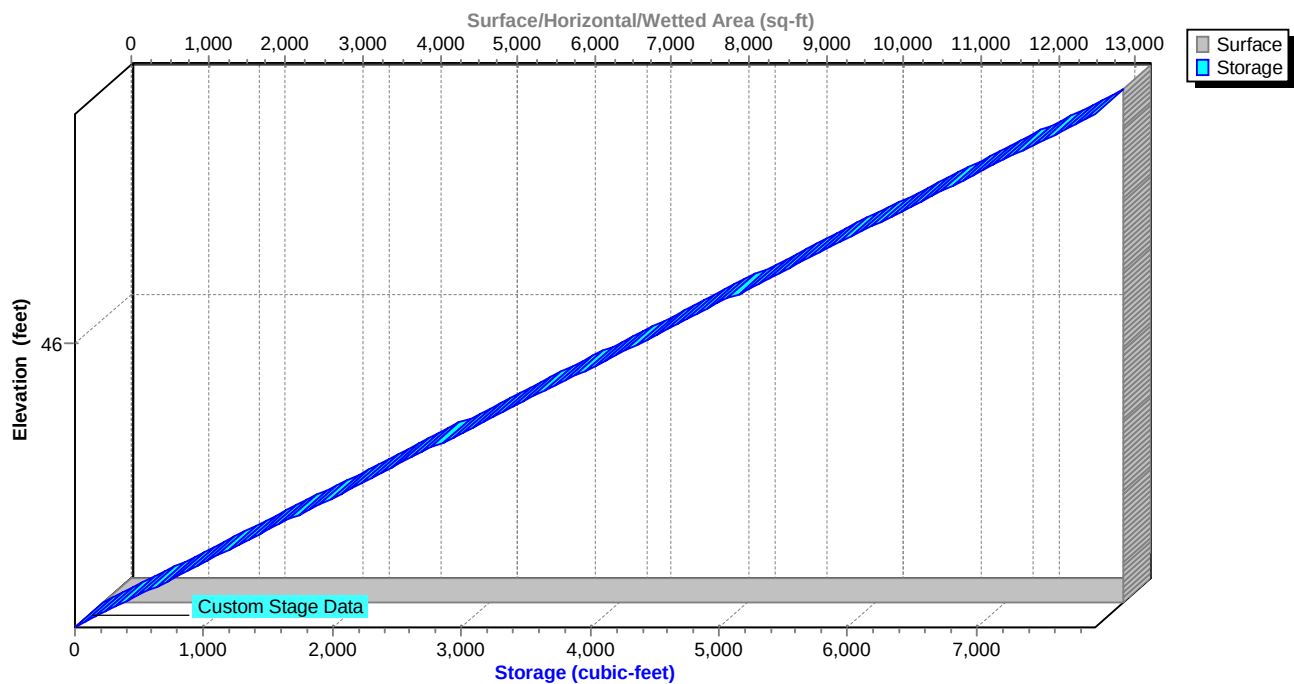


Pond 2P: Porous Pavement



Pond 2P: Porous Pavement

Stage-Area-Storage



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Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Pond 2P: Porous Pavement

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	45.17	0.00
0.50	0.00	0	45.17	0.00
1.00	0.00	0	45.17	0.00
1.50	0.01	1	45.17	0.01
2.00	0.01	1	45.17	0.01
2.50	0.01	1	45.17	0.01
3.00	0.01	1	45.17	0.01
3.50	0.02	2	45.17	0.02
4.00	0.02	2	45.17	0.02
4.50	0.02	2	45.17	0.02
5.00	0.02	2	45.17	0.02
5.50	0.02	3	45.17	0.02
6.00	0.03	3	45.17	0.03
6.50	0.03	3	45.17	0.03
7.00	0.03	3	45.17	0.03
7.50	0.03	3	45.17	0.03
8.00	0.03	4	45.17	0.03
8.50	0.04	4	45.17	0.04
9.00	0.05	5	45.17	0.05
9.50	0.05	5	45.17	0.05
10.00	0.06	7	45.17	0.06
10.50	0.08	8	45.17	0.08
11.00	0.11	12	45.17	0.11
11.50	0.19	19	45.17	0.18
12.00	2.18	863	45.33	0.77
12.50	0.19	414	45.25	0.77
13.00	0.11	12	45.17	0.12
13.50	0.08	9	45.17	0.09
14.00	0.07	7	45.17	0.07
14.50	0.06	6	45.17	0.06
15.00	0.05	5	45.17	0.05
15.50	0.05	5	45.17	0.05
16.00	0.04	4	45.17	0.04
16.50	0.04	4	45.17	0.04
17.00	0.04	4	45.17	0.04
17.50	0.03	3	45.17	0.03
18.00	0.03	3	45.17	0.03
18.50	0.03	3	45.17	0.03
19.00	0.03	3	45.17	0.03
19.50	0.02	3	45.17	0.02
20.00	0.02	2	45.17	0.02
20.50	0.02	2	45.17	0.02
21.00	0.02	2	45.17	0.02
21.50	0.02	2	45.17	0.02
22.00	0.02	2	45.17	0.02
22.50	0.02	2	45.17	0.02
23.00	0.02	2	45.17	0.02
23.50	0.02	2	45.17	0.02
24.00	0.02	2	45.17	0.02

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Stage-Discharge for Pond 2P: Porous Pavement

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
45.17	0.00	45.70	0.77	46.23	0.77
45.18	0.77	45.71	0.77	46.24	0.77
45.19	0.77	45.72	0.77	46.25	0.77
45.20	0.77	45.73	0.77	46.26	0.77
45.21	0.77	45.74	0.77	46.27	0.77
45.22	0.77	45.75	0.77	46.28	0.77
45.23	0.77	45.76	0.77	46.29	0.77
45.24	0.77	45.77	0.77	46.30	0.77
45.25	0.77	45.78	0.77	46.31	0.77
45.26	0.77	45.79	0.77	46.32	0.77
45.27	0.77	45.80	0.77	46.33	0.77
45.28	0.77	45.81	0.77	46.34	0.77
45.29	0.77	45.82	0.77	46.35	0.77
45.30	0.77	45.83	0.77	46.36	0.77
45.31	0.77	45.84	0.77	46.37	0.77
45.32	0.77	45.85	0.77	46.38	0.77
45.33	0.77	45.86	0.77	46.39	0.77
45.34	0.77	45.87	0.77	46.40	0.77
45.35	0.77	45.88	0.77	46.41	0.77
45.36	0.77	45.89	0.77	46.42	0.77
45.37	0.77	45.90	0.77	46.43	0.77
45.38	0.77	45.91	0.77	46.44	0.77
45.39	0.77	45.92	0.77	46.45	0.77
45.40	0.77	45.93	0.77	46.46	0.77
45.41	0.77	45.94	0.77	46.47	0.77
45.42	0.77	45.95	0.77	46.48	0.77
45.43	0.77	45.96	0.77	46.49	0.77
45.44	0.77	45.97	0.77	46.50	0.77
45.45	0.77	45.98	0.77	46.51	0.77
45.46	0.77	45.99	0.77	46.52	0.77
45.47	0.77	46.00	0.77	46.53	0.77
45.48	0.77	46.01	0.77	46.54	0.77
45.49	0.77	46.02	0.77	46.55	0.77
45.50	0.77	46.03	0.77	46.56	0.77
45.51	0.77	46.04	0.77	46.57	0.77
45.52	0.77	46.05	0.77	46.58	0.77
45.53	0.77	46.06	0.77	46.59	0.77
45.54	0.77	46.07	0.77	46.60	0.77
45.55	0.77	46.08	0.77	46.61	0.77
45.56	0.77	46.09	0.77	46.62	0.77
45.57	0.77	46.10	0.77	46.63	0.77
45.58	0.77	46.11	0.77	46.64	0.77
45.59	0.77	46.12	0.77	46.65	0.77
45.60	0.77	46.13	0.77	46.66	0.77
45.61	0.77	46.14	0.77	46.67	0.77
45.62	0.77	46.15	0.77		
45.63	0.77	46.16	0.77		
45.64	0.77	46.17	0.77		
45.65	0.77	46.18	0.77		
45.66	0.77	46.19	0.77		
45.67	0.77	46.20	0.77		
45.68	0.77	46.21	0.77		
45.69	0.77	46.22	0.77		

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 10-year Rainfall=5.15"

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Summary for Pond 3P: Porous Pavers

Inflow Area = 0.054 ac, 100.00% Impervious, Inflow Depth > 4.91" for 10-year event
 Inflow = 0.38 cfs @ 11.96 hrs, Volume= 0.022 af
 Outflow = 0.13 cfs @ 11.80 hrs, Volume= 0.022 af, Atten= 66%, Lag= 0.0 min
 Discarded = 0.13 cfs @ 11.80 hrs, Volume= 0.022 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 45.01' @ 12.10 hrs Surf.Area= 2,332 sf Storage= 167 cf

Plug-Flow detention time= 5.7 min calculated for 0.022 af (100% of inflow)
 Center-of-Mass det. time= 5.5 min (748.4 - 742.9)

Volume	Invert	Avail.Storage	Storage Description
#1	44.83'	1,091 cf	Custom Stage Data (Prismatic) Listed below 2,728 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.83	2,332	0	0
46.00	2,332	2,728	2,728

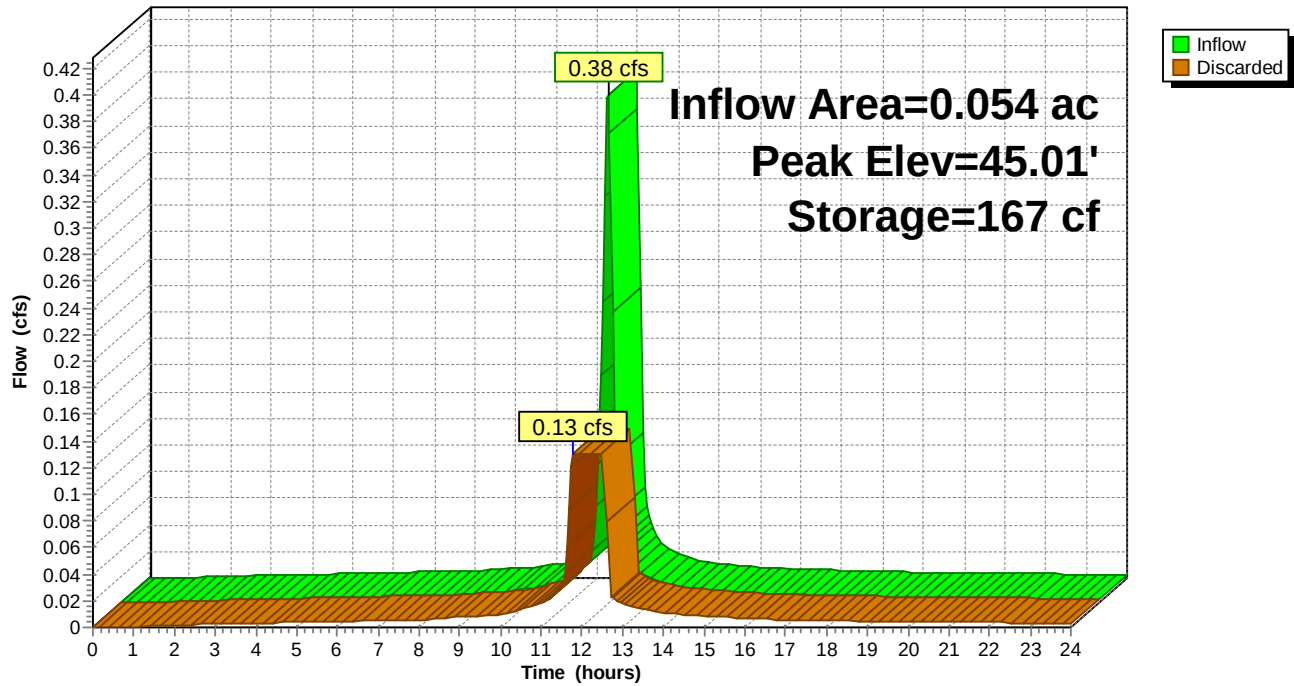
Device	Routing	Invert	Outlet Devices
#1	Discarded	44.83'	2.410 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.13 cfs @ 11.80 hrs HW=44.85' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

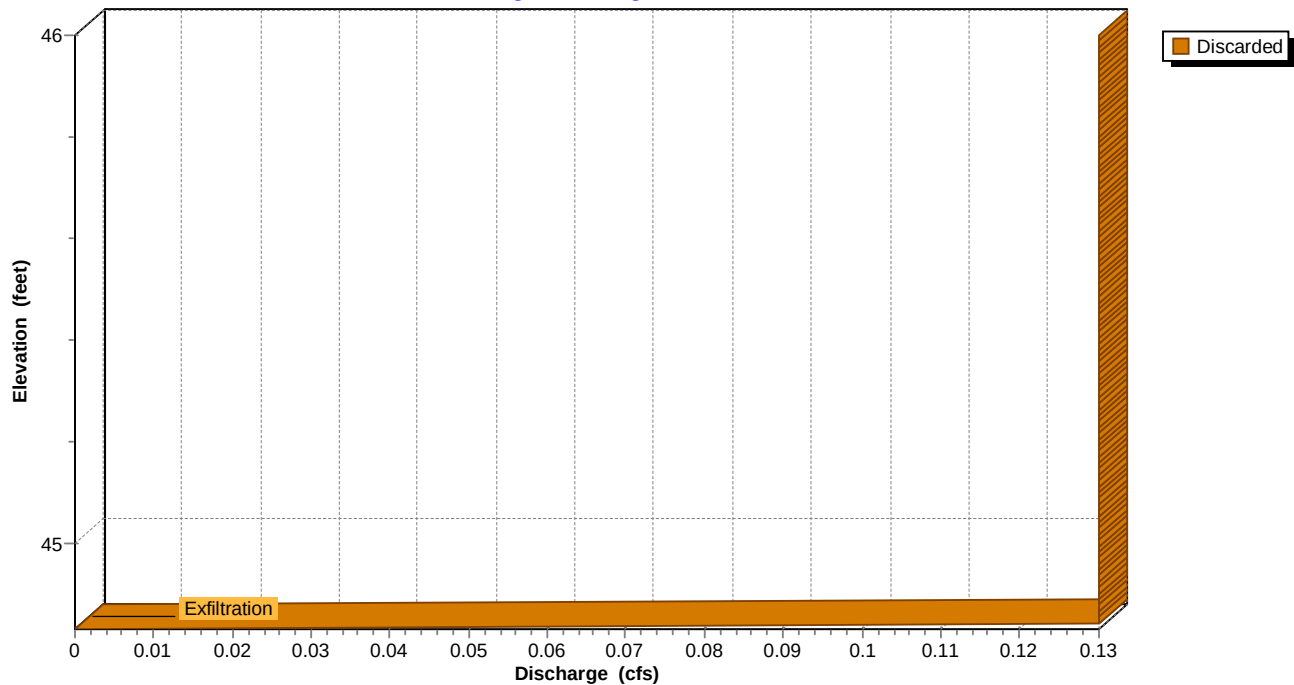
Pond 3P: Porous Pavers

Hydrograph



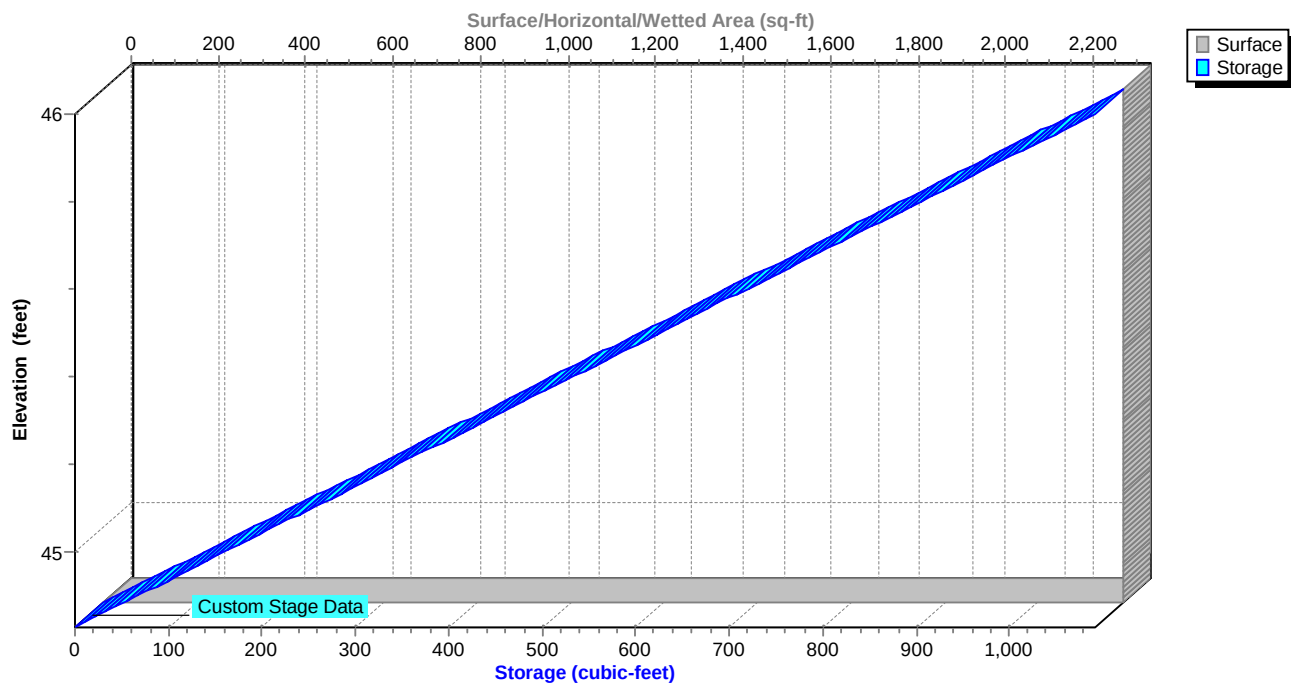
Pond 3P: Porous Pavers

Stage-Discharge



Pond 3P: Porous Pavers

Stage-Area-Storage



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Type II 24-hr 10-year Rainfall=5.15"

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Hydrograph for Pond 3P: Porous Pavers

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	44.83	0.00
0.50	0.00	0	44.83	0.00
1.00	0.00	0	44.83	0.00
1.50	0.00	0	44.83	0.00
2.00	0.00	0	44.83	0.00
2.50	0.00	0	44.83	0.00
3.00	0.00	0	44.83	0.00
3.50	0.00	0	44.83	0.00
4.00	0.00	0	44.83	0.00
4.50	0.00	0	44.83	0.00
5.00	0.00	0	44.83	0.00
5.50	0.00	0	44.83	0.00
6.00	0.00	0	44.83	0.00
6.50	0.00	0	44.83	0.00
7.00	0.00	0	44.83	0.00
7.50	0.01	0	44.83	0.01
8.00	0.01	0	44.83	0.01
8.50	0.01	1	44.83	0.01
9.00	0.01	1	44.83	0.01
9.50	0.01	1	44.83	0.01
10.00	0.01	1	44.83	0.01
10.50	0.01	1	44.83	0.01
11.00	0.02	2	44.83	0.02
11.50	0.03	2	44.83	0.03
12.00	0.35	133	44.97	0.13
12.50	0.03	49	44.88	0.13
13.00	0.02	2	44.83	0.02
13.50	0.01	1	44.83	0.01
14.00	0.01	1	44.83	0.01
14.50	0.01	1	44.83	0.01
15.00	0.01	1	44.83	0.01
15.50	0.01	1	44.83	0.01
16.00	0.01	1	44.83	0.01
16.50	0.01	1	44.83	0.01
17.00	0.01	0	44.83	0.01
17.50	0.01	0	44.83	0.01
18.00	0.01	0	44.83	0.01
18.50	0.00	0	44.83	0.00
19.00	0.00	0	44.83	0.00
19.50	0.00	0	44.83	0.00
20.00	0.00	0	44.83	0.00
20.50	0.00	0	44.83	0.00
21.00	0.00	0	44.83	0.00
21.50	0.00	0	44.83	0.00
22.00	0.00	0	44.83	0.00
22.50	0.00	0	44.83	0.00
23.00	0.00	0	44.83	0.00
23.50	0.00	0	44.83	0.00
24.00	0.00	0	44.83	0.00

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Type II 24-hr 10-year Rainfall=5.15"

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Stage-Discharge for Pond 3P: Porous Pavers

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
44.83	0.00	45.36	0.13	45.89	0.13
44.84	0.13	45.37	0.13	45.90	0.13
44.85	0.13	45.38	0.13	45.91	0.13
44.86	0.13	45.39	0.13	45.92	0.13
44.87	0.13	45.40	0.13	45.93	0.13
44.88	0.13	45.41	0.13	45.94	0.13
44.89	0.13	45.42	0.13	45.95	0.13
44.90	0.13	45.43	0.13	45.96	0.13
44.91	0.13	45.44	0.13	45.97	0.13
44.92	0.13	45.45	0.13	45.98	0.13
44.93	0.13	45.46	0.13	45.99	0.13
44.94	0.13	45.47	0.13	46.00	0.13
44.95	0.13	45.48	0.13		
44.96	0.13	45.49	0.13		
44.97	0.13	45.50	0.13		
44.98	0.13	45.51	0.13		
44.99	0.13	45.52	0.13		
45.00	0.13	45.53	0.13		
45.01	0.13	45.54	0.13		
45.02	0.13	45.55	0.13		
45.03	0.13	45.56	0.13		
45.04	0.13	45.57	0.13		
45.05	0.13	45.58	0.13		
45.06	0.13	45.59	0.13		
45.07	0.13	45.60	0.13		
45.08	0.13	45.61	0.13		
45.09	0.13	45.62	0.13		
45.10	0.13	45.63	0.13		
45.11	0.13	45.64	0.13		
45.12	0.13	45.65	0.13		
45.13	0.13	45.66	0.13		
45.14	0.13	45.67	0.13		
45.15	0.13	45.68	0.13		
45.16	0.13	45.69	0.13		
45.17	0.13	45.70	0.13		
45.18	0.13	45.71	0.13		
45.19	0.13	45.72	0.13		
45.20	0.13	45.73	0.13		
45.21	0.13	45.74	0.13		
45.22	0.13	45.75	0.13		
45.23	0.13	45.76	0.13		
45.24	0.13	45.77	0.13		
45.25	0.13	45.78	0.13		
45.26	0.13	45.79	0.13		
45.27	0.13	45.80	0.13		
45.28	0.13	45.81	0.13		
45.29	0.13	45.82	0.13		
45.30	0.13	45.83	0.13		
45.31	0.13	45.84	0.13		
45.32	0.13	45.85	0.13		
45.33	0.13	45.86	0.13		
45.34	0.13	45.87	0.13		
45.35	0.13	45.88	0.13		

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing	Runoff Area=57,879 sf 83.80% Impervious Runoff Depth>5.15" Tc=6.0 min CN=90 Runoff=10.87 cfs 0.571 af
Subcatchment 2S: Proposed Roof Areas	Runoff Area=29,467 sf 100.00% Impervious Runoff Depth>6.08" Tc=6.0 min CN=98 Runoff=5.93 cfs 0.343 af
Subcatchment 3S: Proposed Open Space	Runoff Area=11,675 sf 0.00% Impervious Runoff Depth>0.54" Tc=6.0 min CN=39 Runoff=0.13 cfs 0.012 af
Subcatchment 4S: Proposed	Runoff Area=14,405 sf 100.00% Impervious Runoff Depth>6.08" Tc=6.0 min CN=98 Runoff=2.90 cfs 0.167 af
Subcatchment 5S: Proposed Courtyard	Runoff Area=2,332 sf 100.00% Impervious Runoff Depth>6.08" Tc=6.0 min CN=98 Runoff=0.47 cfs 0.027 af
Reach 1R: Charles River	Inflow=10.87 cfs 0.571 af Outflow=10.87 cfs 0.571 af
Reach 2R: Charles River	Inflow=5.76 cfs 0.187 af Outflow=5.76 cfs 0.187 af
Pond 1P: Infiltration Swale	Peak Elev=46.56' Storage=1,653 cf Inflow=5.93 cfs 0.343 af Discarded=0.16 cfs 0.162 af Primary=5.64 cfs 0.175 af Outflow=5.80 cfs 0.337 af
Pond 2P: Porous Pavement	Peak Elev=45.47' Storage=1,569 cf Inflow=2.90 cfs 0.167 af Outflow=0.77 cfs 0.167 af
Pond 3P: Porous Pavers	Peak Elev=45.09' Storage=244 cf Inflow=0.47 cfs 0.027 af Outflow=0.13 cfs 0.027 af

Total Runoff Area = 2.657 ac Runoff Volume = 1.120 af Average Runoff Depth = 5.06"
18.19% Pervious = 0.483 ac 81.81% Impervious = 2.174 ac

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Summary for Subcatchment 1S: Existing

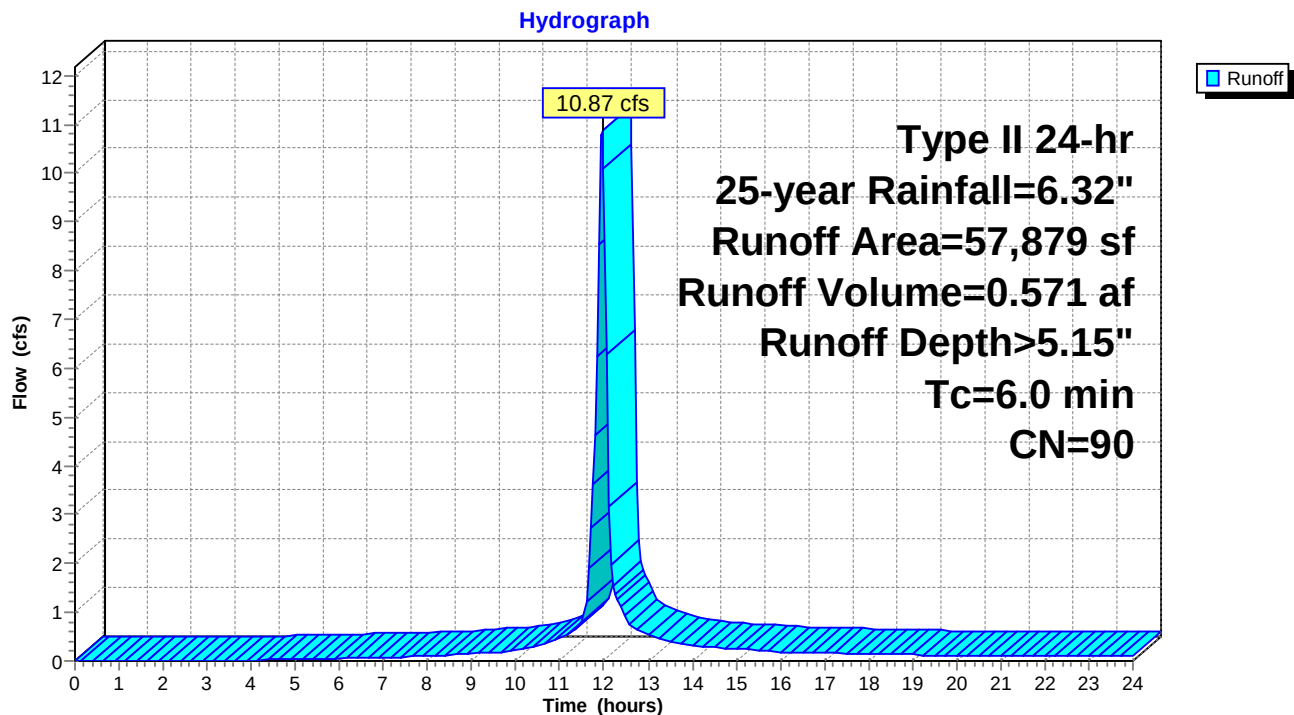
Runoff = 10.87 cfs @ 11.96 hrs, Volume= 0.571 af, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-year Rainfall=6.32"

Area (sf)	CN	Description
14,969	98	Roofs, HSG A
33,534	98	Paved parking, HSG A
9,376	49	50-75% Grass cover, Fair, HSG A
57,879	90	Weighted Average
9,376		16.20% Pervious Area
48,503		83.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: Existing



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Type II 24-hr 25-year Rainfall=6.32"

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Hydrograph for Subcatchment 1S: Existing

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.97	3.85	0.46
0.25	0.02	0.00	0.00	13.50	5.05	3.92	0.41
0.50	0.03	0.00	0.00	13.75	5.12	3.99	0.36
0.75	0.05	0.00	0.00	14.00	5.18	4.05	0.32
1.00	0.07	0.00	0.00	14.25	5.24	4.11	0.29
1.25	0.08	0.00	0.00	14.50	5.29	4.16	0.28
1.50	0.10	0.00	0.00	14.75	5.35	4.21	0.27
1.75	0.12	0.00	0.00	15.00	5.39	4.26	0.25
2.00	0.14	0.00	0.00	15.25	5.44	4.30	0.24
2.25	0.16	0.00	0.00	15.50	5.48	4.34	0.22
2.50	0.18	0.00	0.00	15.75	5.52	4.38	0.21
2.75	0.20	0.00	0.00	16.00	5.56	4.42	0.19
3.00	0.22	0.00	0.00	16.25	5.60	4.45	0.19
3.25	0.24	0.00	0.00	16.50	5.63	4.49	0.18
3.50	0.26	0.00	0.01	16.75	5.67	4.52	0.18
3.75	0.28	0.00	0.01	17.00	5.70	4.55	0.17
4.00	0.30	0.01	0.01	17.25	5.73	4.58	0.17
4.25	0.33	0.01	0.02	17.50	5.76	4.61	0.16
4.50	0.35	0.01	0.02	17.75	5.79	4.64	0.16
4.75	0.37	0.02	0.03	18.00	5.82	4.67	0.15
5.00	0.40	0.02	0.03	18.25	5.85	4.70	0.15
5.25	0.42	0.03	0.04	18.50	5.88	4.72	0.14
5.50	0.45	0.04	0.04	18.75	5.90	4.75	0.13
5.75	0.48	0.05	0.05	19.00	5.93	4.77	0.13
6.00	0.51	0.06	0.05	19.25	5.95	4.80	0.12
6.25	0.53	0.07	0.06	19.50	5.97	4.82	0.12
6.50	0.56	0.08	0.06	19.75	6.00	4.84	0.11
6.75	0.59	0.09	0.07	20.00	6.02	4.86	0.11
7.00	0.63	0.11	0.08	20.25	6.04	4.88	0.11
7.25	0.66	0.12	0.08	20.50	6.06	4.90	0.11
7.50	0.69	0.14	0.09	20.75	6.08	4.92	0.10
7.75	0.72	0.16	0.09	21.00	6.10	4.94	0.10
8.00	0.76	0.17	0.10	21.25	6.12	4.96	0.10
8.25	0.80	0.19	0.11	21.50	6.14	4.98	0.10
8.50	0.84	0.22	0.13	21.75	6.16	5.00	0.10
8.75	0.88	0.24	0.14	22.00	6.17	5.02	0.10
9.00	0.93	0.27	0.16	22.25	6.19	5.03	0.10
9.25	0.98	0.31	0.17	22.50	6.21	5.05	0.10
9.50	1.03	0.34	0.18	22.75	6.23	5.07	0.10
9.75	1.08	0.38	0.20	23.00	6.25	5.09	0.10
10.00	1.14	0.42	0.23	23.25	6.27	5.11	0.09
10.25	1.21	0.47	0.26	23.50	6.28	5.12	0.09
10.50	1.29	0.52	0.31	23.75	6.30	5.14	0.09
10.75	1.38	0.59	0.37	24.00	6.32	5.16	0.09
11.00	1.49	0.67	0.45				
11.25	1.62	0.78	0.59				
11.50	1.79	0.92	0.77				
11.75	2.45	1.48	3.61				
12.00	4.19	3.10	10.10				
12.25	4.46	3.36	1.36				
12.50	4.65	3.53	0.88				
12.75	4.77	3.66	0.64				
13.00	4.88	3.76	0.54				

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Type II 24-hr 25-year Rainfall=6.32"

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Summary for Subcatchment 2S: Proposed Roof Areas

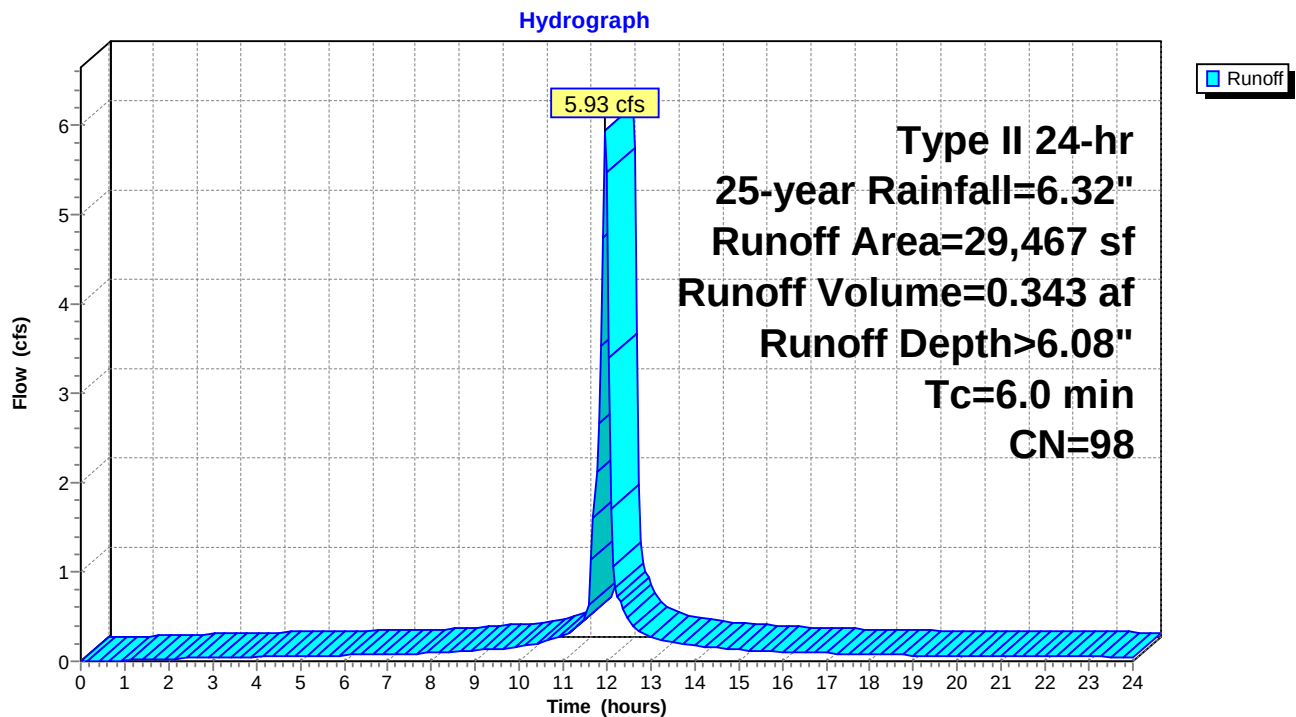
Runoff = 5.93 cfs @ 11.96 hrs, Volume= 0.343 af, Depth> 6.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-year Rainfall=6.32"

Area (sf)	CN	Description
29,006	98	Roofs, HSG A
461	98	Roofs, HSG A
29,467	98	Weighted Average
29,467		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: Proposed Roof Areas



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Type II 24-hr 25-year Rainfall=6.32"

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Hydrograph for Subcatchment 2S: Proposed Roof Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.97	4.73	0.24
0.25	0.02	0.00	0.00	13.50	5.05	4.81	0.21
0.50	0.03	0.00	0.00	13.75	5.12	4.88	0.19
0.75	0.05	0.00	0.00	14.00	5.18	4.95	0.17
1.00	0.07	0.00	0.01	14.25	5.24	5.00	0.15
1.25	0.08	0.01	0.01	14.50	5.29	5.06	0.15
1.50	0.10	0.01	0.02	14.75	5.35	5.11	0.14
1.75	0.12	0.02	0.02	15.00	5.39	5.16	0.13
2.00	0.14	0.03	0.03	15.25	5.44	5.20	0.12
2.25	0.16	0.04	0.03	15.50	5.48	5.25	0.12
2.50	0.18	0.05	0.03	15.75	5.52	5.29	0.11
2.75	0.20	0.07	0.04	16.00	5.56	5.32	0.10
3.00	0.22	0.08	0.04	16.25	5.60	5.36	0.10
3.25	0.24	0.10	0.04	16.50	5.63	5.39	0.09
3.50	0.26	0.11	0.04	16.75	5.67	5.43	0.09
3.75	0.28	0.13	0.05	17.00	5.70	5.46	0.09
4.00	0.30	0.15	0.05	17.25	5.73	5.49	0.09
4.25	0.33	0.17	0.05	17.50	5.76	5.52	0.08
4.50	0.35	0.19	0.05	17.75	5.79	5.55	0.08
4.75	0.37	0.21	0.06	18.00	5.82	5.58	0.08
5.00	0.40	0.23	0.06	18.25	5.85	5.61	0.08
5.25	0.42	0.25	0.06	18.50	5.88	5.64	0.07
5.50	0.45	0.27	0.06	18.75	5.90	5.66	0.07
5.75	0.48	0.30	0.07	19.00	5.93	5.69	0.07
6.00	0.51	0.32	0.07	19.25	5.95	5.71	0.07
6.25	0.53	0.35	0.07	19.50	5.97	5.74	0.06
6.50	0.56	0.38	0.07	19.75	6.00	5.76	0.06
6.75	0.59	0.40	0.08	20.00	6.02	5.78	0.06
7.00	0.63	0.43	0.08	20.25	6.04	5.80	0.06
7.25	0.66	0.46	0.08	20.50	6.06	5.82	0.06
7.50	0.69	0.49	0.08	20.75	6.08	5.84	0.05
7.75	0.72	0.53	0.09	21.00	6.10	5.86	0.05
8.00	0.76	0.56	0.09	21.25	6.12	5.88	0.05
8.25	0.80	0.59	0.10	21.50	6.14	5.90	0.05
8.50	0.84	0.63	0.11	21.75	6.16	5.92	0.05
8.75	0.88	0.68	0.12	22.00	6.17	5.94	0.05
9.00	0.93	0.72	0.13	22.25	6.19	5.96	0.05
9.25	0.98	0.77	0.13	22.50	6.21	5.97	0.05
9.50	1.03	0.82	0.13	22.75	6.23	5.99	0.05
9.75	1.08	0.87	0.14	23.00	6.25	6.01	0.05
10.00	1.14	0.93	0.16	23.25	6.27	6.03	0.05
10.25	1.21	1.00	0.18	23.50	6.28	6.05	0.05
10.50	1.29	1.07	0.21	23.75	6.30	6.06	0.05
10.75	1.38	1.16	0.25	24.00	6.32	6.08	0.05
11.00	1.49	1.27	0.29				
11.25	1.62	1.40	0.37				
11.50	1.79	1.57	0.47				
11.75	2.45	2.22	2.11				
12.00	4.19	3.95	5.47				
12.25	4.46	4.23	0.73				
12.50	4.65	4.41	0.47				
12.75	4.77	4.54	0.34				
13.00	4.88	4.64	0.28				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Summary for Subcatchment 3S: Proposed Open Space

