



April 10, 2023

Mike Rupiper, Deputy Agency Director
Capital Area Regional Planning Commission
100 State Street, Suite 400
Madison, WI 53703

Dear Mike,

Attached hereto on behalf of the Village of Waunakee is a request and application that the Capital Area Regional Planning Commission (CARPC) approve an amendment to CARPC Resolution No. 2017-21. The Village is requesting to remove or amend condition (1)(e) of CARPC Resolution No. 2017-21 to be consistent with current statutory requirements related to stormwater infiltration. No other changes to the approved Urban Service Area are being requested.

The lands are situated within the Waunakee-Westport Joint Planning Area. The Village of Waunakee Plan Commission and Waunakee-Westport Joint Planning Commission have recommended approval along with the Waunakee Village Board. The Village Board resolution authorizing the Village submit a request for this urban service amendment is attached.

The Village asks that the CARPC place the request for amendment on CARPC's next administrative review cycle with appropriate public notice and associated public hearings – anticipated to be 5/11/23. Let me know if any additional information is needed.

Sincerely,

Village of Waunakee

Tim Semmann, AICP
Community Development Director

Application for Urban Service Area Amendment
Waunakee USA – Parcels 191/0809-181-9921-1, 191/0809-181-8351-1 & 191/0809-181-8701-1
Village of Waunakee, WI
April 10, 2023

Village of Waunakee
Urban Service Area Amendment
(Amends CARPC Resolution No. 2017-21, December 14, 2017)

April 2023

Application for Urban Service Area Amendment
Waunakee USA – Parcels 191/0809-181-9921-1, 191/0809-181-8351-1 & 191/0809-181-8701-1
Village of Waunakee, WI
April 10, 2023

Overview

The following documentation was assembled to support an application amending CARPC Resolution No. 2017-21. Said Resolution amended the Dane County Water Quality Management Plan by Revising the Sewer Service Area Boundary and Environmental Corridors in the Waunakee Urban Service Area.

Process: The following sequence follows the process established in CARPC's "Process for Plan Amendments in Dane County WDNR Water Quality Plan & Regional Land Use Plan" flowchart.

1. USA Amendment submittal
2. USA Amendment review
3. DNR administrative decision

The Village of Waunakee (Village) has assembled materials addressing the following:

1. Need
2. Intergovernmental Cooperation

Attachments:

USAA Narrative

USAA Application Exhibits:

- | | |
|----------|--|
| Map 1.1: | Existing Urban Service Area Amendment Boundary |
| Map 1.2: | Test Pit Locations |
| Map 1.3: | Proposed Neighborhood Plan & BMP Locations |
| Map 4.1c | Original Dane County Soils Map |

Appendix:

- Waunakee Village Board Resolution
- Stormwater Modeling Calculations

Narrative

Plan Consistency and Need:

1.1 Introduction

The Village requests that the Commission approve an amendment to the existing Urban Service Area (USA) for parcels 191/0809-181-9921-1, 191/0809-181-8351-1 & 191/0809-181-8701-1 located north of Meffert Road, west of S. Century Ave (CTH Q.), and south of Woodland Drive. The Village is requesting to remove condition (1)(e) of CARPC Resolution No. 2017-21. No other changes to the approved Urban Service Area are being requested.

For the purposes of this application, the parcels above are referred to as the “subject property,” and Map 1.1 shows the existing USA amendment area. The existing USA amendment area is further identified by DNR Resolution DC-00191 and CARPC Resolution No. 2017-21.

CARPC Resolution No. 2017-21 condition (1)(e) required that development “*infiltrate 100% of the increased post-development runoff volume from the 100-year, 24-hour design storm.*” There are several reasons for the Village request to remove this condition outlined below.

The Village is committed to protecting Village, County and States lakes, streams, wetlands and quality of life by enforcing their stormwater management ordinance to reduce the negative impacts of sediment, rainfall, melting snow and other water runoff. However, the Village also realizes that there are unique characteristics to each project and site. The subject property included extensive areas of poor soils with limited infiltration capacity when the USAA was originally submitted on October 9, 2017.

1.2 Soils

Map 4.1c from the original USA application depicts the soils for the subject property. Some soils within the western areas of the subject property are hydric or possess hydric inclusions. These areas include the soil groups:

- Ev- Elvers silt loam- 0.6% of subject property
- Wa- Wacousta silty clay- 2.8% of subject property
- Os- Orion silt loam, wet- 5.1% of subject property
- EfB- Elburn silt loam- 3.6% of subject property

The three largest soil groups on the subject property are as follows:

- PnB- Plano silt loam - 25.5% of subject property
- RnC2- Ringwood silt loam - 17.4% of subject property
- GwD2- Griswold loam - 17.2% of subject property

These 7 soils make up 72.2% of the subject property. These soils have very limited capacity for infiltration if they are impacted by groundwater and/or seasonal high groundwater. When saturated, the infiltration rates of these soils are significantly compromised.

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Village of Waunakee, WI
April 10, 2023

While published soil maps are a good tool for initial soil property investigation, soil evaluations with test pits are a more accurate investigative method to determine subsurface conditions. The landowner conducted 53 test pits on the subject property and adjacent parcels under common ownership to locate areas with good infiltrative soils. Map 1.2 depicts the test pit locations. Of the 53 test pits, only 19 test pits or 36% contained good infiltrative soils and separation from seasonal high groundwater. Unfortunately, the majority of these good test pits are located in upslope areas which make it difficult to convey stormwater runoff to these areas. The landowner has maximized the use of good infiltration areas by placing stormwater best management practices (BMP's) in the areas with good infiltrative soils and conveying adjacent areas in poor soils to these BMPs to the extent possible. In addition, the design team has adjusted the site grades to create the required separation between the groundwater level and the bottom of the proposed BMP facilities to enhance the available infiltration capacity.

1.3 Stormwater Design

Map 1.3 shows the **proposed neighborhood plan and location of proposed stormwater BMP's**. The preliminary stormwater calculations provided by the development team for the overall site are attached hereto. The stormwater calculations show that the overall site will infiltrate approximately 90% of the increased post development runoff volume from the average annual design storm. The calculations also show that the overall site will infiltration approximately 55% of the post development runoff volume from the 100-year, 24-hour design storm. The proposed stormwater design meets the requirements that would be imposed on a new USA application, **and in the Villages' opinion demonstrates the Developers' commitment to extract the maximum stormwater management system performance feasibly available to the site.**

In addition to the unique soil and groundwater characteristics that exist on the subject property, the Village does not believe condition (1)(e) is enforceable pursuant to 2017 Wisconsin Act 243. Per Wisconsin Statute 281.33(6)(a)(1), a Village cannot *“require more than 90% of the difference between the pre-development annual runoff volume at a site and the post-development annual runoff volume at a site to be retained on site.”*

Recent USAA's in the Village have not required 100% infiltration of the 100-year storm condition imposed by Resolution 2017-21. This USA is the only area within the Village that contains the 100% infiltration of the 100-year storm requirement.

For the reasons stated above the Village requests that CARPC remove condition (1)(e) from CARPC Resolution No. 2017-21.

Intergovernmental Cooperation

The Village of Waunakee and the Town of Westport have planned cooperatively in their joint planning since 1996. Because the subject property is in the Joint Planning Area, any rezoning petition or site plan review will require approval by the Waunakee/Westport Joint Planning Commission.

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April 10, 2023

2.1 Notification of Adjacent Local Governments

The Village Board has passed a resolution supporting the proposed USA amendment and it is included in the Appendix. The Village has notified the Town of Westport of the application and the Waunakee/Westport Joint Plan Commission met on March 14, 2023 to review the application.

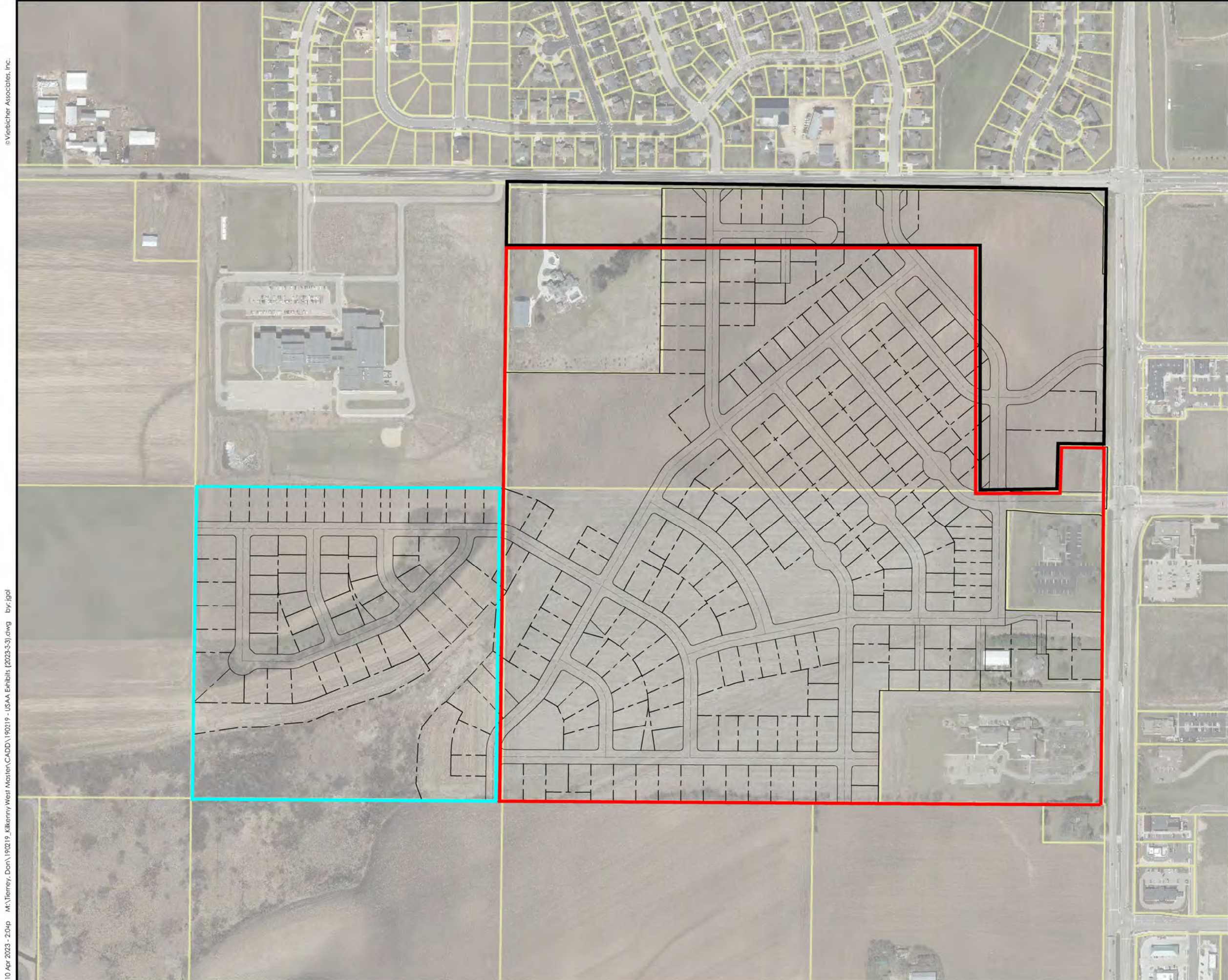
2.2 Adjacent Local Governmental Objections or Support

No objections to the proposed USAA have been received to date by either the Town or the Village. The Village understands CARPC staff will compile all objections and support for the USA Amendment.

Application for Urban Service Area Amendment
Waunakee USA – Parcels 191/0809-181-9921-1, 191/0809-181-8351-1 & 191/0809-181-8701-1
Village of Waunakee, WI
April 10, 2023

EXHIBITS




10 Apr 2023 - 2:04p M:\Herney, Don\190219_Kilkenny West Master\CADD\190219 - USAA Exhibits (2023-3-3).dwg by: jgl

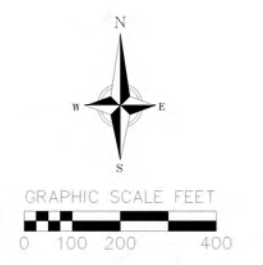


MAP 1.1

EXISTING URBAN SERVICE AREA

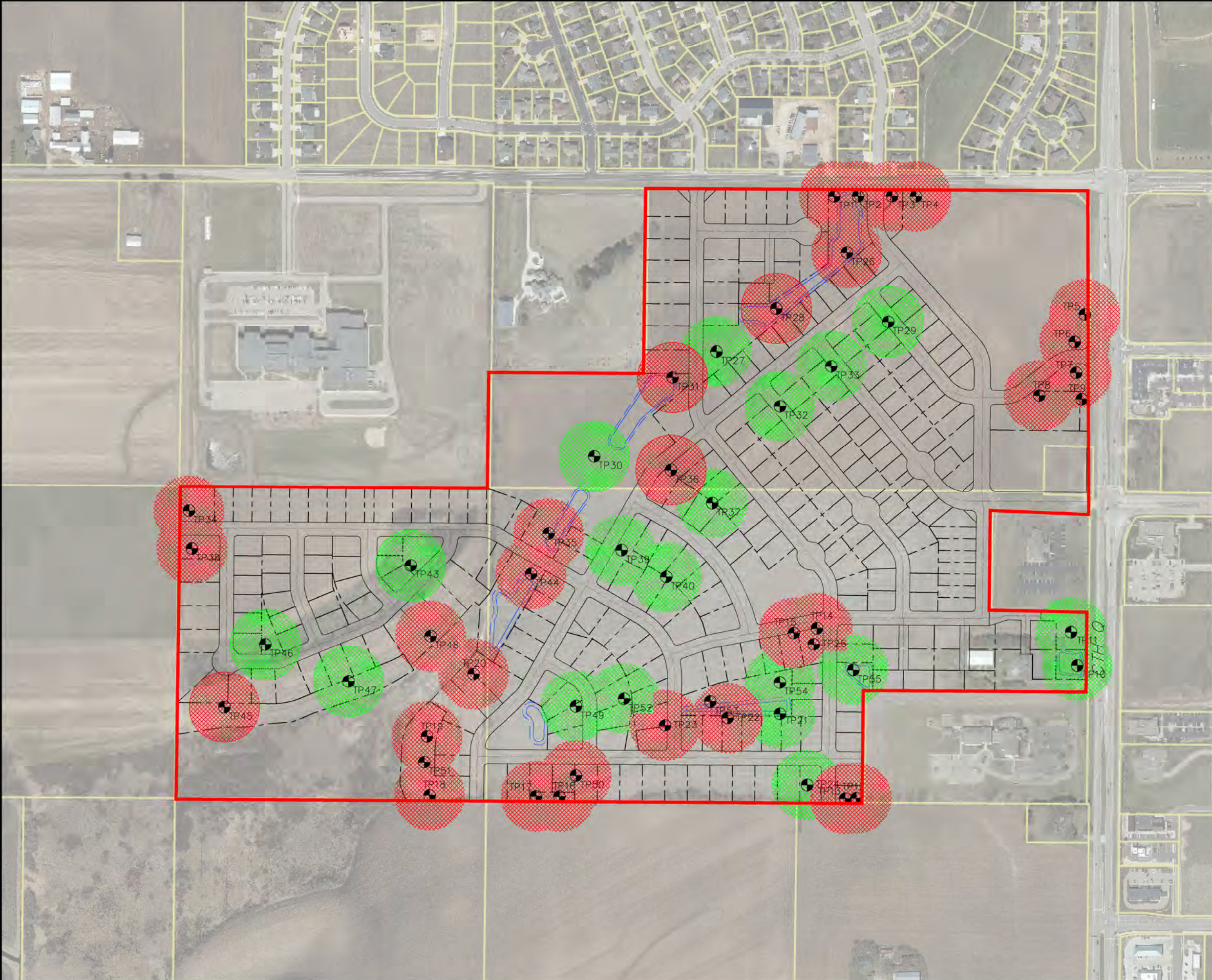
URBAN SERVICE AREA AMENDMENT

-  USA DC-58
-  USA DC-0191
-  PROPOSED USA



VILLAGE OF WAUNAKEE + TOWN OF WESTPORT
DANE COUNTY, WISCONSIN
CARPC URBAN SERVICE AREA AMENDMENT APPLICATION
APRIL 10TH, 2023

06 Apr 2023 - 9:28a M:\Terry, Don\190319_Killeen\Westport\1544-Exhibit (M03-3-5).dwg by: mcom






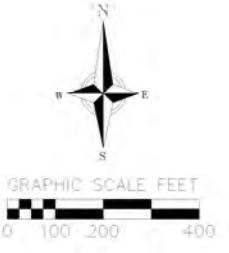
MAP 1.2

TEST PIT EXHIBIT

URBAN SERVICE AREA AMENDMENT

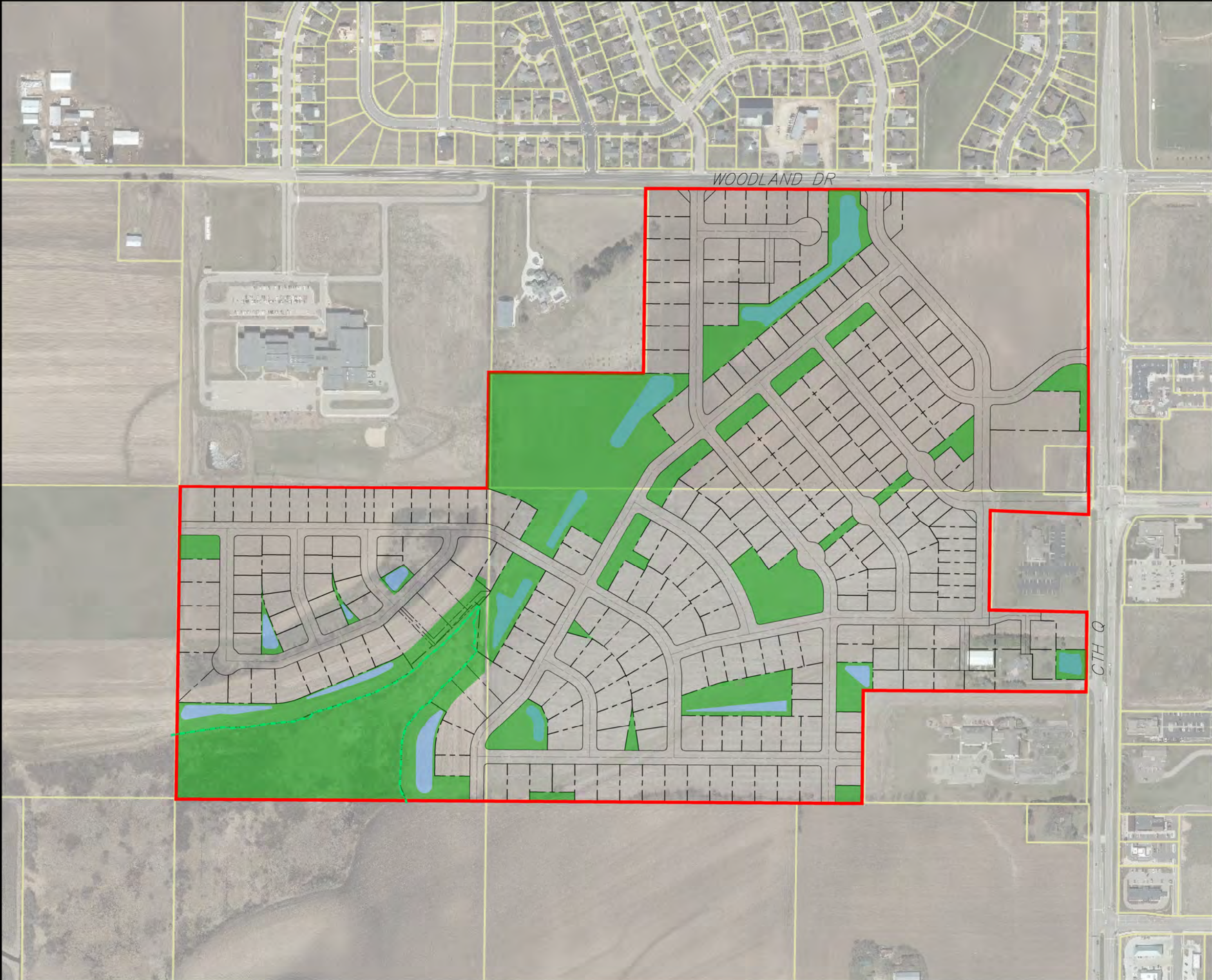
LEGEND

-  INFILTRATIVE SOILS (0.5 INCHES PER HOUR OR GREATER)
-  TEST PITS WITH UNFAVORABLE CONDITIONS
-  OVERALL SITE BOUNDARY



VILLAGE OF WAUNAKEE + TOWN OF WESTPORT
DANE COUNTY, WISCONSIN
CARPC URBAN SERVICE AREA AMENDMENT APPLICATION
APRIL 10TH, 2023

06 Apr 2023 - 9:29a M:\Tierney, Don\190219_Kilkeny West Master\CADD\190219 - USAA Exhibits (2023-3-3).dwg by: mcom ©Vierbicher Associates, Inc.


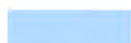




MAP 1.3

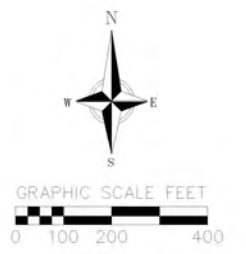
PROPOSED NEIGHBORHOOD PLAN, STORMWATER BMP's & ENVIRONMENTAL CORRIDORS

URBAN SERVICE AREA AMENDMENT

PROPOSED LAND USE (AMENDMENT AREA)

-  OVERALL SITE BOUNDARY
-  PROPOSED STORMWATER MANAGEMENT
-  PROPOSED ENVIRONMENTAL CORRIDOR
-  EXISTING WETLAND BOUNDARY

NOTE: PROPOSED ROAD NETWORK AND LOT PLAN IS CONCEPTUAL AND SUBJECT TO CHANGE



VILLAGE OF WAUNAKEE
DANE COUNTY, WISCONSIN
CARPC URBAN SERVICE AREA AMENDMENT APPLICATION
APRIL 10TH, 2023

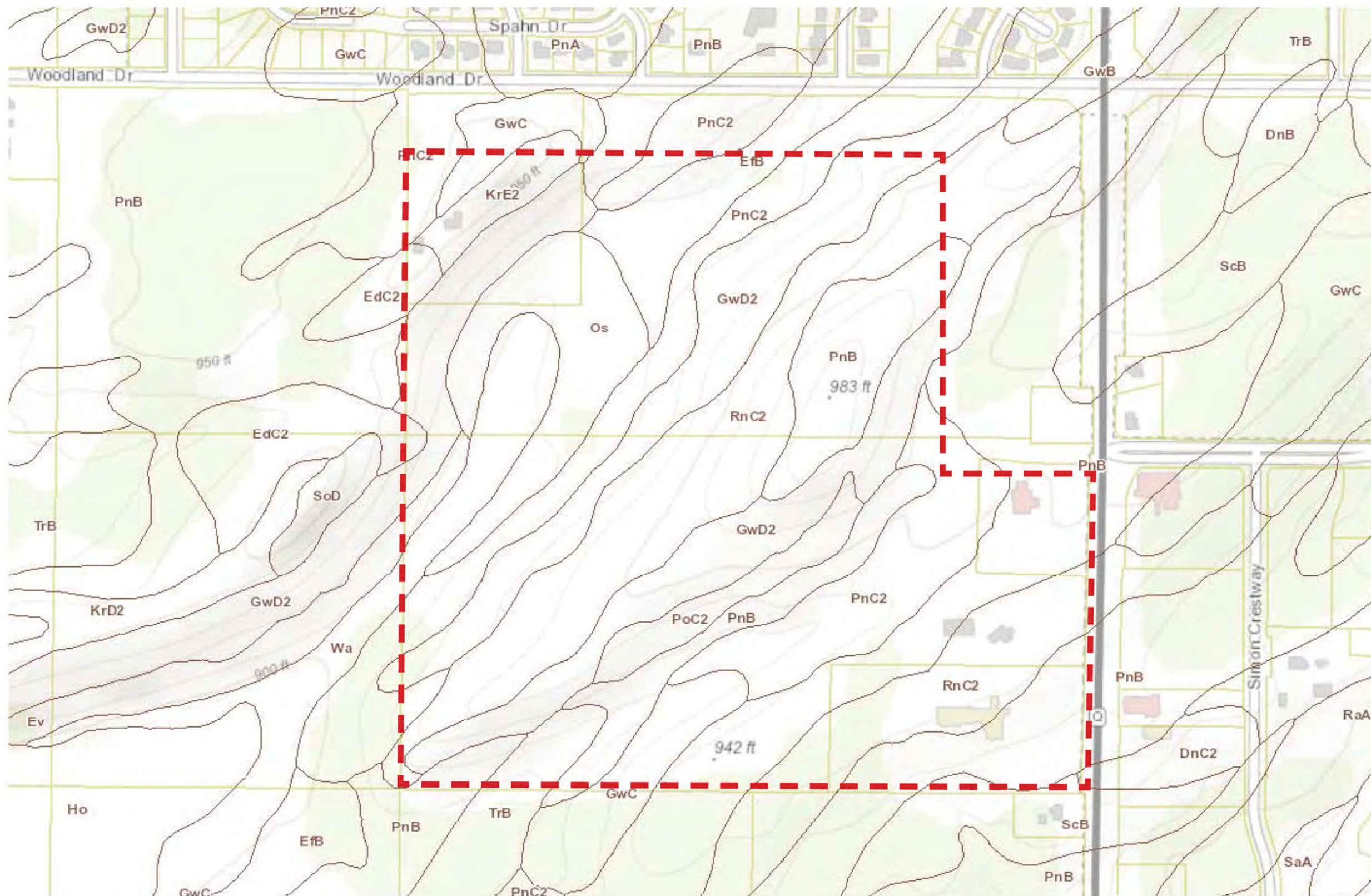
Map 4.1c

Soils

WOODLAND WEST Urban Service Area Amendment

LEGEND

-  Soils
-  Tax Parcels
-  Urban Service Area Amendment



Source: Dane County Maps

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the



Village of Waunakee +
Town of Westport

Dane County, WI
CARPC Urban Service Area
Amendment Application

October 9, 2017

Revised - October 12, 2017

Prepared by SEH

Application for Urban Service Area Amendment
Waunakee USA – Parcels 191/0809-181-9921-1, 191/0809-181-8351-1 & 191/0809-181-8701-1
Village of Waunakee, WI
April 10, 2023

APPENDIX

RESOLUTION NO. R23-6

VILLAGE OF WAUNAKEE VILLAGE BOARD

**Resolution Authorizing Submission of an Urban Service Area Amendment
to the Capital Area Regional Planning Commission**

Finding it to be in the public interest, the Village Board of the Village of Waunakee, Dane County, Wisconsin, RESOLVES as follows:

1. The Waunakee Urban Service Area (USA) was expanded in 2017 to include three parcels (PIN #s 0809-181-8701-1, 0809-181-9921-1, & 0809-181-8351-1) situated west of Century Avenue and south of Woodland Drive.
2. Development of the properties are consistent with the Waunakee-Westport Comprehensive Plan and will be consistent with statutory requirements regarding stormwater management.
3. The Village Board approves the requested amendment of the Waunakee Urban Service Area applicable to the abovementioned property in the Village of Waunakee Urban Service Area and authorizes Village staff to file the necessary documentation with the Capital Area Regional Planning Commission.

The foregoing resolution was duly adopted by the Village of Waunakee Village Board at a meeting held on March 20, 2023.

APPROVED:



Chris Zellner, Village President



Karla Endres, Village Clerk

Lynn Richardson, Deputy Village Clerk

Stormwater Management Plan
Kikenny Farms West
Village of Waunakee, Wisconsin

Prepared For:

Lone Silo North Addition LLC &
Dalmatian Farms, LLC
3564 Egge Rd
DeForest WI, 53532

Prepared By:

Vierbicher
999 Fourier Drive, Suite 201
Madison, WI 53717

Prepared On:

March 13, 2023
Project #190219

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TABLE OF CONTENTS

<u>Description</u>	<u>Tab #</u>
Narrative	1
1.1 Introduction	
1.2 Soils Description	
1.3 Design Criteria	
1.4 Summary of Results	
1.5 Conclusions	
1.6 Permits	
Maps.....	2
2.1 Location Map	
2.2 Aerial Map	
2.3 USGS Quad Map	
2.4 FEMA Map	
2.5 Thermal Location Map	
2.6 Wetland Indicators Map	
Soils Information	3
3.1 County Soils Map	
3.2 Soil Borings	
Peak Runoff Rate Control Calculations	4
Sediment Reduction Calculations.....	5
Infiltration Calculations	6
Erosion Control Calculations	7
Exhibits.....	8
8.1 Stormwater Maintenance Agreement	
8.2 Pre-Developed Drainage Map	
8.3 Post-Developed Drainage Map	
8.4 Wetland Delineation Report	

Narrative

NARRATIVE

1.1 Introduction

The Kilkenny Farms West development is located in the southwest corner of Woodland Drive and County Highway Q in the Village of Waunakee. Currently the site is farmed agricultural lands. The majority of the site drains to the southwest corner of the development to an existing wetland. There are some offsite lands along CTH Q and northeast of the development that drain through the site. There is a small portion of the development that drains to the CTH Q right of way.

The Developer is proposing a residential and commercial development consisting of 284 residential lots and 3 commercial lots. The work will also include roadways, utilities, and parks. The future commercial developments will be required to handle all stormwater management requirements on site.

When CTH Q was expanded a bio-retention basin was designed and constructed to meet the stormwater management requirements for the reconstruction and expansion. With the extension of Sarah Lane (currently intersects with CTH Q to the east) the bio-retention basin will be removed. For ease of calculations the CTH Q area that is draining to the bio-retention basin will be modeled as new development with the proposed project.

The development is required to meet the Village of Waunakee, Wisconsin Department of Natural Resources, and Capital Area Regional Planning Commission (CARPC) stormwater management requirements. These requirements will be met with various stormwater management facilities through out the facility.

There are no floodplains present on the property. There is a wetland located in the southwest corner of the development.

1.2 Soils Description

Extensive soil investigation was conducted on the site. Vierbicher completed 25 test pits February 2020. CGC then completed 28 test pits in January 2023. There are areas where there is groundwater in the lower lying areas near the wetland. There are other areas where redox soils are present which indicate seasonal high groundwater. The site is being graded to provide the required separation distances between infiltration facilities and groundwater.

Additional test pits will need to be completed prior to applying for any stormwater management permits.

1.3 Design Criteria

Stormwater Management Requirements	
Design Frequency	1, 2, 10, 100, and 200-Year, 24-hour storm events using the MSE4 NRCS Rainfall Distribution
Rainfall Data	2.49, 2.84, 4.09, 6.66, and 7.53-inch/24-hour
Curve Number	Pre-Developed Maximum: 68 HSG B Agricultural
Peak Rate Control	Meet the pre-developed runoff rate for the 1, 2, 10, 100, and 200-year, 24-hour events



Stormwater Management Requirements	
Sediment Control	80% Reduction, as compared to no controls
Infiltration	Infiltrate 90% of the pre-developed volume
Oil and Grease Control	Treat first ½"
Thermal Control	Reduce temperature of runoff

1.4 Summary of Results

Peak Runoff Rate Control

The site must maintain the pre-developed peak runoff rate control for the 1, 2, 10, 100, and 200-year, 24-hour events. This requirement is met with various stormwater management facilities.

The site must maintain the pre-developed peak runoff rate control for the 1, 2, 10, 100, and 200-year, 24-hour events. The post-developed Hydrologic Soil Group was not lowered due to deep tilling that will be completed during construction. The table below summarizes the peak runoff rate control calculations for the development.

Storm Frequency (Year)	Pre-Developed (188.51 acres) CFS	No Controls Post-Developed (188.51 acres) CFS	Controls Post-Developed (188.51 acres) CFS
1	44.57	231.08	40.21
2	67.56	291.51	50.52
10	171.38	522.55	103.10
100	439.57	1,026.55	363.33
200	538.75	1,204.63	440.99

Volume Control

The Village of Waunakee does not require storm event volume control. However, the adjacent Town of Westport does require that the 100-year, 24-hour post-developed runoff volume not exceed the 100-year, 24-hour pre-developed runoff volume. It has been requested that the following information be provided:

Storm Frequency (Year)	Pre-Developed (188.51 acres) AF	No Controls Post-Developed (188.51 acres) AF	Controls Post-Developed 188.51 acres) AF
100	51.287	70.491	59.902

Sediment Control

The site will be required to reduce TSS from the site by eighty percent (80%), as compared to no controls. The offsite run-on and future commercial lands were modeled with no pollutant loading. The table below summarizes the results of the TSS modeling.

No Controls (lbs)	After Stormwater w/ Controls (lbs)	TSS Removed from Site (lbs)	% Reduction
48,263	8,704	39,559	81.97%

The site is required to meet 80% TSS reduction from a no control standpoint. The stormwater management facilities have been designed to treat runoff and will achieve an 81.97% TSS removal rate. TSS was modeled with WinSLAMM v. 10.4 and calculations are within section 5 of this report.



Infiltration

The site is required to infiltrate 90% of the pre-developed infiltration volume in the post-developed condition. All runoff will be pre-treated to 60% TSS reduction prior to infiltration basins. The offsite run-on and future commercial lands were removed from the model. The table below summarizes the results of the infiltration modeling.

Pre-Developed Total Losses (155.73 acres) (inches)	Post-Developed Total Losses (155.73 acres) (Inches)	% of Pre-Developed Infiltrated
25.49	22.76	89.3%

The site is required to infiltrate 90% of the pre-developed infiltration volume in the post developed condition. The stormwater management facilities have been designed to infiltrate 89.3% of the pre-developed runoff volume. Infiltration was modeled with WinSLAMM v. 10.4 and calculations are within section 6 of this report.

Oil and Grease

Oil and Grease control is not required for the residential areas. The commercial lots will be required to provide all stormwater management requirements on site.

Thermal Control

This development is not in a thermally sensitive watershed.

Erosion Control

Erosion Control Calculations will be provided at the time erosion control permits are applied for.

1.5 Conclusions

The proposed site will meet the Village of Waunakee and DNR's requirements for stormwater management. The requirements will be met with 6 bioretention basins, 6 wet ponds, and 16 infiltration basins. The future commercial developments will be required to handle all stormwater management requirements on site.

Permits will be applied for and issued prior to beginning construction.

1.6 Permits

The following is a list of anticipated stormwater and erosion control permit, or reviews that have been or will be applied for:

- Local Municipal Erosion Control and Stormwater Permit.
- Department of Commerce Plumbing Permit (for sites with drainage areas greater than 1 AC to pipe).
- Stormwater Notice of Intent (DNR).
- Dane County Projects.
 - ✓ CARPC (Regional Planning).



Maps

2.1 Location Map

2.2 Aerial Map

2.3 USGS Quad Map

2.4 FEMA Map

2.5 Thermal Location Map

2.6 Wetland Indicators Map

Soils Information

3.1 County Soils Map

3.2 Soil Borings

4 Peak Runoff Rate Control Calculations

4.1 Pre-Developed



Routing Diagram for Kilkenny Phase Master
 Prepared by Vierbicher Associates, Inc, Printed 3/13/2023
 HydroCAD® 10.20-2g s/n 04509 © 2022 HydroCAD Software Solutions LLC

Kilkenny Phase Master

Prepared by Vierbicher Associates, Inc

Printed 3/13/2023

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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	MSE 24-hr	4	Default	24.00	1	2.49	2
2	2-Year	MSE 24-hr	4	Default	24.00	1	2.84	2
3	10-Year	MSE 24-hr	4	Default	24.00	1	4.09	2
4	100-Year	MSE 24-hr	4	Default	24.00	1	6.66	2
5	200-Year	MSE 24-hr	4	Default	24.00	1	7.53	2

Kilkenny Phase Master

Prepared by Vierbicher Associates, Inc

HydroCAD® 10.20-2g s/n 04509 © 2022 HydroCAD Software Solutions LLC

Pre-Developed Kilkenny Farms West

MSE 24-hr 4 1-Year Rainfall=2.49"

Printed 3/13/2023

Page 3

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1e OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=0.19" Tc=20.0 min CN=61 Runoff=0.21 cfs 0.042 af
Subcatchment 1S: Pre-Developed CTH Q	Runoff Area=1.340 ac 0.00% Impervious Runoff Depth=0.38" Tc=6.0 min CN=68 Runoff=0.64 cfs 0.043 af
Subcatchment 2e OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=0.27" Flow Length=500' Tc=4.6 min CN=64 Runoff=1.71 cfs 0.142 af
Subcatchment 2S: Pre-Developed South	Runoff Area=17.990 ac 0.00% Impervious Runoff Depth=0.38" Flow Length=1,315' Tc=21.2 min CN=68 Runoff=4.81 cfs 0.575 af
Subcatchment 3e OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=0.19" Tc=20.0 min CN=61 Runoff=0.43 cfs 0.084 af
Subcatchment 3S: Pre-Developed -	Runoff Area=99.620 ac 9.39% Impervious Runoff Depth=0.49" Flow Length=3,390' Tc=36.9 min CN=71 Runoff=28.10 cfs 4.036 af
Subcatchment 4e OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.19" Tc=10.0 min CN=61 Runoff=0.05 cfs 0.009 af
Subcatchment 4S: Pre-Developed -	Runoff Area=12.170 ac 0.00% Impervious Runoff Depth=0.38" Flow Length=1,000' Tc=14.5 min CN=68 Runoff=3.95 cfs 0.389 af
Subcatchment 5e OS: Offsite - Funeral	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=0.49" Flow Length=250' Slope=0.0200 '/' Tc=21.4 min CN=71 Runoff=0.73 cfs 0.078 af
Subcatchment 5S: Pre-Developed -	Runoff Area=35.500 ac 0.00% Impervious Runoff Depth=0.38" Flow Length=700' Tc=20.2 min CN=68 Runoff=9.76 cfs 1.135 af
Subcatchment 6S: Pre-Developed - Kilkenny	Runoff Area=1.660 ac 0.00% Impervious Runoff Depth=0.38" Flow Length=700' Tc=20.2 min CN=68 Runoff=0.46 cfs 0.053 af
Subcatchment 7S: Pre-Developed -	Runoff Area=2.220 ac 24.77% Impervious Runoff Depth=0.64" Flow Length=700' Tc=20.2 min CN=75 Runoff=1.28 cfs 0.119 af
Subcatchment 8S: Pre-Developed - Kilkenny	Runoff Area=1.320 ac 0.00% Impervious Runoff Depth=0.38" Flow Length=700' Tc=20.2 min CN=68 Runoff=0.36 cfs 0.042 af
Reach 1R: Pre-Developed	Inflow=44.57 cfs 6.746 af Outflow=44.57 cfs 6.746 af

Total Runoff Area = 188.510 ac Runoff Volume = 6.746 af Average Runoff Depth = 0.43"
94.24% Pervious = 177.660 ac 5.76% Impervious = 10.850 ac

Kilkenny Phase Master

Prepared by Vierbicher Associates, Inc

HydroCAD® 10.20-2g s/n 04509 © 2022 HydroCAD Software Solutions LLC

Pre-Developed Kilkenny Farms West

MSE 24-hr 4 1-Year Rainfall=2.49"

Printed 3/13/2023

Page 4

Summary for Subcatchment 1e OS: Offsite- School

Runoff = 0.21 cfs @ 12.49 hrs, Volume= 0.042 af, Depth= 0.19"
Routed to Reach 1R : Pre-Developed

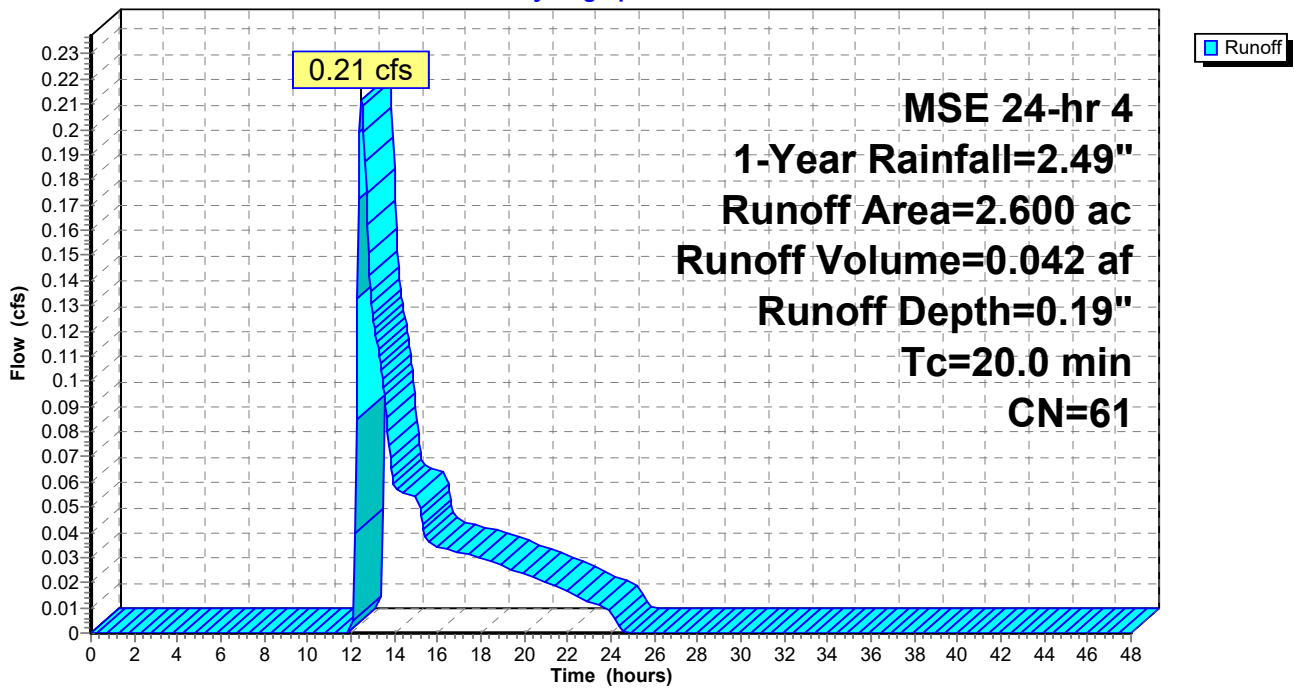
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

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

Subcatchment 1e OS: Offsite- School

Hydrograph



Kilkenny Phase Master

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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 5

Summary for Subcatchment 1S: Pre-Developed CTH Q

Runoff = 0.64 cfs @ 12.15 hrs, Volume= 0.043 af, Depth= 0.38"
Routed to Reach 1R : Pre-Developed

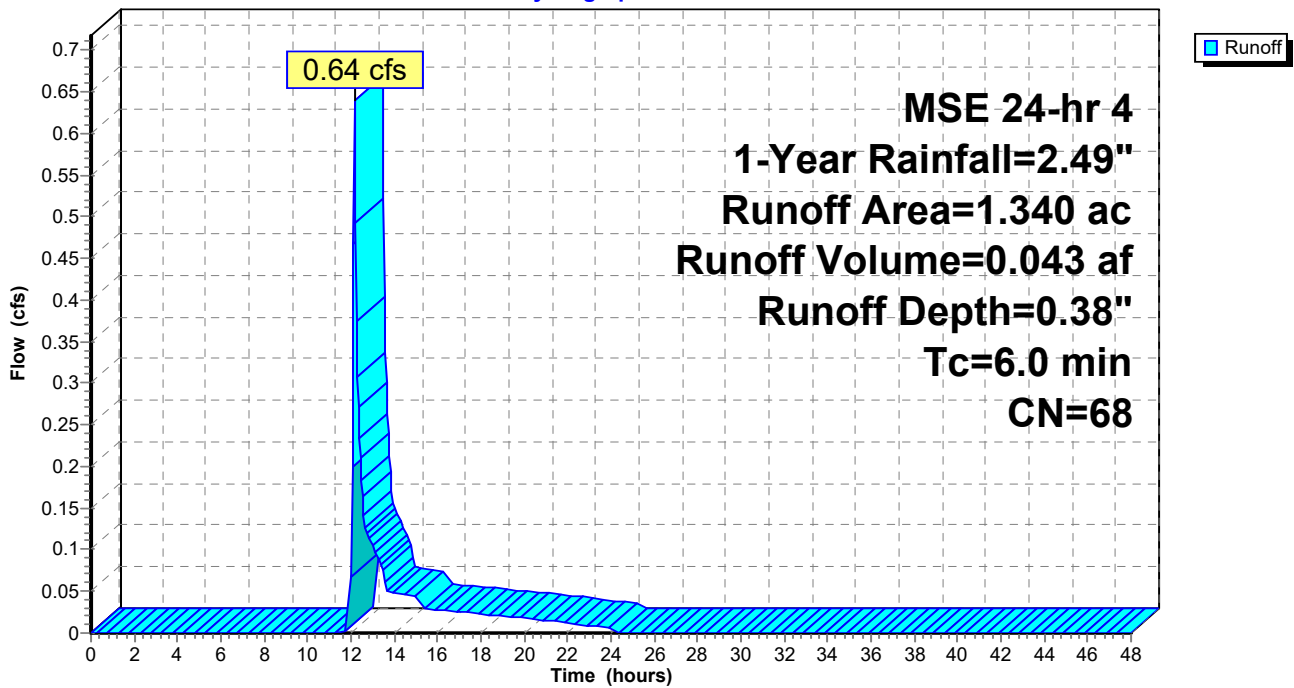
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.340	68	Pre-Developed Crop Land
1.340		100.00% Pervious Area

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

Subcatchment 1S: Pre-Developed CTH Q

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 6

Summary for Subcatchment 2e OS: Offsite - North Residential

Runoff = 1.71 cfs @ 12.15 hrs, Volume= 0.142 af, Depth= 0.27"
 Routed to Reach 1R : Pre-Developed

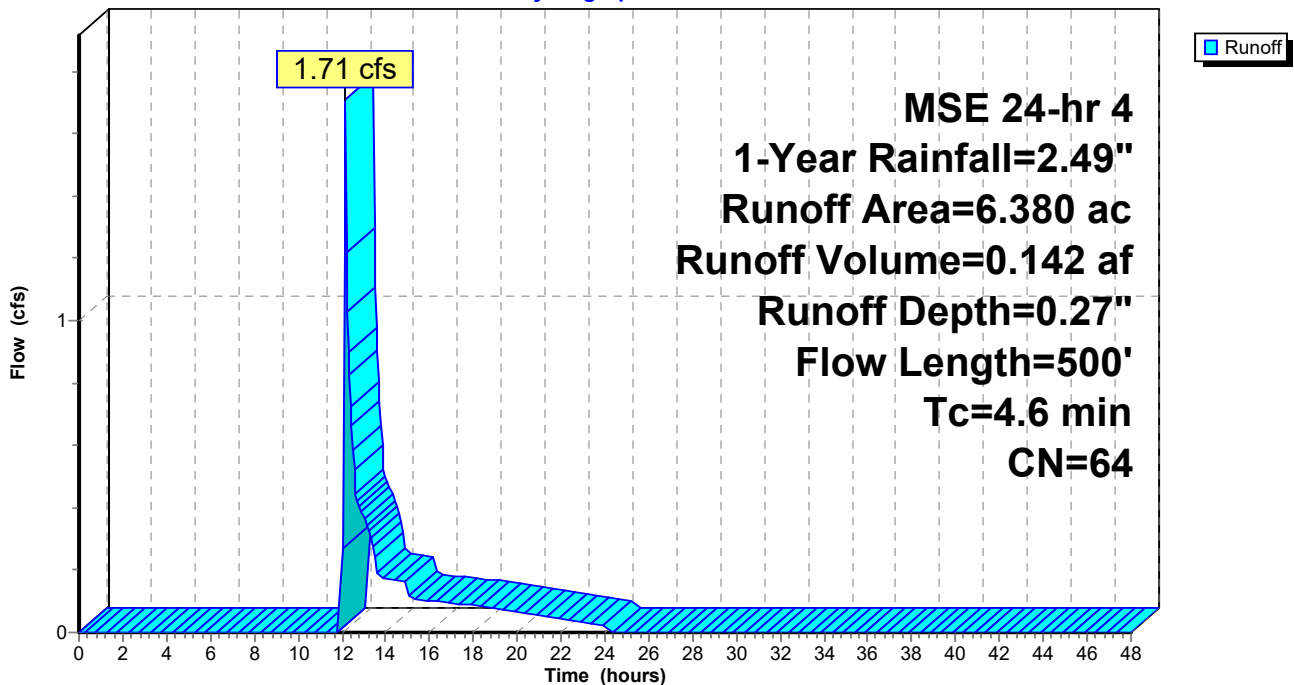
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2e OS: Offsite - North Residential

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 7

Summary for Subcatchment 2S: Pre-Developed South

Runoff = 4.81 cfs @ 12.38 hrs, Volume= 0.575 af, Depth= 0.38"
 Routed to Reach 1R : Pre-Developed

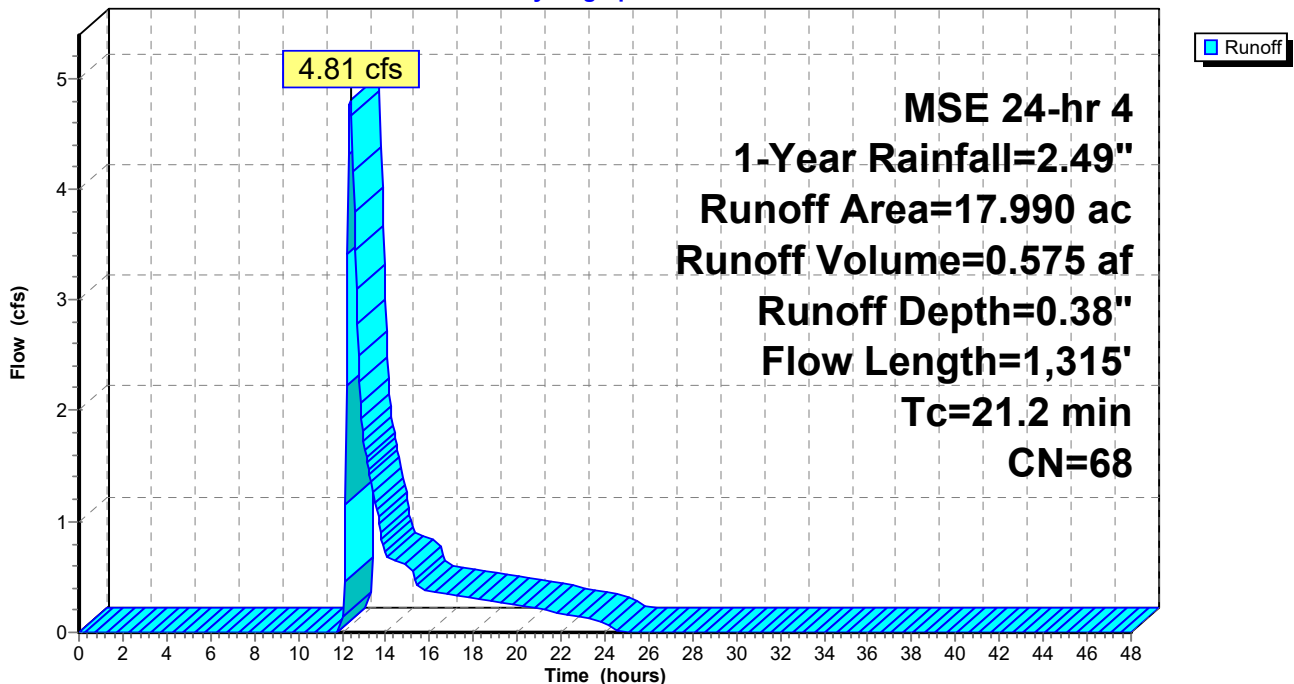
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 17.990	68	HSG B Agricultural
17.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	300	0.0700	0.69		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
14.0	1,015	0.0180	1.21		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
21.2	1,315	Total			

Subcatchment 2S: Pre-Developed South

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 8

Summary for Subcatchment 3e OS: Offsite- School

Runoff = 0.43 cfs @ 12.49 hrs, Volume= 0.084 af, Depth= 0.19"
Routed to Reach 1R : Pre-Developed

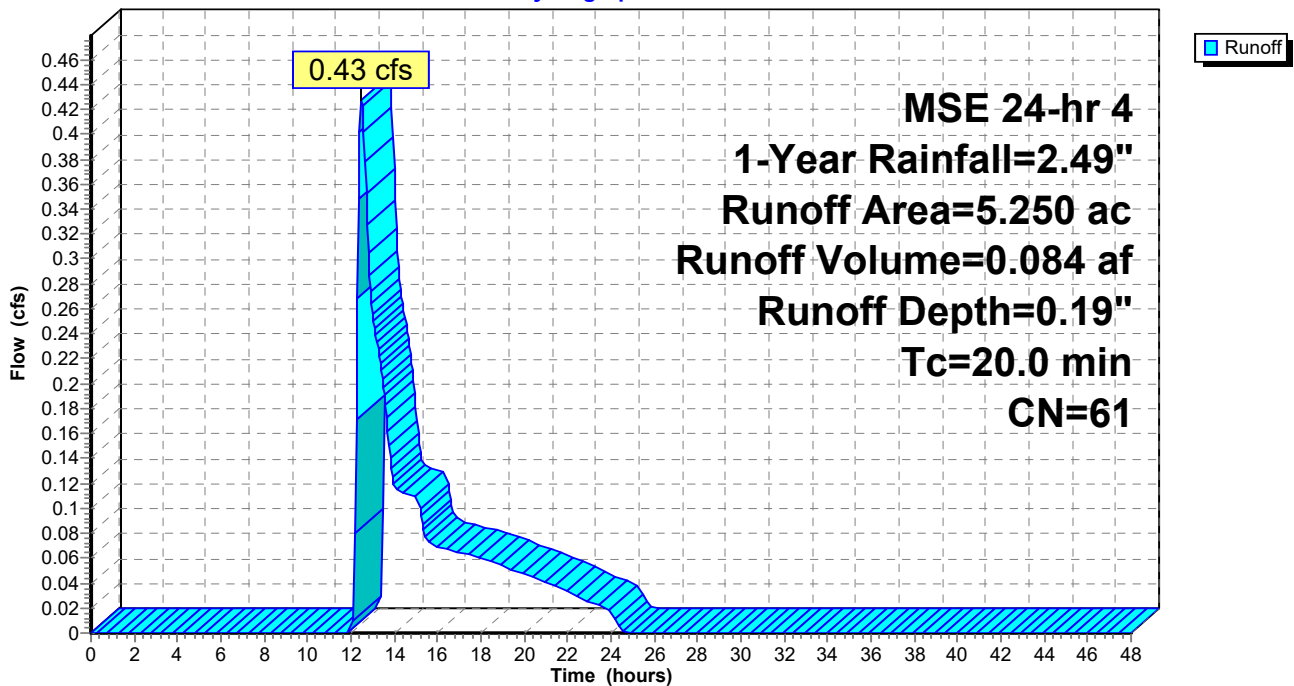
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3e OS: Offsite- School

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 9

Summary for Subcatchment 3S: Pre-Developed - Kilkenny

Runoff = 28.10 cfs @ 12.60 hrs, Volume= 4.036 af, Depth= 0.49"
 Routed to Reach 1R : Pre-Developed

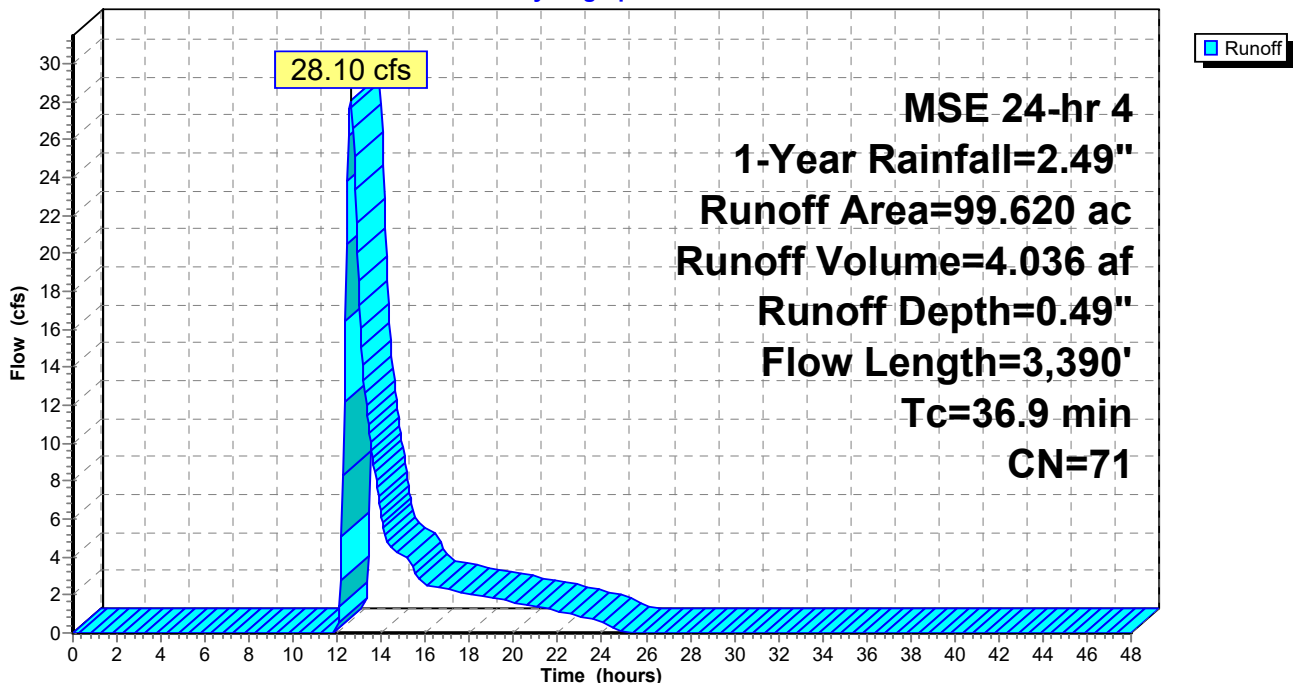
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 90.270	68	Pre-Developed Crop Land
* 9.350	100	Wetland
99.620	71	Weighted Average
90.270		90.61% Pervious Area
9.350		9.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	300	0.1000	0.80		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
30.6	3,090	0.0350	1.68		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
36.9	3,390	Total			

Subcatchment 3S: Pre-Developed - Kilkenny

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 10

Summary for Subcatchment 4e OS: Offsite - Church

Runoff = 0.05 cfs @ 12.28 hrs, Volume= 0.009 af, Depth= 0.19"
Routed to Reach 1R : Pre-Developed

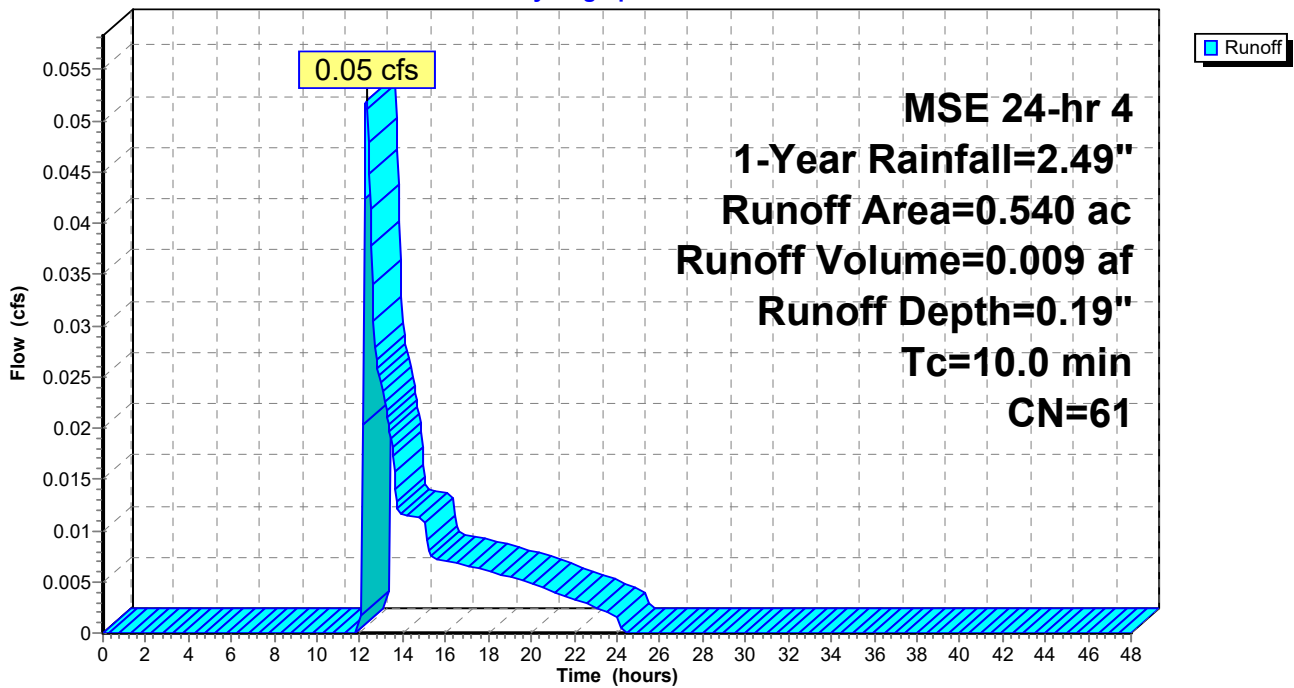
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4e OS: Offsite - Church

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 11

Summary for Subcatchment 4S: Pre-Developed - Kilkenny

Runoff = 3.95 cfs @ 12.27 hrs, Volume= 0.389 af, Depth= 0.38"
 Routed to Reach 1R : Pre-Developed

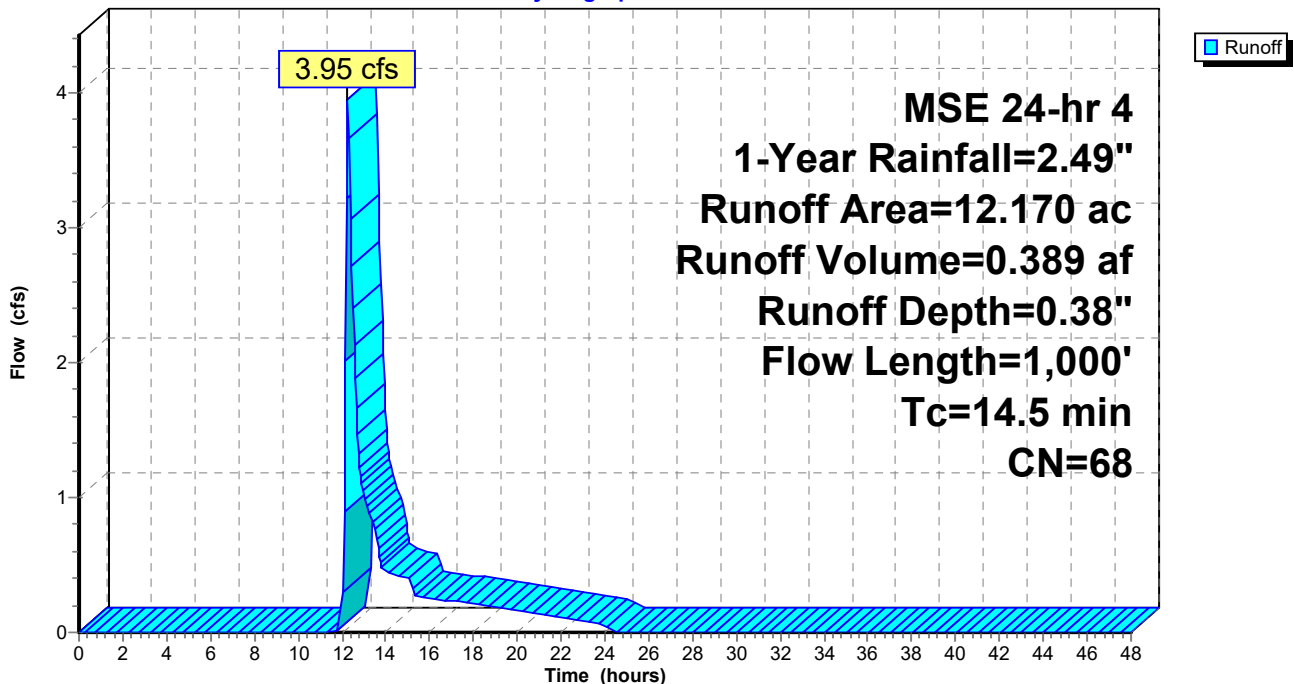
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 12.170	68	Pre-Developed Crop Land
12.170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	300	0.1070	0.82		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
8.4	700	0.0240	1.39		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
14.5	1,000	Total			

Subcatchment 4S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 12

Summary for Subcatchment 5e OS: Offsite - Funeral

Runoff = 0.73 cfs @ 12.37 hrs, Volume= 0.078 af, Depth= 0.49"
Routed to Reach 1R : Pre-Developed

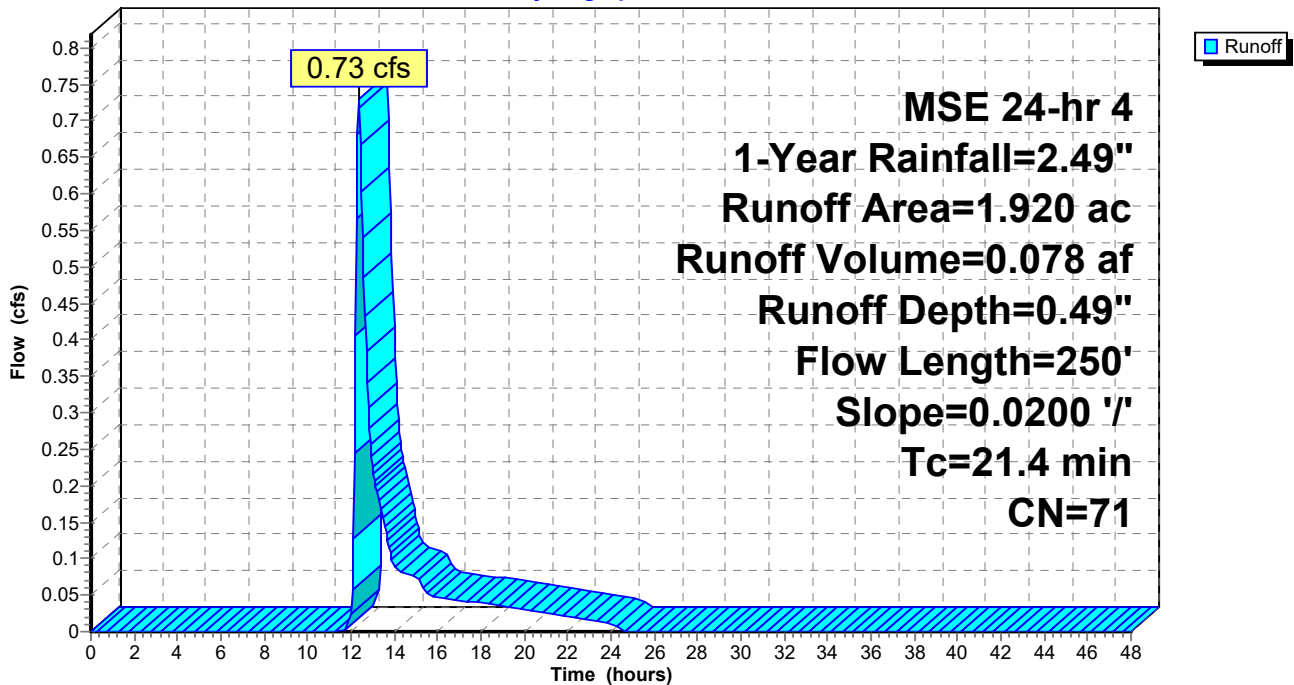
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5e OS: Offsite - Funeral

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 13

Summary for Subcatchment 5S: Pre-Developed - Kilkenny

Runoff = 9.76 cfs @ 12.37 hrs, Volume= 1.135 af, Depth= 0.38"
 Routed to Reach 1R : Pre-Developed