Runoff = 0.13 cfs @ 12.02 hrs, Volume= 0.012 af, Depth> 0.54"

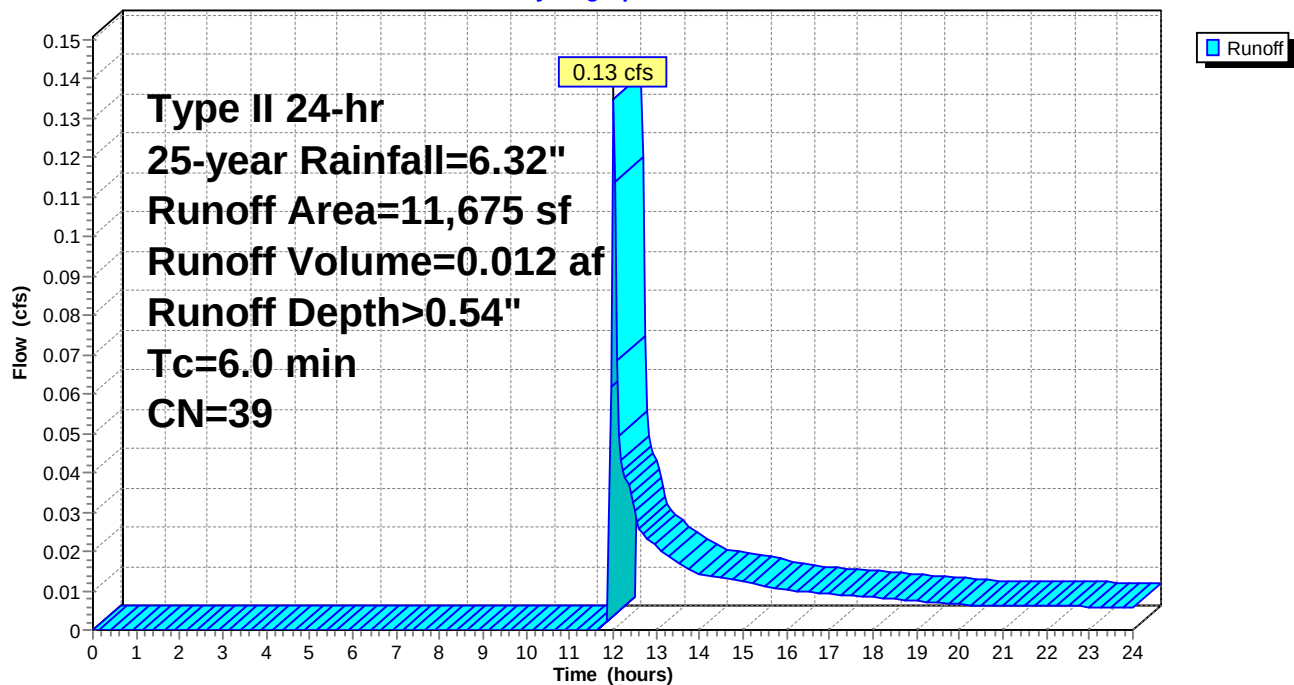
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-year Rainfall=6.32"

Area (sf)	CN	Description
11,675	39	>75% Grass cover, Good, HSG A
11,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Grass

Subcatchment 3S: Proposed Open Space

Hydrograph



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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Hydrograph for Subcatchment 3S: Proposed Open Space

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.97	0.19	0.02
0.25	0.02	0.00	0.00	13.50	5.05	0.21	0.02
0.50	0.03	0.00	0.00	13.75	5.12	0.22	0.02
0.75	0.05	0.00	0.00	14.00	5.18	0.24	0.01
1.00	0.07	0.00	0.00	14.25	5.24	0.25	0.01
1.25	0.08	0.00	0.00	14.50	5.29	0.26	0.01
1.50	0.10	0.00	0.00	14.75	5.35	0.28	0.01
1.75	0.12	0.00	0.00	15.00	5.39	0.29	0.01
2.00	0.14	0.00	0.00	15.25	5.44	0.30	0.01
2.25	0.16	0.00	0.00	15.50	5.48	0.31	0.01
2.50	0.18	0.00	0.00	15.75	5.52	0.32	0.01
2.75	0.20	0.00	0.00	16.00	5.56	0.33	0.01
3.00	0.22	0.00	0.00	16.25	5.60	0.34	0.01
3.25	0.24	0.00	0.00	16.50	5.63	0.35	0.01
3.50	0.26	0.00	0.00	16.75	5.67	0.35	0.01
3.75	0.28	0.00	0.00	17.00	5.70	0.36	0.01
4.00	0.30	0.00	0.00	17.25	5.73	0.37	0.01
4.25	0.33	0.00	0.00	17.50	5.76	0.38	0.01
4.50	0.35	0.00	0.00	17.75	5.79	0.39	0.01
4.75	0.37	0.00	0.00	18.00	5.82	0.40	0.01
5.00	0.40	0.00	0.00	18.25	5.85	0.40	0.01
5.25	0.42	0.00	0.00	18.50	5.88	0.41	0.01
5.50	0.45	0.00	0.00	18.75	5.90	0.42	0.01
5.75	0.48	0.00	0.00	19.00	5.93	0.42	0.01
6.00	0.51	0.00	0.00	19.25	5.95	0.43	0.01
6.25	0.53	0.00	0.00	19.50	5.97	0.44	0.01
6.50	0.56	0.00	0.00	19.75	6.00	0.44	0.01
6.75	0.59	0.00	0.00	20.00	6.02	0.45	0.01
7.00	0.63	0.00	0.00	20.25	6.04	0.46	0.01
7.25	0.66	0.00	0.00	20.50	6.06	0.46	0.01
7.50	0.69	0.00	0.00	20.75	6.08	0.47	0.01
7.75	0.72	0.00	0.00	21.00	6.10	0.47	0.01
8.00	0.76	0.00	0.00	21.25	6.12	0.48	0.01
8.25	0.80	0.00	0.00	21.50	6.14	0.49	0.01
8.50	0.84	0.00	0.00	21.75	6.16	0.49	0.01
8.75	0.88	0.00	0.00	22.00	6.17	0.50	0.01
9.00	0.93	0.00	0.00	22.25	6.19	0.50	0.01
9.25	0.98	0.00	0.00	22.50	6.21	0.51	0.01
9.50	1.03	0.00	0.00	22.75	6.23	0.51	0.01
9.75	1.08	0.00	0.00	23.00	6.25	0.52	0.01
10.00	1.14	0.00	0.00	23.25	6.27	0.52	0.01
10.25	1.21	0.00	0.00	23.50	6.28	0.53	0.01
10.50	1.29	0.00	0.00	23.75	6.30	0.54	0.01
10.75	1.38	0.00	0.00	24.00	6.32	0.54	0.01
11.00	1.49	0.00	0.00				
11.25	1.62	0.00	0.00				
11.50	1.79	0.00	0.00				
11.75	2.45	0.00	0.00				
12.00	4.19	0.07	0.13				
12.25	4.46	0.10	0.04				
12.50	4.65	0.13	0.03				
12.75	4.77	0.16	0.02				
13.00	4.88	0.18	0.02				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Summary for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

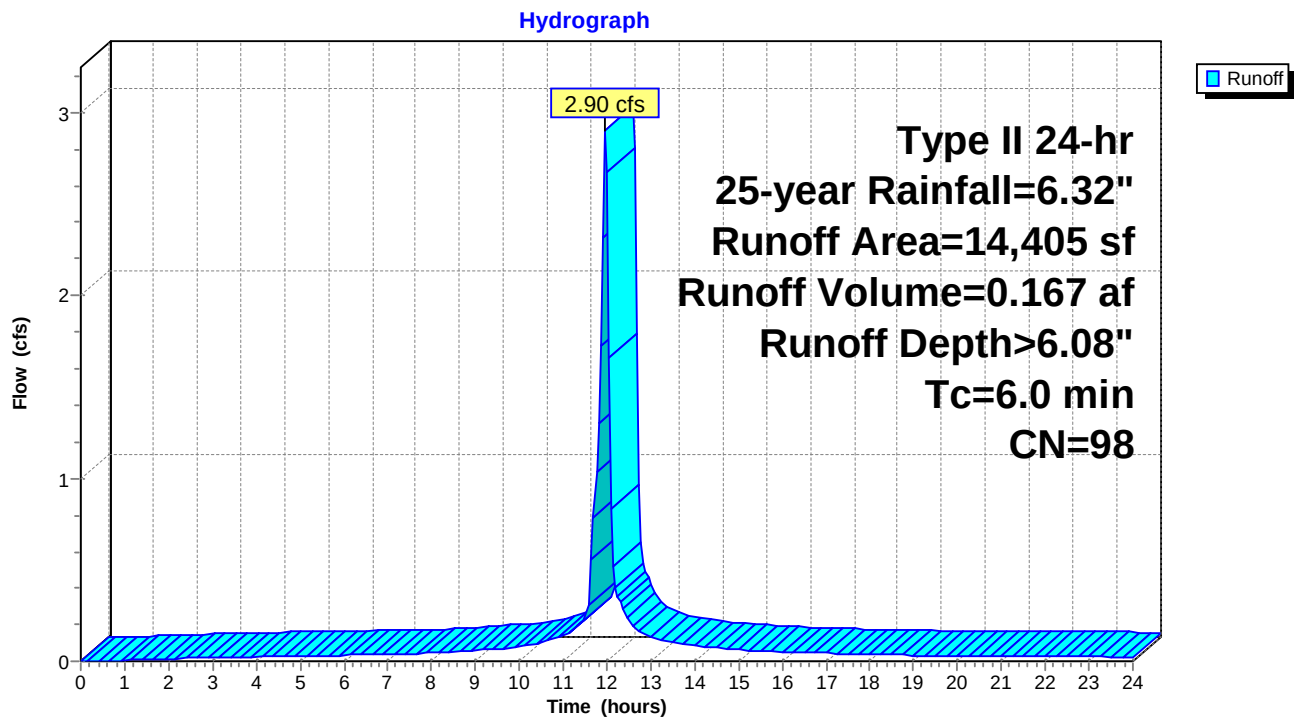
Runoff = 2.90 cfs @ 11.96 hrs, Volume= 0.167 af, Depth> 6.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-year Rainfall=6.32"

Area (sf)	CN	Description
13,199	98	Paved parking, HSG A
* 1,206	98	Walkway
14,405	98	Weighted Average
14,405		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavement

Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas



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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Hydrograph for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.97	4.73	0.12
0.25	0.02	0.00	0.00	13.50	5.05	4.81	0.10
0.50	0.03	0.00	0.00	13.75	5.12	4.88	0.09
0.75	0.05	0.00	0.00	14.00	5.18	4.95	0.08
1.00	0.07	0.00	0.00	14.25	5.24	5.00	0.08
1.25	0.08	0.01	0.01	14.50	5.29	5.06	0.07
1.50	0.10	0.01	0.01	14.75	5.35	5.11	0.07
1.75	0.12	0.02	0.01	15.00	5.39	5.16	0.06
2.00	0.14	0.03	0.01	15.25	5.44	5.20	0.06
2.25	0.16	0.04	0.01	15.50	5.48	5.25	0.06
2.50	0.18	0.05	0.02	15.75	5.52	5.29	0.05
2.75	0.20	0.07	0.02	16.00	5.56	5.32	0.05
3.00	0.22	0.08	0.02	16.25	5.60	5.36	0.05
3.25	0.24	0.10	0.02	16.50	5.63	5.39	0.05
3.50	0.26	0.11	0.02	16.75	5.67	5.43	0.04
3.75	0.28	0.13	0.02	17.00	5.70	5.46	0.04
4.00	0.30	0.15	0.02	17.25	5.73	5.49	0.04
4.25	0.33	0.17	0.02	17.50	5.76	5.52	0.04
4.50	0.35	0.19	0.03	17.75	5.79	5.55	0.04
4.75	0.37	0.21	0.03	18.00	5.82	5.58	0.04
5.00	0.40	0.23	0.03	18.25	5.85	5.61	0.04
5.25	0.42	0.25	0.03	18.50	5.88	5.64	0.04
5.50	0.45	0.27	0.03	18.75	5.90	5.66	0.03
5.75	0.48	0.30	0.03	19.00	5.93	5.69	0.03
6.00	0.51	0.32	0.03	19.25	5.95	5.71	0.03
6.25	0.53	0.35	0.04	19.50	5.97	5.74	0.03
6.50	0.56	0.38	0.04	19.75	6.00	5.76	0.03
6.75	0.59	0.40	0.04	20.00	6.02	5.78	0.03
7.00	0.63	0.43	0.04	20.25	6.04	5.80	0.03
7.25	0.66	0.46	0.04	20.50	6.06	5.82	0.03
7.50	0.69	0.49	0.04	20.75	6.08	5.84	0.03
7.75	0.72	0.53	0.04	21.00	6.10	5.86	0.03
8.00	0.76	0.56	0.04	21.25	6.12	5.88	0.03
8.25	0.80	0.59	0.05	21.50	6.14	5.90	0.03
8.50	0.84	0.63	0.05	21.75	6.16	5.92	0.03
8.75	0.88	0.68	0.06	22.00	6.17	5.94	0.03
9.00	0.93	0.72	0.06	22.25	6.19	5.96	0.03
9.25	0.98	0.77	0.07	22.50	6.21	5.97	0.02
9.50	1.03	0.82	0.07	22.75	6.23	5.99	0.02
9.75	1.08	0.87	0.07	23.00	6.25	6.01	0.02
10.00	1.14	0.93	0.08	23.25	6.27	6.03	0.02
10.25	1.21	1.00	0.09	23.50	6.28	6.05	0.02
10.50	1.29	1.07	0.10	23.75	6.30	6.06	0.02
10.75	1.38	1.16	0.12	24.00	6.32	6.08	0.02
11.00	1.49	1.27	0.14				
11.25	1.62	1.40	0.18				
11.50	1.79	1.57	0.23				
11.75	2.45	2.22	1.03				
12.00	4.19	3.95	2.67				
12.25	4.46	4.23	0.35				
12.50	4.65	4.41	0.23				
12.75	4.77	4.54	0.17				
13.00	4.88	4.64	0.14				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Summary for Subcatchment 5S: Proposed Courtyard Walkway Areas

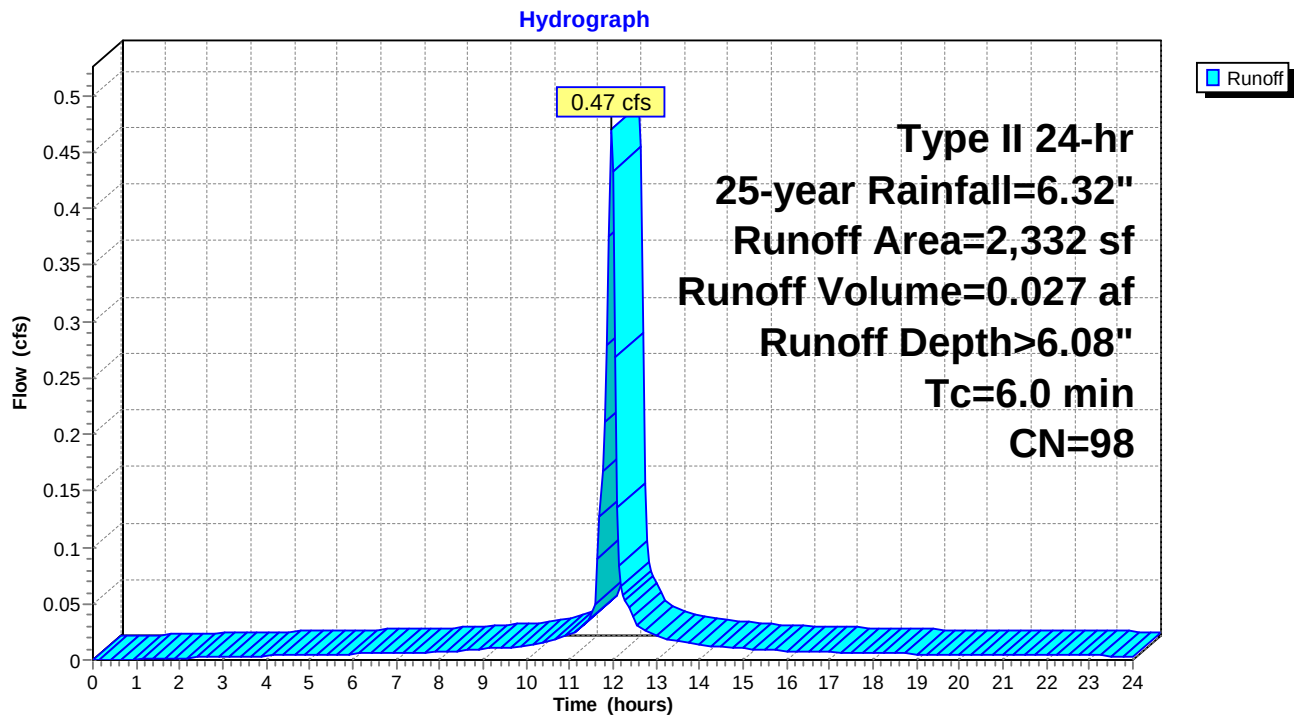
Runoff = 0.47 cfs @ 11.96 hrs, Volume= 0.027 af, Depth> 6.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-year Rainfall=6.32"

	Area (sf)	CN	Description
*	2,332	98	Walkway
	2,332		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavers

Subcatchment 5S: Proposed Courtyard Walkway Areas



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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Hydrograph for Subcatchment 5S: Proposed Courtyard Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.97	4.73	0.02
0.25	0.02	0.00	0.00	13.50	5.05	4.81	0.02
0.50	0.03	0.00	0.00	13.75	5.12	4.88	0.01
0.75	0.05	0.00	0.00	14.00	5.18	4.95	0.01
1.00	0.07	0.00	0.00	14.25	5.24	5.00	0.01
1.25	0.08	0.01	0.00	14.50	5.29	5.06	0.01
1.50	0.10	0.01	0.00	14.75	5.35	5.11	0.01
1.75	0.12	0.02	0.00	15.00	5.39	5.16	0.01
2.00	0.14	0.03	0.00	15.25	5.44	5.20	0.01
2.25	0.16	0.04	0.00	15.50	5.48	5.25	0.01
2.50	0.18	0.05	0.00	15.75	5.52	5.29	0.01
2.75	0.20	0.07	0.00	16.00	5.56	5.32	0.01
3.00	0.22	0.08	0.00	16.25	5.60	5.36	0.01
3.25	0.24	0.10	0.00	16.50	5.63	5.39	0.01
3.50	0.26	0.11	0.00	16.75	5.67	5.43	0.01
3.75	0.28	0.13	0.00	17.00	5.70	5.46	0.01
4.00	0.30	0.15	0.00	17.25	5.73	5.49	0.01
4.25	0.33	0.17	0.00	17.50	5.76	5.52	0.01
4.50	0.35	0.19	0.00	17.75	5.79	5.55	0.01
4.75	0.37	0.21	0.00	18.00	5.82	5.58	0.01
5.00	0.40	0.23	0.00	18.25	5.85	5.61	0.01
5.25	0.42	0.25	0.00	18.50	5.88	5.64	0.01
5.50	0.45	0.27	0.01	18.75	5.90	5.66	0.01
5.75	0.48	0.30	0.01	19.00	5.93	5.69	0.01
6.00	0.51	0.32	0.01	19.25	5.95	5.71	0.01
6.25	0.53	0.35	0.01	19.50	5.97	5.74	0.00
6.50	0.56	0.38	0.01	19.75	6.00	5.76	0.00
6.75	0.59	0.40	0.01	20.00	6.02	5.78	0.00
7.00	0.63	0.43	0.01	20.25	6.04	5.80	0.00
7.25	0.66	0.46	0.01	20.50	6.06	5.82	0.00
7.50	0.69	0.49	0.01	20.75	6.08	5.84	0.00
7.75	0.72	0.53	0.01	21.00	6.10	5.86	0.00
8.00	0.76	0.56	0.01	21.25	6.12	5.88	0.00
8.25	0.80	0.59	0.01	21.50	6.14	5.90	0.00
8.50	0.84	0.63	0.01	21.75	6.16	5.92	0.00
8.75	0.88	0.68	0.01	22.00	6.17	5.94	0.00
9.00	0.93	0.72	0.01	22.25	6.19	5.96	0.00
9.25	0.98	0.77	0.01	22.50	6.21	5.97	0.00
9.50	1.03	0.82	0.01	22.75	6.23	5.99	0.00
9.75	1.08	0.87	0.01	23.00	6.25	6.01	0.00
10.00	1.14	0.93	0.01	23.25	6.27	6.03	0.00
10.25	1.21	1.00	0.01	23.50	6.28	6.05	0.00
10.50	1.29	1.07	0.02	23.75	6.30	6.06	0.00
10.75	1.38	1.16	0.02	24.00	6.32	6.08	0.00
11.00	1.49	1.27	0.02				
11.25	1.62	1.40	0.03				
11.50	1.79	1.57	0.04				
11.75	2.45	2.22	0.17				
12.00	4.19	3.95	0.43				
12.25	4.46	4.23	0.06				
12.50	4.65	4.41	0.04				
12.75	4.77	4.54	0.03				
13.00	4.88	4.64	0.02				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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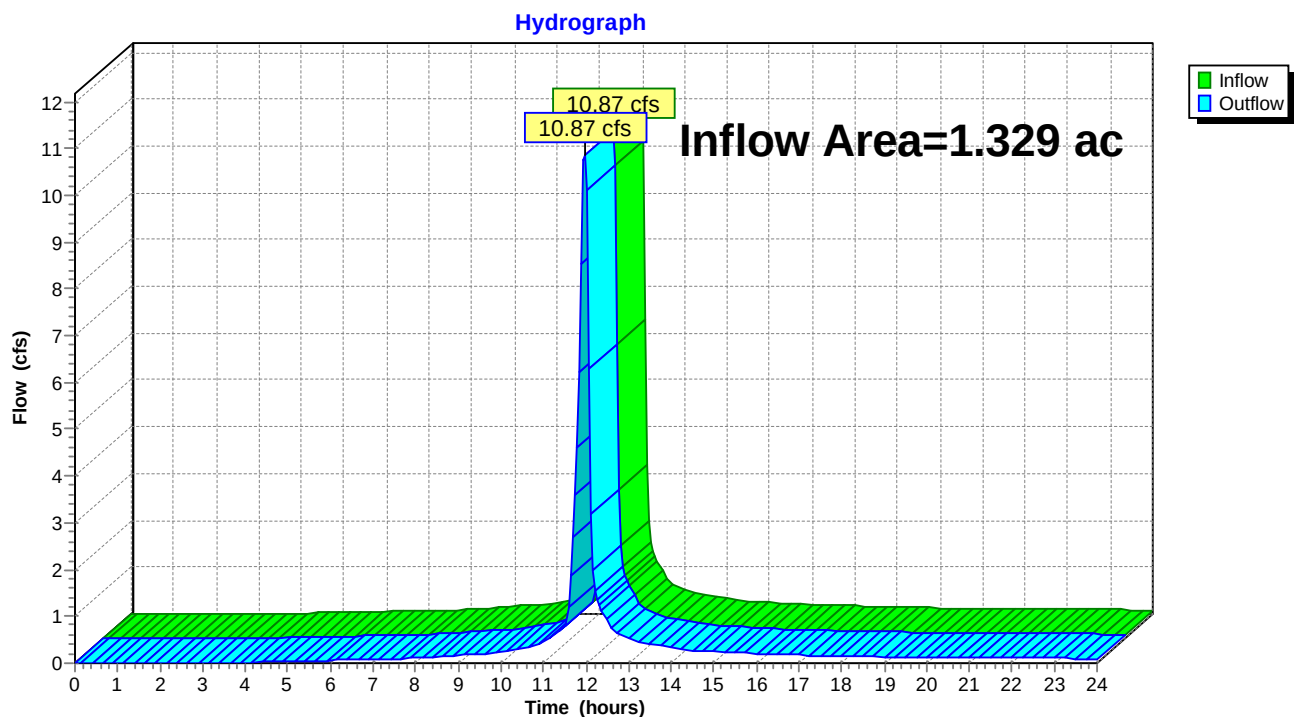
Summary for Reach 1R: Charles River

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.329 ac, 83.80% Impervious, Inflow Depth > 5.15" for 25-year event
Inflow = 10.87 cfs @ 11.96 hrs, Volume= 0.571 af
Outflow = 10.87 cfs @ 11.96 hrs, Volume= 0.571 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Charles River



49 Walnut Street-HydroCAD-2025018

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

Printed 6/23/2025

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Hydrograph for Reach 1R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.46		0.46
0.25	0.00		0.00	13.50	0.41		0.41
0.50	0.00		0.00	13.75	0.36		0.36
0.75	0.00		0.00	14.00	0.32		0.32
1.00	0.00		0.00	14.25	0.29		0.29
1.25	0.00		0.00	14.50	0.28		0.28
1.50	0.00		0.00	14.75	0.27		0.27
1.75	0.00		0.00	15.00	0.25		0.25
2.00	0.00		0.00	15.25	0.24		0.24
2.25	0.00		0.00	15.50	0.22		0.22
2.50	0.00		0.00	15.75	0.21		0.21
2.75	0.00		0.00	16.00	0.19		0.19
3.00	0.00		0.00	16.25	0.19		0.19
3.25	0.00		0.00	16.50	0.18		0.18
3.50	0.01		0.01	16.75	0.18		0.18
3.75	0.01		0.01	17.00	0.17		0.17
4.00	0.01		0.01	17.25	0.17		0.17
4.25	0.02		0.02	17.50	0.16		0.16
4.50	0.02		0.02	17.75	0.16		0.16
4.75	0.03		0.03	18.00	0.15		0.15
5.00	0.03		0.03	18.25	0.15		0.15
5.25	0.04		0.04	18.50	0.14		0.14
5.50	0.04		0.04	18.75	0.13		0.13
5.75	0.05		0.05	19.00	0.13		0.13
6.00	0.05		0.05	19.25	0.12		0.12
6.25	0.06		0.06	19.50	0.12		0.12
6.50	0.06		0.06	19.75	0.11		0.11
6.75	0.07		0.07	20.00	0.11		0.11
7.00	0.08		0.08	20.25	0.11		0.11
7.25	0.08		0.08	20.50	0.11		0.11
7.50	0.09		0.09	20.75	0.10		0.10
7.75	0.09		0.09	21.00	0.10		0.10
8.00	0.10		0.10	21.25	0.10		0.10
8.25	0.11		0.11	21.50	0.10		0.10
8.50	0.13		0.13	21.75	0.10		0.10
8.75	0.14		0.14	22.00	0.10		0.10
9.00	0.16		0.16	22.25	0.10		0.10
9.25	0.17		0.17	22.50	0.10		0.10
9.50	0.18		0.18	22.75	0.10		0.10
9.75	0.20		0.20	23.00	0.10		0.10
10.00	0.23		0.23	23.25	0.09		0.09
10.25	0.26		0.26	23.50	0.09		0.09
10.50	0.31		0.31	23.75	0.09		0.09
10.75	0.37		0.37	24.00	0.09		0.09
11.00	0.45		0.45				
11.25	0.59		0.59				
11.50	0.77		0.77				
11.75	3.61		3.61				
12.00	10.10		10.10				
12.25	1.36		1.36				
12.50	0.88		0.88				
12.75	0.64		0.64				
13.00	0.54		0.54				

49 Walnut Street-HydroCAD-2025018

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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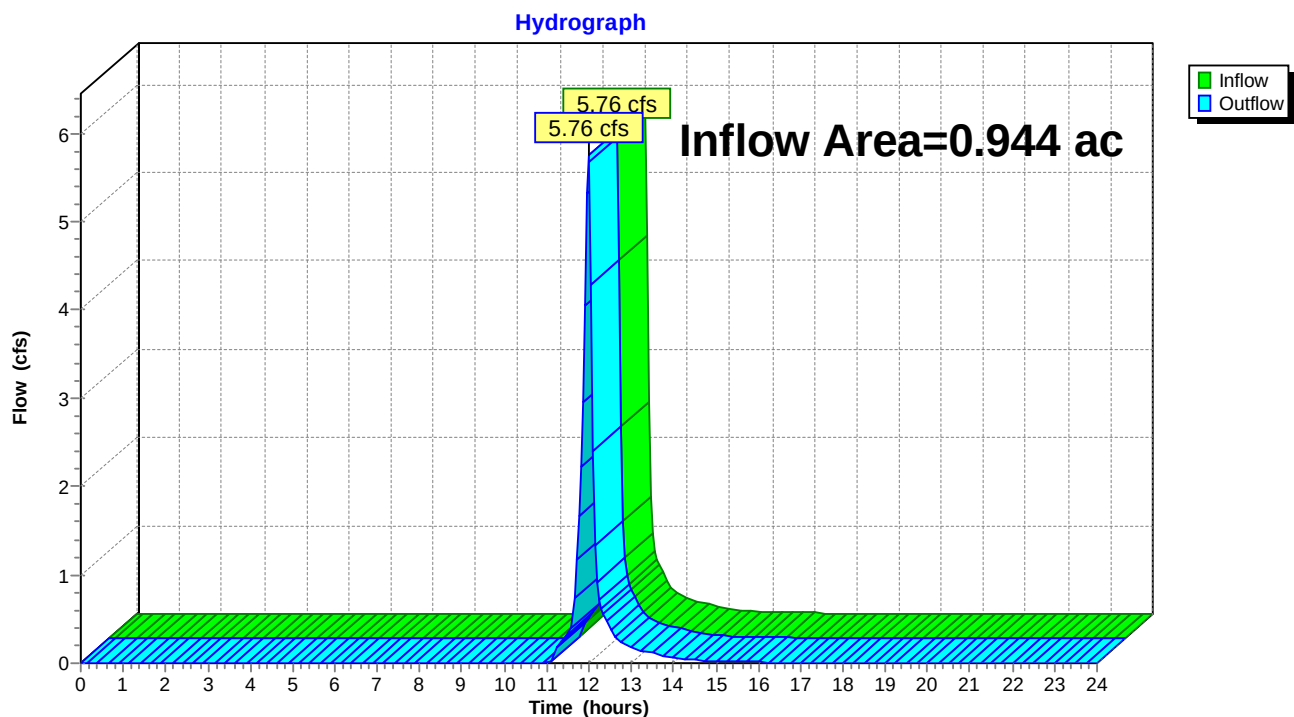
Summary for Reach 2R: Charles River

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.944 ac, 71.62% Impervious, Inflow Depth > 2.38" for 25-year event
Inflow = 5.76 cfs @ 11.99 hrs, Volume= 0.187 af
Outflow = 5.76 cfs @ 11.99 hrs, Volume= 0.187 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 2R: Charles River



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Type II 24-hr 25-year Rainfall=6.32"

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Hydrograph for Reach 2R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.14		0.14
0.25	0.00		0.00	13.50	0.11		0.11
0.50	0.00		0.00	13.75	0.08		0.08
0.75	0.00		0.00	14.00	0.06		0.06
1.00	0.00		0.00	14.25	0.04		0.04
1.25	0.00		0.00	14.50	0.03		0.03
1.50	0.00		0.00	14.75	0.03		0.03
1.75	0.00		0.00	15.00	0.02		0.02
2.00	0.00		0.00	15.25	0.01		0.01
2.25	0.00		0.00	15.50	0.01		0.01
2.50	0.00		0.00	15.75	0.01		0.01
2.75	0.00		0.00	16.00	0.01		0.01
3.00	0.00		0.00	16.25	0.01		0.01
3.25	0.00		0.00	16.50	0.01		0.01
3.50	0.00		0.00	16.75	0.01		0.01
3.75	0.00		0.00	17.00	0.01		0.01
4.00	0.00		0.00	17.25	0.01		0.01
4.25	0.00		0.00	17.50	0.01		0.01
4.50	0.00		0.00	17.75	0.01		0.01
4.75	0.00		0.00	18.00	0.01		0.01
5.00	0.00		0.00	18.25	0.01		0.01
5.25	0.00		0.00	18.50	0.01		0.01
5.50	0.00		0.00	18.75	0.01		0.01
5.75	0.00		0.00	19.00	0.01		0.01
6.00	0.00		0.00	19.25	0.01		0.01
6.25	0.00		0.00	19.50	0.01		0.01
6.50	0.00		0.00	19.75	0.01		0.01
6.75	0.00		0.00	20.00	0.01		0.01
7.00	0.00		0.00	20.25	0.01		0.01
7.25	0.00		0.00	20.50	0.01		0.01
7.50	0.00		0.00	20.75	0.01		0.01
7.75	0.00		0.00	21.00	0.01		0.01
8.00	0.00		0.00	21.25	0.01		0.01
8.25	0.00		0.00	21.50	0.01		0.01
8.50	0.00		0.00	21.75	0.01		0.01
8.75	0.00		0.00	22.00	0.01		0.01
9.00	0.00		0.00	22.25	0.01		0.01
9.25	0.00		0.00	22.50	0.01		0.01
9.50	0.00		0.00	22.75	0.01		0.01
9.75	0.00		0.00	23.00	0.01		0.01
10.00	0.00		0.00	23.25	0.01		0.01
10.25	0.00		0.00	23.50	0.01		0.01
10.50	0.00		0.00	23.75	0.01		0.01
10.75	0.00		0.00	24.00	0.01		0.01
11.00	0.00		0.00				
11.25	0.18		0.18				
11.50	0.32		0.32				
11.75	1.67		1.67				
12.00	5.68		5.68				
12.25	0.72		0.72				
12.50	0.41		0.41				
12.75	0.25		0.25				
13.00	0.19		0.19				

49 Walnut Street-HydroCAD-2025018

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Summary for Pond 1P: Infiltration Swale

Inflow Area = 0.676 ac, 100.00% Impervious, Inflow Depth > 6.08" for 25-year event
Inflow = 5.93 cfs @ 11.96 hrs, Volume= 0.343 af
Outflow = 5.80 cfs @ 11.98 hrs, Volume= 0.337 af, Atten= 2%, Lag= 1.3 min
Discarded = 0.16 cfs @ 11.98 hrs, Volume= 0.162 af
Primary = 5.64 cfs @ 11.98 hrs, Volume= 0.175 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 46.56' @ 11.98 hrs Surf.Area= 2,820 sf Storage= 1,653 cf

Plug-Flow detention time= 51.8 min calculated for 0.337 af (98% of inflow)
Center-of-Mass det. time= 41.6 min (781.3 - 739.7)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	1,932 cf	2.00'W x 220.00'L x 2.80'H Prismatic Z=2.0 4,830 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	44.00'	2.410 in/hr Exfiltration over Surface area
#2	Primary	46.00'	45.0 deg x 4.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir Cv= 2.56 (C= 3.20)

Discarded OutFlow Max=0.16 cfs @ 11.98 hrs HW=46.55' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=5.45 cfs @ 11.98 hrs HW=46.55' (Free Discharge)
↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 5.45 cfs @ 2.35 fps)

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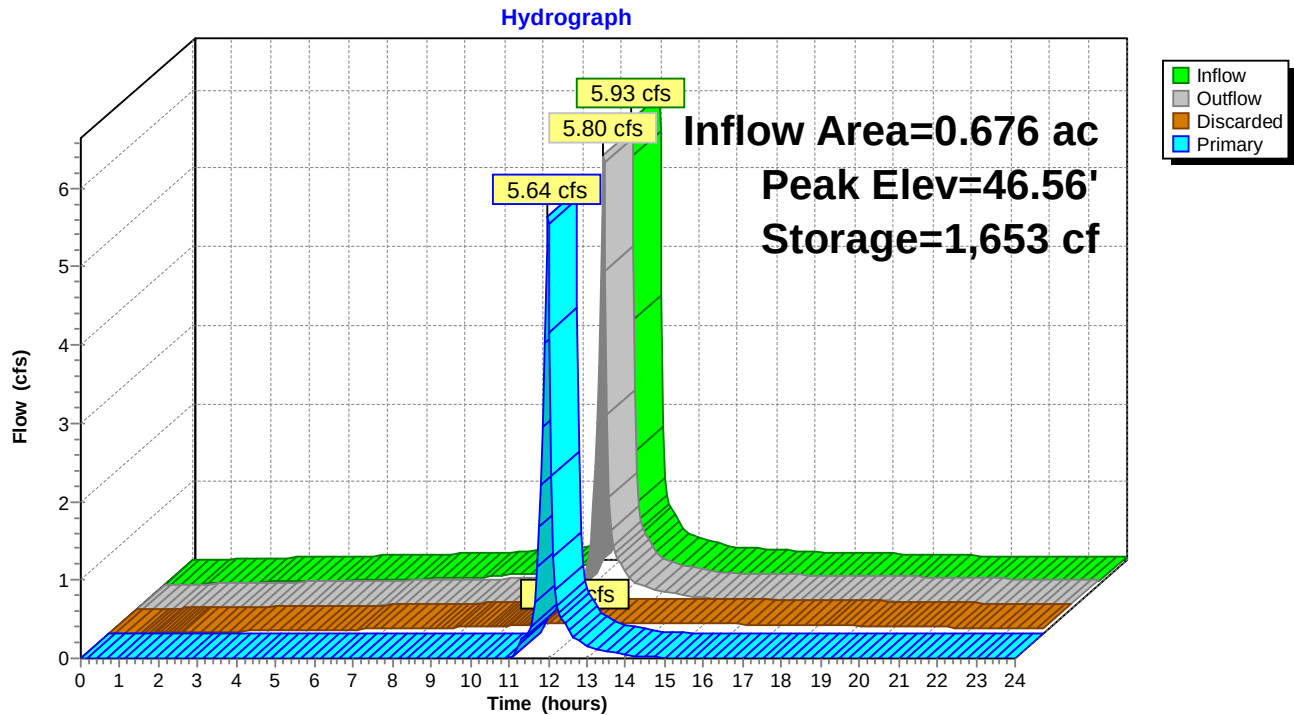
49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