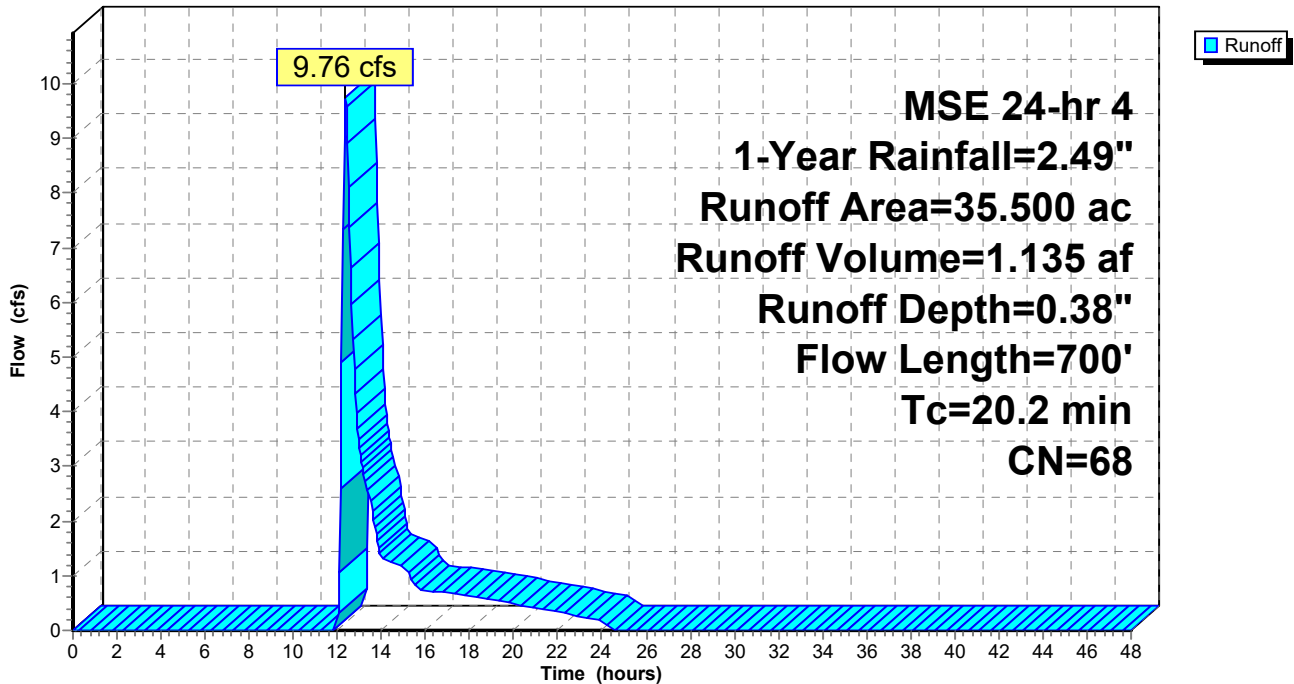
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 35.500	68	Pre-Developed Crop Land
35.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 5S: Pre-Developed - Kilkenny

Hydrograph



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Page 14

Summary for Subcatchment 6S: Pre-Developed - Kilkenny

Runoff = 0.46 cfs @ 12.37 hrs, Volume= 0.053 af, Depth= 0.38"
 Routed to Reach 1R : Pre-Developed

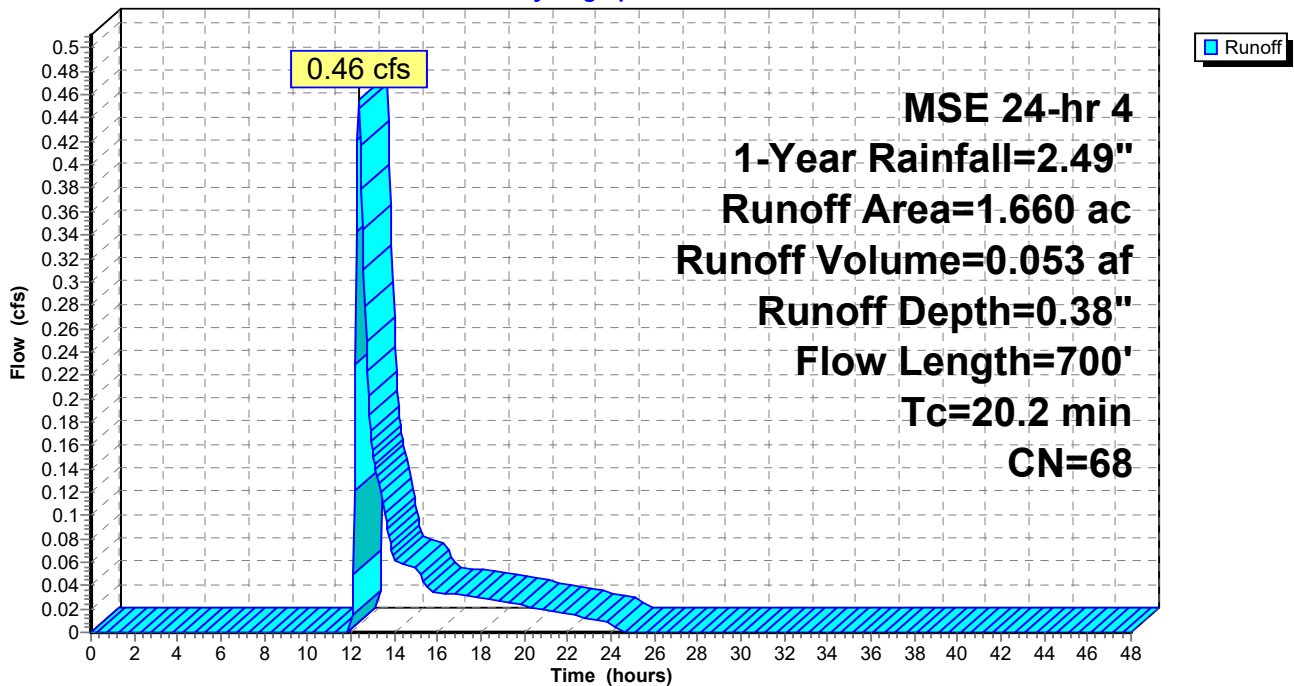
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.660	68	Pre-Developed Crop Land
1.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 6S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 15

Summary for Subcatchment 7S: Pre-Developed - Kilkenny

Runoff = 1.28 cfs @ 12.33 hrs, Volume= 0.119 af, Depth= 0.64"
 Routed to Reach 1R : Pre-Developed

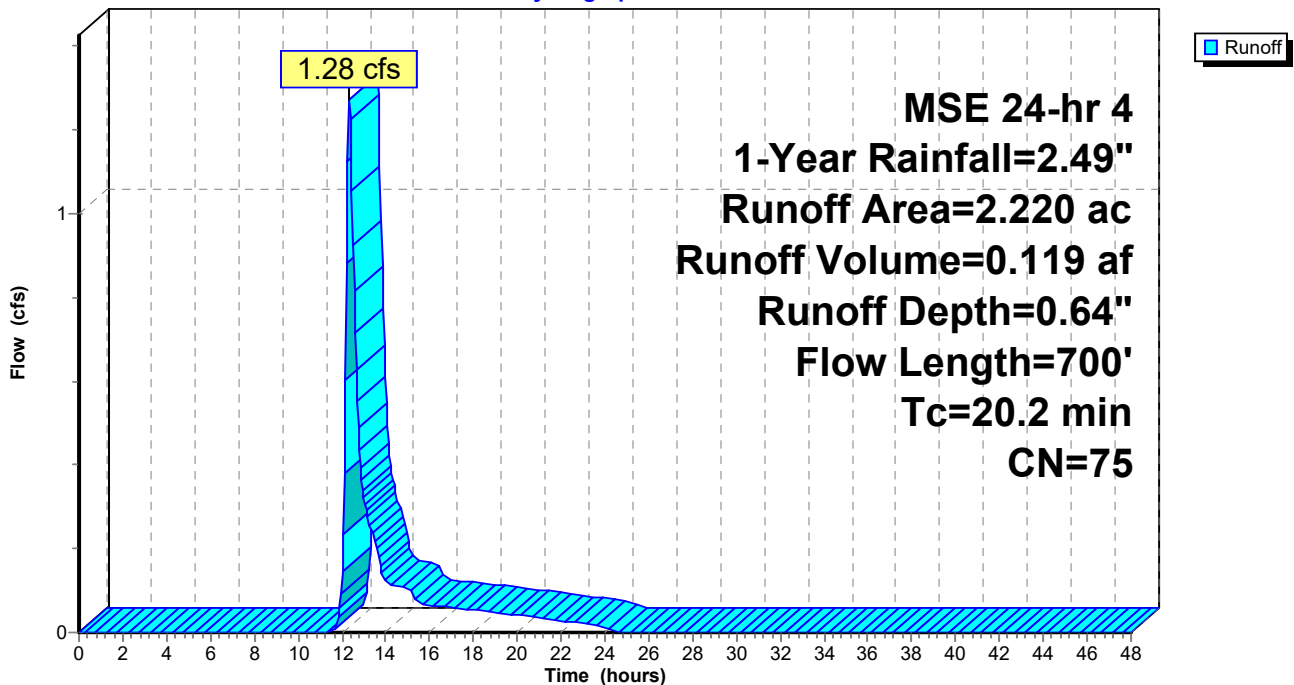
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.670	68	Pre-Developed Crop Land
* 0.300	98	House
* 0.250	98	Impervious
2.220	75	Weighted Average
1.670		75.23% Pervious Area
0.550		24.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 7S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 16

Summary for Subcatchment 8S: Pre-Developed - Kilkenny

Runoff = 0.36 cfs @ 12.37 hrs, Volume= 0.042 af, Depth= 0.38"
 Routed to Reach 1R : Pre-Developed

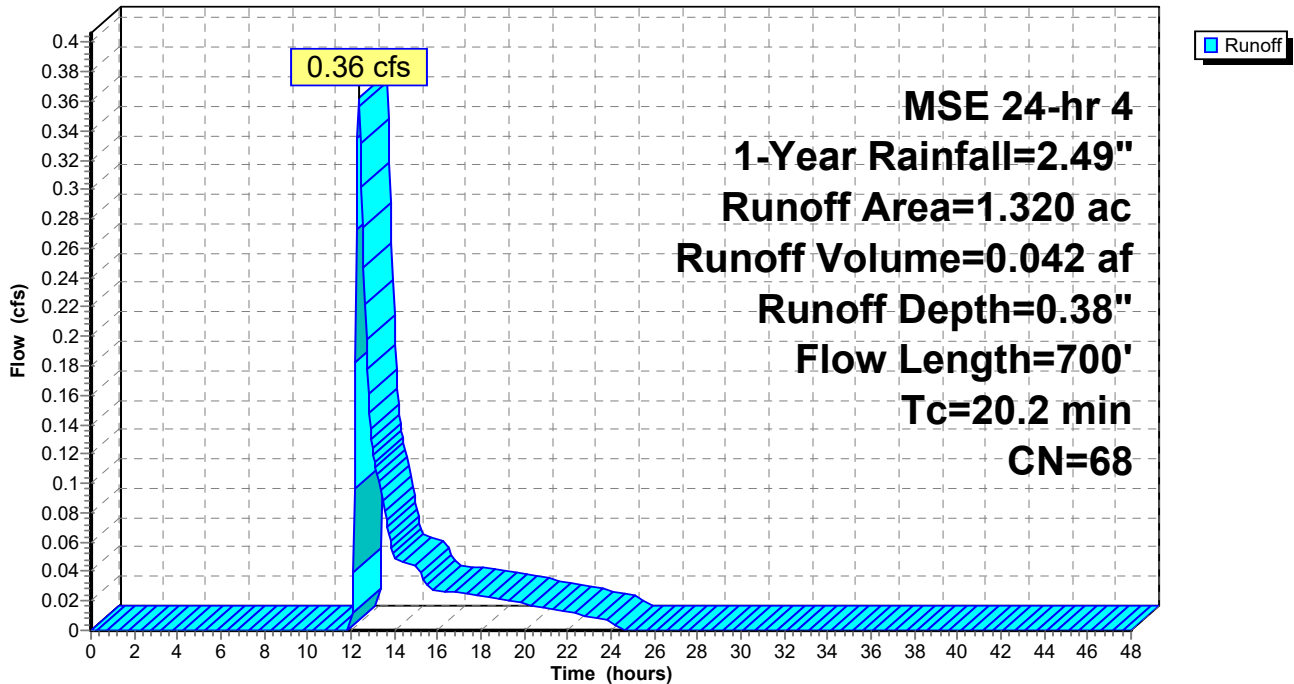
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.320	68	Pre-Developed Crop Land
1.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 8S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 17

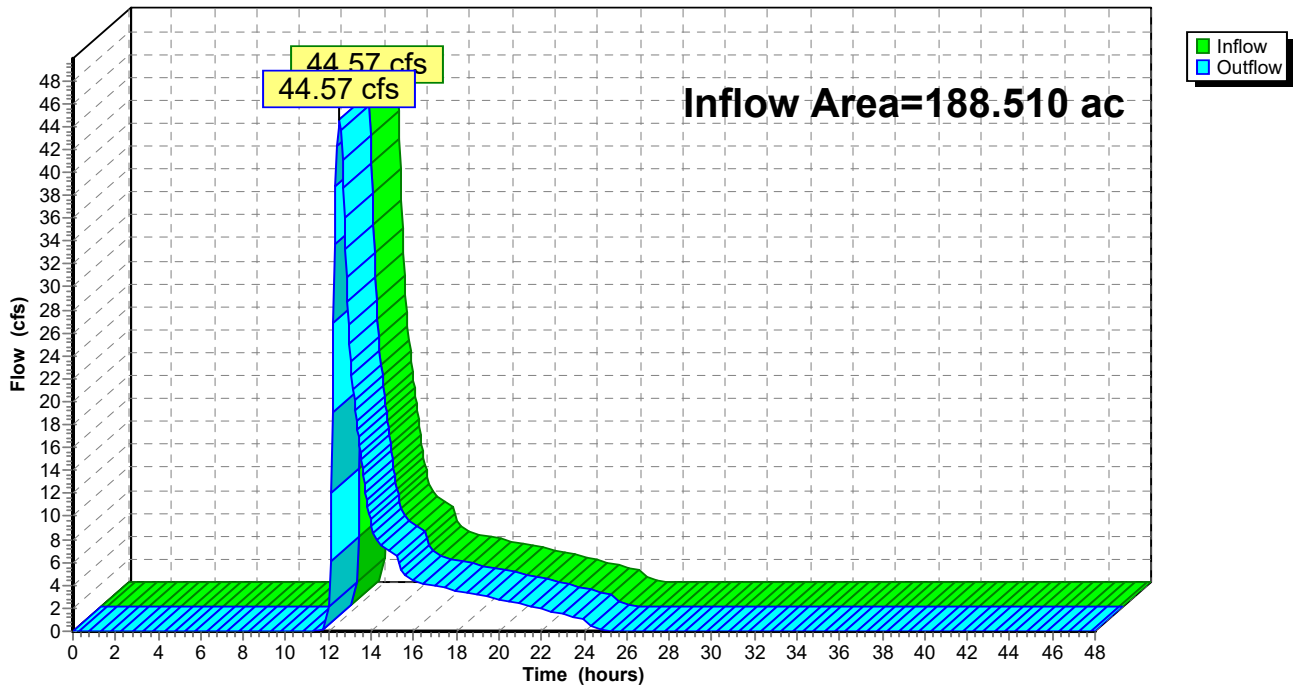
Summary for Reach 1R: Pre-Developed

Inflow Area = 188.510 ac, 5.76% Impervious, Inflow Depth = 0.43" for 1-Year event
Inflow = 44.57 cfs @ 12.50 hrs, Volume= 6.746 af
Outflow = 44.57 cfs @ 12.50 hrs, Volume= 6.746 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 1R: Pre-Developed

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 18

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1e OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=0.31" Tc=20.0 min CN=61 Runoff=0.45 cfs 0.066 af
Subcatchment 1S: Pre-Developed CTH Q	Runoff Area=1.340 ac 0.00% Impervious Runoff Depth=0.55" Tc=6.0 min CN=68 Runoff=1.01 cfs 0.061 af
Subcatchment 2e OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=0.40" Flow Length=500' Tc=4.6 min CN=64 Runoff=3.16 cfs 0.213 af
Subcatchment 2S: Pre-Developed South	Runoff Area=17.990 ac 0.00% Impervious Runoff Depth=0.55" Flow Length=1,315' Tc=21.2 min CN=68 Runoff=7.69 cfs 0.818 af
Subcatchment 3e OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=0.31" Tc=20.0 min CN=61 Runoff=0.90 cfs 0.134 af
Subcatchment 3S: Pre-Developed -	Runoff Area=99.620 ac 9.39% Impervious Runoff Depth=0.67" Flow Length=3,390' Tc=36.9 min CN=71 Runoff=41.45 cfs 5.563 af
Subcatchment 4e OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.31" Tc=10.0 min CN=61 Runoff=0.12 cfs 0.014 af
Subcatchment 4S: Pre-Developed -	Runoff Area=12.170 ac 0.00% Impervious Runoff Depth=0.55" Flow Length=1,000' Tc=14.5 min CN=68 Runoff=6.32 cfs 0.554 af
Subcatchment 5e OS: Offsite - Funeral	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=0.67" Flow Length=250' Slope=0.0200 '/' Tc=21.4 min CN=71 Runoff=1.08 cfs 0.107 af
Subcatchment 5S: Pre-Developed -	Runoff Area=35.500 ac 0.00% Impervious Runoff Depth=0.55" Flow Length=700' Tc=20.2 min CN=68 Runoff=15.54 cfs 1.615 af
Subcatchment 6S: Pre-Developed - Kilkenny	Runoff Area=1.660 ac 0.00% Impervious Runoff Depth=0.55" Flow Length=700' Tc=20.2 min CN=68 Runoff=0.73 cfs 0.076 af
Subcatchment 7S: Pre-Developed -	Runoff Area=2.220 ac 24.77% Impervious Runoff Depth=0.86" Flow Length=700' Tc=20.2 min CN=75 Runoff=1.77 cfs 0.159 af
Subcatchment 8S: Pre-Developed - Kilkenny	Runoff Area=1.320 ac 0.00% Impervious Runoff Depth=0.55" Flow Length=700' Tc=20.2 min CN=68 Runoff=0.58 cfs 0.060 af
Reach 1R: Pre-Developed	Inflow=67.56 cfs 9.440 af Outflow=67.56 cfs 9.440 af

Total Runoff Area = 188.510 ac Runoff Volume = 9.440 af Average Runoff Depth = 0.60"
94.24% Pervious = 177.660 ac 5.76% Impervious = 10.850 ac

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 19

Summary for Subcatchment 1e OS: Offsite- School

Runoff = 0.45 cfs @ 12.41 hrs, Volume= 0.066 af, Depth= 0.31"
Routed to Reach 1R : Pre-Developed

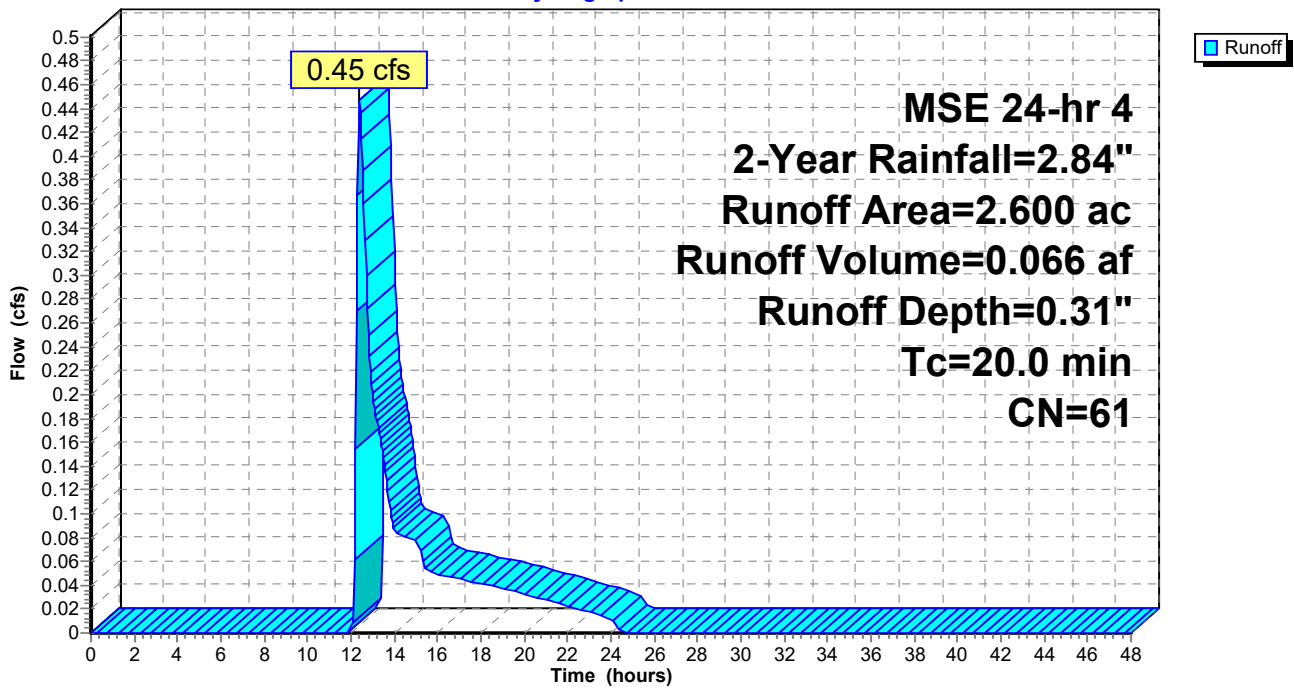
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

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

Subcatchment 1e OS: Offsite- School

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 20

Summary for Subcatchment 1S: Pre-Developed CTH Q

Runoff = 1.01 cfs @ 12.15 hrs, Volume= 0.061 af, Depth= 0.55"
Routed to Reach 1R : Pre-Developed

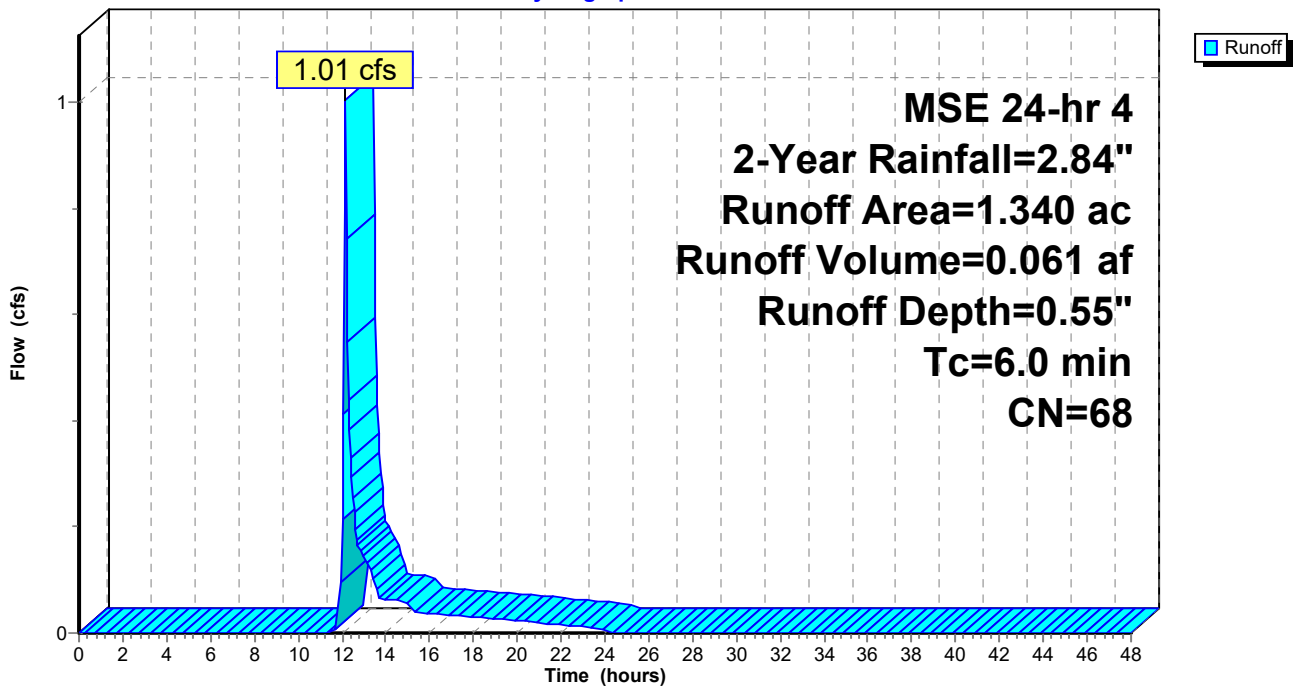
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.340	68	Pre-Developed Crop Land
1.340		100.00% Pervious Area

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

Subcatchment 1S: Pre-Developed CTH Q

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 21

Summary for Subcatchment 2e OS: Offsite - North Residential

Runoff = 3.16 cfs @ 12.14 hrs, Volume= 0.213 af, Depth= 0.40"
 Routed to Reach 1R : Pre-Developed

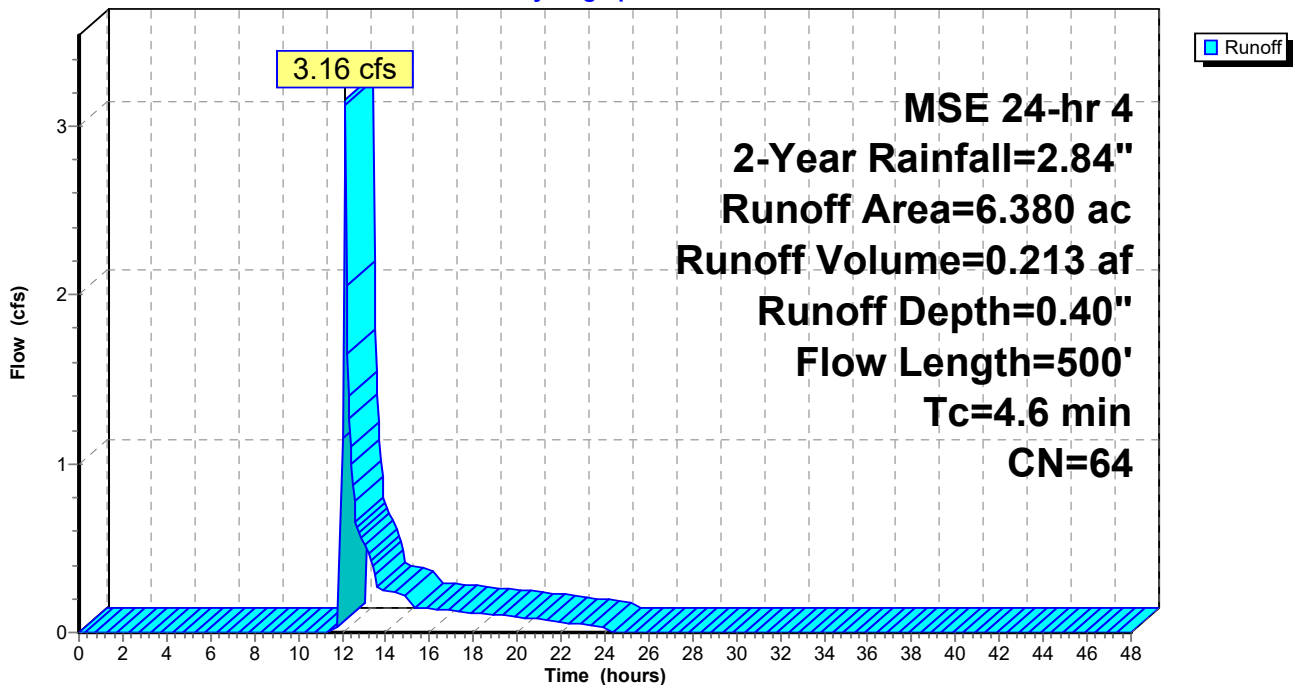
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2e OS: Offsite - North Residential

Hydrograph



Kilkenny Phase Master

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 22

Summary for Subcatchment 2S: Pre-Developed South

Runoff = 7.69 cfs @ 12.36 hrs, Volume= 0.818 af, Depth= 0.55"
 Routed to Reach 1R : Pre-Developed

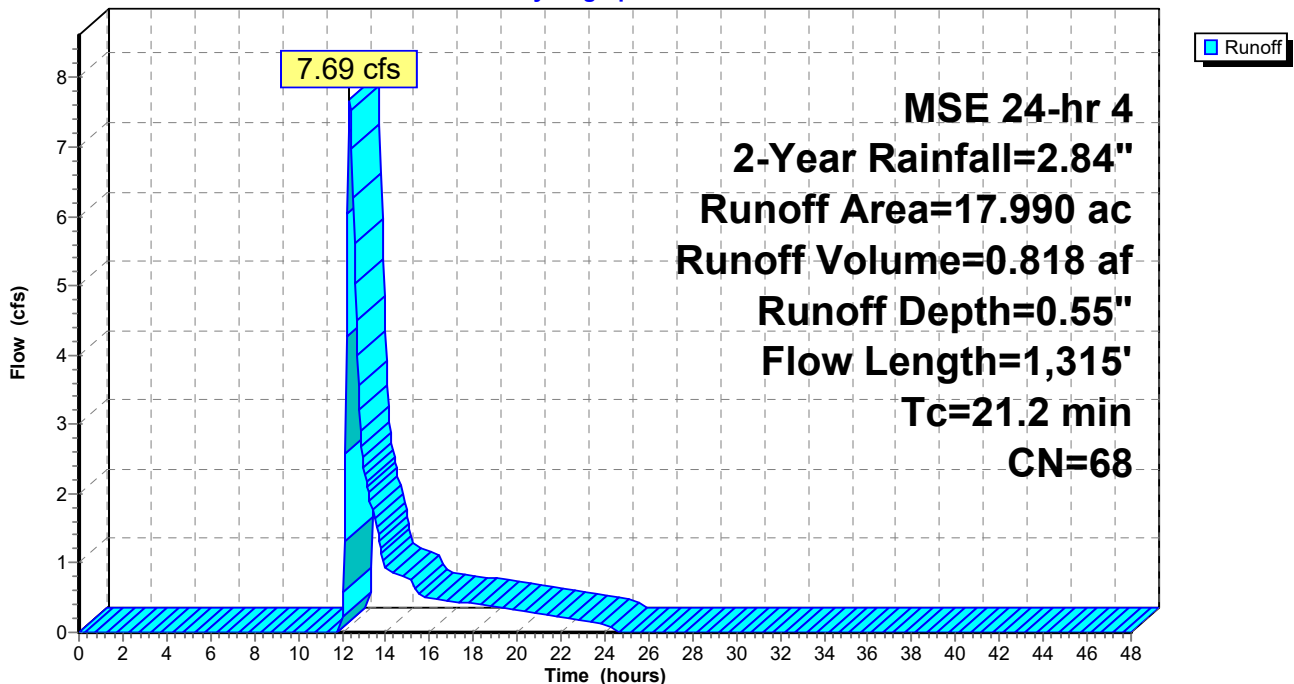
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 17.990	68	HSG B Agricultural
17.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	300	0.0700	0.69		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
14.0	1,015	0.0180	1.21		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
21.2	1,315	Total			

Subcatchment 2S: Pre-Developed South

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 23

Summary for Subcatchment 3e OS: Offsite- School

Runoff = 0.90 cfs @ 12.41 hrs, Volume= 0.134 af, Depth= 0.31"
Routed to Reach 1R : Pre-Developed

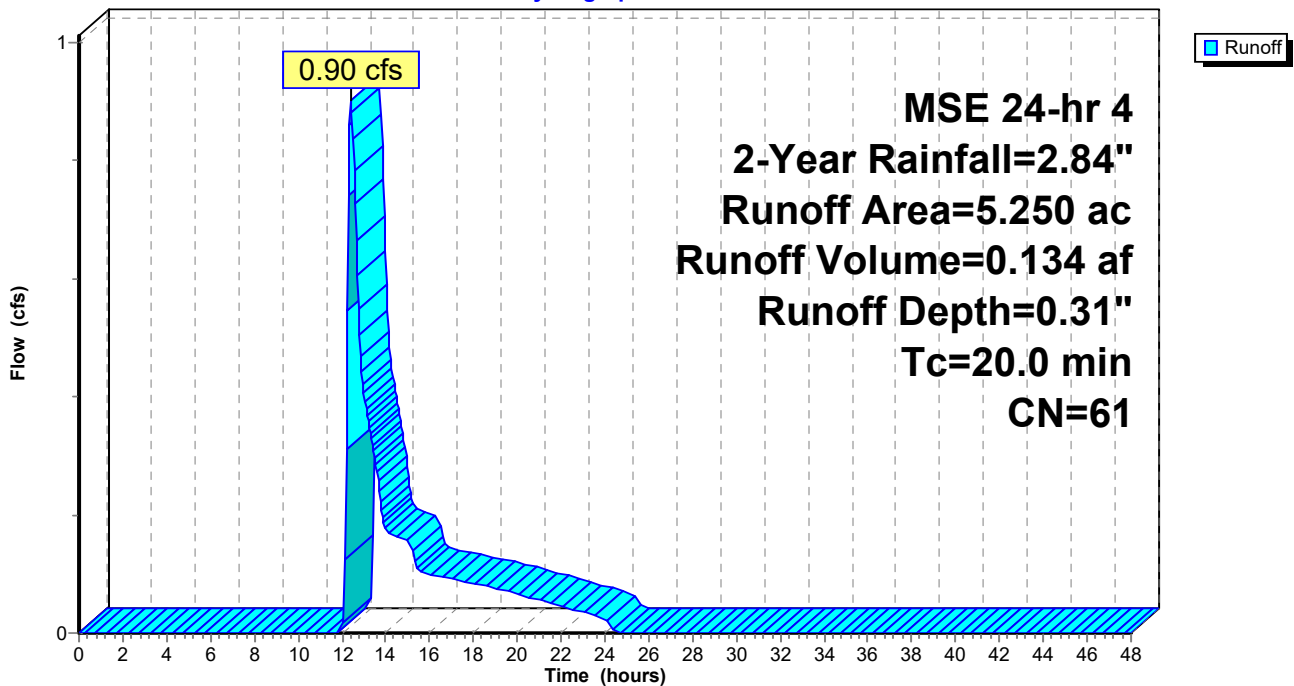
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3e OS: Offsite- School

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 24

Summary for Subcatchment 3S: Pre-Developed - Kilkenny

Runoff = 41.45 cfs @ 12.58 hrs, Volume= 5.563 af, Depth= 0.67"
 Routed to Reach 1R : Pre-Developed

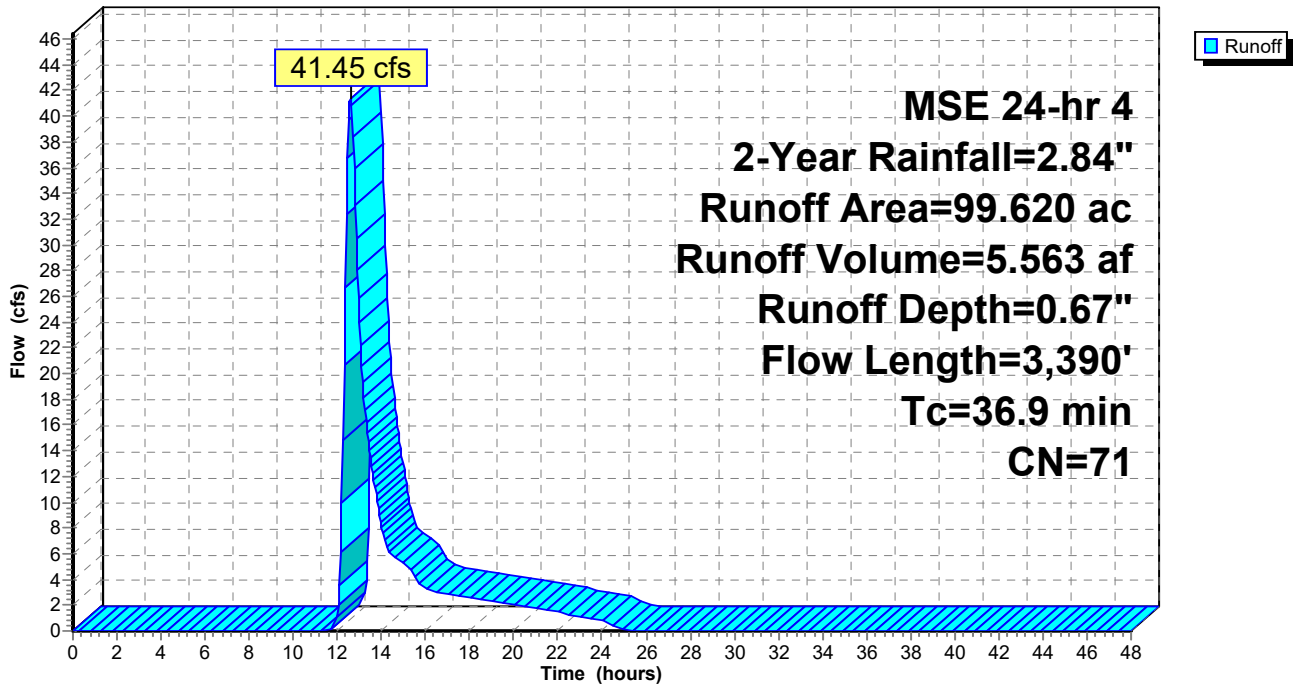
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 90.270	68	Pre-Developed Crop Land
* 9.350	100	Wetland
99.620	71	Weighted Average
90.270		90.61% Pervious Area
9.350		9.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	300	0.1000	0.80		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
30.6	3,090	0.0350	1.68		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
36.9	3,390	Total			

Subcatchment 3S: Pre-Developed - Kilkenny

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 25

Summary for Subcatchment 4e OS: Offsite - Church

Runoff = 0.12 cfs @ 12.23 hrs, Volume= 0.014 af, Depth= 0.31"
Routed to Reach 1R : Pre-Developed

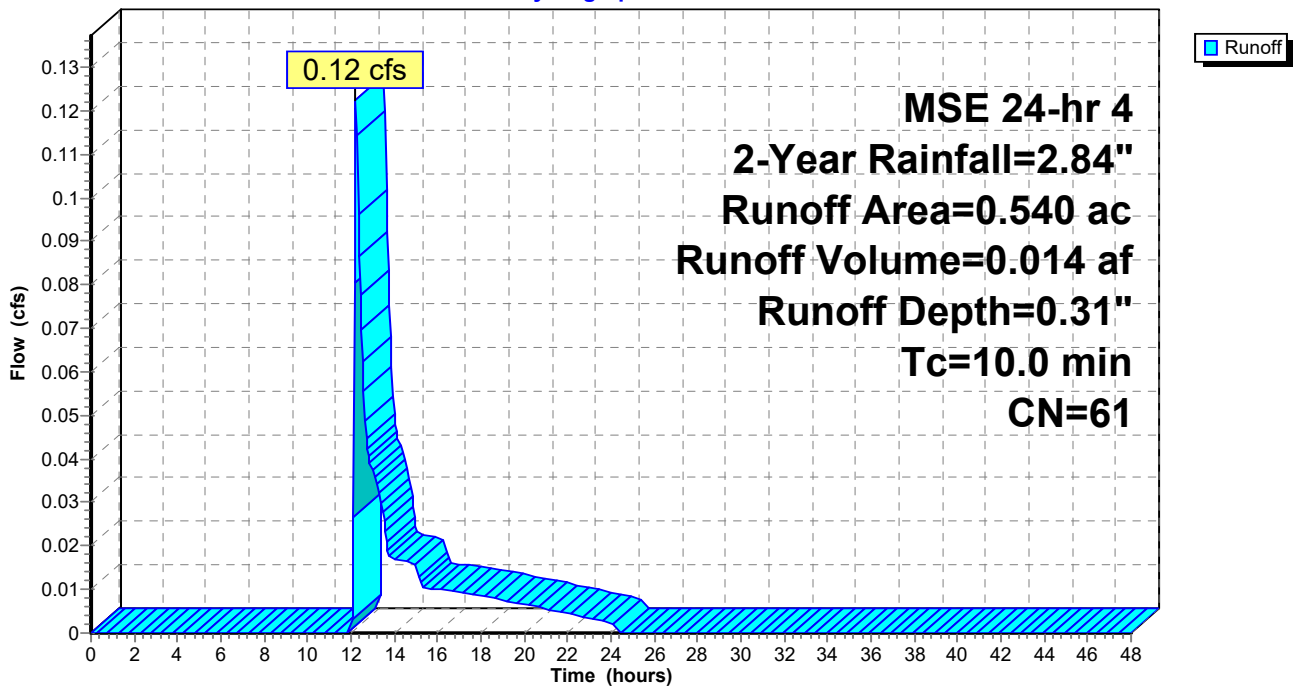
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4e OS: Offsite - Church

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 26

Summary for Subcatchment 4S: Pre-Developed - Kilkenny

Runoff = 6.32 cfs @ 12.26 hrs, Volume= 0.554 af, Depth= 0.55"
 Routed to Reach 1R : Pre-Developed

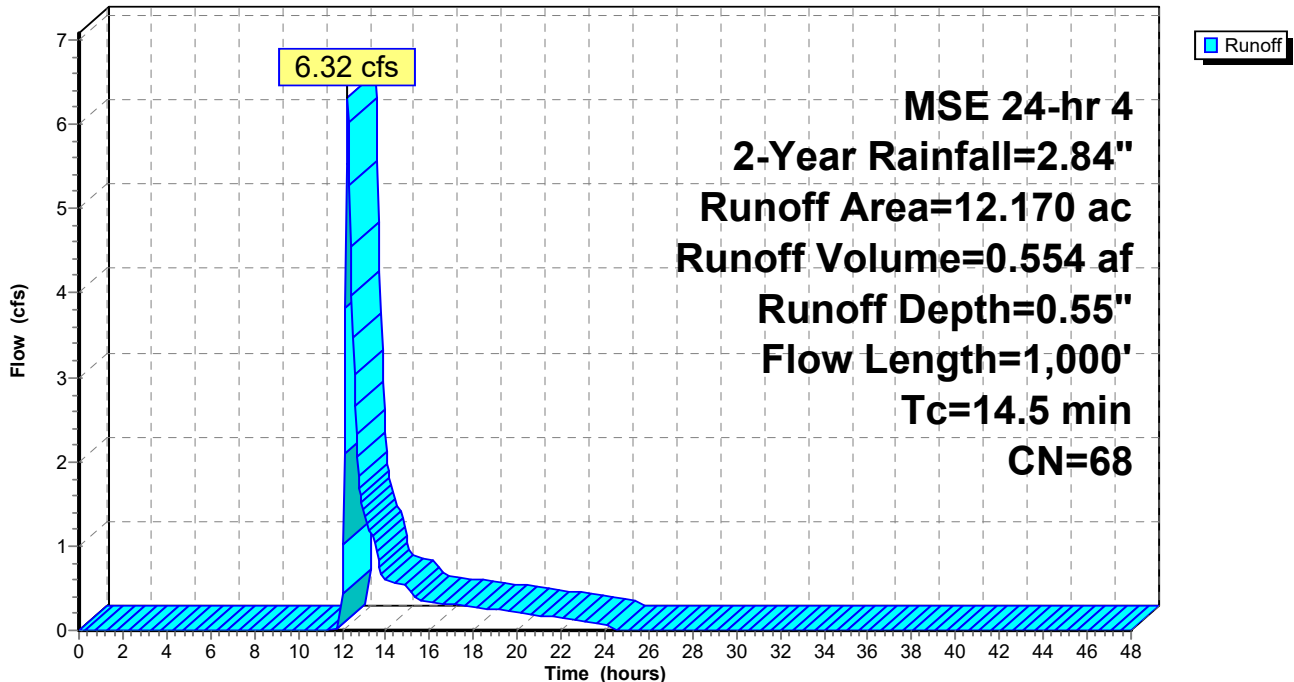
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 12.170	68	Pre-Developed Crop Land
12.170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	300	0.1070	0.82		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
8.4	700	0.0240	1.39		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
14.5	1,000	Total			

Subcatchment 4S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 27

Summary for Subcatchment 5e OS: Offsite - Funeral

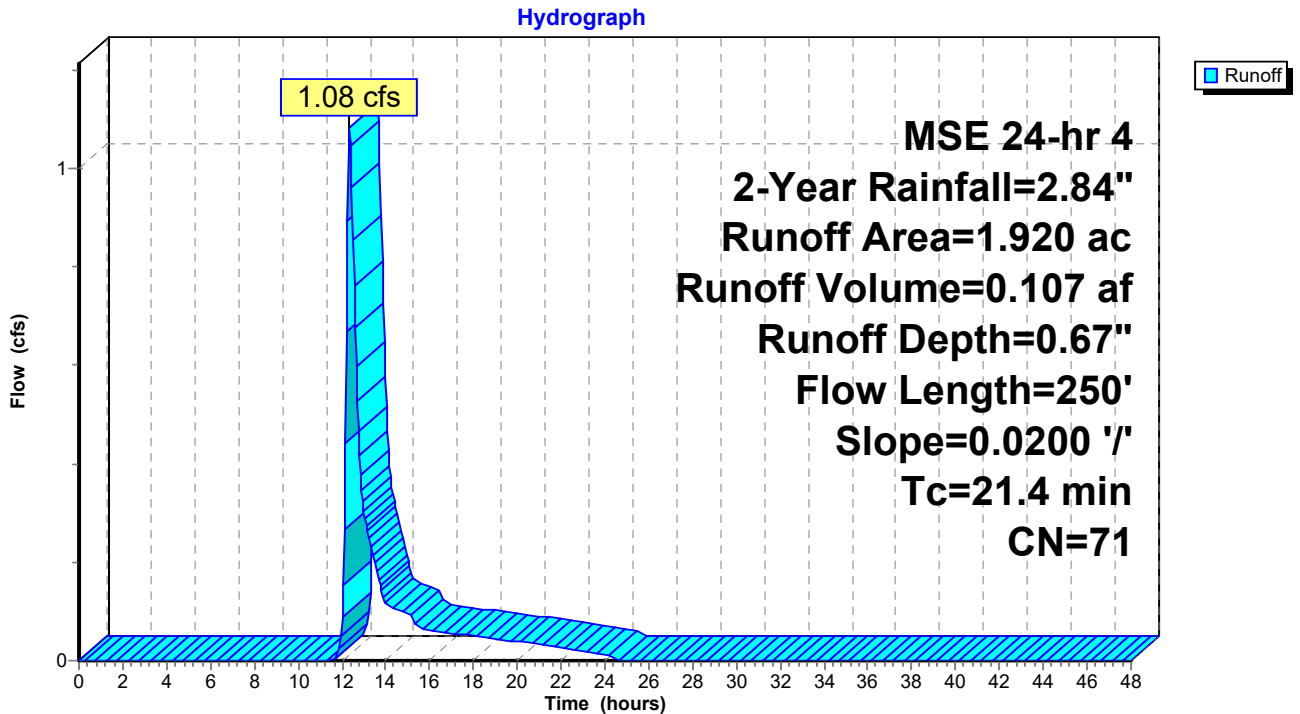
Runoff = 1.08 cfs @ 12.35 hrs, Volume= 0.107 af, Depth= 0.67"
 Routed to Reach 1R : Pre-Developed

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5e OS: Offsite - Funeral



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Page 28

Summary for Subcatchment 5S: Pre-Developed - Kilkenny

Runoff = 15.54 cfs @ 12.35 hrs, Volume= 1.615 af, Depth= 0.55"
 Routed to Reach 1R : Pre-Developed

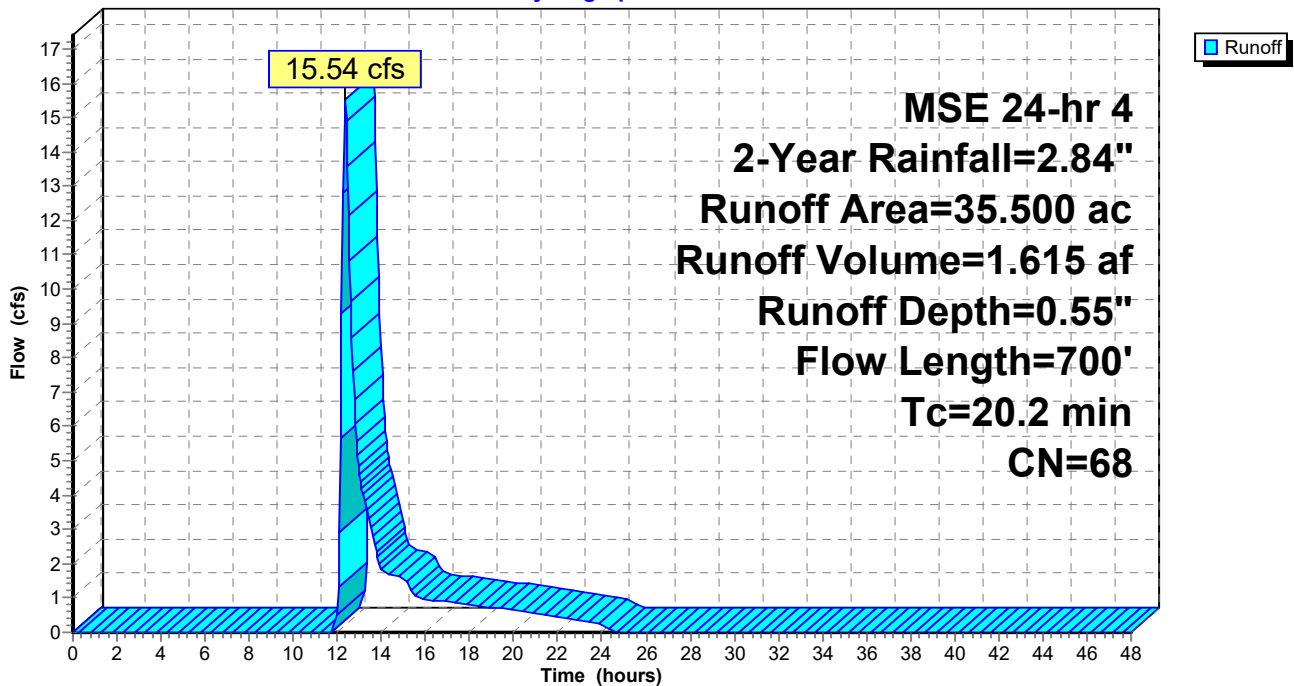
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 35.500	68	Pre-Developed Crop Land
35.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 5S: Pre-Developed - Kilkenny

Hydrograph



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Page 29

Summary for Subcatchment 6S: Pre-Developed - Kilkenny

Runoff = 0.73 cfs @ 12.35 hrs, Volume= 0.076 af, Depth= 0.55"
 Routed to Reach 1R : Pre-Developed

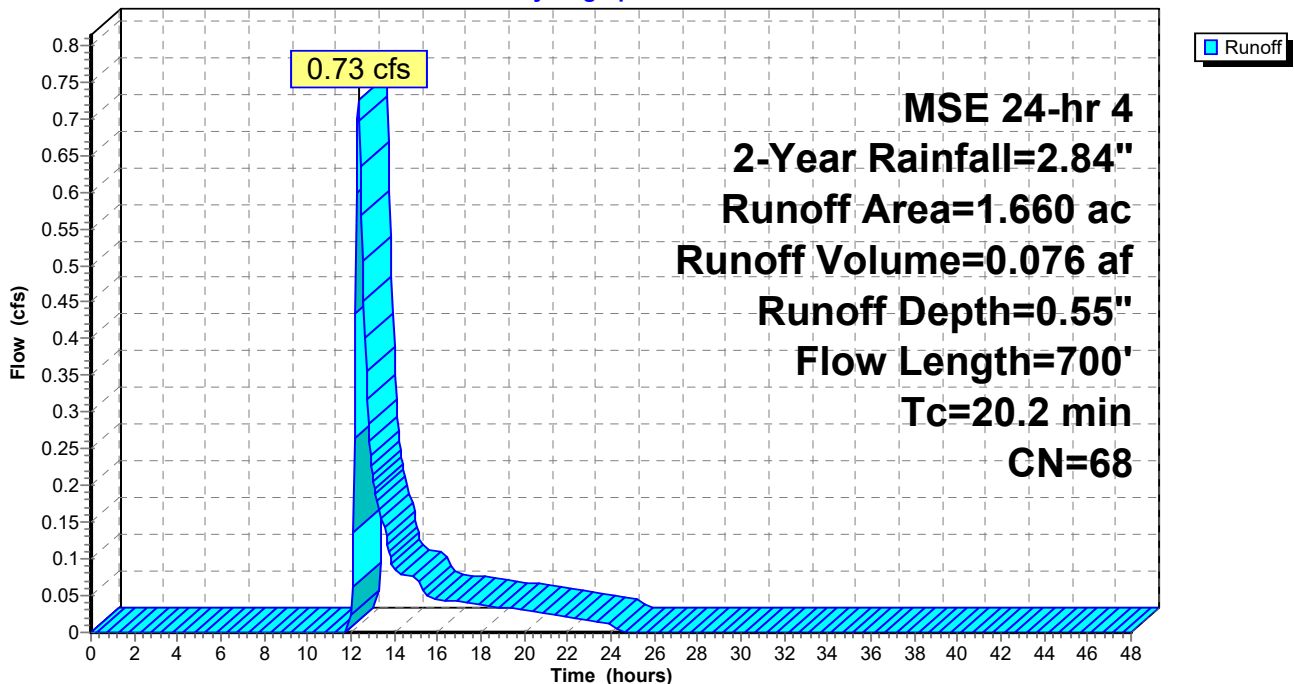
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.660	68	Pre-Developed Crop Land
1.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 6S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 30

Summary for Subcatchment 7S: Pre-Developed - Kilkenny

Runoff = 1.77 cfs @ 12.32 hrs, Volume= 0.159 af, Depth= 0.86"
 Routed to Reach 1R : Pre-Developed

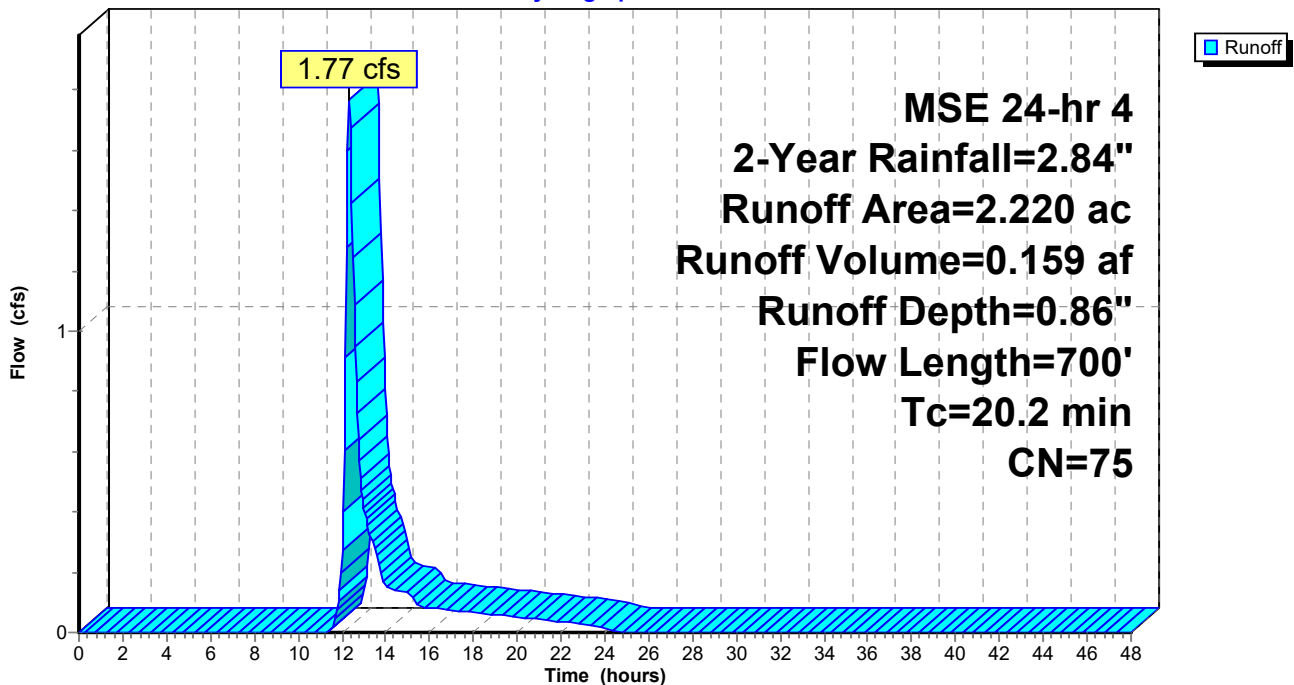
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.670	68	Pre-Developed Crop Land
* 0.300	98	House
* 0.250	98	Impervious
2.220	75	Weighted Average
1.670		75.23% Pervious Area
0.550		24.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 7S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 31

Summary for Subcatchment 8S: Pre-Developed - Kilkenny

Runoff = 0.58 cfs @ 12.35 hrs, Volume= 0.060 af, Depth= 0.55"
 Routed to Reach 1R : Pre-Developed

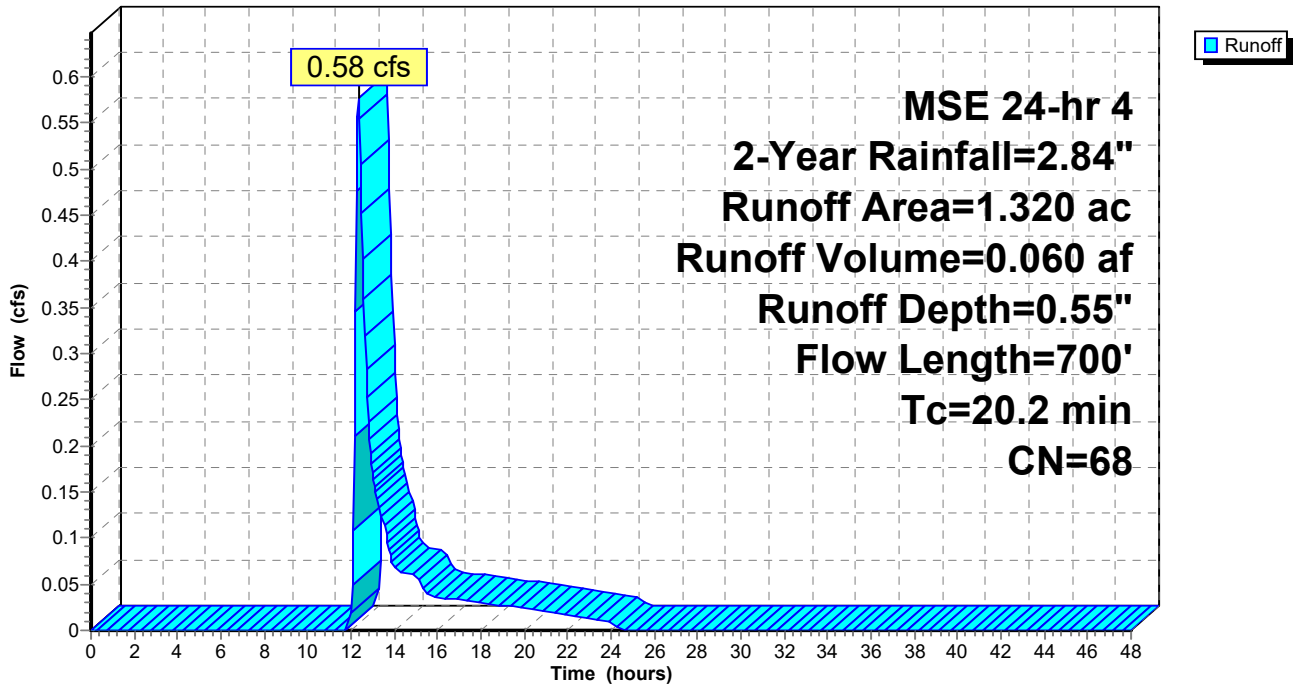
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.320	68	Pre-Developed Crop Land
1.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 8S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 32

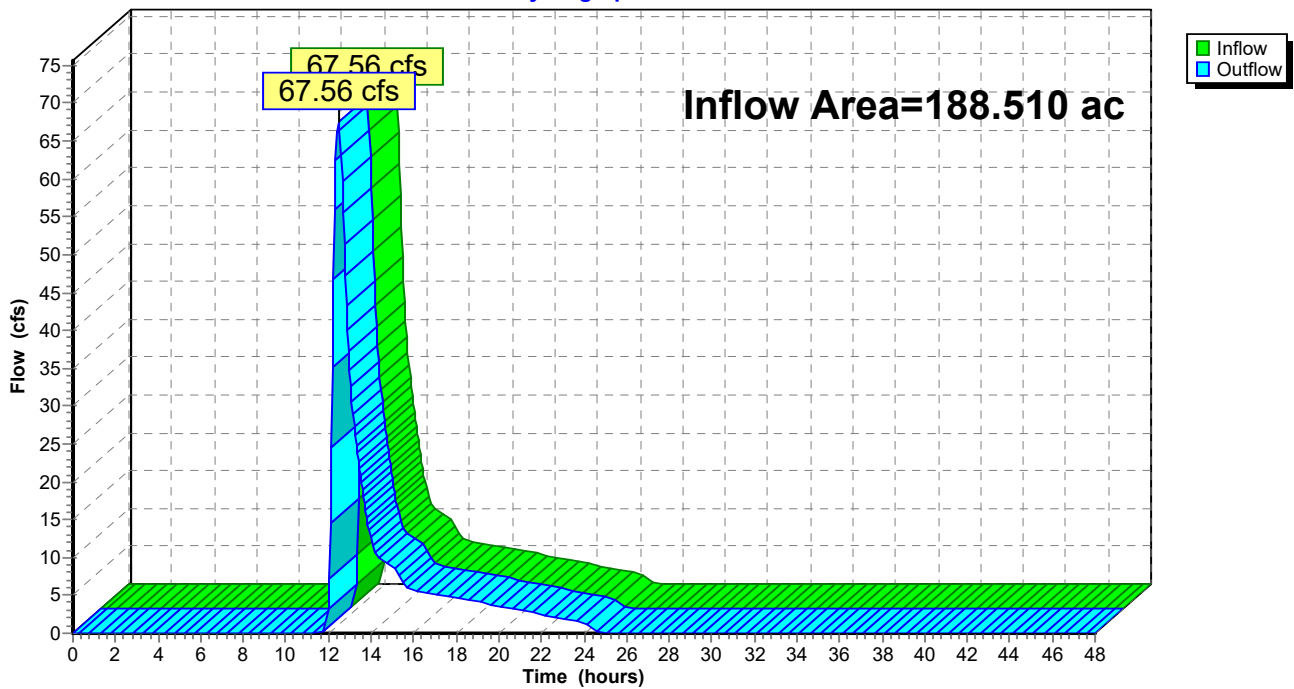
Summary for Reach 1R: Pre-Developed

Inflow Area = 188.510 ac, 5.76% Impervious, Inflow Depth = 0.60" for 2-Year event
Inflow = 67.56 cfs @ 12.47 hrs, Volume= 9.440 af
Outflow = 67.56 cfs @ 12.47 hrs, Volume= 9.440 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 1R: Pre-Developed

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 33

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1e OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=0.86" Tc=20.0 min CN=61 Runoff=1.87 cfs 0.186 af
Subcatchment 1S: Pre-Developed CTH Q	Runoff Area=1.340 ac 0.00% Impervious Runoff Depth=1.26" Tc=6.0 min CN=68 Runoff=2.59 cfs 0.141 af
Subcatchment 2e OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=1.02" Flow Length=500' Tc=4.6 min CN=64 Runoff=10.02 cfs 0.544 af
Subcatchment 2S: Pre-Developed South	Runoff Area=17.990 ac 0.00% Impervious Runoff Depth=1.26" Flow Length=1,315' Tc=21.2 min CN=68 Runoff=20.64 cfs 1.892 af
Subcatchment 3e OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=0.86" Tc=20.0 min CN=61 Runoff=3.77 cfs 0.376 af
Subcatchment 3S: Pre-Developed -	Runoff Area=99.620 ac 9.39% Impervious Runoff Depth=1.46" Flow Length=3,390' Tc=36.9 min CN=71 Runoff=99.35 cfs 12.088 af
Subcatchment 4e OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.86" Tc=10.0 min CN=61 Runoff=0.54 cfs 0.039 af
Subcatchment 4S: Pre-Developed -	Runoff Area=12.170 ac 0.00% Impervious Runoff Depth=1.26" Flow Length=1,000' Tc=14.5 min CN=68 Runoff=16.84 cfs 1.280 af
Subcatchment 5e OS: Offsite - Funeral	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=1.46" Flow Length=250' Slope=0.0200 '/ Tc=21.4 min CN=71 Runoff=2.58 cfs 0.233 af
Subcatchment 5S: Pre-Developed -	Runoff Area=35.500 ac 0.00% Impervious Runoff Depth=1.26" Flow Length=700' Tc=20.2 min CN=68 Runoff=41.81 cfs 3.734 af
Subcatchment 6S: Pre-Developed - Kilkenny	Runoff Area=1.660 ac 0.00% Impervious Runoff Depth=1.26" Flow Length=700' Tc=20.2 min CN=68 Runoff=1.96 cfs 0.175 af
Subcatchment 7S: Pre-Developed -	Runoff Area=2.220 ac 24.77% Impervious Runoff Depth=1.73" Flow Length=700' Tc=20.2 min CN=75 Runoff=3.76 cfs 0.321 af
Subcatchment 8S: Pre-Developed - Kilkenny	Runoff Area=1.320 ac 0.00% Impervious Runoff Depth=1.26" Flow Length=700' Tc=20.2 min CN=68 Runoff=1.55 cfs 0.139 af
Reach 1R: Pre-Developed	Inflow=171.38 cfs 21.147 af Outflow=171.38 cfs 21.147 af

Total Runoff Area = 188.510 ac Runoff Volume = 21.147 af Average Runoff Depth = 1.35"
94.24% Pervious = 177.660 ac 5.76% Impervious = 10.850 ac

Kilkenny Phase Master

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 34

Summary for Subcatchment 1e OS: Offsite- School

Runoff = 1.87 cfs @ 12.34 hrs, Volume= 0.186 af, Depth= 0.86"
Routed to Reach 1R : Pre-Developed

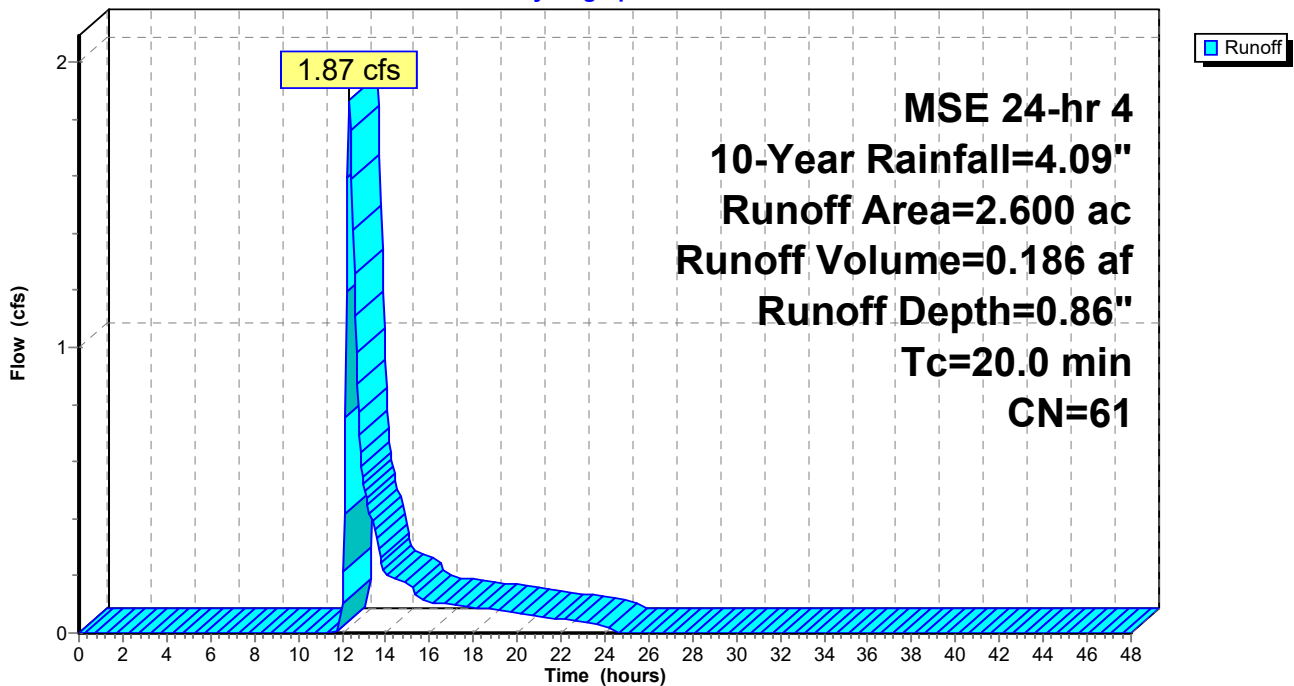
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

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

Subcatchment 1e OS: Offsite- School

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 35

Summary for Subcatchment 1S: Pre-Developed CTH Q

Runoff = 2.59 cfs @ 12.14 hrs, Volume= 0.141 af, Depth= 1.26"
Routed to Reach 1R : Pre-Developed