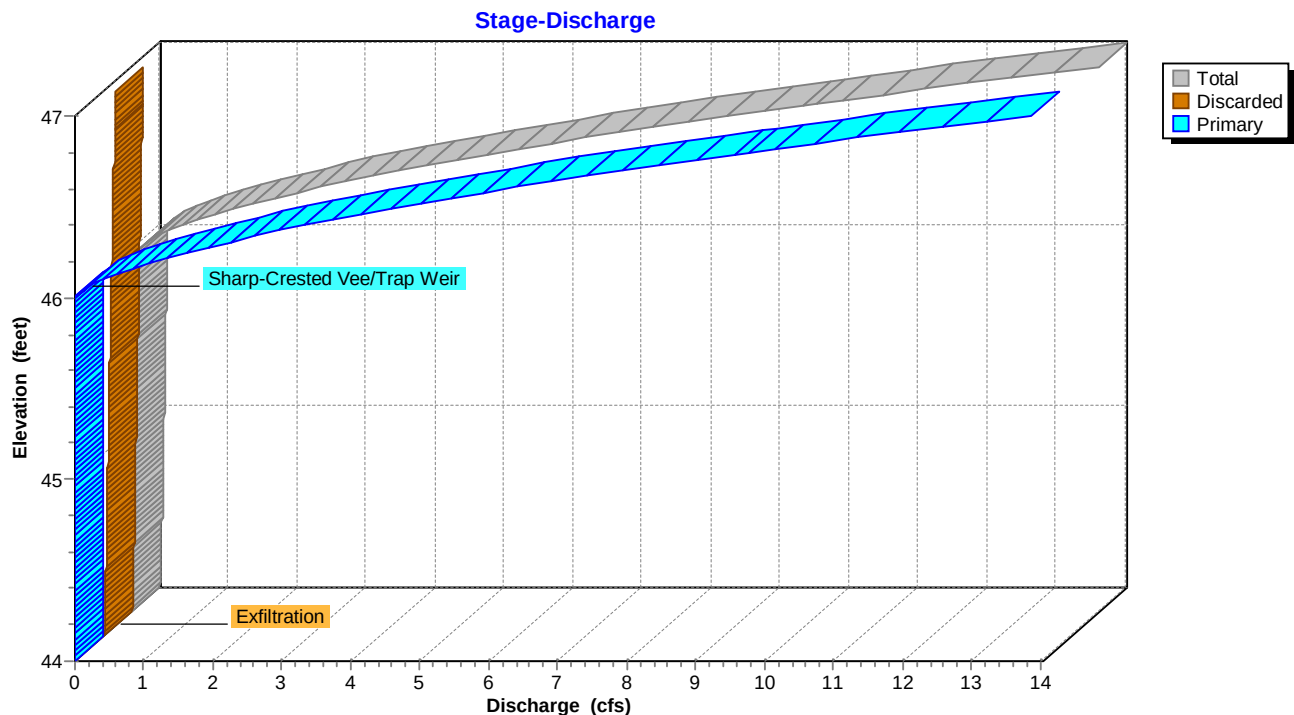
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Pond 1P: Infiltration Swale

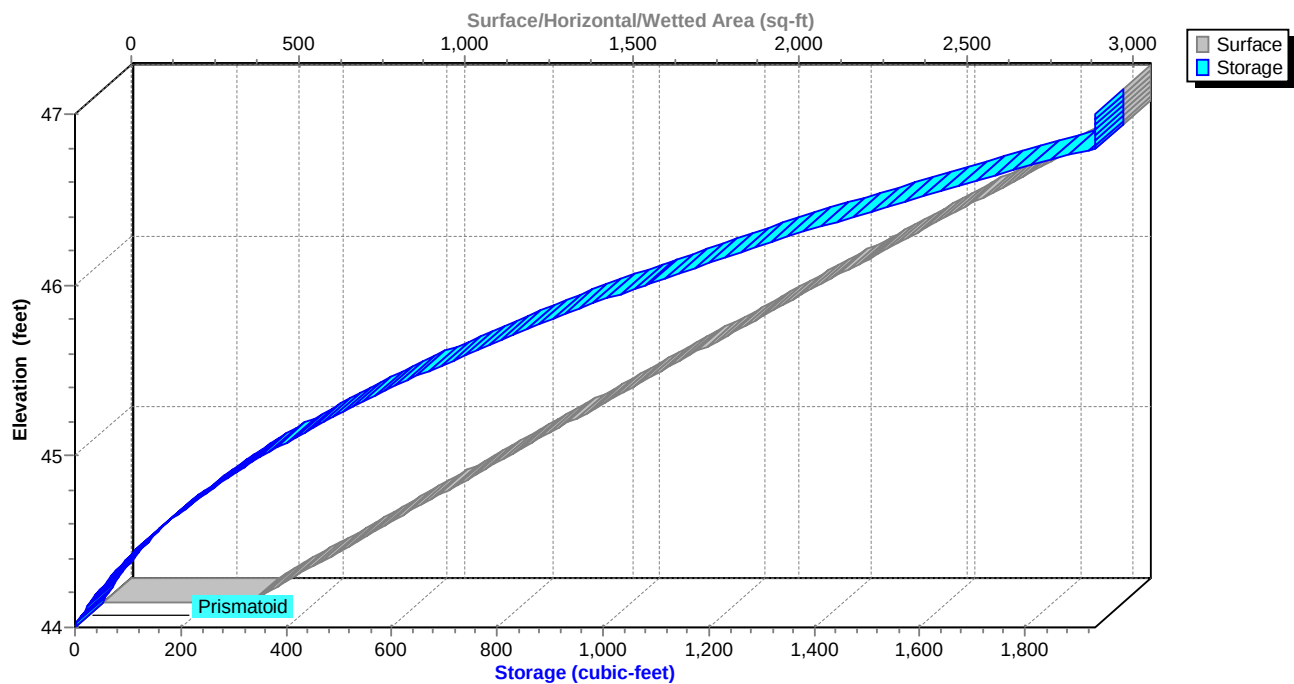


Pond 1P: Infiltration Swale



Pond 1P: Infiltration Swale

Stage-Area-Storage



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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Hydrograph for Pond 1P: Infiltration Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	44.00	0.00	0.00	0.00
0.50	0.00	0	44.00	0.00	0.00	0.00
1.00	0.01	1	44.01	0.01	0.01	0.00
1.50	0.02	4	44.02	0.02	0.02	0.00
2.00	0.03	5	44.03	0.03	0.03	0.00
2.50	0.03	12	44.06	0.03	0.03	0.00
3.00	0.04	25	44.12	0.03	0.03	0.00
3.50	0.04	41	44.19	0.03	0.03	0.00
4.00	0.05	59	44.26	0.04	0.04	0.00
4.50	0.05	79	44.34	0.04	0.04	0.00
5.00	0.06	103	44.41	0.05	0.05	0.00
5.50	0.06	129	44.49	0.05	0.05	0.00
6.00	0.07	157	44.57	0.05	0.05	0.00
6.50	0.07	188	44.64	0.06	0.06	0.00
7.00	0.08	221	44.72	0.06	0.06	0.00
7.50	0.08	255	44.80	0.06	0.06	0.00
8.00	0.09	292	44.88	0.07	0.07	0.00
8.50	0.11	339	44.97	0.07	0.07	0.00
9.00	0.13	414	45.10	0.08	0.08	0.00
9.50	0.13	502	45.25	0.09	0.09	0.00
10.00	0.16	599	45.40	0.10	0.10	0.00
10.50	0.21	750	45.61	0.11	0.11	0.00
11.00	0.29	991	45.90	0.12	0.12	0.00
11.50	0.47	1,158	46.08	0.45	0.13	0.32
12.00	5.47	1,646	46.56	5.71	0.16	5.55
12.50	0.47	1,167	46.09	0.51	0.13	0.38
13.00	0.28	1,129	46.05	0.30	0.13	0.17
13.50	0.21	1,113	46.04	0.22	0.13	0.09
14.00	0.17	1,099	46.02	0.17	0.13	0.05
14.50	0.15	1,091	46.01	0.15	0.13	0.02
15.00	0.13	1,086	46.01	0.14	0.13	0.01
15.50	0.12	1,075	46.00	0.13	0.13	0.00
16.00	0.10	1,045	45.96	0.13	0.13	0.00
16.50	0.09	998	45.91	0.12	0.12	0.00
17.00	0.09	946	45.85	0.12	0.12	0.00
17.50	0.08	890	45.78	0.12	0.12	0.00
18.00	0.08	831	45.71	0.11	0.11	0.00
18.50	0.07	770	45.63	0.11	0.11	0.00
19.00	0.07	707	45.55	0.10	0.10	0.00
19.50	0.06	642	45.46	0.10	0.10	0.00
20.00	0.06	576	45.36	0.09	0.09	0.00
20.50	0.06	512	45.27	0.09	0.09	0.00
21.00	0.05	455	45.17	0.08	0.08	0.00
21.50	0.05	404	45.09	0.08	0.08	0.00
22.00	0.05	359	45.01	0.08	0.08	0.00
22.50	0.05	320	44.93	0.07	0.07	0.00
23.00	0.05	285	44.86	0.07	0.07	0.00
23.50	0.05	254	44.80	0.06	0.06	0.00
24.00	0.05	227	44.74	0.06	0.06	0.00

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Stage-Discharge for Pond 1P: Infiltration Swale

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
44.00	0.00	0.00	0.00	46.65	7.23	0.16	7.07
44.05	0.03	0.03	0.00	46.70	8.10	0.16	7.93
44.10	0.03	0.03	0.00	46.75	9.00	0.17	8.83
44.15	0.03	0.03	0.00	46.80	9.94	0.17	9.77
44.20	0.03	0.03	0.00	46.85	10.91	0.17	10.74
44.25	0.04	0.04	0.00	46.90	11.91	0.17	11.74
44.30	0.04	0.04	0.00	46.95	12.96	0.17	12.78
44.35	0.04	0.04	0.00	47.00	14.03	0.17	13.86
44.40	0.04	0.04	0.00				
44.45	0.05	0.05	0.00				
44.50	0.05	0.05	0.00				
44.55	0.05	0.05	0.00				
44.60	0.05	0.05	0.00				
44.65	0.06	0.06	0.00				
44.70	0.06	0.06	0.00				
44.75	0.06	0.06	0.00				
44.80	0.06	0.06	0.00				
44.85	0.07	0.07	0.00				
44.90	0.07	0.07	0.00				
44.95	0.07	0.07	0.00				
45.00	0.07	0.07	0.00				
45.05	0.08	0.08	0.00				
45.10	0.08	0.08	0.00				
45.15	0.08	0.08	0.00				
45.20	0.09	0.09	0.00				
45.25	0.09	0.09	0.00				
45.30	0.09	0.09	0.00				
45.35	0.09	0.09	0.00				
45.40	0.10	0.10	0.00				
45.45	0.10	0.10	0.00				
45.50	0.10	0.10	0.00				
45.55	0.10	0.10	0.00				
45.60	0.11	0.11	0.00				
45.65	0.11	0.11	0.00				
45.70	0.11	0.11	0.00				
45.75	0.11	0.11	0.00				
45.80	0.12	0.12	0.00				
45.85	0.12	0.12	0.00				
45.90	0.12	0.12	0.00				
45.95	0.12	0.12	0.00				
46.00	0.13	0.13	0.00				
46.05	0.27	0.13	0.14				
46.10	0.54	0.13	0.41				
46.15	0.89	0.14	0.75				
46.20	1.30	0.14	1.16				
46.25	1.77	0.14	1.63				
46.30	2.30	0.14	2.16				
46.35	2.87	0.15	2.73				
46.40	3.49	0.15	3.35				
46.45	4.16	0.15	4.01				
46.50	4.87	0.15	4.71				
46.55	5.62	0.16	5.46				
46.60	6.40	0.16	6.24				

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Summary for Pond 2P: Porous Pavement

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth > 6.08" for 25-year event
Inflow = 2.90 cfs @ 11.96 hrs, Volume= 0.167 af
Outflow = 0.77 cfs @ 11.75 hrs, Volume= 0.167 af, Atten= 74%, Lag= 0.0 min
Discarded = 0.77 cfs @ 11.75 hrs, Volume= 0.167 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 45.47' @ 12.12 hrs Surf.Area= 13,199 sf Storage= 1,569 cf

Plug-Flow detention time= 9.5 min calculated for 0.167 af (100% of inflow)
Center-of-Mass det. time= 9.2 min (748.9 - 739.7)

Volume	Invert	Avail.Storage	Storage Description
#1	45.17'	7,919 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 19,799 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.17	13,199	0	0
46.67	13,199	19,799	19,799

Device	Routing	Invert	Outlet Devices
#1	Discarded	45.17'	2.510 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.77 cfs @ 11.75 hrs HW=45.19' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.77 cfs)

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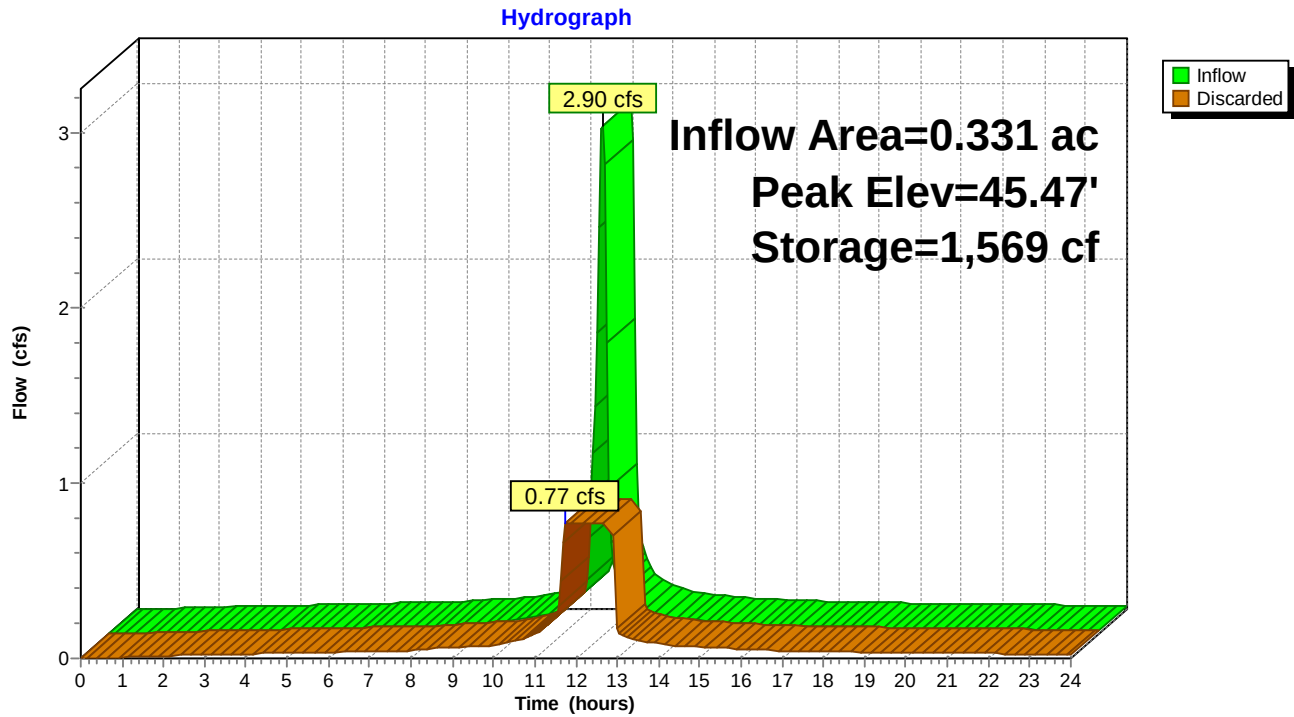
49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

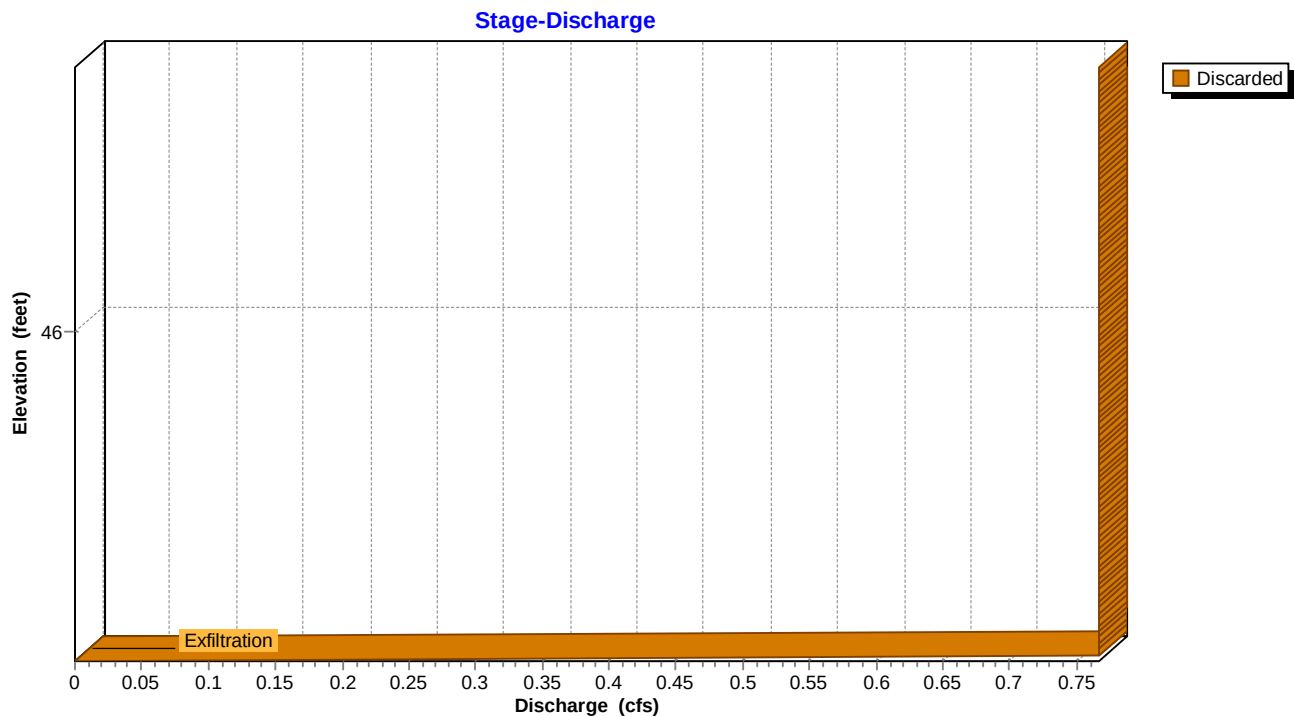
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Pond 2P: Porous Pavement

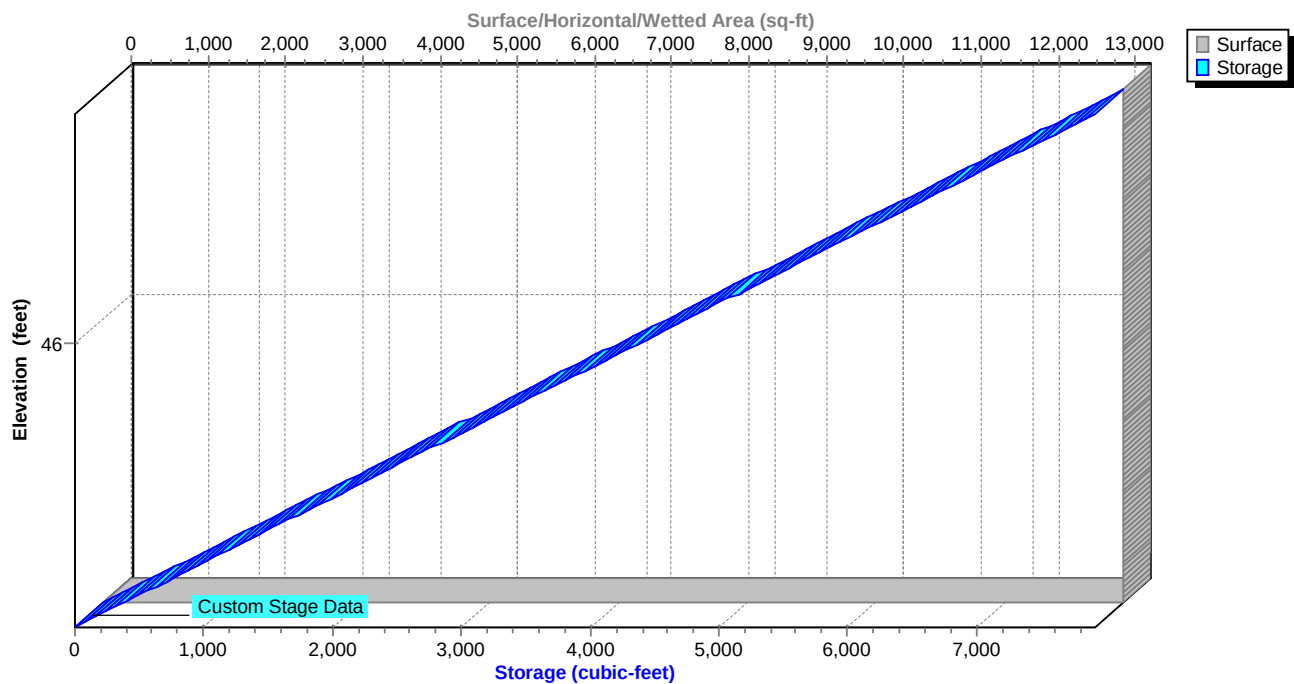


Pond 2P: Porous Pavement



Pond 2P: Porous Pavement

Stage-Area-Storage



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Type II 24-hr 25-year Rainfall=6.32"

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Hydrograph for Pond 2P: Porous Pavement

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	45.17	0.00
0.50	0.00	0	45.17	0.00
1.00	0.00	0	45.17	0.00
1.50	0.01	1	45.17	0.01
2.00	0.01	1	45.17	0.01
2.50	0.02	2	45.17	0.02
3.00	0.02	2	45.17	0.02
3.50	0.02	2	45.17	0.02
4.00	0.02	2	45.17	0.02
4.50	0.03	3	45.17	0.03
5.00	0.03	3	45.17	0.03
5.50	0.03	3	45.17	0.03
6.00	0.03	3	45.17	0.03
6.50	0.04	4	45.17	0.04
7.00	0.04	4	45.17	0.04
7.50	0.04	4	45.17	0.04
8.00	0.04	4	45.17	0.04
8.50	0.05	5	45.17	0.05
9.00	0.06	6	45.17	0.06
9.50	0.07	7	45.17	0.07
10.00	0.08	8	45.17	0.08
10.50	0.10	10	45.17	0.10
11.00	0.14	14	45.17	0.14
11.50	0.23	23	45.17	0.23
12.00	2.67	1,226	45.40	0.77
12.50	0.23	991	45.36	0.77
13.00	0.14	17	45.17	0.17
13.50	0.10	11	45.17	0.11
14.00	0.08	9	45.17	0.08
14.50	0.07	7	45.17	0.07
15.00	0.06	7	45.17	0.06
15.50	0.06	6	45.17	0.06
16.00	0.05	5	45.17	0.05
16.50	0.05	5	45.17	0.05
17.00	0.04	5	45.17	0.04
17.50	0.04	4	45.17	0.04
18.00	0.04	4	45.17	0.04
18.50	0.04	4	45.17	0.04
19.00	0.03	3	45.17	0.03
19.50	0.03	3	45.17	0.03
20.00	0.03	3	45.17	0.03
20.50	0.03	3	45.17	0.03
21.00	0.03	3	45.17	0.03
21.50	0.03	3	45.17	0.03
22.00	0.03	3	45.17	0.03
22.50	0.02	3	45.17	0.02
23.00	0.02	3	45.17	0.02
23.50	0.02	2	45.17	0.02
24.00	0.02	2	45.17	0.02

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Type II 24-hr 25-year Rainfall=6.32"

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Stage-Discharge for Pond 2P: Porous Pavement

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
45.17	0.00	45.70	0.77	46.23	0.77
45.18	0.77	45.71	0.77	46.24	0.77
45.19	0.77	45.72	0.77	46.25	0.77
45.20	0.77	45.73	0.77	46.26	0.77
45.21	0.77	45.74	0.77	46.27	0.77
45.22	0.77	45.75	0.77	46.28	0.77
45.23	0.77	45.76	0.77	46.29	0.77
45.24	0.77	45.77	0.77	46.30	0.77
45.25	0.77	45.78	0.77	46.31	0.77
45.26	0.77	45.79	0.77	46.32	0.77
45.27	0.77	45.80	0.77	46.33	0.77
45.28	0.77	45.81	0.77	46.34	0.77
45.29	0.77	45.82	0.77	46.35	0.77
45.30	0.77	45.83	0.77	46.36	0.77
45.31	0.77	45.84	0.77	46.37	0.77
45.32	0.77	45.85	0.77	46.38	0.77
45.33	0.77	45.86	0.77	46.39	0.77
45.34	0.77	45.87	0.77	46.40	0.77
45.35	0.77	45.88	0.77	46.41	0.77
45.36	0.77	45.89	0.77	46.42	0.77
45.37	0.77	45.90	0.77	46.43	0.77
45.38	0.77	45.91	0.77	46.44	0.77
45.39	0.77	45.92	0.77	46.45	0.77
45.40	0.77	45.93	0.77	46.46	0.77
45.41	0.77	45.94	0.77	46.47	0.77
45.42	0.77	45.95	0.77	46.48	0.77
45.43	0.77	45.96	0.77	46.49	0.77
45.44	0.77	45.97	0.77	46.50	0.77
45.45	0.77	45.98	0.77	46.51	0.77
45.46	0.77	45.99	0.77	46.52	0.77
45.47	0.77	46.00	0.77	46.53	0.77
45.48	0.77	46.01	0.77	46.54	0.77
45.49	0.77	46.02	0.77	46.55	0.77
45.50	0.77	46.03	0.77	46.56	0.77
45.51	0.77	46.04	0.77	46.57	0.77
45.52	0.77	46.05	0.77	46.58	0.77
45.53	0.77	46.06	0.77	46.59	0.77
45.54	0.77	46.07	0.77	46.60	0.77
45.55	0.77	46.08	0.77	46.61	0.77
45.56	0.77	46.09	0.77	46.62	0.77
45.57	0.77	46.10	0.77	46.63	0.77
45.58	0.77	46.11	0.77	46.64	0.77
45.59	0.77	46.12	0.77	46.65	0.77
45.60	0.77	46.13	0.77	46.66	0.77
45.61	0.77	46.14	0.77	46.67	0.77
45.62	0.77	46.15	0.77		
45.63	0.77	46.16	0.77		
45.64	0.77	46.17	0.77		
45.65	0.77	46.18	0.77		
45.66	0.77	46.19	0.77		
45.67	0.77	46.20	0.77		
45.68	0.77	46.21	0.77		
45.69	0.77	46.22	0.77		

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49 Walnut Street Wellesley 6-23-2025

Type II 24-hr 25-year Rainfall=6.32"

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Summary for Pond 3P: Porous Pavers

Inflow Area = 0.054 ac, 100.00% Impervious, Inflow Depth > 6.08" for 25-year event
 Inflow = 0.47 cfs @ 11.96 hrs, Volume= 0.027 af
 Outflow = 0.13 cfs @ 11.75 hrs, Volume= 0.027 af, Atten= 72%, Lag= 0.0 min
 Discarded = 0.13 cfs @ 11.75 hrs, Volume= 0.027 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 45.09' @ 12.11 hrs Surf.Area= 2,332 sf Storage= 244 cf

Plug-Flow detention time= 8.4 min calculated for 0.027 af (100% of inflow)
 Center-of-Mass det. time= 8.2 min (747.9 - 739.7)

Volume	Invert	Avail.Storage	Storage Description
#1	44.83'	1,091 cf	Custom Stage Data (Prismatic) Listed below 2,728 cf Overall x 40.0% Voids

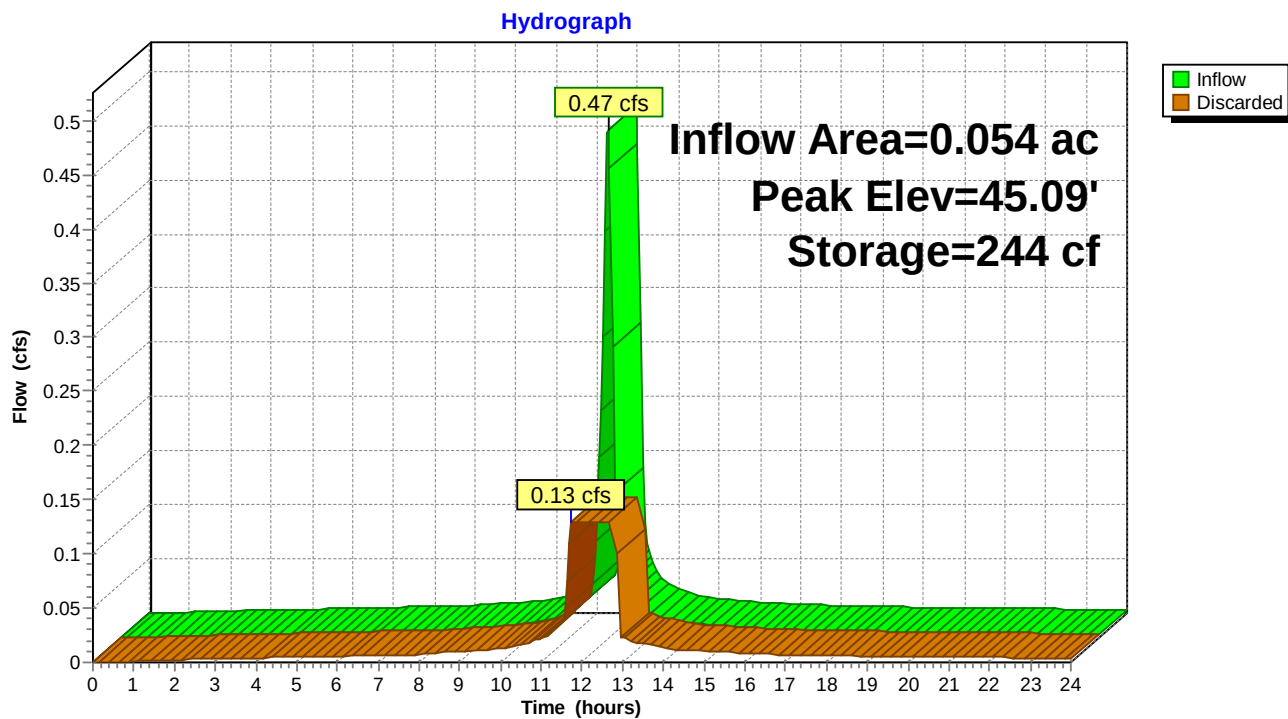
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.83	2,332	0	0
46.00	2,332	2,728	2,728

Device	Routing	Invert	Outlet Devices
#1	Discarded	44.83'	2.410 in/hr Exfiltration over Surface area

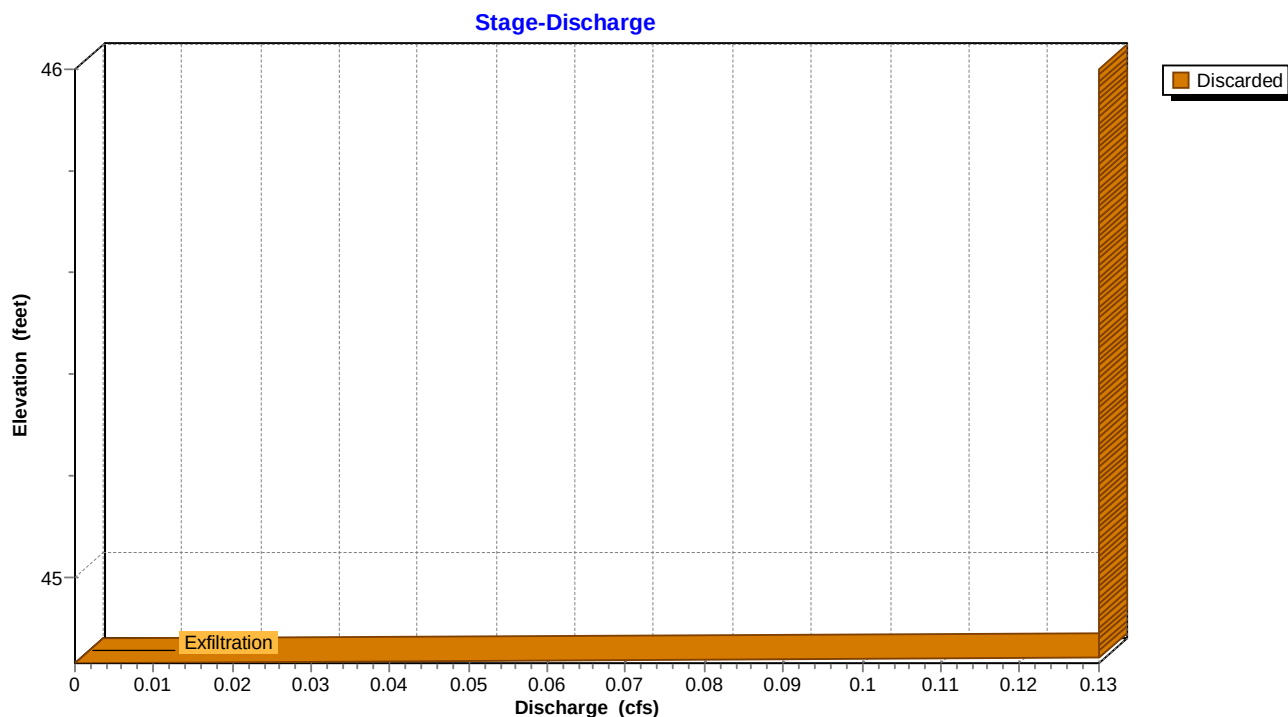
Discarded OutFlow Max=0.13 cfs @ 11.75 hrs HW=44.85' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Pond 3P: Porous Pavers

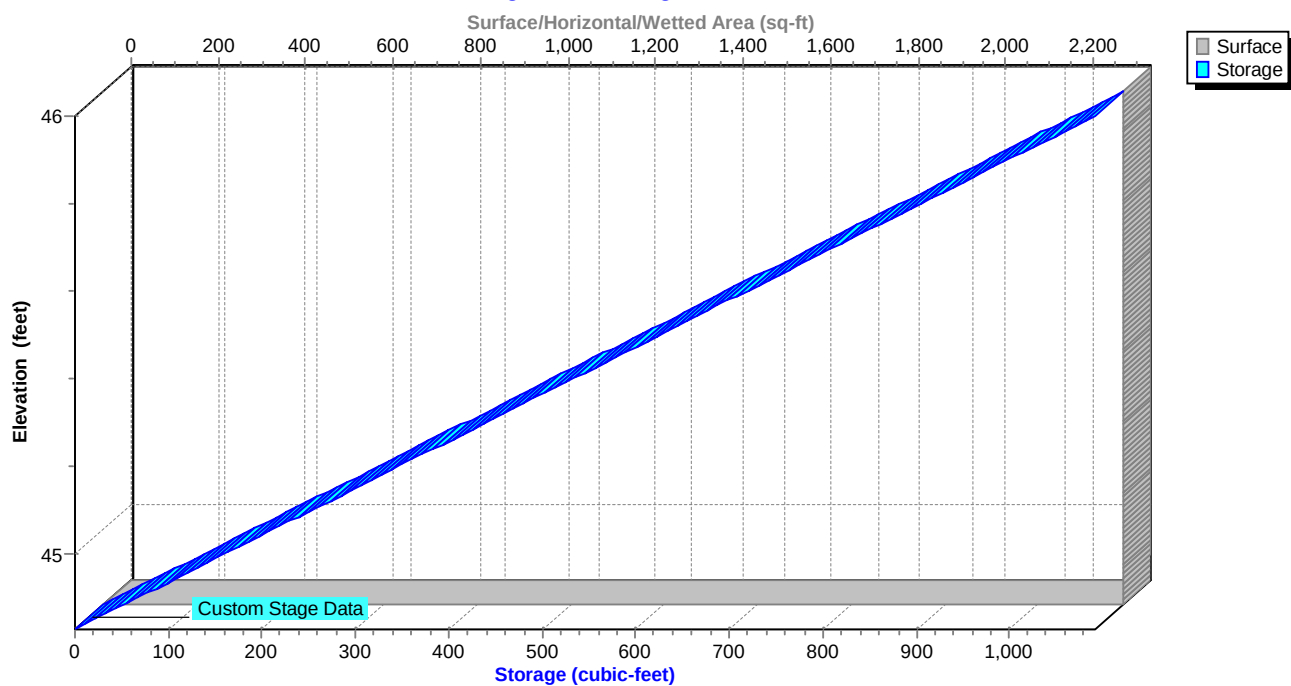


Pond 3P: Porous Pavers



Pond 3P: Porous Pavers

Stage-Area-Storage



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Hydrograph for Pond 3P: Porous Pavers

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	44.83	0.00
0.50	0.00	0	44.83	0.00
1.00	0.00	0	44.83	0.00
1.50	0.00	0	44.83	0.00
2.00	0.00	0	44.83	0.00
2.50	0.00	0	44.83	0.00
3.00	0.00	0	44.83	0.00
3.50	0.00	0	44.83	0.00
4.00	0.00	0	44.83	0.00
4.50	0.00	0	44.83	0.00
5.00	0.00	0	44.83	0.00
5.50	0.01	0	44.83	0.01
6.00	0.01	0	44.83	0.01
6.50	0.01	0	44.83	0.01
7.00	0.01	1	44.83	0.01
7.50	0.01	1	44.83	0.01
8.00	0.01	1	44.83	0.01
8.50	0.01	1	44.83	0.01
9.00	0.01	1	44.83	0.01
9.50	0.01	1	44.83	0.01
10.00	0.01	1	44.83	0.01
10.50	0.02	1	44.83	0.02
11.00	0.02	2	44.83	0.02
11.50	0.04	3	44.83	0.04
12.00	0.43	191	45.03	0.13
12.50	0.04	142	44.98	0.13
13.00	0.02	2	44.83	0.02
13.50	0.02	1	44.83	0.02
14.00	0.01	1	44.83	0.01
14.50	0.01	1	44.83	0.01
15.00	0.01	1	44.83	0.01
15.50	0.01	1	44.83	0.01
16.00	0.01	1	44.83	0.01
16.50	0.01	1	44.83	0.01
17.00	0.01	1	44.83	0.01
17.50	0.01	1	44.83	0.01
18.00	0.01	1	44.83	0.01
18.50	0.01	0	44.83	0.01
19.00	0.01	0	44.83	0.01
19.50	0.00	0	44.83	0.00
20.00	0.00	0	44.83	0.00
20.50	0.00	0	44.83	0.00
21.00	0.00	0	44.83	0.00
21.50	0.00	0	44.83	0.00
22.00	0.00	0	44.83	0.00
22.50	0.00	0	44.83	0.00
23.00	0.00	0	44.83	0.00
23.50	0.00	0	44.83	0.00
24.00	0.00	0	44.83	0.00