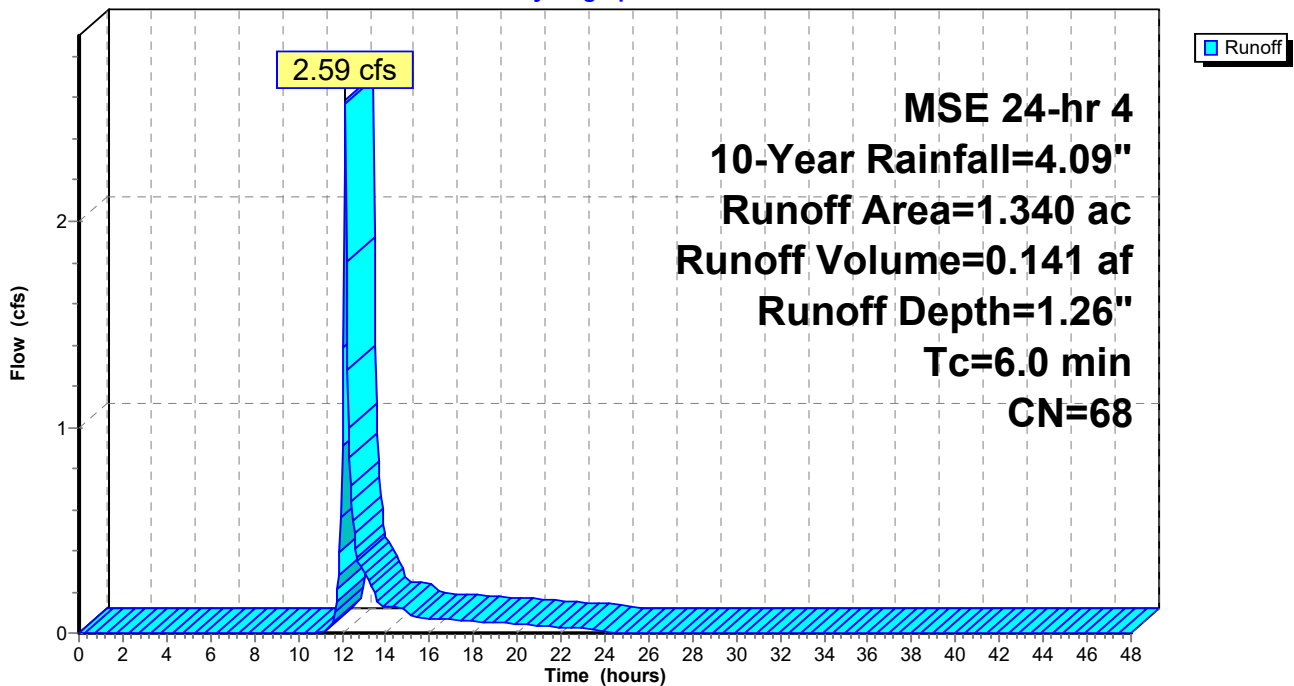
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.340	68	Pre-Developed Crop Land
1.340		100.00% Pervious Area

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

Subcatchment 1S: Pre-Developed CTH Q

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 36

Summary for Subcatchment 2e OS: Offsite - North Residential

Runoff = 10.02 cfs @ 12.12 hrs, Volume= 0.544 af, Depth= 1.02"
 Routed to Reach 1R : Pre-Developed

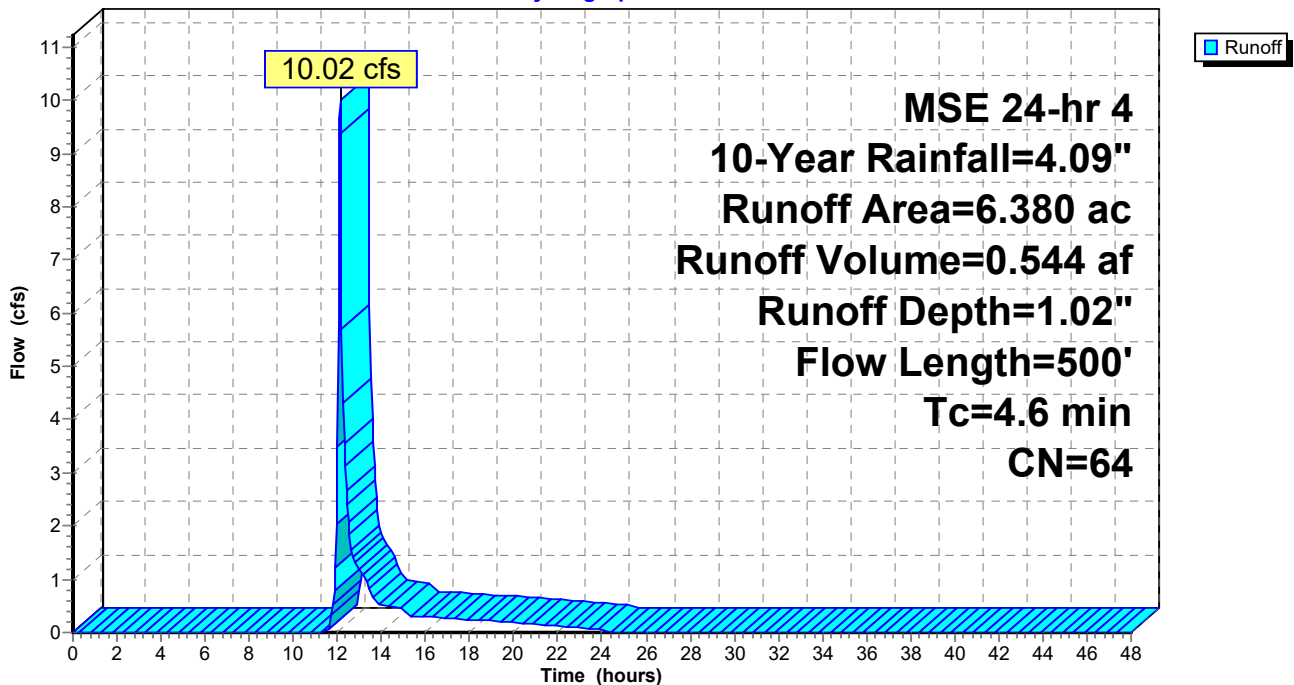
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2e OS: Offsite - North Residential

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 37

Summary for Subcatchment 2S: Pre-Developed South

Runoff = 20.64 cfs @ 12.33 hrs, Volume= 1.892 af, Depth= 1.26"
 Routed to Reach 1R : Pre-Developed

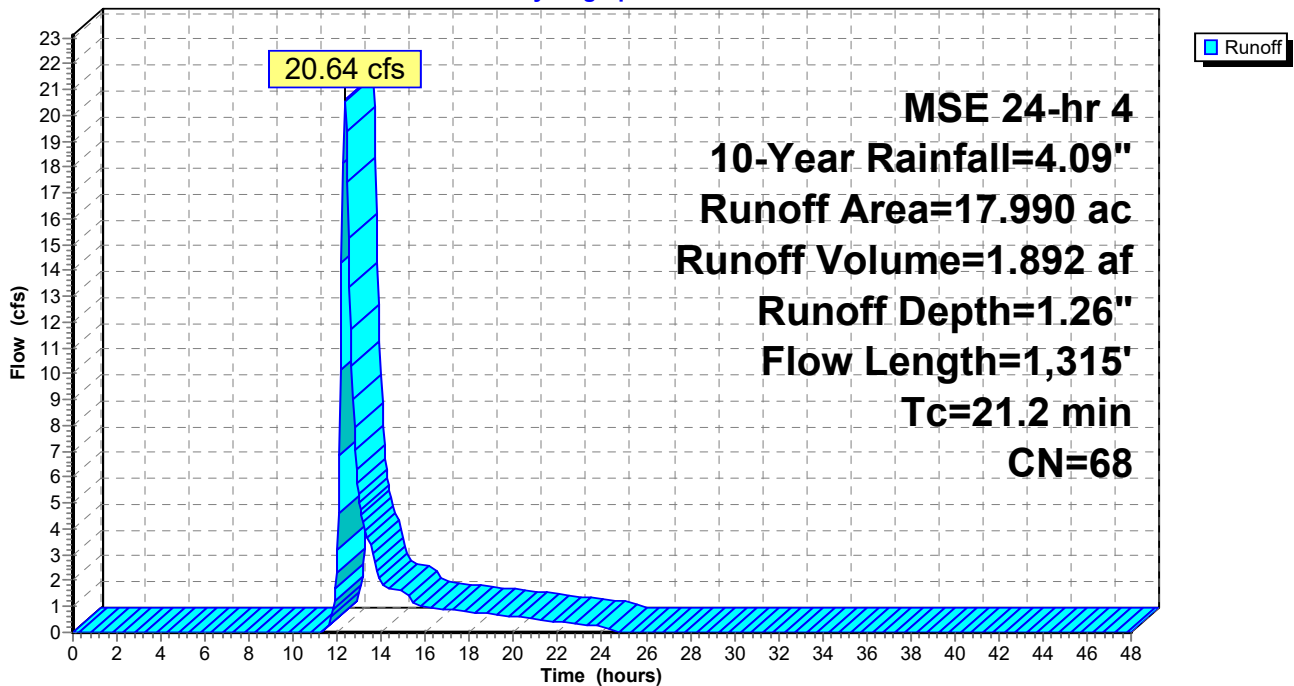
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 17.990	68	HSG B Agricultural
17.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	300	0.0700	0.69		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
14.0	1,015	0.0180	1.21		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
21.2	1,315	Total			

Subcatchment 2S: Pre-Developed South

Hydrograph



Kilkenny Phase Master

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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 38

Summary for Subcatchment 3e OS: Offsite- School

Runoff = 3.77 cfs @ 12.34 hrs, Volume= 0.376 af, Depth= 0.86"
Routed to Reach 1R : Pre-Developed

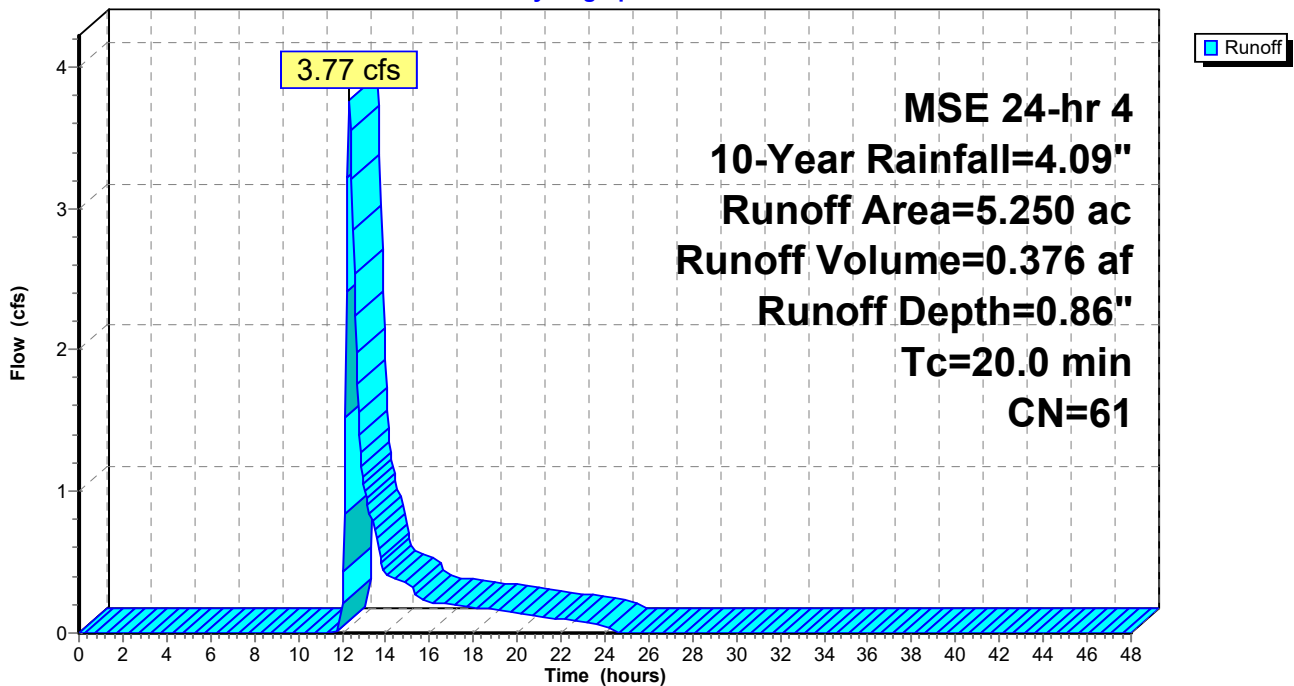
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3e OS: Offsite- School

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 39

Summary for Subcatchment 3S: Pre-Developed - Kilkenny

Runoff = 99.35 cfs @ 12.55 hrs, Volume= 12.088 af, Depth= 1.46"
 Routed to Reach 1R : Pre-Developed

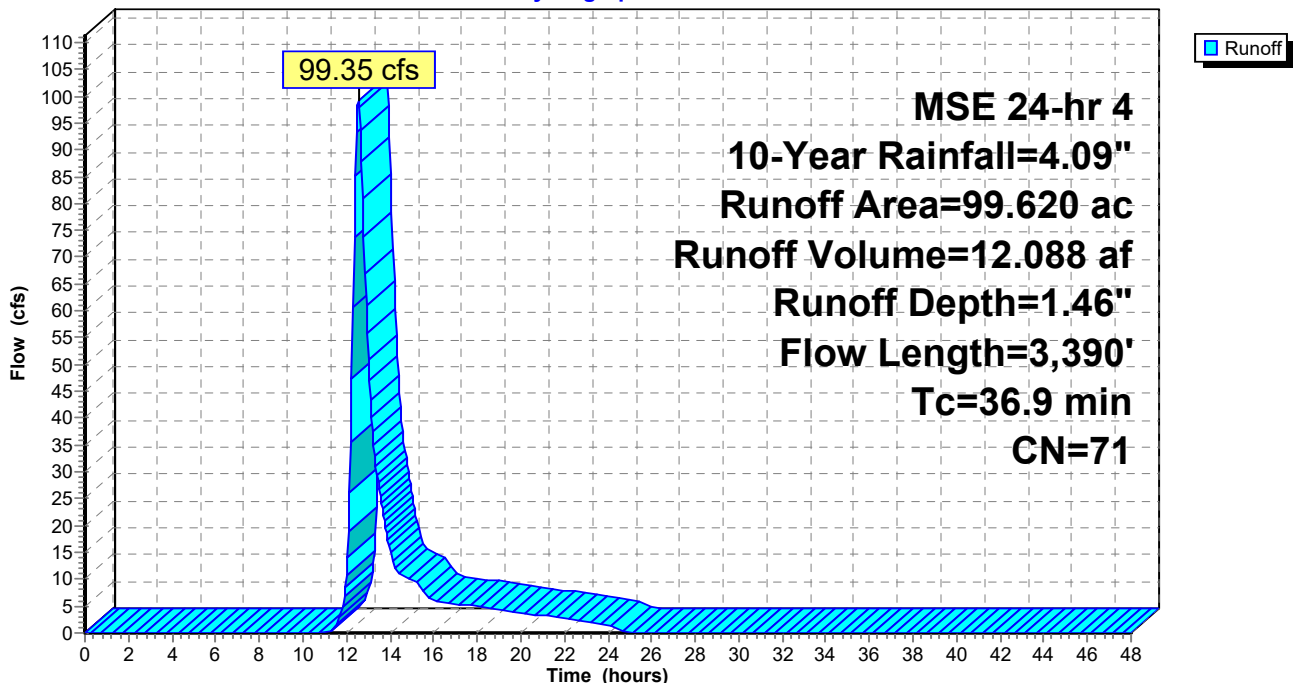
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 90.270	68	Pre-Developed Crop Land
* 9.350	100	Wetland
99.620	71	Weighted Average
90.270		90.61% Pervious Area
9.350		9.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	300	0.1000	0.80		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
30.6	3,090	0.0350	1.68		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
36.9	3,390	Total			

Subcatchment 3S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 40

Summary for Subcatchment 4e OS: Offsite - Church

Runoff = 0.54 cfs @ 12.20 hrs, Volume= 0.039 af, Depth= 0.86"
Routed to Reach 1R : Pre-Developed

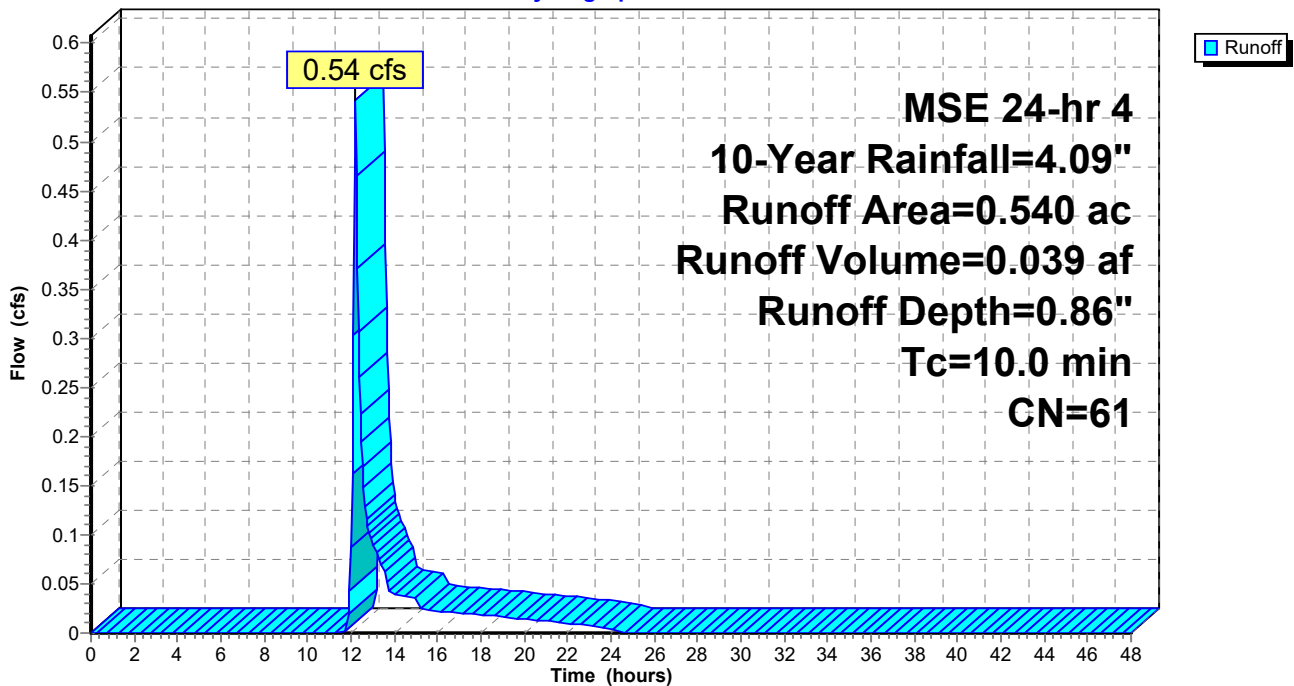
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4e OS: Offsite - Church

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 41

Summary for Subcatchment 4S: Pre-Developed - Kilkenny

Runoff = 16.84 cfs @ 12.25 hrs, Volume= 1.280 af, Depth= 1.26"
 Routed to Reach 1R : Pre-Developed

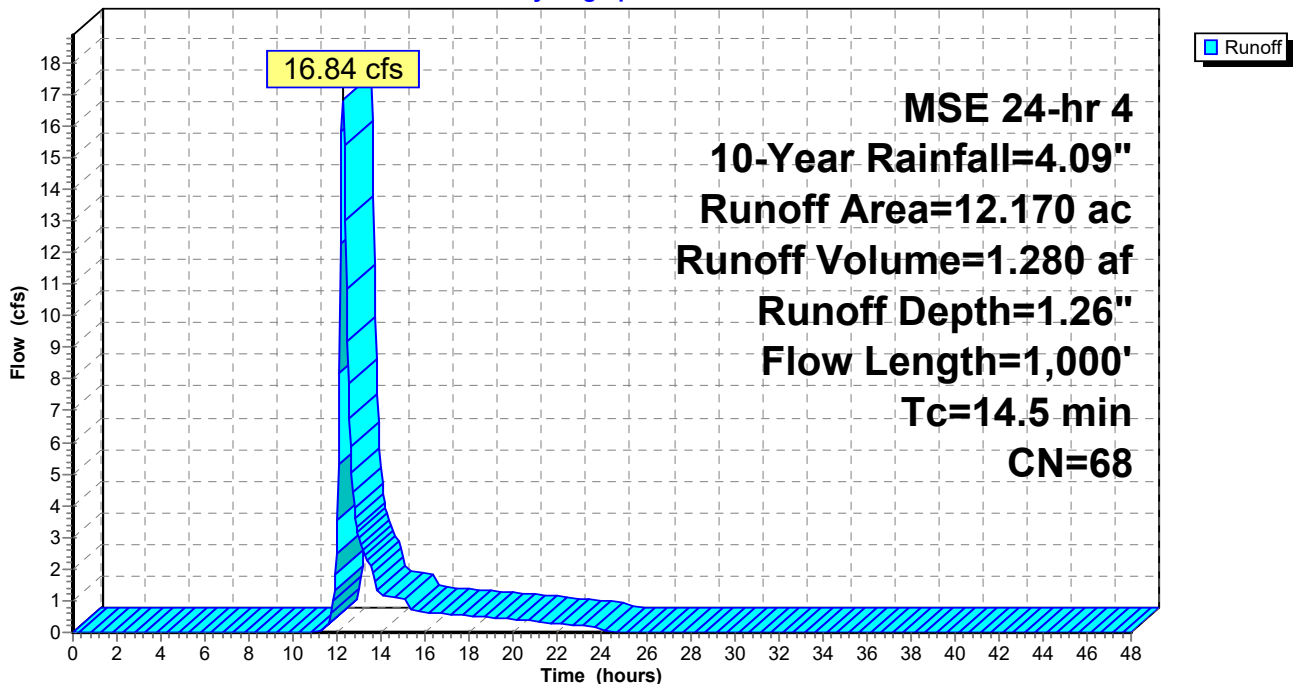
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 12.170	68	Pre-Developed Crop Land
12.170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	300	0.1070	0.82		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
8.4	700	0.0240	1.39		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
14.5	1,000	Total			

Subcatchment 4S: Pre-Developed - Kilkenny

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 42

Summary for Subcatchment 5e OS: Offsite - Funeral

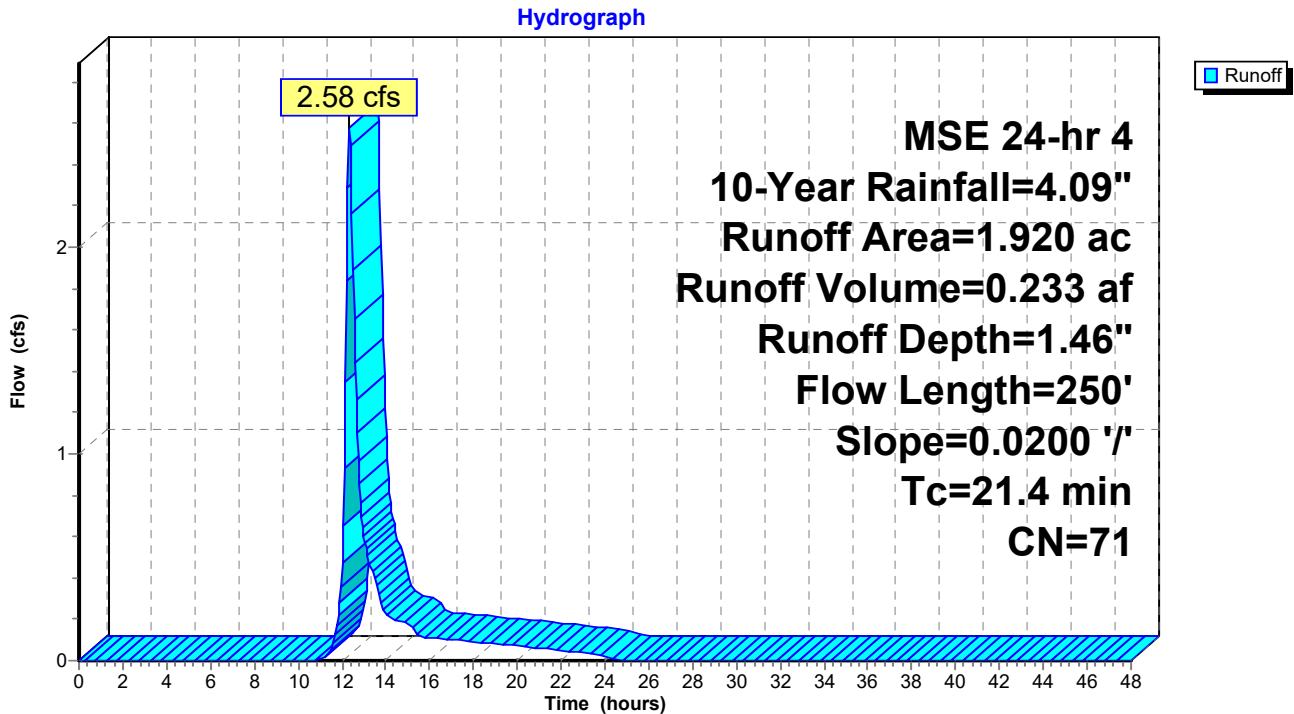
Runoff = 2.58 cfs @ 12.33 hrs, Volume= 0.233 af, Depth= 1.46"
 Routed to Reach 1R : Pre-Developed

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5e OS: Offsite - Funeral



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 43

Summary for Subcatchment 5S: Pre-Developed - Kilkenny

Runoff = 41.81 cfs @ 12.32 hrs, Volume= 3.734 af, Depth= 1.26"
Routed to Reach 1R : Pre-Developed

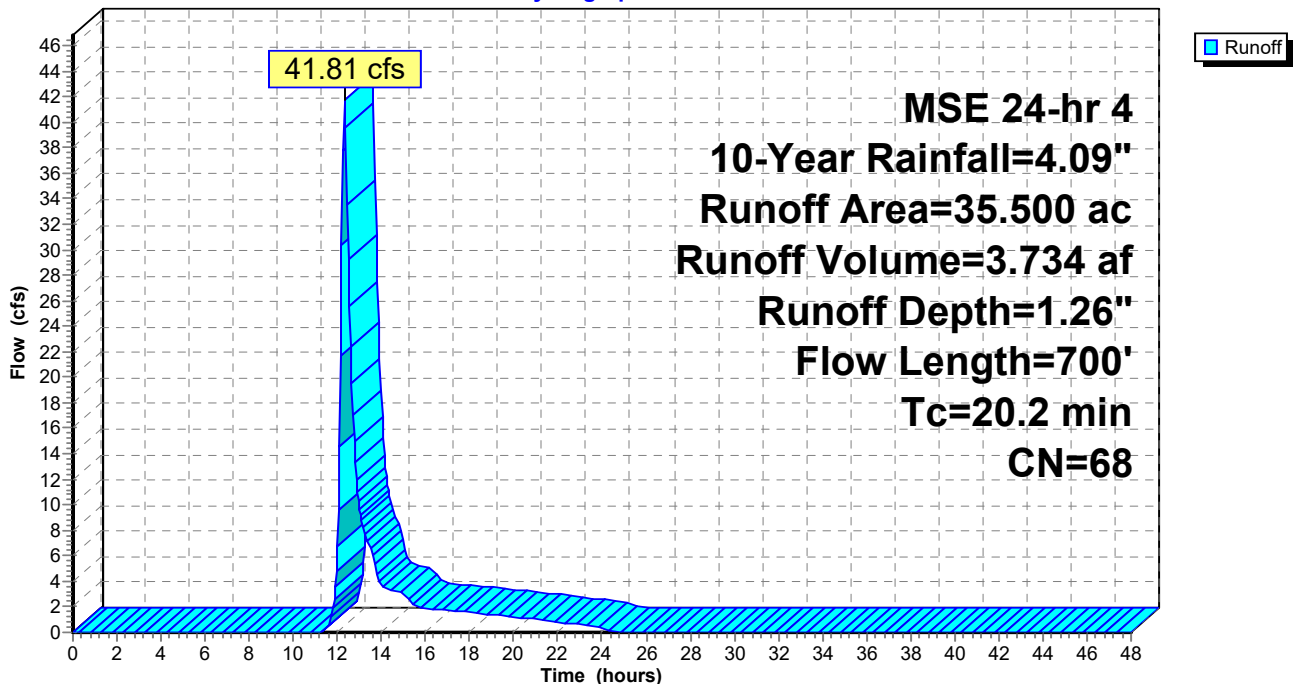
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 35.500	68	Pre-Developed Crop Land
35.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 5S: Pre-Developed - Kilkenny

Hydrograph



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Page 44

Summary for Subcatchment 6S: Pre-Developed - Kilkenny

Runoff = 1.96 cfs @ 12.32 hrs, Volume= 0.175 af, Depth= 1.26"
 Routed to Reach 1R : Pre-Developed

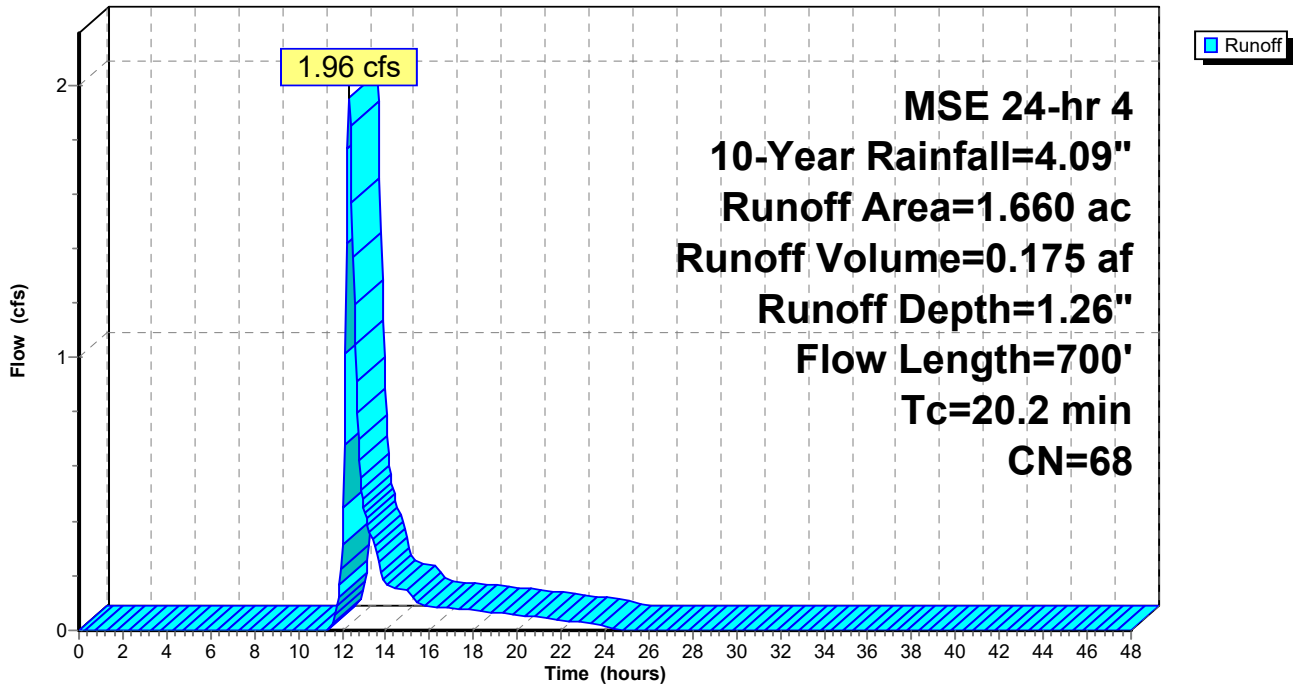
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.660	68	Pre-Developed Crop Land
1.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 6S: Pre-Developed - Kilkenny

Hydrograph



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Page 45

Summary for Subcatchment 7S: Pre-Developed - Kilkenny

Runoff = 3.76 cfs @ 12.31 hrs, Volume= 0.321 af, Depth= 1.73"
 Routed to Reach 1R : Pre-Developed

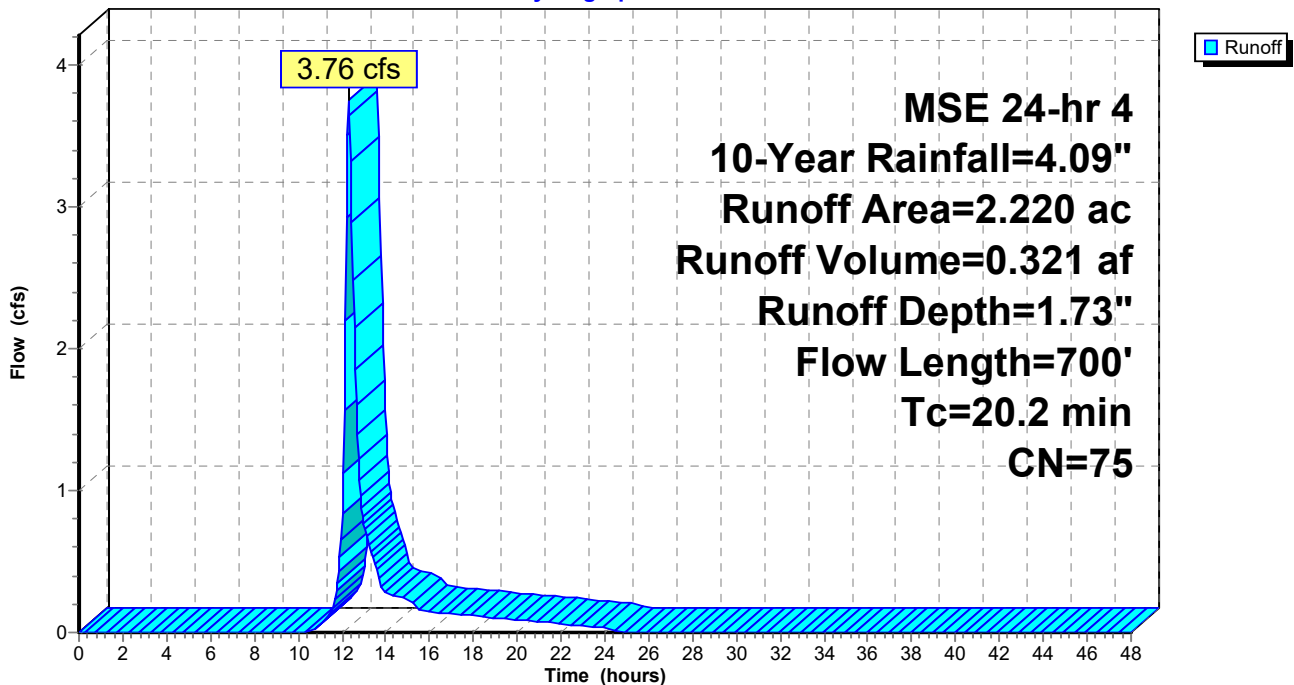
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.670	68	Pre-Developed Crop Land
* 0.300	98	House
* 0.250	98	Impervious
2.220	75	Weighted Average
1.670		75.23% Pervious Area
0.550		24.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 7S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 46

Summary for Subcatchment 8S: Pre-Developed - Kilkenny

Runoff = 1.55 cfs @ 12.32 hrs, Volume= 0.139 af, Depth= 1.26"
 Routed to Reach 1R : Pre-Developed

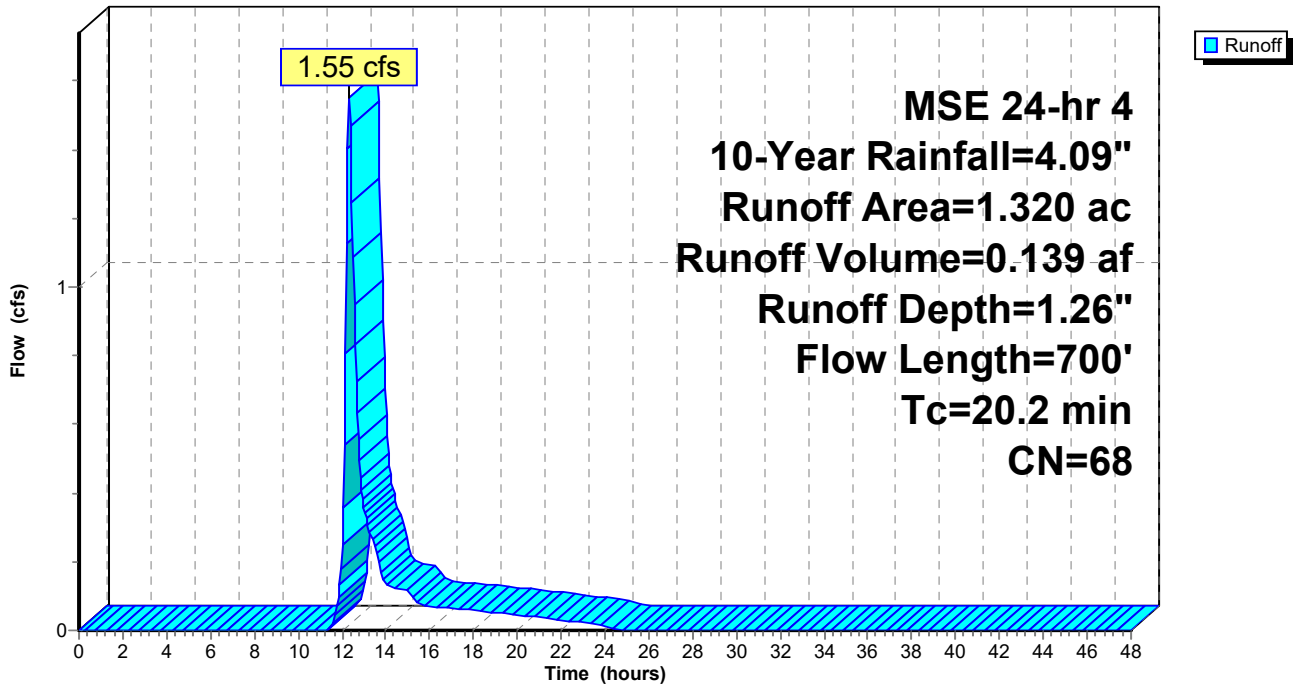
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.320	68	Pre-Developed Crop Land
1.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 8S: Pre-Developed - Kilkenny

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 47

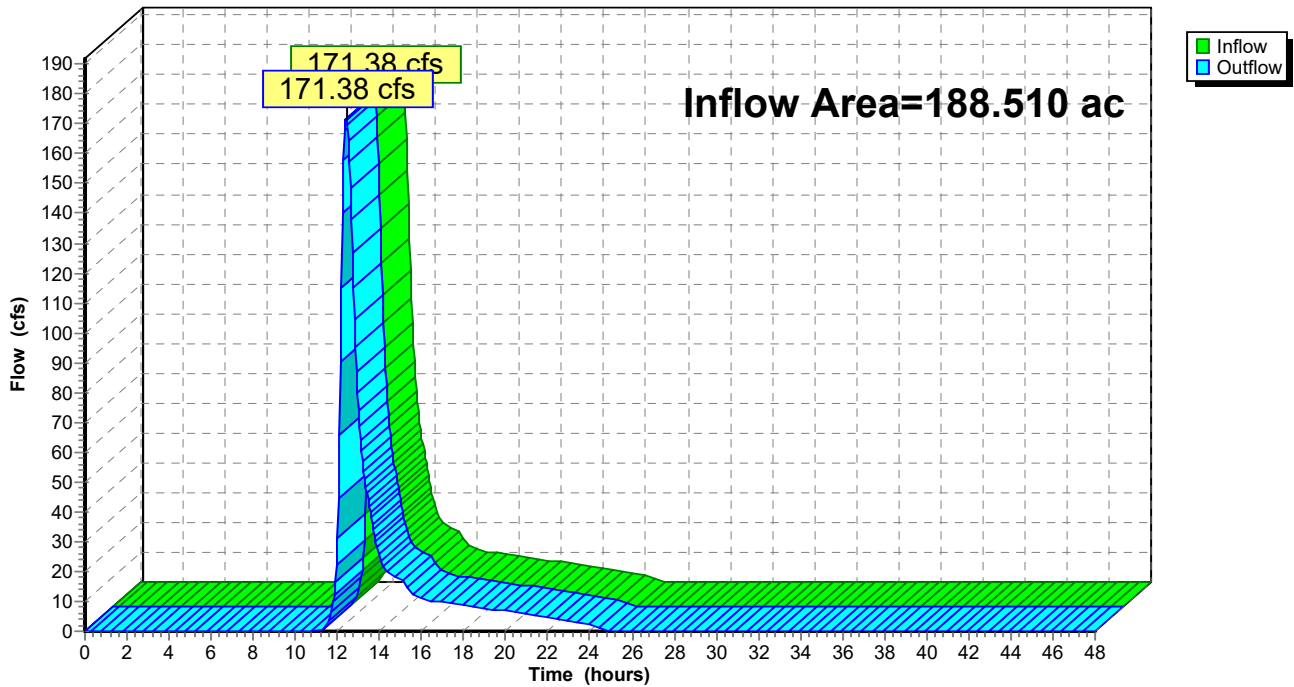
Summary for Reach 1R: Pre-Developed

Inflow Area = 188.510 ac, 5.76% Impervious, Inflow Depth = 1.35" for 10-Year event
Inflow = 171.38 cfs @ 12.41 hrs, Volume= 21.147 af
Outflow = 171.38 cfs @ 12.41 hrs, Volume= 21.147 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 1R: Pre-Developed

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 48

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1e OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=2.46" Tc=20.0 min CN=61 Runoff=6.18 cfs 0.533 af
Subcatchment 1S: Pre-Developed CTH Q	Runoff Area=1.340 ac 0.00% Impervious Runoff Depth=3.14" Tc=6.0 min CN=68 Runoff=6.59 cfs 0.350 af
Subcatchment 2e OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=2.75" Flow Length=500' Tc=4.6 min CN=64 Runoff=28.65 cfs 1.460 af
Subcatchment 2S: Pre-Developed South	Runoff Area=17.990 ac 0.00% Impervious Runoff Depth=3.14" Flow Length=1,315' Tc=21.2 min CN=68 Runoff=54.33 cfs 4.703 af
Subcatchment 3e OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=2.46" Tc=20.0 min CN=61 Runoff=12.49 cfs 1.076 af
Subcatchment 3S: Pre-Developed -	Runoff Area=99.620 ac 9.39% Impervious Runoff Depth=3.44" Flow Length=3,390' Tc=36.9 min CN=71 Runoff=244.21 cfs 28.550 af
Subcatchment 4e OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=2.46" Tc=10.0 min CN=61 Runoff=1.75 cfs 0.111 af
Subcatchment 4S: Pre-Developed -	Runoff Area=12.170 ac 0.00% Impervious Runoff Depth=3.14" Flow Length=1,000' Tc=14.5 min CN=68 Runoff=43.83 cfs 3.182 af
Subcatchment 5e OS: Offsite - Funeral	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=3.44" Flow Length=250' Slope=0.0200 '/' Tc=21.4 min CN=71 Runoff=6.33 cfs 0.550 af
Subcatchment 5S: Pre-Developed -	Runoff Area=35.500 ac 0.00% Impervious Runoff Depth=3.14" Flow Length=700' Tc=20.2 min CN=68 Runoff=109.59 cfs 9.281 af
Subcatchment 6S: Pre-Developed - Kilkenny	Runoff Area=1.660 ac 0.00% Impervious Runoff Depth=3.14" Flow Length=700' Tc=20.2 min CN=68 Runoff=5.12 cfs 0.434 af
Subcatchment 7S: Pre-Developed -	Runoff Area=2.220 ac 24.77% Impervious Runoff Depth=3.85" Flow Length=700' Tc=20.2 min CN=75 Runoff=8.44 cfs 0.712 af
Subcatchment 8S: Pre-Developed - Kilkenny	Runoff Area=1.320 ac 0.00% Impervious Runoff Depth=3.14" Flow Length=700' Tc=20.2 min CN=68 Runoff=4.07 cfs 0.345 af
Reach 1R: Pre-Developed	Inflow=439.57 cfs 51.287 af Outflow=439.57 cfs 51.287 af

Total Runoff Area = 188.510 ac Runoff Volume = 51.287 af Average Runoff Depth = 3.26"
94.24% Pervious = 177.660 ac 5.76% Impervious = 10.850 ac

Kilkenny Phase Master

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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 49

Summary for Subcatchment 1e OS: Offsite- School

Runoff = 6.18 cfs @ 12.31 hrs, Volume= 0.533 af, Depth= 2.46"
Routed to Reach 1R : Pre-Developed

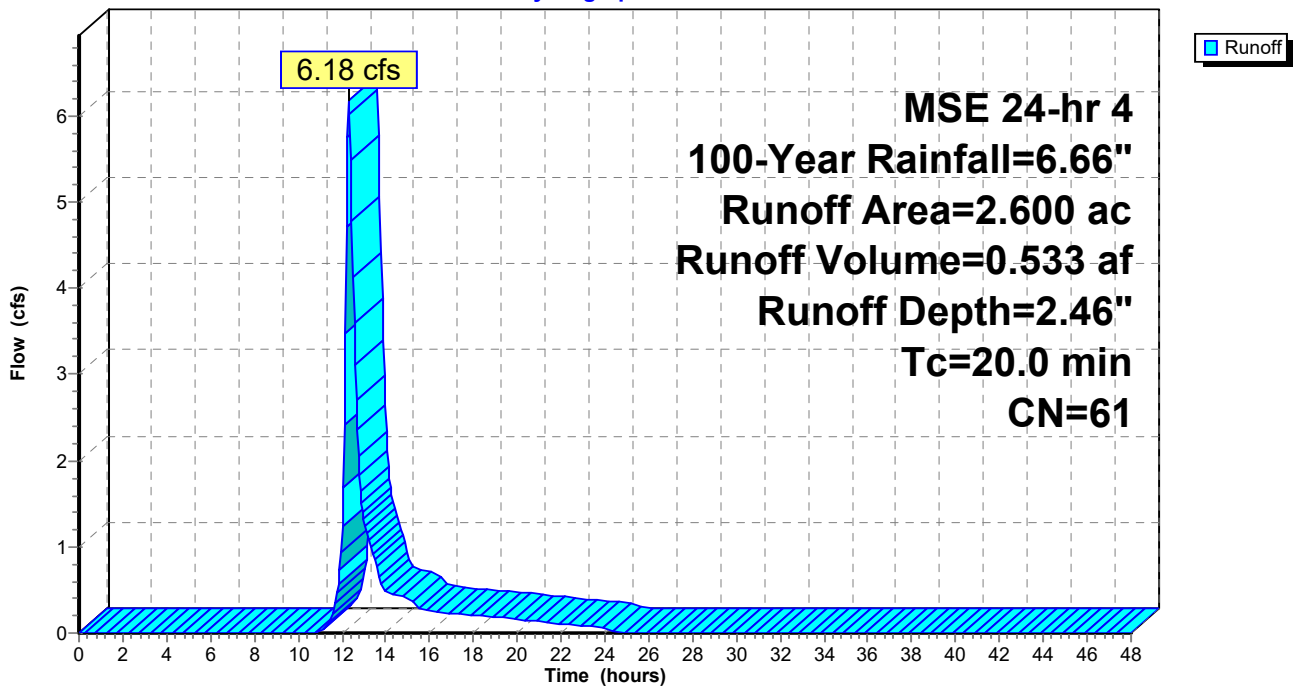
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

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

Subcatchment 1e OS: Offsite- School

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 50

Summary for Subcatchment 1S: Pre-Developed CTH Q

Runoff = 6.59 cfs @ 12.13 hrs, Volume= 0.350 af, Depth= 3.14"
Routed to Reach 1R : Pre-Developed

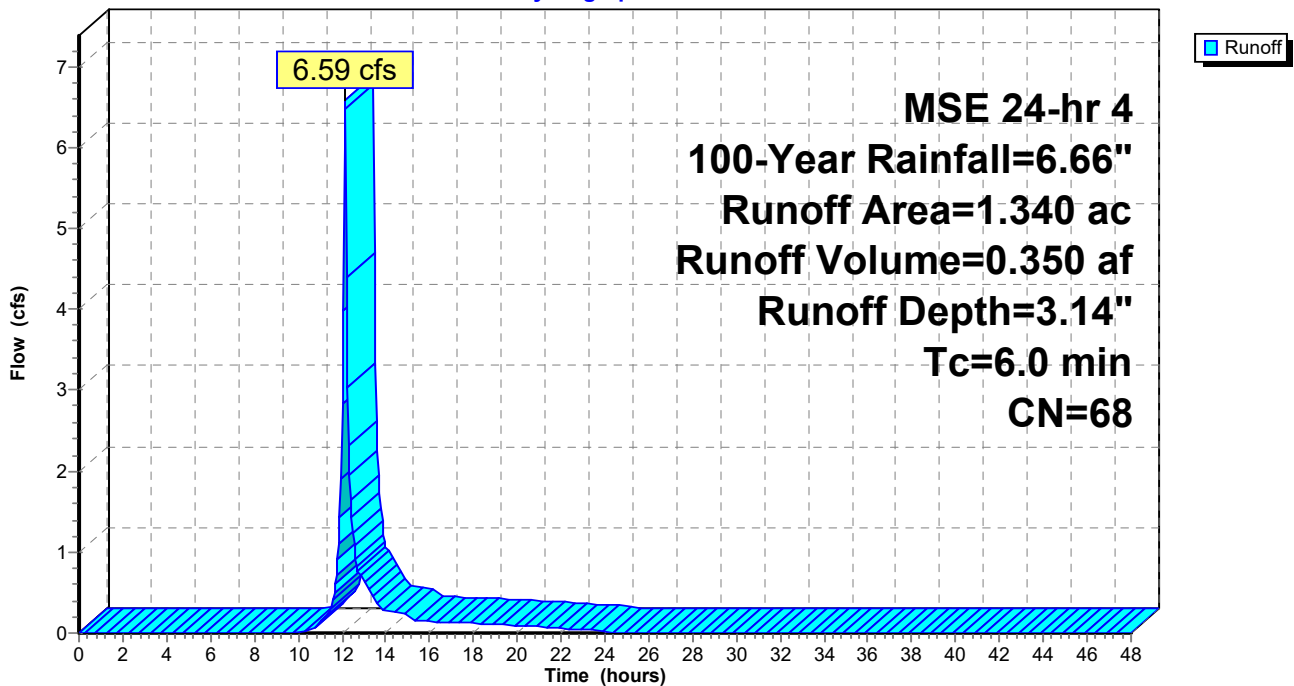
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.340	68	Pre-Developed Crop Land
1.340		100.00% Pervious Area

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

Subcatchment 1S: Pre-Developed CTH Q

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 51

Summary for Subcatchment 2e OS: Offsite - North Residential

Runoff = 28.65 cfs @ 12.11 hrs, Volume= 1.460 af, Depth= 2.75"
 Routed to Reach 1R : Pre-Developed

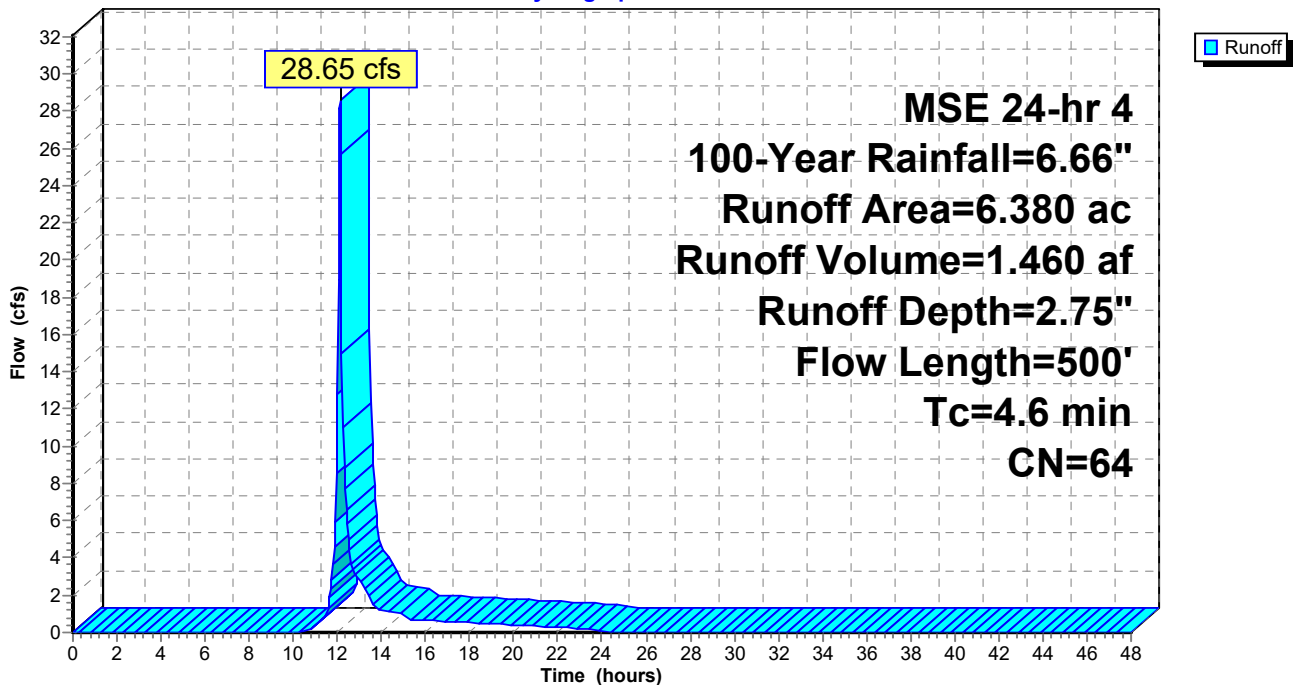
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2e OS: Offsite - North Residential

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 52

Summary for Subcatchment 2S: Pre-Developed South

Runoff = 54.33 cfs @ 12.32 hrs, Volume= 4.703 af, Depth= 3.14"
 Routed to Reach 1R : Pre-Developed

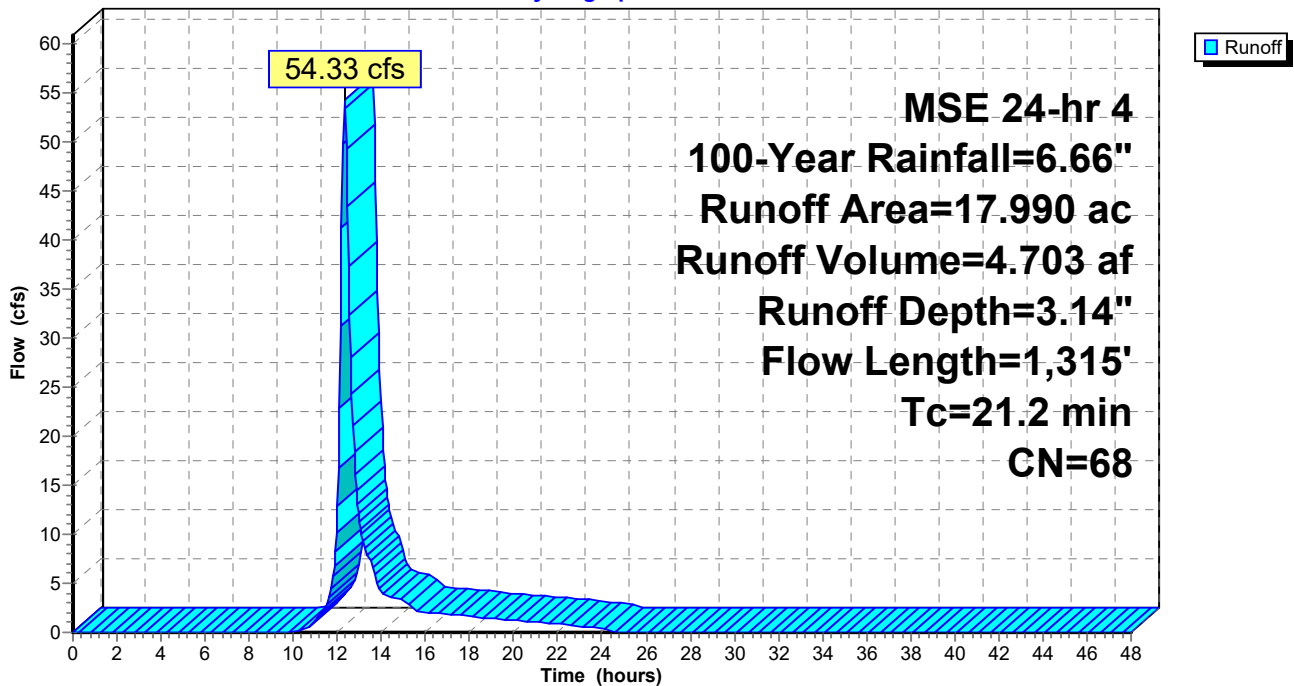
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 17.990	68	HSG B Agricultural
17.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	300	0.0700	0.69		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
14.0	1,015	0.0180	1.21		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
21.2	1,315	Total			

Subcatchment 2S: Pre-Developed South

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 53

Summary for Subcatchment 3e OS: Offsite- School

Runoff = 12.49 cfs @ 12.31 hrs, Volume= 1.076 af, Depth= 2.46"
Routed to Reach 1R : Pre-Developed

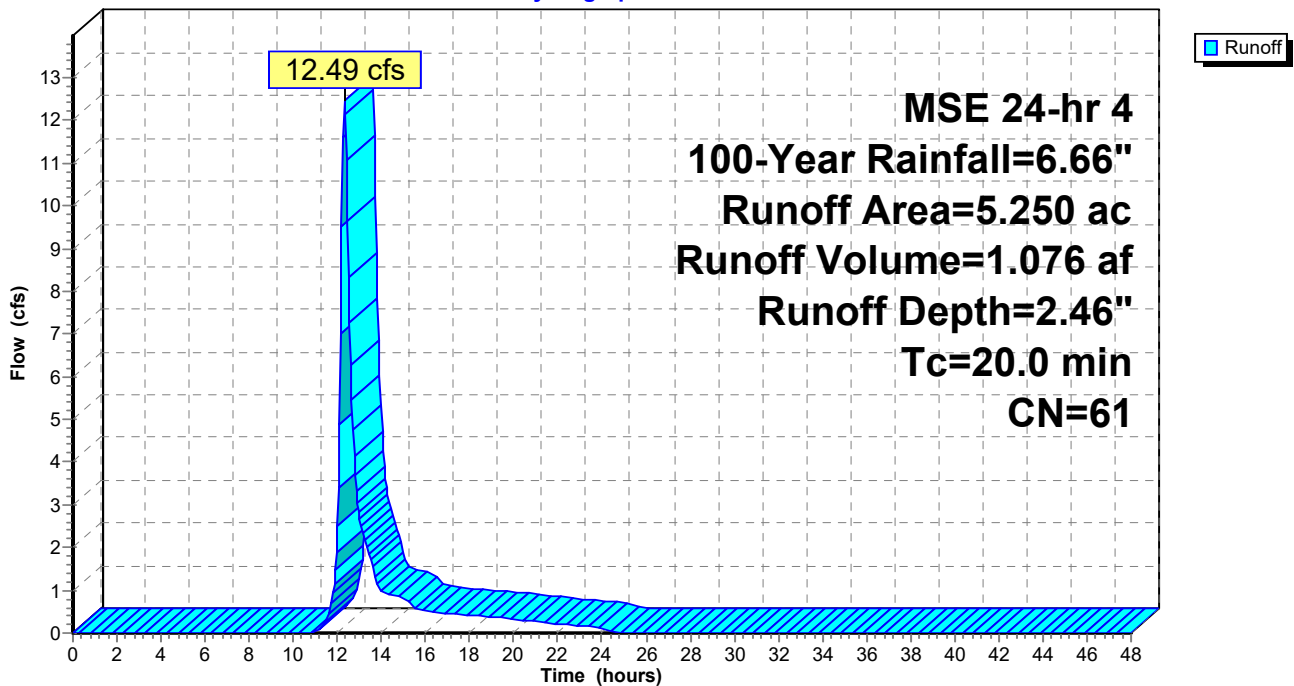
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3e OS: Offsite- School

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 54

Summary for Subcatchment 3S: Pre-Developed - Kilkenny

Runoff = 244.21 cfs @ 12.52 hrs, Volume= 28.550 af, Depth= 3.44"
 Routed to Reach 1R : Pre-Developed

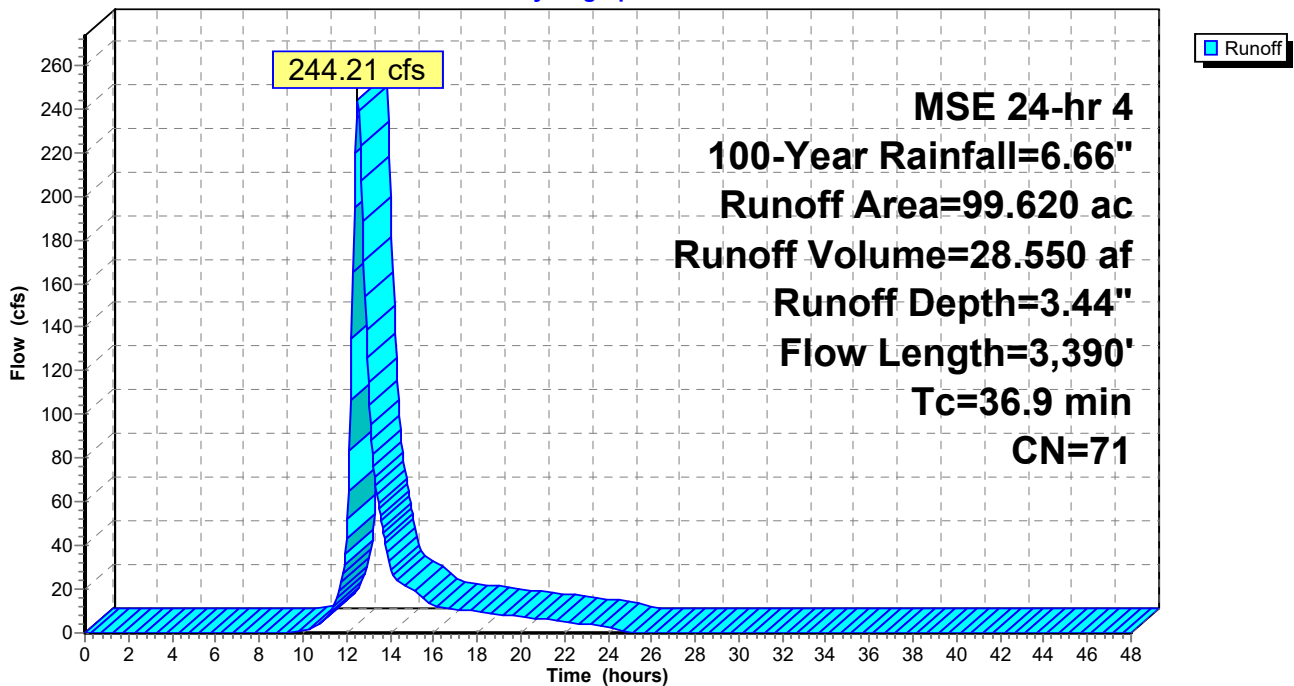
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 90.270	68	Pre-Developed Crop Land
* 9.350	100	Wetland
99.620	71	Weighted Average
90.270		90.61% Pervious Area
9.350		9.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	300	0.1000	0.80		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
30.6	3,090	0.0350	1.68		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
36.9	3,390	Total			

Subcatchment 3S: Pre-Developed - Kilkenny

Hydrograph



Kilkenny Phase Master

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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 55

Summary for Subcatchment 4e OS: Offsite - Church

Runoff = 1.75 cfs @ 12.18 hrs, Volume= 0.111 af, Depth= 2.46"
Routed to Reach 1R : Pre-Developed

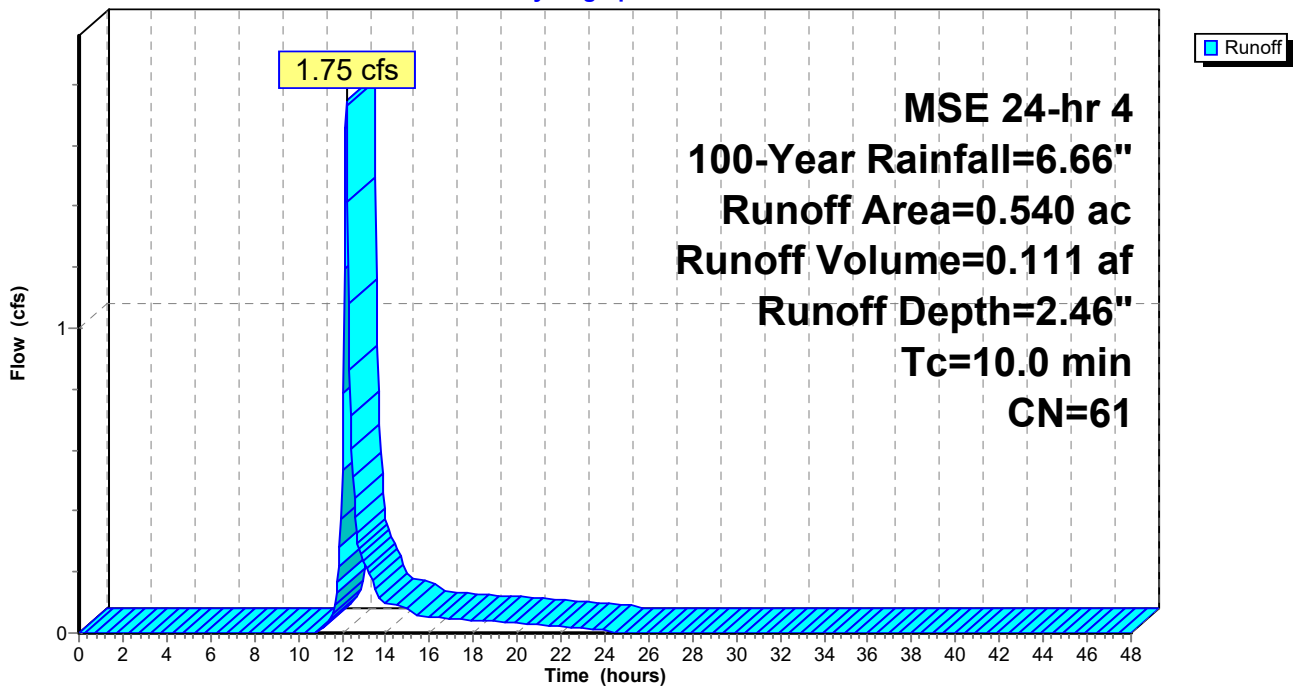
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4e OS: Offsite - Church

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 56

Summary for Subcatchment 4S: Pre-Developed - Kilkenny

Runoff = 43.83 cfs @ 12.23 hrs, Volume= 3.182 af, Depth= 3.14"
 Routed to Reach 1R : Pre-Developed

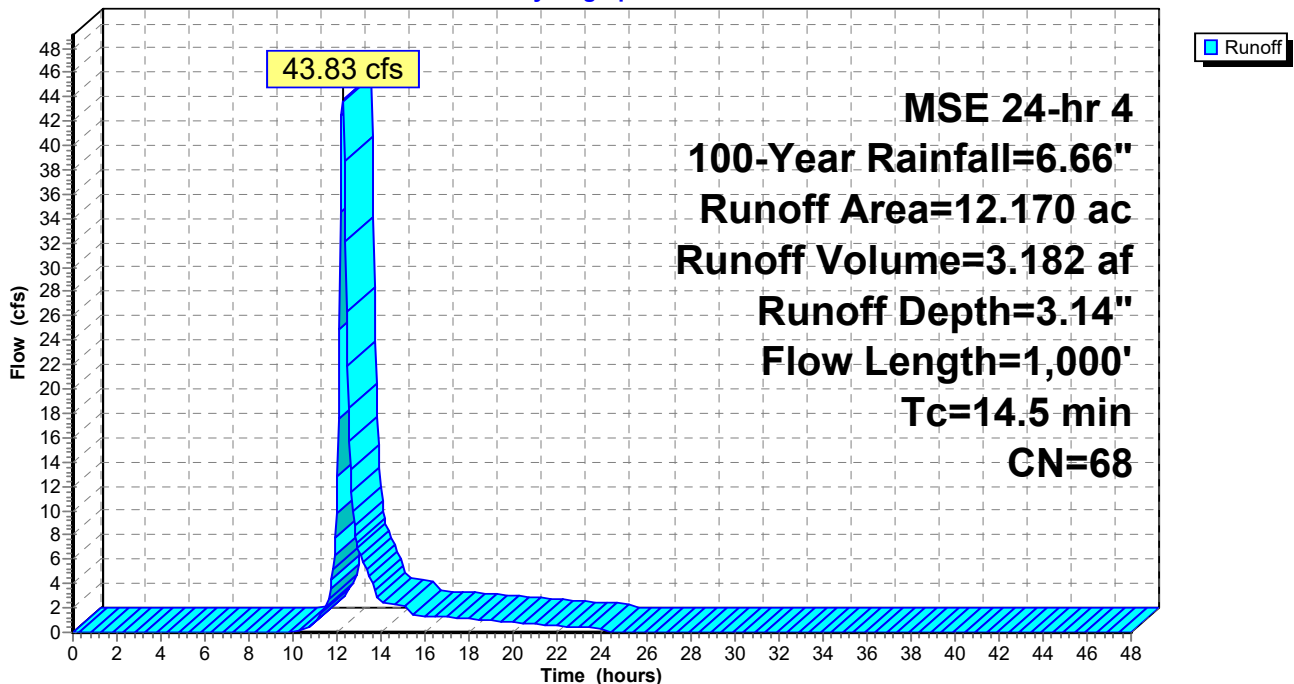
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 12.170	68	Pre-Developed Crop Land
12.170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	300	0.1070	0.82		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
8.4	700	0.0240	1.39		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
14.5	1,000	Total			

Subcatchment 4S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 57

Summary for Subcatchment 5e OS: Offsite - Funeral

Runoff = 6.33 cfs @ 12.32 hrs, Volume= 0.550 af, Depth= 3.44"
 Routed to Reach 1R : Pre-Developed

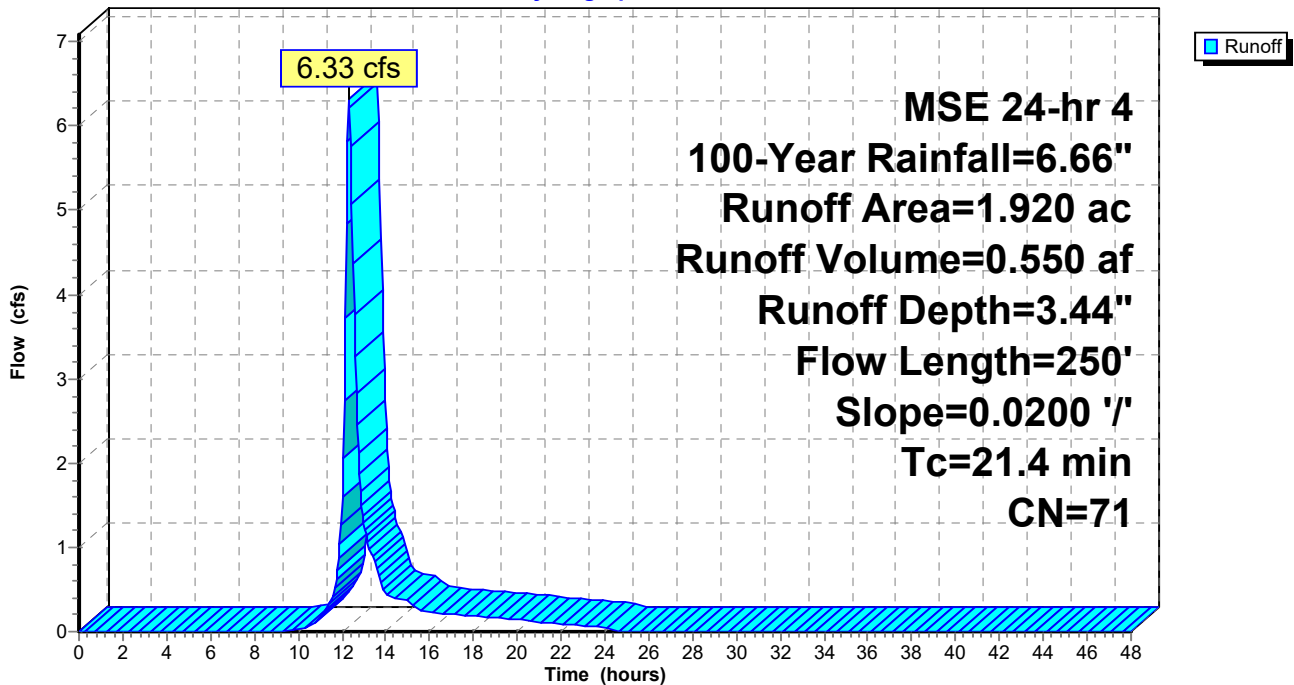
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5e OS: Offsite - Funeral

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 58

Summary for Subcatchment 5S: Pre-Developed - Kilkenny

Runoff = 109.59 cfs @ 12.31 hrs, Volume= 9.281 af, Depth= 3.14"
 Routed to Reach 1R : Pre-Developed

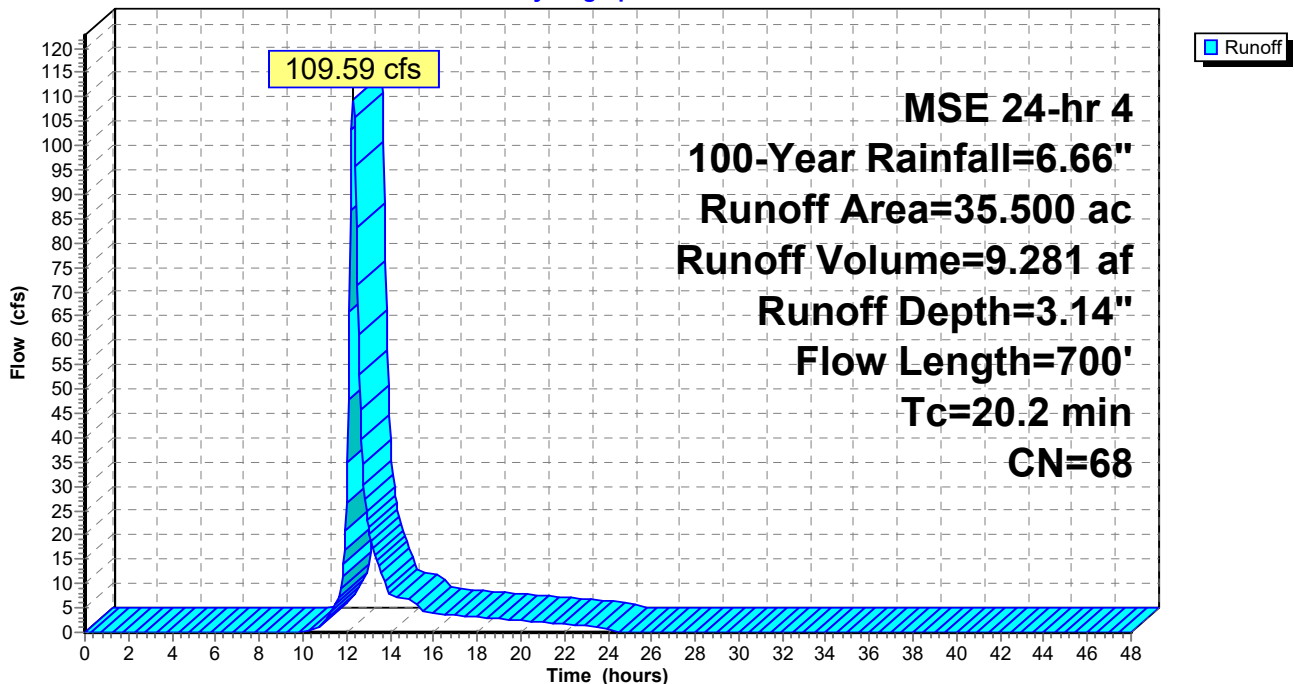
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 35.500	68	Pre-Developed Crop Land
35.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 5S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 59

Summary for Subcatchment 6S: Pre-Developed - Kilkenny

Runoff = 5.12 cfs @ 12.31 hrs, Volume= 0.434 af, Depth= 3.14"
 Routed to Reach 1R : Pre-Developed

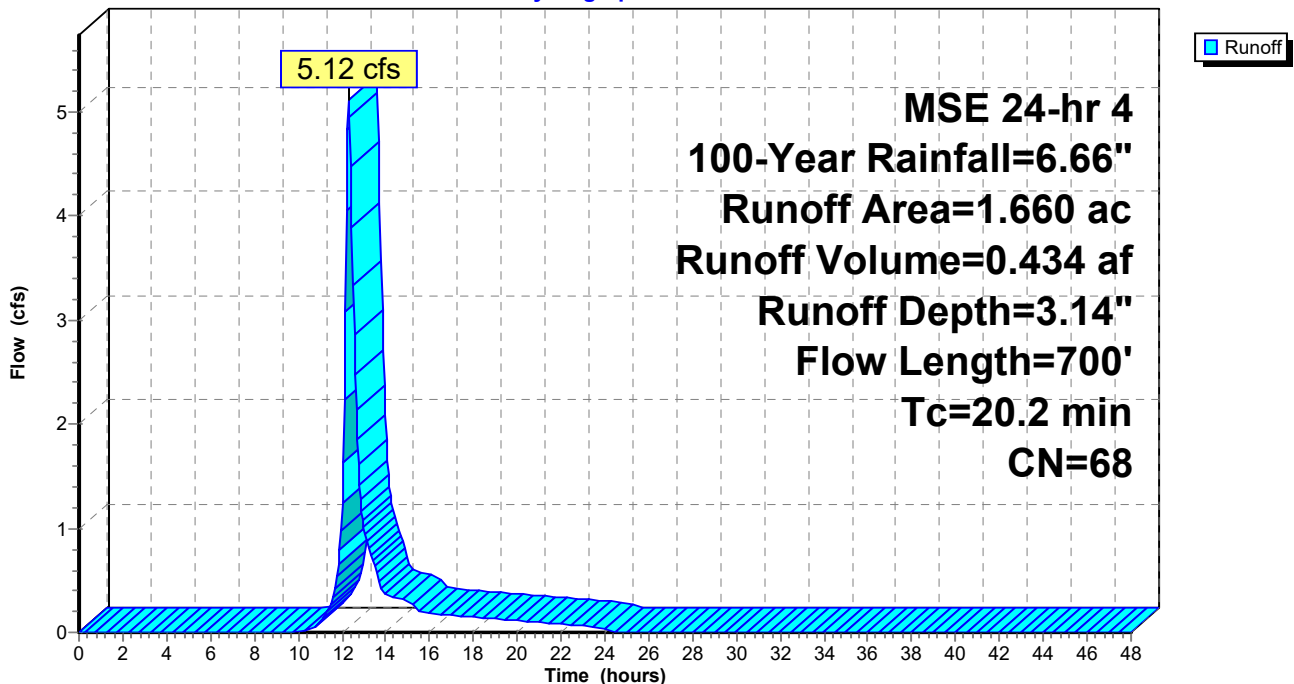
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.660	68	Pre-Developed Crop Land
1.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 6S: Pre-Developed - Kilkenny

Hydrograph



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Page 60

Summary for Subcatchment 7S: Pre-Developed - Kilkenny

Runoff = 8.44 cfs @ 12.30 hrs, Volume= 0.712 af, Depth= 3.85"
 Routed to Reach 1R : Pre-Developed

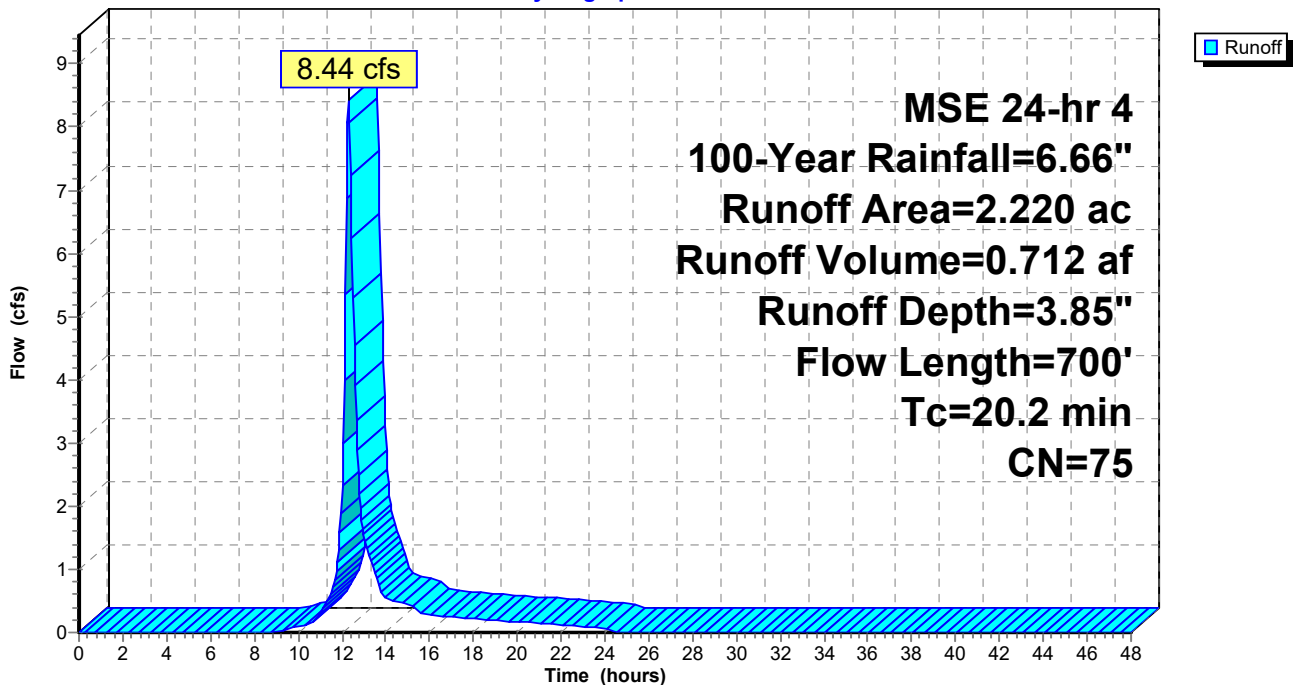
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.670	68	Pre-Developed Crop Land
* 0.300	98	House
* 0.250	98	Impervious
2.220	75	Weighted Average
1.670		75.23% Pervious Area
0.550		24.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 7S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 61

Summary for Subcatchment 8S: Pre-Developed - Kilkenny

Runoff = 4.07 cfs @ 12.31 hrs, Volume= 0.345 af, Depth= 3.14"
 Routed to Reach 1R : Pre-Developed

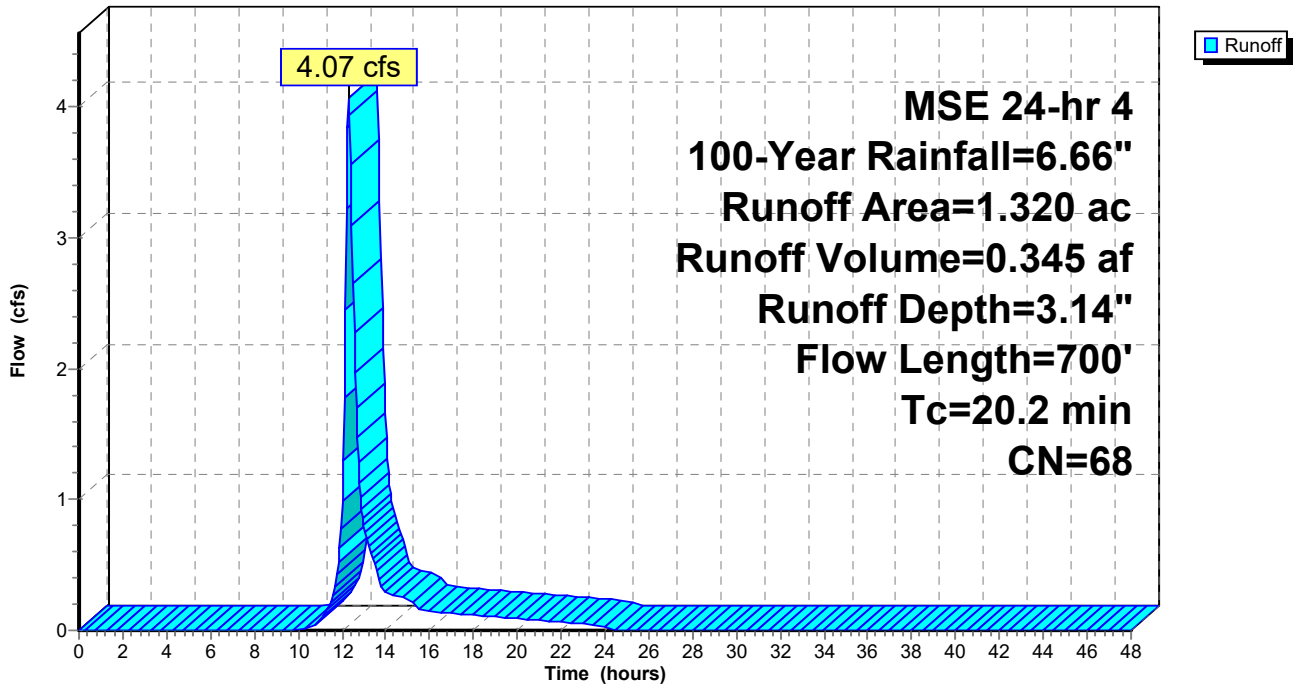
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.320	68	Pre-Developed Crop Land
1.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 8S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 62

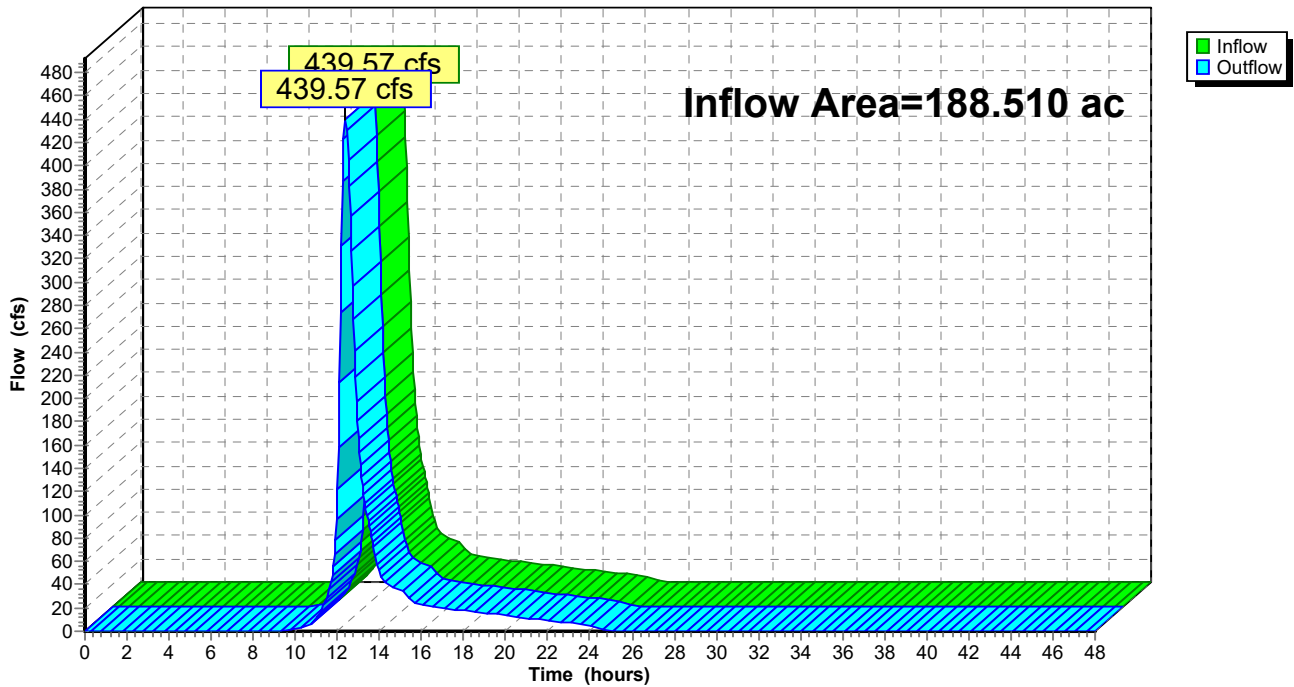
Summary for Reach 1R: Pre-Developed

Inflow Area = 188.510 ac, 5.76% Impervious, Inflow Depth = 3.26" for 100-Year event
Inflow = 439.57 cfs @ 12.37 hrs, Volume= 51.287 af
Outflow = 439.57 cfs @ 12.37 hrs, Volume= 51.287 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 1R: Pre-Developed

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 63

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1e OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=3.09" Tc=20.0 min CN=61 Runoff=7.87 cfs 0.670 af
Subcatchment 1S: Pre-Developed CTH Q	Runoff Area=1.340 ac 0.00% Impervious Runoff Depth=3.84" Tc=6.0 min CN=68 Runoff=8.06 cfs 0.429 af
Subcatchment 2e OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=3.41" Flow Length=500' Tc=4.6 min CN=64 Runoff=35.69 cfs 1.813 af
Subcatchment 2S: Pre-Developed South	Runoff Area=17.990 ac 0.00% Impervious Runoff Depth=3.84" Flow Length=1,315' Tc=21.2 min CN=68 Runoff=66.79 cfs 5.762 af
Subcatchment 3e OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=3.09" Tc=20.0 min CN=61 Runoff=15.89 cfs 1.352 af
Subcatchment 3S: Pre-Developed -	Runoff Area=99.620 ac 9.39% Impervious Runoff Depth=4.17" Flow Length=3,390' Tc=36.9 min CN=71 Runoff=297.00 cfs 34.648 af
Subcatchment 4e OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=3.09" Tc=10.0 min CN=61 Runoff=2.22 cfs 0.139 af
Subcatchment 4S: Pre-Developed -	Runoff Area=12.170 ac 0.00% Impervious Runoff Depth=3.84" Flow Length=1,000' Tc=14.5 min CN=68 Runoff=53.80 cfs 3.898 af
Subcatchment 5e OS: Offsite - Funeral	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=4.17" Flow Length=250' Slope=0.0200 '/' Tc=21.4 min CN=71 Runoff=7.69 cfs 0.668 af
Subcatchment 5S: Pre-Developed -	Runoff Area=35.500 ac 0.00% Impervious Runoff Depth=3.84" Flow Length=700' Tc=20.2 min CN=68 Runoff=134.70 cfs 11.371 af
Subcatchment 6S: Pre-Developed - Kilkenny	Runoff Area=1.660 ac 0.00% Impervious Runoff Depth=3.84" Flow Length=700' Tc=20.2 min CN=68 Runoff=6.30 cfs 0.532 af
Subcatchment 7S: Pre-Developed -	Runoff Area=2.220 ac 24.77% Impervious Runoff Depth=4.62" Flow Length=700' Tc=20.2 min CN=75 Runoff=10.10 cfs 0.855 af
Subcatchment 8S: Pre-Developed - Kilkenny	Runoff Area=1.320 ac 0.00% Impervious Runoff Depth=3.84" Flow Length=700' Tc=20.2 min CN=68 Runoff=5.01 cfs 0.423 af
Reach 1R: Pre-Developed	Inflow=538.75 cfs 62.559 af Outflow=538.75 cfs 62.559 af

Total Runoff Area = 188.510 ac Runoff Volume = 62.559 af Average Runoff Depth = 3.98"
94.24% Pervious = 177.660 ac 5.76% Impervious = 10.850 ac

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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 64

Summary for Subcatchment 1e OS: Offsite- School

Runoff = 7.87 cfs @ 12.31 hrs, Volume= 0.670 af, Depth= 3.09"
Routed to Reach 1R : Pre-Developed

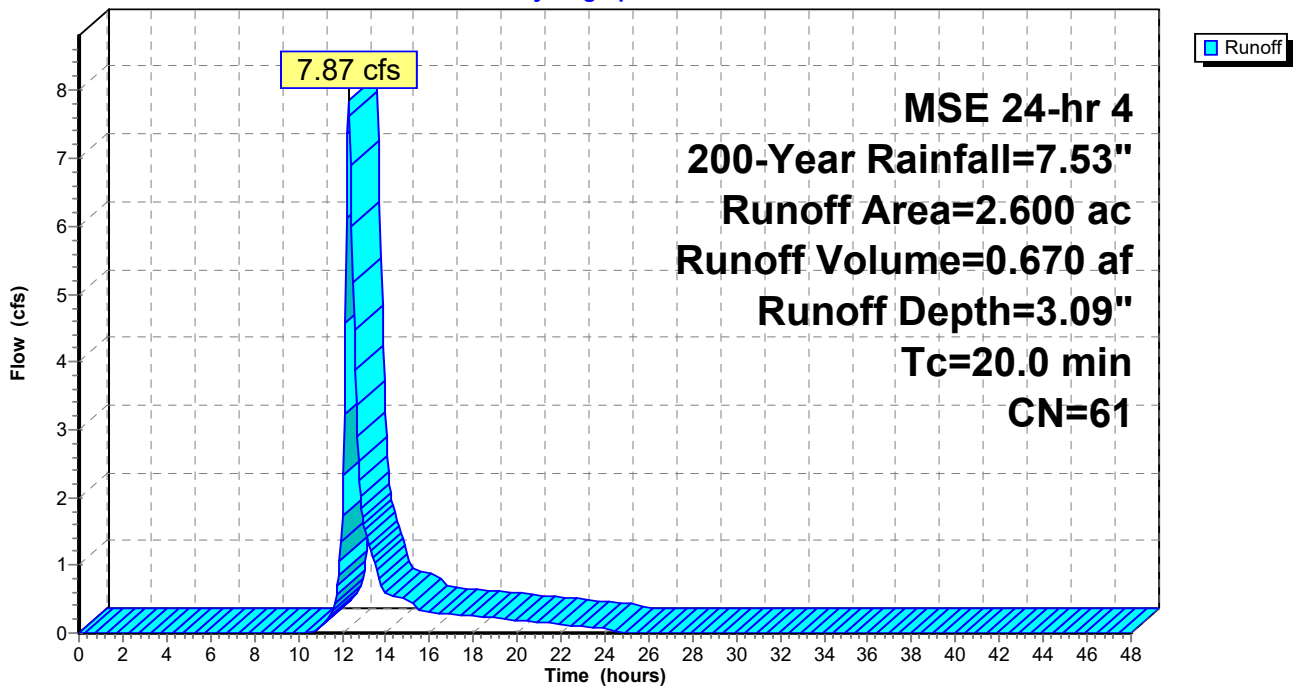
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

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

Subcatchment 1e OS: Offsite- School

Hydrograph



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Page 65

Summary for Subcatchment 1S: Pre-Developed CTH Q

Runoff = 8.06 cfs @ 12.13 hrs, Volume= 0.429 af, Depth= 3.84"
Routed to Reach 1R : Pre-Developed

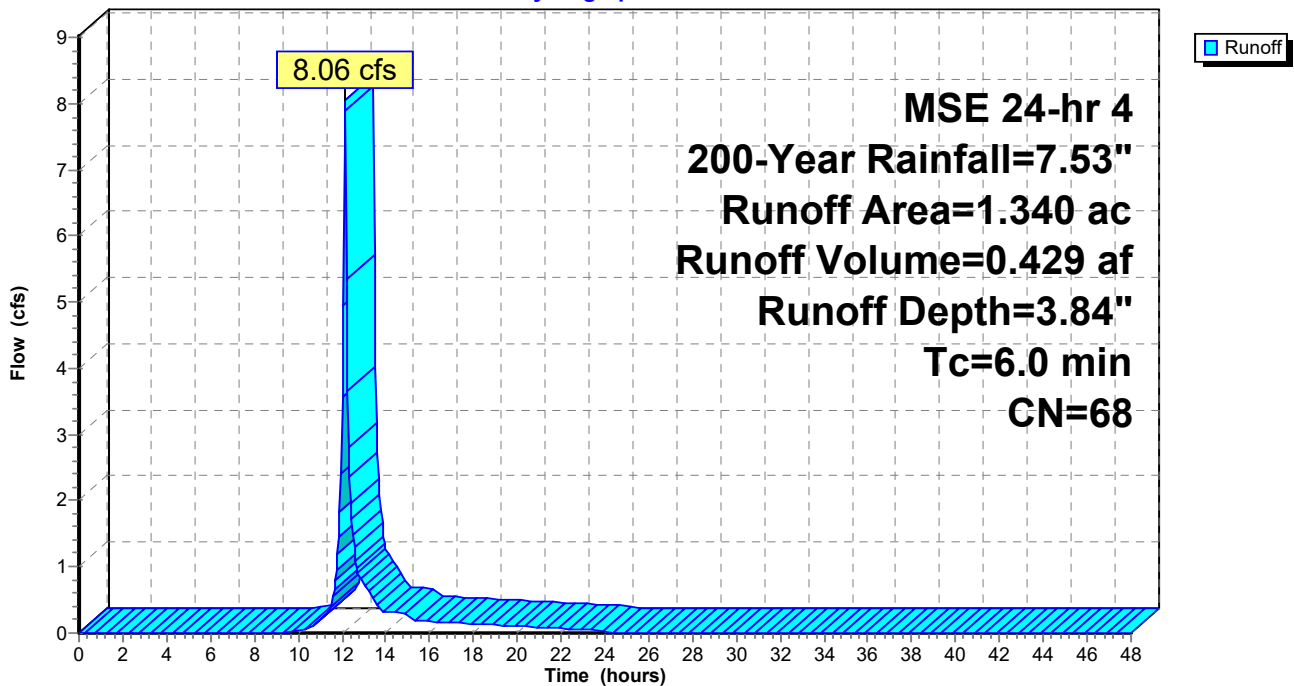
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.340	68	Pre-Developed Crop Land
1.340		100.00% Pervious Area

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

Subcatchment 1S: Pre-Developed CTH Q

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 66

Summary for Subcatchment 2e OS: Offsite - North Residential

Runoff = 35.69 cfs @ 12.11 hrs, Volume= 1.813 af, Depth= 3.41"
 Routed to Reach 1R : Pre-Developed

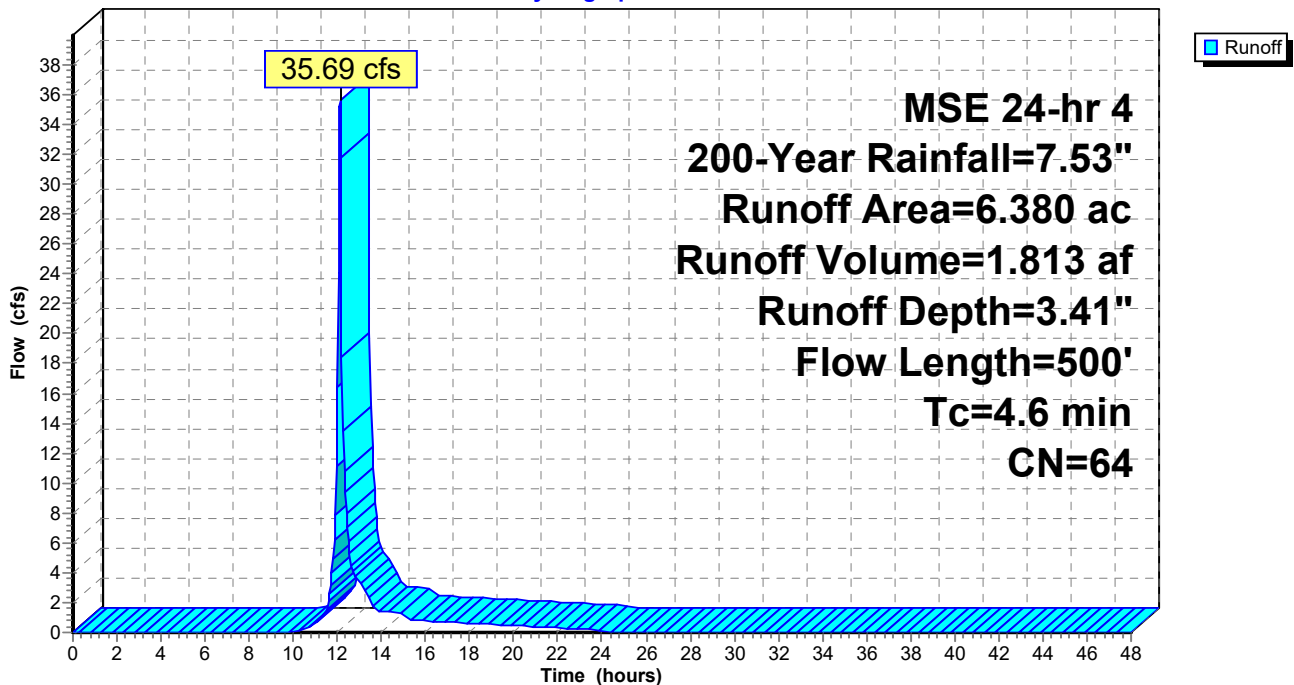
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2e OS: Offsite - North Residential

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 67

Summary for Subcatchment 2S: Pre-Developed South

Runoff = 66.79 cfs @ 12.32 hrs, Volume= 5.762 af, Depth= 3.84"
 Routed to Reach 1R : Pre-Developed

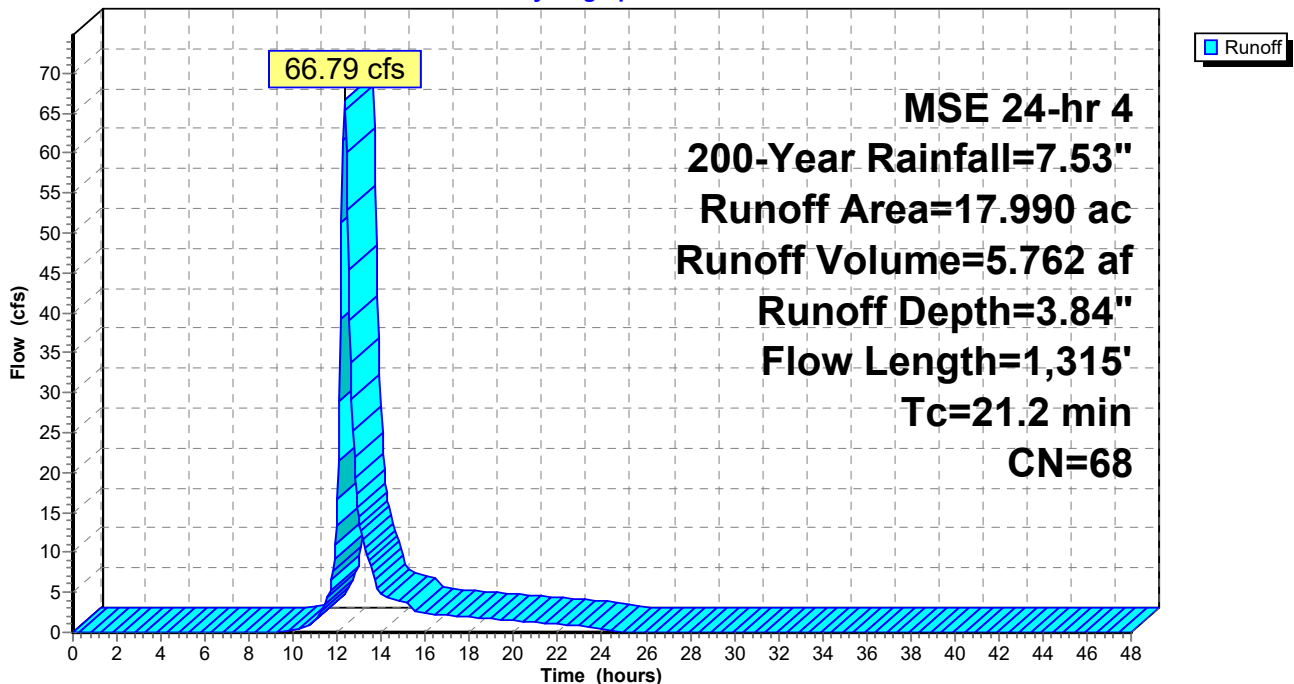
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 17.990	68	HSG B Agricultural
17.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	300	0.0700	0.69		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
14.0	1,015	0.0180	1.21		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
21.2	1,315	Total			

Subcatchment 2S: Pre-Developed South

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 68

Summary for Subcatchment 3e OS: Offsite- School

Runoff = 15.89 cfs @ 12.31 hrs, Volume= 1.352 af, Depth= 3.09"
Routed to Reach 1R : Pre-Developed

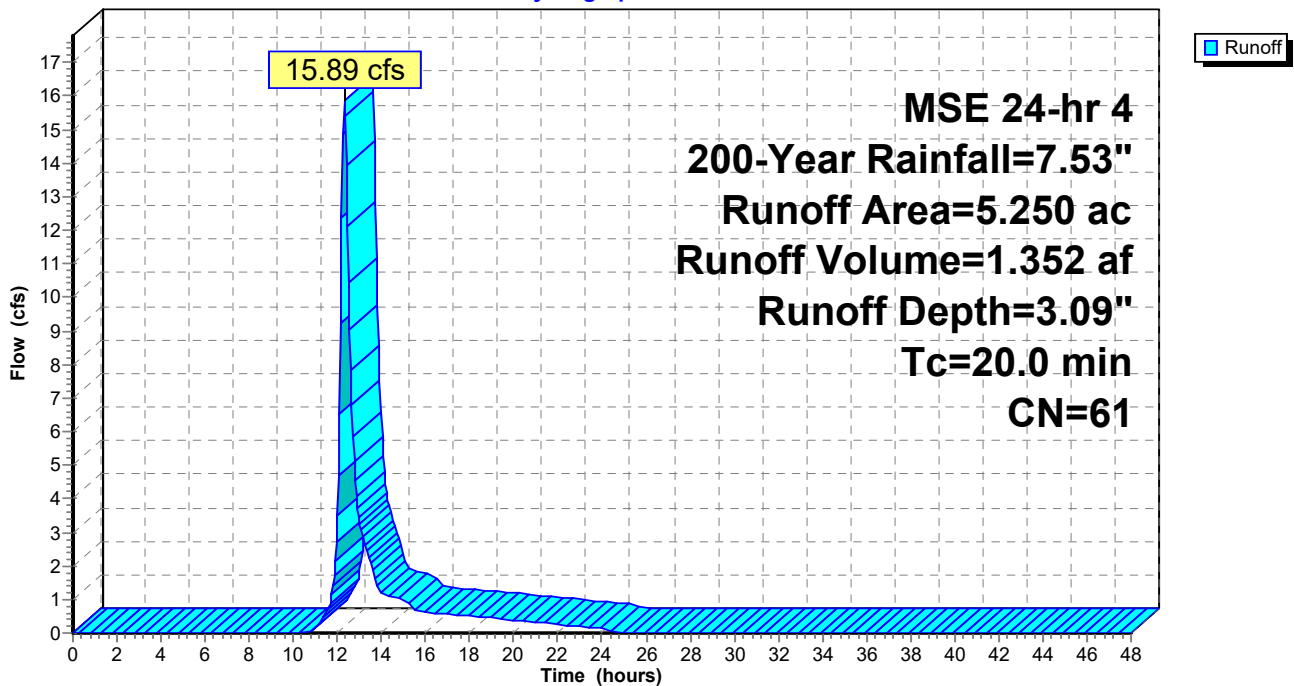
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3e OS: Offsite- School

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 69

Summary for Subcatchment 3S: Pre-Developed - Kilkenny

Runoff = 297.00 cfs @ 12.52 hrs, Volume= 34.648 af, Depth= 4.17"
 Routed to Reach 1R : Pre-Developed

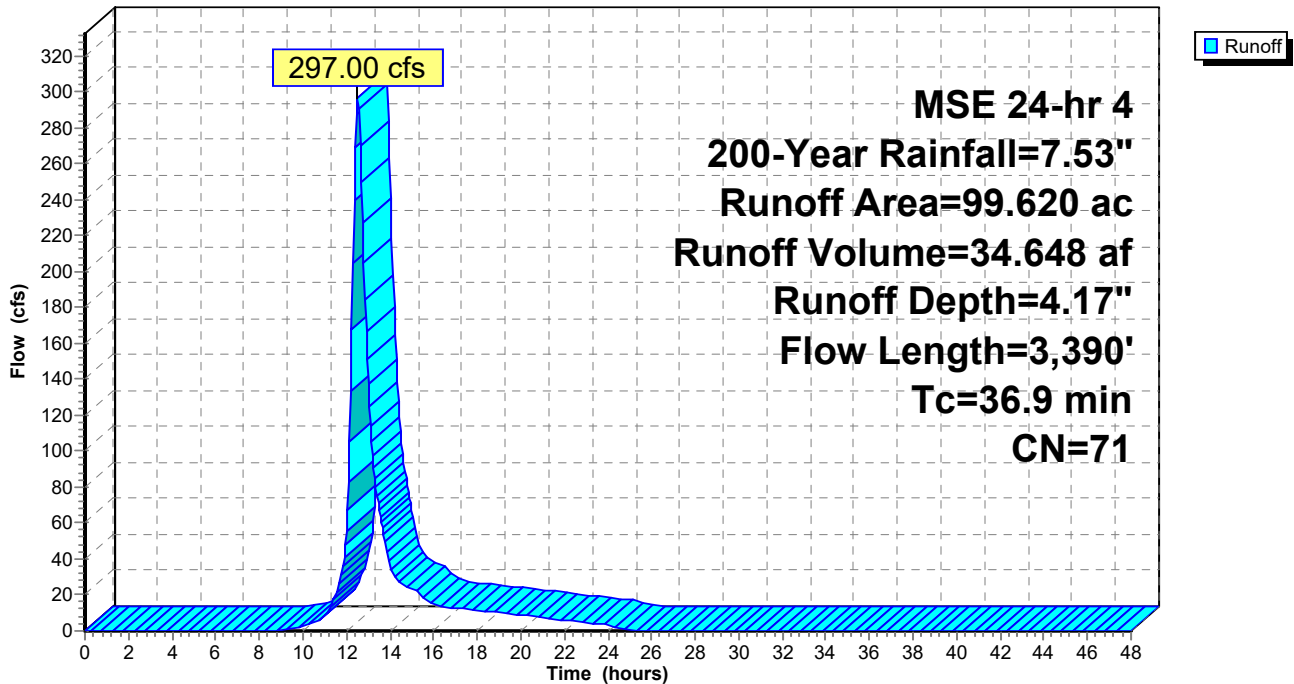
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 90.270	68	Pre-Developed Crop Land
* 9.350	100	Wetland
99.620	71	Weighted Average
90.270		90.61% Pervious Area
9.350		9.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	300	0.1000	0.80		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
30.6	3,090	0.0350	1.68		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
36.9	3,390	Total			

Subcatchment 3S: Pre-Developed - Kilkenny

Hydrograph



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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 70

Summary for Subcatchment 4e OS: Offsite - Church

Runoff = 2.22 cfs @ 12.18 hrs, Volume= 0.139 af, Depth= 3.09"
Routed to Reach 1R : Pre-Developed

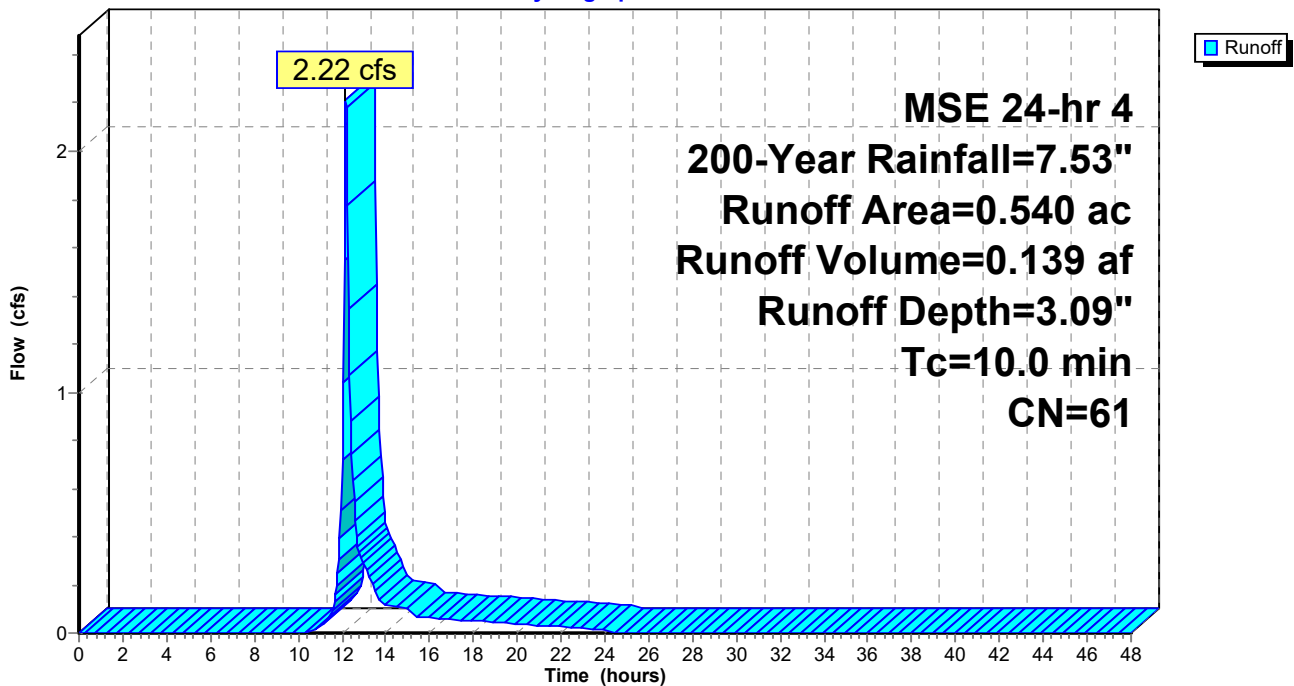
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4e OS: Offsite - Church

Hydrograph



Kilkenny Phase Master

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Pre-Developed Kilkenny Farms West

MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 71

Summary for Subcatchment 4S: Pre-Developed - Kilkenny

Runoff = 53.80 cfs @ 12.23 hrs, Volume= 3.898 af, Depth= 3.84"
 Routed to Reach 1R : Pre-Developed

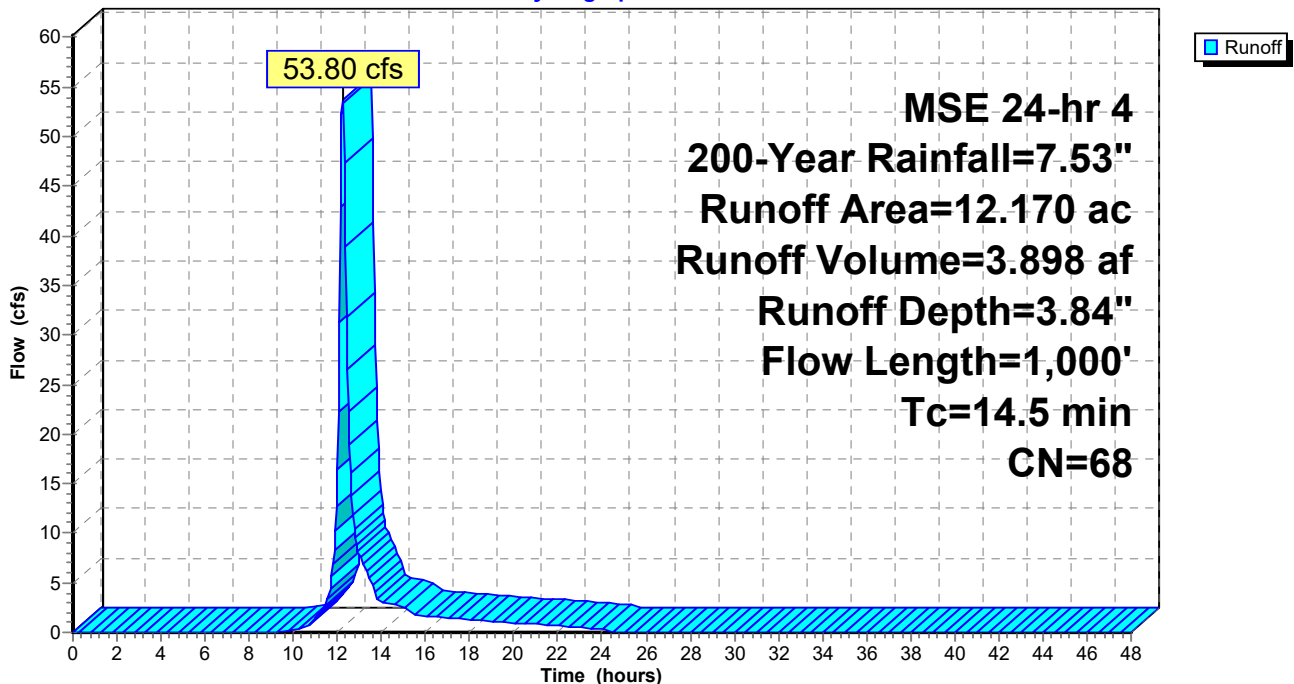
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 12.170	68	Pre-Developed Crop Land
12.170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	300	0.1070	0.82		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.90"
8.4	700	0.0240	1.39		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
14.5	1,000	Total			

Subcatchment 4S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 72

Summary for Subcatchment 5e OS: Offsite - Funeral

Runoff = 7.69 cfs @ 12.32 hrs, Volume= 0.668 af, Depth= 4.17"
 Routed to Reach 1R : Pre-Developed

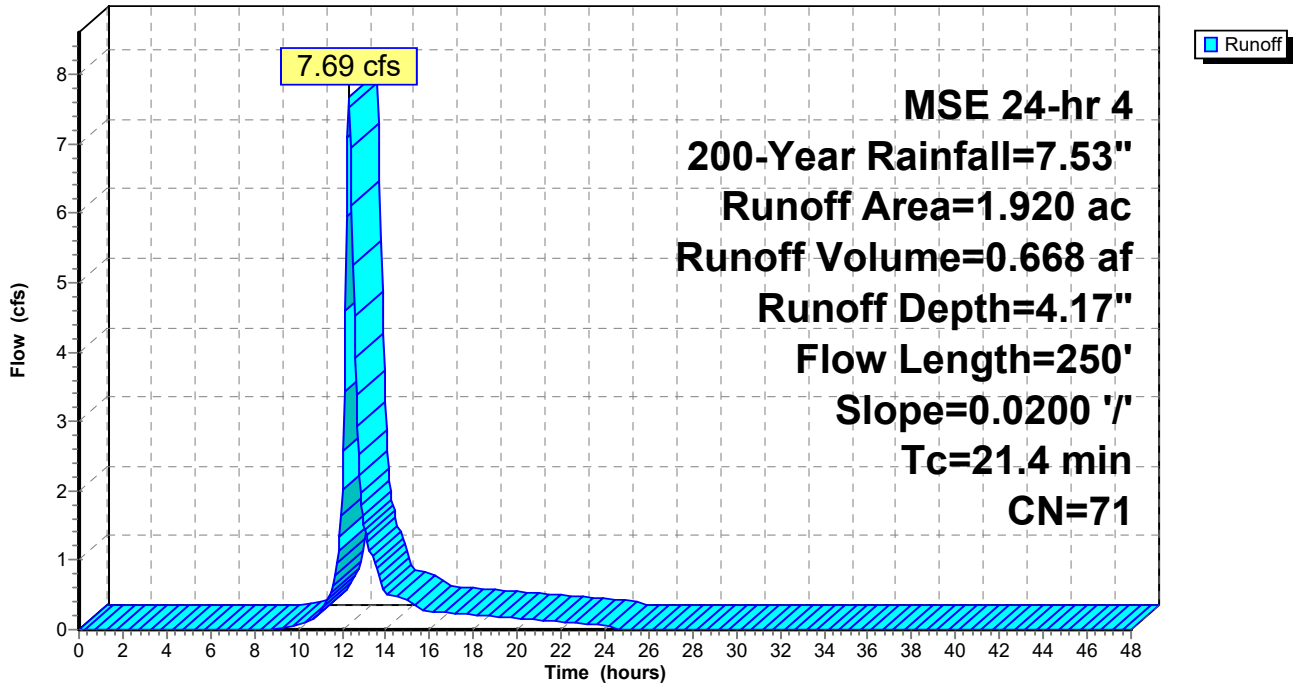
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5e OS: Offsite - Funeral

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 73

Summary for Subcatchment 5S: Pre-Developed - Kilkenny

Runoff = 134.70 cfs @ 12.30 hrs, Volume= 11.371 af, Depth= 3.84"
Routed to Reach 1R : Pre-Developed

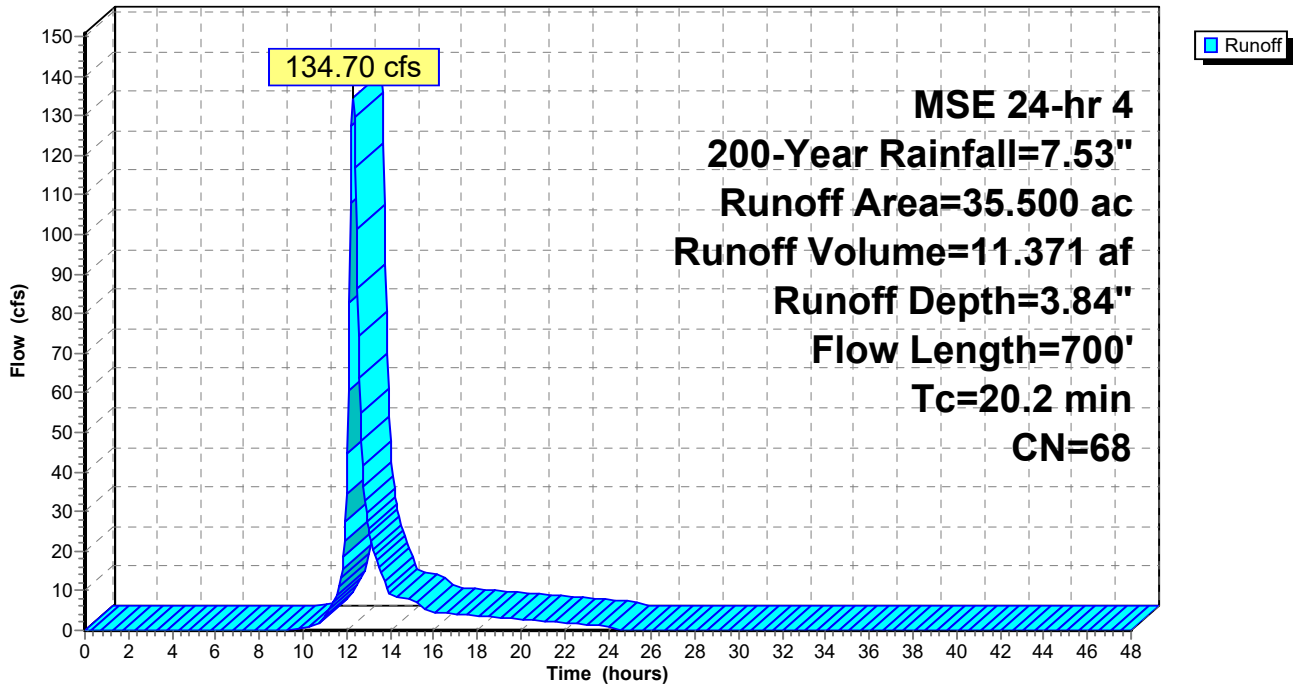
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 35.500	68	Pre-Developed Crop Land
35.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 5S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 74

Summary for Subcatchment 6S: Pre-Developed - Kilkenny

Runoff = 6.30 cfs @ 12.30 hrs, Volume= 0.532 af, Depth= 3.84"
 Routed to Reach 1R : Pre-Developed

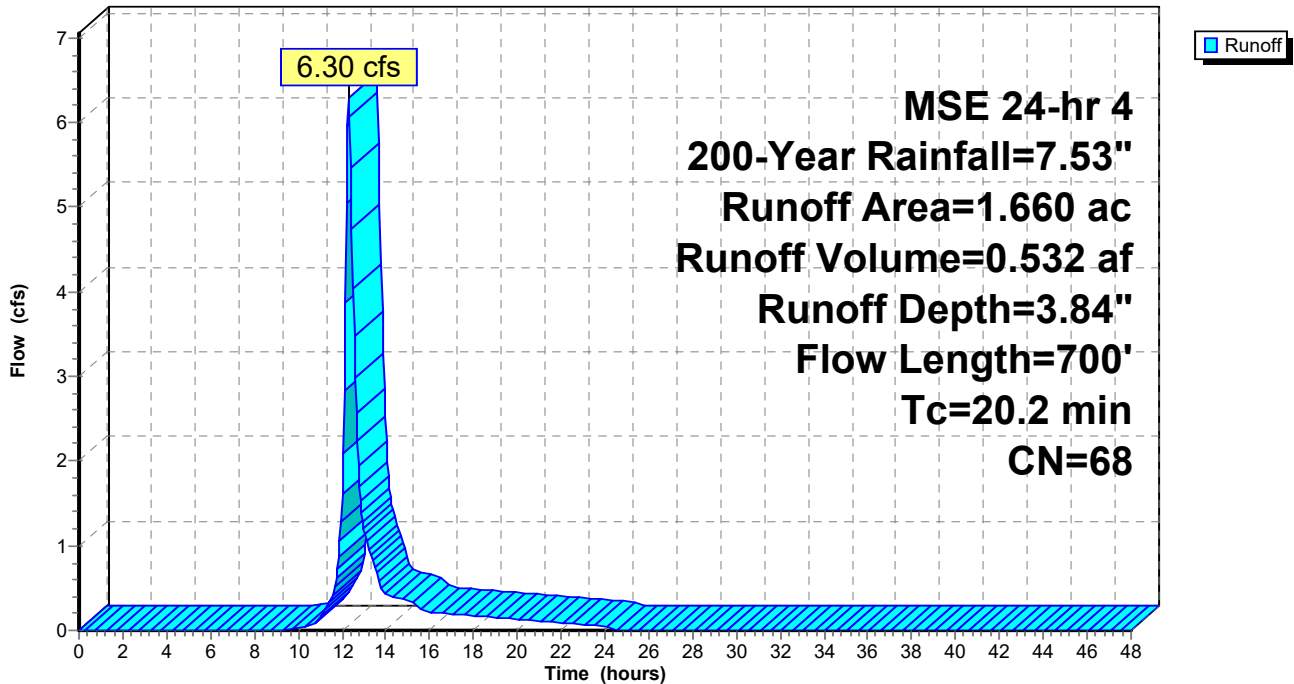
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.660	68	Pre-Developed Crop Land
1.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 6S: Pre-Developed - Kilkenny

Hydrograph



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Page 75

Summary for Subcatchment 7S: Pre-Developed - Kilkenny

Runoff = 10.10 cfs @ 12.30 hrs, Volume= 0.855 af, Depth= 4.62"
 Routed to Reach 1R : Pre-Developed

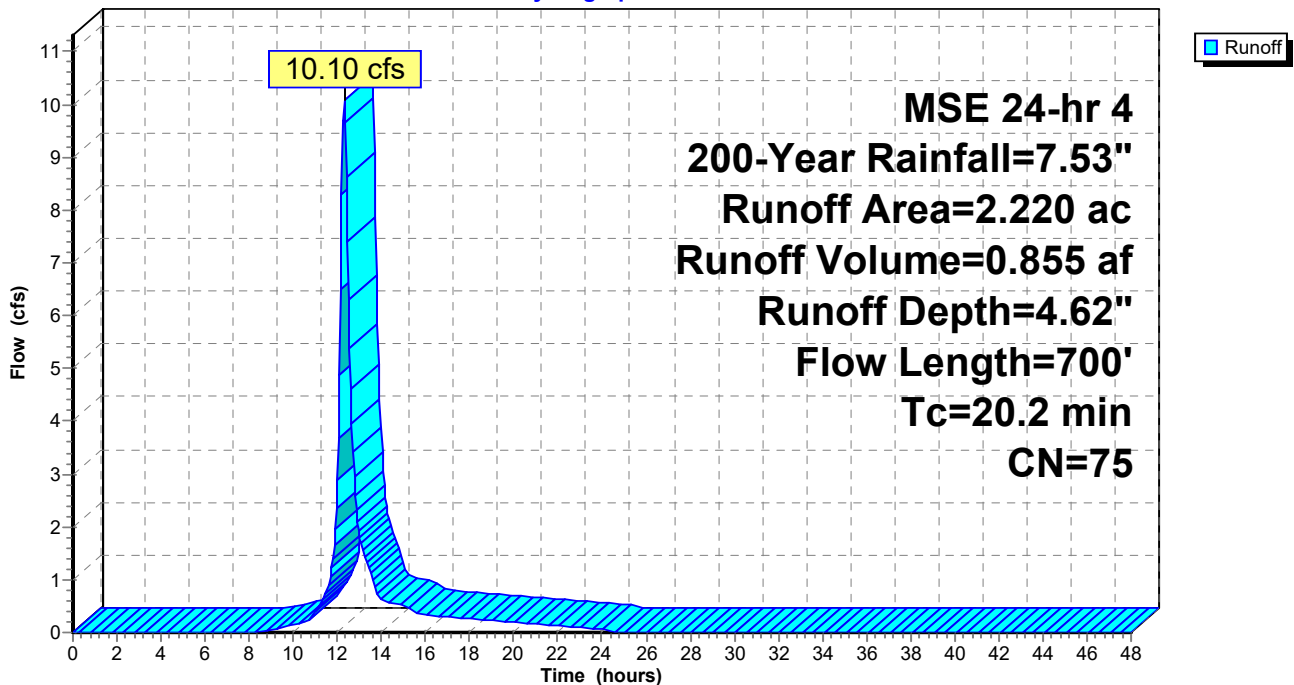
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.670	68	Pre-Developed Crop Land
* 0.300	98	House
* 0.250	98	Impervious
2.220	75	Weighted Average
1.670		75.23% Pervious Area
0.550		24.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 7S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 76

Summary for Subcatchment 8S: Pre-Developed - Kilkenny

Runoff = 5.01 cfs @ 12.30 hrs, Volume= 0.423 af, Depth= 3.84"
 Routed to Reach 1R : Pre-Developed

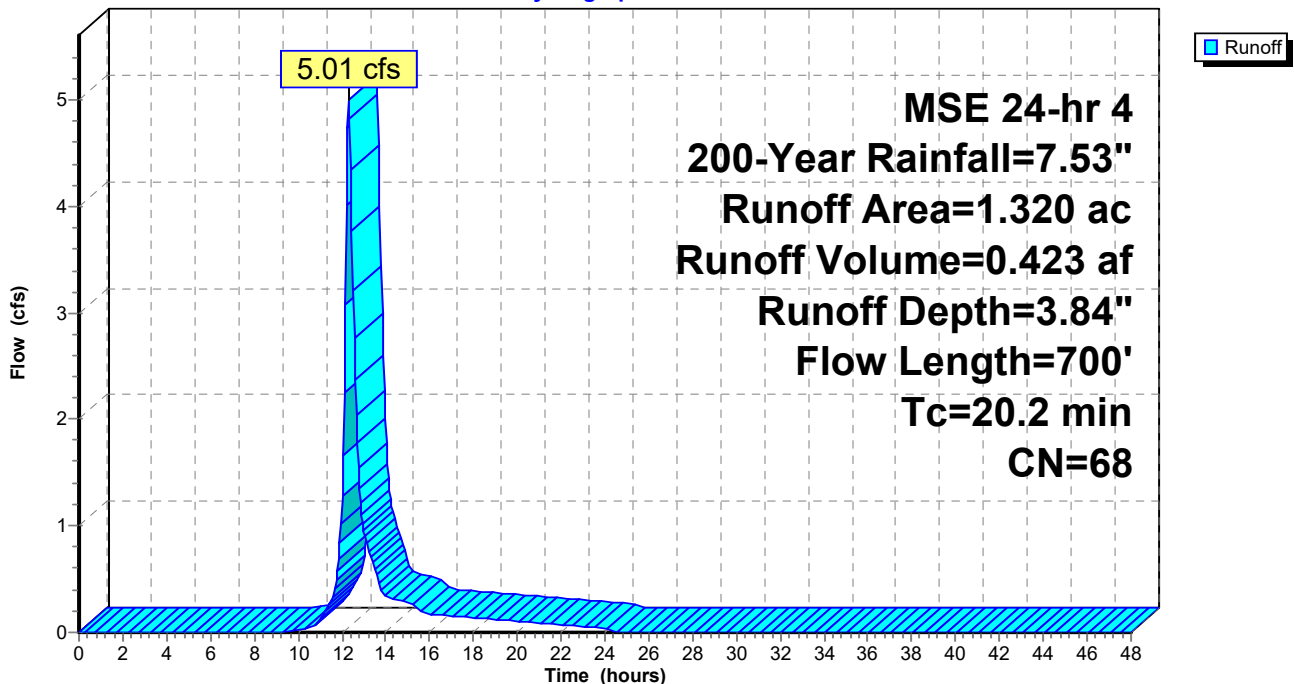
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.320	68	Pre-Developed Crop Land
1.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5	300	0.0830	0.32		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.90"
4.7	400	0.0250	1.42		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
20.2	700	Total			

Subcatchment 8S: Pre-Developed - Kilkenny

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 77

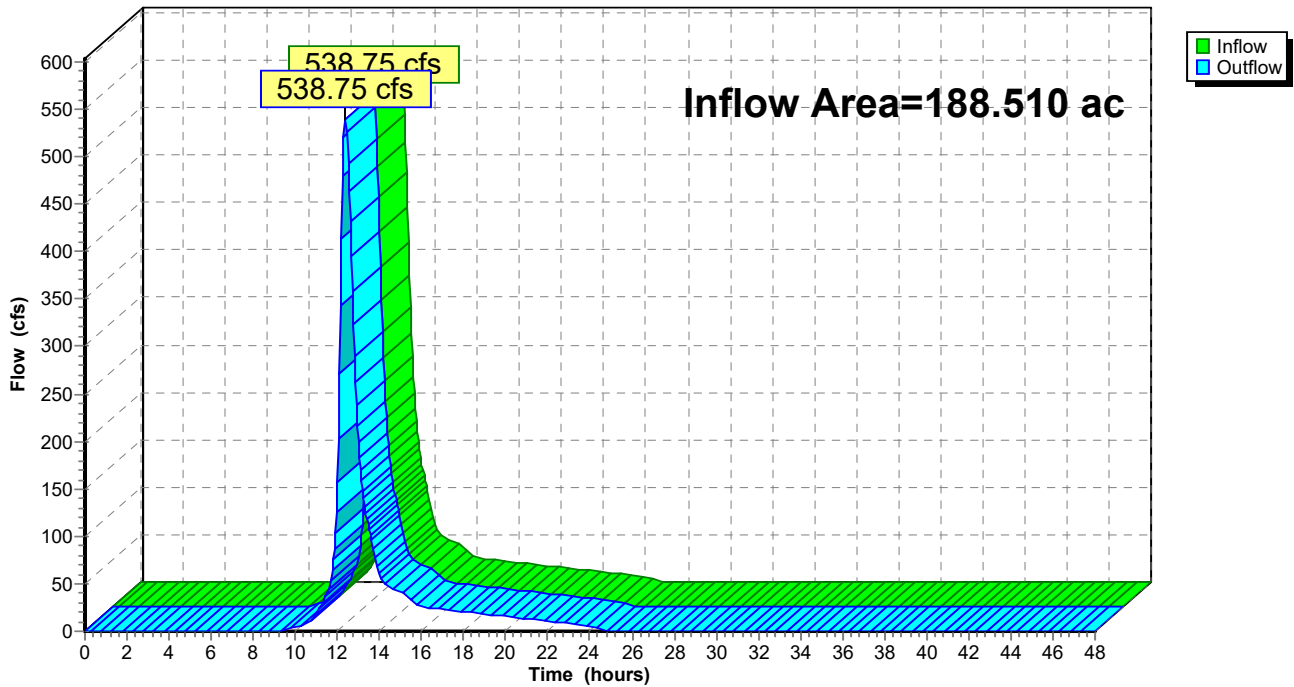
Summary for Reach 1R: Pre-Developed

Inflow Area = 188.510 ac, 5.76% Impervious, Inflow Depth = 3.98" for 200-Year event
Inflow = 538.75 cfs @ 12.37 hrs, Volume= 62.559 af
Outflow = 538.75 cfs @ 12.37 hrs, Volume= 62.559 af, Atten= 0%, Lag= 0.0 min