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Type II 24-hr 25-year Rainfall=6.32"

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Stage-Discharge for Pond 3P: Porous Pavers

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
44.83	0.00	45.36	0.13	45.89	0.13
44.84	0.13	45.37	0.13	45.90	0.13
44.85	0.13	45.38	0.13	45.91	0.13
44.86	0.13	45.39	0.13	45.92	0.13
44.87	0.13	45.40	0.13	45.93	0.13
44.88	0.13	45.41	0.13	45.94	0.13
44.89	0.13	45.42	0.13	45.95	0.13
44.90	0.13	45.43	0.13	45.96	0.13
44.91	0.13	45.44	0.13	45.97	0.13
44.92	0.13	45.45	0.13	45.98	0.13
44.93	0.13	45.46	0.13	45.99	0.13
44.94	0.13	45.47	0.13	46.00	0.13
44.95	0.13	45.48	0.13		
44.96	0.13	45.49	0.13		
44.97	0.13	45.50	0.13		
44.98	0.13	45.51	0.13		
44.99	0.13	45.52	0.13		
45.00	0.13	45.53	0.13		
45.01	0.13	45.54	0.13		
45.02	0.13	45.55	0.13		
45.03	0.13	45.56	0.13		
45.04	0.13	45.57	0.13		
45.05	0.13	45.58	0.13		
45.06	0.13	45.59	0.13		
45.07	0.13	45.60	0.13		
45.08	0.13	45.61	0.13		
45.09	0.13	45.62	0.13		
45.10	0.13	45.63	0.13		
45.11	0.13	45.64	0.13		
45.12	0.13	45.65	0.13		
45.13	0.13	45.66	0.13		
45.14	0.13	45.67	0.13		
45.15	0.13	45.68	0.13		
45.16	0.13	45.69	0.13		
45.17	0.13	45.70	0.13		
45.18	0.13	45.71	0.13		
45.19	0.13	45.72	0.13		
45.20	0.13	45.73	0.13		
45.21	0.13	45.74	0.13		
45.22	0.13	45.75	0.13		
45.23	0.13	45.76	0.13		
45.24	0.13	45.77	0.13		
45.25	0.13	45.78	0.13		
45.26	0.13	45.79	0.13		
45.27	0.13	45.80	0.13		
45.28	0.13	45.81	0.13		
45.29	0.13	45.82	0.13		
45.30	0.13	45.83	0.13		
45.31	0.13	45.84	0.13		
45.32	0.13	45.85	0.13		
45.33	0.13	45.86	0.13		
45.34	0.13	45.87	0.13		
45.35	0.13	45.88	0.13		

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NOAA 24-hr A 100-year Rainfall=8.12"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing	Runoff Area=57,879 sf 83.80% Impervious Runoff Depth>6.92" Tc=6.0 min CN=90 Runoff=14.08 cfs 0.766 af
Subcatchment 2S: Proposed Roof Areas	Runoff Area=29,467 sf 100.00% Impervious Runoff Depth>7.88" Tc=6.0 min CN=98 Runoff=7.50 cfs 0.444 af
Subcatchment 3S: Proposed Open Space	Runoff Area=11,675 sf 0.00% Impervious Runoff Depth>1.21" Tc=6.0 min CN=39 Runoff=0.44 cfs 0.027 af
Subcatchment 4S: Proposed	Runoff Area=14,405 sf 100.00% Impervious Runoff Depth>7.88" Tc=6.0 min CN=98 Runoff=3.67 cfs 0.217 af
Subcatchment 5S: Proposed Courtyard	Runoff Area=2,332 sf 100.00% Impervious Runoff Depth>7.88" Tc=6.0 min CN=98 Runoff=0.59 cfs 0.035 af
Reach 1R: Charles River	Inflow=14.08 cfs 0.766 af Outflow=14.08 cfs 0.766 af
Reach 2R: Charles River	Inflow=7.57 cfs 0.309 af Outflow=7.57 cfs 0.309 af
Pond 1P: Infiltration Swale	Peak Elev=46.65' Storage=1,758 cf Inflow=7.50 cfs 0.444 af Discarded=0.16 cfs 0.158 af Primary=7.14 cfs 0.282 af Outflow=7.30 cfs 0.440 af
Pond 2P: Porous Pavement	Peak Elev=45.62' Storage=2,353 cf Inflow=3.67 cfs 0.217 af Outflow=0.77 cfs 0.217 af
Pond 3P: Porous Pavers	Peak Elev=45.22' Storage=366 cf Inflow=0.59 cfs 0.035 af Outflow=0.13 cfs 0.035 af

Total Runoff Area = 2.657 ac Runoff Volume = 1.489 af Average Runoff Depth = 6.73"
18.19% Pervious = 0.483 ac 81.81% Impervious = 2.174 ac

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49 Walnut Street Wellesley 6-23-2025

NOAA 24-hr A 100-year Rainfall=8.12"

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Summary for Subcatchment 1S: Existing

Runoff = 14.08 cfs @ 12.13 hrs, Volume= 0.766 af, Depth> 6.92"

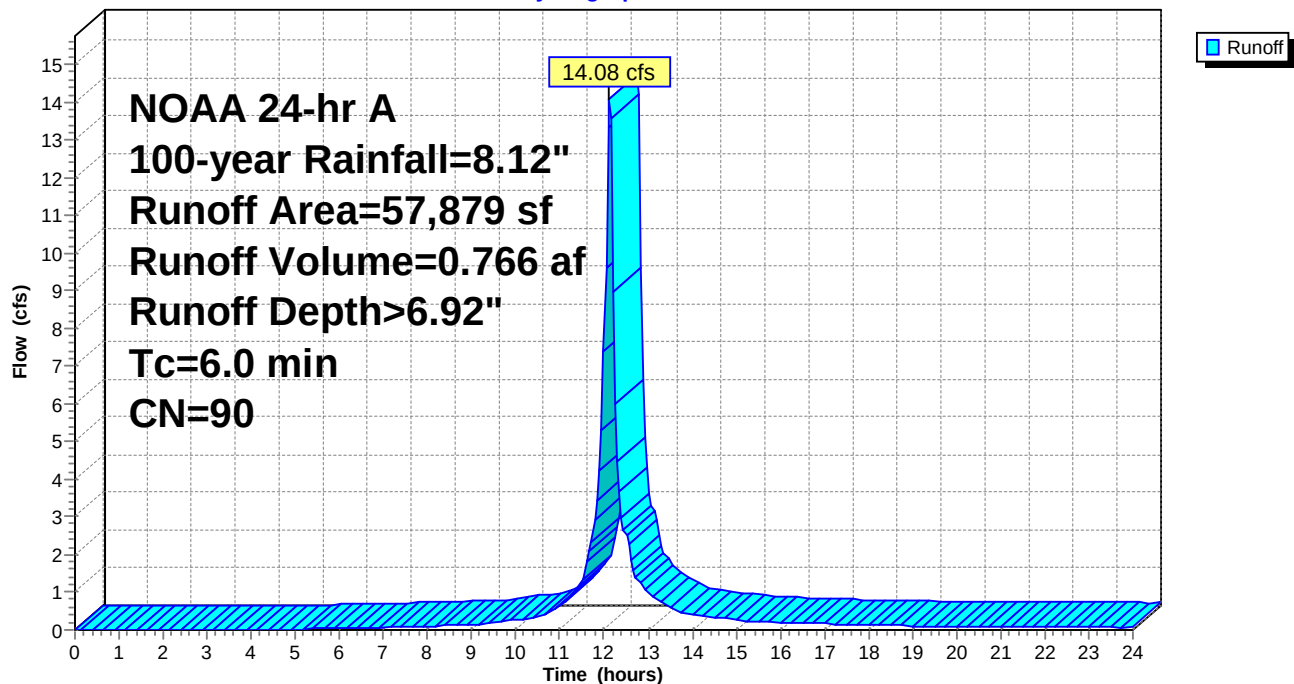
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A 100-year Rainfall=8.12"

Area (sf)	CN	Description
14,969	98	Roofs, HSG A
33,534	98	Paved parking, HSG A
9,376	49	50-75% Grass cover, Fair, HSG A
57,879	90	Weighted Average
9,376		16.20% Pervious Area
48,503		83.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: Existing

Hydrograph



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Hydrograph for Subcatchment 1S: Existing

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	5.55	0.75
0.25	0.01	0.00	0.00	13.50	6.83	5.66	0.58
0.50	0.03	0.00	0.00	13.75	6.93	5.75	0.47
0.75	0.04	0.00	0.00	14.00	7.01	5.83	0.43
1.00	0.06	0.00	0.00	14.25	7.08	5.90	0.39
1.25	0.07	0.00	0.00	14.50	7.15	5.97	0.35
1.50	0.08	0.00	0.00	14.75	7.21	6.03	0.31
1.75	0.10	0.00	0.00	15.00	7.26	6.08	0.26
2.00	0.12	0.00	0.00	15.25	7.31	6.12	0.24
2.25	0.13	0.00	0.00	15.50	7.35	6.17	0.23
2.50	0.15	0.00	0.00	15.75	7.39	6.21	0.22
2.75	0.17	0.00	0.00	16.00	7.43	6.25	0.21
3.00	0.19	0.00	0.00	16.25	7.47	6.28	0.20
3.25	0.20	0.00	0.00	16.50	7.51	6.32	0.19
3.50	0.22	0.00	0.00	16.75	7.54	6.35	0.18
3.75	0.24	0.00	0.00	17.00	7.57	6.38	0.17
4.00	0.26	0.00	0.01	17.25	7.60	6.41	0.16
4.25	0.28	0.00	0.01	17.50	7.63	6.44	0.15
4.50	0.30	0.01	0.01	17.75	7.66	6.47	0.14
4.75	0.32	0.01	0.02	18.00	7.68	6.49	0.13
5.00	0.35	0.01	0.02	18.25	7.71	6.52	0.12
5.25	0.37	0.02	0.02	18.50	7.73	6.54	0.12
5.50	0.39	0.02	0.03	18.75	7.75	6.56	0.12
5.75	0.41	0.03	0.03	19.00	7.77	6.58	0.12
6.00	0.44	0.03	0.04	19.25	7.80	6.60	0.11
6.25	0.46	0.04	0.04	19.50	7.82	6.63	0.11
6.50	0.49	0.05	0.05	19.75	7.84	6.65	0.11
6.75	0.52	0.06	0.06	20.00	7.86	6.67	0.11
7.00	0.55	0.07	0.06	20.25	7.88	6.69	0.10
7.25	0.58	0.09	0.07	20.50	7.90	6.70	0.10
7.50	0.61	0.10	0.08	20.75	7.92	6.72	0.10
7.75	0.65	0.12	0.09	21.00	7.93	6.74	0.10
8.00	0.69	0.14	0.10	21.25	7.95	6.76	0.09
8.25	0.73	0.16	0.11	21.50	7.97	6.78	0.09
8.50	0.77	0.18	0.12	21.75	7.99	6.79	0.09
8.75	0.81	0.21	0.13	22.00	8.00	6.81	0.09
9.00	0.86	0.23	0.14	22.25	8.02	6.82	0.08
9.25	0.91	0.26	0.17	22.50	8.04	6.84	0.08
9.50	0.97	0.30	0.21	22.75	8.05	6.85	0.08
9.75	1.04	0.34	0.24	23.00	8.06	6.87	0.08
10.00	1.11	0.40	0.28	23.25	8.08	6.88	0.07
10.25	1.19	0.45	0.32	23.50	8.09	6.90	0.07
10.50	1.29	0.52	0.36	23.75	8.11	6.91	0.07
10.75	1.40	0.61	0.48	24.00	8.12	6.92	0.08
11.00	1.55	0.72	0.64				
11.25	1.75	0.89	0.92				
11.50	2.02	1.11	1.26				
11.75	2.54	1.57	2.43				
12.00	3.79	2.72	7.40				
12.25	5.58	4.44	6.02				
12.50	6.10	4.94	2.49				
12.75	6.37	5.20	1.38				
13.00	6.57	5.40	1.02				

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NOAA 24-hr A 100-year Rainfall=8.12"

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Summary for Subcatchment 2S: Proposed Roof Areas

Runoff = 7.50 cfs @ 12.13 hrs, Volume= 0.444 af, Depth> 7.88"

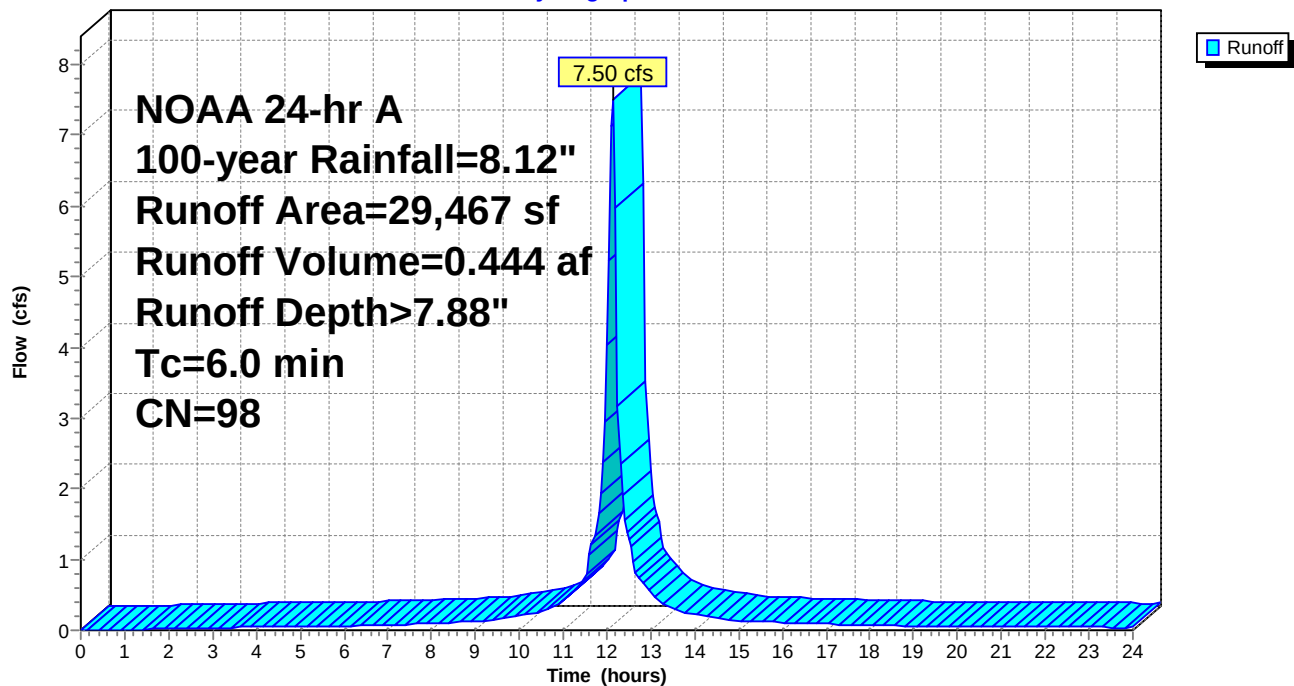
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A 100-year Rainfall=8.12"

Area (sf)	CN	Description
29,006	98	Roofs, HSG A
461	98	Roofs, HSG A
29,467	98	Weighted Average
29,467		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: Proposed Roof Areas

Hydrograph



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Hydrograph for Subcatchment 2S: Proposed Roof Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	6.48	0.39
0.25	0.01	0.00	0.00	13.50	6.83	6.60	0.30
0.50	0.03	0.00	0.00	13.75	6.93	6.69	0.24
0.75	0.04	0.00	0.00	14.00	7.01	6.77	0.22
1.00	0.06	0.00	0.00	14.25	7.08	6.84	0.20
1.25	0.07	0.00	0.01	14.50	7.15	6.91	0.18
1.50	0.08	0.01	0.01	14.75	7.21	6.97	0.16
1.75	0.10	0.01	0.02	15.00	7.26	7.02	0.14
2.00	0.12	0.02	0.02	15.25	7.31	7.07	0.12
2.25	0.13	0.03	0.02	15.50	7.35	7.11	0.12
2.50	0.15	0.04	0.03	15.75	7.39	7.15	0.11
2.75	0.17	0.05	0.03	16.00	7.43	7.19	0.11
3.00	0.19	0.06	0.03	16.25	7.47	7.23	0.10
3.25	0.20	0.07	0.03	16.50	7.51	7.27	0.10
3.50	0.22	0.09	0.04	16.75	7.54	7.30	0.09
3.75	0.24	0.10	0.04	17.00	7.57	7.33	0.09
4.00	0.26	0.11	0.04	17.25	7.60	7.36	0.08
4.25	0.28	0.13	0.04	17.50	7.63	7.39	0.08
4.50	0.30	0.15	0.05	17.75	7.66	7.42	0.07
4.75	0.32	0.16	0.05	18.00	7.68	7.44	0.07
5.00	0.35	0.18	0.05	18.25	7.71	7.47	0.06
5.25	0.37	0.20	0.05	18.50	7.73	7.49	0.06
5.50	0.39	0.22	0.05	18.75	7.75	7.51	0.06
5.75	0.41	0.24	0.05	19.00	7.77	7.53	0.06
6.00	0.44	0.26	0.06	19.25	7.80	7.56	0.06
6.25	0.46	0.28	0.06	19.50	7.82	7.58	0.06
6.50	0.49	0.31	0.07	19.75	7.84	7.60	0.06
6.75	0.52	0.33	0.07	20.00	7.86	7.62	0.06
7.00	0.55	0.36	0.08	20.25	7.88	7.64	0.05
7.25	0.58	0.39	0.08	20.50	7.90	7.66	0.05
7.50	0.61	0.42	0.09	20.75	7.92	7.68	0.05
7.75	0.65	0.46	0.09	21.00	7.93	7.69	0.05
8.00	0.69	0.49	0.10	21.25	7.95	7.71	0.05
8.25	0.73	0.53	0.10	21.50	7.97	7.73	0.05
8.50	0.77	0.57	0.11	21.75	7.99	7.75	0.05
8.75	0.81	0.61	0.11	22.00	8.00	7.76	0.05
9.00	0.86	0.66	0.12	22.25	8.02	7.78	0.04
9.25	0.91	0.70	0.14	22.50	8.04	7.80	0.04
9.50	0.97	0.76	0.16	22.75	8.05	7.81	0.04
9.75	1.04	0.83	0.18	23.00	8.06	7.83	0.04
10.00	1.11	0.90	0.20	23.25	8.08	7.84	0.04
10.25	1.19	0.98	0.22	23.50	8.09	7.85	0.04
10.50	1.29	1.07	0.24	23.75	8.11	7.87	0.04
10.75	1.40	1.18	0.32	24.00	8.12	7.88	0.04
11.00	1.55	1.33	0.41				
11.25	1.75	1.53	0.57				
11.50	2.02	1.80	0.75				
11.75	2.54	2.31	1.39				
12.00	3.79	3.55	4.05				
12.25	5.58	5.34	3.17				
12.50	6.10	5.86	1.30				
12.75	6.37	6.13	0.72				
13.00	6.57	6.33	0.53				

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Summary for Subcatchment 3S: Proposed Open Space

Runoff = 0.44 cfs @ 12.15 hrs, Volume= 0.027 af, Depth> 1.21"

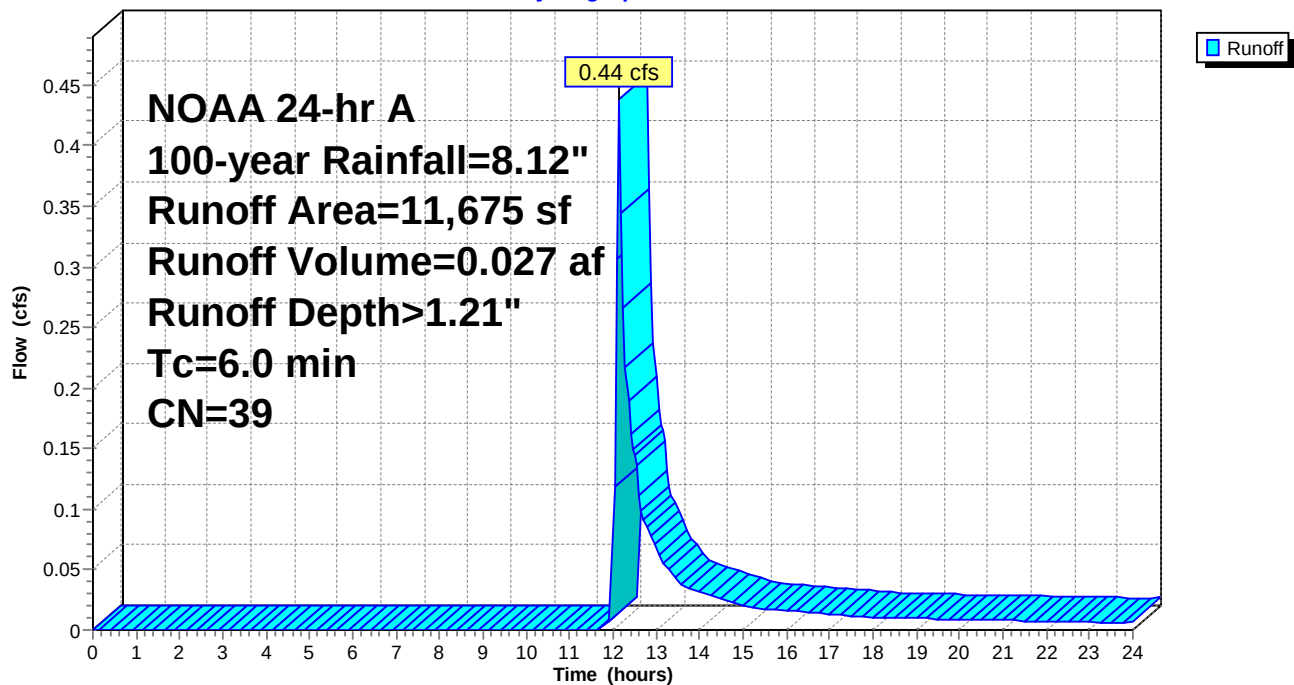
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A 100-year Rainfall=8.12"

Area (sf)	CN	Description
11,675	39	>75% Grass cover, Good, HSG A
11,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Grass

Subcatchment 3S: Proposed Open Space

Hydrograph



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Hydrograph for Subcatchment 3S: Proposed Open Space

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	0.67	0.05
0.25	0.01	0.00	0.00	13.50	6.83	0.71	0.04
0.50	0.03	0.00	0.00	13.75	6.93	0.74	0.03
0.75	0.04	0.00	0.00	14.00	7.01	0.77	0.03
1.00	0.06	0.00	0.00	14.25	7.08	0.80	0.03
1.25	0.07	0.00	0.00	14.50	7.15	0.82	0.03
1.50	0.08	0.00	0.00	14.75	7.21	0.84	0.02
1.75	0.10	0.00	0.00	15.00	7.26	0.86	0.02
2.00	0.12	0.00	0.00	15.25	7.31	0.88	0.02
2.25	0.13	0.00	0.00	15.50	7.35	0.90	0.02
2.50	0.15	0.00	0.00	15.75	7.39	0.91	0.02
2.75	0.17	0.00	0.00	16.00	7.43	0.93	0.02
3.00	0.19	0.00	0.00	16.25	7.47	0.94	0.02
3.25	0.20	0.00	0.00	16.50	7.51	0.96	0.02
3.50	0.22	0.00	0.00	16.75	7.54	0.97	0.01
3.75	0.24	0.00	0.00	17.00	7.57	0.98	0.01
4.00	0.26	0.00	0.00	17.25	7.60	1.00	0.01
4.25	0.28	0.00	0.00	17.50	7.63	1.01	0.01
4.50	0.30	0.00	0.00	17.75	7.66	1.02	0.01
4.75	0.32	0.00	0.00	18.00	7.68	1.03	0.01
5.00	0.35	0.00	0.00	18.25	7.71	1.04	0.01
5.25	0.37	0.00	0.00	18.50	7.73	1.05	0.01
5.50	0.39	0.00	0.00	18.75	7.75	1.06	0.01
5.75	0.41	0.00	0.00	19.00	7.77	1.06	0.01
6.00	0.44	0.00	0.00	19.25	7.80	1.07	0.01
6.25	0.46	0.00	0.00	19.50	7.82	1.08	0.01
6.50	0.49	0.00	0.00	19.75	7.84	1.09	0.01
6.75	0.52	0.00	0.00	20.00	7.86	1.10	0.01
7.00	0.55	0.00	0.00	20.25	7.88	1.11	0.01
7.25	0.58	0.00	0.00	20.50	7.90	1.11	0.01
7.50	0.61	0.00	0.00	20.75	7.92	1.12	0.01
7.75	0.65	0.00	0.00	21.00	7.93	1.13	0.01
8.00	0.69	0.00	0.00	21.25	7.95	1.14	0.01
8.25	0.73	0.00	0.00	21.50	7.97	1.14	0.01
8.50	0.77	0.00	0.00	21.75	7.99	1.15	0.01
8.75	0.81	0.00	0.00	22.00	8.00	1.16	0.01
9.00	0.86	0.00	0.00	22.25	8.02	1.17	0.01
9.25	0.91	0.00	0.00	22.50	8.04	1.17	0.01
9.50	0.97	0.00	0.00	22.75	8.05	1.18	0.01
9.75	1.04	0.00	0.00	23.00	8.06	1.18	0.01
10.00	1.11	0.00	0.00	23.25	8.08	1.19	0.01
10.25	1.19	0.00	0.00	23.50	8.09	1.20	0.01
10.50	1.29	0.00	0.00	23.75	8.11	1.20	0.01
10.75	1.40	0.00	0.00	24.00	8.12	1.21	0.01
11.00	1.55	0.00	0.00				
11.25	1.75	0.00	0.00				
11.50	2.02	0.00	0.00				
11.75	2.54	0.00	0.00				
12.00	3.79	0.03	0.03				
12.25	5.58	0.33	0.27				
12.50	6.10	0.47	0.14				
12.75	6.37	0.56	0.09				
13.00	6.57	0.62	0.07				

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NOAA 24-hr A 100-year Rainfall=8.12"

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Summary for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

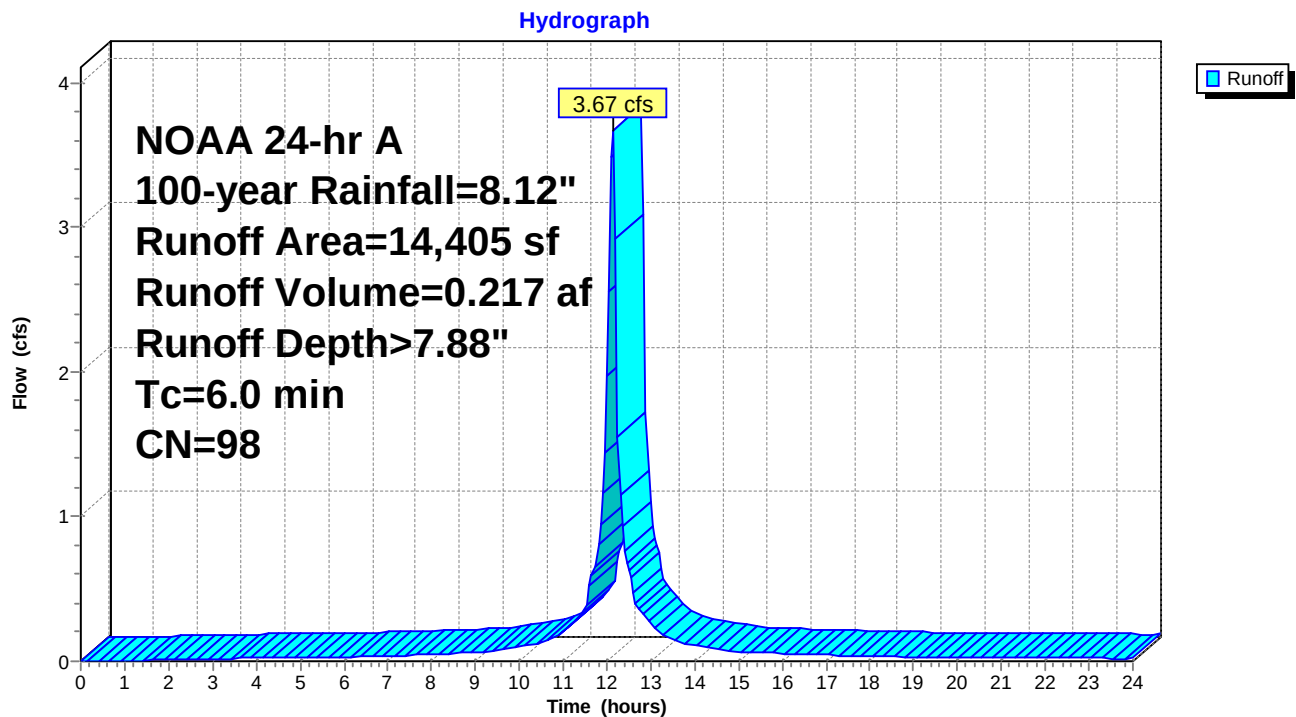
Runoff = 3.67 cfs @ 12.13 hrs, Volume= 0.217 af, Depth> 7.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A 100-year Rainfall=8.12"

Area (sf)	CN	Description
13,199	98	Paved parking, HSG A
* 1,206	98	Walkway
14,405	98	Weighted Average
14,405		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavement

Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas



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NOAA 24-hr A 100-year Rainfall=8.12"

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Hydrograph for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	6.48	0.19
0.25	0.01	0.00	0.00	13.50	6.83	6.60	0.15
0.50	0.03	0.00	0.00	13.75	6.93	6.69	0.12
0.75	0.04	0.00	0.00	14.00	7.01	6.77	0.11
1.00	0.06	0.00	0.00	14.25	7.08	6.84	0.10
1.25	0.07	0.00	0.00	14.50	7.15	6.91	0.09
1.50	0.08	0.01	0.01	14.75	7.21	6.97	0.08
1.75	0.10	0.01	0.01	15.00	7.26	7.02	0.07
2.00	0.12	0.02	0.01	15.25	7.31	7.07	0.06
2.25	0.13	0.03	0.01	15.50	7.35	7.11	0.06
2.50	0.15	0.04	0.01	15.75	7.39	7.15	0.06
2.75	0.17	0.05	0.01	16.00	7.43	7.19	0.05
3.00	0.19	0.06	0.02	16.25	7.47	7.23	0.05
3.25	0.20	0.07	0.02	16.50	7.51	7.27	0.05
3.50	0.22	0.09	0.02	16.75	7.54	7.30	0.05
3.75	0.24	0.10	0.02	17.00	7.57	7.33	0.04
4.00	0.26	0.11	0.02	17.25	7.60	7.36	0.04
4.25	0.28	0.13	0.02	17.50	7.63	7.39	0.04
4.50	0.30	0.15	0.02	17.75	7.66	7.42	0.04
4.75	0.32	0.16	0.02	18.00	7.68	7.44	0.03
5.00	0.35	0.18	0.02	18.25	7.71	7.47	0.03
5.25	0.37	0.20	0.03	18.50	7.73	7.49	0.03
5.50	0.39	0.22	0.03	18.75	7.75	7.51	0.03
5.75	0.41	0.24	0.03	19.00	7.77	7.53	0.03
6.00	0.44	0.26	0.03	19.25	7.80	7.56	0.03
6.25	0.46	0.28	0.03	19.50	7.82	7.58	0.03
6.50	0.49	0.31	0.03	19.75	7.84	7.60	0.03
6.75	0.52	0.33	0.04	20.00	7.86	7.62	0.03
7.00	0.55	0.36	0.04	20.25	7.88	7.64	0.03
7.25	0.58	0.39	0.04	20.50	7.90	7.66	0.03
7.50	0.61	0.42	0.04	20.75	7.92	7.68	0.02
7.75	0.65	0.46	0.05	21.00	7.93	7.69	0.02
8.00	0.69	0.49	0.05	21.25	7.95	7.71	0.02
8.25	0.73	0.53	0.05	21.50	7.97	7.73	0.02
8.50	0.77	0.57	0.05	21.75	7.99	7.75	0.02
8.75	0.81	0.61	0.06	22.00	8.00	7.76	0.02
9.00	0.86	0.66	0.06	22.25	8.02	7.78	0.02
9.25	0.91	0.70	0.07	22.50	8.04	7.80	0.02
9.50	0.97	0.76	0.08	22.75	8.05	7.81	0.02
9.75	1.04	0.83	0.09	23.00	8.06	7.83	0.02
10.00	1.11	0.90	0.10	23.25	8.08	7.84	0.02
10.25	1.19	0.98	0.11	23.50	8.09	7.85	0.02
10.50	1.29	1.07	0.12	23.75	8.11	7.87	0.02
10.75	1.40	1.18	0.16	24.00	8.12	7.88	0.02
11.00	1.55	1.33	0.20				
11.25	1.75	1.53	0.28				
11.50	2.02	1.80	0.37				
11.75	2.54	2.31	0.68				
12.00	3.79	3.55	1.98				
12.25	5.58	5.34	1.55				
12.50	6.10	5.86	0.64				
12.75	6.37	6.13	0.35				
13.00	6.57	6.33	0.26				

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NOAA 24-hr A 100-year Rainfall=8.12"

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Summary for Subcatchment 5S: Proposed Courtyard Walkway Areas

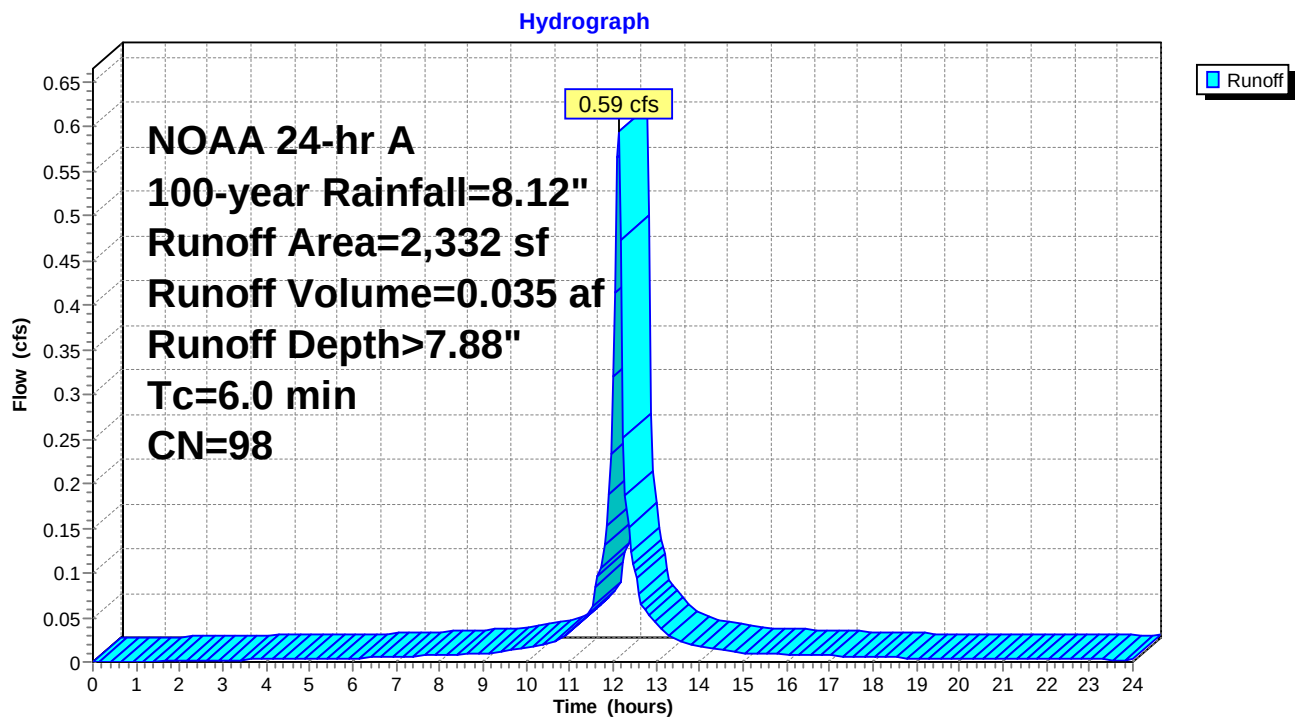
Runoff = 0.59 cfs @ 12.13 hrs, Volume= 0.035 af, Depth> 7.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A 100-year Rainfall=8.12"

	Area (sf)	CN	Description
*	2,332	98	Walkway
	2,332		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavers

Subcatchment 5S: Proposed Courtyard Walkway Areas



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Hydrograph for Subcatchment 5S: Proposed Courtyard Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	6.48	0.03
0.25	0.01	0.00	0.00	13.50	6.83	6.60	0.02
0.50	0.03	0.00	0.00	13.75	6.93	6.69	0.02
0.75	0.04	0.00	0.00	14.00	7.01	6.77	0.02
1.00	0.06	0.00	0.00	14.25	7.08	6.84	0.02
1.25	0.07	0.00	0.00	14.50	7.15	6.91	0.01
1.50	0.08	0.01	0.00	14.75	7.21	6.97	0.01
1.75	0.10	0.01	0.00	15.00	7.26	7.02	0.01
2.00	0.12	0.02	0.00	15.25	7.31	7.07	0.01
2.25	0.13	0.03	0.00	15.50	7.35	7.11	0.01
2.50	0.15	0.04	0.00	15.75	7.39	7.15	0.01
2.75	0.17	0.05	0.00	16.00	7.43	7.19	0.01
3.00	0.19	0.06	0.00	16.25	7.47	7.23	0.01
3.25	0.20	0.07	0.00	16.50	7.51	7.27	0.01
3.50	0.22	0.09	0.00	16.75	7.54	7.30	0.01
3.75	0.24	0.10	0.00	17.00	7.57	7.33	0.01
4.00	0.26	0.11	0.00	17.25	7.60	7.36	0.01
4.25	0.28	0.13	0.00	17.50	7.63	7.39	0.01
4.50	0.30	0.15	0.00	17.75	7.66	7.42	0.01
4.75	0.32	0.16	0.00	18.00	7.68	7.44	0.01
5.00	0.35	0.18	0.00	18.25	7.71	7.47	0.01
5.25	0.37	0.20	0.00	18.50	7.73	7.49	0.00
5.50	0.39	0.22	0.00	18.75	7.75	7.51	0.00
5.75	0.41	0.24	0.00	19.00	7.77	7.53	0.00
6.00	0.44	0.26	0.00	19.25	7.80	7.56	0.00
6.25	0.46	0.28	0.00	19.50	7.82	7.58	0.00
6.50	0.49	0.31	0.01	19.75	7.84	7.60	0.00
6.75	0.52	0.33	0.01	20.00	7.86	7.62	0.00
7.00	0.55	0.36	0.01	20.25	7.88	7.64	0.00
7.25	0.58	0.39	0.01	20.50	7.90	7.66	0.00
7.50	0.61	0.42	0.01	20.75	7.92	7.68	0.00
7.75	0.65	0.46	0.01	21.00	7.93	7.69	0.00
8.00	0.69	0.49	0.01	21.25	7.95	7.71	0.00
8.25	0.73	0.53	0.01	21.50	7.97	7.73	0.00
8.50	0.77	0.57	0.01	21.75	7.99	7.75	0.00
8.75	0.81	0.61	0.01	22.00	8.00	7.76	0.00
9.00	0.86	0.66	0.01	22.25	8.02	7.78	0.00
9.25	0.91	0.70	0.01	22.50	8.04	7.80	0.00
9.50	0.97	0.76	0.01	22.75	8.05	7.81	0.00
9.75	1.04	0.83	0.01	23.00	8.06	7.83	0.00
10.00	1.11	0.90	0.02	23.25	8.08	7.84	0.00
10.25	1.19	0.98	0.02	23.50	8.09	7.85	0.00
10.50	1.29	1.07	0.02	23.75	8.11	7.87	0.00
10.75	1.40	1.18	0.03	24.00	8.12	7.88	0.00
11.00	1.55	1.33	0.03				
11.25	1.75	1.53	0.05				
11.50	2.02	1.80	0.06				
11.75	2.54	2.31	0.11				
12.00	3.79	3.55	0.32				
12.25	5.58	5.34	0.25				
12.50	6.10	5.86	0.10				
12.75	6.37	6.13	0.06				
13.00	6.57	6.33	0.04				