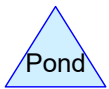
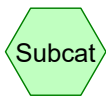
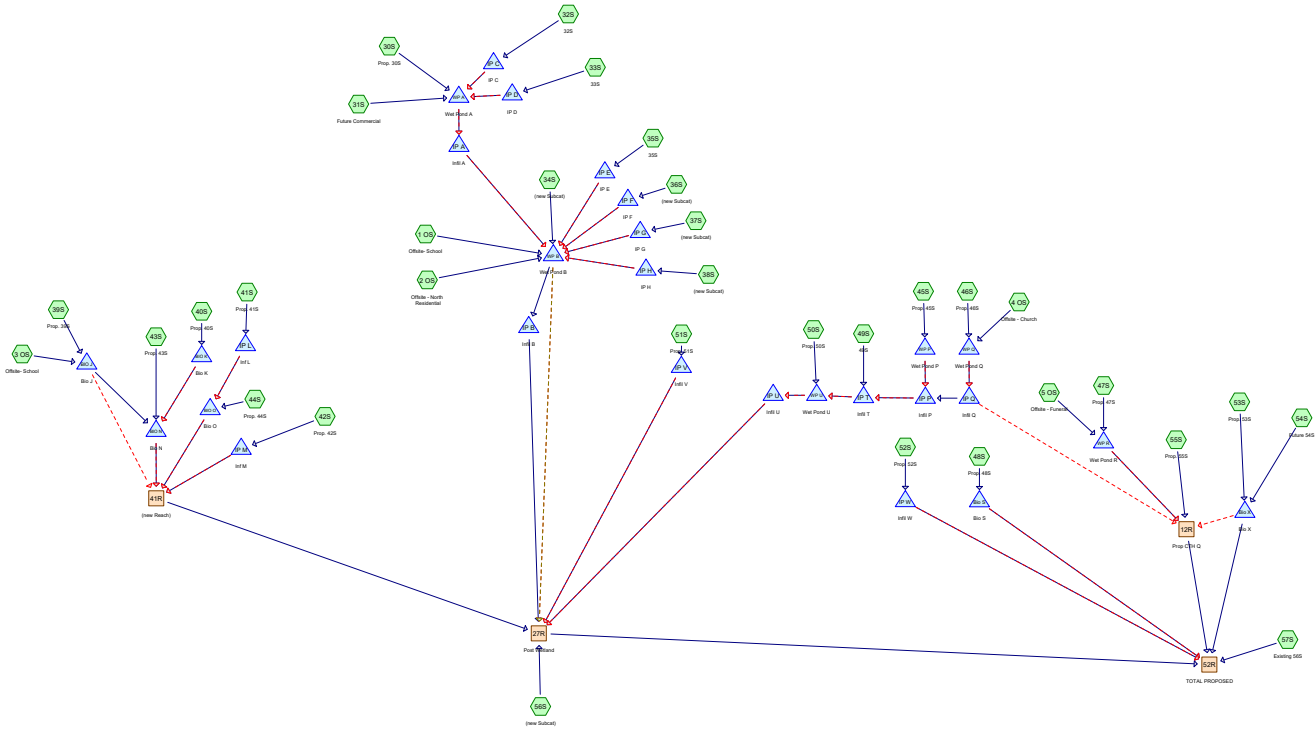
Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 1R: Pre-Developed

Hydrograph



4.2 Post-Developed



Routing Diagram for Kilkenny Phase Master
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Kilkenny Phase Master

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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	MSE 24-hr	4	Default	24.00	1	2.49	2
2	2-Year	MSE 24-hr	4	Default	24.00	1	2.84	2
3	10-Year	MSE 24-hr	4	Default	24.00	1	4.09	2
4	100-Year	MSE 24-hr	4	Default	24.00	1	6.66	2
5	200-Year	MSE 24-hr	4	Default	24.00	1	7.53	2

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 3

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1 OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=0.19" Flow Length=400' Tc=4.4 min CN=61 Runoff=0.33 cfs 0.042 af
Subcatchment 2 OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=0.27" Flow Length=500' Tc=4.6 min CN=64 Runoff=1.71 cfs 0.142 af
Subcatchment 3 OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=0.19" Tc=20.0 min CN=61 Runoff=0.43 cfs 0.084 af
Subcatchment 4 OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.19" Tc=10.0 min CN=61 Runoff=0.05 cfs 0.009 af
Subcatchment 5 OS: Offsite - Funeral	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=0.49" Flow Length=250' Slope=0.0200 '/' Tc=21.4 min CN=71 Runoff=0.73 cfs 0.078 af
Subcatchment 30S: Prop. 30S	Runoff Area=19.160 ac 59.39% Impervious Runoff Depth=1.05" Tc=10.0 min CN=83 Runoff=26.71 cfs 1.674 af
Subcatchment 31S: Future Commercial	Runoff Area=12.940 ac 0.00% Impervious Runoff Depth=0.38" Tc=20.0 min CN=68 Runoff=3.57 cfs 0.414 af
Subcatchment 32S: 32S	Runoff Area=3.690 ac 76.69% Impervious Runoff Depth=1.45" Tc=10.0 min CN=89 Runoff=7.10 cfs 0.445 af
Subcatchment 33S: 33S	Runoff Area=3.790 ac 63.59% Impervious Runoff Depth=1.17" Tc=10.0 min CN=85 Runoff=5.92 cfs 0.370 af
Subcatchment 34S: (new Subcat)	Runoff Area=26.860 ac 48.55% Impervious Runoff Depth=0.83" Tc=10.0 min CN=79 Runoff=29.04 cfs 1.859 af
Subcatchment 35S: 35S	Runoff Area=3.830 ac 62.92% Impervious Runoff Depth=1.11" Tc=10.0 min CN=84 Runoff=5.66 cfs 0.354 af
Subcatchment 36S: (new Subcat)	Runoff Area=4.440 ac 71.62% Impervious Runoff Depth=1.37" Tc=10.0 min CN=88 Runoff=8.13 cfs 0.508 af
Subcatchment 37S: (new Subcat)	Runoff Area=4.310 ac 70.53% Impervious Runoff Depth=1.30" Tc=10.0 min CN=87 Runoff=7.50 cfs 0.468 af
Subcatchment 38S: (new Subcat)	Runoff Area=2.410 ac 70.54% Impervious Runoff Depth=1.30" Tc=10.0 min CN=87 Runoff=4.19 cfs 0.262 af
Subcatchment 39S: Prop. 39S	Runoff Area=5.630 ac 63.41% Impervious Runoff Depth=1.17" Tc=10.0 min CN=85 Runoff=8.80 cfs 0.549 af
Subcatchment 40S: Prop. 40S	Runoff Area=4.180 ac 68.90% Impervious Runoff Depth=1.30" Tc=10.0 min CN=87 Runoff=7.27 cfs 0.454 af

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Page 4

Subcatchment41S: Prop. 41S	Runoff Area=2.260 ac 68.14% Impervious Runoff Depth=1.24" Tc=10.0 min CN=86 Runoff=3.73 cfs 0.233 af
Subcatchment42S: Prop. 42S	Runoff Area=1.090 ac 60.55% Impervious Runoff Depth=1.11" Tc=10.0 min CN=84 Runoff=1.61 cfs 0.101 af
Subcatchment43S: Prop. 43S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=1.05" Tc=10.0 min CN=83 Runoff=6.01 cfs 0.377 af
Subcatchment44S: Prop. 44S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=1.05" Tc=10.0 min CN=83 Runoff=6.01 cfs 0.377 af
Subcatchment45S: Prop. 45S	Runoff Area=9.510 ac 56.89% Impervious Runoff Depth=0.99" Tc=10.0 min CN=82 Runoff=12.48 cfs 0.785 af
Subcatchment46S: Prop. 46S	Runoff Area=13.970 ac 68.72% Impervious Runoff Depth=1.24" Tc=15.0 min CN=86 Runoff=19.71 cfs 1.438 af
Subcatchment47S: Prop. 47S	Runoff Area=2.660 ac 54.51% Impervious Runoff Depth=0.94" Tc=10.0 min CN=81 Runoff=3.28 cfs 0.207 af
Subcatchment48S: Prop. 48S	Runoff Area=2.440 ac 70.49% Impervious Runoff Depth=1.30" Tc=10.0 min CN=87 Runoff=4.24 cfs 0.265 af
Subcatchment49S: 49S	Runoff Area=2.250 ac 69.78% Impervious Runoff Depth=1.30" Tc=10.0 min CN=87 Runoff=3.91 cfs 0.244 af
Subcatchment50S: Prop. 50S	Runoff Area=5.240 ac 65.84% Impervious Runoff Depth=1.17" Tc=10.0 min CN=85 Runoff=8.19 cfs 0.511 af
Subcatchment51S: Prop. 51S	Runoff Area=1.550 ac 57.42% Impervious Runoff Depth=1.05" Tc=10.0 min CN=83 Runoff=2.16 cfs 0.135 af
Subcatchment52S: Prop. 52S	Runoff Area=3.440 ac 68.90% Impervious Runoff Depth=1.30" Tc=10.0 min CN=87 Runoff=5.98 cfs 0.373 af
Subcatchment53S: Prop. 53S	Runoff Area=4.050 ac 67.16% Impervious Runoff Depth=1.24" Tc=10.0 min CN=86 Runoff=6.68 cfs 0.417 af
Subcatchment54S: Future 54S	Runoff Area=3.150 ac 0.00% Impervious Runoff Depth=0.38" Tc=15.0 min CN=68 Runoff=1.00 cfs 0.101 af
Subcatchment55S: Prop. 55S	Runoff Area=2.230 ac 46.64% Impervious Runoff Depth=0.78" Tc=10.0 min CN=78 Runoff=2.25 cfs 0.145 af
Subcatchment56S: (new Subcat)	Runoff Area=16.060 ac 73.04% Impervious Runoff Depth=1.45" Tc=10.0 min CN=89 Runoff=30.88 cfs 1.935 af
Subcatchment57S: Existing 56S	Runoff Area=2.060 ac 26.70% Impervious Runoff Depth=0.49" Tc=10.0 min CN=71 Runoff=1.14 cfs 0.083 af

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Page 5

Reach 12R: Prop CTH Q

Inflow=2.45 cfs 0.426 af
Outflow=2.45 cfs 0.426 af

Reach 27R: Post Wetland

Inflow=31.06 cfs 7.963 af
Outflow=31.06 cfs 7.963 af

Reach 41R: (new Reach)

Inflow=0.97 cfs 0.731 af
Outflow=0.97 cfs 0.731 af

Reach 52R: TOTAL PROPOSED

Inflow=40.21 cfs 9.224 af
Outflow=40.21 cfs 9.224 af

Pond BIO J: Bio J

Peak Elev=922.08' Storage=12,478 cf Inflow=8.85 cfs 0.634 af
Discarded=0.07 cfs 0.194 af Primary=1.54 cfs 0.416 af Secondary=0.00 cfs 0.000 af Outflow=1.60 cfs 0.610 af

Pond BIO K: Bio K

Peak Elev=919.56' Storage=10,362 cf Inflow=7.27 cfs 0.454 af
Discarded=0.06 cfs 0.163 af Primary=0.65 cfs 0.273 af Secondary=0.00 cfs 0.000 af Outflow=0.71 cfs 0.436 af

Pond BIO N: Bio N

Peak Elev=910.45' Storage=26,078 cf Inflow=6.43 cfs 1.065 af
Discarded=0.15 cfs 0.424 af Primary=0.64 cfs 0.560 af Secondary=0.00 cfs 0.000 af Outflow=0.78 cfs 0.984 af

Pond BIO O: Bio O

Peak Elev=907.77' Storage=16,498 cf Inflow=6.91 cfs 0.580 af
Discarded=0.14 cfs 0.420 af Primary=0.33 cfs 0.122 af Secondary=0.00 cfs 0.000 af Outflow=0.46 cfs 0.542 af

Pond Bio S: Bio S

Peak Elev=922.11' Storage=6,107 cf Inflow=4.24 cfs 0.265 af
Discarded=0.05 cfs 0.150 af Primary=0.41 cfs 0.102 af Secondary=0.00 cfs 0.000 af Outflow=0.46 cfs 0.251 af

Pond Bio X: Bio X

Peak Elev=948.38' Storage=0.266 af Inflow=7.40 cfs 0.518 af
Discarded=0.07 cfs 0.198 af Primary=0.62 cfs 0.297 af Secondary=0.00 cfs 0.000 af Outflow=0.69 cfs 0.495 af

Pond IP A: Infil A

Peak Elev=922.81' Storage=0.854 af Inflow=2.93 cfs 2.573 af
Discarded=0.24 cfs 0.618 af Primary=1.08 cfs 1.954 af Secondary=0.00 cfs 0.000 af Outflow=1.32 cfs 2.572 af

Pond IP B: Infil B

Peak Elev=910.64' Storage=0.944 af Inflow=6.08 cfs 4.458 af
Discarded=0.55 cfs 1.576 af Primary=2.74 cfs 2.706 af Outflow=3.29 cfs 4.282 af

Pond IP C: IP C

Peak Elev=935.30' Storage=9,601 cf Inflow=7.10 cfs 0.445 af
Discarded=0.08 cfs 0.101 af Primary=0.77 cfs 0.344 af Secondary=0.00 cfs 0.000 af Outflow=0.84 cfs 0.445 af

Pond IP D: IP D

Peak Elev=935.97' Storage=7,772 cf Inflow=5.92 cfs 0.370 af
Discarded=0.07 cfs 0.095 af Primary=0.56 cfs 0.274 af Secondary=0.00 cfs 0.000 af Outflow=0.64 cfs 0.370 af

Pond IP E: IP E

Peak Elev=929.85' Storage=7,340 cf Inflow=5.66 cfs 0.354 af
Discarded=0.07 cfs 0.098 af Primary=0.54 cfs 0.256 af Secondary=0.00 cfs 0.000 af Outflow=0.61 cfs 0.354 af

Pond IP F: IP F

Peak Elev=925.72' Storage=11,922 cf Inflow=8.13 cfs 0.508 af
Discarded=0.12 cfs 0.184 af Primary=0.52 cfs 0.324 af Secondary=0.00 cfs 0.000 af Outflow=0.64 cfs 0.508 af

Pond IP G: IP G

Peak Elev=922.54' Storage=10,778 cf Inflow=7.50 cfs 0.468 af
Discarded=0.12 cfs 0.187 af Primary=0.49 cfs 0.281 af Secondary=0.00 cfs 0.000 af Outflow=0.61 cfs 0.468 af

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Page 6

Pond IP H: IP H Peak Elev=924.87' Storage=4,131 cf Inflow=4.19 cfs 0.262 af
Discarded=0.03 cfs 0.029 af Primary=1.04 cfs 0.233 af Secondary=0.00 cfs 0.000 af Outflow=1.07 cfs 0.262 af

Pond IP L: Inf L Peak Elev=920.13' Storage=2,875 cf Inflow=3.73 cfs 0.233 af
Discarded=0.03 cfs 0.029 af Primary=2.50 cfs 0.204 af Secondary=0.00 cfs 0.000 af Outflow=2.53 cfs 0.233 af

Pond IP M: Inf M Peak Elev=926.91' Storage=1,704 cf Inflow=1.61 cfs 0.101 af
Discarded=0.03 cfs 0.052 af Primary=0.36 cfs 0.048 af Secondary=0.00 cfs 0.000 af Outflow=0.40 cfs 0.101 af

Pond IP P: Infil P Peak Elev=936.80' Storage=0.664 af Inflow=3.65 cfs 2.098 af
Discarded=0.21 cfs 0.407 af Primary=1.08 cfs 1.691 af Secondary=0.00 cfs 0.000 af Outflow=1.28 cfs 2.098 af

Pond IP Q: Infil Q Peak Elev=941.05' Storage=0.483 af Inflow=11.69 cfs 1.444 af
Discarded=0.10 cfs 0.121 af Primary=1.83 cfs 1.323 af Secondary=0.00 cfs 0.000 af Outflow=1.93 cfs 1.444 af

Pond IP T: Infil T Peak Elev=927.92' Storage=0.060 af Inflow=4.04 cfs 1.936 af
Discarded=0.03 cfs 0.070 af Primary=3.55 cfs 1.865 af Secondary=0.00 cfs 0.000 af Outflow=3.58 cfs 1.936 af

Pond IP U: Infil U Peak Elev=918.77' Storage=0.378 af Inflow=2.31 cfs 2.369 af
Discarded=0.11 cfs 0.277 af Primary=1.07 cfs 2.092 af Secondary=0.00 cfs 0.000 af Outflow=1.18 cfs 2.369 af

Pond IP V: Infil V Peak Elev=905.66' Storage=0.065 af Inflow=2.16 cfs 0.135 af
Discarded=0.15 cfs 0.135 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.135 af

Pond IP W: Infil W Peak Elev=914.06' Storage=0.051 af Inflow=5.98 cfs 0.373 af
Discarded=0.03 cfs 0.021 af Primary=5.79 cfs 0.352 af Secondary=0.00 cfs 0.000 af Outflow=5.81 cfs 0.373 af

Pond WP A: Wet Pond A Peak Elev=923.10' Storage=1.252 af Inflow=29.26 cfs 2.705 af
Primary=2.93 cfs 2.573 af Secondary=0.00 cfs 0.000 af Outflow=2.93 cfs 2.573 af

Pond WP B: Wet Pond B Peak Elev=911.61' Storage=0.834 af Inflow=32.56 cfs 5.091 af
Primary=6.08 cfs 4.458 af Secondary=3.01 cfs 0.499 af Tertiary=0.00 cfs 0.000 af Outflow=9.10 cfs 4.957 af

Pond WP P: Wet Pond P Peak Elev=937.19' Storage=0.339 af Inflow=12.48 cfs 0.785 af
Primary=1.92 cfs 0.776 af Secondary=0.00 cfs 0.000 af Outflow=1.92 cfs 0.776 af

Pond WP Q: Wet Pond Q Peak Elev=941.47' Storage=0.422 af Inflow=19.76 cfs 1.447 af
Primary=11.69 cfs 1.444 af Secondary=0.00 cfs 0.000 af Outflow=11.69 cfs 1.444 af

Pond WP R: Wet Pond R Peak Elev=935.63' Storage=0.121 af Inflow=3.65 cfs 0.285 af
Primary=0.59 cfs 0.280 af Secondary=0.00 cfs 0.000 af Outflow=0.59 cfs 0.280 af

Pond WP U: Wet Pond U Peak Elev=919.56' Storage=0.283 af Inflow=10.92 cfs 2.376 af
Primary=2.31 cfs 2.369 af Secondary=0.00 cfs 0.000 af Outflow=2.31 cfs 2.369 af

Total Runoff Area = 188.510 ac Runoff Volume = 15.437 af Average Runoff Depth = 0.98"
48.50% Pervious = 91.420 ac 51.50% Impervious = 97.090 ac

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 7

Summary for Subcatchment 1 OS: Offsite- School

Runoff = 0.33 cfs @ 12.16 hrs, Volume= 0.042 af, Depth= 0.19"
Routed to Pond WP B : Wet Pond B

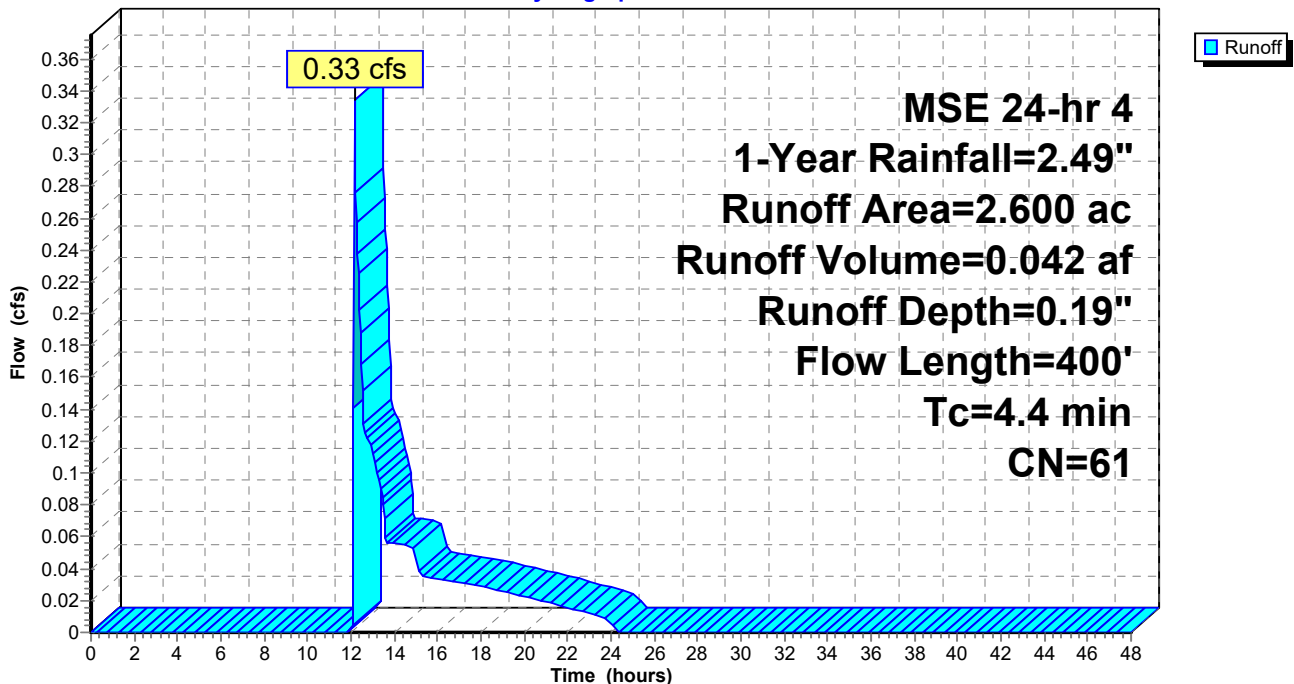
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.0	300	0.1000	5.09		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.4	400	Total			

Subcatchment 1 OS: Offsite- School

Hydrograph



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Page 8

Summary for Subcatchment 2 OS: Offsite - North Residential

Runoff = 1.71 cfs @ 12.15 hrs, Volume= 0.142 af, Depth= 0.27"
 Routed to Pond WP B : Wet Pond B

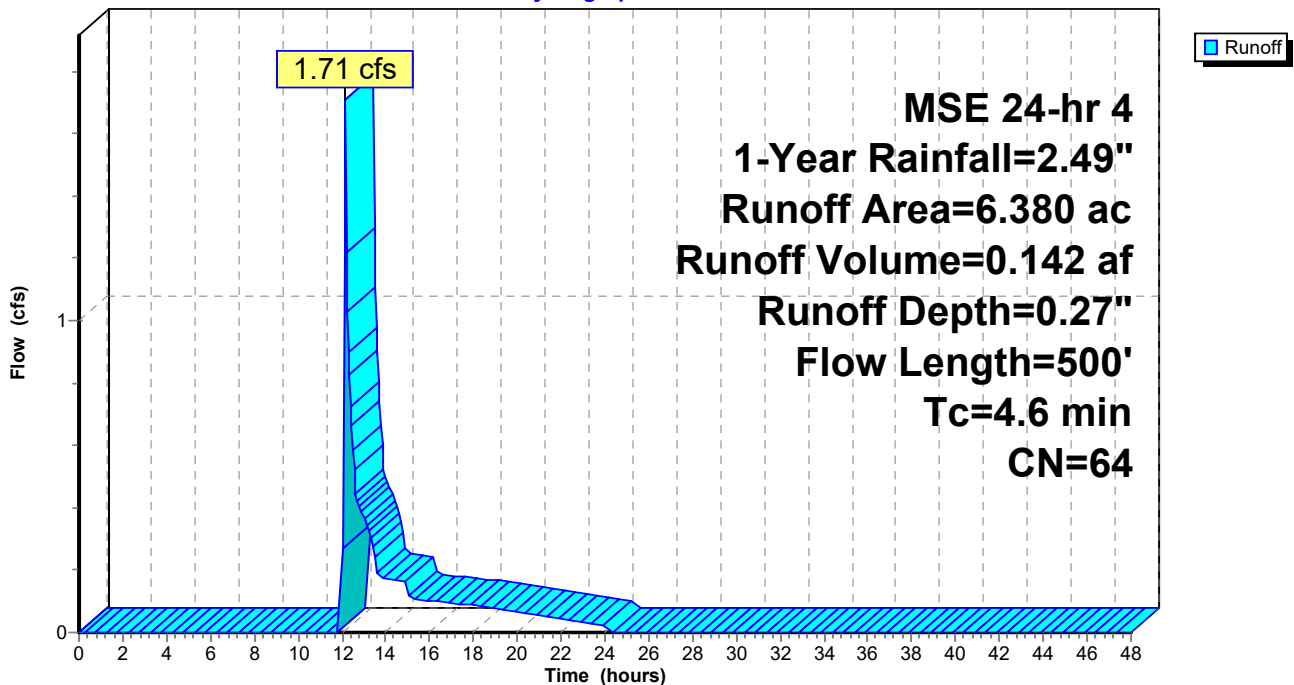
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2 OS: Offsite - North Residential

Hydrograph



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Page 9

Summary for Subcatchment 3 OS: Offsite- School

Runoff = 0.43 cfs @ 12.49 hrs, Volume= 0.084 af, Depth= 0.19"
Routed to Pond BIO J : Bio J

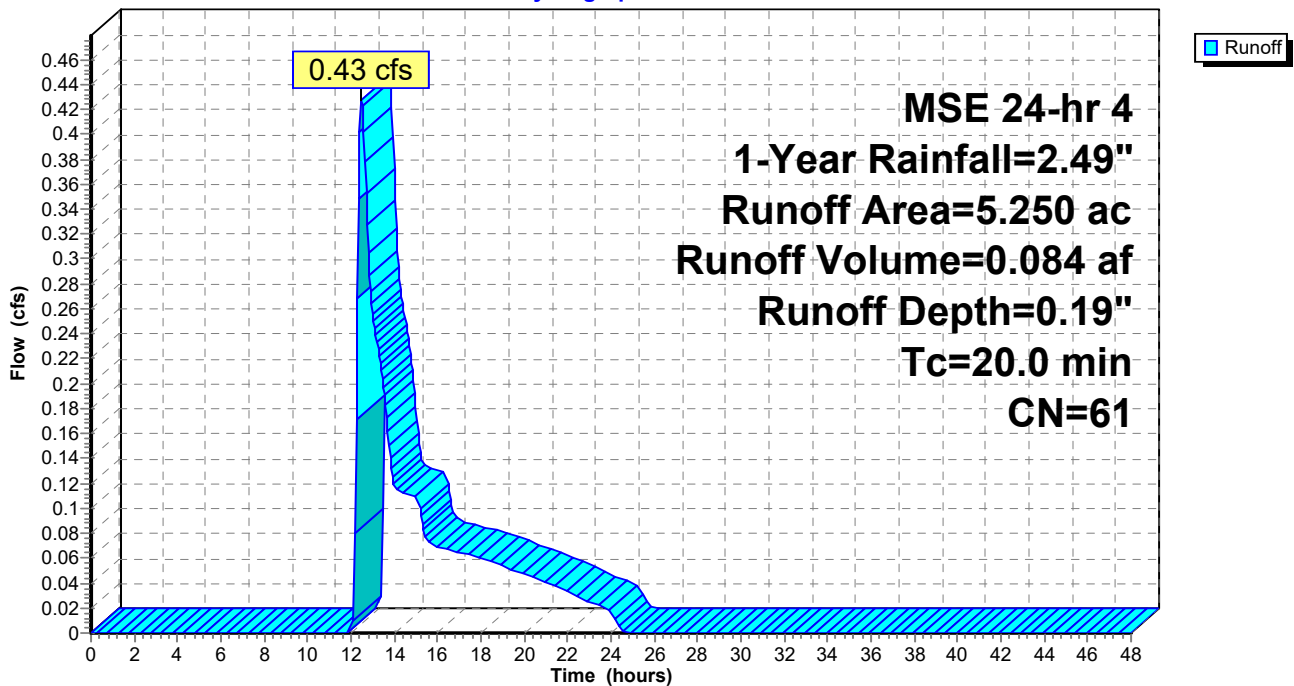
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3 OS: Offsite- School

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 10

Summary for Subcatchment 4 OS: Offsite - Church

Runoff = 0.05 cfs @ 12.28 hrs, Volume= 0.009 af, Depth= 0.19"
Routed to Pond WP Q : Wet Pond Q

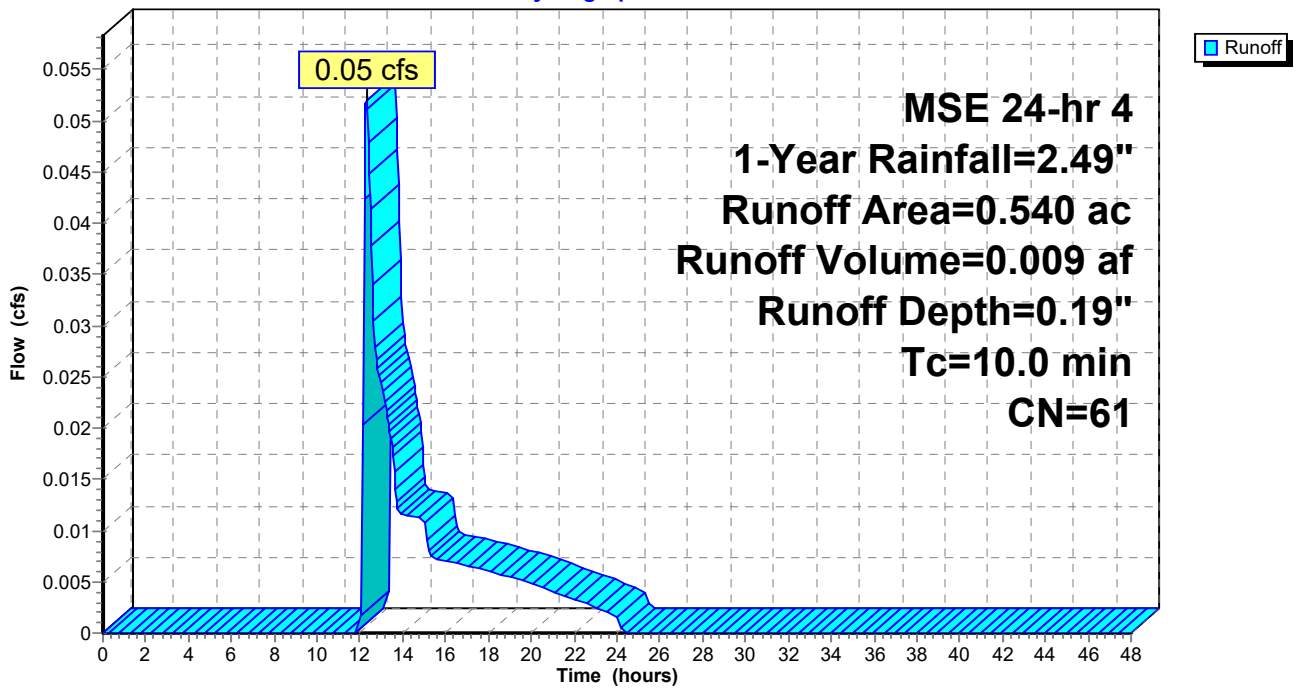
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4 OS: Offsite - Church

Hydrograph



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Page 11

Summary for Subcatchment 5 OS: Offsite - Funeral

Runoff = 0.73 cfs @ 12.37 hrs, Volume= 0.078 af, Depth= 0.49"
 Routed to Pond WP R : Wet Pond R

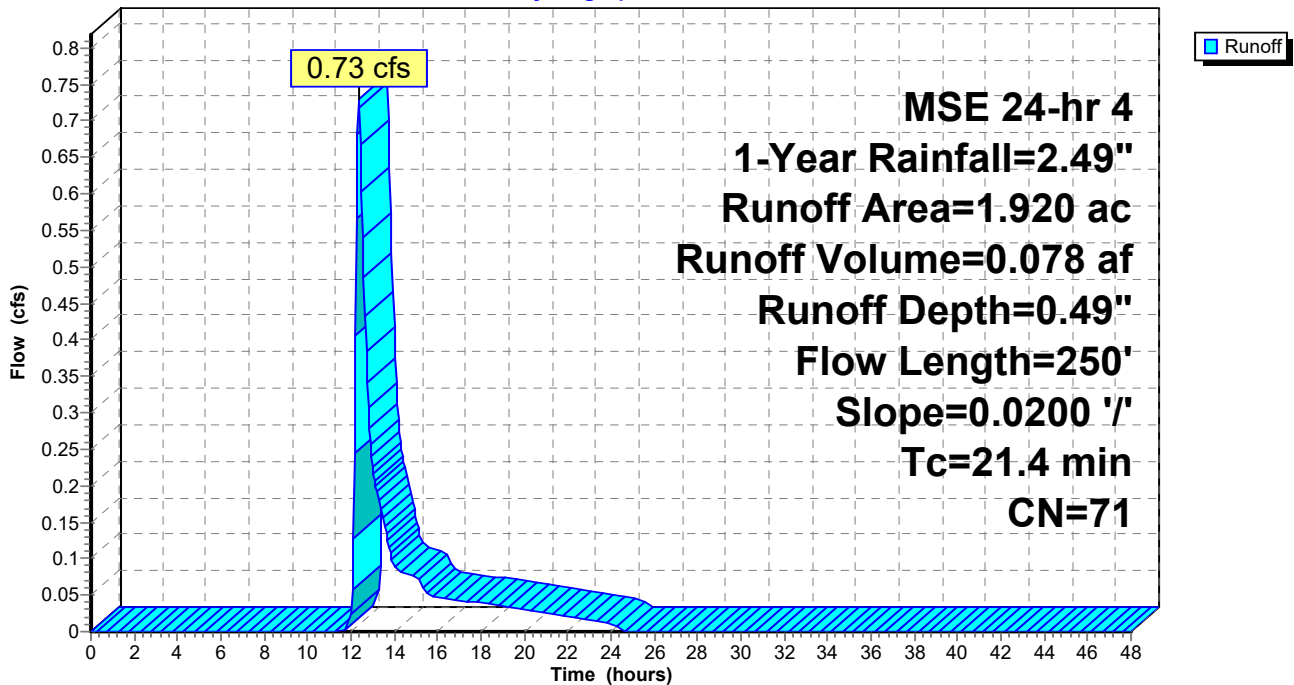
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5 OS: Offsite - Funeral

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 12

Summary for Subcatchment 30S: Prop. 30S

Runoff = 26.71 cfs @ 12.18 hrs, Volume= 1.674 af, Depth= 1.05"
 Routed to Pond WP A : Wet Pond A

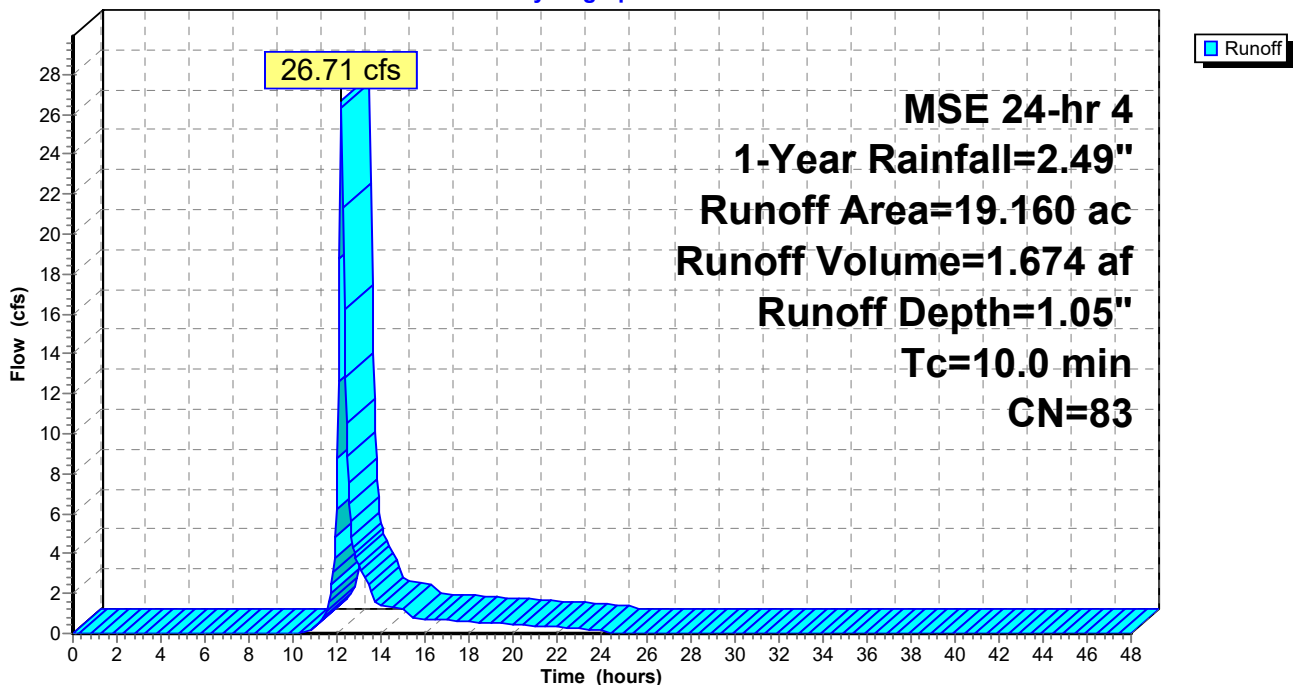
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 2.910	98	Roofs
* 1.450	98	Driveways
* 1.450	98	Sidewalks - House
* 0.900	98	Sidewalks - Street
* 3.240	98	Streets
7.780	61	>75% Grass cover, Good, HSG B
* 1.070	100	Wet Pond
* 0.360	100	Infiltration
19.160	83	Weighted Average
7.780		40.61% Pervious Area
11.380		59.39% Impervious Area

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

Subcatchment 30S: Prop. 30S

Hydrograph



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Page 13

Summary for Subcatchment 31S: Future Commercial

Runoff = 3.57 cfs @ 12.36 hrs, Volume= 0.414 af, Depth= 0.38"
Routed to Pond WP A : Wet Pond A

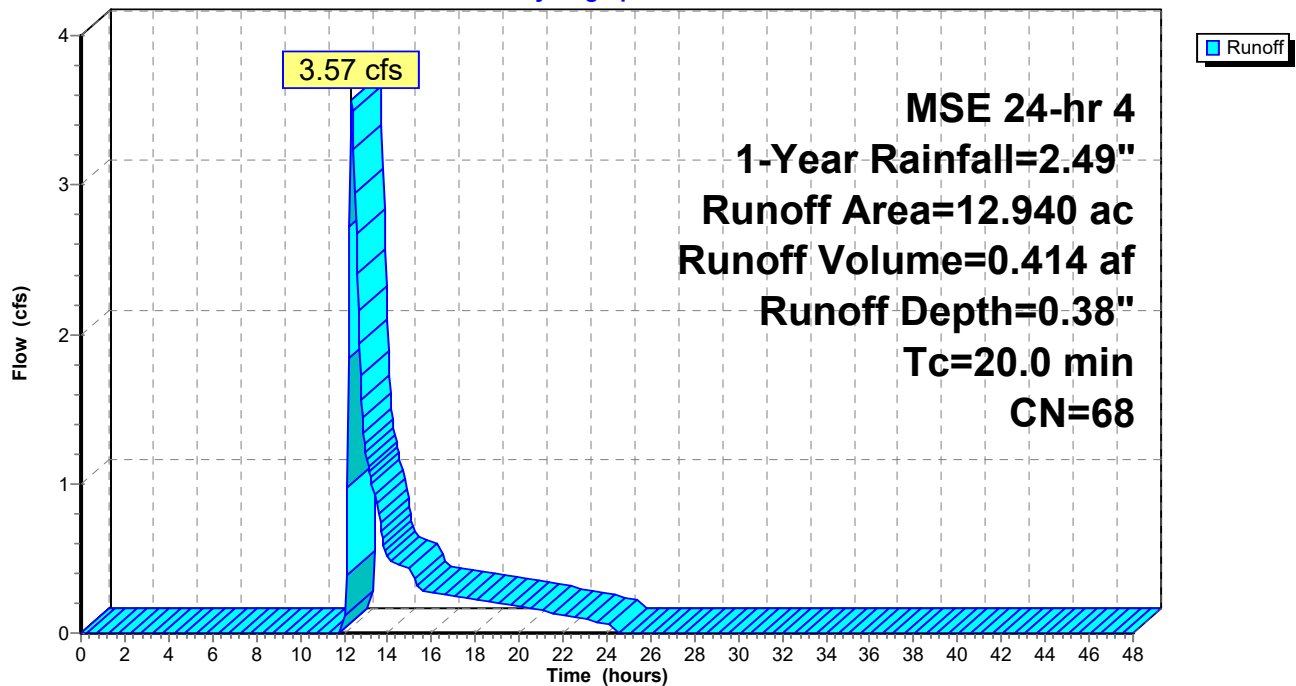
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 12.940	68	B Soil Row Crop
12.940		100.00% Pervious Area

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

Subcatchment 31S: Future Commercial

Hydrograph



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Page 14

Summary for Subcatchment 32S: 32S

Runoff = 7.10 cfs @ 12.18 hrs, Volume= 0.445 af, Depth= 1.45"
 Routed to Pond IP C : IP C

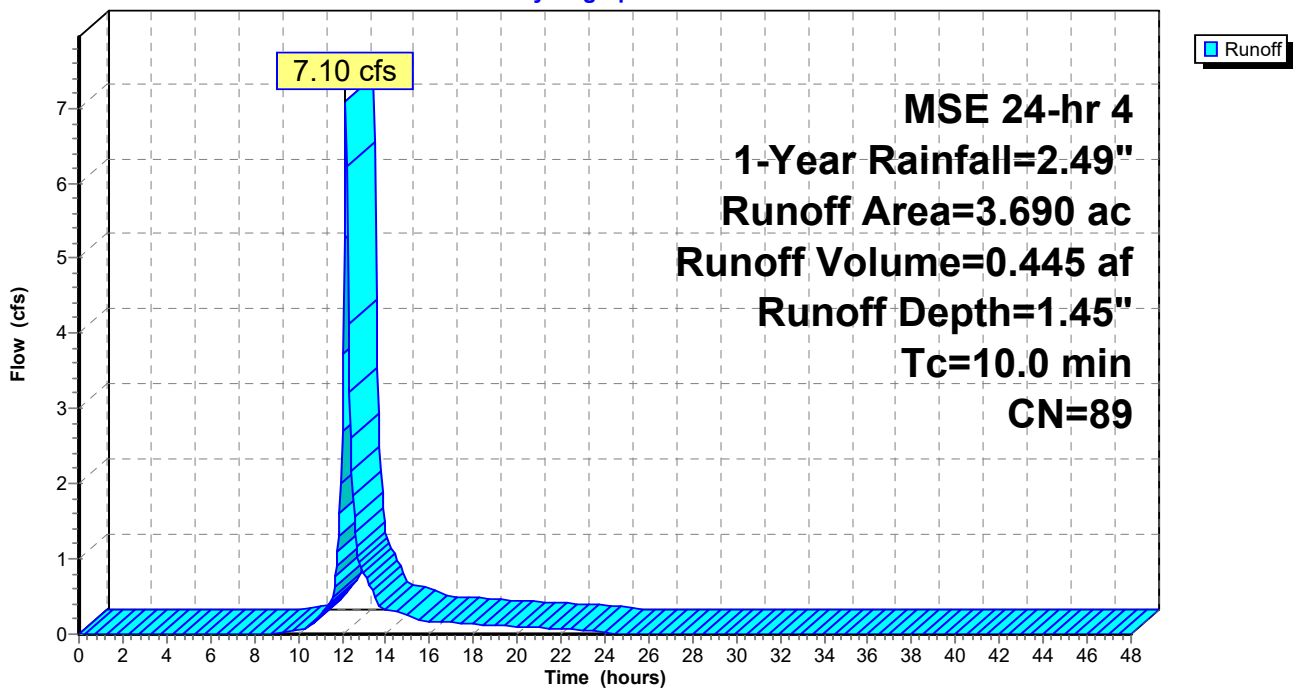
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.370	98	Roof
* 0.680	98	Patio
* 0.680	98	Driveways
0.860	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.690	89	Weighted Average
0.860		23.31% Pervious Area
2.830		76.69% Impervious Area

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

Subcatchment 32S: 32S

Hydrograph



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Page 15

Summary for Subcatchment 33S: 33S

Runoff = 5.92 cfs @ 12.18 hrs, Volume= 0.370 af, Depth= 1.17"
Routed to Pond IP D : IP D

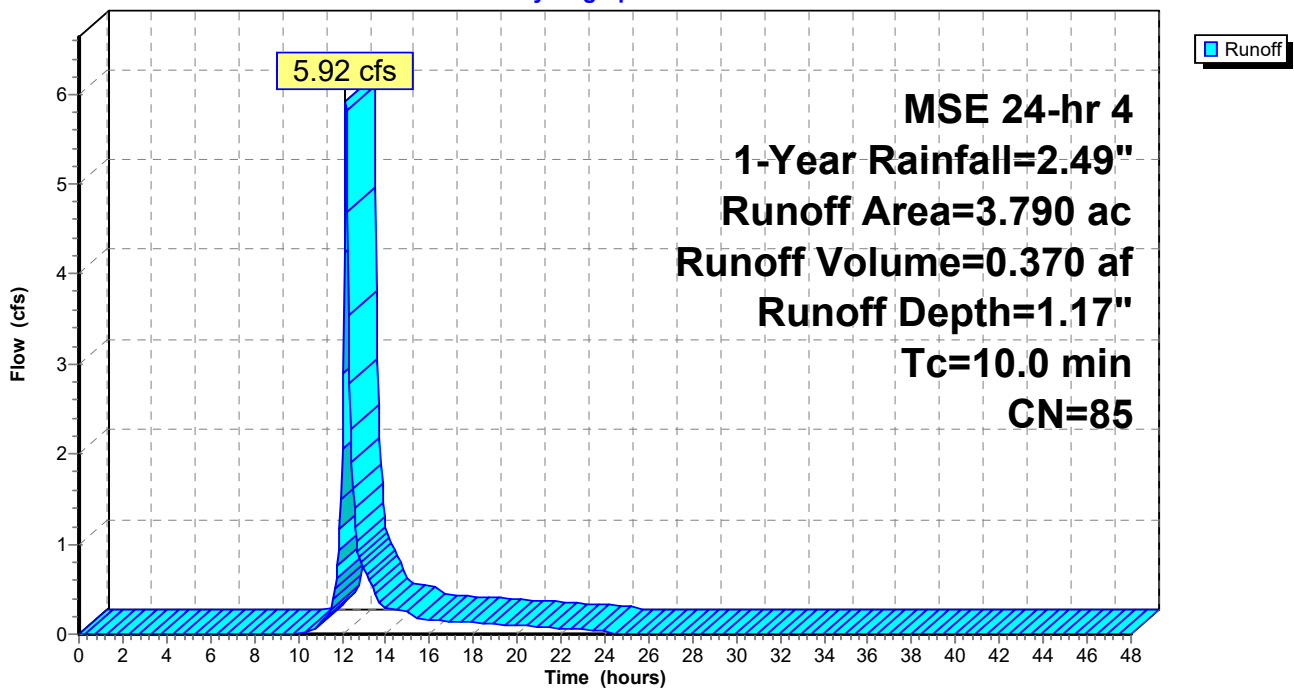
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.380	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.790	85	Weighted Average
1.380		36.41% Pervious Area
2.410		63.59% Impervious Area

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

Subcatchment 33S: 33S

Hydrograph



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Page 16

Summary for Subcatchment 34S: (new Subcat)

Runoff = 29.04 cfs @ 12.19 hrs, Volume= 1.859 af, Depth= 0.83"
 Routed to Pond WP B : Wet Pond B

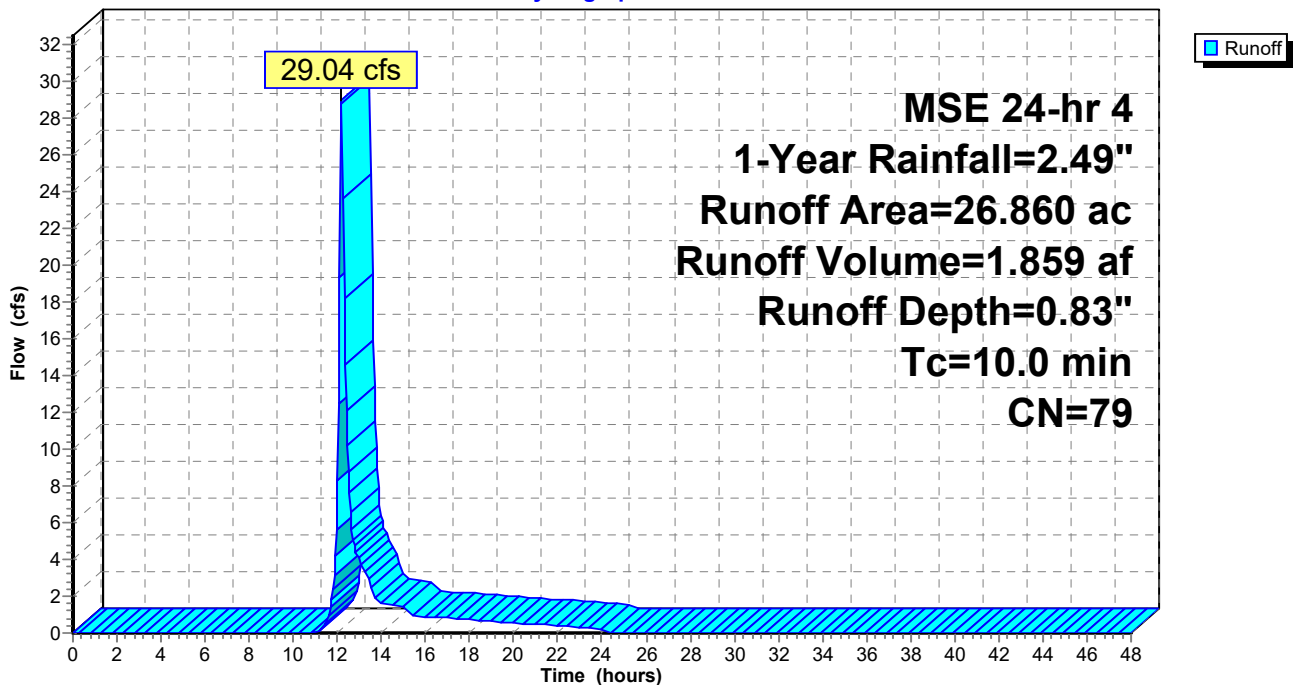
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 2.640	98	Roofs
* 0.210	98	Parking
* 1.320	98	Driveways
* 1.320	98	Sidewalks - House
* 1.190	98	Sidewalks - Street
* 4.050	98	Streets
13.820	61	>75% Grass cover, Good, HSG B
* 1.320	100	Wet Pond
* 0.990	100	Infiltration
26.860	79	Weighted Average
13.820		51.45% Pervious Area
13.040		48.55% Impervious Area

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

Subcatchment 34S: (new Subcat)

Hydrograph



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Page 17

Summary for Subcatchment 35S: 35S

Runoff = 5.66 cfs @ 12.18 hrs, Volume= 0.354 af, Depth= 1.11"
Routed to Pond IP E : IP E

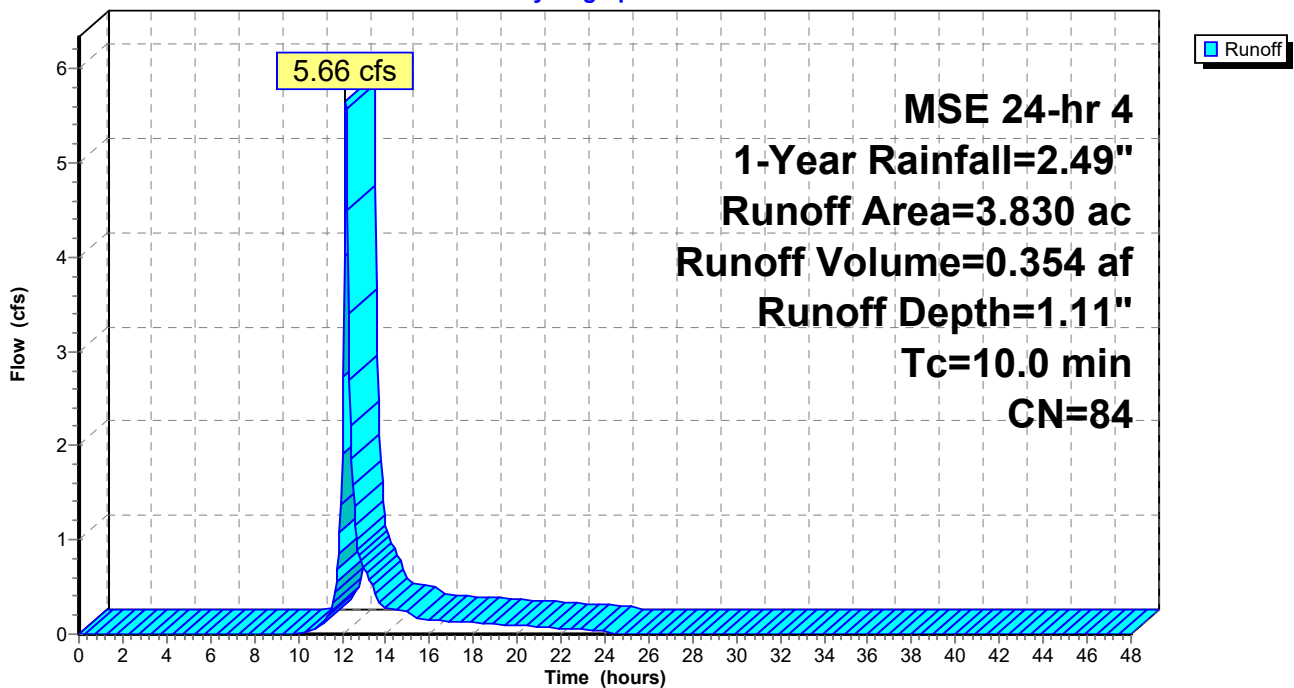
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.420	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.830	84	Weighted Average
1.420		37.08% Pervious Area
2.410		62.92% Impervious Area

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

Subcatchment 35S: 35S

Hydrograph



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Page 18

Summary for Subcatchment 36S: (new Subcat)

Runoff = 8.13 cfs @ 12.18 hrs, Volume= 0.508 af, Depth= 1.37"
 Routed to Pond IP F : IP F

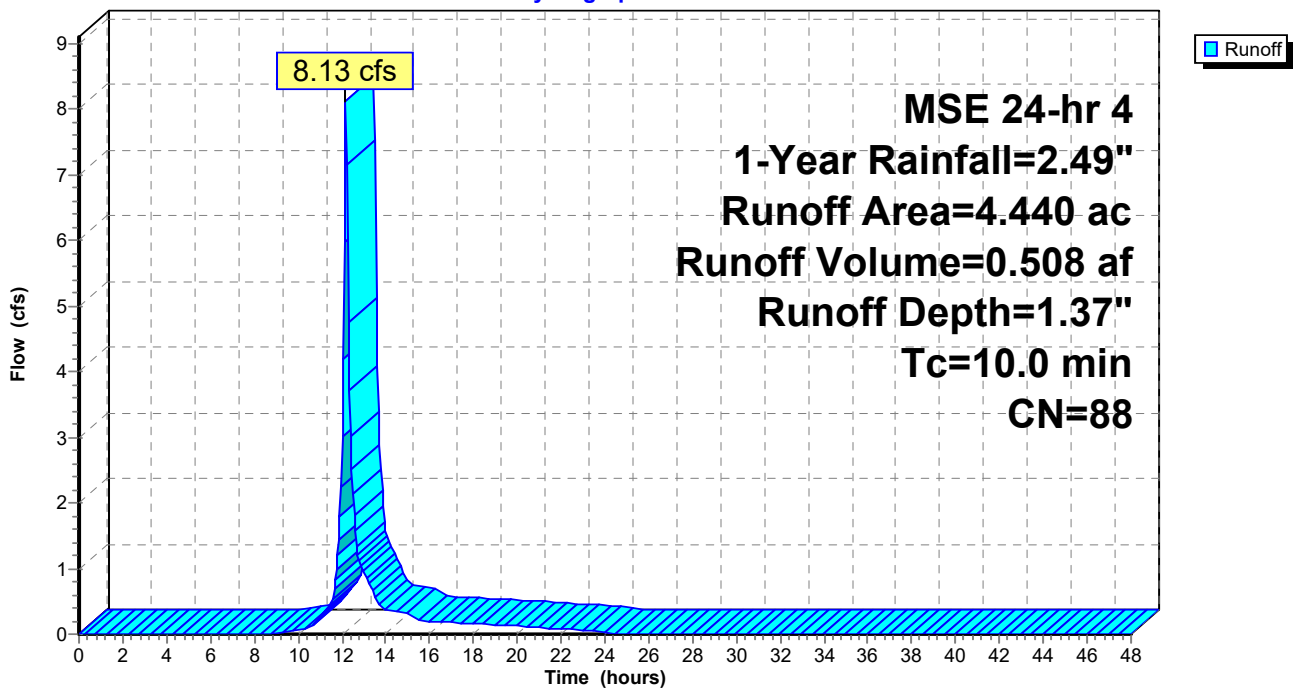
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.490	98	Roof
* 0.750	98	Patio
* 0.750	98	Driveways
1.260	61	>75% Grass cover, Good, HSG B
* 0.190	100	Infiltration Basin
4.440	88	Weighted Average
1.260		28.38% Pervious Area
3.180		71.62% Impervious Area

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

Subcatchment 36S: (new Subcat)

Hydrograph



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Page 19

Summary for Subcatchment 37S: (new Subcat)

Runoff = 7.50 cfs @ 12.18 hrs, Volume= 0.468 af, Depth= 1.30"
 Routed to Pond IP G : IP G

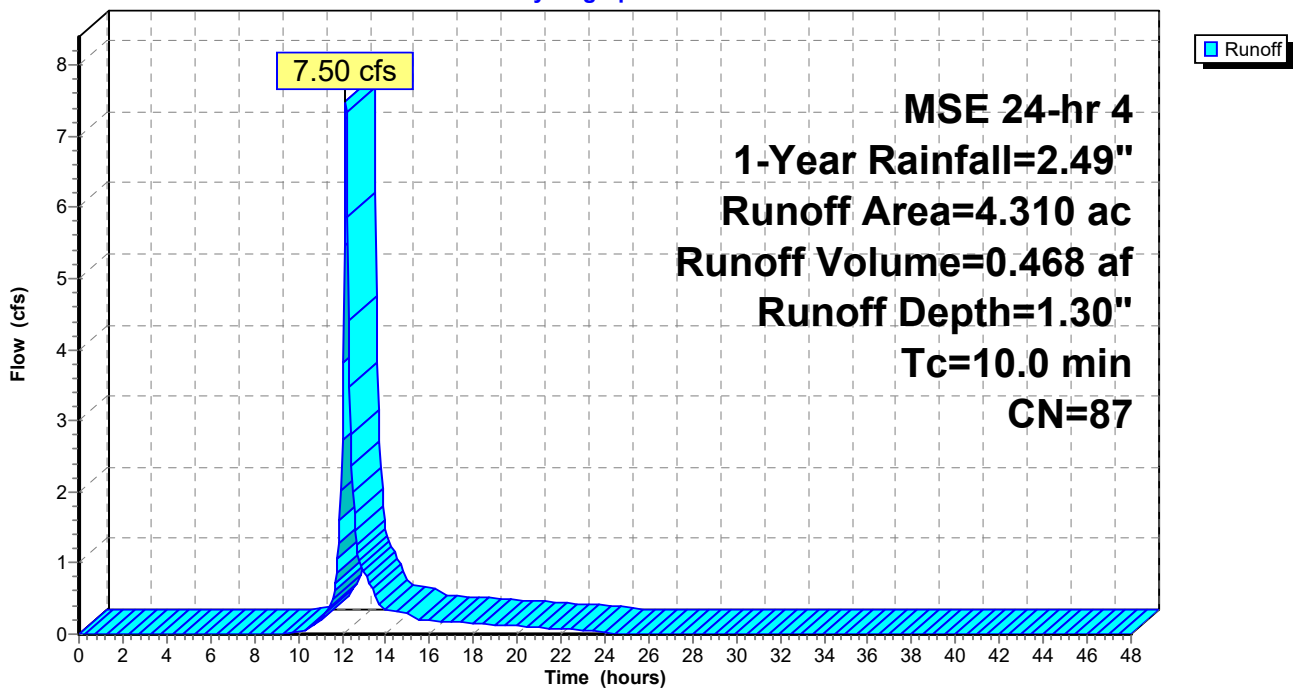
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.420	98	Roof
* 0.710	98	Patio
* 0.710	98	Driveways
1.270	61	>75% Grass cover, Good, HSG B
* 0.200	100	Infiltration Basin
4.310	87	Weighted Average
1.270		29.47% Pervious Area
3.040		70.53% Impervious Area

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

Subcatchment 37S: (new Subcat)

Hydrograph



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Page 20

Summary for Subcatchment 38S: (new Subcat)

Runoff = 4.19 cfs @ 12.18 hrs, Volume= 0.262 af, Depth= 1.30"
 Routed to Pond IP H : IP H

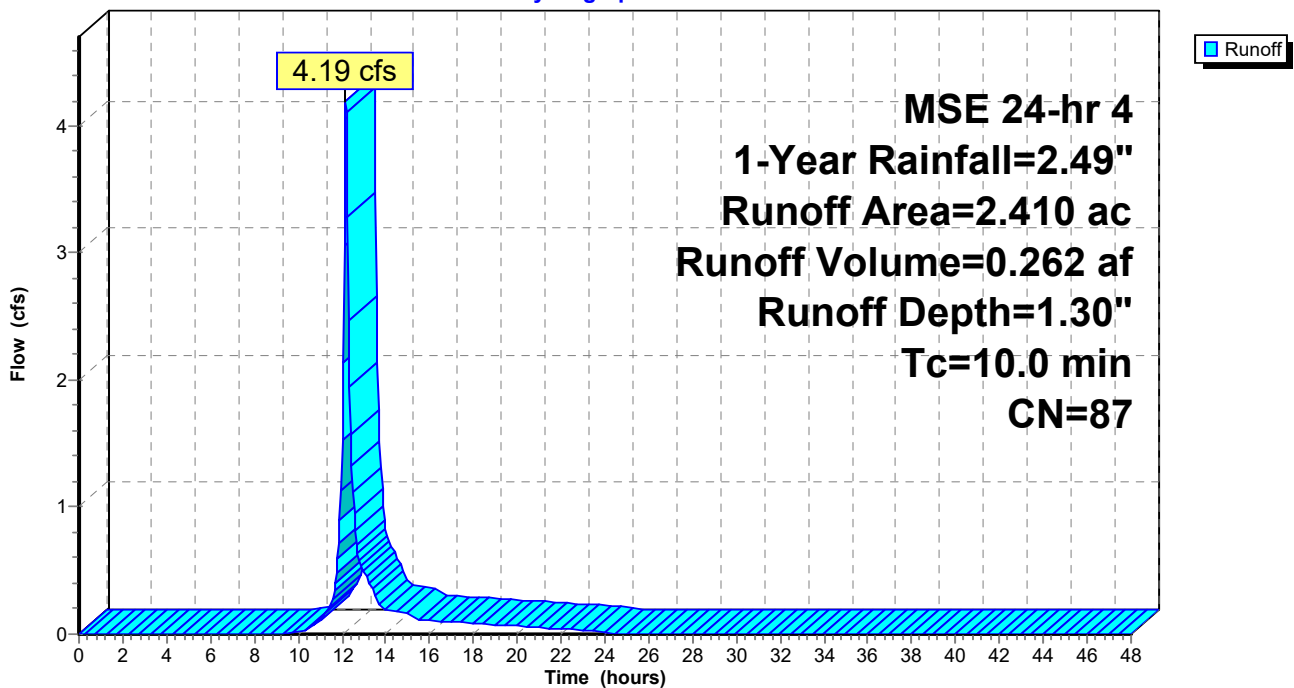
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.830	98	Roof
* 0.420	98	Patio
* 0.420	98	Driveways
0.710	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.410	87	Weighted Average
0.710		29.46% Pervious Area
1.700		70.54% Impervious Area

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

Subcatchment 38S: (new Subcat)

Hydrograph



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Page 21

Summary for Subcatchment 39S: Prop. 39S

Runoff = 8.80 cfs @ 12.18 hrs, Volume= 0.549 af, Depth= 1.17"
 Routed to Pond BIO J : Bio J

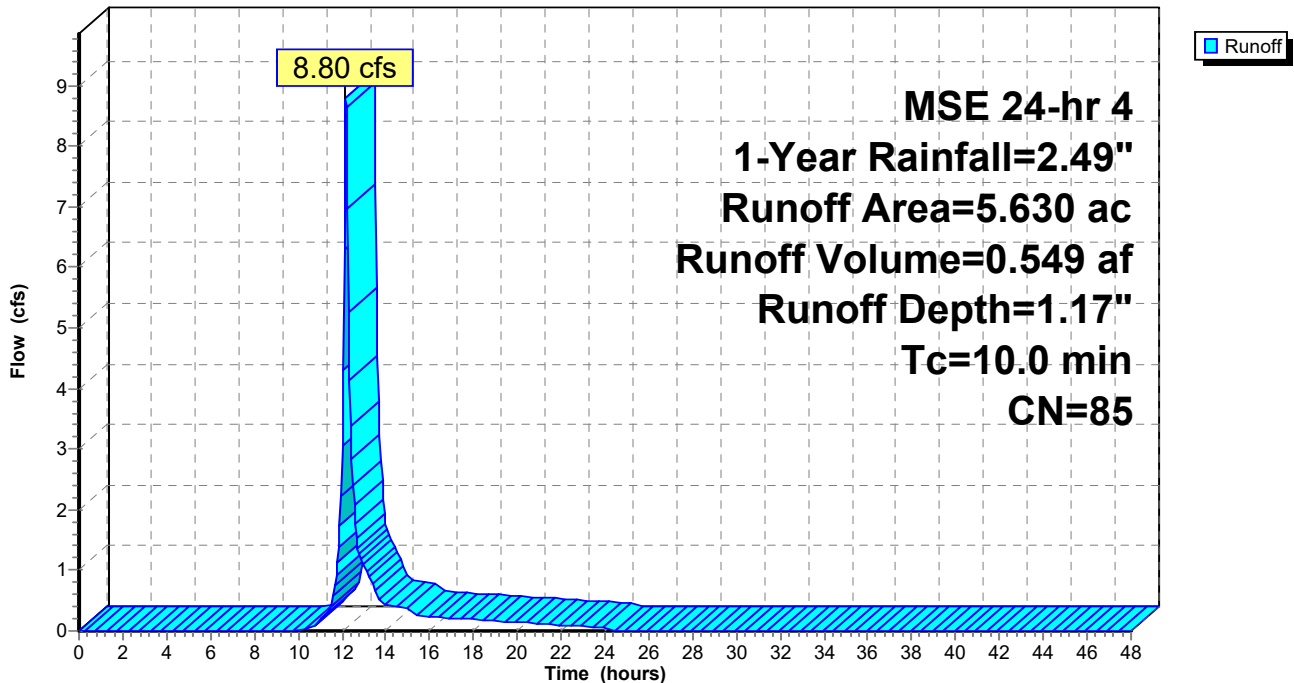
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.660	98	Roof
* 0.830	98	Patio
* 0.830	98	Driveways
* 0.030	98	Sidewalk
* 0.100	98	Street
2.060	61	>75% Grass cover, Good, HSG B
* 0.120	100	Infiltration Basin
5.630	85	Weighted Average
2.060		36.59% Pervious Area
3.570		63.41% Impervious Area

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

Subcatchment 39S: Prop. 39S

Hydrograph



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Page 22

Summary for Subcatchment 40S: Prop. 40S

Runoff = 7.27 cfs @ 12.18 hrs, Volume= 0.454 af, Depth= 1.30"
 Routed to Pond BIO K : Bio K