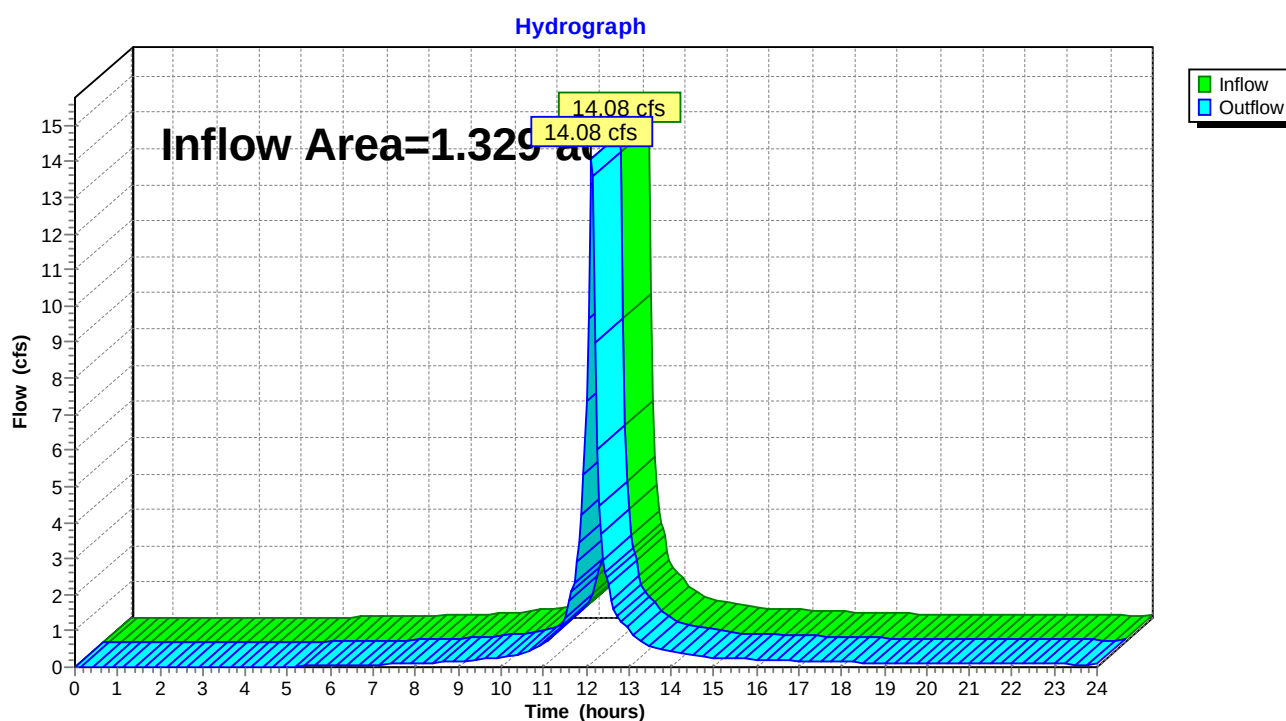
Summary for Reach 1R: Charles River

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.329 ac, 83.80% Impervious, Inflow Depth > 6.92" for 100-year event
 Inflow = 14.08 cfs @ 12.13 hrs, Volume= 0.766 af
 Outflow = 14.08 cfs @ 12.13 hrs, Volume= 0.766 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Charles River



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Hydrograph for Reach 1R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.75		0.75
0.25	0.00		0.00	13.50	0.58		0.58
0.50	0.00		0.00	13.75	0.47		0.47
0.75	0.00		0.00	14.00	0.43		0.43
1.00	0.00		0.00	14.25	0.39		0.39
1.25	0.00		0.00	14.50	0.35		0.35
1.50	0.00		0.00	14.75	0.31		0.31
1.75	0.00		0.00	15.00	0.26		0.26
2.00	0.00		0.00	15.25	0.24		0.24
2.25	0.00		0.00	15.50	0.23		0.23
2.50	0.00		0.00	15.75	0.22		0.22
2.75	0.00		0.00	16.00	0.21		0.21
3.00	0.00		0.00	16.25	0.20		0.20
3.25	0.00		0.00	16.50	0.19		0.19
3.50	0.00		0.00	16.75	0.18		0.18
3.75	0.00		0.00	17.00	0.17		0.17
4.00	0.01		0.01	17.25	0.16		0.16
4.25	0.01		0.01	17.50	0.15		0.15
4.50	0.01		0.01	17.75	0.14		0.14
4.75	0.02		0.02	18.00	0.13		0.13
5.00	0.02		0.02	18.25	0.12		0.12
5.25	0.02		0.02	18.50	0.12		0.12
5.50	0.03		0.03	18.75	0.12		0.12
5.75	0.03		0.03	19.00	0.12		0.12
6.00	0.04		0.04	19.25	0.11		0.11
6.25	0.04		0.04	19.50	0.11		0.11
6.50	0.05		0.05	19.75	0.11		0.11
6.75	0.06		0.06	20.00	0.11		0.11
7.00	0.06		0.06	20.25	0.10		0.10
7.25	0.07		0.07	20.50	0.10		0.10
7.50	0.08		0.08	20.75	0.10		0.10
7.75	0.09		0.09	21.00	0.10		0.10
8.00	0.10		0.10	21.25	0.09		0.09
8.25	0.11		0.11	21.50	0.09		0.09
8.50	0.12		0.12	21.75	0.09		0.09
8.75	0.13		0.13	22.00	0.09		0.09
9.00	0.14		0.14	22.25	0.08		0.08
9.25	0.17		0.17	22.50	0.08		0.08
9.50	0.21		0.21	22.75	0.08		0.08
9.75	0.24		0.24	23.00	0.08		0.08
10.00	0.28		0.28	23.25	0.07		0.07
10.25	0.32		0.32	23.50	0.07		0.07
10.50	0.36		0.36	23.75	0.07		0.07
10.75	0.48		0.48	24.00	0.08		0.08
11.00	0.64		0.64				
11.25	0.92		0.92				
11.50	1.26		1.26				
11.75	2.43		2.43				
12.00	7.40		7.40				
12.25	6.02		6.02				
12.50	2.49		2.49				
12.75	1.38		1.38				
13.00	1.02		1.02				

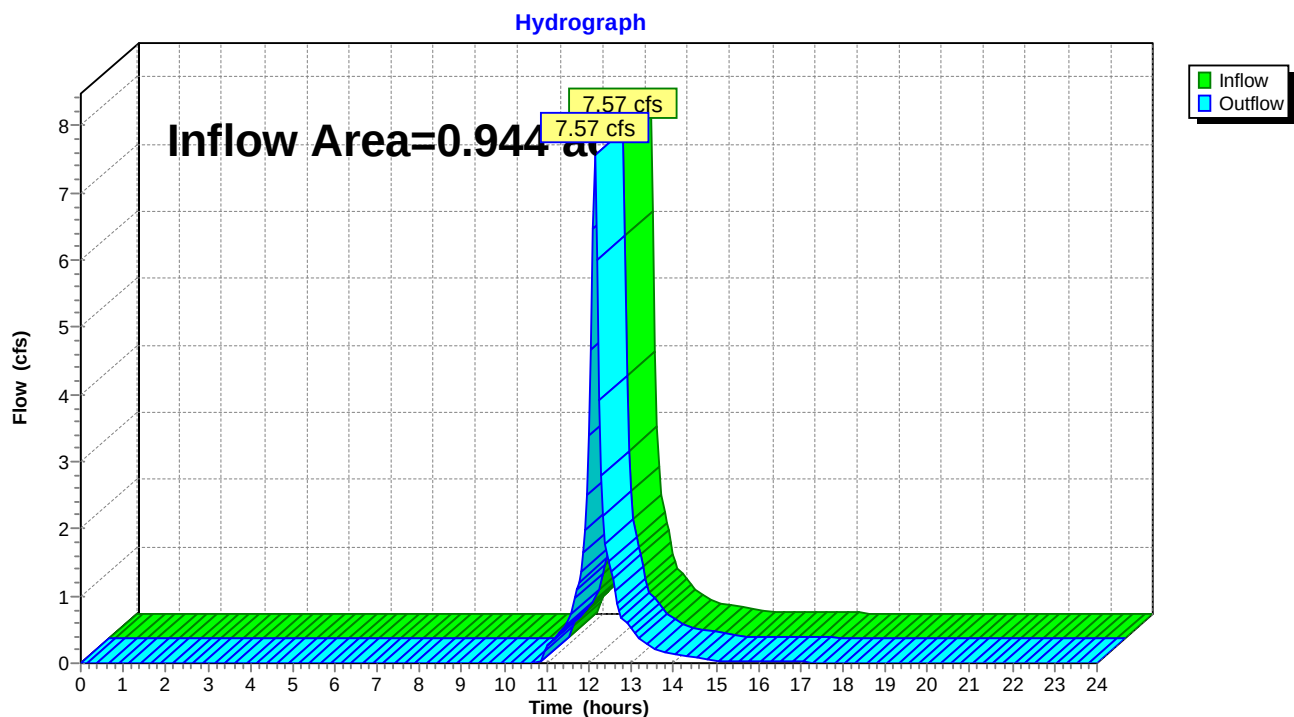
Summary for Reach 2R: Charles River

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.944 ac, 71.62% Impervious, Inflow Depth > 3.92" for 100-year event
 Inflow = 7.57 cfs @ 12.15 hrs, Volume= 0.309 af
 Outflow = 7.57 cfs @ 12.15 hrs, Volume= 0.309 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 2R: Charles River



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Hydrograph for Reach 2R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.33		0.33
0.25	0.00		0.00	13.50	0.23		0.23
0.50	0.00		0.00	13.75	0.16		0.16
0.75	0.00		0.00	14.00	0.13		0.13
1.00	0.00		0.00	14.25	0.11		0.11
1.25	0.00		0.00	14.50	0.08		0.08
1.50	0.00		0.00	14.75	0.06		0.06
1.75	0.00		0.00	15.00	0.04		0.04
2.00	0.00		0.00	15.25	0.02		0.02
2.25	0.00		0.00	15.50	0.02		0.02
2.50	0.00		0.00	15.75	0.02		0.02
2.75	0.00		0.00	16.00	0.02		0.02
3.00	0.00		0.00	16.25	0.02		0.02
3.25	0.00		0.00	16.50	0.02		0.02
3.50	0.00		0.00	16.75	0.01		0.01
3.75	0.00		0.00	17.00	0.01		0.01
4.00	0.00		0.00	17.25	0.01		0.01
4.25	0.00		0.00	17.50	0.01		0.01
4.50	0.00		0.00	17.75	0.01		0.01
4.75	0.00		0.00	18.00	0.01		0.01
5.00	0.00		0.00	18.25	0.01		0.01
5.25	0.00		0.00	18.50	0.01		0.01
5.50	0.00		0.00	18.75	0.01		0.01
5.75	0.00		0.00	19.00	0.01		0.01
6.00	0.00		0.00	19.25	0.01		0.01
6.25	0.00		0.00	19.50	0.01		0.01
6.50	0.00		0.00	19.75	0.01		0.01
6.75	0.00		0.00	20.00	0.01		0.01
7.00	0.00		0.00	20.25	0.01		0.01
7.25	0.00		0.00	20.50	0.01		0.01
7.50	0.00		0.00	20.75	0.01		0.01
7.75	0.00		0.00	21.00	0.01		0.01
8.00	0.00		0.00	21.25	0.01		0.01
8.25	0.00		0.00	21.50	0.01		0.01
8.50	0.00		0.00	21.75	0.01		0.01
8.75	0.00		0.00	22.00	0.01		0.01
9.00	0.00		0.00	22.25	0.01		0.01
9.25	0.00		0.00	22.50	0.01		0.01
9.50	0.00		0.00	22.75	0.01		0.01
9.75	0.00		0.00	23.00	0.01		0.01
10.00	0.00		0.00	23.25	0.01		0.01
10.25	0.00		0.00	23.50	0.01		0.01
10.50	0.00		0.00	23.75	0.01		0.01
10.75	0.00		0.00	24.00	0.01		0.01
11.00	0.24		0.24				
11.25	0.41		0.41				
11.50	0.59		0.59				
11.75	1.19		1.19				
12.00	3.40		3.40				
12.25	3.92		3.92				
12.50	1.36		1.36				
12.75	0.71		0.71				
13.00	0.50		0.50				

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Summary for Pond 1P: Infiltration Swale

Inflow Area = 0.676 ac, 100.00% Impervious, Inflow Depth > 7.88" for 100-year event
 Inflow = 7.50 cfs @ 12.13 hrs, Volume= 0.444 af
 Outflow = 7.30 cfs @ 12.14 hrs, Volume= 0.440 af, Atten= 3%, Lag= 1.1 min
 Discarded = 0.16 cfs @ 12.14 hrs, Volume= 0.158 af
 Primary = 7.14 cfs @ 12.14 hrs, Volume= 0.282 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 46.65' @ 12.14 hrs Surf.Area= 2,910 sf Storage= 1,758 cf

Plug-Flow detention time= 39.3 min calculated for 0.440 af (99% of inflow)
 Center-of-Mass det. time= 34.0 min (773.8 - 739.8)

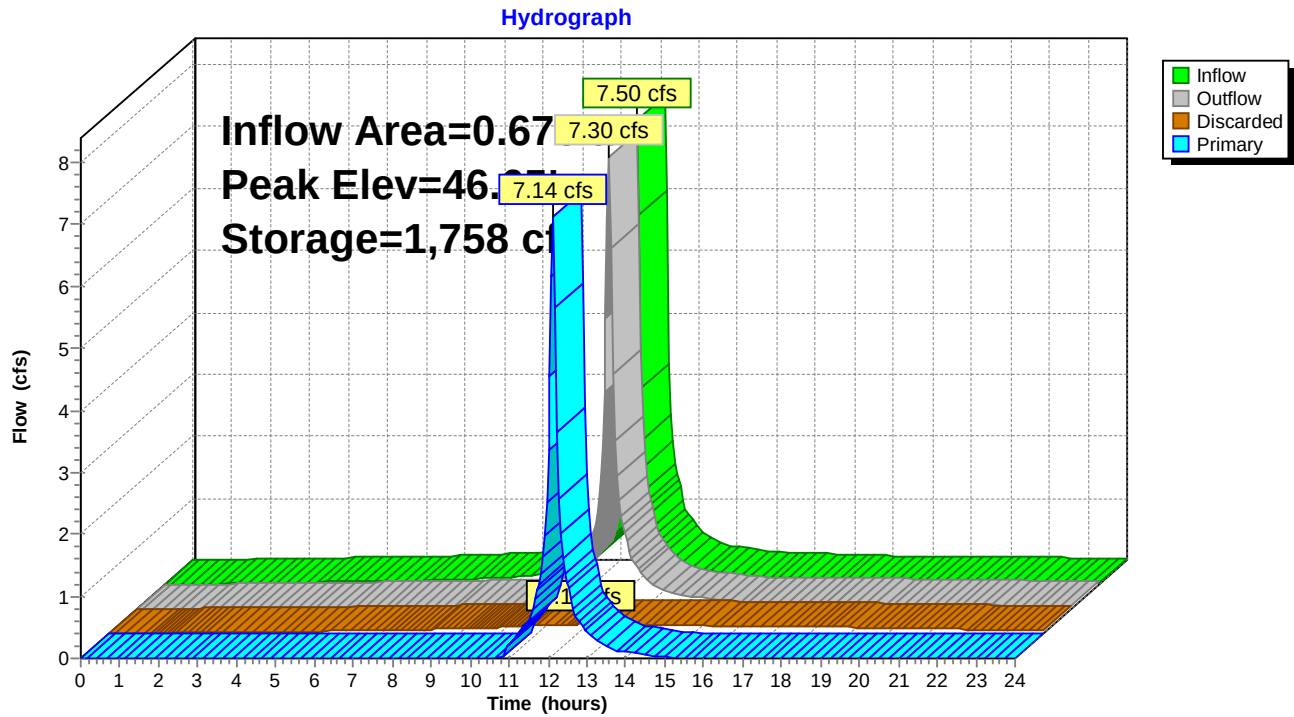
Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	1,932 cf	2.00'W x 220.00'L x 2.80'H Prismatic Z=2.0 4,830 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	44.00'	2.410 in/hr Exfiltration over Surface area
#2	Primary	46.00'	45.0 deg x 4.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir Cv= 2.56 (C= 3.20)

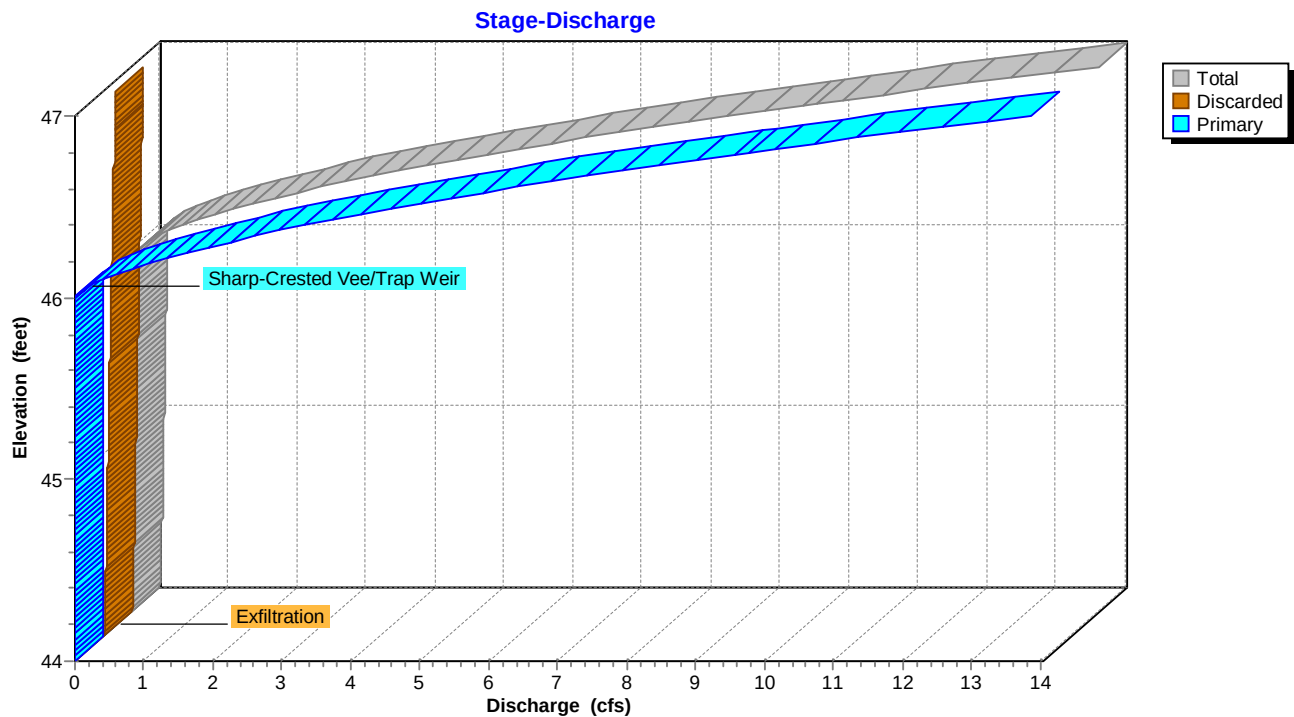
Discarded OutFlow Max=0.16 cfs @ 12.14 hrs HW=46.65' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=7.02 cfs @ 12.14 hrs HW=46.65' (Free Discharge)
 ↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 7.02 cfs @ 2.54 fps)

Pond 1P: Infiltration Swale

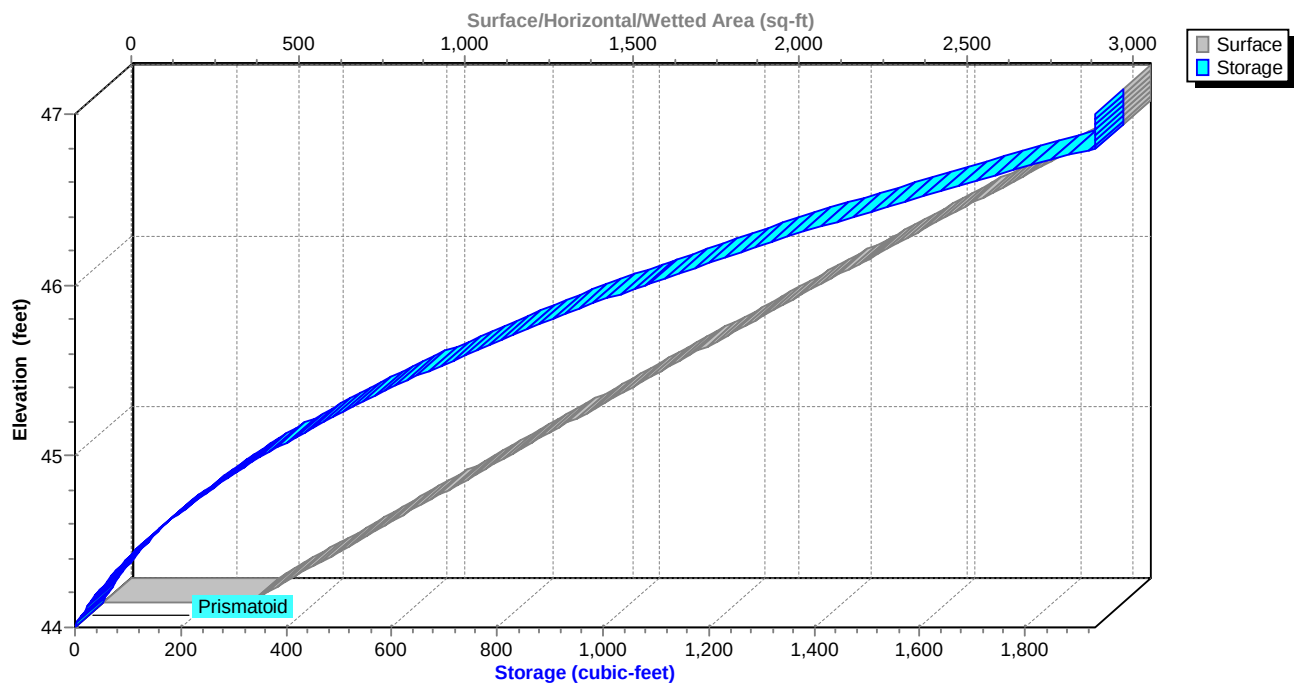


Pond 1P: Infiltration Swale



Pond 1P: Infiltration Swale

Stage-Area-Storage



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Hydrograph for Pond 1P: Infiltration Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	44.00	0.00	0.00	0.00
0.50	0.00	0	44.00	0.00	0.00	0.00
1.00	0.00	0	44.00	0.00	0.00	0.00
1.50	0.01	2	44.01	0.01	0.01	0.00
2.00	0.02	4	44.02	0.02	0.02	0.00
2.50	0.03	5	44.03	0.03	0.03	0.00
3.00	0.03	10	44.05	0.03	0.03	0.00
3.50	0.04	20	44.10	0.03	0.03	0.00
4.00	0.04	34	44.17	0.03	0.03	0.00
4.50	0.05	50	44.23	0.04	0.04	0.00
5.00	0.05	68	44.30	0.04	0.04	0.00
5.50	0.05	86	44.36	0.04	0.04	0.00
6.00	0.06	106	44.42	0.05	0.05	0.00
6.50	0.07	131	44.50	0.05	0.05	0.00
7.00	0.08	167	44.59	0.05	0.05	0.00
7.50	0.09	212	44.70	0.06	0.06	0.00
8.00	0.10	266	44.82	0.07	0.07	0.00
8.50	0.11	328	44.95	0.07	0.07	0.00
9.00	0.12	398	45.08	0.08	0.08	0.00
9.50	0.16	497	45.24	0.09	0.09	0.00
10.00	0.20	654	45.48	0.10	0.10	0.00
10.50	0.24	863	45.75	0.11	0.11	0.00
11.00	0.41	1,144	46.07	0.37	0.13	0.24
11.50	0.75	1,199	46.13	0.72	0.13	0.59
12.00	4.05	1,477	46.40	3.52	0.15	3.37
12.50	1.30	1,275	46.21	1.36	0.14	1.22
13.00	0.53	1,176	46.10	0.56	0.13	0.43
13.50	0.30	1,135	46.06	0.32	0.13	0.19
14.00	0.22	1,115	46.04	0.23	0.13	0.10
14.50	0.18	1,103	46.03	0.19	0.13	0.06
15.00	0.14	1,090	46.01	0.14	0.13	0.02
15.50	0.12	1,076	46.00	0.13	0.13	0.00
16.00	0.11	1,052	45.97	0.13	0.13	0.00
16.50	0.10	1,013	45.93	0.12	0.12	0.00
17.00	0.09	961	45.87	0.12	0.12	0.00
17.50	0.08	897	45.79	0.12	0.12	0.00
18.00	0.07	823	45.70	0.11	0.11	0.00
18.50	0.06	743	45.60	0.11	0.11	0.00
19.00	0.06	667	45.50	0.10	0.10	0.00
19.50	0.06	597	45.39	0.10	0.10	0.00
20.00	0.06	531	45.30	0.09	0.09	0.00
20.50	0.05	470	45.20	0.09	0.09	0.00
21.00	0.05	413	45.10	0.08	0.08	0.00
21.50	0.05	361	45.01	0.08	0.08	0.00
22.00	0.05	312	44.92	0.07	0.07	0.00
22.50	0.04	268	44.83	0.07	0.07	0.00
23.00	0.04	227	44.74	0.06	0.06	0.00
23.50	0.04	189	44.65	0.06	0.06	0.00
24.00	0.04	156	44.56	0.05	0.05	0.00

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Stage-Discharge for Pond 1P: Infiltration Swale

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
44.00	0.00	0.00	0.00	46.65	7.23	0.16	7.07
44.05	0.03	0.03	0.00	46.70	8.10	0.16	7.93
44.10	0.03	0.03	0.00	46.75	9.00	0.17	8.83
44.15	0.03	0.03	0.00	46.80	9.94	0.17	9.77
44.20	0.03	0.03	0.00	46.85	10.91	0.17	10.74
44.25	0.04	0.04	0.00	46.90	11.91	0.17	11.74
44.30	0.04	0.04	0.00	46.95	12.96	0.17	12.78
44.35	0.04	0.04	0.00	47.00	14.03	0.17	13.86
44.40	0.04	0.04	0.00				
44.45	0.05	0.05	0.00				
44.50	0.05	0.05	0.00				
44.55	0.05	0.05	0.00				
44.60	0.05	0.05	0.00				
44.65	0.06	0.06	0.00				
44.70	0.06	0.06	0.00				
44.75	0.06	0.06	0.00				
44.80	0.06	0.06	0.00				
44.85	0.07	0.07	0.00				
44.90	0.07	0.07	0.00				
44.95	0.07	0.07	0.00				
45.00	0.07	0.07	0.00				
45.05	0.08	0.08	0.00				
45.10	0.08	0.08	0.00				
45.15	0.08	0.08	0.00				
45.20	0.09	0.09	0.00				
45.25	0.09	0.09	0.00				
45.30	0.09	0.09	0.00				
45.35	0.09	0.09	0.00				
45.40	0.10	0.10	0.00				
45.45	0.10	0.10	0.00				
45.50	0.10	0.10	0.00				
45.55	0.10	0.10	0.00				
45.60	0.11	0.11	0.00				
45.65	0.11	0.11	0.00				
45.70	0.11	0.11	0.00				
45.75	0.11	0.11	0.00				
45.80	0.12	0.12	0.00				
45.85	0.12	0.12	0.00				
45.90	0.12	0.12	0.00				
45.95	0.12	0.12	0.00				
46.00	0.13	0.13	0.00				
46.05	0.27	0.13	0.14				
46.10	0.54	0.13	0.41				
46.15	0.89	0.14	0.75				
46.20	1.30	0.14	1.16				
46.25	1.77	0.14	1.63				
46.30	2.30	0.14	2.16				
46.35	2.87	0.15	2.73				
46.40	3.49	0.15	3.35				
46.45	4.16	0.15	4.01				
46.50	4.87	0.15	4.71				
46.55	5.62	0.16	5.46				
46.60	6.40	0.16	6.24				

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Summary for Pond 2P: Porous Pavement

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth > 7.88" for 100-year event
 Inflow = 3.67 cfs @ 12.13 hrs, Volume= 0.217 af
 Outflow = 0.77 cfs @ 11.85 hrs, Volume= 0.217 af, Atten= 79%, Lag= 0.0 min
 Discarded = 0.77 cfs @ 11.85 hrs, Volume= 0.217 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 45.62' @ 12.41 hrs Surf.Area= 13,199 sf Storage= 2,353 cf

Plug-Flow detention time= 17.4 min calculated for 0.217 af (100% of inflow)
 Center-of-Mass det. time= 17.2 min (757.0 - 739.8)

Volume	Invert	Avail.Storage	Storage Description
#1	45.17'	7,919 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 19,799 cf Overall x 40.0% Voids

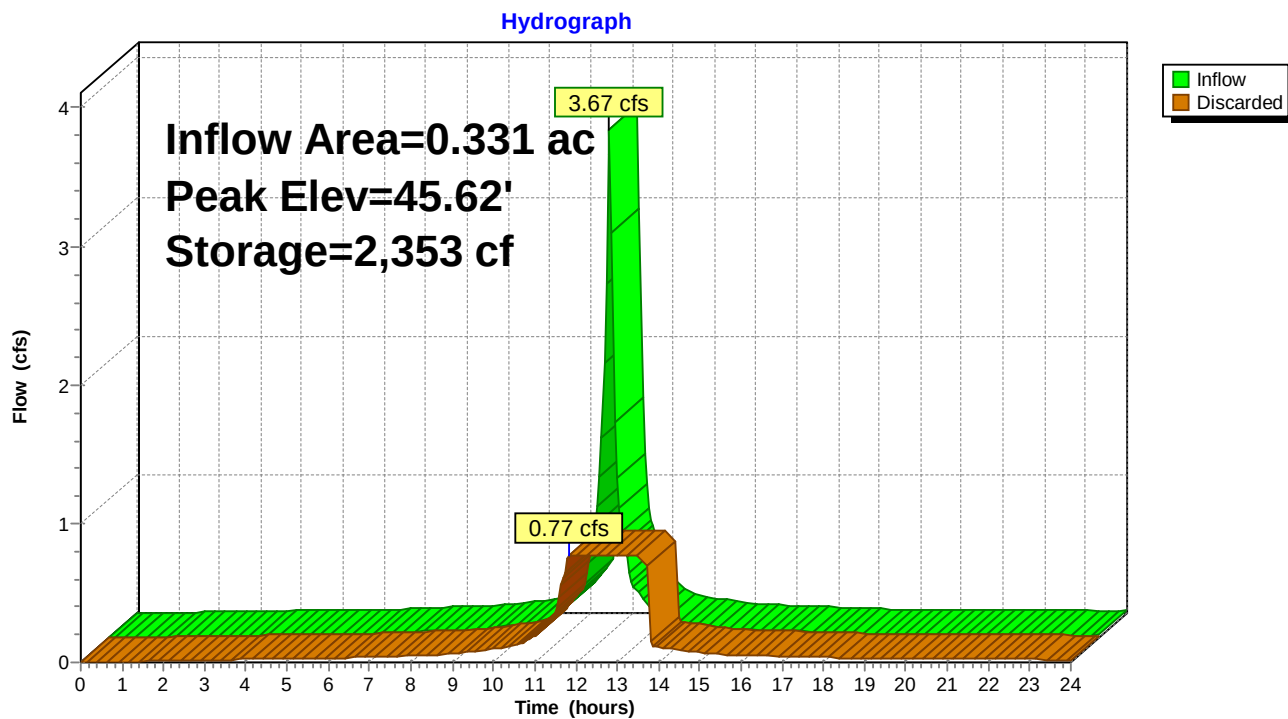
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.17	13,199	0	0
46.67	13,199	19,799	19,799

Device	Routing	Invert	Outlet Devices
#1	Discarded	45.17'	2.510 in/hr Exfiltration over Surface area

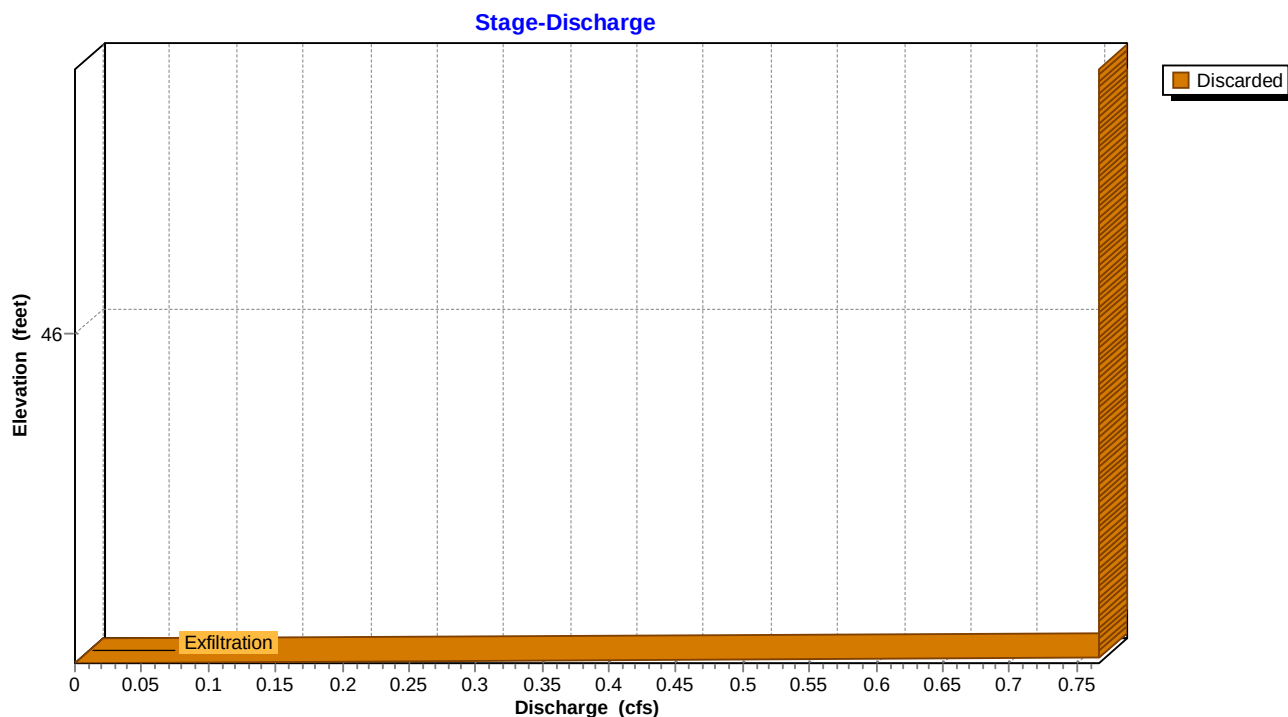
Discarded OutFlow Max=0.77 cfs @ 11.85 hrs HW=45.19' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.77 cfs)

Pond 2P: Porous Pavement

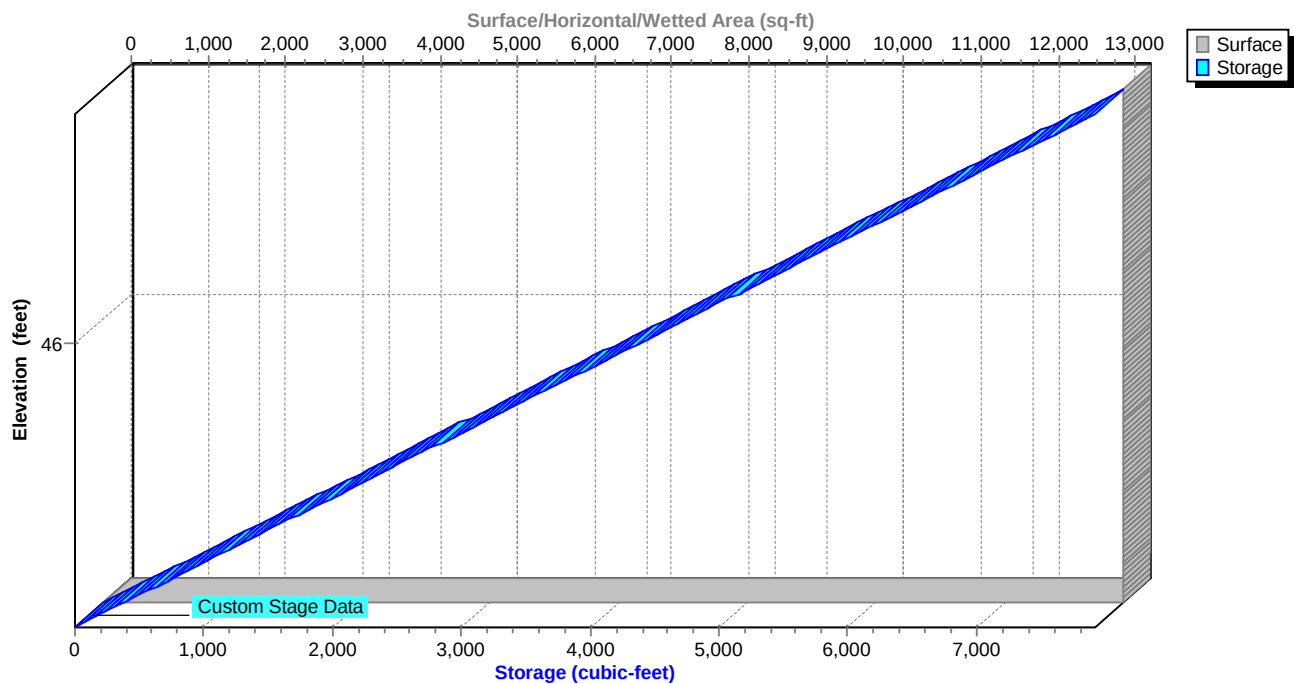


Pond 2P: Porous Pavement



Pond 2P: Porous Pavement

Stage-Area-Storage



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Hydrograph for Pond 2P: Porous Pavement

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	45.17	0.00
0.50	0.00	0	45.17	0.00
1.00	0.00	0	45.17	0.00
1.50	0.01	1	45.17	0.01
2.00	0.01	1	45.17	0.01
2.50	0.01	1	45.17	0.01
3.00	0.02	2	45.17	0.02
3.50	0.02	2	45.17	0.02
4.00	0.02	2	45.17	0.02
4.50	0.02	2	45.17	0.02
5.00	0.02	2	45.17	0.02
5.50	0.03	3	45.17	0.03
6.00	0.03	3	45.17	0.03
6.50	0.03	3	45.17	0.03
7.00	0.04	4	45.17	0.04
7.50	0.04	4	45.17	0.04
8.00	0.05	5	45.17	0.05
8.50	0.05	5	45.17	0.05
9.00	0.06	6	45.17	0.06
9.50	0.08	8	45.17	0.08
10.00	0.10	10	45.17	0.10
10.50	0.12	12	45.17	0.12
11.00	0.20	20	45.17	0.19
11.50	0.37	37	45.18	0.36
12.00	1.98	415	45.25	0.77
12.50	0.64	2,324	45.61	0.77
13.00	0.26	1,636	45.48	0.77
13.50	0.15	607	45.29	0.77
14.00	0.11	11	45.17	0.11
14.50	0.09	9	45.17	0.09
15.00	0.07	7	45.17	0.07
15.50	0.06	6	45.17	0.06
16.00	0.05	5	45.17	0.05
16.50	0.05	5	45.17	0.05
17.00	0.04	4	45.17	0.04
17.50	0.04	4	45.17	0.04
18.00	0.03	3	45.17	0.03
18.50	0.03	3	45.17	0.03
19.00	0.03	3	45.17	0.03
19.50	0.03	3	45.17	0.03
20.00	0.03	3	45.17	0.03
20.50	0.03	3	45.17	0.03
21.00	0.02	3	45.17	0.02
21.50	0.02	2	45.17	0.02
22.00	0.02	2	45.17	0.02
22.50	0.02	2	45.17	0.02
23.00	0.02	2	45.17	0.02
23.50	0.02	2	45.17	0.02
24.00	0.02	2	45.17	0.02

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Stage-Discharge for Pond 2P: Porous Pavement

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
45.17	0.00	45.70	0.77	46.23	0.77
45.18	0.77	45.71	0.77	46.24	0.77
45.19	0.77	45.72	0.77	46.25	0.77
45.20	0.77	45.73	0.77	46.26	0.77
45.21	0.77	45.74	0.77	46.27	0.77
45.22	0.77	45.75	0.77	46.28	0.77
45.23	0.77	45.76	0.77	46.29	0.77
45.24	0.77	45.77	0.77	46.30	0.77
45.25	0.77	45.78	0.77	46.31	0.77
45.26	0.77	45.79	0.77	46.32	0.77
45.27	0.77	45.80	0.77	46.33	0.77
45.28	0.77	45.81	0.77	46.34	0.77
45.29	0.77	45.82	0.77	46.35	0.77
45.30	0.77	45.83	0.77	46.36	0.77
45.31	0.77	45.84	0.77	46.37	0.77
45.32	0.77	45.85	0.77	46.38	0.77
45.33	0.77	45.86	0.77	46.39	0.77
45.34	0.77	45.87	0.77	46.40	0.77
45.35	0.77	45.88	0.77	46.41	0.77
45.36	0.77	45.89	0.77	46.42	0.77
45.37	0.77	45.90	0.77	46.43	0.77
45.38	0.77	45.91	0.77	46.44	0.77
45.39	0.77	45.92	0.77	46.45	0.77
45.40	0.77	45.93	0.77	46.46	0.77
45.41	0.77	45.94	0.77	46.47	0.77
45.42	0.77	45.95	0.77	46.48	0.77
45.43	0.77	45.96	0.77	46.49	0.77
45.44	0.77	45.97	0.77	46.50	0.77
45.45	0.77	45.98	0.77	46.51	0.77
45.46	0.77	45.99	0.77	46.52	0.77
45.47	0.77	46.00	0.77	46.53	0.77
45.48	0.77	46.01	0.77	46.54	0.77
45.49	0.77	46.02	0.77	46.55	0.77
45.50	0.77	46.03	0.77	46.56	0.77
45.51	0.77	46.04	0.77	46.57	0.77
45.52	0.77	46.05	0.77	46.58	0.77
45.53	0.77	46.06	0.77	46.59	0.77
45.54	0.77	46.07	0.77	46.60	0.77
45.55	0.77	46.08	0.77	46.61	0.77
45.56	0.77	46.09	0.77	46.62	0.77
45.57	0.77	46.10	0.77	46.63	0.77
45.58	0.77	46.11	0.77	46.64	0.77
45.59	0.77	46.12	0.77	46.65	0.77
45.60	0.77	46.13	0.77	46.66	0.77
45.61	0.77	46.14	0.77	46.67	0.77
45.62	0.77	46.15	0.77		
45.63	0.77	46.16	0.77		
45.64	0.77	46.17	0.77		
45.65	0.77	46.18	0.77		
45.66	0.77	46.19	0.77		
45.67	0.77	46.20	0.77		
45.68	0.77	46.21	0.77		
45.69	0.77	46.22	0.77		

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Summary for Pond 3P: Porous Pavers

Inflow Area = 0.054 ac, 100.00% Impervious, Inflow Depth > 7.88" for 100-year event
 Inflow = 0.59 cfs @ 12.13 hrs, Volume= 0.035 af
 Outflow = 0.13 cfs @ 11.85 hrs, Volume= 0.035 af, Atten= 78%, Lag= 0.0 min
 Discarded = 0.13 cfs @ 11.85 hrs, Volume= 0.035 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 45.22' @ 12.39 hrs Surf.Area= 2,332 sf Storage= 366 cf

Plug-Flow detention time= 15.5 min calculated for 0.035 af (100% of inflow)
 Center-of-Mass det. time= 15.4 min (755.2 - 739.8)

Volume	Invert	Avail.Storage	Storage Description
#1	44.83'	1,091 cf	Custom Stage Data (Prismatic) Listed below 2,728 cf Overall x 40.0% Voids

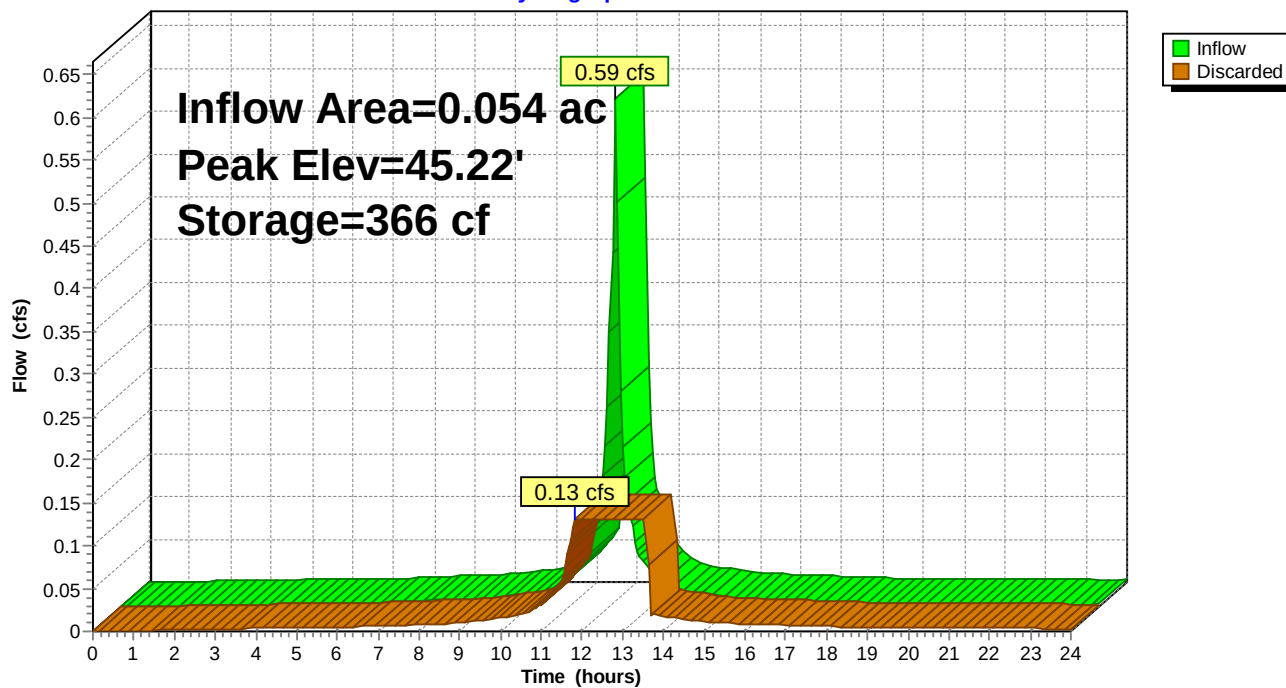
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.83	2,332	0	0
46.00	2,332	2,728	2,728

Device	Routing	Invert	Outlet Devices
#1	Discarded	44.83'	2.410 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.13 cfs @ 11.85 hrs HW=44.84' (Free Discharge)↑ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

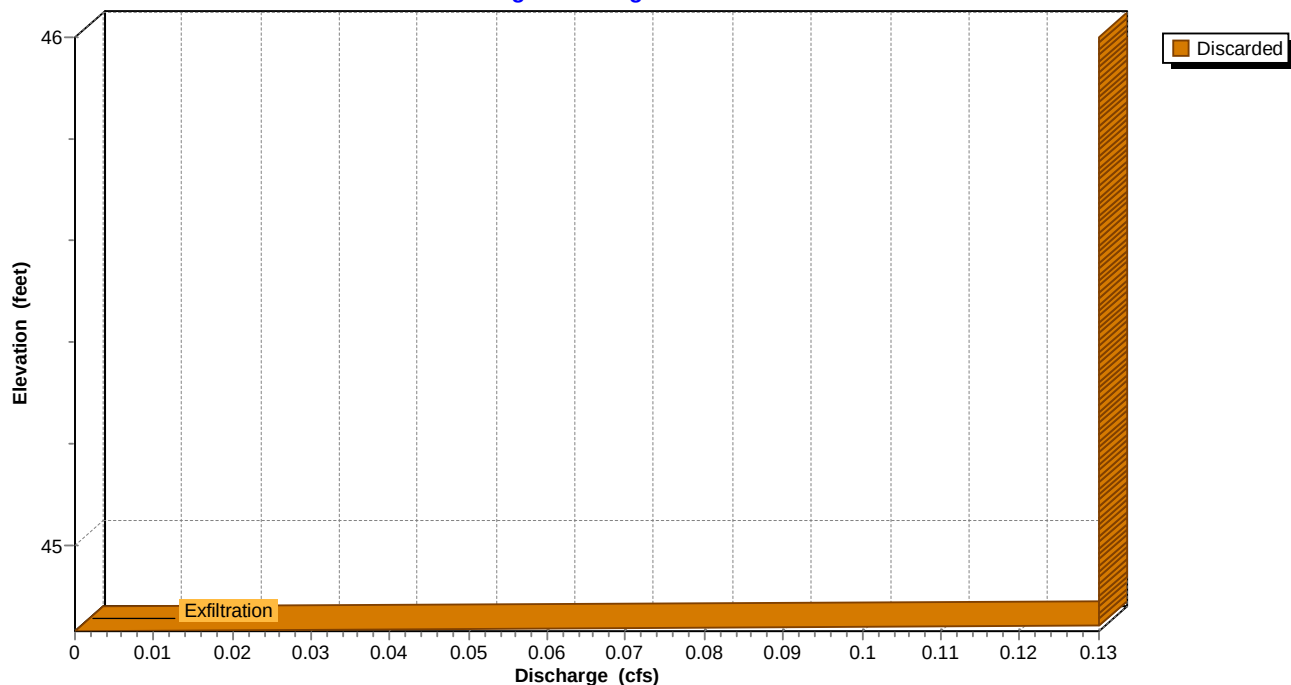
Pond 3P: Porous Pavers

Hydrograph



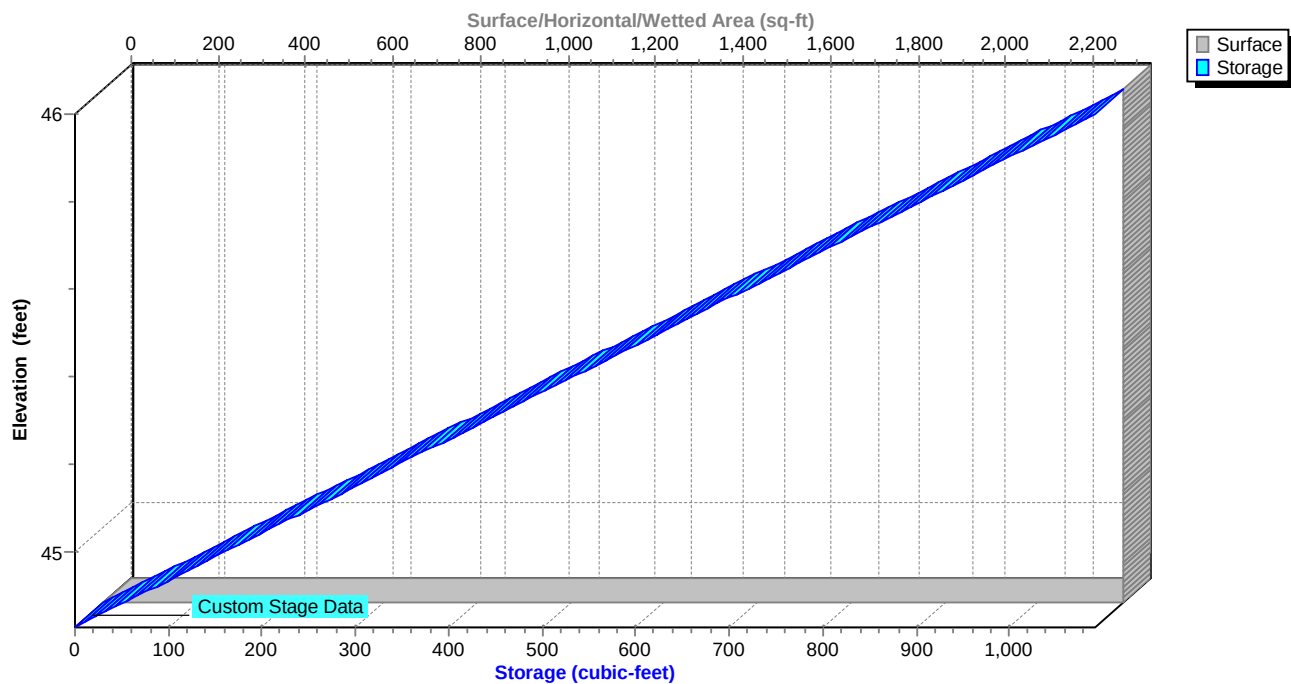
Pond 3P: Porous Pavers

Stage-Discharge



Pond 3P: Porous Pavers

Stage-Area-Storage



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Hydrograph for Pond 3P: Porous Pavers

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	44.83	0.00
0.50	0.00	0	44.83	0.00
1.00	0.00	0	44.83	0.00
1.50	0.00	0	44.83	0.00
2.00	0.00	0	44.83	0.00
2.50	0.00	0	44.83	0.00
3.00	0.00	0	44.83	0.00
3.50	0.00	0	44.83	0.00
4.00	0.00	0	44.83	0.00
4.50	0.00	0	44.83	0.00
5.00	0.00	0	44.83	0.00
5.50	0.00	0	44.83	0.00
6.00	0.00	0	44.83	0.00
6.50	0.01	0	44.83	0.01
7.00	0.01	1	44.83	0.01
7.50	0.01	1	44.83	0.01
8.00	0.01	1	44.83	0.01
8.50	0.01	1	44.83	0.01
9.00	0.01	1	44.83	0.01
9.50	0.01	1	44.83	0.01
10.00	0.02	1	44.83	0.02
10.50	0.02	2	44.83	0.02
11.00	0.03	3	44.83	0.03
11.50	0.06	5	44.84	0.06
12.00	0.32	61	44.90	0.13
12.50	0.10	359	45.22	0.13
13.00	0.04	237	45.08	0.13
13.50	0.02	60	44.89	0.13
14.00	0.02	1	44.83	0.02
14.50	0.01	1	44.83	0.01
15.00	0.01	1	44.83	0.01
15.50	0.01	1	44.83	0.01
16.00	0.01	1	44.83	0.01
16.50	0.01	1	44.83	0.01
17.00	0.01	1	44.83	0.01
17.50	0.01	1	44.83	0.01
18.00	0.01	0	44.83	0.01
18.50	0.00	0	44.83	0.00
19.00	0.00	0	44.83	0.00
19.50	0.00	0	44.83	0.00
20.00	0.00	0	44.83	0.00
20.50	0.00	0	44.83	0.00
21.00	0.00	0	44.83	0.00
21.50	0.00	0	44.83	0.00
22.00	0.00	0	44.83	0.00
22.50	0.00	0	44.83	0.00
23.00	0.00	0	44.83	0.00
23.50	0.00	0	44.83	0.00
24.00	0.00	0	44.83	0.00

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Stage-Discharge for Pond 3P: Porous Pavers

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
44.83	0.00	45.36	0.13	45.89	0.13
44.84	0.13	45.37	0.13	45.90	0.13
44.85	0.13	45.38	0.13	45.91	0.13
44.86	0.13	45.39	0.13	45.92	0.13
44.87	0.13	45.40	0.13	45.93	0.13
44.88	0.13	45.41	0.13	45.94	0.13
44.89	0.13	45.42	0.13	45.95	0.13
44.90	0.13	45.43	0.13	45.96	0.13
44.91	0.13	45.44	0.13	45.97	0.13
44.92	0.13	45.45	0.13	45.98	0.13
44.93	0.13	45.46	0.13	45.99	0.13
44.94	0.13	45.47	0.13	46.00	0.13
44.95	0.13	45.48	0.13		
44.96	0.13	45.49	0.13		
44.97	0.13	45.50	0.13		
44.98	0.13	45.51	0.13		
44.99	0.13	45.52	0.13		
45.00	0.13	45.53	0.13		
45.01	0.13	45.54	0.13		
45.02	0.13	45.55	0.13		
45.03	0.13	45.56	0.13		
45.04	0.13	45.57	0.13		
45.05	0.13	45.58	0.13		
45.06	0.13	45.59	0.13		
45.07	0.13	45.60	0.13		
45.08	0.13	45.61	0.13		
45.09	0.13	45.62	0.13		
45.10	0.13	45.63	0.13		
45.11	0.13	45.64	0.13		
45.12	0.13	45.65	0.13		
45.13	0.13	45.66	0.13		
45.14	0.13	45.67	0.13		
45.15	0.13	45.68	0.13		
45.16	0.13	45.69	0.13		
45.17	0.13	45.70	0.13		
45.18	0.13	45.71	0.13		
45.19	0.13	45.72	0.13		
45.20	0.13	45.73	0.13		
45.21	0.13	45.74	0.13		
45.22	0.13	45.75	0.13		
45.23	0.13	45.76	0.13		
45.24	0.13	45.77	0.13		
45.25	0.13	45.78	0.13		
45.26	0.13	45.79	0.13		
45.27	0.13	45.80	0.13		
45.28	0.13	45.81	0.13		
45.29	0.13	45.82	0.13		
45.30	0.13	45.83	0.13		
45.31	0.13	45.84	0.13		
45.32	0.13	45.85	0.13		
45.33	0.13	45.86	0.13		
45.34	0.13	45.87	0.13		
45.35	0.13	45.88	0.13		

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing	Runoff Area=57,879 sf 83.80% Impervious Runoff Depth>6.92" Tc=6.0 min CN=90 Runoff=14.08 cfs 0.766 af
Subcatchment 2S: Proposed Roof Areas	Runoff Area=29,467 sf 100.00% Impervious Runoff Depth>7.88" Tc=6.0 min CN=98 Runoff=7.50 cfs 0.444 af
Subcatchment 3S: Proposed Open Space	Runoff Area=11,675 sf 0.00% Impervious Runoff Depth>1.21" Tc=6.0 min CN=39 Runoff=0.44 cfs 0.027 af
Subcatchment 4S: Proposed	Runoff Area=14,405 sf 100.00% Impervious Runoff Depth>7.88" Tc=6.0 min CN=98 Runoff=3.67 cfs 0.217 af
Subcatchment 5S: Proposed Courtyard	Runoff Area=2,332 sf 100.00% Impervious Runoff Depth>7.88" Tc=6.0 min CN=98 Runoff=0.59 cfs 0.035 af
Reach 1R: Charles River	Inflow=14.08 cfs 0.766 af Outflow=14.08 cfs 0.766 af
Reach 2R: Charles River	Inflow=7.57 cfs 0.309 af Outflow=7.57 cfs 0.309 af
Pond 1P: Infiltration Swale	Peak Elev=46.65' Storage=1,758 cf Inflow=7.50 cfs 0.444 af Discarded=0.16 cfs 0.158 af Primary=7.14 cfs 0.282 af Outflow=7.30 cfs 0.440 af
Pond 2P: Porous Pavement	Peak Elev=45.62' Storage=2,353 cf Inflow=3.67 cfs 0.217 af Outflow=0.77 cfs 0.217 af
Pond 3P: Porous Pavers	Peak Elev=45.22' Storage=366 cf Inflow=0.59 cfs 0.035 af Outflow=0.13 cfs 0.035 af

Total Runoff Area = 2.657 ac Runoff Volume = 1.489 af Average Runoff Depth = 6.73"
18.19% Pervious = 0.483 ac 81.81% Impervious = 2.174 ac

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Summary for Subcatchment 1S: Existing

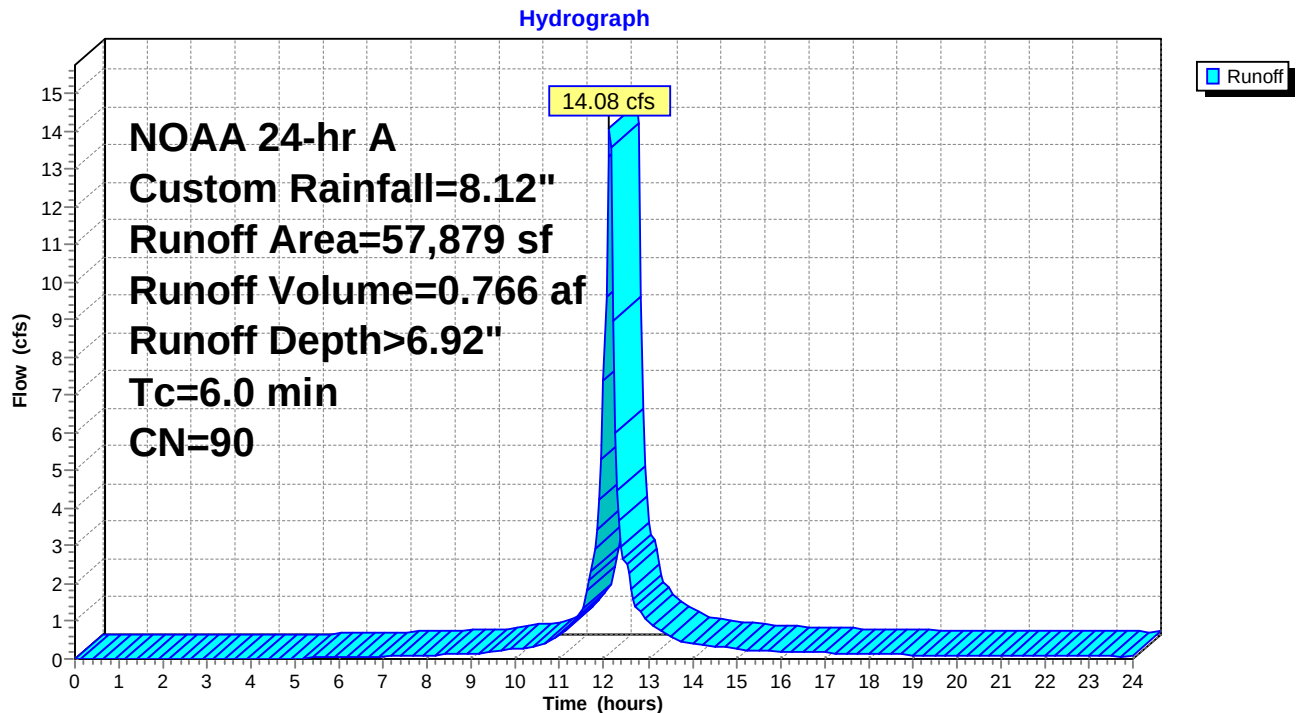
Runoff = 14.08 cfs @ 12.13 hrs, Volume= 0.766 af, Depth> 6.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A Custom Rainfall=8.12"

Area (sf)	CN	Description
14,969	98	Roofs, HSG A
33,534	98	Paved parking, HSG A
9,376	49	50-75% Grass cover, Fair, HSG A
57,879	90	Weighted Average
9,376		16.20% Pervious Area
48,503		83.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: Existing



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Hydrograph for Subcatchment 1S: Existing

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	5.55	0.75
0.25	0.01	0.00	0.00	13.50	6.83	5.66	0.58
0.50	0.03	0.00	0.00	13.75	6.93	5.75	0.47
0.75	0.04	0.00	0.00	14.00	7.01	5.83	0.43
1.00	0.06	0.00	0.00	14.25	7.08	5.90	0.39
1.25	0.07	0.00	0.00	14.50	7.15	5.97	0.35
1.50	0.08	0.00	0.00	14.75	7.21	6.03	0.31
1.75	0.10	0.00	0.00	15.00	7.26	6.08	0.26
2.00	0.12	0.00	0.00	15.25	7.31	6.12	0.24
2.25	0.13	0.00	0.00	15.50	7.35	6.17	0.23
2.50	0.15	0.00	0.00	15.75	7.39	6.21	0.22
2.75	0.17	0.00	0.00	16.00	7.43	6.25	0.21
3.00	0.19	0.00	0.00	16.25	7.47	6.28	0.20
3.25	0.20	0.00	0.00	16.50	7.51	6.32	0.19
3.50	0.22	0.00	0.00	16.75	7.54	6.35	0.18
3.75	0.24	0.00	0.00	17.00	7.57	6.38	0.17
4.00	0.26	0.00	0.01	17.25	7.60	6.41	0.16
4.25	0.28	0.00	0.01	17.50	7.63	6.44	0.15
4.50	0.30	0.01	0.01	17.75	7.66	6.47	0.14
4.75	0.32	0.01	0.02	18.00	7.68	6.49	0.13
5.00	0.35	0.01	0.02	18.25	7.71	6.52	0.12
5.25	0.37	0.02	0.02	18.50	7.73	6.54	0.12
5.50	0.39	0.02	0.03	18.75	7.75	6.56	0.12
5.75	0.41	0.03	0.03	19.00	7.77	6.58	0.12
6.00	0.44	0.03	0.04	19.25	7.80	6.60	0.11
6.25	0.46	0.04	0.04	19.50	7.82	6.63	0.11
6.50	0.49	0.05	0.05	19.75	7.84	6.65	0.11
6.75	0.52	0.06	0.06	20.00	7.86	6.67	0.11
7.00	0.55	0.07	0.06	20.25	7.88	6.69	0.10
7.25	0.58	0.09	0.07	20.50	7.90	6.70	0.10
7.50	0.61	0.10	0.08	20.75	7.92	6.72	0.10
7.75	0.65	0.12	0.09	21.00	7.93	6.74	0.10
8.00	0.69	0.14	0.10	21.25	7.95	6.76	0.09
8.25	0.73	0.16	0.11	21.50	7.97	6.78	0.09
8.50	0.77	0.18	0.12	21.75	7.99	6.79	0.09
8.75	0.81	0.21	0.13	22.00	8.00	6.81	0.09
9.00	0.86	0.23	0.14	22.25	8.02	6.82	0.08
9.25	0.91	0.26	0.17	22.50	8.04	6.84	0.08
9.50	0.97	0.30	0.21	22.75	8.05	6.85	0.08
9.75	1.04	0.34	0.24	23.00	8.06	6.87	0.08
10.00	1.11	0.40	0.28	23.25	8.08	6.88	0.07
10.25	1.19	0.45	0.32	23.50	8.09	6.90	0.07
10.50	1.29	0.52	0.36	23.75	8.11	6.91	0.07
10.75	1.40	0.61	0.48	24.00	8.12	6.92	0.08
11.00	1.55	0.72	0.64				
11.25	1.75	0.89	0.92				
11.50	2.02	1.11	1.26				
11.75	2.54	1.57	2.43				
12.00	3.79	2.72	7.40				
12.25	5.58	4.44	6.02				
12.50	6.10	4.94	2.49				
12.75	6.37	5.20	1.38				
13.00	6.57	5.40	1.02				

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NOAA 24-hr A Custom Rainfall=8.12"

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Summary for Subcatchment 2S: Proposed Roof Areas

Runoff = 7.50 cfs @ 12.13 hrs, Volume= 0.444 af, Depth> 7.88"

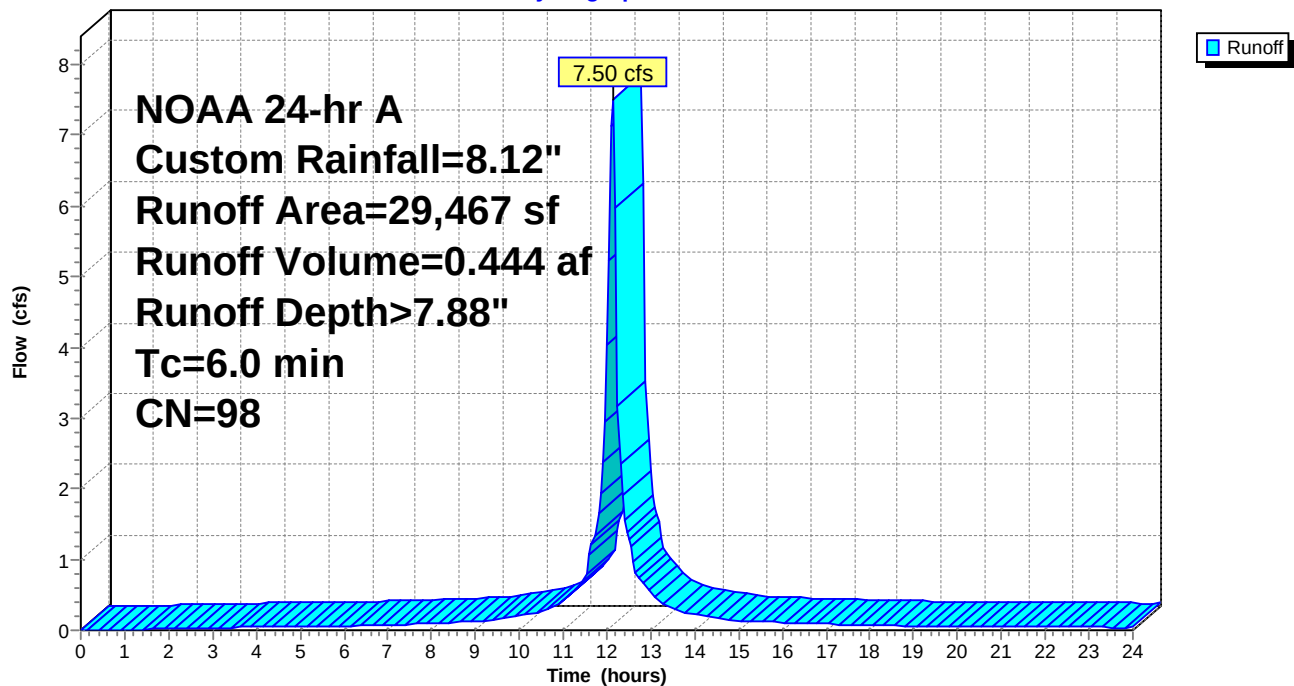
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A Custom Rainfall=8.12"

Area (sf)	CN	Description
29,006	98	Roofs, HSG A
461	98	Roofs, HSG A
29,467	98	Weighted Average
29,467		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 2S: Proposed Roof Areas

Hydrograph



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NOAA 24-hr A Custom Rainfall=8.12"

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Hydrograph for Subcatchment 2S: Proposed Roof Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	6.48	0.39
0.25	0.01	0.00	0.00	13.50	6.83	6.60	0.30
0.50	0.03	0.00	0.00	13.75	6.93	6.69	0.24
0.75	0.04	0.00	0.00	14.00	7.01	6.77	0.22
1.00	0.06	0.00	0.00	14.25	7.08	6.84	0.20
1.25	0.07	0.00	0.01	14.50	7.15	6.91	0.18
1.50	0.08	0.01	0.01	14.75	7.21	6.97	0.16
1.75	0.10	0.01	0.02	15.00	7.26	7.02	0.14
2.00	0.12	0.02	0.02	15.25	7.31	7.07	0.12
2.25	0.13	0.03	0.02	15.50	7.35	7.11	0.12
2.50	0.15	0.04	0.03	15.75	7.39	7.15	0.11
2.75	0.17	0.05	0.03	16.00	7.43	7.19	0.11
3.00	0.19	0.06	0.03	16.25	7.47	7.23	0.10
3.25	0.20	0.07	0.03	16.50	7.51	7.27	0.10
3.50	0.22	0.09	0.04	16.75	7.54	7.30	0.09
3.75	0.24	0.10	0.04	17.00	7.57	7.33	0.09
4.00	0.26	0.11	0.04	17.25	7.60	7.36	0.08
4.25	0.28	0.13	0.04	17.50	7.63	7.39	0.08
4.50	0.30	0.15	0.05	17.75	7.66	7.42	0.07
4.75	0.32	0.16	0.05	18.00	7.68	7.44	0.07
5.00	0.35	0.18	0.05	18.25	7.71	7.47	0.06
5.25	0.37	0.20	0.05	18.50	7.73	7.49	0.06
5.50	0.39	0.22	0.05	18.75	7.75	7.51	0.06
5.75	0.41	0.24	0.05	19.00	7.77	7.53	0.06
6.00	0.44	0.26	0.06	19.25	7.80	7.56	0.06
6.25	0.46	0.28	0.06	19.50	7.82	7.58	0.06
6.50	0.49	0.31	0.07	19.75	7.84	7.60	0.06
6.75	0.52	0.33	0.07	20.00	7.86	7.62	0.06
7.00	0.55	0.36	0.08	20.25	7.88	7.64	0.05
7.25	0.58	0.39	0.08	20.50	7.90	7.66	0.05
7.50	0.61	0.42	0.09	20.75	7.92	7.68	0.05
7.75	0.65	0.46	0.09	21.00	7.93	7.69	0.05
8.00	0.69	0.49	0.10	21.25	7.95	7.71	0.05
8.25	0.73	0.53	0.10	21.50	7.97	7.73	0.05
8.50	0.77	0.57	0.11	21.75	7.99	7.75	0.05
8.75	0.81	0.61	0.11	22.00	8.00	7.76	0.05
9.00	0.86	0.66	0.12	22.25	8.02	7.78	0.04
9.25	0.91	0.70	0.14	22.50	8.04	7.80	0.04
9.50	0.97	0.76	0.16	22.75	8.05	7.81	0.04
9.75	1.04	0.83	0.18	23.00	8.06	7.83	0.04
10.00	1.11	0.90	0.20	23.25	8.08	7.84	0.04
10.25	1.19	0.98	0.22	23.50	8.09	7.85	0.04
10.50	1.29	1.07	0.24	23.75	8.11	7.87	0.04
10.75	1.40	1.18	0.32	24.00	8.12	7.88	0.04
11.00	1.55	1.33	0.41				
11.25	1.75	1.53	0.57				
11.50	2.02	1.80	0.75				
11.75	2.54	2.31	1.39				
12.00	3.79	3.55	4.05				
12.25	5.58	5.34	3.17				
12.50	6.10	5.86	1.30				
12.75	6.37	6.13	0.72				
13.00	6.57	6.33	0.53				

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NOAA 24-hr A Custom Rainfall=8.12"

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Summary for Subcatchment 3S: Proposed Open Space

Runoff = 0.44 cfs @ 12.15 hrs, Volume= 0.027 af, Depth> 1.21"

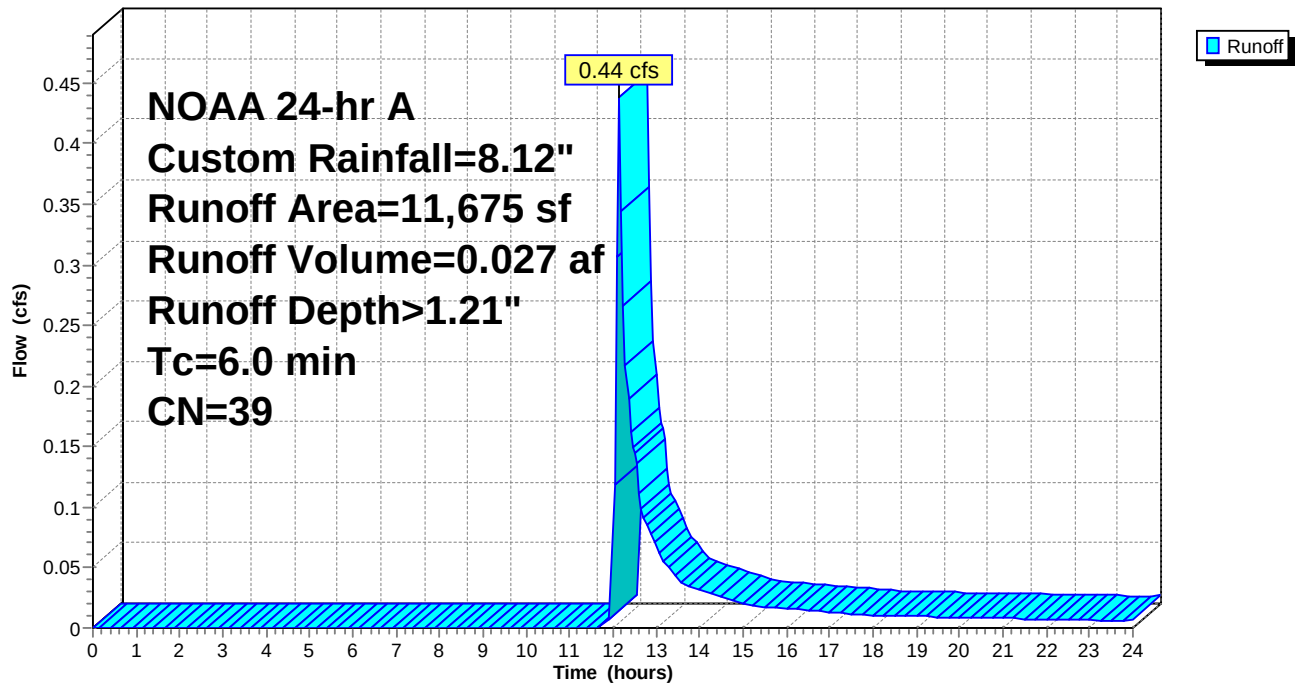
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A Custom Rainfall=8.12"