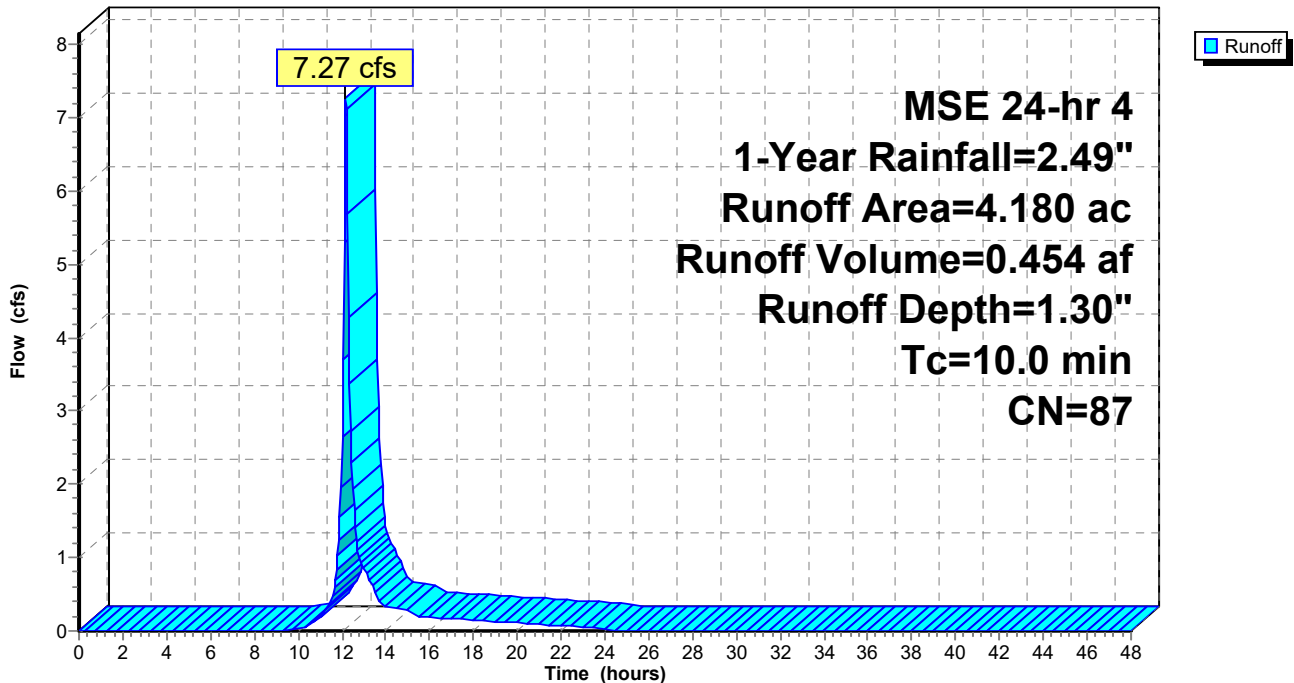
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.960	98	Roof
* 0.480	98	Patio
* 0.480	98	Driveways
* 0.190	98	Sidewalk
* 0.670	98	Street
1.300	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
4.180	87	Weighted Average
1.300		31.10% Pervious Area
2.880		68.90% Impervious Area

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

Subcatchment 40S: Prop. 40S

Hydrograph



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Page 23

Summary for Subcatchment 41S: Prop. 41S

Runoff = 3.73 cfs @ 12.18 hrs, Volume= 0.233 af, Depth= 1.24"
 Routed to Pond IP L : Inf L

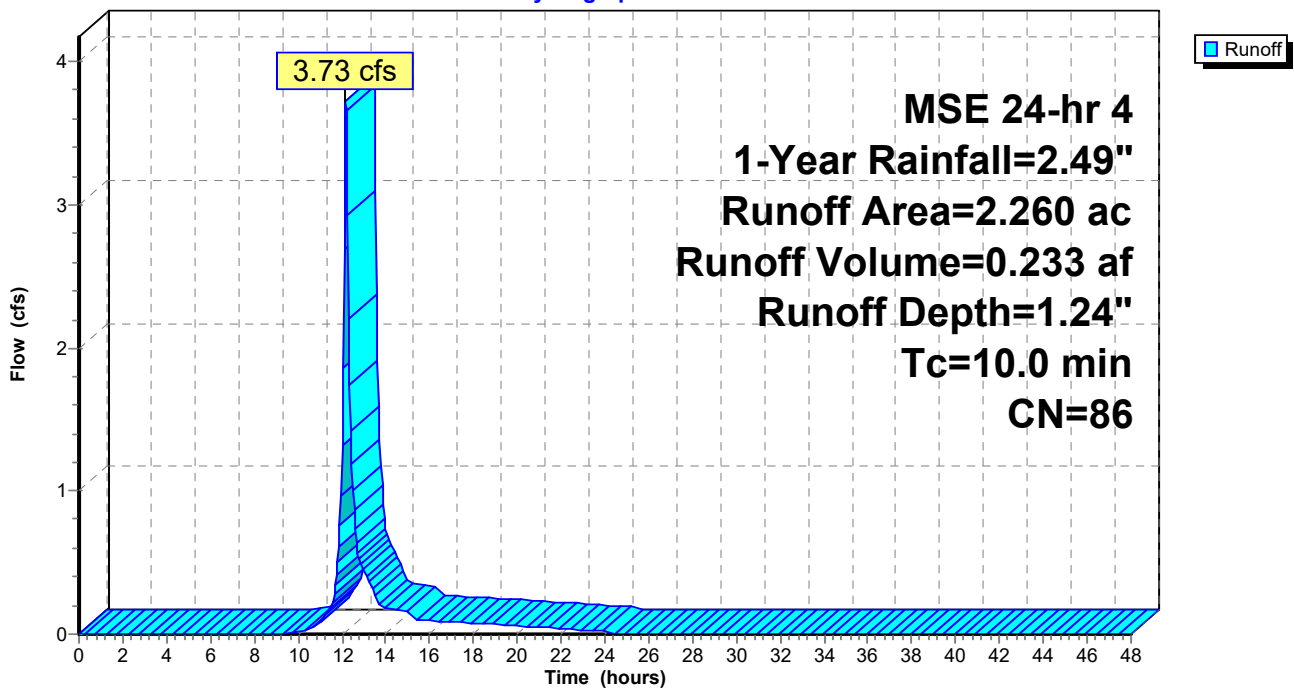
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.750	98	Roof
* 0.380	98	Patio
* 0.380	98	Driveways
0.720	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.260	86	Weighted Average
0.720		31.86% Pervious Area
1.540		68.14% Impervious Area

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

Subcatchment 41S: Prop. 41S

Hydrograph



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Page 24

Summary for Subcatchment 42S: Prop. 42S

Runoff = 1.61 cfs @ 12.18 hrs, Volume= 0.101 af, Depth= 1.11"
 Routed to Pond IP M : Inf M

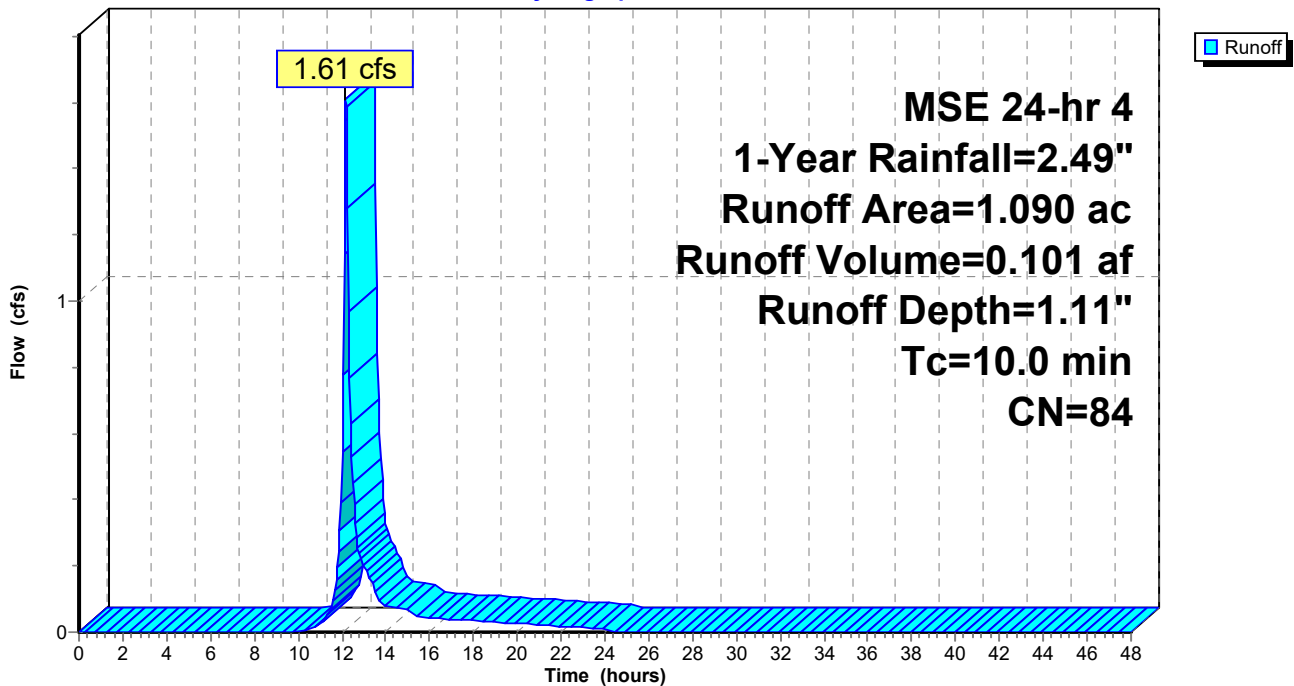
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.300	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.430	61	>75% Grass cover, Good, HSG B
* 0.060	100	Infiltration Basin
1.090	84	Weighted Average
0.430		39.45% Pervious Area
0.660		60.55% Impervious Area

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

Subcatchment 42S: Prop. 42S

Hydrograph



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Page 25

Summary for Subcatchment 43S: Prop. 43S

Runoff = 6.01 cfs @ 12.18 hrs, Volume= 0.377 af, Depth= 1.05"
 Routed to Pond BIO N : Bio N

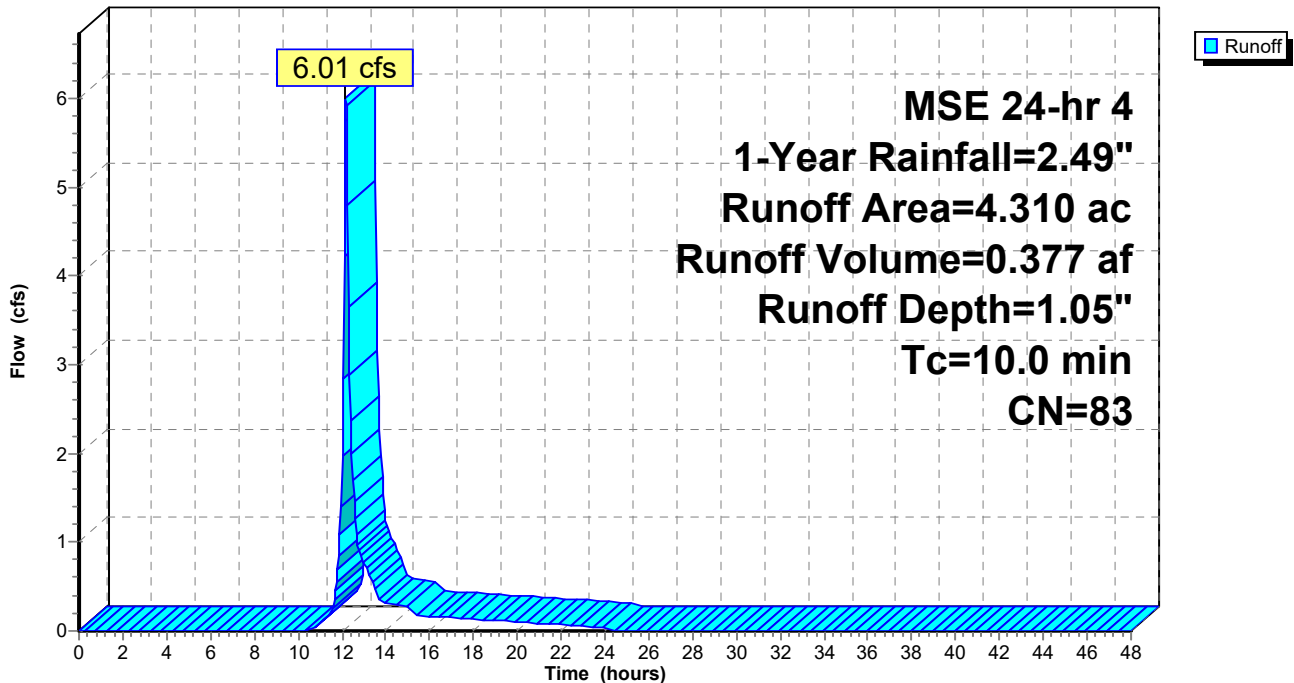
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 43S: Prop. 43S

Hydrograph



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Page 26

Summary for Subcatchment 44S: Prop. 44S

Runoff = 6.01 cfs @ 12.18 hrs, Volume= 0.377 af, Depth= 1.05"
 Routed to Pond BIO O : Bio O

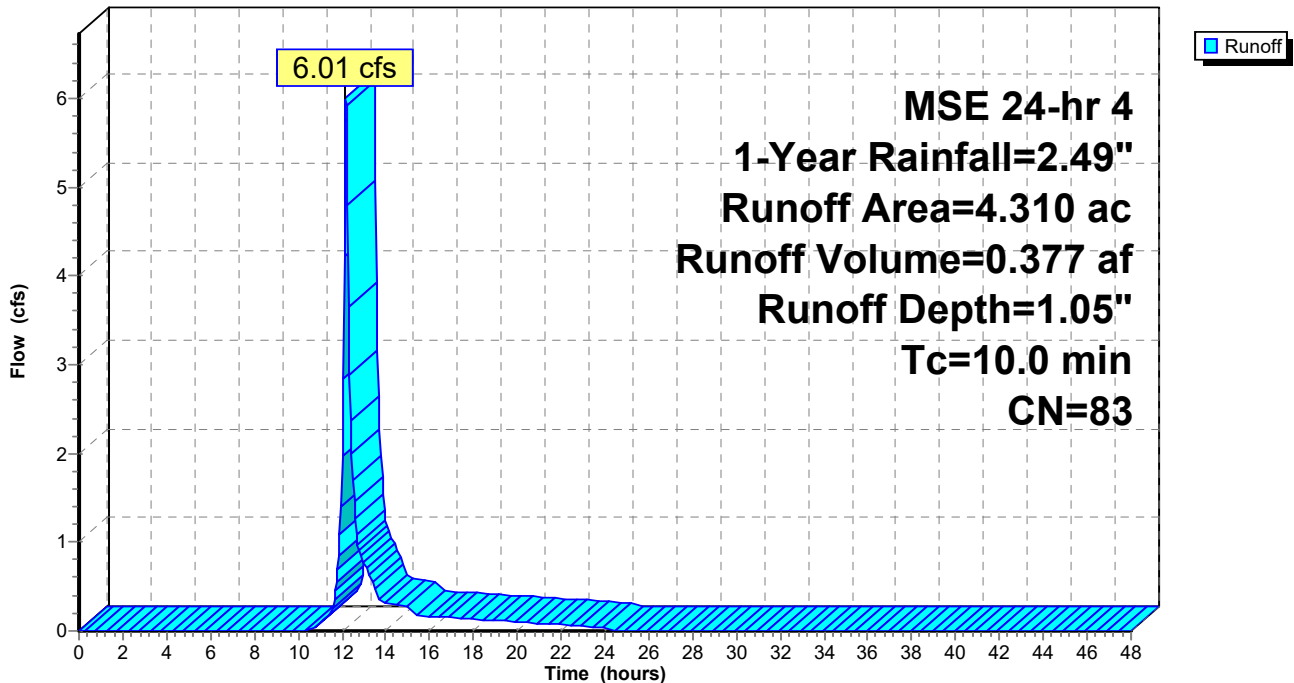
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 44S: Prop. 44S

Hydrograph



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Page 27

Summary for Subcatchment 45S: Prop. 45S

Runoff = 12.48 cfs @ 12.18 hrs, Volume= 0.785 af, Depth= 0.99"
 Routed to Pond WP P : Wet Pond P

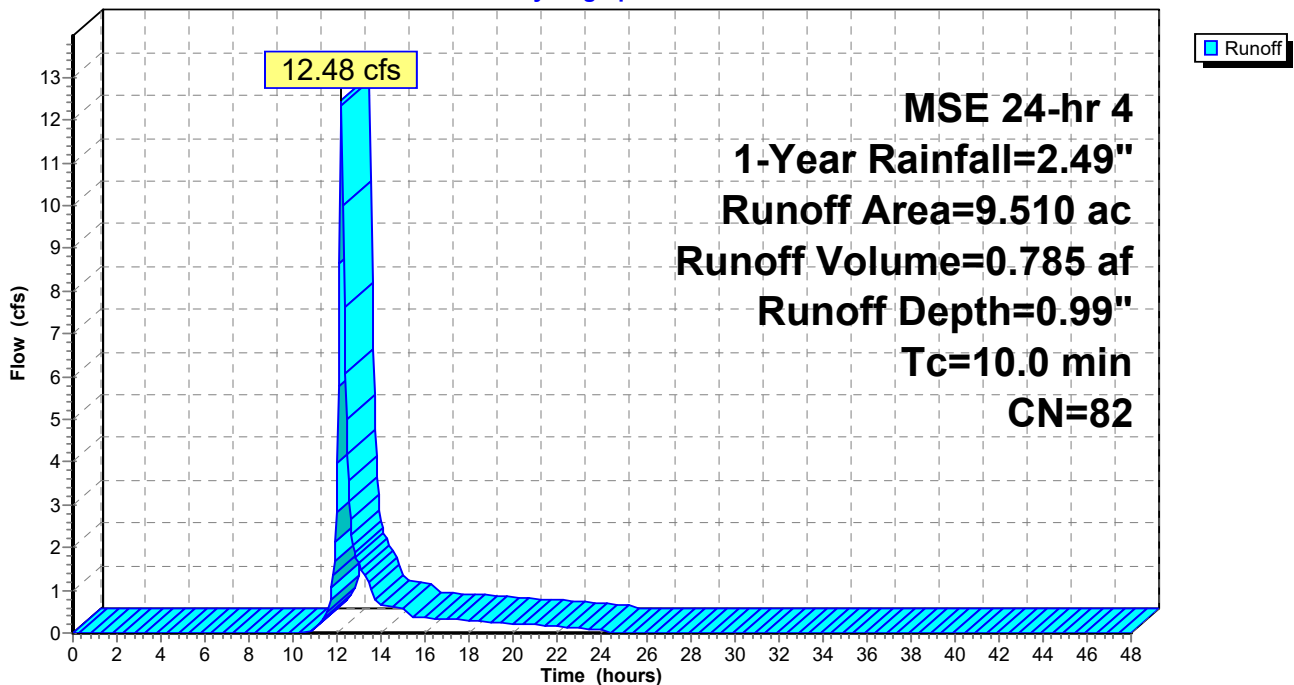
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.690	98	Roofs
* 0.190	98	Parking
* 0.850	98	Driveways
* 0.850	98	Sidewalks - House
* 0.280	98	Sidewalks - Street
* 1.050	98	Streets
4.100	61	>75% Grass cover, Good, HSG B
* 0.250	100	Wet Pond
* 0.250	100	Infiltration
9.510	82	Weighted Average
4.100		43.11% Pervious Area
5.410		56.89% Impervious Area

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

Subcatchment 45S: Prop. 45S

Hydrograph



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Page 28

Summary for Subcatchment 46S: Prop. 46S

Runoff = 19.71 cfs @ 12.24 hrs, Volume= 1.438 af, Depth= 1.24"
 Routed to Pond WP Q : Wet Pond Q

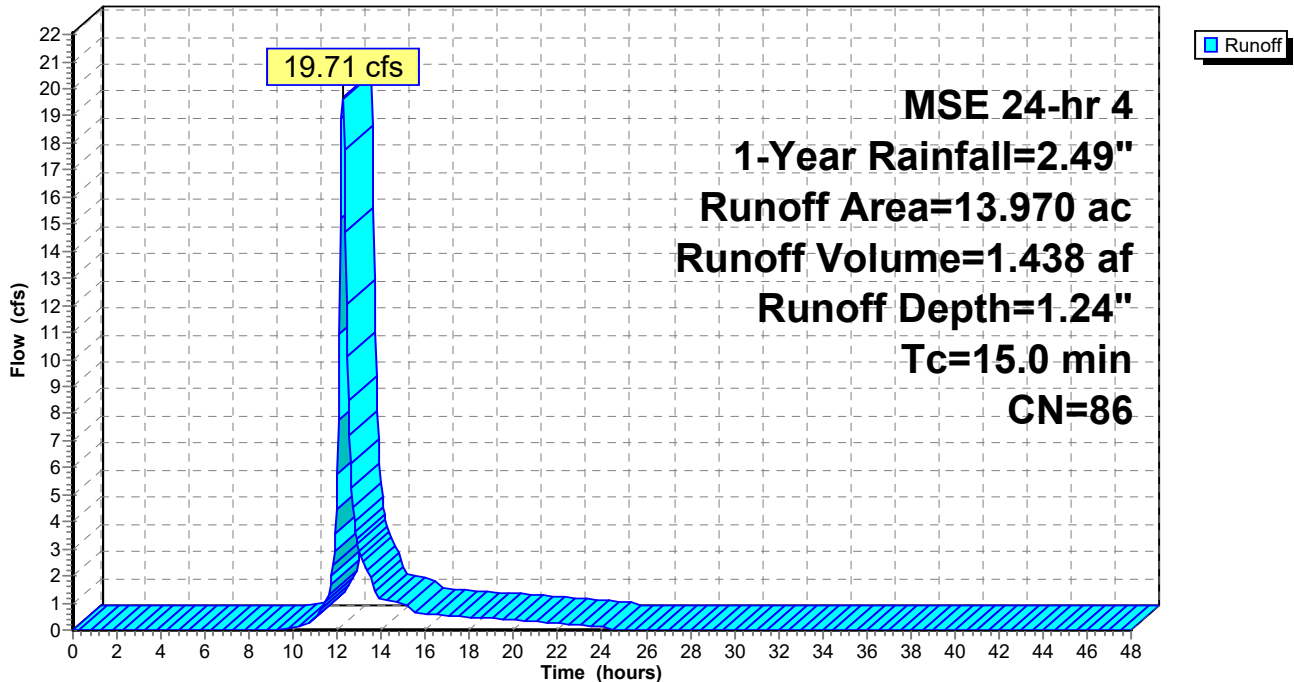
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 3.370	98	Roofs
* 0.080	98	Parking
* 1.680	98	Driveways
* 1.680	98	Sidewalks - House
* 0.510	98	Sidewalks - Street
* 2.050	98	Streets
4.370	61	>75% Grass cover, Good, HSG B
* 0.130	100	Wet Pond
* 0.100	100	Infiltration
13.970	86	Weighted Average
4.370		31.28% Pervious Area
9.600		68.72% Impervious Area

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

Subcatchment 46S: Prop. 46S

Hydrograph



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Page 29

Summary for Subcatchment 47S: Prop. 47S

Runoff = 3.28 cfs @ 12.18 hrs, Volume= 0.207 af, Depth= 0.94"
 Routed to Pond WP R : Wet Pond R

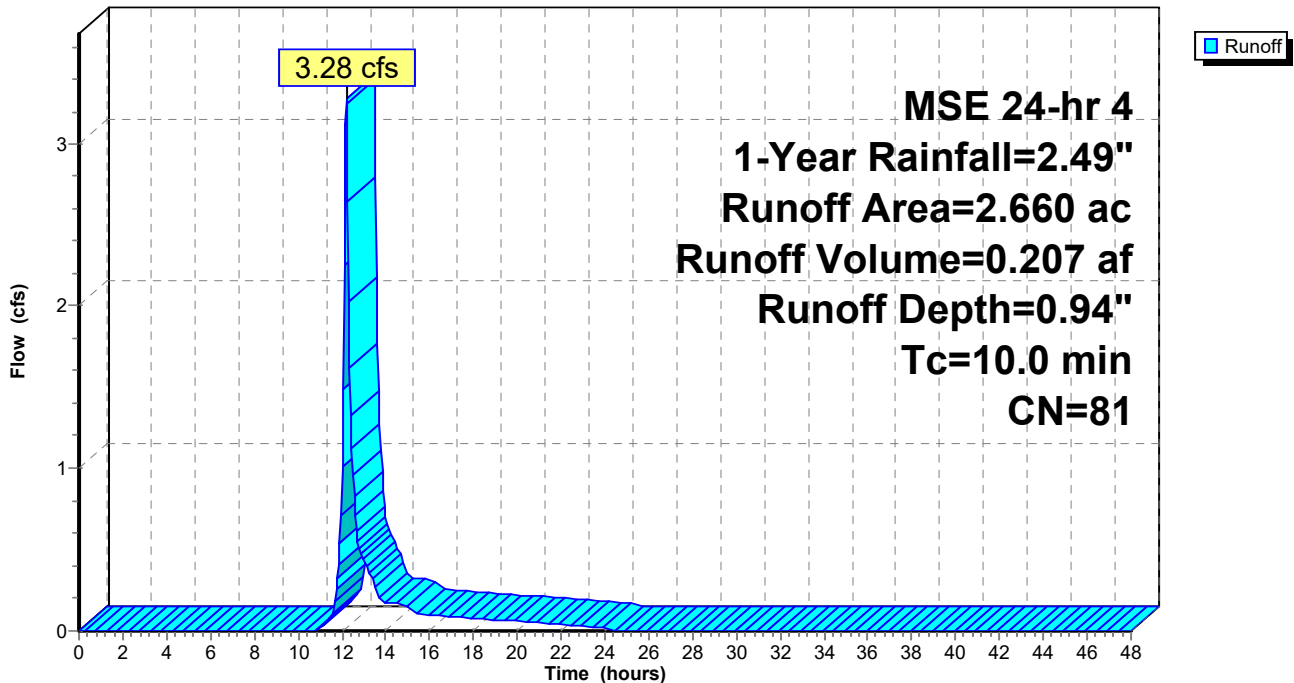
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.350	98	Roofs
* 0.180	98	Driveways
* 0.180	98	Sidewalks - House
* 0.060	98	Sidewalks - Street
* 0.500	98	Streets
1.210	61	>75% Grass cover, Good, HSG B
* 0.180	100	Wet Pond
2.660	81	Weighted Average
1.210		45.49% Pervious Area
1.450		54.51% Impervious Area

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

Subcatchment 47S: Prop. 47S

Hydrograph



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Page 30

Summary for Subcatchment 48S: Prop. 48S

Runoff = 4.24 cfs @ 12.18 hrs, Volume= 0.265 af, Depth= 1.30"
 Routed to Pond Bio S : Bio S

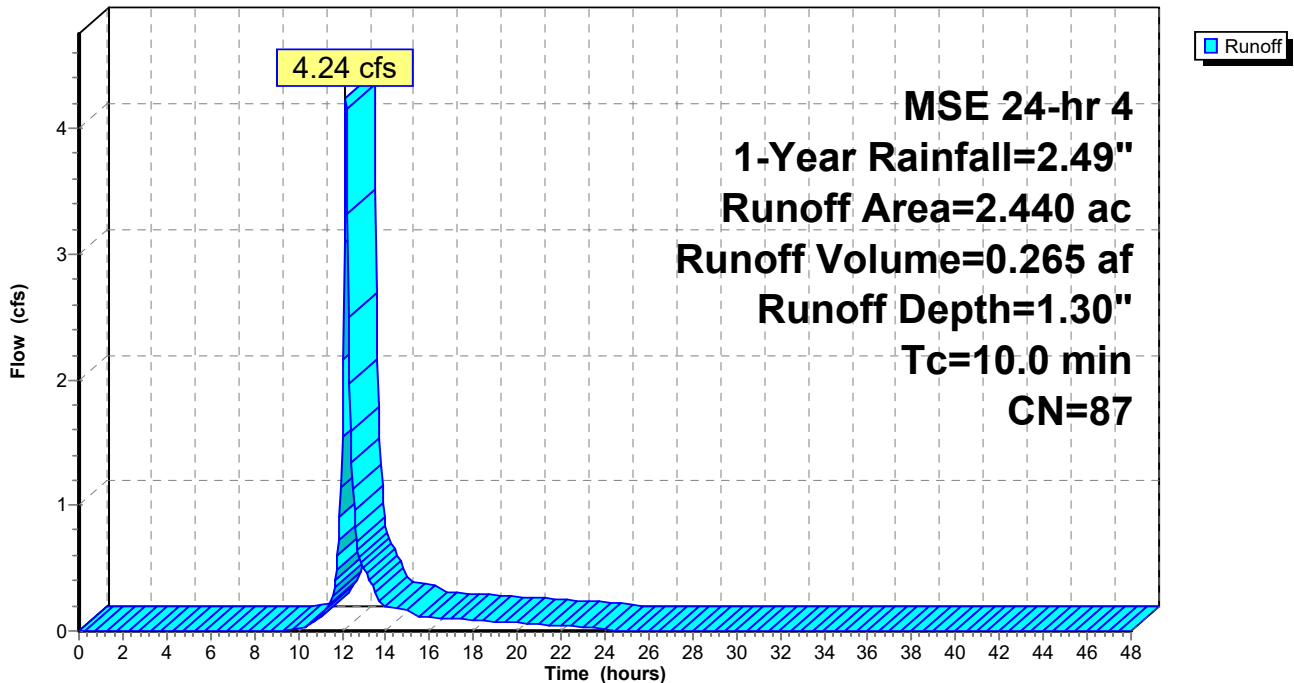
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.430	98	Roof
* 0.220	98	Patio
* 0.210	98	Driveways
* 0.170	98	Sidewalk
* 0.600	98	Street
0.720	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.440	87	Weighted Average
0.720		29.51% Pervious Area
1.720		70.49% Impervious Area

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

Subcatchment 48S: Prop. 48S

Hydrograph



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Page 31

Summary for Subcatchment 49S: 49S

Runoff = 3.91 cfs @ 12.18 hrs, Volume= 0.244 af, Depth= 1.30"
 Routed to Pond IP T : Infil T

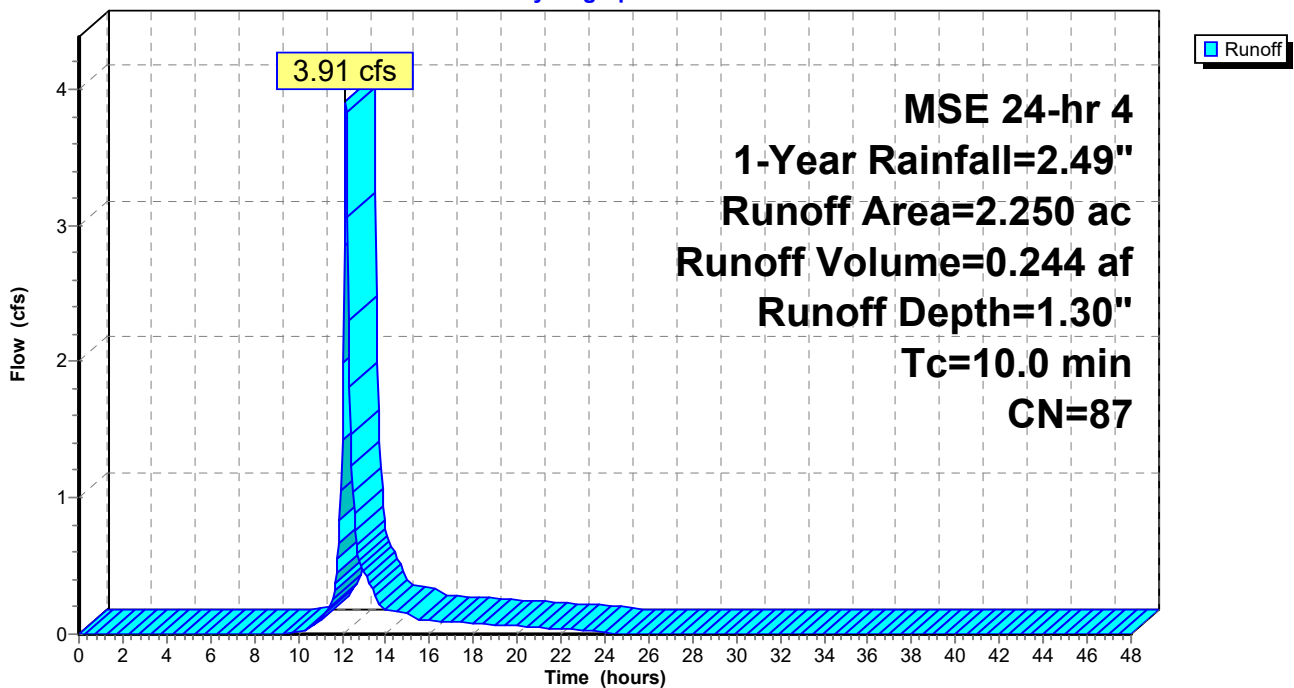
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.740	98	Roof
* 0.370	98	Patio
* 0.370	98	Driveways
0.680	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.250	87	Weighted Average
0.680		30.22% Pervious Area
1.570		69.78% Impervious Area

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

Subcatchment 49S: 49S

Hydrograph



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Page 32

Summary for Subcatchment 50S: Prop. 50S

Runoff = 8.19 cfs @ 12.18 hrs, Volume= 0.511 af, Depth= 1.17"
 Routed to Pond WP U : Wet Pond U

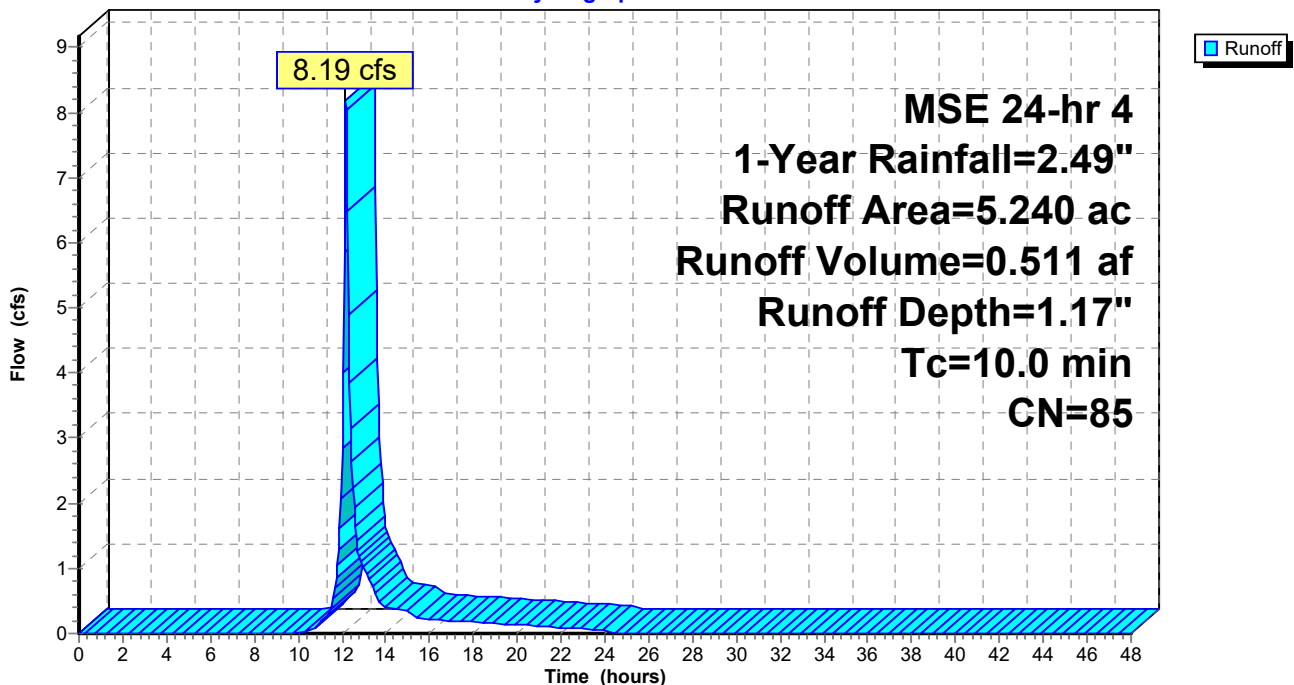
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.420	98	Roofs
* 0.210	98	Driveways
* 0.210	98	Sidewalks - House
* 0.500	98	Sidewalks - Street
* 1.800	98	Streets
1.790	61	>75% Grass cover, Good, HSG B
* 0.160	100	Wet Pond
* 0.150	100	Infiltration
5.240	85	Weighted Average
1.790		34.16% Pervious Area
3.450		65.84% Impervious Area

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

Subcatchment 50S: Prop. 50S

Hydrograph



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Page 33

Summary for Subcatchment 51S: Prop. 51S

Runoff = 2.16 cfs @ 12.18 hrs, Volume= 0.135 af, Depth= 1.05"
 Routed to Pond IP V : Infil V

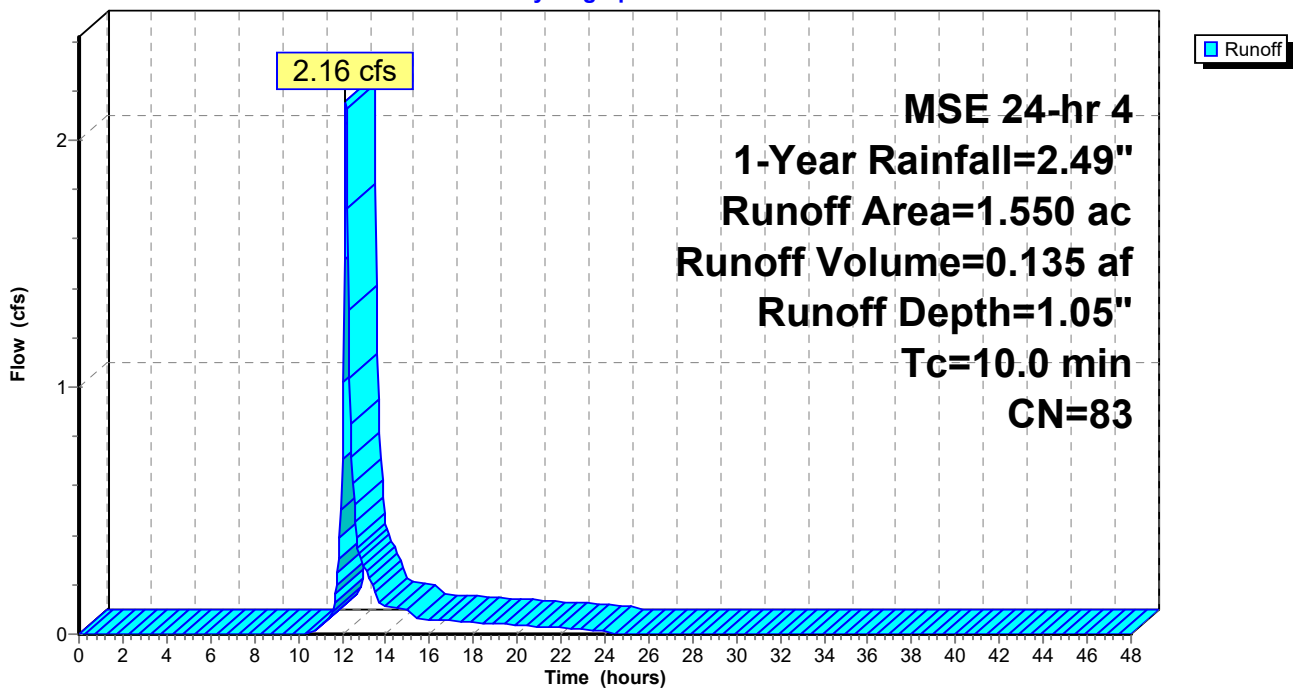
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.290	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.660	61	>75% Grass cover, Good, HSG B
* 0.300	100	Infiltration Basin
1.550	83	Weighted Average
0.660		42.58% Pervious Area
0.890		57.42% Impervious Area

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

Subcatchment 51S: Prop. 51S

Hydrograph



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Page 34

Summary for Subcatchment 52S: Prop. 52S

Runoff = 5.98 cfs @ 12.18 hrs, Volume= 0.373 af, Depth= 1.30"
 Routed to Pond IP W : Infil W

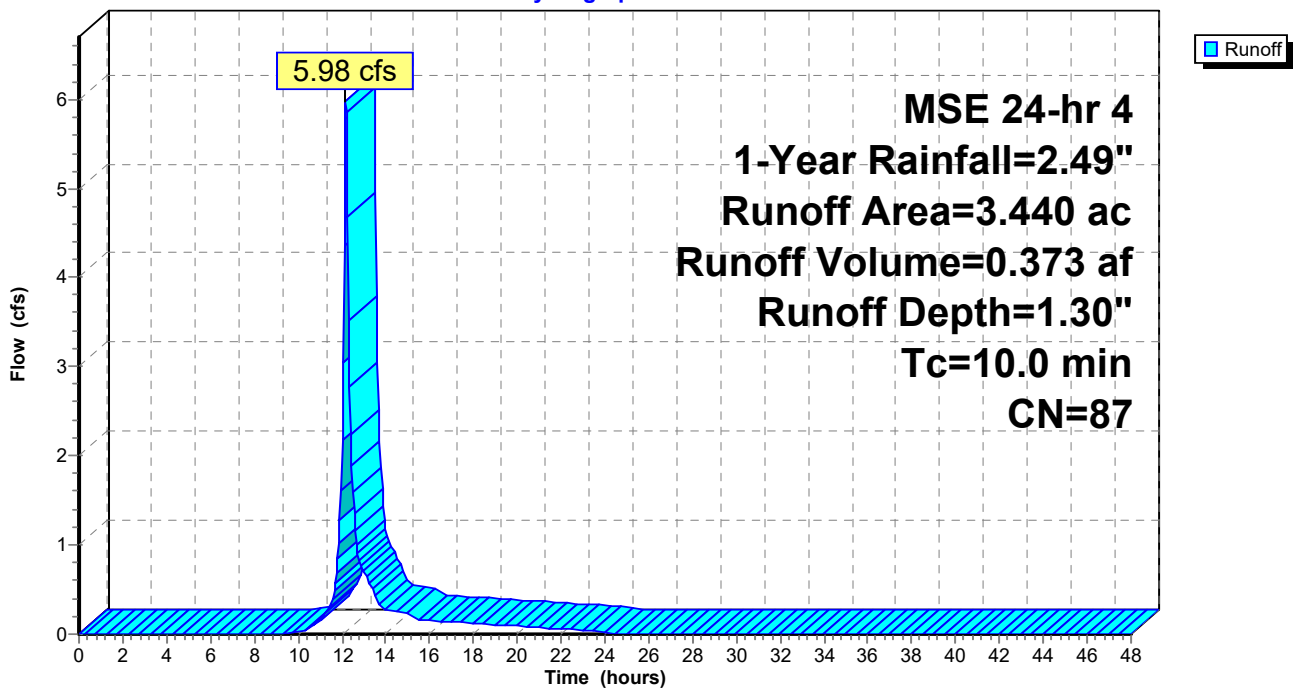
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.170	98	Roof
* 0.590	98	Patio
* 0.590	98	Driveways
1.070	61	>75% Grass cover, Good, HSG B
* 0.020	100	Infiltration Basin
3.440	87	Weighted Average
1.070		31.10% Pervious Area
2.370		68.90% Impervious Area

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

Subcatchment 52S: Prop. 52S

Hydrograph



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Page 35

Summary for Subcatchment 53S: Prop. 53S

Runoff = 6.68 cfs @ 12.18 hrs, Volume= 0.417 af, Depth= 1.24"
 Routed to Pond Bio X : Bio X

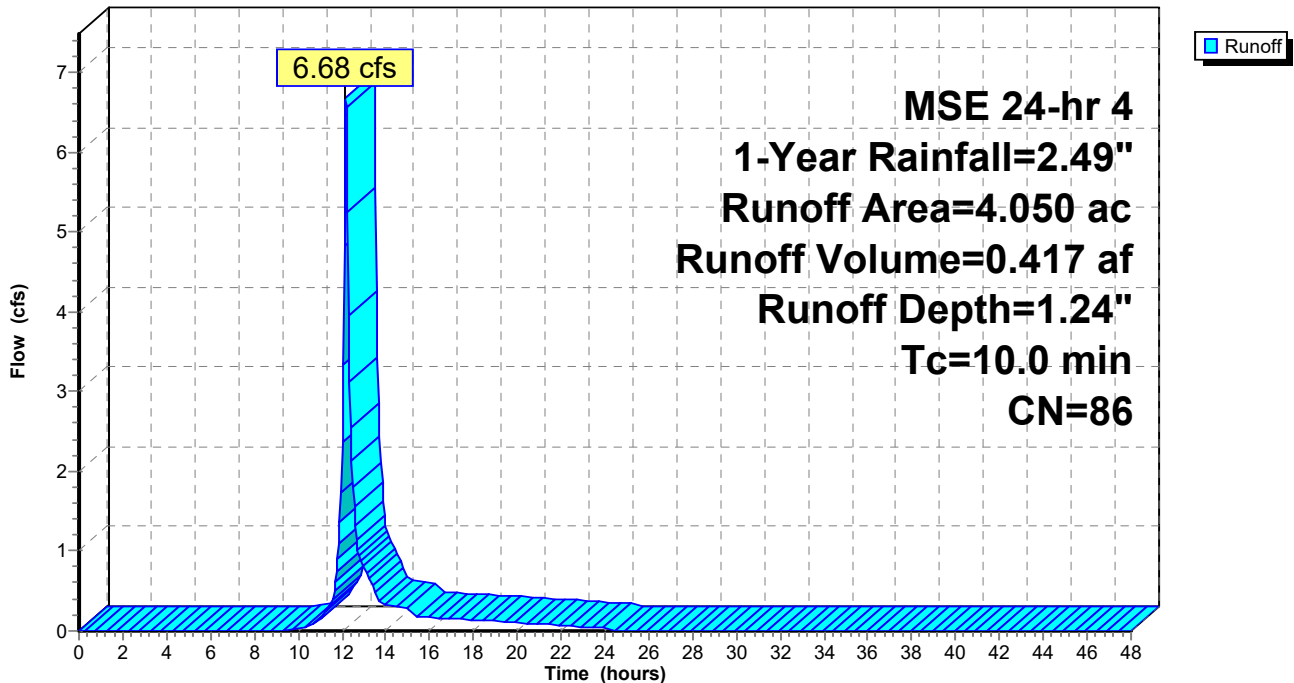
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.000	98	Roof
* 0.000	98	Patio
* 0.000	98	Driveways
* 0.570	98	Sidewalk
* 2.020	98	Street
1.330	61	>75% Grass cover, Good, HSG B
* 0.130	100	Infiltration Basin
4.050	86	Weighted Average
1.330		32.84% Pervious Area
2.720		67.16% Impervious Area

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

Subcatchment 53S: Prop. 53S

Hydrograph



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Page 36

Summary for Subcatchment 54S: Future 54S

Runoff = 1.00 cfs @ 12.28 hrs, Volume= 0.101 af, Depth= 0.38"
 Routed to Pond Bio X : Bio X

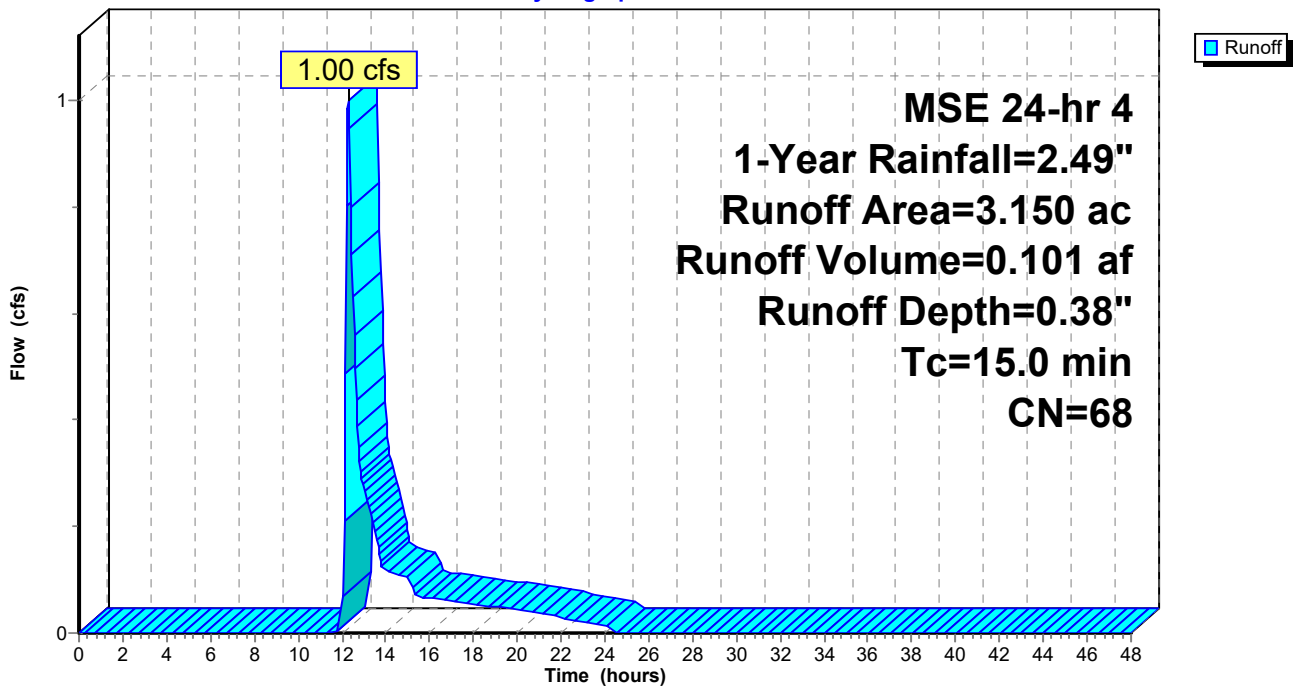
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 3.150	68	HSG B Ag
3.150		100.00% Pervious Area

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

Subcatchment 54S: Future 54S

Hydrograph



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Page 37

Summary for Subcatchment 55S: Prop. 55S

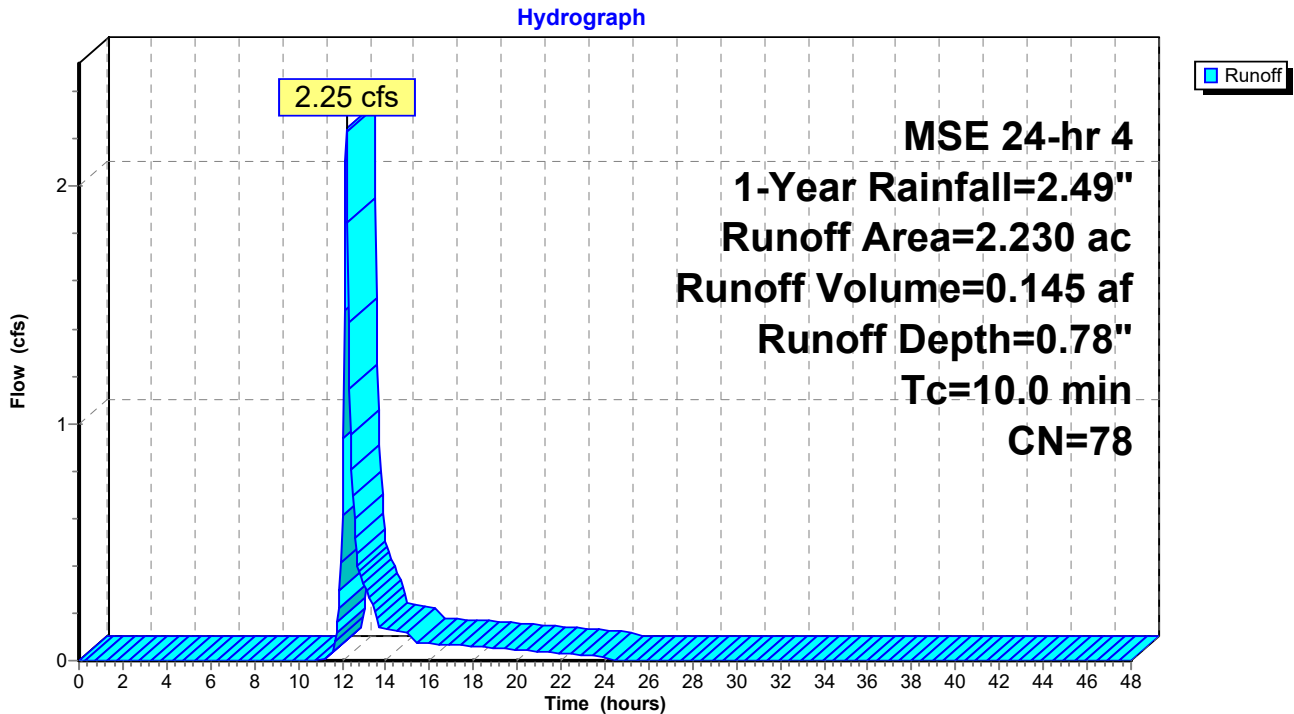
Runoff = 2.25 cfs @ 12.19 hrs, Volume= 0.145 af, Depth= 0.78"
 Routed to Reach 12R : Prop CTH Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.120	98	Parking
* 0.200	98	Sidewalk
* 0.720	98	Street
1.190	61	>75% Grass cover, Good, HSG B
2.230	78	Weighted Average
1.190		53.36% Pervious Area
1.040		46.64% Impervious Area

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

Subcatchment 55S: Prop. 55S



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Page 38

Summary for Subcatchment 56S: (new Subcat)

Runoff = 30.88 cfs @ 12.18 hrs, Volume= 1.935 af, Depth= 1.45"
 Routed to Reach 27R : Post Wetland

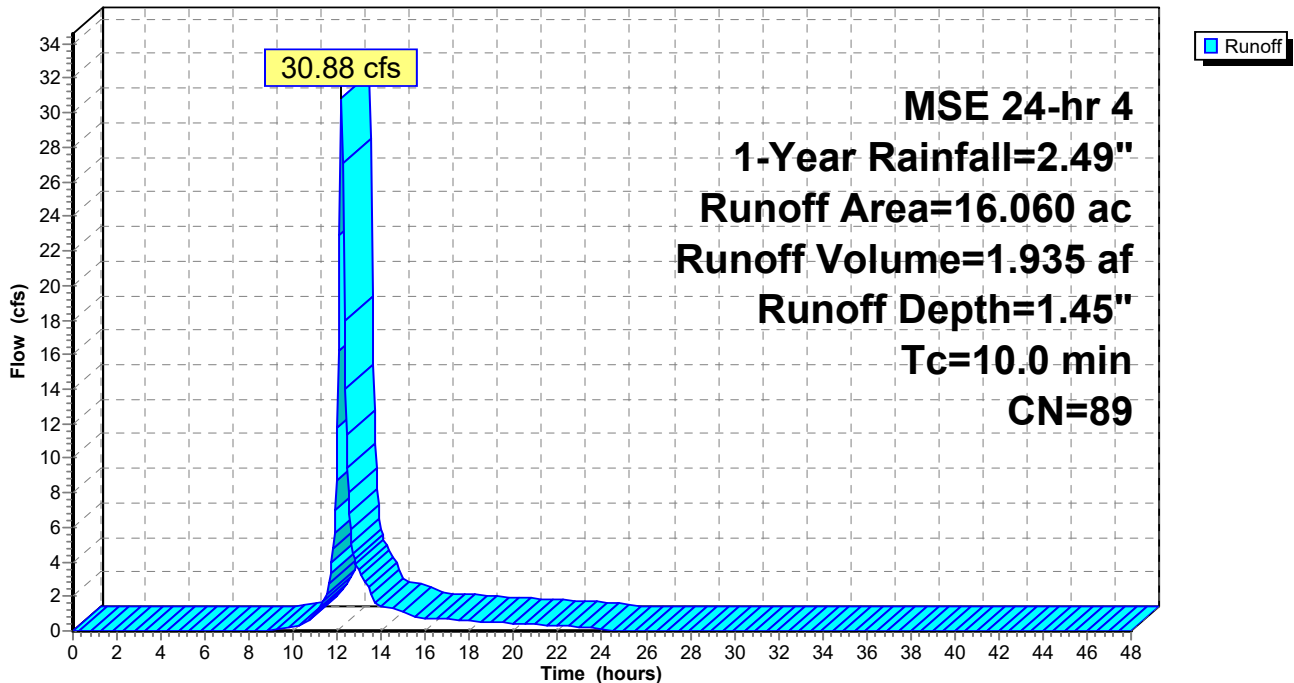
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.120	98	Roof
* 0.560	98	Driveways
* 0.560	98	Patio
* 0.030	98	Sidewalk
* 0.110	98	Street
4.330	61	>75% Grass cover, Good, HSG B
* 9.350	100	Wetland
16.060	89	Weighted Average
4.330		26.96% Pervious Area
11.730		73.04% Impervious Area

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

Subcatchment 56S: (new Subcat)

Hydrograph



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Page 39

Summary for Subcatchment 57S: Existing 56S

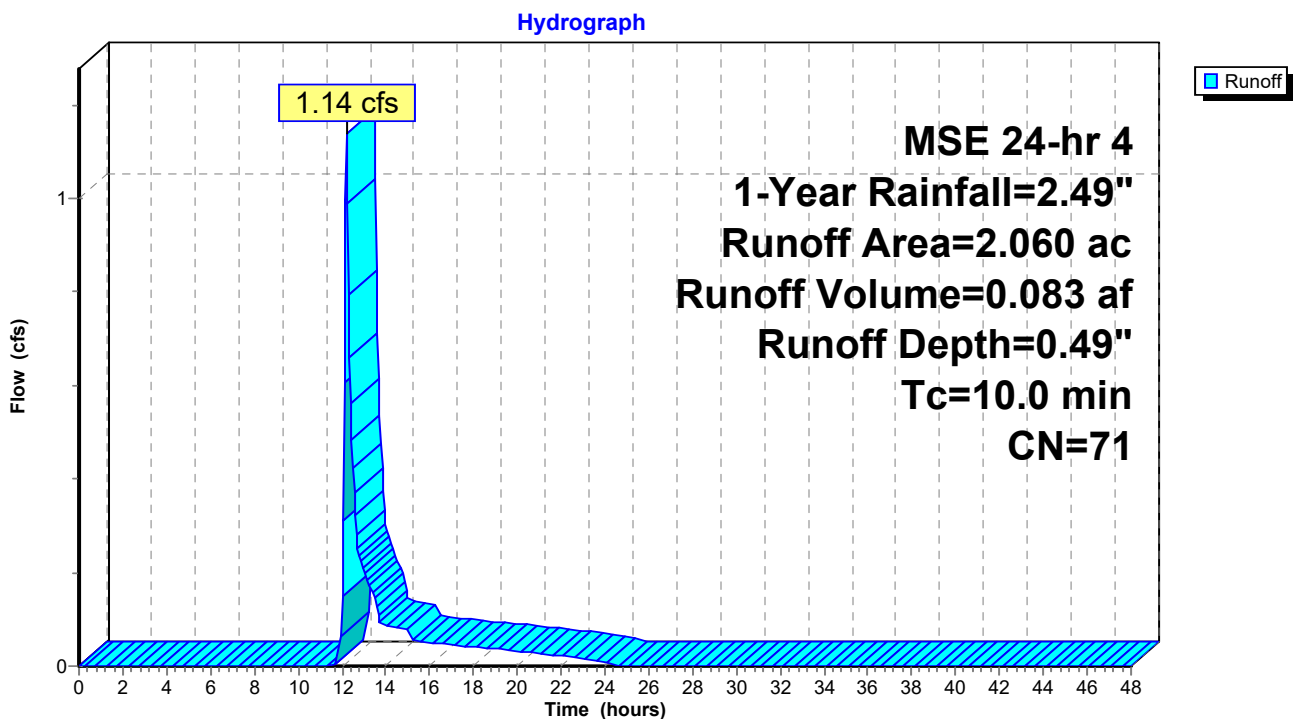
Runoff = 1.14 cfs @ 12.20 hrs, Volume= 0.083 af, Depth= 0.49"
 Routed to Reach 52R : TOTAL PROPOSED

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
1.510	61	>75% Grass cover, Good, HSG B
* 0.300	98	House
* 0.250	98	Impervious
2.060	71	Weighted Average
1.510		73.30% Pervious Area
0.550		26.70% Impervious Area

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

Subcatchment 57S: Existing 56S



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Page 40

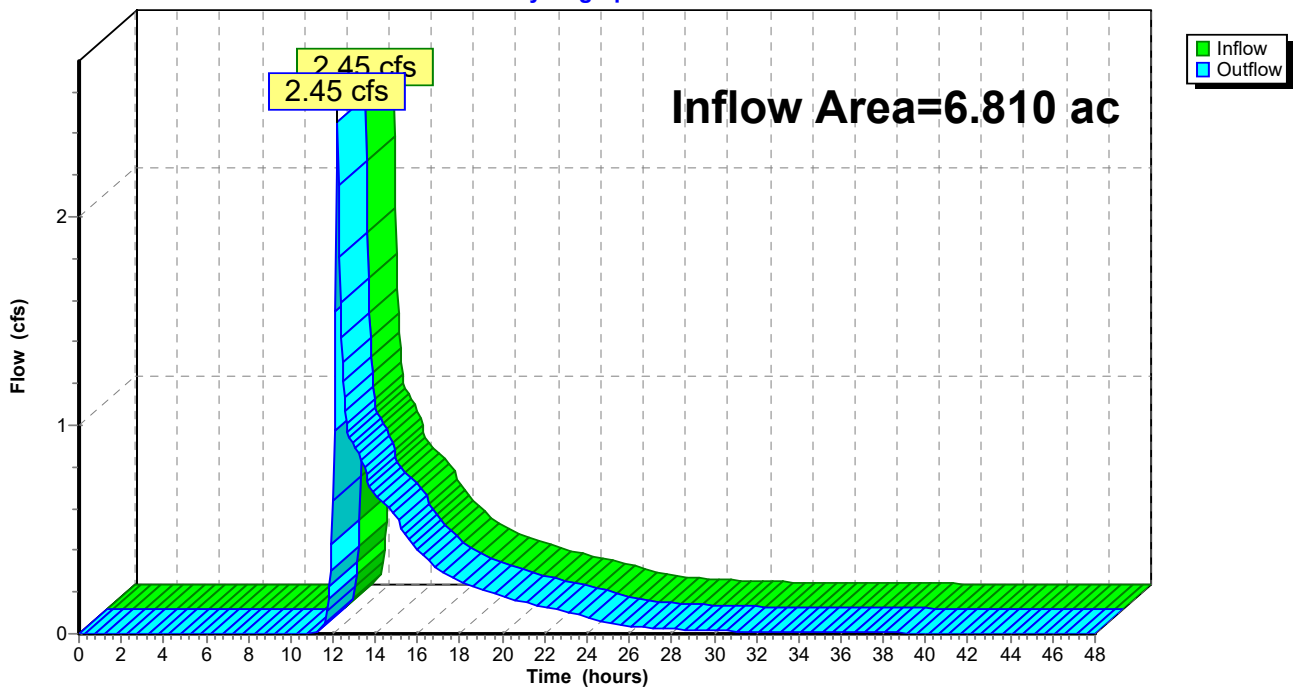
Summary for Reach 12R: Prop CTH Q

Inflow Area = 6.810 ac, 43.91% Impervious, Inflow Depth > 0.75" for 1-Year event
Inflow = 2.45 cfs @ 12.20 hrs, Volume= 0.426 af
Outflow = 2.45 cfs @ 12.20 hrs, Volume= 0.426 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 12R: Prop CTH Q

Hydrograph



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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 41

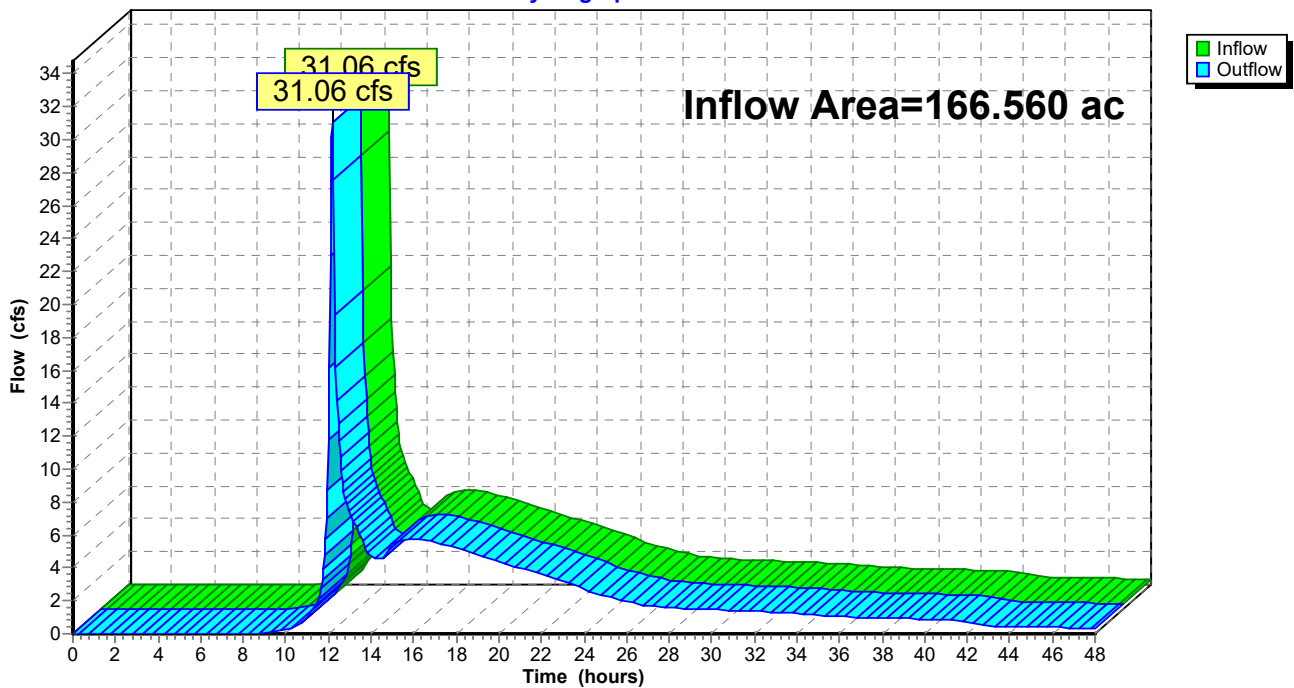
Summary for Reach 27R: Post Wetland

Inflow Area = 166.560 ac, 52.08% Impervious, Inflow Depth > 0.57" for 1-Year event
Inflow = 31.06 cfs @ 12.18 hrs, Volume= 7.963 af
Outflow = 31.06 cfs @ 12.18 hrs, Volume= 7.963 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 27R: Post Wetland

Hydrograph



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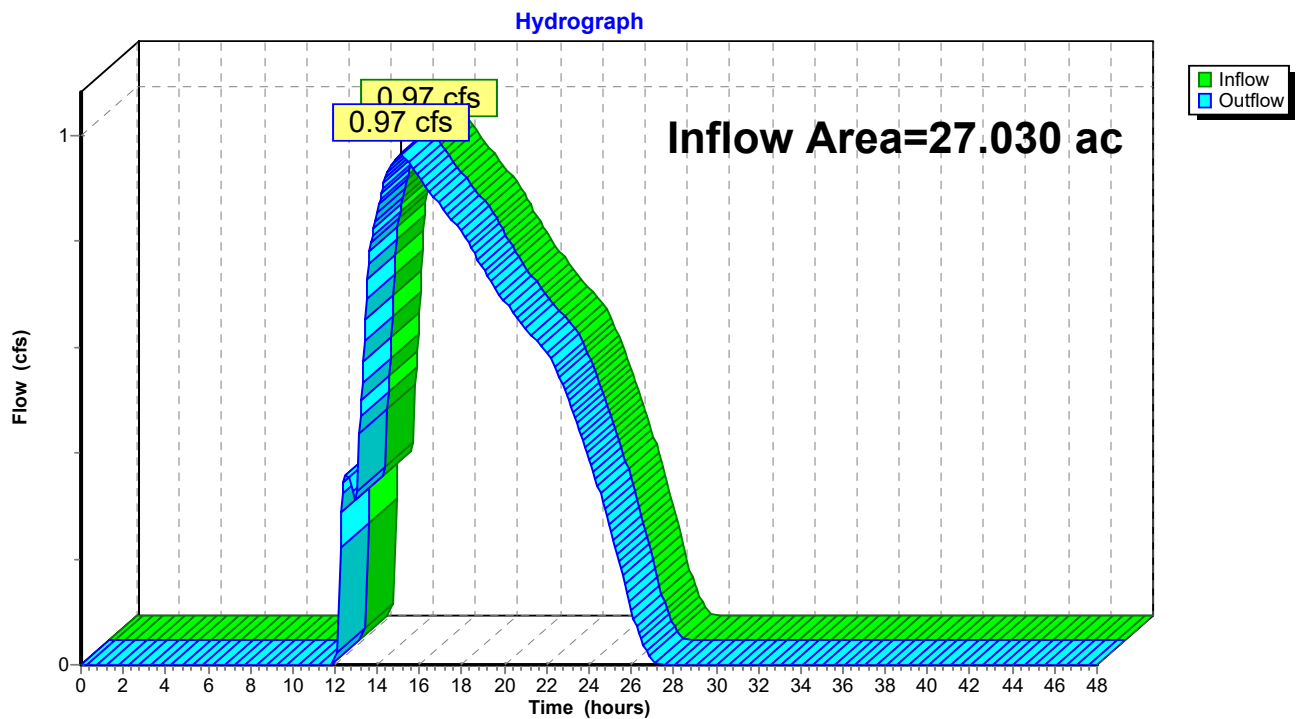
Page 42

Summary for Reach 41R: (new Reach)

Inflow Area = 27.030 ac, 50.50% Impervious, Inflow Depth = 0.32" for 1-Year event
Inflow = 0.97 cfs @ 15.11 hrs, Volume= 0.731 af
Outflow = 0.97 cfs @ 15.11 hrs, Volume= 0.731 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 41R: (new Reach)