Area (sf)	CN	Description
11,675	39	>75% Grass cover, Good, HSG A
11,675		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Grass

Subcatchment 3S: Proposed Open Space

Hydrograph



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Hydrograph for Subcatchment 3S: Proposed Open Space

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	0.67	0.05
0.25	0.01	0.00	0.00	13.50	6.83	0.71	0.04
0.50	0.03	0.00	0.00	13.75	6.93	0.74	0.03
0.75	0.04	0.00	0.00	14.00	7.01	0.77	0.03
1.00	0.06	0.00	0.00	14.25	7.08	0.80	0.03
1.25	0.07	0.00	0.00	14.50	7.15	0.82	0.03
1.50	0.08	0.00	0.00	14.75	7.21	0.84	0.02
1.75	0.10	0.00	0.00	15.00	7.26	0.86	0.02
2.00	0.12	0.00	0.00	15.25	7.31	0.88	0.02
2.25	0.13	0.00	0.00	15.50	7.35	0.90	0.02
2.50	0.15	0.00	0.00	15.75	7.39	0.91	0.02
2.75	0.17	0.00	0.00	16.00	7.43	0.93	0.02
3.00	0.19	0.00	0.00	16.25	7.47	0.94	0.02
3.25	0.20	0.00	0.00	16.50	7.51	0.96	0.02
3.50	0.22	0.00	0.00	16.75	7.54	0.97	0.01
3.75	0.24	0.00	0.00	17.00	7.57	0.98	0.01
4.00	0.26	0.00	0.00	17.25	7.60	1.00	0.01
4.25	0.28	0.00	0.00	17.50	7.63	1.01	0.01
4.50	0.30	0.00	0.00	17.75	7.66	1.02	0.01
4.75	0.32	0.00	0.00	18.00	7.68	1.03	0.01
5.00	0.35	0.00	0.00	18.25	7.71	1.04	0.01
5.25	0.37	0.00	0.00	18.50	7.73	1.05	0.01
5.50	0.39	0.00	0.00	18.75	7.75	1.06	0.01
5.75	0.41	0.00	0.00	19.00	7.77	1.06	0.01
6.00	0.44	0.00	0.00	19.25	7.80	1.07	0.01
6.25	0.46	0.00	0.00	19.50	7.82	1.08	0.01
6.50	0.49	0.00	0.00	19.75	7.84	1.09	0.01
6.75	0.52	0.00	0.00	20.00	7.86	1.10	0.01
7.00	0.55	0.00	0.00	20.25	7.88	1.11	0.01
7.25	0.58	0.00	0.00	20.50	7.90	1.11	0.01
7.50	0.61	0.00	0.00	20.75	7.92	1.12	0.01
7.75	0.65	0.00	0.00	21.00	7.93	1.13	0.01
8.00	0.69	0.00	0.00	21.25	7.95	1.14	0.01
8.25	0.73	0.00	0.00	21.50	7.97	1.14	0.01
8.50	0.77	0.00	0.00	21.75	7.99	1.15	0.01
8.75	0.81	0.00	0.00	22.00	8.00	1.16	0.01
9.00	0.86	0.00	0.00	22.25	8.02	1.17	0.01
9.25	0.91	0.00	0.00	22.50	8.04	1.17	0.01
9.50	0.97	0.00	0.00	22.75	8.05	1.18	0.01
9.75	1.04	0.00	0.00	23.00	8.06	1.18	0.01
10.00	1.11	0.00	0.00	23.25	8.08	1.19	0.01
10.25	1.19	0.00	0.00	23.50	8.09	1.20	0.01
10.50	1.29	0.00	0.00	23.75	8.11	1.20	0.01
10.75	1.40	0.00	0.00	24.00	8.12	1.21	0.01
11.00	1.55	0.00	0.00				
11.25	1.75	0.00	0.00				
11.50	2.02	0.00	0.00				
11.75	2.54	0.00	0.00				
12.00	3.79	0.03	0.03				
12.25	5.58	0.33	0.27				
12.50	6.10	0.47	0.14				
12.75	6.37	0.56	0.09				
13.00	6.57	0.62	0.07				

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NOAA 24-hr A Custom Rainfall=8.12"

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Summary for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

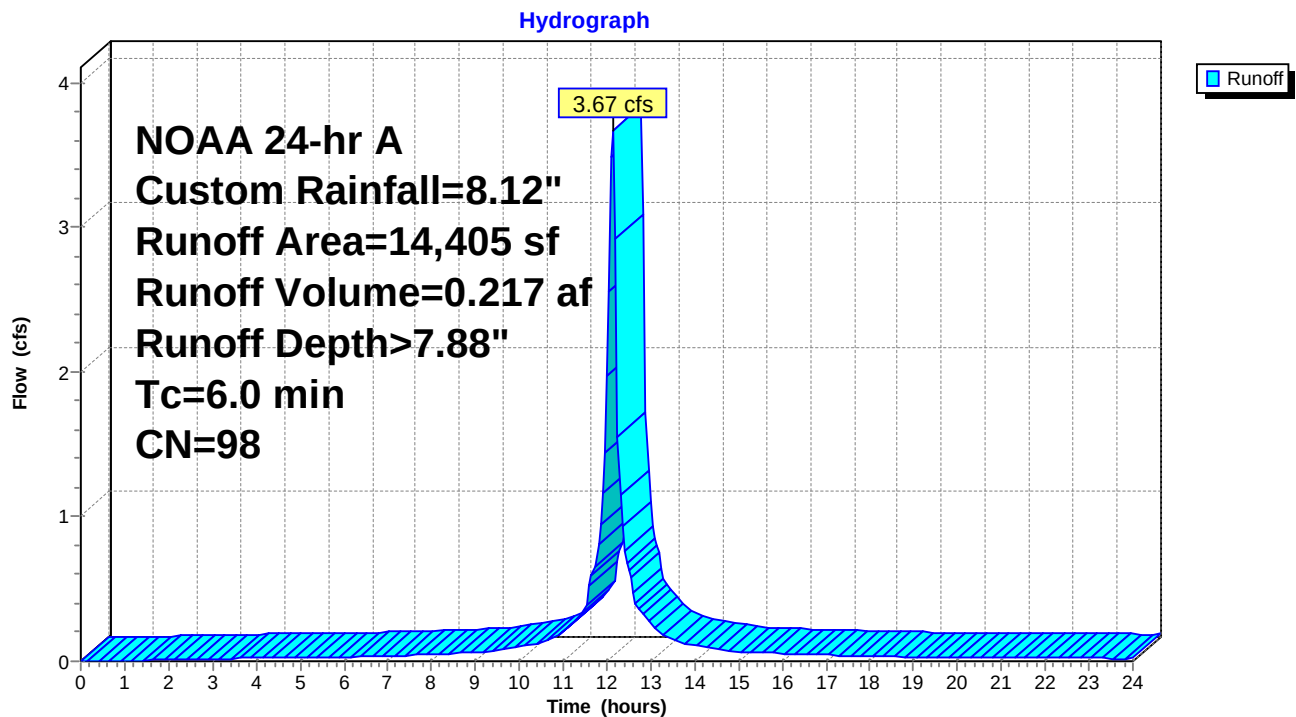
Runoff = 3.67 cfs @ 12.13 hrs, Volume= 0.217 af, Depth> 7.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A Custom Rainfall=8.12"

Area (sf)	CN	Description
13,199	98	Paved parking, HSG A
* 1,206	98	Walkway
14,405	98	Weighted Average
14,405		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavement

Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas



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NOAA 24-hr A Custom Rainfall=8.12"

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Hydrograph for Subcatchment 4S: Proposed Parking/Driveway/Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	6.48	0.19
0.25	0.01	0.00	0.00	13.50	6.83	6.60	0.15
0.50	0.03	0.00	0.00	13.75	6.93	6.69	0.12
0.75	0.04	0.00	0.00	14.00	7.01	6.77	0.11
1.00	0.06	0.00	0.00	14.25	7.08	6.84	0.10
1.25	0.07	0.00	0.00	14.50	7.15	6.91	0.09
1.50	0.08	0.01	0.01	14.75	7.21	6.97	0.08
1.75	0.10	0.01	0.01	15.00	7.26	7.02	0.07
2.00	0.12	0.02	0.01	15.25	7.31	7.07	0.06
2.25	0.13	0.03	0.01	15.50	7.35	7.11	0.06
2.50	0.15	0.04	0.01	15.75	7.39	7.15	0.06
2.75	0.17	0.05	0.01	16.00	7.43	7.19	0.05
3.00	0.19	0.06	0.02	16.25	7.47	7.23	0.05
3.25	0.20	0.07	0.02	16.50	7.51	7.27	0.05
3.50	0.22	0.09	0.02	16.75	7.54	7.30	0.05
3.75	0.24	0.10	0.02	17.00	7.57	7.33	0.04
4.00	0.26	0.11	0.02	17.25	7.60	7.36	0.04
4.25	0.28	0.13	0.02	17.50	7.63	7.39	0.04
4.50	0.30	0.15	0.02	17.75	7.66	7.42	0.04
4.75	0.32	0.16	0.02	18.00	7.68	7.44	0.03
5.00	0.35	0.18	0.02	18.25	7.71	7.47	0.03
5.25	0.37	0.20	0.03	18.50	7.73	7.49	0.03
5.50	0.39	0.22	0.03	18.75	7.75	7.51	0.03
5.75	0.41	0.24	0.03	19.00	7.77	7.53	0.03
6.00	0.44	0.26	0.03	19.25	7.80	7.56	0.03
6.25	0.46	0.28	0.03	19.50	7.82	7.58	0.03
6.50	0.49	0.31	0.03	19.75	7.84	7.60	0.03
6.75	0.52	0.33	0.04	20.00	7.86	7.62	0.03
7.00	0.55	0.36	0.04	20.25	7.88	7.64	0.03
7.25	0.58	0.39	0.04	20.50	7.90	7.66	0.03
7.50	0.61	0.42	0.04	20.75	7.92	7.68	0.02
7.75	0.65	0.46	0.05	21.00	7.93	7.69	0.02
8.00	0.69	0.49	0.05	21.25	7.95	7.71	0.02
8.25	0.73	0.53	0.05	21.50	7.97	7.73	0.02
8.50	0.77	0.57	0.05	21.75	7.99	7.75	0.02
8.75	0.81	0.61	0.06	22.00	8.00	7.76	0.02
9.00	0.86	0.66	0.06	22.25	8.02	7.78	0.02
9.25	0.91	0.70	0.07	22.50	8.04	7.80	0.02
9.50	0.97	0.76	0.08	22.75	8.05	7.81	0.02
9.75	1.04	0.83	0.09	23.00	8.06	7.83	0.02
10.00	1.11	0.90	0.10	23.25	8.08	7.84	0.02
10.25	1.19	0.98	0.11	23.50	8.09	7.85	0.02
10.50	1.29	1.07	0.12	23.75	8.11	7.87	0.02
10.75	1.40	1.18	0.16	24.00	8.12	7.88	0.02
11.00	1.55	1.33	0.20				
11.25	1.75	1.53	0.28				
11.50	2.02	1.80	0.37				
11.75	2.54	2.31	0.68				
12.00	3.79	3.55	1.98				
12.25	5.58	5.34	1.55				
12.50	6.10	5.86	0.64				
12.75	6.37	6.13	0.35				
13.00	6.57	6.33	0.26				

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NOAA 24-hr A Custom Rainfall=8.12"

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Summary for Subcatchment 5S: Proposed Courtyard Walkway Areas

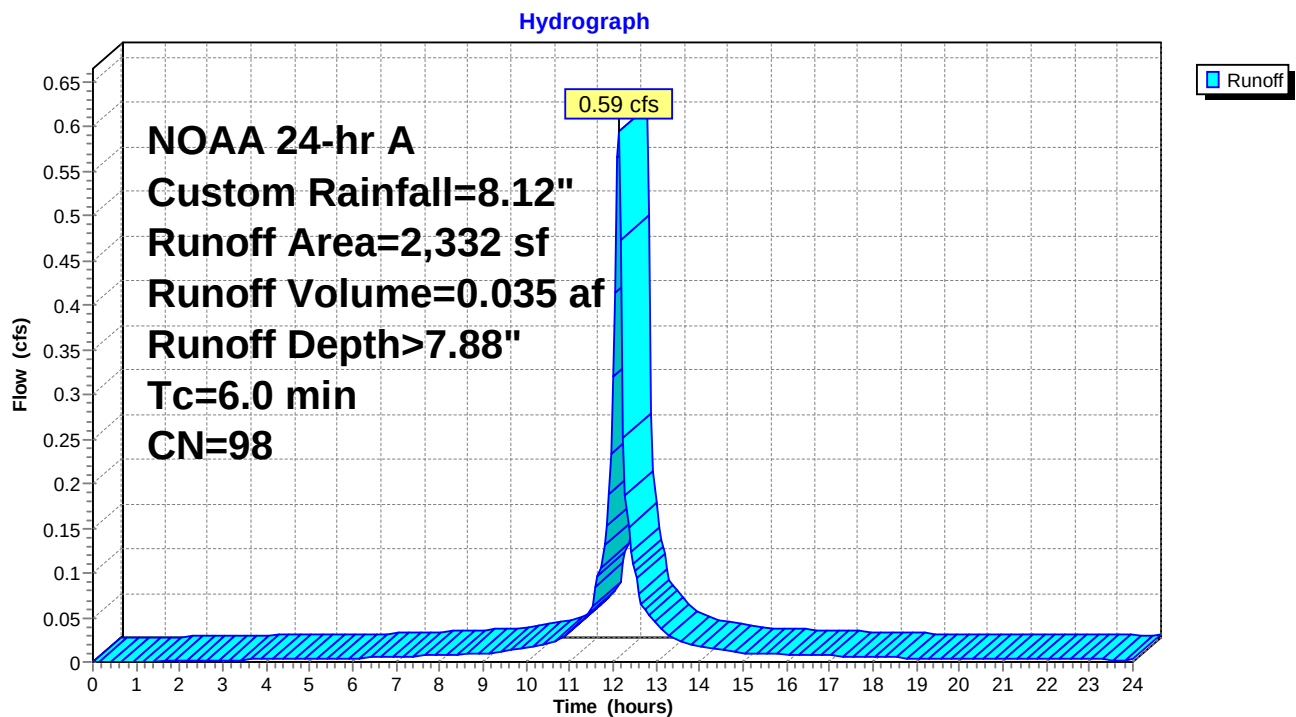
Runoff = 0.59 cfs @ 12.13 hrs, Volume= 0.035 af, Depth> 7.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NOAA 24-hr A Custom Rainfall=8.12"

	Area (sf)	CN	Description
*	2,332	98	Walkway
	2,332		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Pavers

Subcatchment 5S: Proposed Courtyard Walkway Areas



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Hydrograph for Subcatchment 5S: Proposed Courtyard Walkway Areas

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.72	6.48	0.03
0.25	0.01	0.00	0.00	13.50	6.83	6.60	0.02
0.50	0.03	0.00	0.00	13.75	6.93	6.69	0.02
0.75	0.04	0.00	0.00	14.00	7.01	6.77	0.02
1.00	0.06	0.00	0.00	14.25	7.08	6.84	0.02
1.25	0.07	0.00	0.00	14.50	7.15	6.91	0.01
1.50	0.08	0.01	0.00	14.75	7.21	6.97	0.01
1.75	0.10	0.01	0.00	15.00	7.26	7.02	0.01
2.00	0.12	0.02	0.00	15.25	7.31	7.07	0.01
2.25	0.13	0.03	0.00	15.50	7.35	7.11	0.01
2.50	0.15	0.04	0.00	15.75	7.39	7.15	0.01
2.75	0.17	0.05	0.00	16.00	7.43	7.19	0.01
3.00	0.19	0.06	0.00	16.25	7.47	7.23	0.01
3.25	0.20	0.07	0.00	16.50	7.51	7.27	0.01
3.50	0.22	0.09	0.00	16.75	7.54	7.30	0.01
3.75	0.24	0.10	0.00	17.00	7.57	7.33	0.01
4.00	0.26	0.11	0.00	17.25	7.60	7.36	0.01
4.25	0.28	0.13	0.00	17.50	7.63	7.39	0.01
4.50	0.30	0.15	0.00	17.75	7.66	7.42	0.01
4.75	0.32	0.16	0.00	18.00	7.68	7.44	0.01
5.00	0.35	0.18	0.00	18.25	7.71	7.47	0.01
5.25	0.37	0.20	0.00	18.50	7.73	7.49	0.00
5.50	0.39	0.22	0.00	18.75	7.75	7.51	0.00
5.75	0.41	0.24	0.00	19.00	7.77	7.53	0.00
6.00	0.44	0.26	0.00	19.25	7.80	7.56	0.00
6.25	0.46	0.28	0.00	19.50	7.82	7.58	0.00
6.50	0.49	0.31	0.01	19.75	7.84	7.60	0.00
6.75	0.52	0.33	0.01	20.00	7.86	7.62	0.00
7.00	0.55	0.36	0.01	20.25	7.88	7.64	0.00
7.25	0.58	0.39	0.01	20.50	7.90	7.66	0.00
7.50	0.61	0.42	0.01	20.75	7.92	7.68	0.00
7.75	0.65	0.46	0.01	21.00	7.93	7.69	0.00
8.00	0.69	0.49	0.01	21.25	7.95	7.71	0.00
8.25	0.73	0.53	0.01	21.50	7.97	7.73	0.00
8.50	0.77	0.57	0.01	21.75	7.99	7.75	0.00
8.75	0.81	0.61	0.01	22.00	8.00	7.76	0.00
9.00	0.86	0.66	0.01	22.25	8.02	7.78	0.00
9.25	0.91	0.70	0.01	22.50	8.04	7.80	0.00
9.50	0.97	0.76	0.01	22.75	8.05	7.81	0.00
9.75	1.04	0.83	0.01	23.00	8.06	7.83	0.00
10.00	1.11	0.90	0.02	23.25	8.08	7.84	0.00
10.25	1.19	0.98	0.02	23.50	8.09	7.85	0.00
10.50	1.29	1.07	0.02	23.75	8.11	7.87	0.00
10.75	1.40	1.18	0.03	24.00	8.12	7.88	0.00
11.00	1.55	1.33	0.03				
11.25	1.75	1.53	0.05				
11.50	2.02	1.80	0.06				
11.75	2.54	2.31	0.11				
12.00	3.79	3.55	0.32				
12.25	5.58	5.34	0.25				
12.50	6.10	5.86	0.10				
12.75	6.37	6.13	0.06				
13.00	6.57	6.33	0.04				

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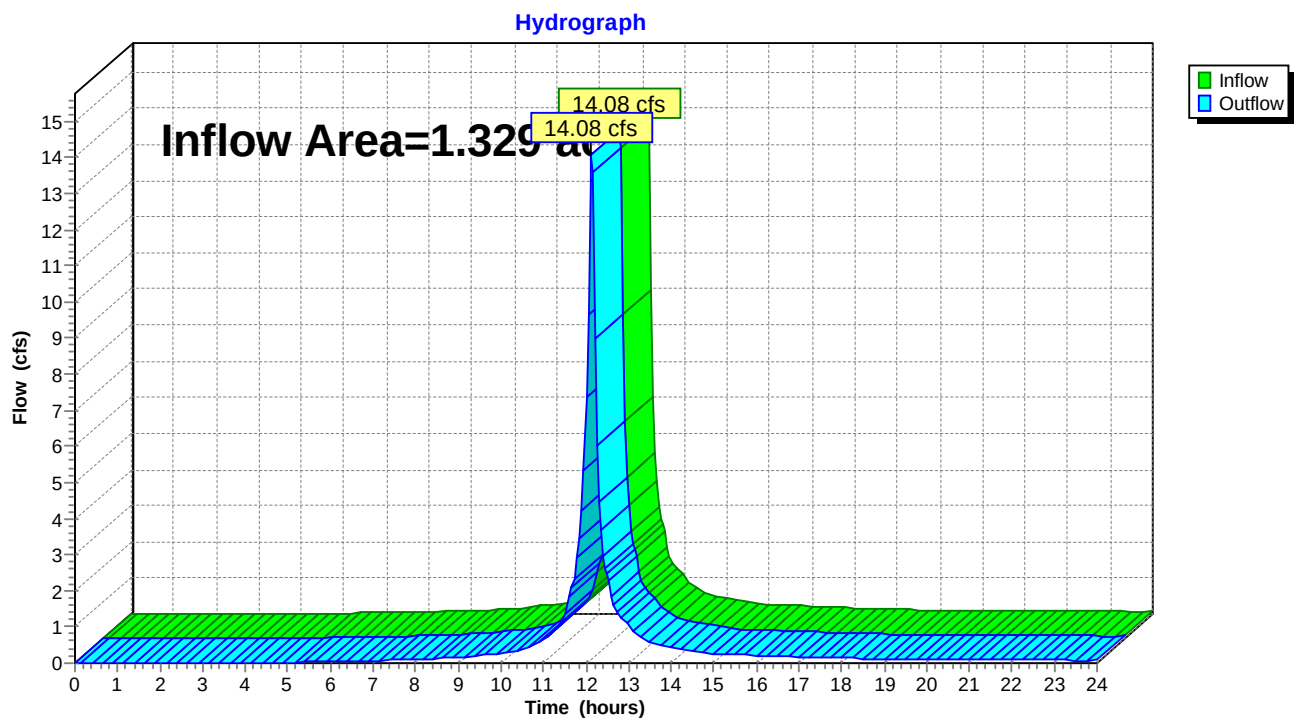
Summary for Reach 1R: Charles River

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.329 ac, 83.80% Impervious, Inflow Depth > 6.92" for Custom event
Inflow = 14.08 cfs @ 12.13 hrs, Volume= 0.766 af
Outflow = 14.08 cfs @ 12.13 hrs, Volume= 0.766 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 1R: Charles River



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Hydrograph for Reach 1R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.75		0.75
0.25	0.00		0.00	13.50	0.58		0.58
0.50	0.00		0.00	13.75	0.47		0.47
0.75	0.00		0.00	14.00	0.43		0.43
1.00	0.00		0.00	14.25	0.39		0.39
1.25	0.00		0.00	14.50	0.35		0.35
1.50	0.00		0.00	14.75	0.31		0.31
1.75	0.00		0.00	15.00	0.26		0.26
2.00	0.00		0.00	15.25	0.24		0.24
2.25	0.00		0.00	15.50	0.23		0.23
2.50	0.00		0.00	15.75	0.22		0.22
2.75	0.00		0.00	16.00	0.21		0.21
3.00	0.00		0.00	16.25	0.20		0.20
3.25	0.00		0.00	16.50	0.19		0.19
3.50	0.00		0.00	16.75	0.18		0.18
3.75	0.00		0.00	17.00	0.17		0.17
4.00	0.01		0.01	17.25	0.16		0.16
4.25	0.01		0.01	17.50	0.15		0.15
4.50	0.01		0.01	17.75	0.14		0.14
4.75	0.02		0.02	18.00	0.13		0.13
5.00	0.02		0.02	18.25	0.12		0.12
5.25	0.02		0.02	18.50	0.12		0.12
5.50	0.03		0.03	18.75	0.12		0.12
5.75	0.03		0.03	19.00	0.12		0.12
6.00	0.04		0.04	19.25	0.11		0.11
6.25	0.04		0.04	19.50	0.11		0.11
6.50	0.05		0.05	19.75	0.11		0.11
6.75	0.06		0.06	20.00	0.11		0.11
7.00	0.06		0.06	20.25	0.10		0.10
7.25	0.07		0.07	20.50	0.10		0.10
7.50	0.08		0.08	20.75	0.10		0.10
7.75	0.09		0.09	21.00	0.10		0.10
8.00	0.10		0.10	21.25	0.09		0.09
8.25	0.11		0.11	21.50	0.09		0.09
8.50	0.12		0.12	21.75	0.09		0.09
8.75	0.13		0.13	22.00	0.09		0.09
9.00	0.14		0.14	22.25	0.08		0.08
9.25	0.17		0.17	22.50	0.08		0.08
9.50	0.21		0.21	22.75	0.08		0.08
9.75	0.24		0.24	23.00	0.08		0.08
10.00	0.28		0.28	23.25	0.07		0.07
10.25	0.32		0.32	23.50	0.07		0.07
10.50	0.36		0.36	23.75	0.07		0.07
10.75	0.48		0.48	24.00	0.08		0.08
11.00	0.64		0.64				
11.25	0.92		0.92				
11.50	1.26		1.26				
11.75	2.43		2.43				
12.00	7.40		7.40				
12.25	6.02		6.02				
12.50	2.49		2.49				
12.75	1.38		1.38				
13.00	1.02		1.02				

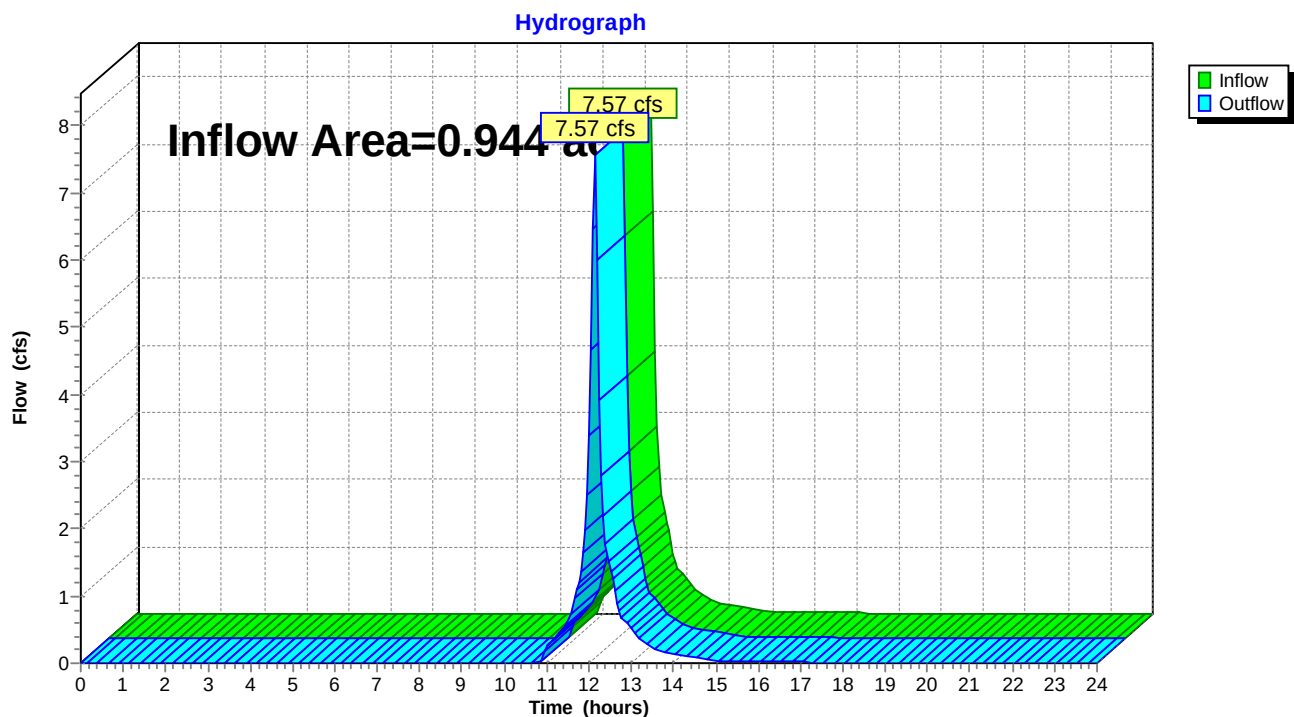
Summary for Reach 2R: Charles River

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.944 ac, 71.62% Impervious, Inflow Depth > 3.92" for Custom event
 Inflow = 7.57 cfs @ 12.15 hrs, Volume= 0.309 af
 Outflow = 7.57 cfs @ 12.15 hrs, Volume= 0.309 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach 2R: Charles River



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Hydrograph for Reach 2R: Charles River

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00	13.25	0.33		0.33
0.25	0.00		0.00	13.50	0.23		0.23
0.50	0.00		0.00	13.75	0.16		0.16
0.75	0.00		0.00	14.00	0.13		0.13
1.00	0.00		0.00	14.25	0.11		0.11
1.25	0.00		0.00	14.50	0.08		0.08
1.50	0.00		0.00	14.75	0.06		0.06
1.75	0.00		0.00	15.00	0.04		0.04
2.00	0.00		0.00	15.25	0.02		0.02
2.25	0.00		0.00	15.50	0.02		0.02
2.50	0.00		0.00	15.75	0.02		0.02
2.75	0.00		0.00	16.00	0.02		0.02
3.00	0.00		0.00	16.25	0.02		0.02
3.25	0.00		0.00	16.50	0.02		0.02
3.50	0.00		0.00	16.75	0.01		0.01
3.75	0.00		0.00	17.00	0.01		0.01
4.00	0.00		0.00	17.25	0.01		0.01
4.25	0.00		0.00	17.50	0.01		0.01
4.50	0.00		0.00	17.75	0.01		0.01
4.75	0.00		0.00	18.00	0.01		0.01
5.00	0.00		0.00	18.25	0.01		0.01
5.25	0.00		0.00	18.50	0.01		0.01
5.50	0.00		0.00	18.75	0.01		0.01
5.75	0.00		0.00	19.00	0.01		0.01
6.00	0.00		0.00	19.25	0.01		0.01
6.25	0.00		0.00	19.50	0.01		0.01
6.50	0.00		0.00	19.75	0.01		0.01
6.75	0.00		0.00	20.00	0.01		0.01
7.00	0.00		0.00	20.25	0.01		0.01
7.25	0.00		0.00	20.50	0.01		0.01
7.50	0.00		0.00	20.75	0.01		0.01
7.75	0.00		0.00	21.00	0.01		0.01
8.00	0.00		0.00	21.25	0.01		0.01
8.25	0.00		0.00	21.50	0.01		0.01
8.50	0.00		0.00	21.75	0.01		0.01
8.75	0.00		0.00	22.00	0.01		0.01
9.00	0.00		0.00	22.25	0.01		0.01
9.25	0.00		0.00	22.50	0.01		0.01
9.50	0.00		0.00	22.75	0.01		0.01
9.75	0.00		0.00	23.00	0.01		0.01
10.00	0.00		0.00	23.25	0.01		0.01
10.25	0.00		0.00	23.50	0.01		0.01
10.50	0.00		0.00	23.75	0.01		0.01
10.75	0.00		0.00	24.00	0.01		0.01
11.00	0.24		0.24				
11.25	0.41		0.41				
11.50	0.59		0.59				
11.75	1.19		1.19				
12.00	3.40		3.40				
12.25	3.92		3.92				
12.50	1.36		1.36				
12.75	0.71		0.71				
13.00	0.50		0.50				

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Summary for Pond 1P: Infiltration Swale

Inflow Area = 0.676 ac, 100.00% Impervious, Inflow Depth > 7.88" for Custom event
Inflow = 7.50 cfs @ 12.13 hrs, Volume= 0.444 af
Outflow = 7.30 cfs @ 12.14 hrs, Volume= 0.440 af, Atten= 3%, Lag= 1.1 min
Discarded = 0.16 cfs @ 12.14 hrs, Volume= 0.158 af
Primary = 7.14 cfs @ 12.14 hrs, Volume= 0.282 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 46.65' @ 12.14 hrs Surf.Area= 2,910 sf Storage= 1,758 cf

Plug-Flow detention time= 39.3 min calculated for 0.440 af (99% of inflow)
Center-of-Mass det. time= 34.0 min (773.8 - 739.8)

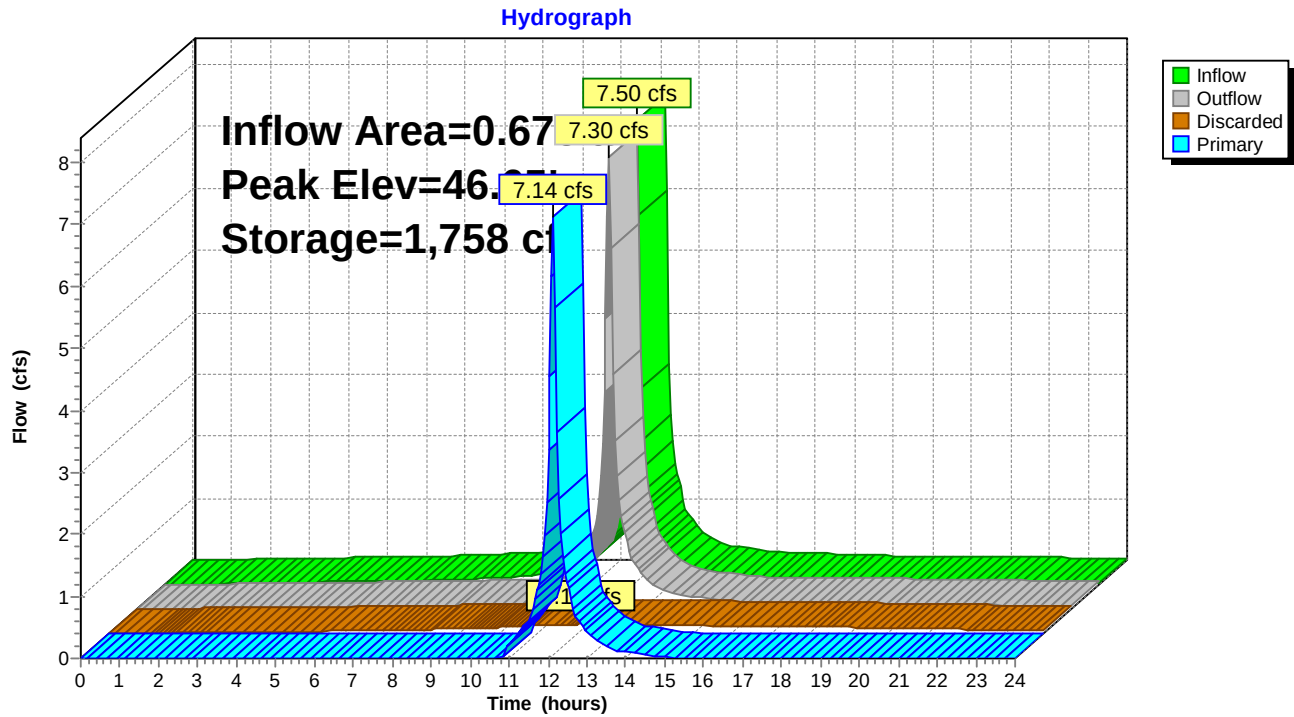
Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	1,932 cf	2.00'W x 220.00'L x 2.80'H Prismatic Z=2.0 4,830 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	44.00'	2.410 in/hr Exfiltration over Surface area
#2	Primary	46.00'	45.0 deg x 4.0' long x 1.00' rise Sharp-Crested Vee/Trap Weir Cv= 2.56 (C= 3.20)

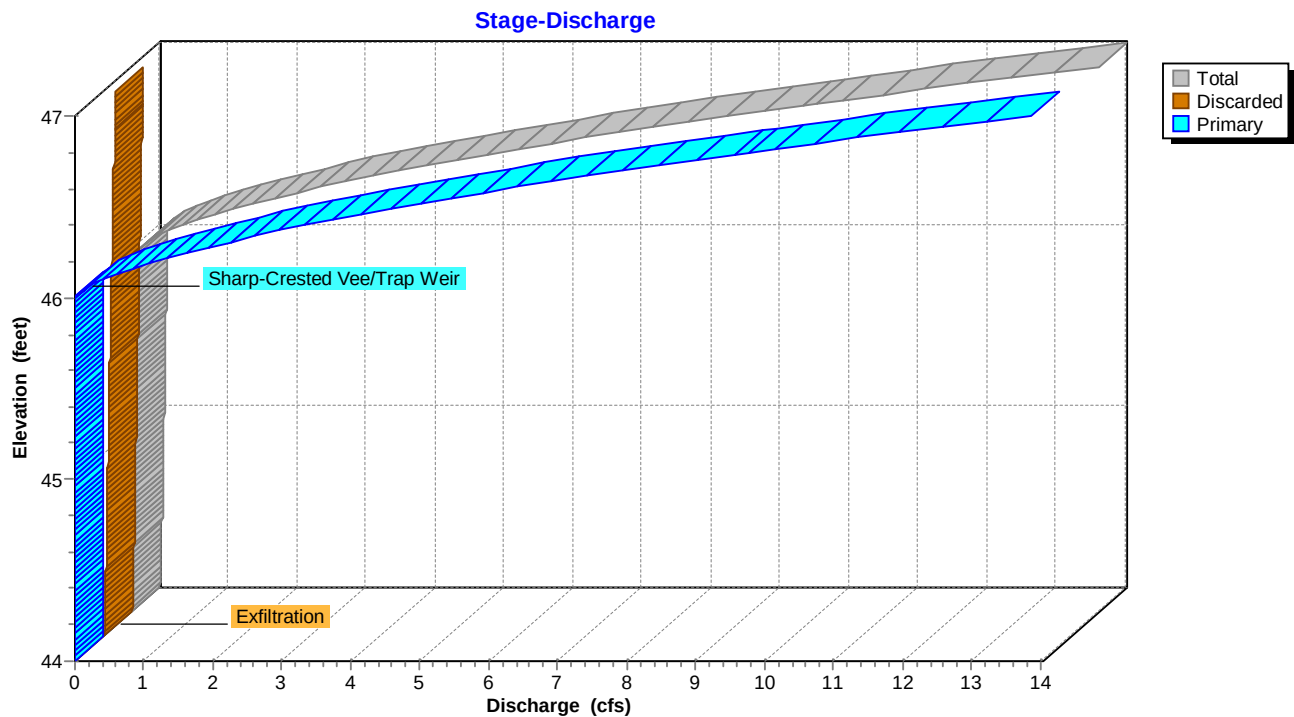
Discarded OutFlow Max=0.16 cfs @ 12.14 hrs HW=46.65' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=7.02 cfs @ 12.14 hrs HW=46.65' (Free Discharge)
↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 7.02 cfs @ 2.54 fps)