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Page 43

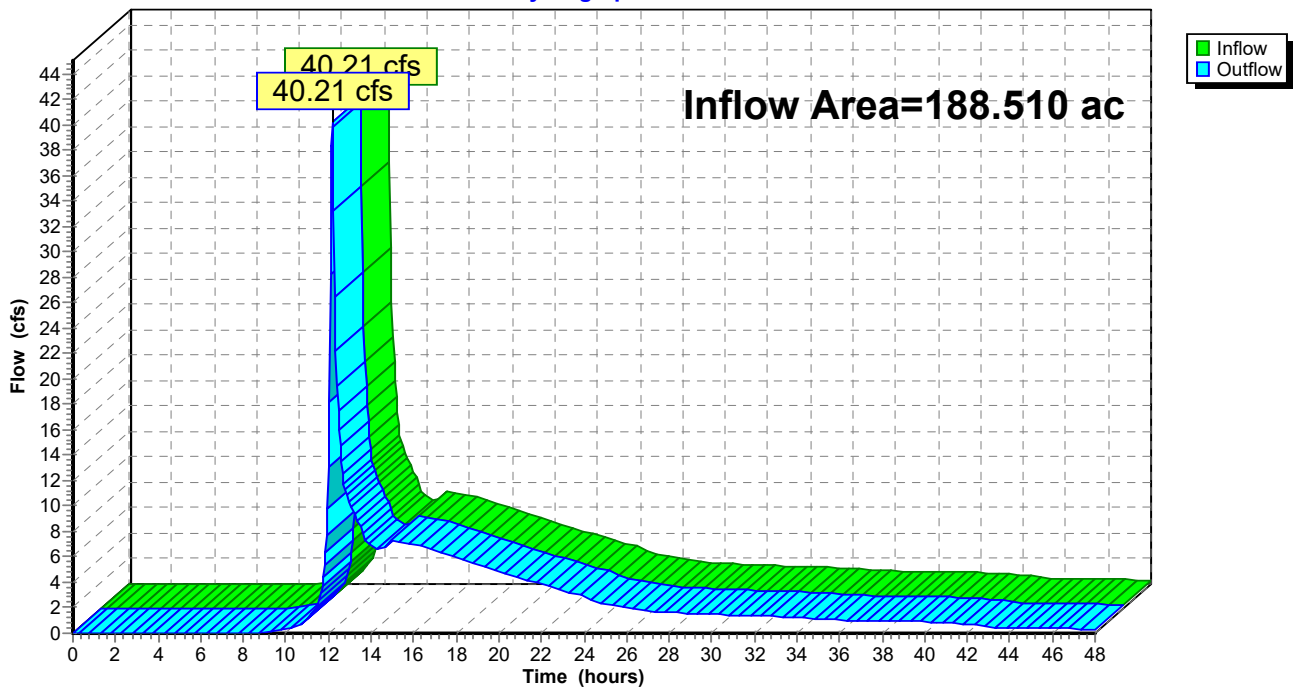
Summary for Reach 52R: TOTAL PROPOSED

Inflow Area = 188.510 ac, 51.50% Impervious, Inflow Depth > 0.59" for 1-Year event
Inflow = 40.21 cfs @ 12.18 hrs, Volume= 9.224 af
Outflow = 40.21 cfs @ 12.18 hrs, Volume= 9.224 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 52R: TOTAL PROPOSED

Hydrograph



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Page 44

Summary for Pond BIO J: Bio J

Inflow Area = 10.880 ac, 32.81% Impervious, Inflow Depth = 0.70" for 1-Year event
 Inflow = 8.85 cfs @ 12.18 hrs, Volume= 0.634 af
 Outflow = 1.60 cfs @ 12.76 hrs, Volume= 0.610 af, Atten= 82%, Lag= 34.6 min
 Discarded = 0.07 cfs @ 12.76 hrs, Volume= 0.194 af
 Primary = 1.54 cfs @ 12.76 hrs, Volume= 0.416 af
 Routed to Pond BIO N : Bio N
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.08' @ 12.76 hrs Surf.Area= 5,724 sf Storage= 12,478 cf

Plug-Flow detention time= 377.6 min calculated for 0.610 af (96% of inflow)
 Center-of-Mass det. time= 357.7 min (1,199.1 - 841.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	69,813 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
916.00	5,358	0.0	0	0
916.01	5,358	33.0	18	18
919.99	5,358	33.0	7,037	7,055
920.00	5,358	27.0	14	7,069
921.49	5,358	27.0	2,156	9,225
921.50	5,358	100.0	54	9,278
925.00	7,579	100.0	22,640	31,918
930.00	7,579	100.0	37,895	69,813

Device	Routing	Invert	Outlet Devices
#1	Primary	919.50'	24.0" Round 24" Outlet Pipe L= 660.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 919.50' / 916.00' S= 0.0053 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	919.50'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	922.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	925.00'	10.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 45

Discarded OutFlow Max=0.07 cfs @ 12.76 hrs HW=922.08' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=1.53 cfs @ 12.76 hrs HW=922.08' TW=907.37' (Dynamic Tailwater)

↳ **1=24" Outlet Pipe** (Passes 1.53 cfs of 20.31 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.65 cfs @ 7.48 fps)

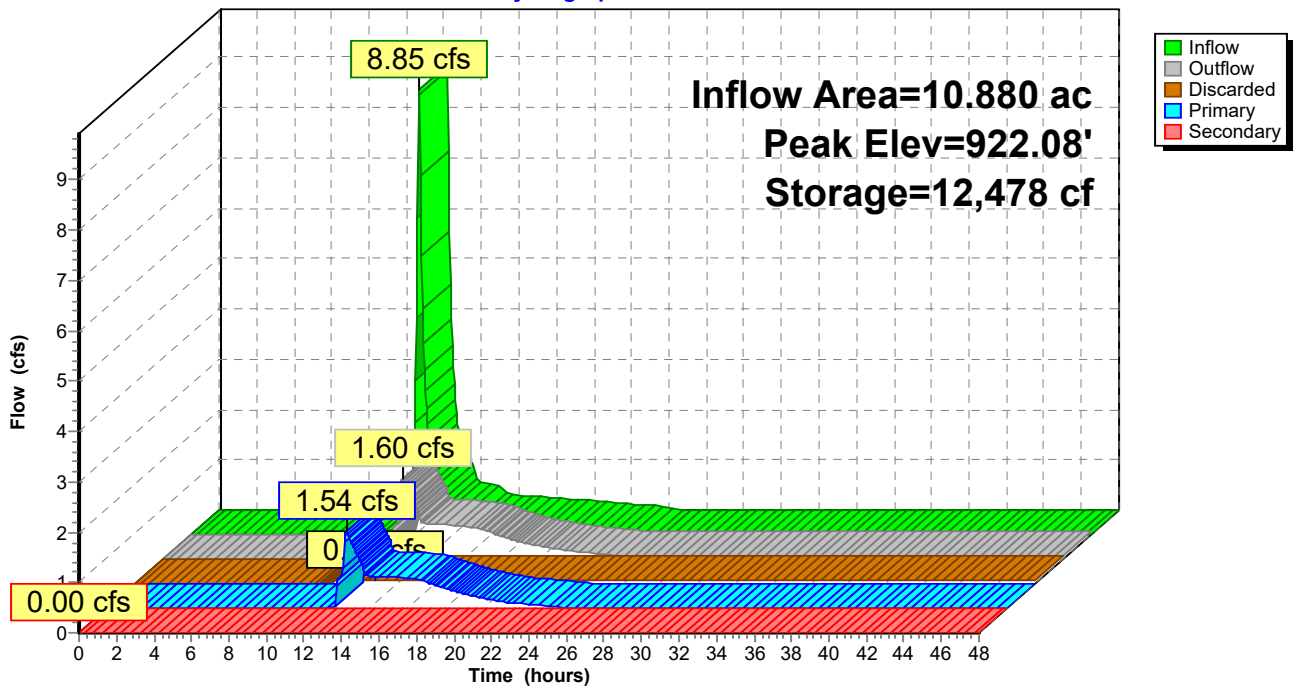
↳ **3=48" Riser** (Weir Controls 0.88 cfs @ 0.91 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=916.00' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BIO J: Bio J

Hydrograph



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Page 46

Summary for Pond BIO K: Bio K

Inflow Area = 4.180 ac, 68.90% Impervious, Inflow Depth = 1.30" for 1-Year event
 Inflow = 7.27 cfs @ 12.18 hrs, Volume= 0.454 af
 Outflow = 0.71 cfs @ 13.23 hrs, Volume= 0.436 af, Atten= 90%, Lag= 63.1 min
 Discarded = 0.06 cfs @ 13.23 hrs, Volume= 0.163 af
 Primary = 0.65 cfs @ 13.23 hrs, Volume= 0.273 af
 Routed to Pond BIO N : Bio N
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond BIO N : Bio N

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 919.56' @ 13.23 hrs Surf.Area= 5,319 sf Storage= 10,362 cf

Plug-Flow detention time= 416.9 min calculated for 0.436 af (96% of inflow)
 Center-of-Mass det. time= 396.2 min (1,216.1 - 819.9)

Volume	Invert	Avail.Storage	Storage Description
#1	913.50'	33,012 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
913.50	4,410	0.0	0	0
913.51	4,410	33.0	15	15
917.49	4,410	33.0	5,792	5,807
917.50	4,410	27.0	12	5,819
918.99	4,410	27.0	1,774	7,593
919.00	4,410	100.0	44	7,637
922.50	10,090	100.0	25,375	33,012

Device	Routing	Invert	Outlet Devices
#1	Primary	917.00'	18.0" Round 18" Outlet Pipe L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 917.00' / 916.50' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	917.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	921.50'	10.0' long + 4.0 1/2" SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	913.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 47

Discarded OutFlow Max=0.06 cfs @ 13.23 hrs HW=919.56' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.65 cfs @ 13.23 hrs HW=919.56' TW=908.49' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 0.65 cfs of 11.18 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.65 cfs @ 7.45 fps)

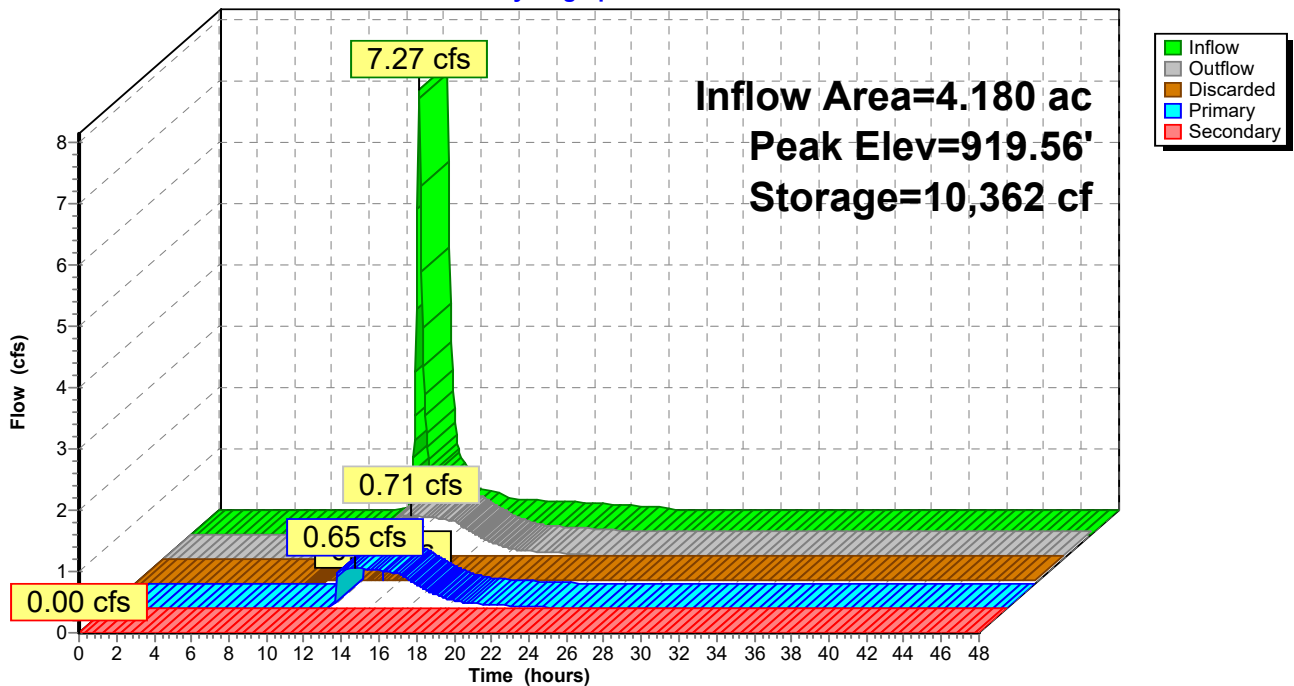
↳ **3=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=913.50' TW=904.50' (Dynamic Tailwater)

↳ **4=Weir** (Controls 0.00 cfs)

Pond BIO K: Bio K

Hydrograph



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Page 48

Summary for Pond BIO N: Bio N

Inflow Area = 19.370 ac, 46.21% Impervious, Inflow Depth = 0.66" for 1-Year event
 Inflow = 6.43 cfs @ 12.20 hrs, Volume= 1.065 af
 Outflow = 0.78 cfs @ 17.71 hrs, Volume= 0.984 af, Atten= 88%, Lag= 330.3 min
 Discarded = 0.15 cfs @ 17.71 hrs, Volume= 0.424 af
 Primary = 0.64 cfs @ 17.71 hrs, Volume= 0.560 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 910.45' @ 17.71 hrs Surf.Area= 12,638 sf Storage= 26,078 cf

Plug-Flow detention time= 546.4 min calculated for 0.984 af (92% of inflow)
 Center-of-Mass det. time= 514.8 min (1,411.5 - 896.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	904.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
904.50	11,850	0.0	0	0
904.51	11,850	33.0	39	39
908.49	11,850	33.0	15,564	15,603
908.50	11,850	27.0	32	15,635
909.99	11,850	27.0	4,767	20,402
910.00	11,850	100.0	118	20,521
912.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	908.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	911.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	904.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.15 cfs @ 17.71 hrs HW=910.45' (Free Discharge)

↳ **3=Exfiltration** (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=0.64 cfs @ 17.71 hrs HW=910.45' TW=0.00' (Dynamic Tailwater)

↳ **1=4" Underdrain** (Orifice Controls 0.64 cfs @ 7.28 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=904.50' TW=0.00' (Dynamic Tailwater)

↳ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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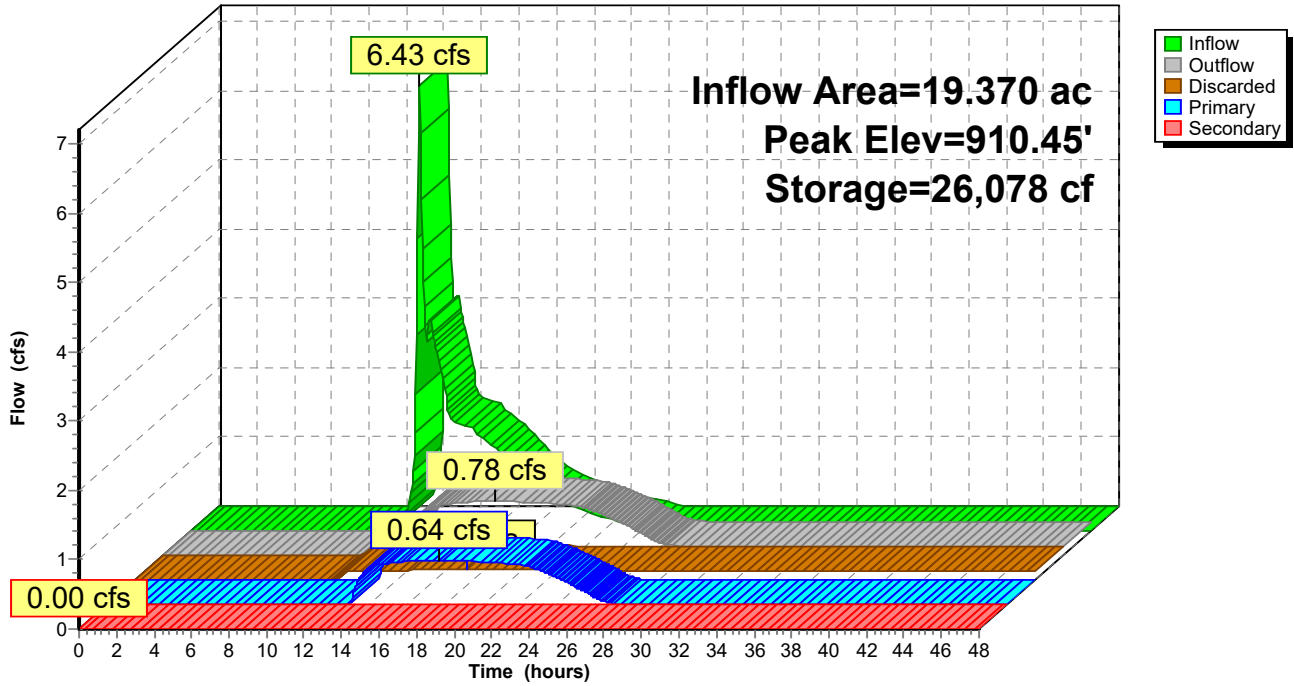
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Page 49

Pond BIO N: Bio N

Hydrograph



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Page 50

Summary for Pond BIO O: Bio O

Inflow Area = 6.570 ac, 61.49% Impervious, Inflow Depth = 1.06" for 1-Year event
 Inflow = 6.91 cfs @ 12.24 hrs, Volume= 0.580 af
 Outflow = 0.46 cfs @ 15.10 hrs, Volume= 0.542 af, Atten= 93%, Lag= 171.5 min
 Discarded = 0.14 cfs @ 11.75 hrs, Volume= 0.420 af
 Primary = 0.33 cfs @ 15.10 hrs, Volume= 0.122 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 907.77' @ 15.10 hrs Surf.Area= 11,850 sf Storage= 16,498 cf

Plug-Flow detention time= 787.5 min calculated for 0.542 af (94% of inflow)
 Center-of-Mass det. time= 756.5 min (1,593.9 - 837.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	903.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.50	11,850	0.0	0	0
903.51	11,850	33.0	39	39
907.49	11,850	33.0	15,564	15,603
907.50	11,850	27.0	32	15,635
908.99	11,850	27.0	4,767	20,402
909.00	11,850	100.0	118	20,521
911.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	910.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	903.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.14 cfs @ 11.75 hrs HW=903.58' (Free Discharge)

↑**3=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=0.33 cfs @ 15.10 hrs HW=907.77' TW=0.00' (Dynamic Tailwater)

↑**1=4" Underdrain** (Orifice Controls 0.33 cfs @ 3.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=903.50' TW=0.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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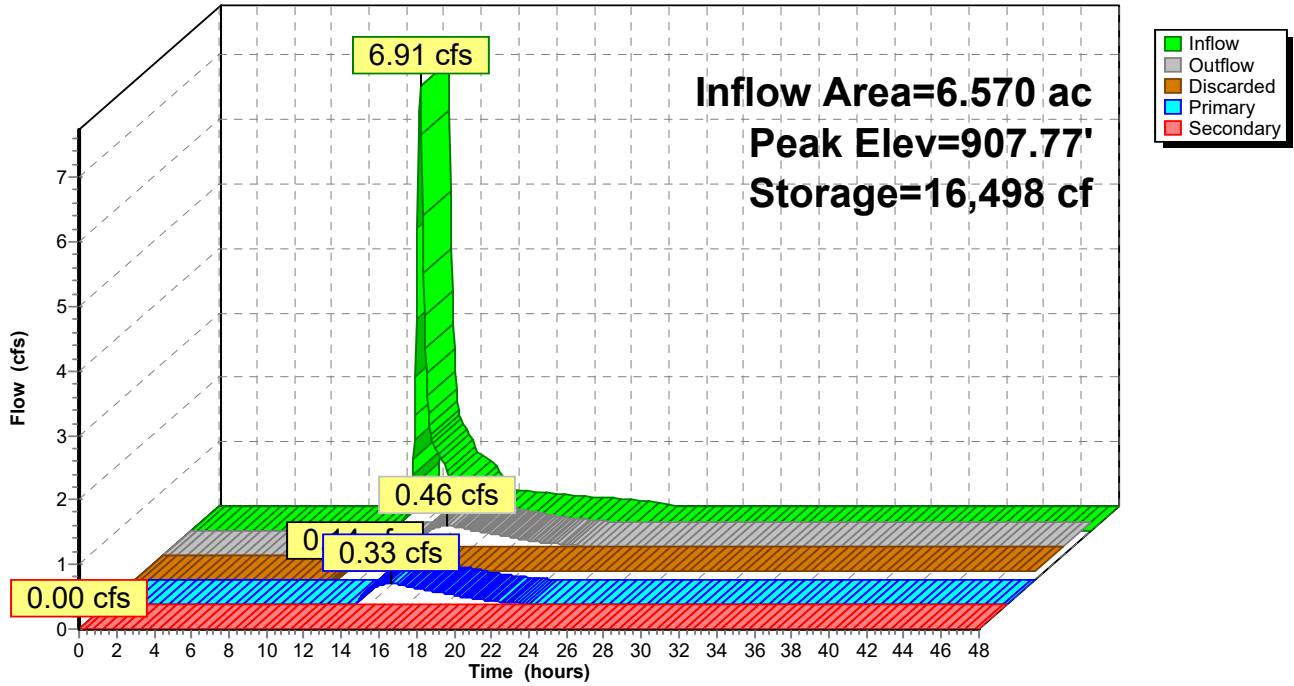
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Page 51

Pond BIO O: Bio O

Hydrograph



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Page 52

Summary for Pond Bio S: Bio S

Inflow Area = 2.440 ac, 70.49% Impervious, Inflow Depth = 1.30" for 1-Year event
 Inflow = 4.24 cfs @ 12.18 hrs, Volume= 0.265 af
 Outflow = 0.46 cfs @ 13.10 hrs, Volume= 0.251 af, Atten= 89%, Lag= 55.5 min
 Discarded = 0.05 cfs @ 11.35 hrs, Volume= 0.150 af
 Primary = 0.41 cfs @ 13.10 hrs, Volume= 0.102 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.11' @ 13.10 hrs Surf.Area= 4,115 sf Storage= 6,107 cf

Plug-Flow detention time= 597.1 min calculated for 0.251 af (95% of inflow)
 Center-of-Mass det. time= 571.7 min (1,391.6 - 819.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	917.50'	42,501 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.50	4,115	0.0	0	0
917.51	4,115	33.0	14	14
921.49	4,115	33.0	5,405	5,418
921.50	4,115	27.0	11	5,429
922.99	4,115	27.0	1,655	7,085
923.00	4,115	100.0	41	7,126
925.00	5,210	100.0	9,325	16,451
930.00	5,210	100.0	26,050	42,501

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.90' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.75'	36.0" Horiz. 36" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	924.50'	5.0' long + 4.0' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 53

Discarded OutFlow Max=0.05 cfs @ 11.35 hrs HW=917.64' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.41 cfs @ 13.10 hrs HW=922.11' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 0.41 cfs of 4.14 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.41 cfs @ 4.68 fps)

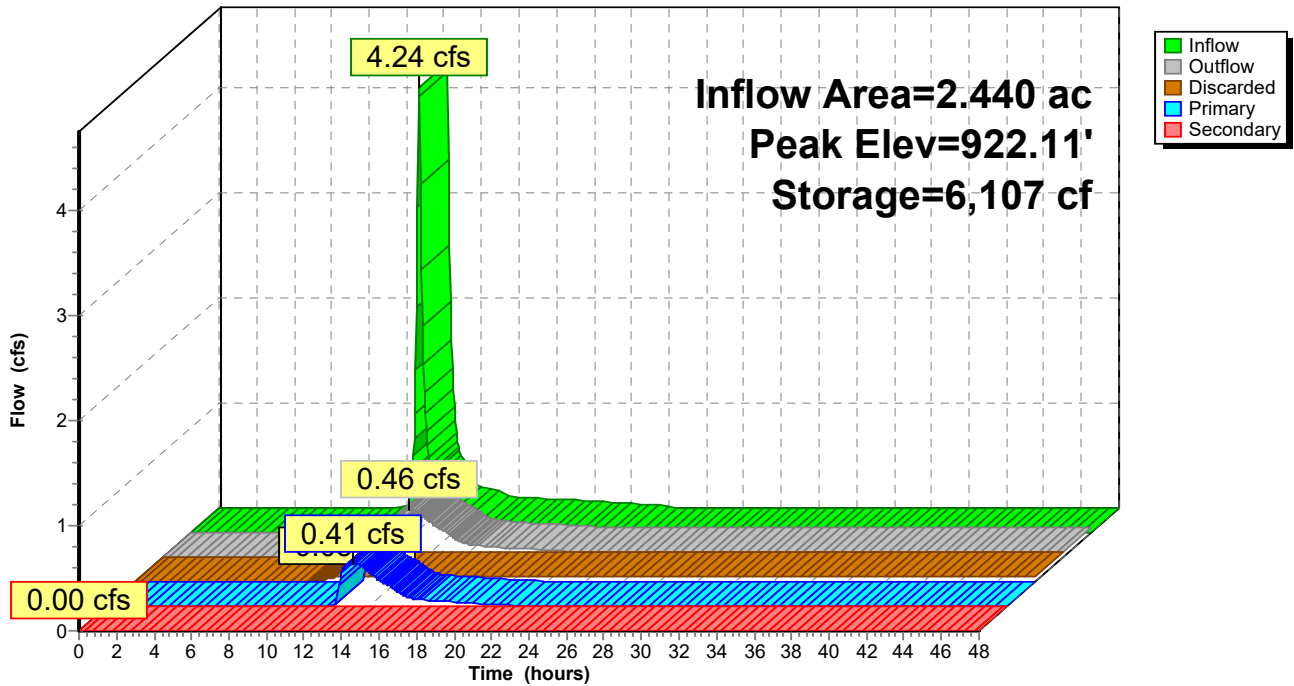
↳ **3=36" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=917.50' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Bio S: Bio S

Hydrograph



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Page 54

Summary for Pond Bio X: Bio X

Inflow Area = 7.200 ac, 37.78% Impervious, Inflow Depth = 0.86" for 1-Year event
 Inflow = 7.40 cfs @ 12.19 hrs, Volume= 0.518 af
 Outflow = 0.69 cfs @ 13.53 hrs, Volume= 0.495 af, Atten= 91%, Lag= 80.7 min
 Discarded = 0.07 cfs @ 13.53 hrs, Volume= 0.198 af
 Primary = 0.62 cfs @ 13.53 hrs, Volume= 0.297 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 948.38' @ 13.53 hrs Surf.Area= 0.135 ac Storage= 0.266 af

Plug-Flow detention time= 446.7 min calculated for 0.494 af (96% of inflow)
 Center-of-Mass det. time= 425.0 min (1,261.4 - 836.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	942.50'	3.327 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
942.50	0.125	0.0	0.000	0.000
942.51	0.125	33.0	0.000	0.000
946.49	0.125	33.0	0.164	0.165
946.50	0.125	27.0	0.000	0.165
947.99	0.125	27.0	0.050	0.215
948.00	0.125	100.0	0.001	0.216
949.00	0.152	100.0	0.138	0.355
950.00	0.181	100.0	0.166	0.521
951.00	0.225	100.0	0.203	0.724
952.00	0.293	100.0	0.259	0.983
960.00	0.293	100.0	2.344	3.327

Device	Routing	Invert	Outlet Devices
#1	Primary	946.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 946.00' / 945.90' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	946.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	948.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	950.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	951.75'	5.0' long + 4.0' /' SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	942.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 55

Discarded OutFlow Max=0.07 cfs @ 13.53 hrs HW=948.38' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.62 cfs @ 13.53 hrs HW=948.38' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 0.62 cfs of 11.59 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.62 cfs @ 7.16 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

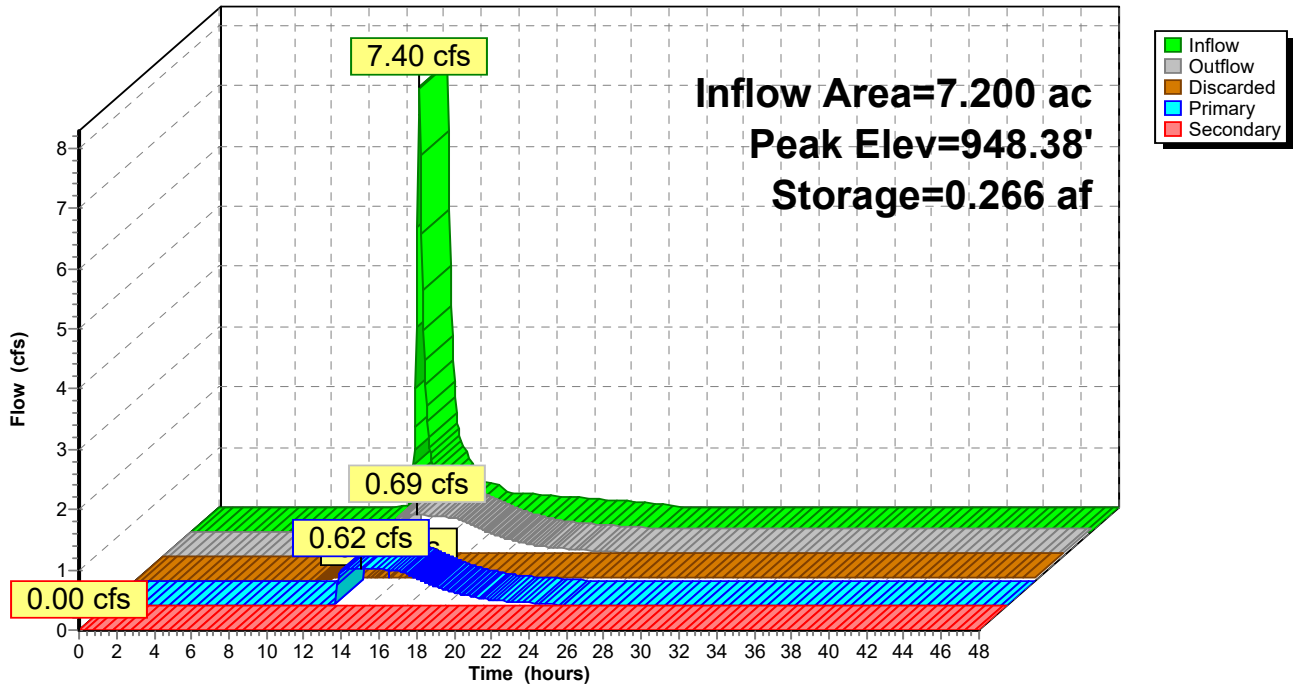
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=942.50' TW=0.00' (Dynamic Tailwater)

↳ **5=Weir** (Controls 0.00 cfs)

Pond Bio X: Bio X

Hydrograph



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Page 56

Summary for Pond IP A: Infil A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth > 0.78" for 1-Year event
 Inflow = 2.93 cfs @ 14.24 hrs, Volume= 2.573 af
 Outflow = 1.32 cfs @ 19.65 hrs, Volume= 2.572 af, Atten= 55%, Lag= 324.7 min
 Discarded = 0.24 cfs @ 19.65 hrs, Volume= 0.618 af
 Primary = 1.08 cfs @ 19.65 hrs, Volume= 1.954 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.81' @ 19.65 hrs Surf.Area= 0.470 ac Storage= 0.854 af

Plug-Flow detention time= 382.5 min calculated for 2.570 af (100% of inflow)
 Center-of-Mass det. time= 381.9 min (1,627.6 - 1,245.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	5.281 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
920.00	0.364	0.0	0.000	0.000
920.01	0.364	27.0	0.001	0.001
920.99	0.364	27.0	0.096	0.097
921.00	0.364	100.0	0.004	0.101
926.00	0.657	100.0	2.552	2.653
930.00	0.657	100.0	2.628	5.281

Device	Routing	Invert	Outlet Devices
#1	Primary	920.00'	36.0" Round 36" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 920.00' / 919.75' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	920.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.00'	5.0' long + 4.0 1' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 57

Discarded OutFlow Max=0.24 cfs @ 19.65 hrs HW=922.81' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.24 cfs)

Primary OutFlow Max=1.08 cfs @ 19.65 hrs HW=922.81' TW=911.39' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 1.08 cfs of 34.95 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.68 cfs @ 7.82 fps)

↳ **3=4" Orifice** (Orifice Controls 0.40 cfs @ 4.54 fps)

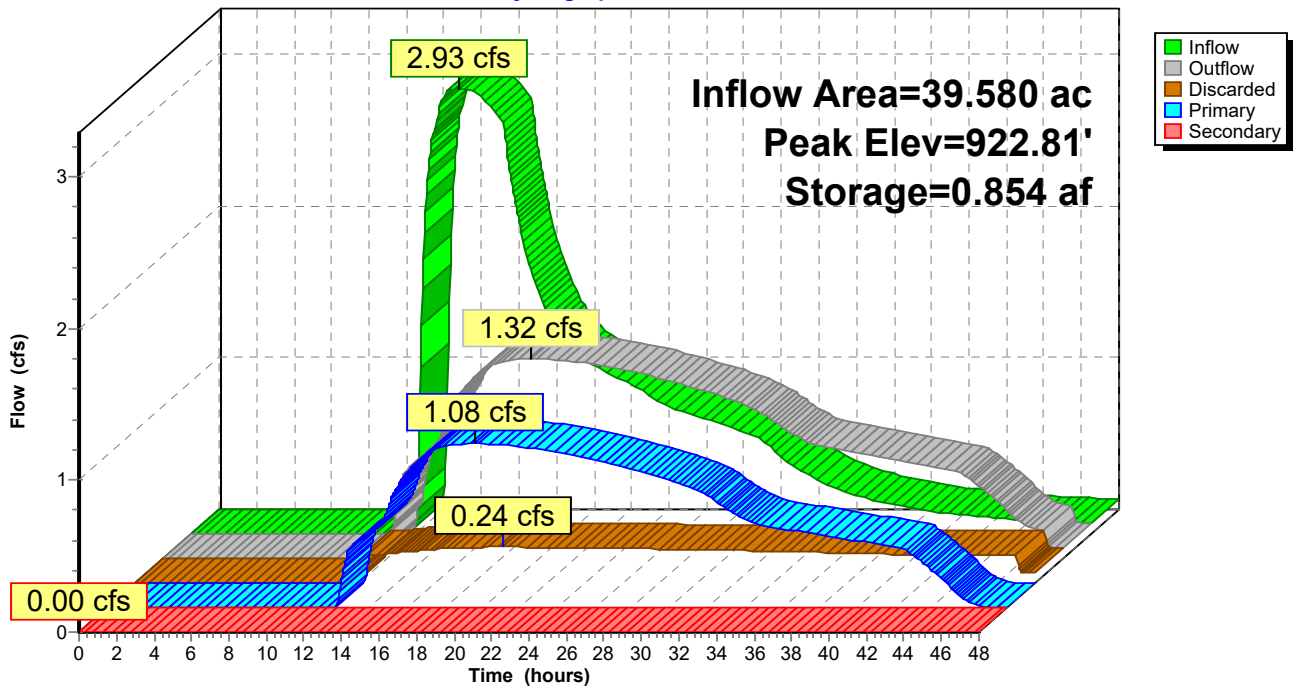
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=920.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP A: Infil A

Hydrograph



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Page 58

Summary for Pond IP B: Infil B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth > 0.59" for 1-Year event
 Inflow = 6.08 cfs @ 12.65 hrs, Volume= 4.458 af
 Outflow = 3.29 cfs @ 16.26 hrs, Volume= 4.282 af, Atten= 46%, Lag= 216.3 min
 Discarded = 0.55 cfs @ 16.26 hrs, Volume= 1.576 af
 Primary = 2.74 cfs @ 16.26 hrs, Volume= 2.706 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 910.64' @ 16.26 hrs Surf.Area= 1.090 ac Storage= 0.944 af

Plug-Flow detention time= 332.5 min calculated for 4.282 af (96% of inflow)
 Center-of-Mass det. time= 277.1 min (1,586.6 - 1,309.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	909.00'	13.525 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
909.00	0.990	0.0	0.000	0.000
909.01	0.990	27.0	0.003	0.003
909.99	0.990	27.0	0.262	0.265
910.00	0.990	100.0	0.010	0.275
914.00	1.610	100.0	5.200	5.475
919.00	1.610	100.0	8.050	13.525

Device	Routing	Invert	Outlet Devices
#1	Primary	909.00'	36.0" Round 36" Outlet Pipe L= 380.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 909.00' / 908.00' S= 0.0026 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	909.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	910.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Discarded	909.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.55 cfs @ 16.26 hrs HW=910.64' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.55 cfs)

Primary OutFlow Max=2.74 cfs @ 16.26 hrs HW=910.64' TW=0.00' (Dynamic Tailwater)
 ↳1=36" Outlet Pipe (Passes 2.74 cfs of 13.82 cfs potential flow)
 ↳2=4" Underdrain (Orifice Controls 0.51 cfs @ 5.85 fps)
 ↳3=48" Riser (Weir Controls 2.23 cfs @ 1.24 fps)

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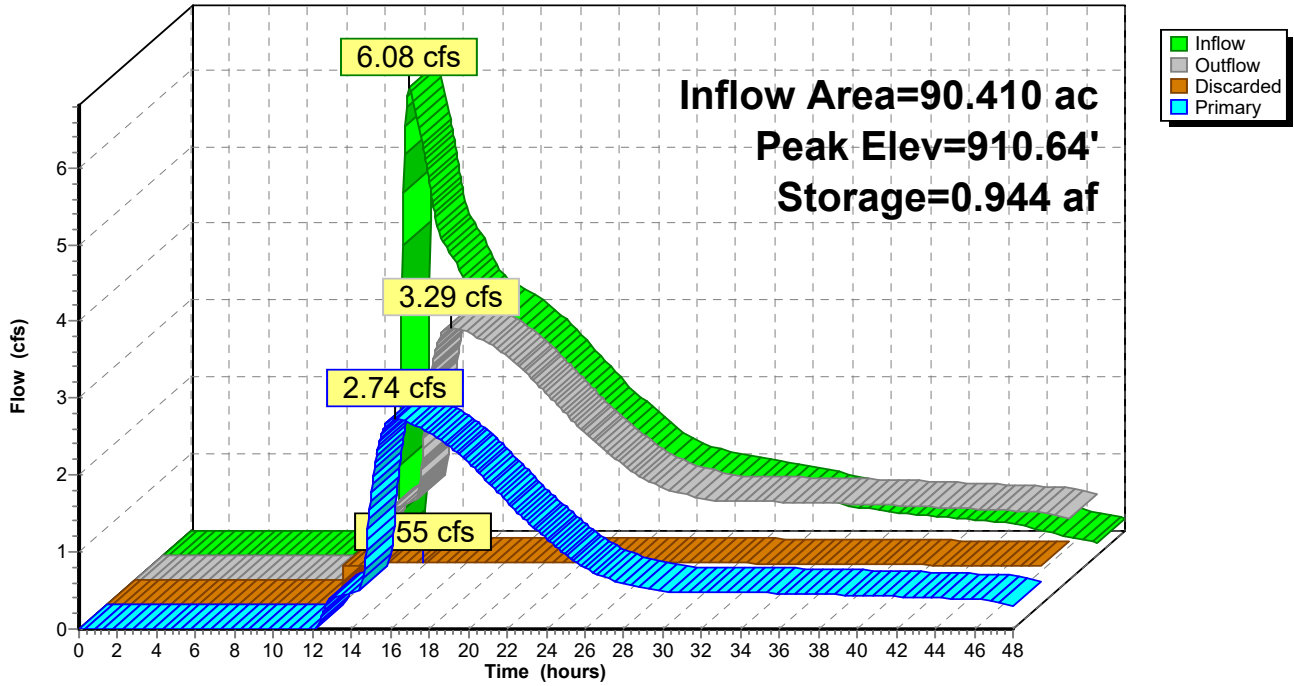
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Page 59

Pond IP B: Infil B

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Page 60

Summary for Pond IP C: IP C

Inflow Area = 3.690 ac, 76.69% Impervious, Inflow Depth = 1.45" for 1-Year event
 Inflow = 7.10 cfs @ 12.18 hrs, Volume= 0.445 af
 Outflow = 0.84 cfs @ 12.90 hrs, Volume= 0.445 af, Atten= 88%, Lag= 43.2 min
 Discarded = 0.08 cfs @ 12.90 hrs, Volume= 0.101 af
 Primary = 0.77 cfs @ 12.90 hrs, Volume= 0.344 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 935.30' @ 12.90 hrs Surf.Area= 6,526 sf Storage= 9,601 cf

Plug-Flow detention time= 180.9 min calculated for 0.445 af (100% of inflow)
 Center-of-Mass det. time= 180.9 min (993.8 - 812.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	932.00'	23,322 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
932.00	4,165	0.0	0	0
932.01	4,165	33.0	14	14
933.49	4,165	33.0	2,034	2,048
933.50	4,165	27.0	11	2,059
933.99	4,165	27.0	551	2,610
934.00	4,165	100.0	42	2,652
937.00	9,615	100.0	20,670	23,322

Device	Routing	Invert	Outlet Devices
#1	Primary	933.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 933.00' / 932.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	933.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	936.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	936.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	932.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 61

Discarded OutFlow Max=0.08 cfs @ 12.90 hrs HW=935.30' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.77 cfs @ 12.90 hrs HW=935.30' TW=922.98' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 0.77 cfs of 10.67 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.61 cfs @ 7.03 fps)

↳ **3=4" Orifice** (Orifice Controls 0.15 cfs @ 1.86 fps)

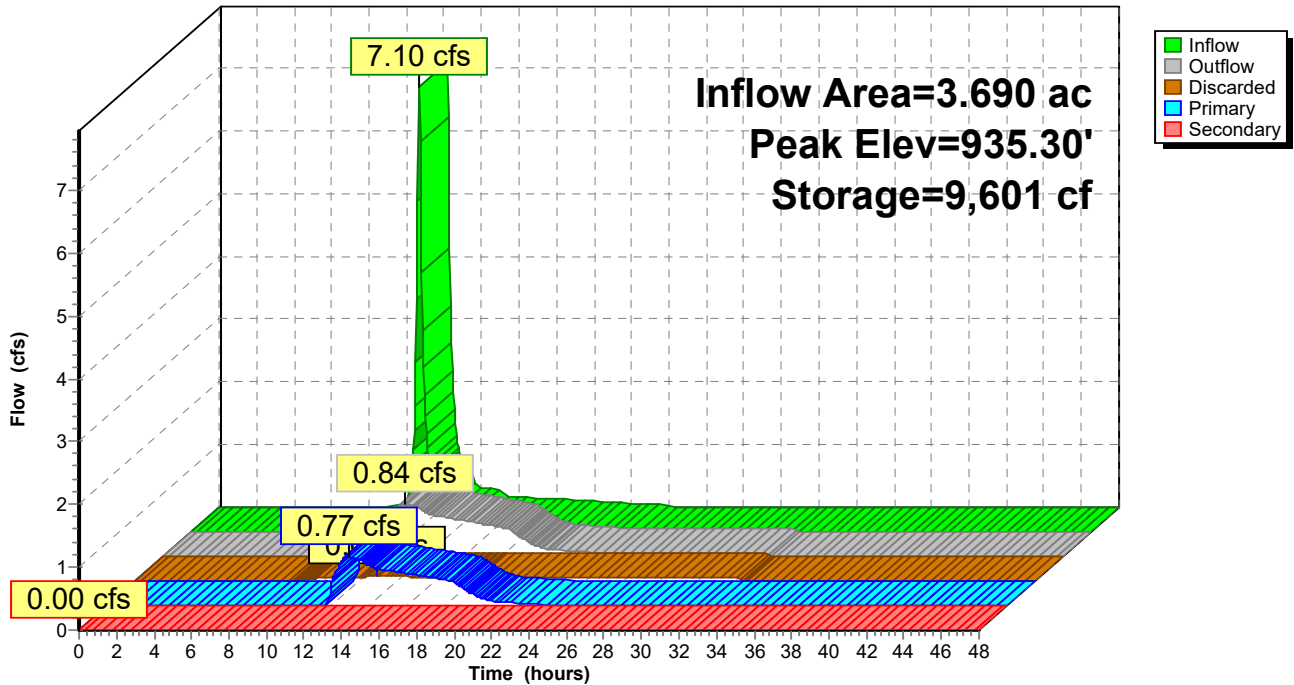
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=932.00' TW=922.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP C: IP C

Hydrograph



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Page 62

Summary for Pond IP D: IP D

Inflow Area = 3.790 ac, 63.59% Impervious, Inflow Depth = 1.17" for 1-Year event
 Inflow = 5.92 cfs @ 12.18 hrs, Volume= 0.370 af
 Outflow = 0.64 cfs @ 13.16 hrs, Volume= 0.370 af, Atten= 89%, Lag= 58.9 min
 Discarded = 0.07 cfs @ 13.16 hrs, Volume= 0.095 af
 Primary = 0.56 cfs @ 13.16 hrs, Volume= 0.274 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 935.97' @ 13.16 hrs Surf.Area= 6,092 sf Storage= 7,772 cf

Plug-Flow detention time= 182.2 min calculated for 0.369 af (100% of inflow)
 Center-of-Mass det. time= 182.5 min (1,008.9 - 826.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	933.00'	23,947 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
933.00	4,285	0.0	0	0
933.01	4,285	33.0	14	14
934.49	4,285	33.0	2,093	2,107
934.50	4,285	27.0	12	2,119
934.99	4,285	27.0	567	2,685
935.00	4,285	100.0	43	2,728
938.00	9,861	100.0	21,219	23,947

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	937.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	933.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 63

Discarded OutFlow Max=0.07 cfs @ 13.16 hrs HW=935.97' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.56 cfs @ 13.16 hrs HW=935.97' TW=923.03' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 0.56 cfs of 9.11 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.56 cfs @ 6.47 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

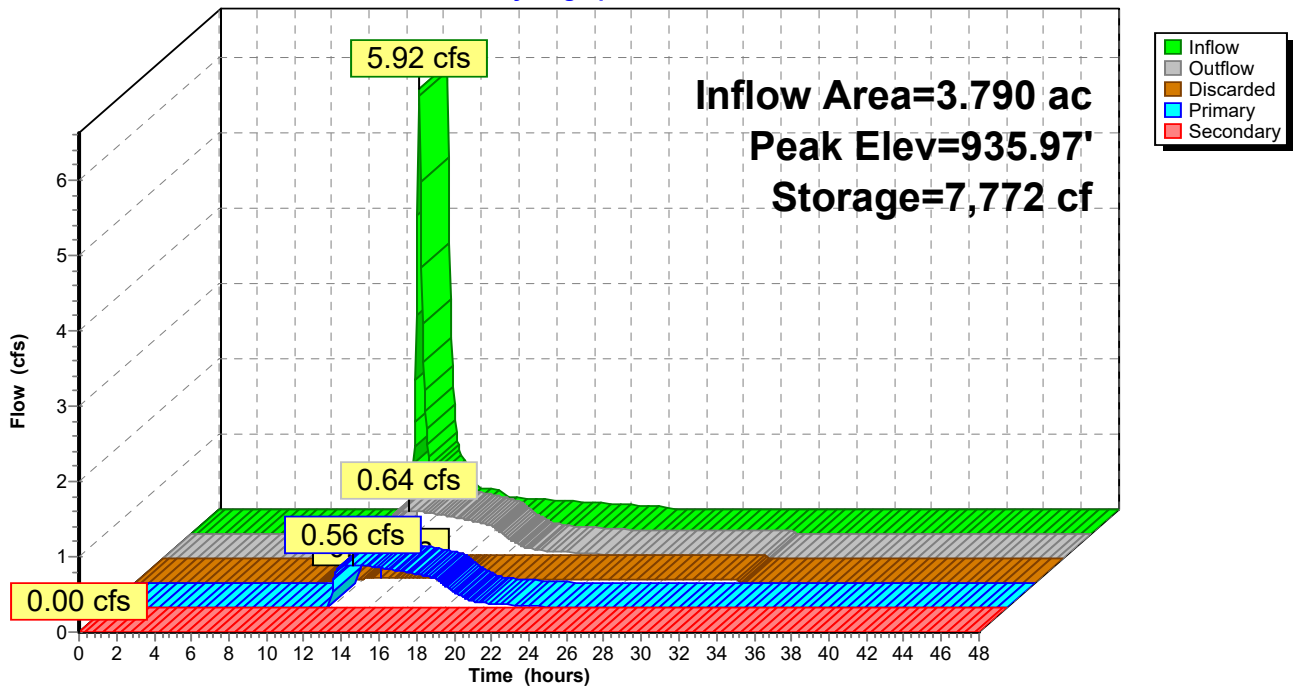
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=933.00' TW=922.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP D: IP D

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Page 64

Summary for Pond IP E: IP E

Inflow Area = 3.830 ac, 62.92% Impervious, Inflow Depth = 1.11" for 1-Year event
 Inflow = 5.66 cfs @ 12.18 hrs, Volume= 0.354 af
 Outflow = 0.61 cfs @ 13.18 hrs, Volume= 0.354 af, Atten= 89%, Lag= 59.6 min
 Discarded = 0.07 cfs @ 13.18 hrs, Volume= 0.098 af
 Primary = 0.54 cfs @ 13.18 hrs, Volume= 0.256 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 929.85' @ 13.18 hrs Surf.Area= 5,945 sf Storage= 7,340 cf

Plug-Flow detention time= 185.4 min calculated for 0.354 af (100% of inflow)
 Center-of-Mass det. time= 185.3 min (1,015.0 - 829.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	927.00'	23,960 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
927.00	4,541	0.0	0	0
927.01	4,541	33.0	15	15
928.49	4,541	33.0	2,218	2,233
928.50	4,541	27.0	12	2,245
928.99	4,541	27.0	601	2,846
929.00	4,541	100.0	45	2,891
932.00	9,505	100.0	21,069	23,960

Device	Routing	Invert	Outlet Devices
#1	Primary	928.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 928.00' / 927.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	928.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	930.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	931.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	931.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	927.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 65

Discarded OutFlow Max=0.07 cfs @ 13.18 hrs HW=929.85' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.54 cfs @ 13.18 hrs HW=929.85' TW=911.58' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 0.54 cfs of 6.36 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.54 cfs @ 6.24 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

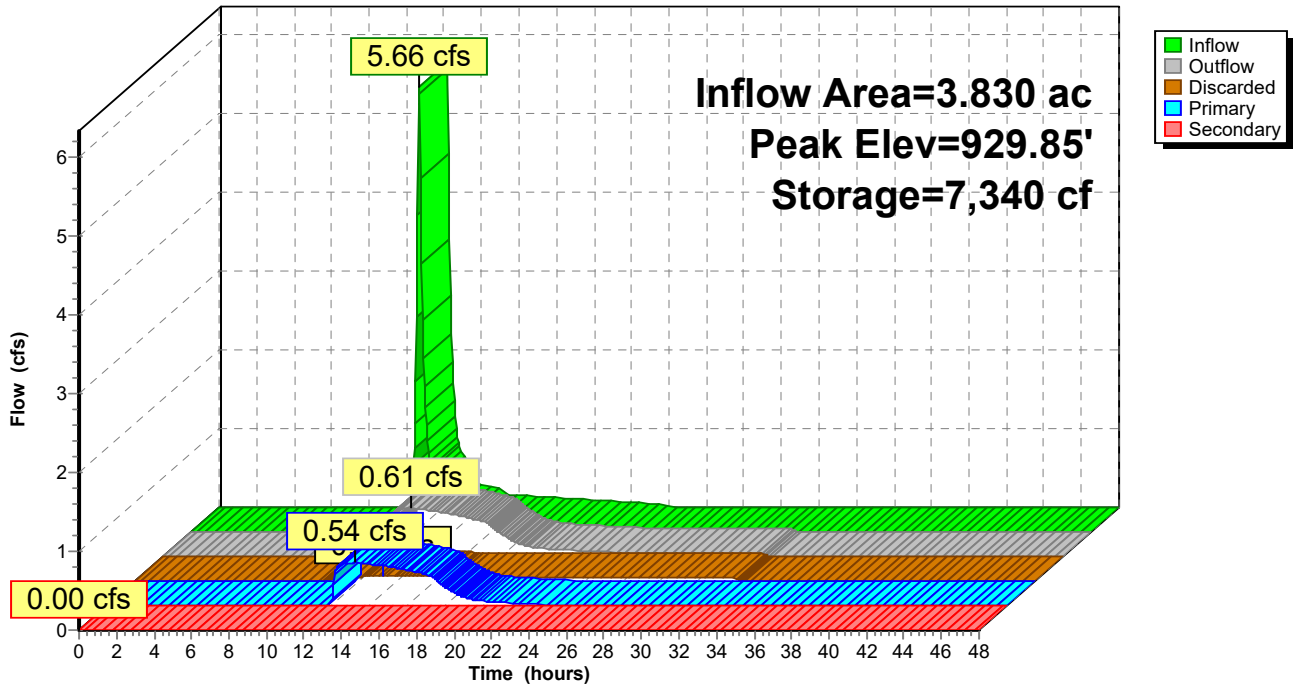
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=927.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP E: IP E

Hydrograph



Kilkenny Phase Master

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Page 66

Summary for Pond IP F: IP F

Inflow Area = 4.440 ac, 71.62% Impervious, Inflow Depth = 1.37" for 1-Year event
 Inflow = 8.13 cfs @ 12.18 hrs, Volume= 0.508 af
 Outflow = 0.64 cfs @ 13.46 hrs, Volume= 0.508 af, Atten= 92%, Lag= 76.7 min
 Discarded = 0.12 cfs @ 13.46 hrs, Volume= 0.184 af
 Primary = 0.52 cfs @ 13.46 hrs, Volume= 0.324 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.72' @ 13.46 hrs Surf.Area= 10,183 sf Storage= 11,922 cf

Plug-Flow detention time= 253.5 min calculated for 0.507 af (100% of inflow)
 Center-of-Mass det. time= 253.8 min (1,070.3 - 816.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	923.00'	41,988 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
923.00	8,293	0.0	0	0
923.01	8,293	33.0	27	27
924.49	8,293	33.0	4,050	4,078
924.50	8,293	27.0	22	4,100
924.99	8,293	27.0	1,097	5,197
925.00	8,293	100.0	83	5,280
928.00	16,179	100.0	36,708	41,988

Device	Routing	Invert	Outlet Devices
#1	Primary	924.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 924.00' / 923.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	924.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	926.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	927.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	927.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	923.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 67

Discarded OutFlow Max=0.12 cfs @ 13.46 hrs HW=925.72' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.52 cfs @ 13.46 hrs HW=925.72' TW=911.56' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 0.52 cfs of 5.85 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.52 cfs @ 6.00 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

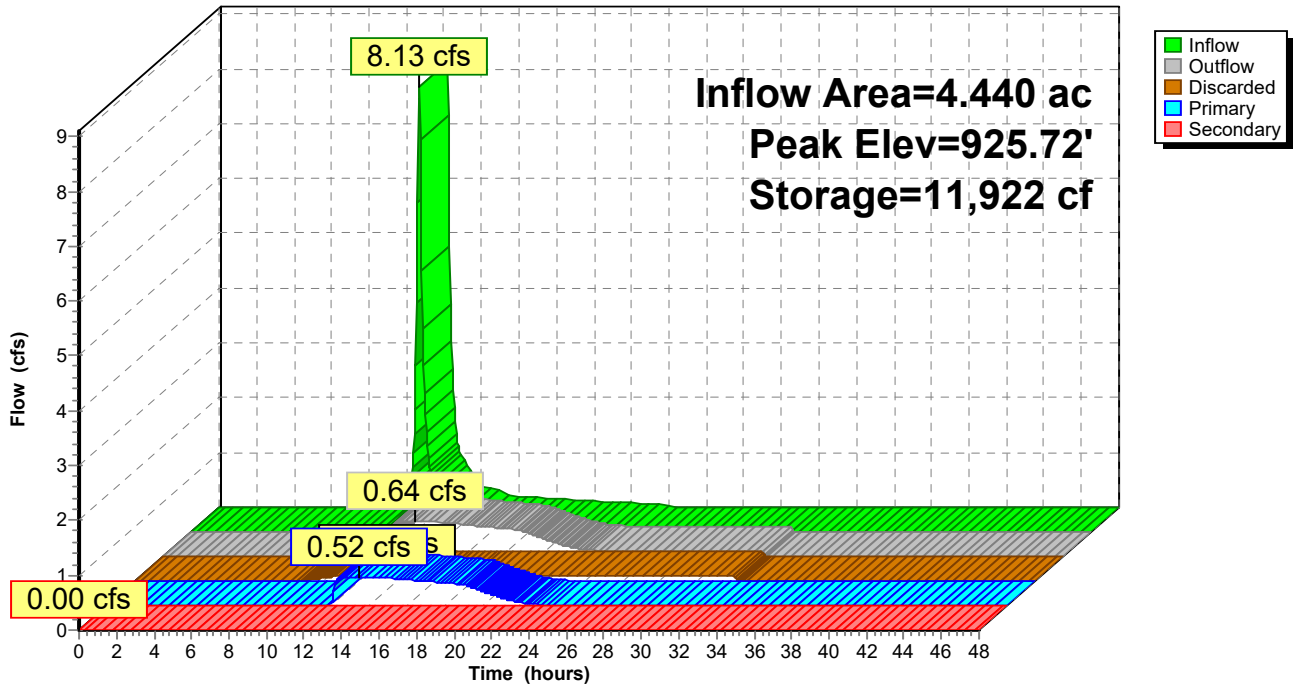
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=923.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP F: IP F

Hydrograph



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Page 68

Summary for Pond IP G: IP G

Inflow Area = 4.310 ac, 70.53% Impervious, Inflow Depth = 1.30" for 1-Year event
 Inflow = 7.50 cfs @ 12.18 hrs, Volume= 0.468 af
 Outflow = 0.61 cfs @ 13.44 hrs, Volume= 0.468 af, Atten= 92%, Lag= 75.6 min
 Discarded = 0.12 cfs @ 13.44 hrs, Volume= 0.187 af
 Primary = 0.49 cfs @ 13.44 hrs, Volume= 0.281 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.54' @ 13.44 hrs Surf.Area= 10,464 sf Storage= 10,778 cf

Plug-Flow detention time= 251.4 min calculated for 0.468 af (100% of inflow)
 Center-of-Mass det. time= 251.3 min (1,071.2 - 819.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	46,073 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
920.00	8,741	0.0	0	0
920.01	8,741	33.0	29	29
921.49	8,741	33.0	4,269	4,298
921.50	8,741	27.0	24	4,322
921.99	8,741	27.0	1,156	5,478
922.00	8,741	100.0	87	5,565
925.00	18,264	100.0	40,508	46,073

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	924.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 69

Discarded OutFlow Max=0.12 cfs @ 13.44 hrs HW=922.54' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.49 cfs @ 13.44 hrs HW=922.54' TW=911.56' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 0.49 cfs of 5.54 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.49 cfs @ 5.65 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

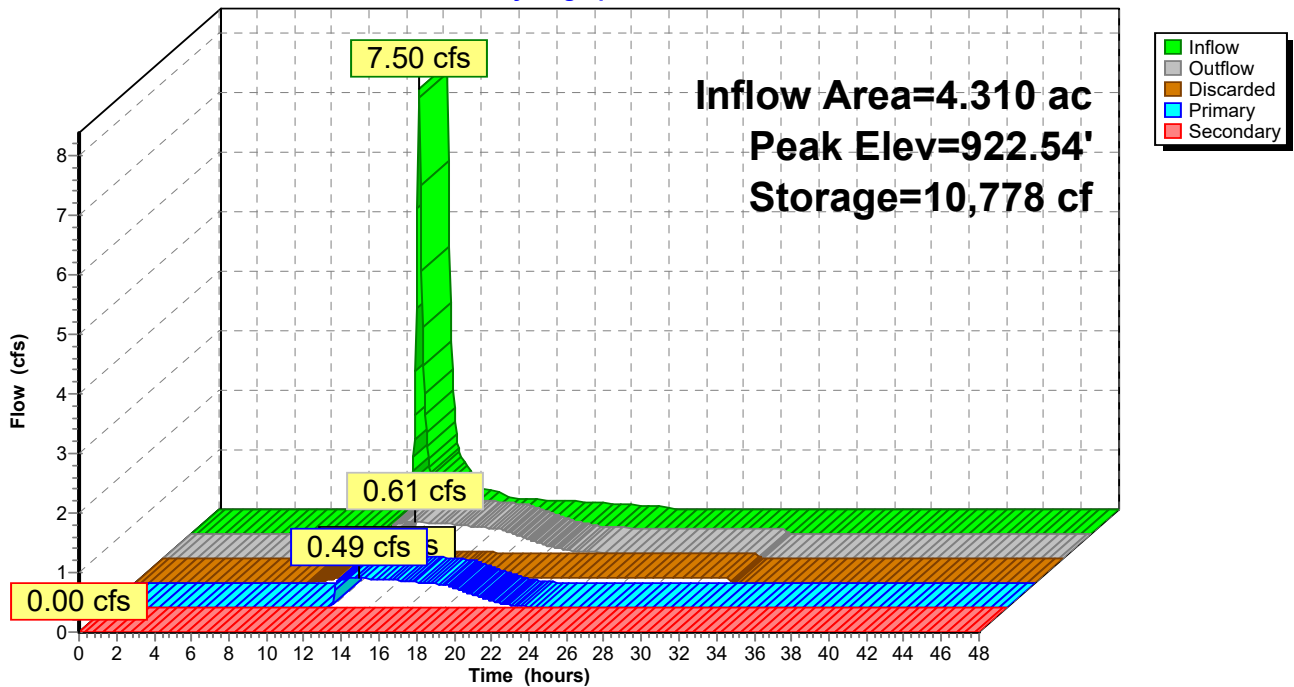
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=920.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP G: IP G

Hydrograph



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Page 70

Summary for Pond IP H: IP H

Inflow Area = 2.410 ac, 70.54% Impervious, Inflow Depth = 1.30" for 1-Year event
 Inflow = 4.19 cfs @ 12.18 hrs, Volume= 0.262 af
 Outflow = 1.07 cfs @ 12.52 hrs, Volume= 0.262 af, Atten= 74%, Lag= 20.3 min
 Discarded = 0.03 cfs @ 12.52 hrs, Volume= 0.029 af
 Primary = 1.04 cfs @ 12.52 hrs, Volume= 0.233 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 924.87' @ 12.52 hrs Surf.Area= 2,337 sf Storage= 4,131 cf

Plug-Flow detention time= 74.6 min calculated for 0.261 af (100% of inflow)
 Center-of-Mass det. time= 75.1 min (895.0 - 819.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	921.00'	7,143 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
921.00	1,237	0.0	0	0
921.01	1,237	33.0	4	4
922.49	1,237	33.0	604	608
922.50	1,237	27.0	3	612
922.99	1,237	27.0	164	775
923.00	1,237	100.0	12	788
926.00	3,000	100.0	6,356	7,143

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	922.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	924.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	921.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 71

Discarded OutFlow Max=0.03 cfs @ 12.52 hrs HW=924.87' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=1.04 cfs @ 12.52 hrs HW=924.87' TW=911.59' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 1.04 cfs of 9.44 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.69 cfs @ 7.92 fps)

↳ **3=4" Orifice** (Orifice Controls 0.35 cfs @ 4.04 fps)

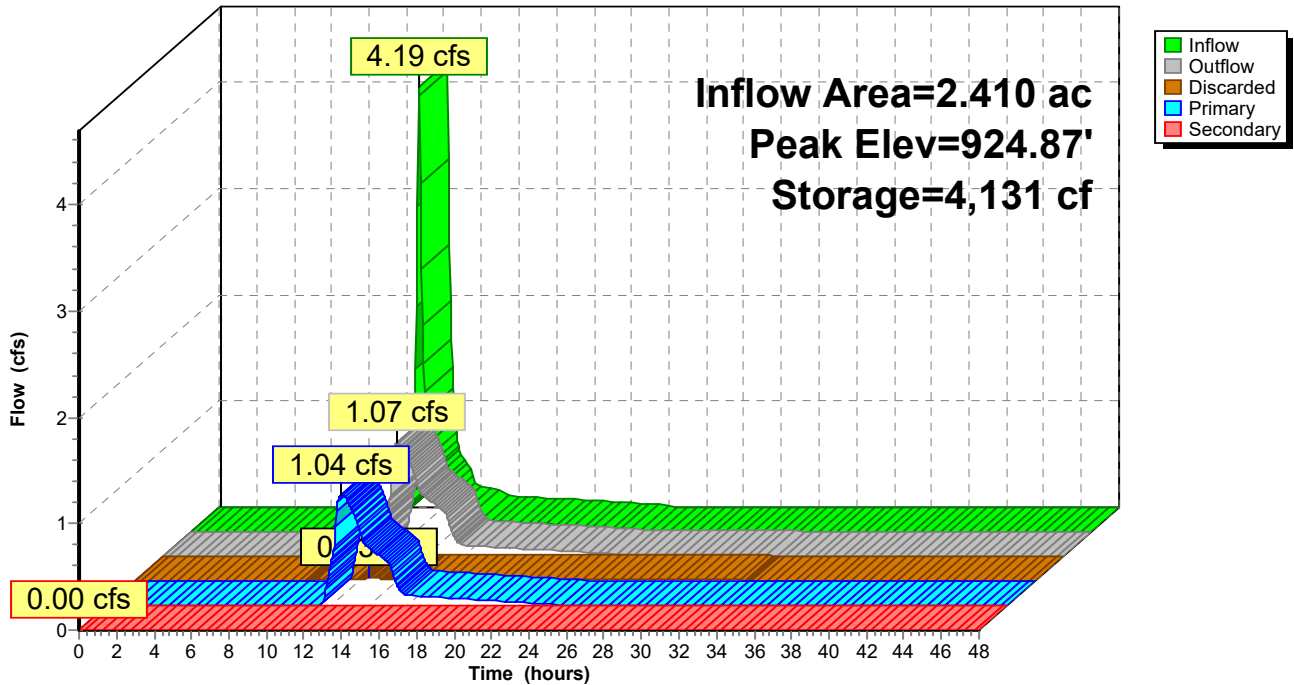
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=921.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP H: IP H

Hydrograph



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Page 72

Summary for Pond IP L: Inf L

Inflow Area = 2.260 ac, 68.14% Impervious, Inflow Depth = 1.24" for 1-Year event
 Inflow = 3.73 cfs @ 12.18 hrs, Volume= 0.233 af
 Outflow = 2.53 cfs @ 12.30 hrs, Volume= 0.233 af, Atten= 32%, Lag= 7.1 min
 Discarded = 0.03 cfs @ 12.30 hrs, Volume= 0.029 af
 Primary = 2.50 cfs @ 12.30 hrs, Volume= 0.204 af
 Routed to Pond BIO O : Bio O
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond BIO O : Bio O

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 920.13' @ 12.30 hrs Surf.Area= 2,412 sf Storage= 2,875 cf

Plug-Flow detention time= 71.2 min calculated for 0.232 af (100% of inflow)
 Center-of-Mass det. time= 71.6 min (894.9 - 823.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	917.00'	5,362 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.00	1,260	0.0	0	0
917.01	1,260	33.0	4	4
918.49	1,260	33.0	615	620
918.50	1,260	27.0	3	623
918.99	1,260	27.0	167	790
919.00	1,260	100.0	13	802
921.00	3,300	100.0	4,560	5,362

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	918.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	920.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 73

Discarded OutFlow Max=0.03 cfs @ 12.30 hrs HW=920.13' (Free Discharge)

↳5=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=2.47 cfs @ 12.30 hrs HW=920.13' TW=905.27' (Dynamic Tailwater)

↳1=18" Outlet Pipe (Passes 2.47 cfs of 9.76 cfs potential flow)

↳2=4" Underdrain (Orifice Controls 0.59 cfs @ 6.74 fps)