Pond 1P: Infiltration Swale

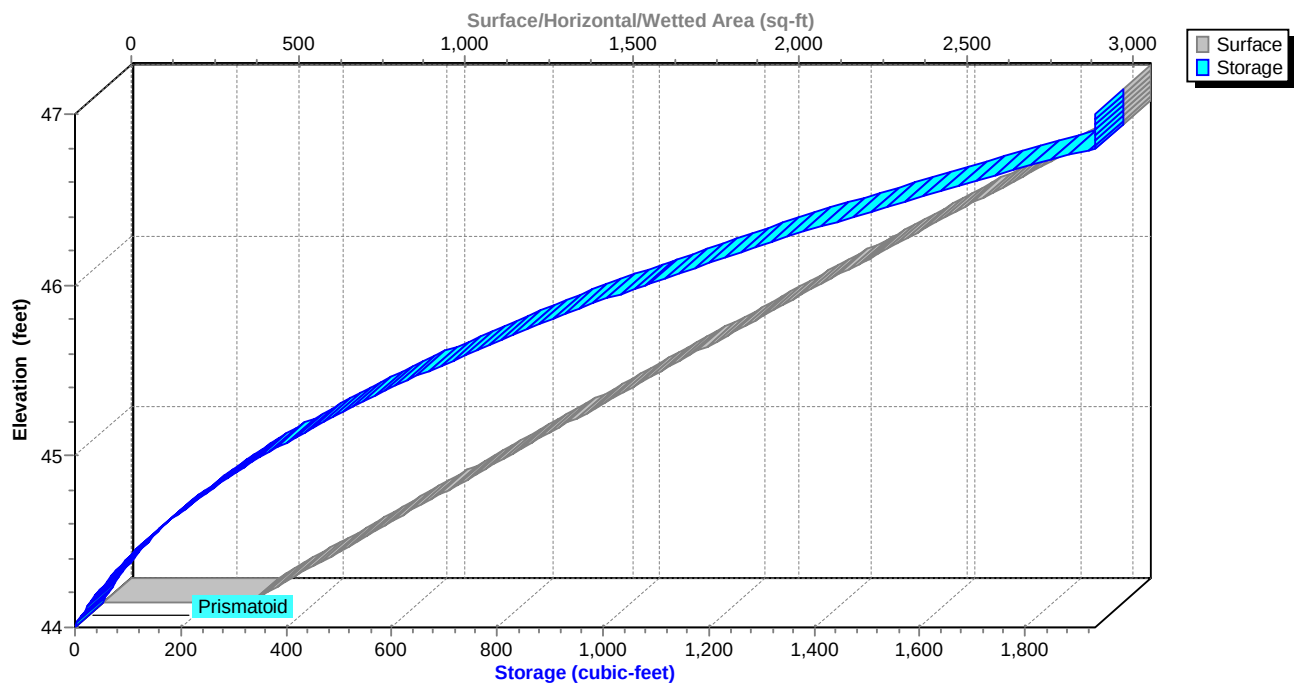


Pond 1P: Infiltration Swale



Pond 1P: Infiltration Swale

Stage-Area-Storage



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Hydrograph for Pond 1P: Infiltration Swale

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	44.00	0.00	0.00	0.00
0.50	0.00	0	44.00	0.00	0.00	0.00
1.00	0.00	0	44.00	0.00	0.00	0.00
1.50	0.01	2	44.01	0.01	0.01	0.00
2.00	0.02	4	44.02	0.02	0.02	0.00
2.50	0.03	5	44.03	0.03	0.03	0.00
3.00	0.03	10	44.05	0.03	0.03	0.00
3.50	0.04	20	44.10	0.03	0.03	0.00
4.00	0.04	34	44.17	0.03	0.03	0.00
4.50	0.05	50	44.23	0.04	0.04	0.00
5.00	0.05	68	44.30	0.04	0.04	0.00
5.50	0.05	86	44.36	0.04	0.04	0.00
6.00	0.06	106	44.42	0.05	0.05	0.00
6.50	0.07	131	44.50	0.05	0.05	0.00
7.00	0.08	167	44.59	0.05	0.05	0.00
7.50	0.09	212	44.70	0.06	0.06	0.00
8.00	0.10	266	44.82	0.07	0.07	0.00
8.50	0.11	328	44.95	0.07	0.07	0.00
9.00	0.12	398	45.08	0.08	0.08	0.00
9.50	0.16	497	45.24	0.09	0.09	0.00
10.00	0.20	654	45.48	0.10	0.10	0.00
10.50	0.24	863	45.75	0.11	0.11	0.00
11.00	0.41	1,144	46.07	0.37	0.13	0.24
11.50	0.75	1,199	46.13	0.72	0.13	0.59
12.00	4.05	1,477	46.40	3.52	0.15	3.37
12.50	1.30	1,275	46.21	1.36	0.14	1.22
13.00	0.53	1,176	46.10	0.56	0.13	0.43
13.50	0.30	1,135	46.06	0.32	0.13	0.19
14.00	0.22	1,115	46.04	0.23	0.13	0.10
14.50	0.18	1,103	46.03	0.19	0.13	0.06
15.00	0.14	1,090	46.01	0.14	0.13	0.02
15.50	0.12	1,076	46.00	0.13	0.13	0.00
16.00	0.11	1,052	45.97	0.13	0.13	0.00
16.50	0.10	1,013	45.93	0.12	0.12	0.00
17.00	0.09	961	45.87	0.12	0.12	0.00
17.50	0.08	897	45.79	0.12	0.12	0.00
18.00	0.07	823	45.70	0.11	0.11	0.00
18.50	0.06	743	45.60	0.11	0.11	0.00
19.00	0.06	667	45.50	0.10	0.10	0.00
19.50	0.06	597	45.39	0.10	0.10	0.00
20.00	0.06	531	45.30	0.09	0.09	0.00
20.50	0.05	470	45.20	0.09	0.09	0.00
21.00	0.05	413	45.10	0.08	0.08	0.00
21.50	0.05	361	45.01	0.08	0.08	0.00
22.00	0.05	312	44.92	0.07	0.07	0.00
22.50	0.04	268	44.83	0.07	0.07	0.00
23.00	0.04	227	44.74	0.06	0.06	0.00
23.50	0.04	189	44.65	0.06	0.06	0.00
24.00	0.04	156	44.56	0.05	0.05	0.00

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Stage-Discharge for Pond 1P: Infiltration Swale

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
44.00	0.00	0.00	0.00	46.65	7.23	0.16	7.07
44.05	0.03	0.03	0.00	46.70	8.10	0.16	7.93
44.10	0.03	0.03	0.00	46.75	9.00	0.17	8.83
44.15	0.03	0.03	0.00	46.80	9.94	0.17	9.77
44.20	0.03	0.03	0.00	46.85	10.91	0.17	10.74
44.25	0.04	0.04	0.00	46.90	11.91	0.17	11.74
44.30	0.04	0.04	0.00	46.95	12.96	0.17	12.78
44.35	0.04	0.04	0.00	47.00	14.03	0.17	13.86
44.40	0.04	0.04	0.00				
44.45	0.05	0.05	0.00				
44.50	0.05	0.05	0.00				
44.55	0.05	0.05	0.00				
44.60	0.05	0.05	0.00				
44.65	0.06	0.06	0.00				
44.70	0.06	0.06	0.00				
44.75	0.06	0.06	0.00				
44.80	0.06	0.06	0.00				
44.85	0.07	0.07	0.00				
44.90	0.07	0.07	0.00				
44.95	0.07	0.07	0.00				
45.00	0.07	0.07	0.00				
45.05	0.08	0.08	0.00				
45.10	0.08	0.08	0.00				
45.15	0.08	0.08	0.00				
45.20	0.09	0.09	0.00				
45.25	0.09	0.09	0.00				
45.30	0.09	0.09	0.00				
45.35	0.09	0.09	0.00				
45.40	0.10	0.10	0.00				
45.45	0.10	0.10	0.00				
45.50	0.10	0.10	0.00				
45.55	0.10	0.10	0.00				
45.60	0.11	0.11	0.00				
45.65	0.11	0.11	0.00				
45.70	0.11	0.11	0.00				
45.75	0.11	0.11	0.00				
45.80	0.12	0.12	0.00				
45.85	0.12	0.12	0.00				
45.90	0.12	0.12	0.00				
45.95	0.12	0.12	0.00				
46.00	0.13	0.13	0.00				
46.05	0.27	0.13	0.14				
46.10	0.54	0.13	0.41				
46.15	0.89	0.14	0.75				
46.20	1.30	0.14	1.16				
46.25	1.77	0.14	1.63				
46.30	2.30	0.14	2.16				
46.35	2.87	0.15	2.73				
46.40	3.49	0.15	3.35				
46.45	4.16	0.15	4.01				
46.50	4.87	0.15	4.71				
46.55	5.62	0.16	5.46				
46.60	6.40	0.16	6.24				

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Summary for Pond 2P: Porous Pavement

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth > 7.88" for Custom event
 Inflow = 3.67 cfs @ 12.13 hrs, Volume= 0.217 af
 Outflow = 0.77 cfs @ 11.85 hrs, Volume= 0.217 af, Atten= 79%, Lag= 0.0 min
 Discarded = 0.77 cfs @ 11.85 hrs, Volume= 0.217 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 45.62' @ 12.41 hrs Surf.Area= 13,199 sf Storage= 2,353 cf

Plug-Flow detention time= 17.4 min calculated for 0.217 af (100% of inflow)
 Center-of-Mass det. time= 17.2 min (757.0 - 739.8)

Volume	Invert	Avail.Storage	Storage Description
#1	45.17'	7,919 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 19,799 cf Overall x 40.0% Voids

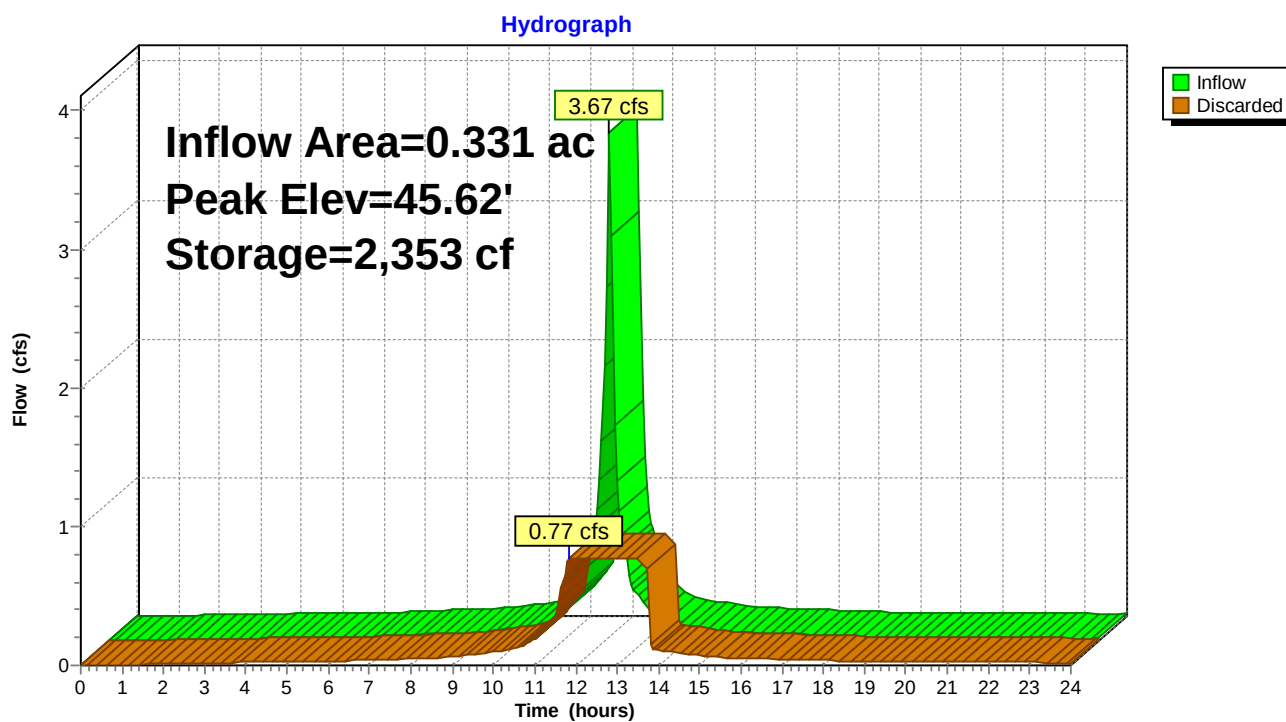
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.17	13,199	0	0
46.67	13,199	19,799	19,799

Device	Routing	Invert	Outlet Devices
#1	Discarded	45.17'	2.510 in/hr Exfiltration over Surface area

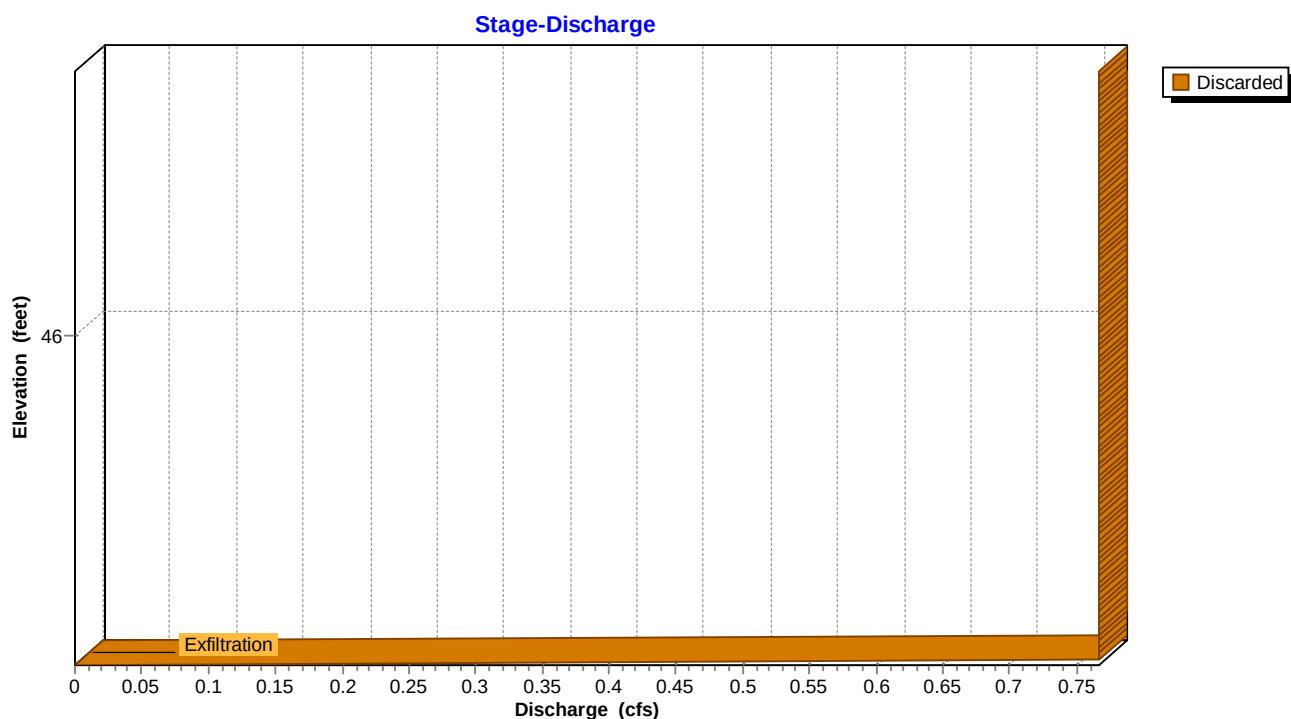
Discarded OutFlow Max=0.77 cfs @ 11.85 hrs HW=45.19' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.77 cfs)

Pond 2P: Porous Pavement

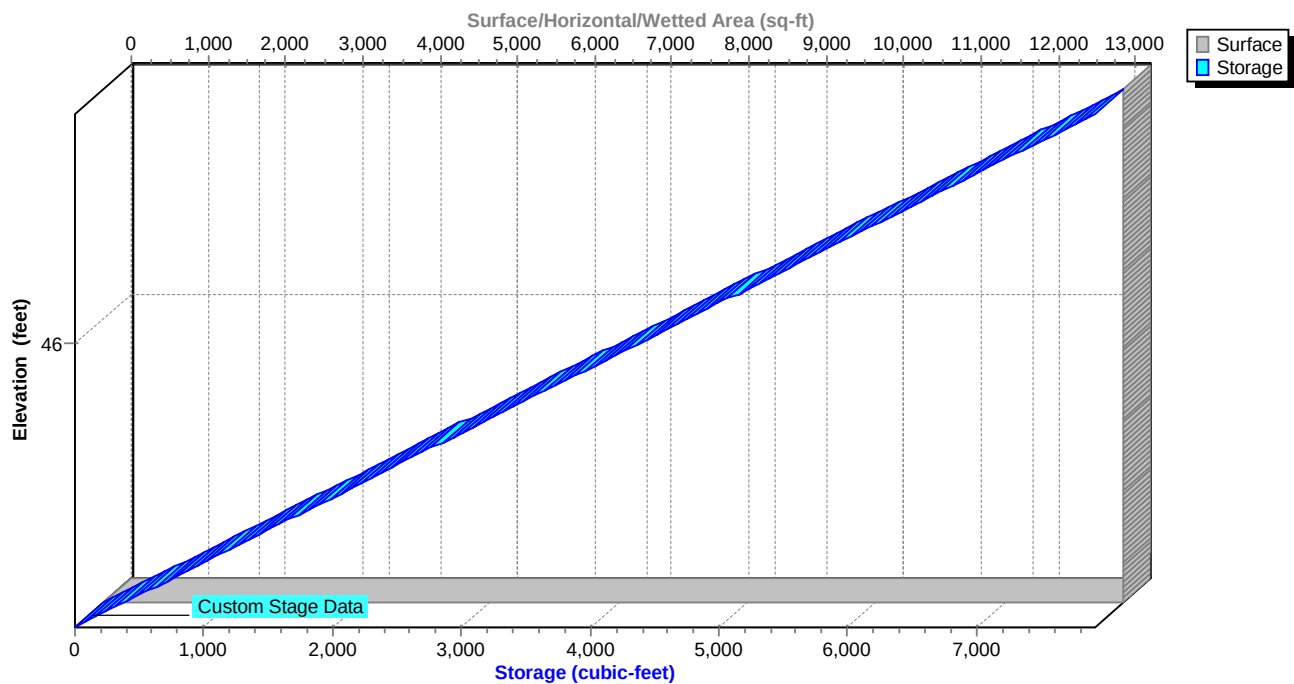


Pond 2P: Porous Pavement



Pond 2P: Porous Pavement

Stage-Area-Storage



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Hydrograph for Pond 2P: Porous Pavement

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	45.17	0.00
0.50	0.00	0	45.17	0.00
1.00	0.00	0	45.17	0.00
1.50	0.01	1	45.17	0.01
2.00	0.01	1	45.17	0.01
2.50	0.01	1	45.17	0.01
3.00	0.02	2	45.17	0.02
3.50	0.02	2	45.17	0.02
4.00	0.02	2	45.17	0.02
4.50	0.02	2	45.17	0.02
5.00	0.02	2	45.17	0.02
5.50	0.03	3	45.17	0.03
6.00	0.03	3	45.17	0.03
6.50	0.03	3	45.17	0.03
7.00	0.04	4	45.17	0.04
7.50	0.04	4	45.17	0.04
8.00	0.05	5	45.17	0.05
8.50	0.05	5	45.17	0.05
9.00	0.06	6	45.17	0.06
9.50	0.08	8	45.17	0.08
10.00	0.10	10	45.17	0.10
10.50	0.12	12	45.17	0.12
11.00	0.20	20	45.17	0.19
11.50	0.37	37	45.18	0.36
12.00	1.98	415	45.25	0.77
12.50	0.64	2,324	45.61	0.77
13.00	0.26	1,636	45.48	0.77
13.50	0.15	607	45.29	0.77
14.00	0.11	11	45.17	0.11
14.50	0.09	9	45.17	0.09
15.00	0.07	7	45.17	0.07
15.50	0.06	6	45.17	0.06
16.00	0.05	5	45.17	0.05
16.50	0.05	5	45.17	0.05
17.00	0.04	4	45.17	0.04
17.50	0.04	4	45.17	0.04
18.00	0.03	3	45.17	0.03
18.50	0.03	3	45.17	0.03
19.00	0.03	3	45.17	0.03
19.50	0.03	3	45.17	0.03
20.00	0.03	3	45.17	0.03
20.50	0.03	3	45.17	0.03
21.00	0.02	3	45.17	0.02
21.50	0.02	2	45.17	0.02
22.00	0.02	2	45.17	0.02
22.50	0.02	2	45.17	0.02
23.00	0.02	2	45.17	0.02
23.50	0.02	2	45.17	0.02
24.00	0.02	2	45.17	0.02

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Stage-Discharge for Pond 2P: Porous Pavement

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
45.17	0.00	45.70	0.77	46.23	0.77
45.18	0.77	45.71	0.77	46.24	0.77
45.19	0.77	45.72	0.77	46.25	0.77
45.20	0.77	45.73	0.77	46.26	0.77
45.21	0.77	45.74	0.77	46.27	0.77
45.22	0.77	45.75	0.77	46.28	0.77
45.23	0.77	45.76	0.77	46.29	0.77
45.24	0.77	45.77	0.77	46.30	0.77
45.25	0.77	45.78	0.77	46.31	0.77
45.26	0.77	45.79	0.77	46.32	0.77
45.27	0.77	45.80	0.77	46.33	0.77
45.28	0.77	45.81	0.77	46.34	0.77
45.29	0.77	45.82	0.77	46.35	0.77
45.30	0.77	45.83	0.77	46.36	0.77
45.31	0.77	45.84	0.77	46.37	0.77
45.32	0.77	45.85	0.77	46.38	0.77
45.33	0.77	45.86	0.77	46.39	0.77
45.34	0.77	45.87	0.77	46.40	0.77
45.35	0.77	45.88	0.77	46.41	0.77
45.36	0.77	45.89	0.77	46.42	0.77
45.37	0.77	45.90	0.77	46.43	0.77
45.38	0.77	45.91	0.77	46.44	0.77
45.39	0.77	45.92	0.77	46.45	0.77
45.40	0.77	45.93	0.77	46.46	0.77
45.41	0.77	45.94	0.77	46.47	0.77
45.42	0.77	45.95	0.77	46.48	0.77
45.43	0.77	45.96	0.77	46.49	0.77
45.44	0.77	45.97	0.77	46.50	0.77
45.45	0.77	45.98	0.77	46.51	0.77
45.46	0.77	45.99	0.77	46.52	0.77
45.47	0.77	46.00	0.77	46.53	0.77
45.48	0.77	46.01	0.77	46.54	0.77
45.49	0.77	46.02	0.77	46.55	0.77
45.50	0.77	46.03	0.77	46.56	0.77
45.51	0.77	46.04	0.77	46.57	0.77
45.52	0.77	46.05	0.77	46.58	0.77
45.53	0.77	46.06	0.77	46.59	0.77
45.54	0.77	46.07	0.77	46.60	0.77
45.55	0.77	46.08	0.77	46.61	0.77
45.56	0.77	46.09	0.77	46.62	0.77
45.57	0.77	46.10	0.77	46.63	0.77
45.58	0.77	46.11	0.77	46.64	0.77
45.59	0.77	46.12	0.77	46.65	0.77
45.60	0.77	46.13	0.77	46.66	0.77
45.61	0.77	46.14	0.77	46.67	0.77
45.62	0.77	46.15	0.77		
45.63	0.77	46.16	0.77		
45.64	0.77	46.17	0.77		
45.65	0.77	46.18	0.77		
45.66	0.77	46.19	0.77		
45.67	0.77	46.20	0.77		
45.68	0.77	46.21	0.77		
45.69	0.77	46.22	0.77		

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Summary for Pond 3P: Porous Pavers

Inflow Area = 0.054 ac, 100.00% Impervious, Inflow Depth > 7.88" for Custom event
 Inflow = 0.59 cfs @ 12.13 hrs, Volume= 0.035 af
 Outflow = 0.13 cfs @ 11.85 hrs, Volume= 0.035 af, Atten= 78%, Lag= 0.0 min
 Discarded = 0.13 cfs @ 11.85 hrs, Volume= 0.035 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 45.22' @ 12.39 hrs Surf.Area= 2,332 sf Storage= 366 cf

Plug-Flow detention time= 15.5 min calculated for 0.035 af (100% of inflow)
 Center-of-Mass det. time= 15.4 min (755.2 - 739.8)

Volume	Invert	Avail.Storage	Storage Description
#1	44.83'	1,091 cf	Custom Stage Data (Prismatic) Listed below 2,728 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.83	2,332	0	0
46.00	2,332	2,728	2,728

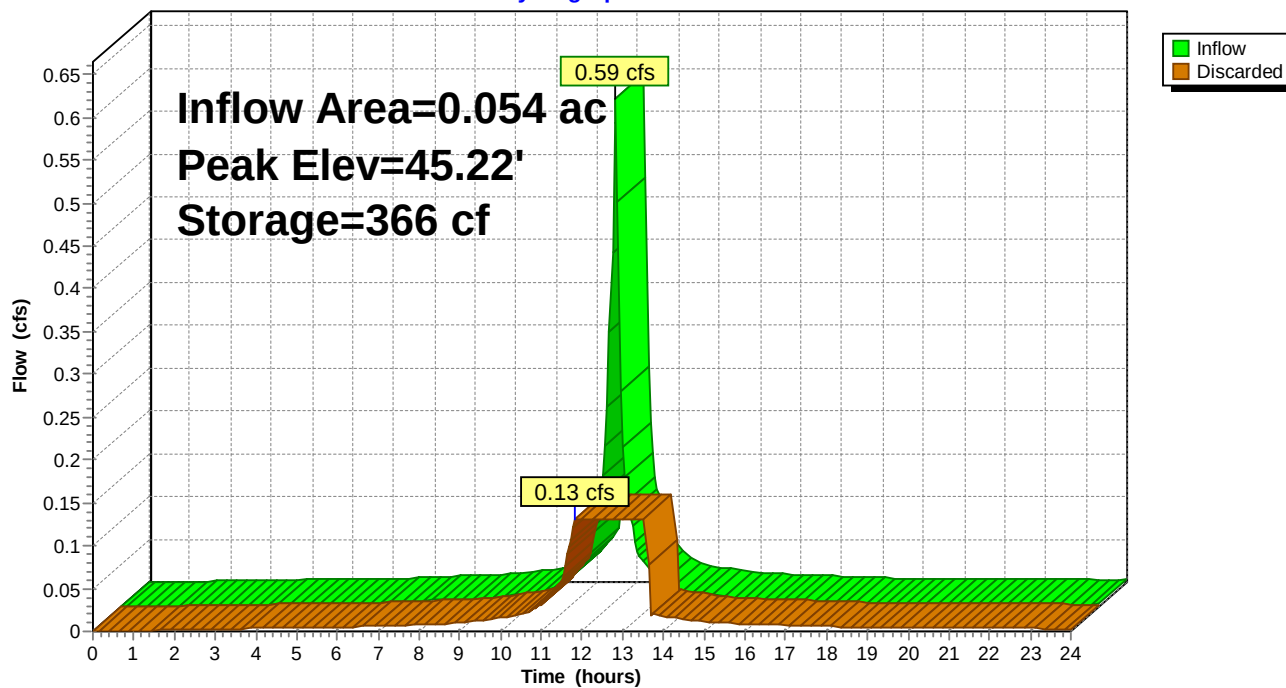
Device	Routing	Invert	Outlet Devices
#1	Discarded	44.83'	2.410 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.13 cfs @ 11.85 hrs HW=44.84' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

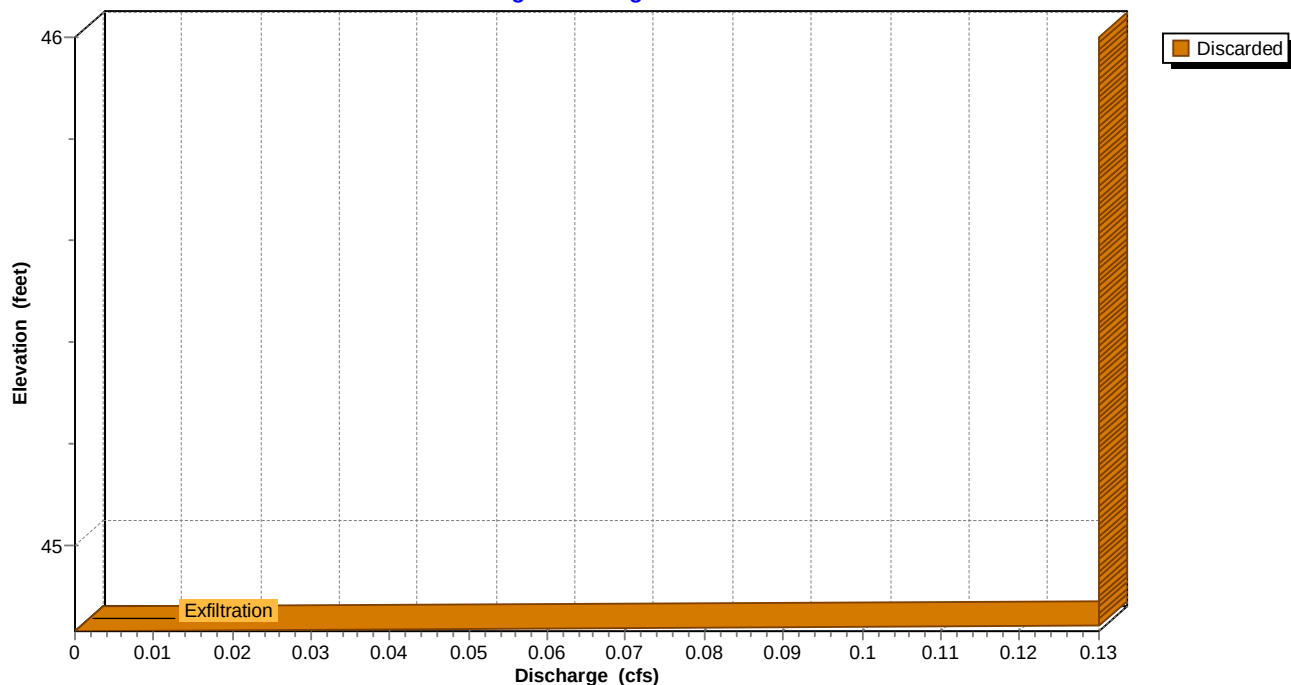
Pond 3P: Porous Pavers

Hydrograph



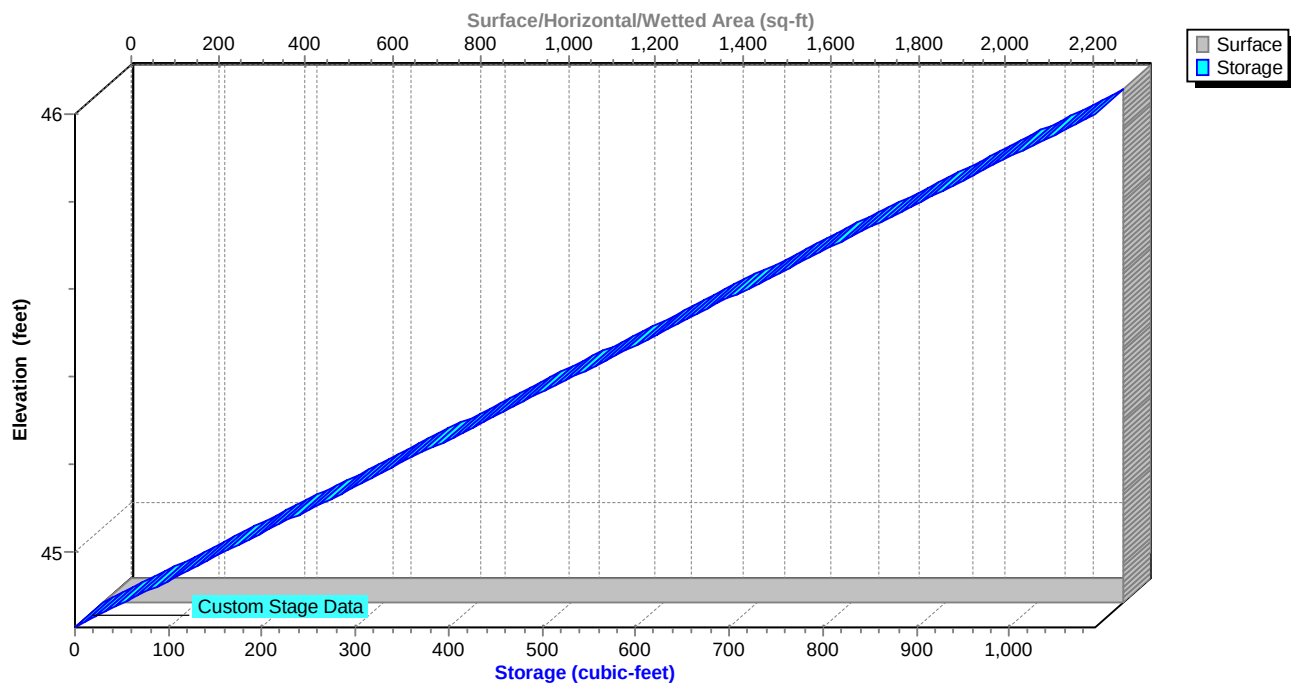
Pond 3P: Porous Pavers

Stage-Discharge



Pond 3P: Porous Pavers

Stage-Area-Storage



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Hydrograph for Pond 3P: Porous Pavers

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Discarded (cfs)
0.00	0.00	0	44.83	0.00
0.50	0.00	0	44.83	0.00
1.00	0.00	0	44.83	0.00
1.50	0.00	0	44.83	0.00
2.00	0.00	0	44.83	0.00
2.50	0.00	0	44.83	0.00
3.00	0.00	0	44.83	0.00
3.50	0.00	0	44.83	0.00
4.00	0.00	0	44.83	0.00
4.50	0.00	0	44.83	0.00
5.00	0.00	0	44.83	0.00
5.50	0.00	0	44.83	0.00
6.00	0.00	0	44.83	0.00
6.50	0.01	0	44.83	0.01
7.00	0.01	1	44.83	0.01
7.50	0.01	1	44.83	0.01
8.00	0.01	1	44.83	0.01
8.50	0.01	1	44.83	0.01
9.00	0.01	1	44.83	0.01
9.50	0.01	1	44.83	0.01
10.00	0.02	1	44.83	0.02
10.50	0.02	2	44.83	0.02
11.00	0.03	3	44.83	0.03
11.50	0.06	5	44.84	0.06
12.00	0.32	61	44.90	0.13
12.50	0.10	359	45.22	0.13
13.00	0.04	237	45.08	0.13
13.50	0.02	60	44.89	0.13
14.00	0.02	1	44.83	0.02
14.50	0.01	1	44.83	0.01
15.00	0.01	1	44.83	0.01
15.50	0.01	1	44.83	0.01
16.00	0.01	1	44.83	0.01
16.50	0.01	1	44.83	0.01
17.00	0.01	1	44.83	0.01
17.50	0.01	1	44.83	0.01
18.00	0.01	0	44.83	0.01
18.50	0.00	0	44.83	0.00
19.00	0.00	0	44.83	0.00
19.50	0.00	0	44.83	0.00
20.00	0.00	0	44.83	0.00
20.50	0.00	0	44.83	0.00
21.00	0.00	0	44.83	0.00
21.50	0.00	0	44.83	0.00
22.00	0.00	0	44.83	0.00
22.50	0.00	0	44.83	0.00
23.00	0.00	0	44.83	0.00
23.50	0.00	0	44.83	0.00
24.00	0.00	0	44.83	0.00

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Stage-Discharge for Pond 3P: Porous Pavers

Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)	Elevation (feet)	Discarded (cfs)
44.83	0.00	45.36	0.13	45.89	0.13
44.84	0.13	45.37	0.13	45.90	0.13
44.85	0.13	45.38	0.13	45.91	0.13
44.86	0.13	45.39	0.13	45.92	0.13
44.87	0.13	45.40	0.13	45.93	0.13
44.88	0.13	45.41	0.13	45.94	0.13
44.89	0.13	45.42	0.13	45.95	0.13
44.90	0.13	45.43	0.13	45.96	0.13
44.91	0.13	45.44	0.13	45.97	0.13
44.92	0.13	45.45	0.13	45.98	0.13
44.93	0.13	45.46	0.13	45.99	0.13
44.94	0.13	45.47	0.13	46.00	0.13
44.95	0.13	45.48	0.13		
44.96	0.13	45.49	0.13		
44.97	0.13	45.50	0.13		
44.98	0.13	45.51	0.13		
44.99	0.13	45.52	0.13		
45.00	0.13	45.53	0.13		
45.01	0.13	45.54	0.13		
45.02	0.13	45.55	0.13		
45.03	0.13	45.56	0.13		
45.04	0.13	45.57	0.13		
45.05	0.13	45.58	0.13		
45.06	0.13	45.59	0.13		
45.07	0.13	45.60	0.13		
45.08	0.13	45.61	0.13		
45.09	0.13	45.62	0.13		
45.10	0.13	45.63	0.13		
45.11	0.13	45.64	0.13		
45.12	0.13	45.65	0.13		
45.13	0.13	45.66	0.13		
45.14	0.13	45.67	0.13		
45.15	0.13	45.68	0.13		
45.16	0.13	45.69	0.13		
45.17	0.13	45.70	0.13		
45.18	0.13	45.71	0.13		
45.19	0.13	45.72	0.13		
45.20	0.13	45.73	0.13		
45.21	0.13	45.74	0.13		
45.22	0.13	45.75	0.13		
45.23	0.13	45.76	0.13		
45.24	0.13	45.77	0.13		
45.25	0.13	45.78	0.13		
45.26	0.13	45.79	0.13		
45.27	0.13	45.80	0.13		
45.28	0.13	45.81	0.13		
45.29	0.13	45.82	0.13		
45.30	0.13	45.83	0.13		
45.31	0.13	45.84	0.13		
45.32	0.13	45.85	0.13		
45.33	0.13	45.86	0.13		
45.34	0.13	45.87	0.13		
45.35	0.13	45.88	0.13		