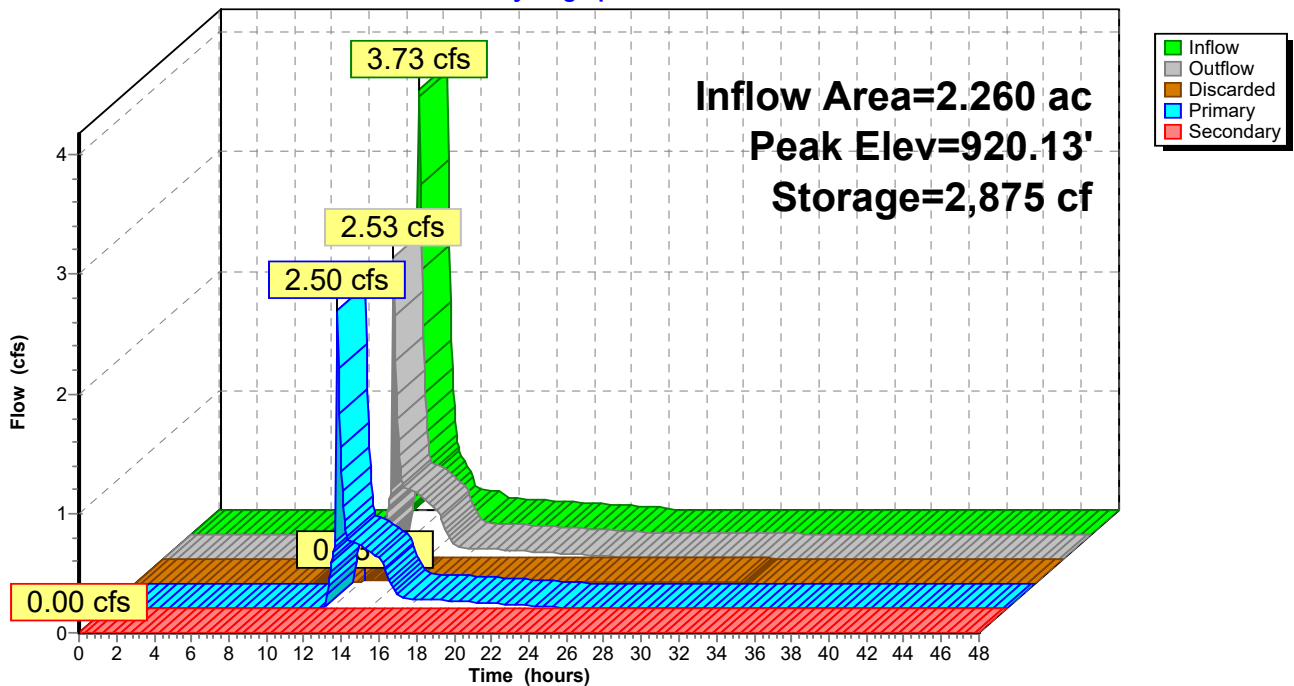
↳3=48" Riser (Weir Controls 1.89 cfs @ 1.17 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=917.00' TW=903.50' (Dynamic Tailwater)

↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond IP L: Inf L

Hydrograph



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Page 74

Summary for Pond IP M: Inf M

Inflow Area = 1.090 ac, 60.55% Impervious, Inflow Depth = 1.11" for 1-Year event
 Inflow = 1.61 cfs @ 12.18 hrs, Volume= 0.101 af
 Outflow = 0.40 cfs @ 12.54 hrs, Volume= 0.101 af, Atten= 75%, Lag= 21.7 min
 Discarded = 0.03 cfs @ 11.60 hrs, Volume= 0.052 af
 Primary = 0.36 cfs @ 12.54 hrs, Volume= 0.048 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 926.91' @ 12.54 hrs Surf.Area= 2,810 sf Storage= 1,704 cf

Plug-Flow detention time= 198.6 min calculated for 0.101 af (100% of inflow)
 Center-of-Mass det. time= 198.6 min (1,028.2 - 829.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	15,057 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
925.00	2,810	0.0	0	0
925.01	2,810	33.0	9	9
926.49	2,810	33.0	1,372	1,382
926.50	2,810	27.0	8	1,389
926.99	2,810	27.0	372	1,761
927.00	2,810	100.0	28	1,789
930.00	6,035	100.0	13,268	15,057

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	12.0" Round 12" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	928.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	929.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	929.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 75

Discarded OutFlow Max=0.03 cfs @ 11.60 hrs HW=925.05' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.36 cfs @ 12.54 hrs HW=926.91' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Passes 0.36 cfs of 2.20 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.36 cfs @ 4.16 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

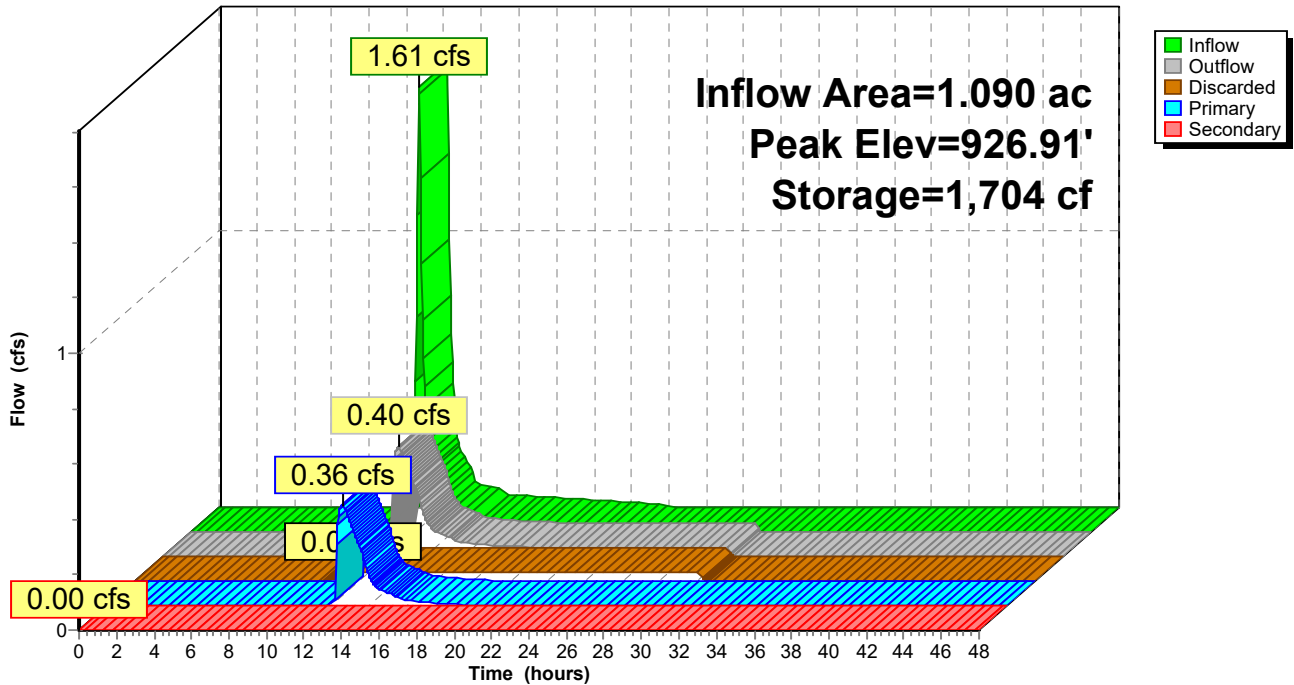
↳ **4=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=925.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP M: Inf M

Hydrograph



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Page 76

Summary for Pond IP P: Infil P

Inflow Area = 24.020 ac, 62.49% Impervious, Inflow Depth > 1.05" for 1-Year event
 Inflow = 3.65 cfs @ 13.53 hrs, Volume= 2.098 af
 Outflow = 1.28 cfs @ 20.46 hrs, Volume= 2.098 af, Atten= 65%, Lag= 415.5 min
 Discarded = 0.21 cfs @ 20.46 hrs, Volume= 0.407 af
 Primary = 1.08 cfs @ 20.46 hrs, Volume= 1.691 af
 Routed to Pond IP T : Infil T
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP T : Infil T

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 936.80' @ 20.46 hrs Surf.Area= 0.408 ac Storage= 0.664 af

Plug-Flow detention time= 319.5 min calculated for 2.096 af (100% of inflow)
 Center-of-Mass det. time= 319.2 min (1,428.4 - 1,109.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	934.00'	9.318 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
934.00	0.252	0.0	0.000	0.000
934.01	0.252	27.0	0.001	0.001
934.99	0.252	27.0	0.067	0.067
935.00	0.252	100.0	0.003	0.070
941.00	0.772	100.0	3.072	3.142
949.00	0.772	100.0	6.176	9.318

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	940.50'	5.0' long + 4.0 1' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	934.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 77

Discarded OutFlow Max=0.21 cfs @ 20.46 hrs HW=936.80' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.21 cfs)

Primary OutFlow Max=1.08 cfs @ 20.46 hrs HW=936.80' TW=927.81' (Dynamic Tailwater)

↳ **1=24" Outlet Pipe** (Passes 1.08 cfs of 20.21 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.68 cfs @ 7.81 fps)

↳ **3=4" Orifice** (Orifice Controls 0.40 cfs @ 4.53 fps)

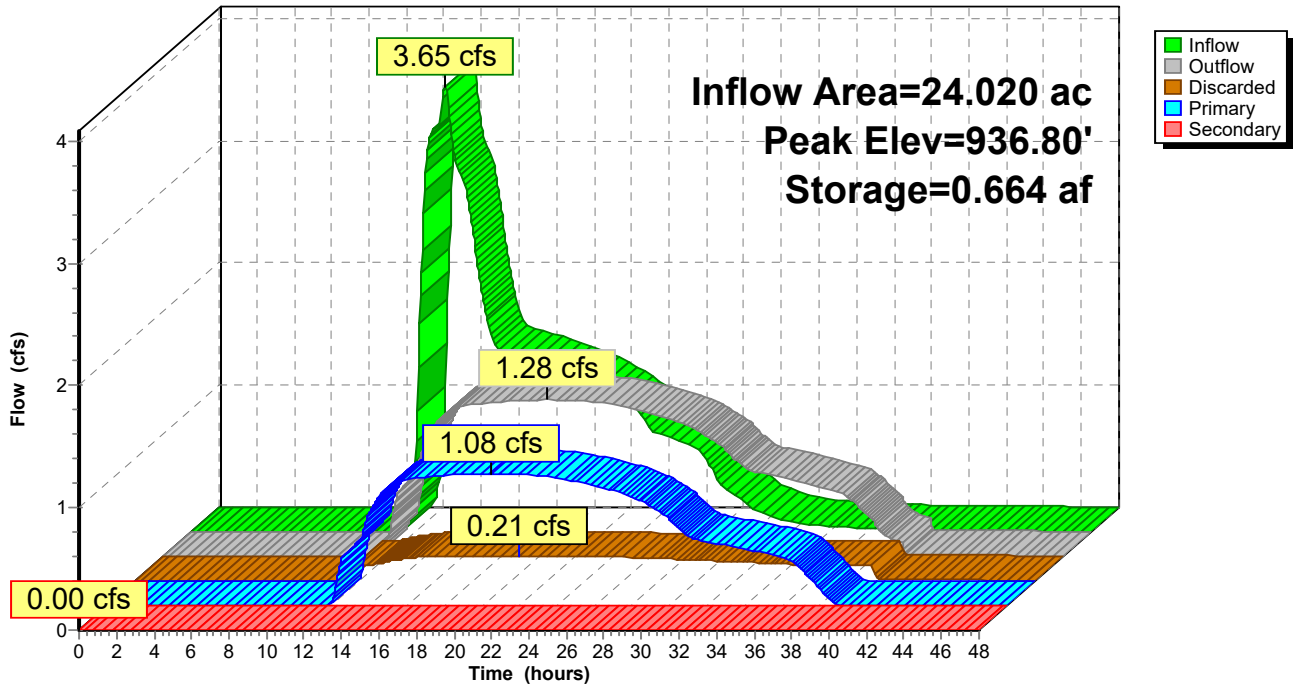
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=934.00' TW=925.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP P: Infil P

Hydrograph



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Page 78

Summary for Pond IP Q: Infil Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth > 1.19" for 1-Year event
 Inflow = 11.69 cfs @ 12.41 hrs, Volume= 1.444 af
 Outflow = 1.93 cfs @ 13.57 hrs, Volume= 1.444 af, Atten= 83%, Lag= 69.2 min
 Discarded = 0.10 cfs @ 13.57 hrs, Volume= 0.121 af
 Primary = 1.83 cfs @ 13.57 hrs, Volume= 1.323 af
 Routed to Pond IP P : Infil P
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 941.05' @ 13.57 hrs Surf.Area= 0.199 ac Storage= 0.483 af

Plug-Flow detention time= 171.4 min calculated for 1.444 af (100% of inflow)
 Center-of-Mass det. time= 171.4 min (1,118.2 - 946.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	937.00'	2.828 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
937.00	0.100	0.0	0.000	0.000
937.01	0.100	27.0	0.000	0.000
937.99	0.100	27.0	0.026	0.027
938.00	0.100	100.0	0.001	0.028
942.00	0.230	100.0	0.660	0.688
943.00	0.270	100.0	0.250	0.938
950.00	0.270	100.0	1.890	2.828

Device	Routing	Invert	Outlet Devices
#1	Primary	937.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 937.00' / 935.70' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	937.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	942.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	937.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 79

Discarded OutFlow Max=0.10 cfs @ 13.57 hrs HW=941.04' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=1.83 cfs @ 13.57 hrs HW=941.04' TW=935.82' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 1.83 cfs of 54.38 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.83 cfs @ 9.48 fps)

↳ **3=4" Orifice** (Orifice Controls 0.61 cfs @ 7.02 fps)

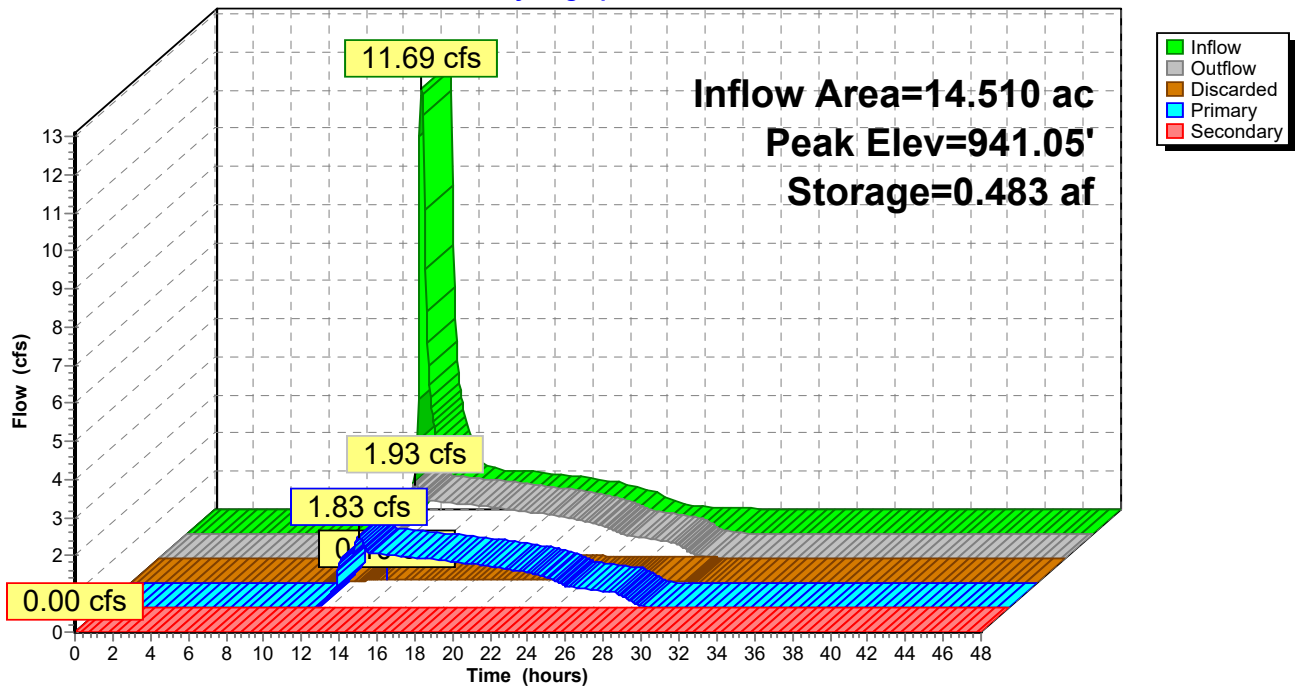
↳ **4=48" Riser** (Weir Controls 0.39 cfs @ 0.69 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=937.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP Q: Infil Q

Hydrograph



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Page 80

Summary for Pond IP T: Infil T

Inflow Area = 26.270 ac, 63.11% Impervious, Inflow Depth = 0.88" for 1-Year event
 Inflow = 4.04 cfs @ 12.18 hrs, Volume= 1.936 af
 Outflow = 3.58 cfs @ 12.25 hrs, Volume= 1.936 af, Atten= 11%, Lag= 4.3 min
 Discarded = 0.03 cfs @ 12.25 hrs, Volume= 0.070 af
 Primary = 3.55 cfs @ 12.25 hrs, Volume= 1.865 af
 Routed to Pond WP U : Wet Pond U
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP U : Wet Pond U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 927.92' @ 12.25 hrs Surf.Area= 0.057 ac Storage= 0.060 af

Plug-Flow detention time= 41.5 min calculated for 1.936 af (100% of inflow)
 Center-of-Mass det. time= 41.7 min (1,377.9 - 1,336.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	2.143 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
925.00	0.031	0.0	0.000	0.000
925.01	0.031	33.0	0.000	0.000
926.49	0.031	33.0	0.015	0.015
926.50	0.031	27.0	0.000	0.015
926.99	0.031	27.0	0.004	0.019
927.00	0.031	100.0	0.000	0.020
930.00	0.115	100.0	0.219	0.239
931.00	0.240	100.0	0.177	0.416
932.00	0.189	100.0	0.214	0.631
940.00	0.189	100.0	1.512	2.143

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	18.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	927.75'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	931.50'	25.0' long + 4.0 1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 81

Discarded OutFlow Max=0.03 cfs @ 12.25 hrs HW=927.92' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=3.52 cfs @ 12.25 hrs HW=927.92' TW=919.09' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 3.52 cfs of 9.01 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.56 cfs @ 6.38 fps)

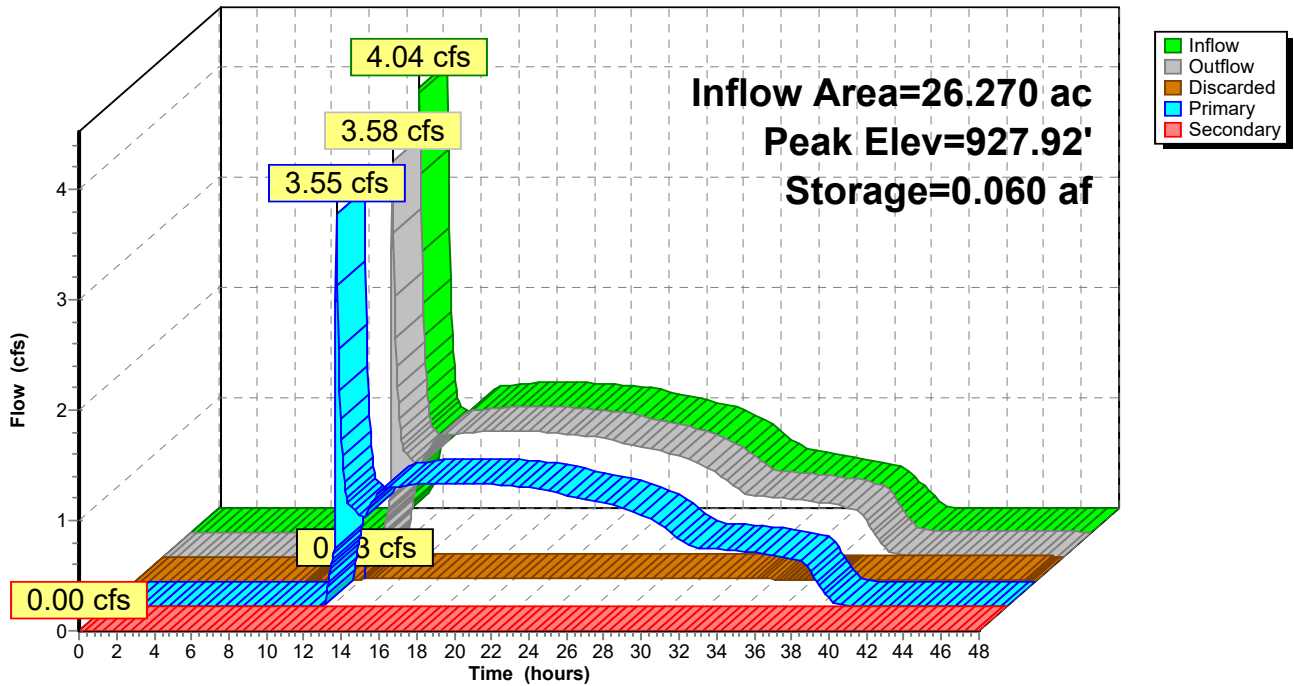
↳ **3=48" Riser** (Weir Controls 2.96 cfs @ 1.36 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=925.00' TW=918.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP T: Infil T

Hydrograph



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Page 82

Summary for Pond IP U: Infil U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth > 0.90" for 1-Year event
 Inflow = 2.31 cfs @ 12.71 hrs, Volume= 2.369 af
 Outflow = 1.18 cfs @ 22.35 hrs, Volume= 2.369 af, Atten= 49%, Lag= 578.4 min
 Discarded = 0.11 cfs @ 22.35 hrs, Volume= 0.277 af
 Primary = 1.07 cfs @ 22.35 hrs, Volume= 2.092 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 918.77' @ 22.35 hrs Surf.Area= 0.227 ac Storage= 0.378 af

Plug-Flow detention time= 208.0 min calculated for 2.369 af (100% of inflow)
 Center-of-Mass det. time= 208.0 min (1,559.0 - 1,351.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	4.538 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
916.00	0.152	0.0	0.000	0.000
916.01	0.152	27.0	0.000	0.000
916.99	0.152	27.0	0.040	0.041
917.00	0.152	100.0	0.002	0.042
923.00	0.404	100.0	1.668	1.710
930.00	0.404	100.0	2.828	4.538

Device	Routing	Invert	Outlet Devices
#1	Primary	916.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 916.00' / 914.70' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	916.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	917.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	921.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	922.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 83

Discarded OutFlow Max=0.11 cfs @ 22.35 hrs HW=918.77' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=1.07 cfs @ 22.35 hrs HW=918.77' TW=0.00' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 1.07 cfs of 39.25 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.68 cfs @ 7.78 fps)

↳ **3=4" Orifice** (Orifice Controls 0.39 cfs @ 4.46 fps)

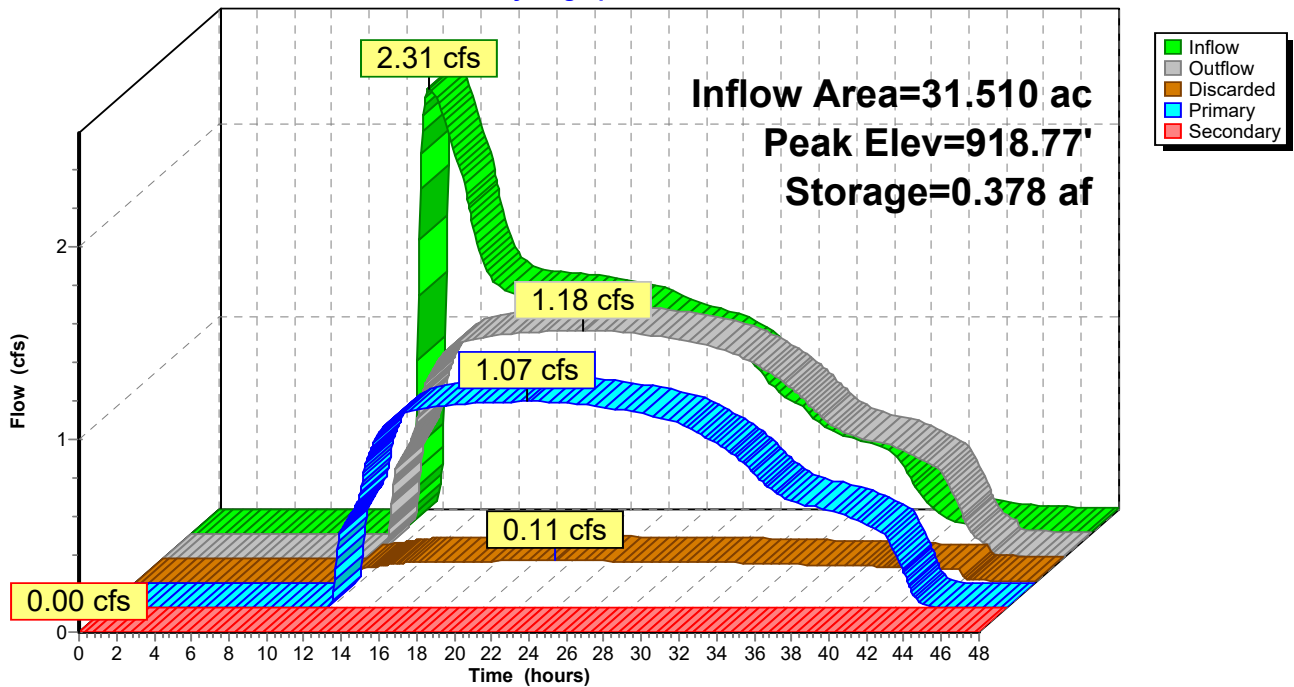
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=916.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP U: Infil U

Hydrograph



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Page 84

Summary for Pond IP V: Infil V

Inflow Area = 1.550 ac, 57.42% Impervious, Inflow Depth = 1.05" for 1-Year event
 Inflow = 2.16 cfs @ 12.18 hrs, Volume= 0.135 af
 Outflow = 0.15 cfs @ 12.10 hrs, Volume= 0.135 af, Atten= 93%, Lag= 0.0 min
 Discarded = 0.15 cfs @ 12.10 hrs, Volume= 0.135 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 905.66' @ 13.61 hrs Surf.Area= 0.299 ac Storage= 0.065 af

Plug-Flow detention time= 178.2 min calculated for 0.135 af (100% of inflow)
 Center-of-Mass det. time= 178.0 min (1,010.8 - 832.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	905.00'	3.915 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
905.00	0.299	0.0	0.000	0.000
905.01	0.299	33.0	0.001	0.001
906.49	0.299	33.0	0.146	0.147
906.50	0.299	27.0	0.001	0.148
906.99	0.299	27.0	0.040	0.187
907.00	0.299	100.0	0.003	0.190
910.00	0.504	100.0	1.205	1.395
915.00	0.504	100.0	2.520	3.915

Device	Routing	Invert	Outlet Devices
#1	Primary	906.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 906.00' / 905.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	906.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	907.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	909.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	909.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	905.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 85

Discarded OutFlow Max=0.15 cfs @ 12.10 hrs HW=905.14' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=905.00' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Controls 0.00 cfs)

↳ **2=4" Underdrain** (Controls 0.00 cfs)

↳ **3=4" Orifice** (Controls 0.00 cfs)

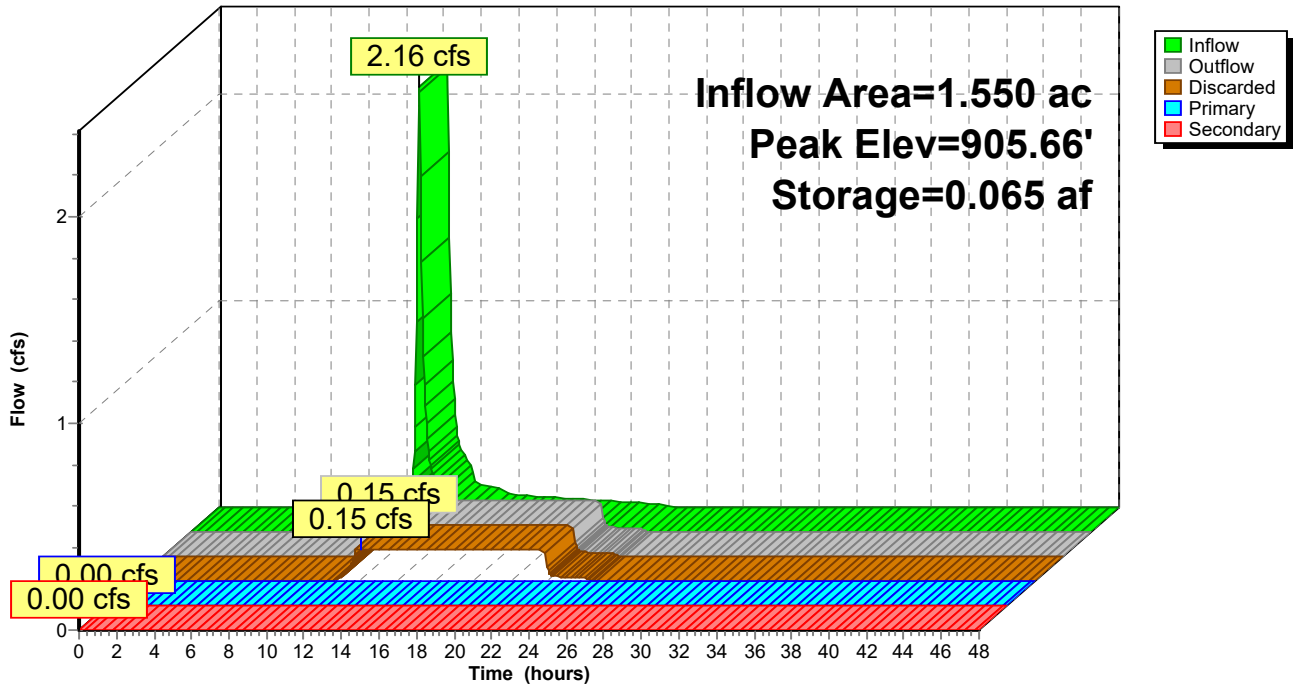
↳ **4=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=905.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP V: Infil V

Hydrograph



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Page 86

Summary for Pond IP W: Infil W

Inflow Area = 3.440 ac, 68.90% Impervious, Inflow Depth = 1.30" for 1-Year event
 Inflow = 5.98 cfs @ 12.18 hrs, Volume= 0.373 af
 Outflow = 5.81 cfs @ 12.21 hrs, Volume= 0.373 af, Atten= 3%, Lag= 1.7 min
 Discarded = 0.03 cfs @ 12.21 hrs, Volume= 0.021 af
 Primary = 5.79 cfs @ 12.21 hrs, Volume= 0.352 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 914.06' @ 12.21 hrs Surf.Area= 0.055 ac Storage= 0.051 af

Plug-Flow detention time= 32.7 min calculated for 0.373 af (100% of inflow)
 Center-of-Mass det. time= 33.2 min (853.1 - 819.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	911.00'	0.553 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	0.019	0.0	0.000	0.000
911.01	0.019	33.0	0.000	0.000
912.49	0.019	33.0	0.009	0.009
912.50	0.019	27.0	0.000	0.009
912.99	0.019	27.0	0.003	0.012
913.00	0.019	100.0	0.000	0.012
915.00	0.087	100.0	0.106	0.118
920.00	0.087	100.0	0.435	0.553

Device	Routing	Invert	Outlet Devices
#1	Primary	912.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 912.00' / 911.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	912.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	913.75'	36.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	914.50'	15.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	911.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 87

Discarded OutFlow Max=0.03 cfs @ 12.21 hrs HW=914.05' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=5.71 cfs @ 12.21 hrs HW=914.05' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 5.71 cfs of 9.37 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.58 cfs @ 6.61 fps)

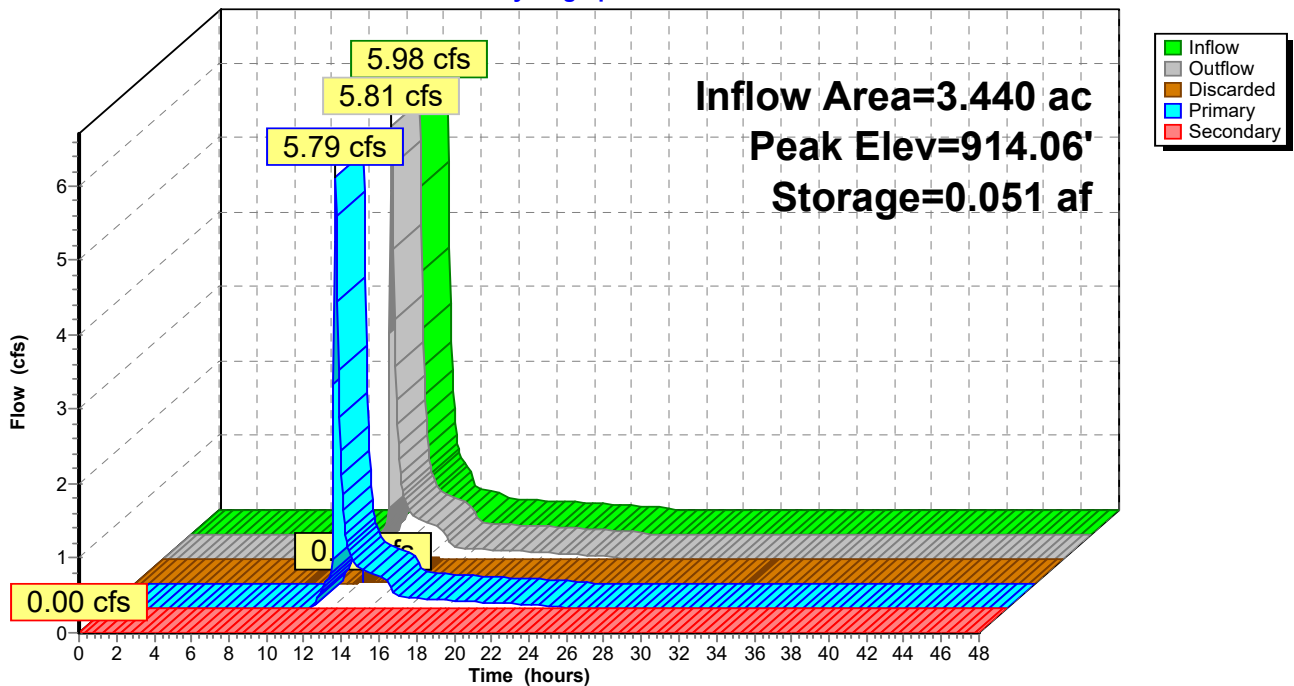
↳ **3=48" Riser** (Weir Controls 5.13 cfs @ 1.80 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=911.00' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP W: Infil W

Hydrograph



Kilkenny Phase Master

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Page 88

Summary for Pond WP A: Wet Pond A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth = 0.82" for 1-Year event
 Inflow = 29.26 cfs @ 12.19 hrs, Volume= 2.705 af
 Outflow = 2.93 cfs @ 14.24 hrs, Volume= 2.573 af, Atten= 90%, Lag= 123.0 min
 Primary = 2.93 cfs @ 14.24 hrs, Volume= 2.573 af
 Routed to Pond IP A : Infil A
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP A : Infil A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 923.10' @ 14.24 hrs Surf.Area= 1.202 ac Storage= 1.252 af

Plug-Flow detention time= 404.1 min calculated for 2.570 af (95% of inflow)
 Center-of-Mass det. time= 381.8 min (1,245.8 - 864.0)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	11.459 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
922.00	1.071	0.000	0.000
923.00	1.190	1.130	1.130
924.00	1.310	1.250	2.380
925.00	1.431	1.371	3.751
926.00	1.554	1.493	5.243
930.00	1.554	6.216	11.459

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.80' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	922.00'	12.0" Vert. 12" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.50'	6.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#4	Secondary	925.00'	30.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=2.93 cfs @ 14.24 hrs HW=923.10' TW=921.64' (Dynamic Tailwater)

↑ **1=36" Outlet Pipe** (Passes 2.93 cfs of 6.97 cfs potential flow)

↑ **2=12" Orifice** (Orifice Controls 2.93 cfs @ 3.74 fps)

↑ **3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=922.00' TW=920.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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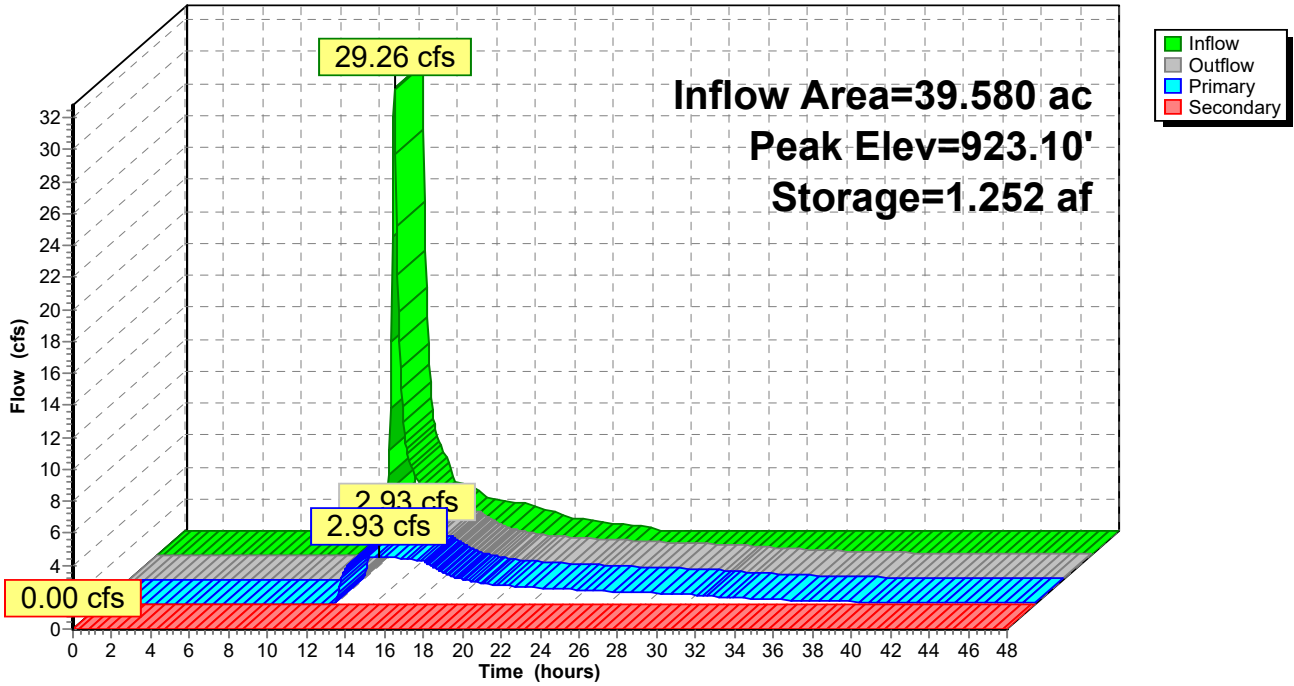
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Page 89

Pond WP A: Wet Pond A

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Page 90

Summary for Pond WP B: Wet Pond B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth = 0.68" for 1-Year event
 Inflow = 32.56 cfs @ 12.19 hrs, Volume= 5.091 af
 Outflow = 9.10 cfs @ 12.65 hrs, Volume= 4.957 af, Atten= 72%, Lag= 28.0 min
 Primary = 6.08 cfs @ 12.65 hrs, Volume= 4.458 af
 Routed to Pond IP B : Infil B
 Secondary = 3.01 cfs @ 12.65 hrs, Volume= 0.499 af
 Routed to Reach 27R : Post Wetland
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 911.61' @ 12.65 hrs Surf.Area= 1.435 ac Storage= 0.834 af

Plug-Flow detention time= 148.6 min calculated for 4.952 af (97% of inflow)
 Center-of-Mass det. time= 111.2 min (1,262.9 - 1,151.6)

Volume	Invert	Avail.Storage	Storage Description
#1	911.00'	16.295 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	1.320	0.000	0.000
912.00	1.510	1.415	1.415
913.00	1.710	1.610	3.025
914.00	1.910	1.810	4.835
920.00	1.910	11.460	16.295

Device	Routing	Invert	Outlet Devices
#1	Primary	911.00'	18.0" Round 4 - 18" Outlet to Infiltration X 4.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.00' / 910.75' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Secondary	911.35'	24.0" Round 6 - 24" Outlet Pipes X 6.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.35' / 910.00' S= 0.0270 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Tertiary	913.50'	5.0' long + 4.0 1' SideZ x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=6.08 cfs @ 12.65 hrs HW=911.61' TW=909.64' (Dynamic Tailwater)
 ↳1=4 - 18" Outlet to Infiltration (Barrel Controls 6.08 cfs @ 3.37 fps)

Secondary OutFlow Max=3.01 cfs @ 12.65 hrs HW=911.61' TW=0.00' (Dynamic Tailwater)
 ↳2=6 - 24" Outlet Pipes (Inlet Controls 3.01 cfs @ 2.15 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=911.00' TW=0.00' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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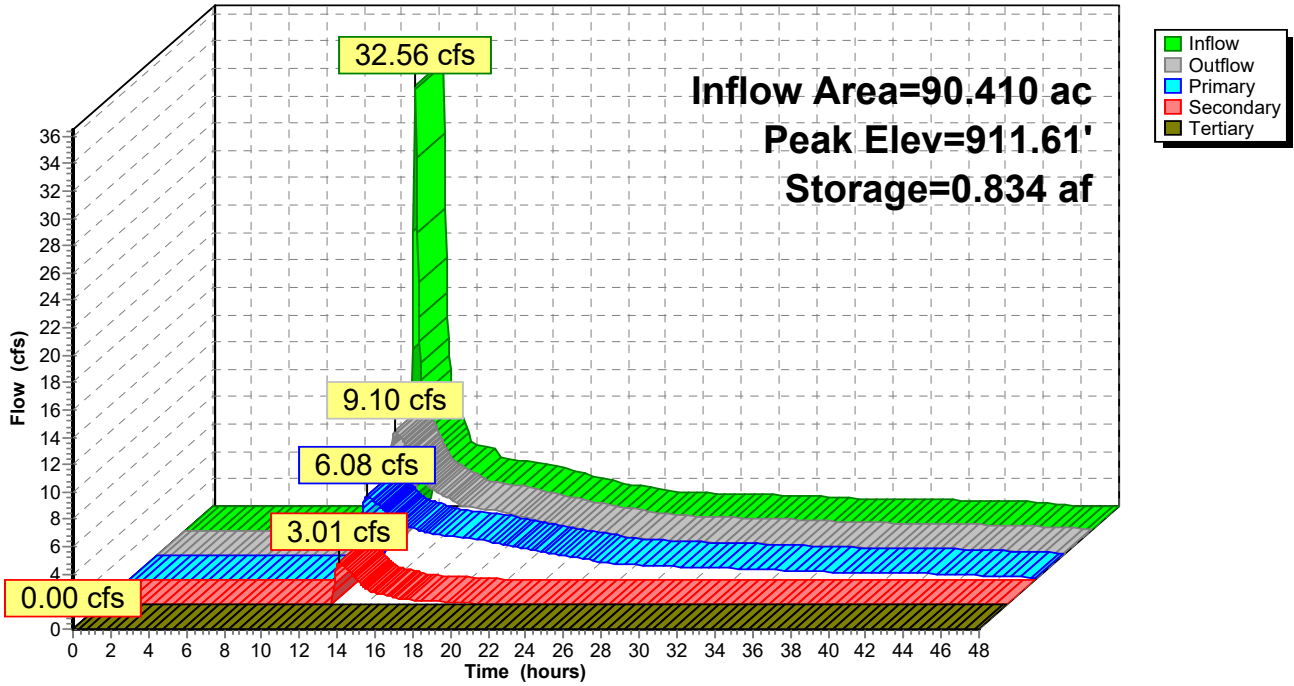
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Page 91

Pond WP B: Wet Pond B

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Page 92

Summary for Pond WP P: Wet Pond P

Inflow Area = 9.510 ac, 56.89% Impervious, Inflow Depth = 0.99" for 1-Year event
 Inflow = 12.48 cfs @ 12.18 hrs, Volume= 0.785 af
 Outflow = 1.92 cfs @ 12.75 hrs, Volume= 0.776 af, Atten= 85%, Lag= 33.9 min
 Primary = 1.92 cfs @ 12.75 hrs, Volume= 0.776 af
 Routed to Pond IP P : Infil P
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP P : Infil P

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 937.19' @ 12.75 hrs Surf.Area= 0.322 ac Storage= 0.339 af

Plug-Flow detention time= 279.3 min calculated for 0.775 af (99% of inflow)
 Center-of-Mass det. time= 273.7 min (1,109.5 - 835.9)

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	2.045 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
936.00	0.247	0.000	0.000
937.00	0.310	0.278	0.278
938.00	0.375	0.342	0.621
939.00	0.440	0.408	1.028
940.00	0.508	0.474	1.502
941.00	0.576	0.542	2.045

Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 936.00' / 935.80' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	936.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	940.50'	5.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=1.92 cfs @ 12.75 hrs HW=937.19' TW=935.20' (Dynamic Tailwater)

↑ **1=24" Outlet Pipe** (Passes 1.92 cfs of 6.08 cfs potential flow)

↑ **2=9" Orifice** (Orifice Controls 1.92 cfs @ 4.35 fps)

↑ **3=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=936.00' TW=934.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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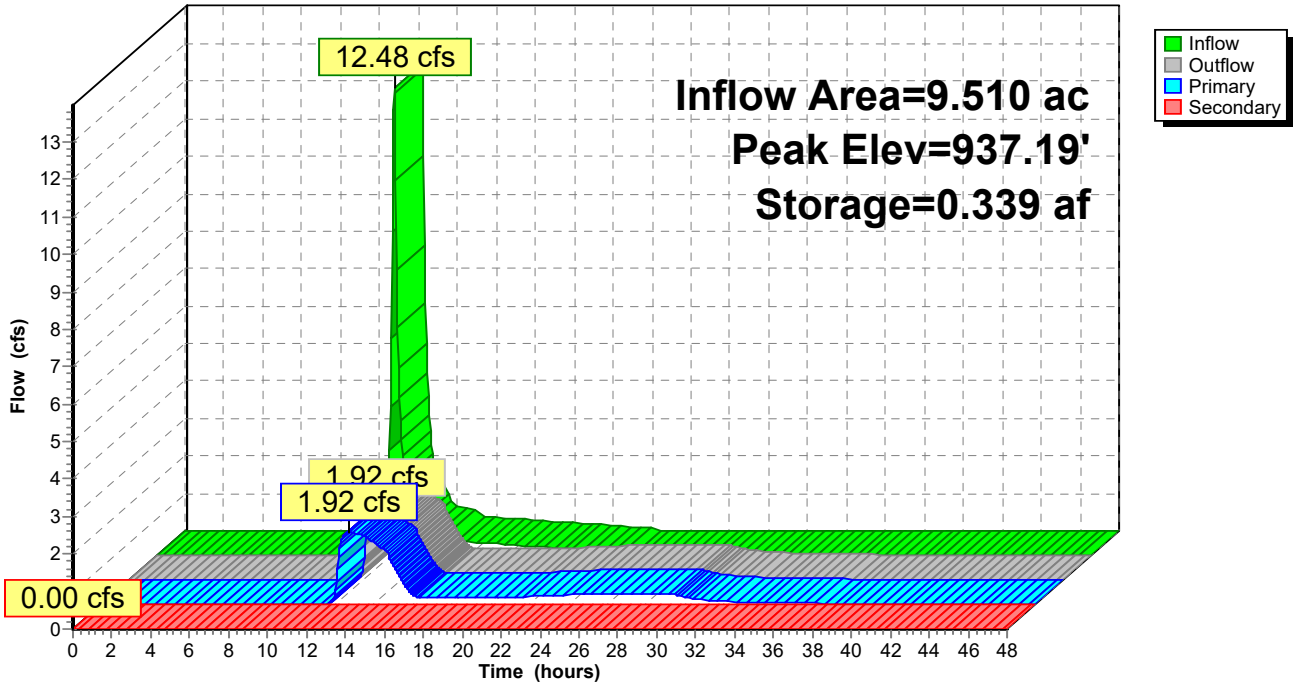
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Page 93

Pond WP P: Wet Pond P

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Page 94

Summary for Pond WP Q: Wet Pond Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth = 1.20" for 1-Year event
 Inflow = 19.76 cfs @ 12.24 hrs, Volume= 1.447 af
 Outflow = 11.69 cfs @ 12.41 hrs, Volume= 1.444 af, Atten= 41%, Lag= 10.5 min
 Primary = 11.69 cfs @ 12.41 hrs, Volume= 1.444 af
 Routed to Pond IP Q : Infil Q
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP Q : Infil Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 941.47' @ 12.41 hrs Surf.Area= 0.201 ac Storage= 0.422 af

Plug-Flow detention time= 118.4 min calculated for 1.443 af (100% of inflow)
 Center-of-Mass det. time= 118.3 min (946.7 - 828.5)

Volume	Invert	Avail.Storage	Storage Description
#1	939.00'	2.439 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
939.00	0.141	0.000	0.000
940.00	0.165	0.153	0.153
941.00	0.189	0.177	0.330
942.00	0.215	0.202	0.532
943.00	0.240	0.227	0.759
950.00	0.240	1.680	2.439

Device	Routing	Invert	Outlet Devices
#1	Primary	939.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 939.00' / 938.80' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	939.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	941.50'	60.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=11.67 cfs @ 12.41 hrs HW=941.47' TW=939.27' (Dynamic Tailwater)

↑ **1=18" Outlet Pipe** (Barrel Controls 11.67 cfs @ 6.60 fps)

↑ **2=9" Orifice** (Passes < 3.08 cfs potential flow)

↑ **3=48" Riser** (Passes < 13.09 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=939.00' TW=937.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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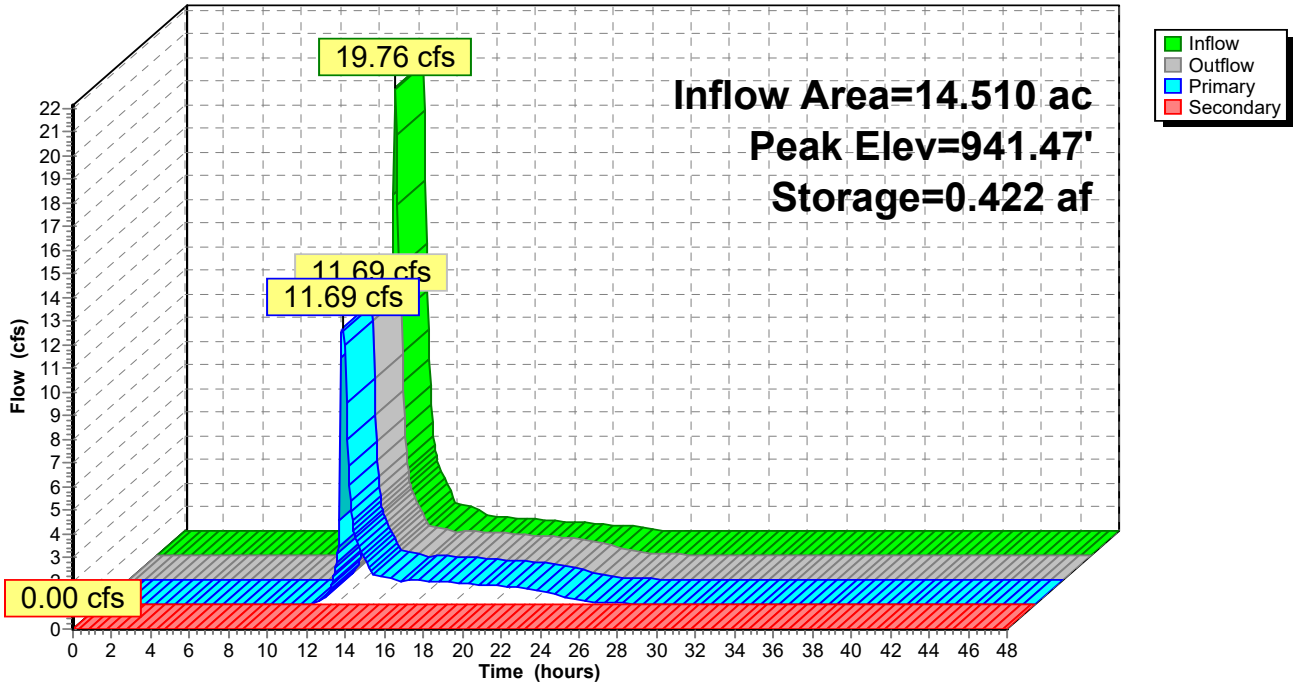
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Page 95

Pond WP Q: Wet Pond Q

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Page 96

Summary for Pond WP R: Wet Pond R

Inflow Area = 4.580 ac, 42.58% Impervious, Inflow Depth = 0.75" for 1-Year event
 Inflow = 3.65 cfs @ 12.20 hrs, Volume= 0.285 af
 Outflow = 0.59 cfs @ 13.15 hrs, Volume= 0.280 af, Atten= 84%, Lag= 57.4 min
 Primary = 0.59 cfs @ 13.15 hrs, Volume= 0.280 af
 Routed to Reach 12R : Prop CTH Q
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 935.63' @ 13.15 hrs Surf.Area= 0.199 ac Storage= 0.121 af

Plug-Flow detention time= 185.3 min calculated for 0.280 af (98% of inflow)
 Center-of-Mass det. time= 175.9 min (1,027.1 - 851.2)

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	2.491 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
935.00	0.183	0.000	0.000
936.00	0.208	0.196	0.196
937.00	0.234	0.221	0.417
938.00	0.261	0.248	0.664
945.00	0.261	1.827	2.491

Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 935.00' / 934.80' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	935.00'	6.0" Vert. 6" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	937.50'	5.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.59 cfs @ 13.15 hrs HW=935.63' TW=0.00' (Dynamic Tailwater)

- ↑ 1=12" Outlet Pipe (Passes 0.59 cfs of 1.21 cfs potential flow)
- ↑ 2=6" Orifice (Orifice Controls 0.59 cfs @ 2.98 fps)
- ↑ 3=24" Riser (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=935.00' TW=0.00' (Dynamic Tailwater)

- ↑ 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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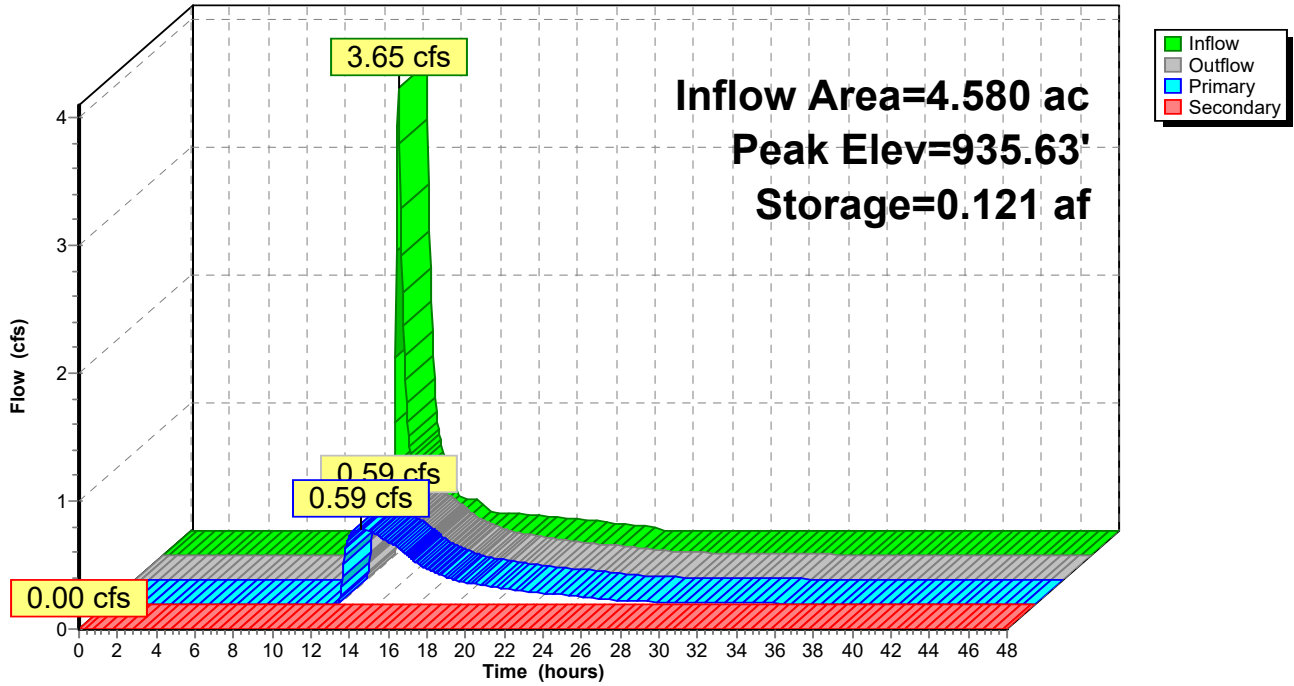
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Page 97

Pond WP R: Wet Pond R

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Page 98

Summary for Pond WP U: Wet Pond U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth = 0.91" for 1-Year event
 Inflow = 10.92 cfs @ 12.21 hrs, Volume= 2.376 af
 Outflow = 2.31 cfs @ 12.71 hrs, Volume= 2.369 af, Atten= 79%, Lag= 29.6 min
 Primary = 2.31 cfs @ 12.71 hrs, Volume= 2.369 af
 Routed to Pond IP U : Infil U
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP U : Infil U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 919.56' @ 12.71 hrs Surf.Area= 0.204 ac Storage= 0.283 af

Plug-Flow detention time= 101.7 min calculated for 2.366 af (100% of inflow)
 Center-of-Mass det. time= 98.9 min (1,351.0 - 1,252.1)

Volume	Invert	Avail.Storage	Storage Description
#1	918.00'	1.160 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
918.00	0.161	0.000	0.000
919.00	0.188	0.174	0.174
920.00	0.216	0.202	0.376
921.00	0.245	0.230	0.607
922.00	0.276	0.261	0.868
923.00	0.308	0.292	1.160

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.80' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	918.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	922.50'	50.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=2.31 cfs @ 12.71 hrs HW=919.55' TW=917.28' (Dynamic Tailwater)

↑ **1=36" Outlet Pipe** (Passes 2.31 cfs of 12.94 cfs potential flow)

↑ **2=9" Orifice** (Orifice Controls 2.31 cfs @ 5.23 fps)

↑ **3=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=918.00' TW=916.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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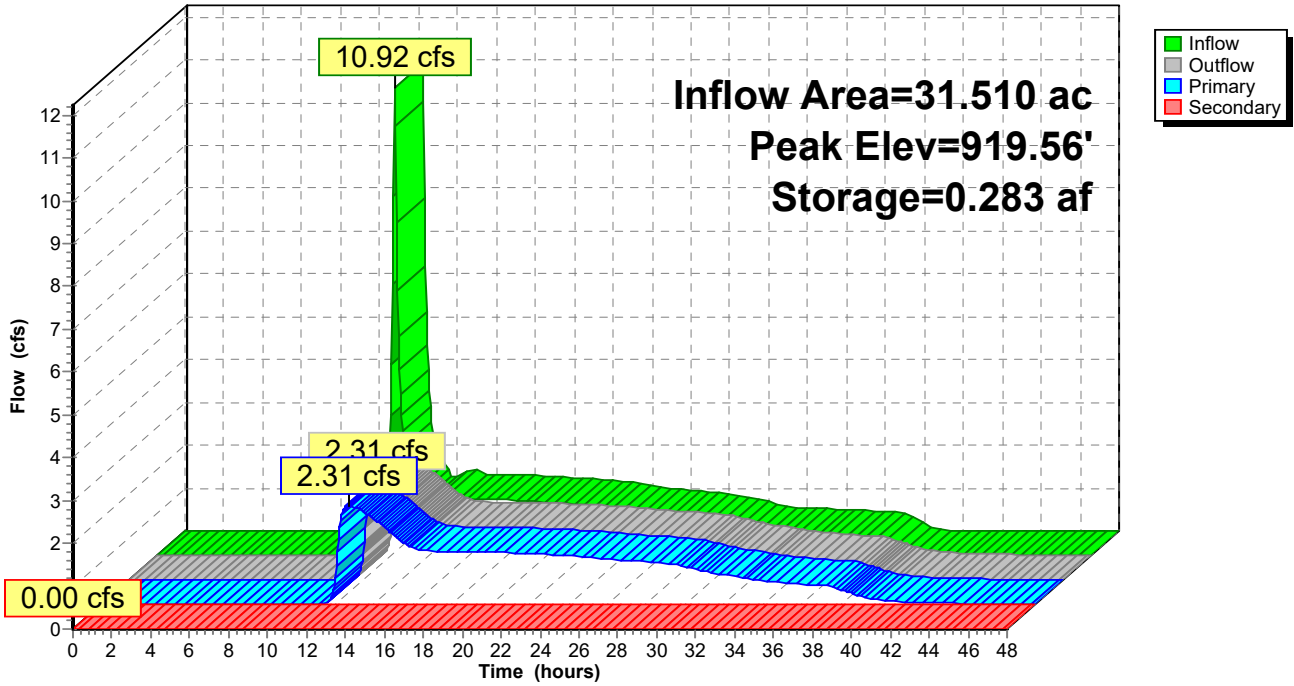
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Page 99

Pond WP U: Wet Pond U

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Page 100

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1 OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=0.31" Flow Length=400' Tc=4.4 min CN=61 Runoff=0.81 cfs 0.066 af
Subcatchment 2 OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=0.40" Flow Length=500' Tc=4.6 min CN=64 Runoff=3.16 cfs 0.213 af
Subcatchment 3 OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=0.31" Tc=20.0 min CN=61 Runoff=0.90 cfs 0.134 af
Subcatchment 4 OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.31" Tc=10.0 min CN=61 Runoff=0.12 cfs 0.014 af
Subcatchment 5 OS: Offsite - Funeral Flow Length=250'	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=0.67" Slope=0.0200 '/' Tc=21.4 min CN=71 Runoff=1.08 cfs 0.107 af
Subcatchment 30S: Prop. 30S	Runoff Area=19.160 ac 59.39% Impervious Runoff Depth=1.32" Tc=10.0 min CN=83 Runoff=33.73 cfs 2.106 af
Subcatchment 31S: Future Commercial	Runoff Area=12.940 ac 0.00% Impervious Runoff Depth=0.55" Tc=20.0 min CN=68 Runoff=5.69 cfs 0.589 af
Subcatchment 32S: 32S	Runoff Area=3.690 ac 76.69% Impervious Runoff Depth=1.76" Tc=10.0 min CN=89 Runoff=8.57 cfs 0.540 af
Subcatchment 33S: 33S	Runoff Area=3.790 ac 63.59% Impervious Runoff Depth=1.45" Tc=10.0 min CN=85 Runoff=7.37 cfs 0.459 af
Subcatchment 34S: (new Subcat)	Runoff Area=26.860 ac 48.55% Impervious Runoff Depth=1.07" Tc=10.0 min CN=79 Runoff=38.02 cfs 2.401 af
Subcatchment 35S: 35S	Runoff Area=3.830 ac 62.92% Impervious Runoff Depth=1.39" Tc=10.0 min CN=84 Runoff=7.09 cfs 0.442 af
Subcatchment 36S: (new Subcat)	Runoff Area=4.440 ac 71.62% Impervious Runoff Depth=1.68" Tc=10.0 min CN=88 Runoff=9.89 cfs 0.620 af
Subcatchment 37S: (new Subcat)	Runoff Area=4.310 ac 70.53% Impervious Runoff Depth=1.60" Tc=10.0 min CN=87 Runoff=9.19 cfs 0.575 af
Subcatchment 38S: (new Subcat)	Runoff Area=2.410 ac 70.54% Impervious Runoff Depth=1.60" Tc=10.0 min CN=87 Runoff=5.14 cfs 0.321 af
Subcatchment 39S: Prop. 39S	Runoff Area=5.630 ac 63.41% Impervious Runoff Depth=1.45" Tc=10.0 min CN=85 Runoff=10.94 cfs 0.683 af
Subcatchment 40S: Prop. 40S	Runoff Area=4.180 ac 68.90% Impervious Runoff Depth=1.60" Tc=10.0 min CN=87 Runoff=8.91 cfs 0.557 af

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Page 101

Subcatchment41S: Prop. 41S	Runoff Area=2.260 ac 68.14% Impervious Runoff Depth=1.53" Tc=10.0 min CN=86 Runoff=4.60 cfs 0.287 af
Subcatchment42S: Prop. 42S	Runoff Area=1.090 ac 60.55% Impervious Runoff Depth=1.39" Tc=10.0 min CN=84 Runoff=2.02 cfs 0.126 af
Subcatchment43S: Prop. 43S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=1.32" Tc=10.0 min CN=83 Runoff=7.59 cfs 0.474 af
Subcatchment44S: Prop. 44S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=1.32" Tc=10.0 min CN=83 Runoff=7.59 cfs 0.474 af
Subcatchment45S: Prop. 45S	Runoff Area=9.510 ac 56.89% Impervious Runoff Depth=1.25" Tc=10.0 min CN=82 Runoff=15.90 cfs 0.994 af
Subcatchment46S: Prop. 46S	Runoff Area=13.970 ac 68.72% Impervious Runoff Depth=1.53" Tc=15.0 min CN=86 Runoff=24.37 cfs 1.777 af
Subcatchment47S: Prop. 47S	Runoff Area=2.660 ac 54.51% Impervious Runoff Depth=1.19" Tc=10.0 min CN=81 Runoff=4.21 cfs 0.264 af
Subcatchment48S: Prop. 48S	Runoff Area=2.440 ac 70.49% Impervious Runoff Depth=1.60" Tc=10.0 min CN=87 Runoff=5.20 cfs 0.325 af
Subcatchment49S: 49S	Runoff Area=2.250 ac 69.78% Impervious Runoff Depth=1.60" Tc=10.0 min CN=87 Runoff=4.80 cfs 0.300 af
Subcatchment50S: Prop. 50S	Runoff Area=5.240 ac 65.84% Impervious Runoff Depth=1.45" Tc=10.0 min CN=85 Runoff=10.18 cfs 0.635 af
Subcatchment51S: Prop. 51S	Runoff Area=1.550 ac 57.42% Impervious Runoff Depth=1.32" Tc=10.0 min CN=83 Runoff=2.73 cfs 0.170 af
Subcatchment52S: Prop. 52S	Runoff Area=3.440 ac 68.90% Impervious Runoff Depth=1.60" Tc=10.0 min CN=87 Runoff=7.33 cfs 0.459 af
Subcatchment53S: Prop. 53S	Runoff Area=4.050 ac 67.16% Impervious Runoff Depth=1.53" Tc=10.0 min CN=86 Runoff=8.25 cfs 0.515 af
Subcatchment54S: Future 54S	Runoff Area=3.150 ac 0.00% Impervious Runoff Depth=0.55" Tc=15.0 min CN=68 Runoff=1.62 cfs 0.143 af
Subcatchment55S: Prop. 55S	Runoff Area=2.230 ac 46.64% Impervious Runoff Depth=1.02" Tc=10.0 min CN=78 Runoff=2.97 cfs 0.189 af
Subcatchment56S: (new Subcat)	Runoff Area=16.060 ac 73.04% Impervious Runoff Depth=1.76" Tc=10.0 min CN=89 Runoff=37.31 cfs 2.350 af
Subcatchment57S: Existing 56S	Runoff Area=2.060 ac 26.70% Impervious Runoff Depth=0.67" Tc=10.0 min CN=71 Runoff=1.68 cfs 0.115 af

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Page 102

Reach 12R: Prop CTH Q

Inflow=3.32 cfs 0.555 af
Outflow=3.32 cfs 0.555 af

Reach 27R: Post Wetland

Inflow=38.30 cfs 10.629 af
Outflow=38.30 cfs 10.629 af

Reach 41R: (new Reach)

Inflow=1.61 cfs 1.218 af
Outflow=1.61 cfs 1.218 af

Reach 52R: TOTAL PROPOSED

Inflow=50.52 cfs 12.327 af
Outflow=50.52 cfs 12.327 af

Pond BIO J: Bio J

Peak Elev=922.21' Storage=13,239 cf Inflow=11.17 cfs 0.817 af
Discarded=0.07 cfs 0.197 af Primary=4.61 cfs 0.595 af Secondary=0.00 cfs 0.000 af Outflow=4.67 cfs 0.792 af

Pond BIO K: Bio K

Peak Elev=920.03' Storage=13,024 cf Inflow=8.91 cfs 0.557 af
Discarded=0.07 cfs 0.169 af Primary=0.90 cfs 0.371 af Secondary=0.00 cfs 0.000 af Outflow=0.97 cfs 0.539 af

Pond BIO N: Bio N

Peak Elev=911.04' Storage=33,720 cf Inflow=8.62 cfs 1.439 af
Discarded=0.16 cfs 0.438 af Primary=0.71 cfs 0.821 af Secondary=0.47 cfs 0.063 af Outflow=1.34 cfs 1.323 af

Pond BIO O: Bio O

Peak Elev=908.65' Storage=19,325 cf Inflow=10.82 cfs 0.731 af
Discarded=0.14 cfs 0.423 af Primary=0.51 cfs 0.263 af Secondary=0.00 cfs 0.000 af Outflow=0.65 cfs 0.686 af

Pond Bio S: Bio S

Peak Elev=923.04' Storage=7,271 cf Inflow=5.20 cfs 0.325 af
Discarded=0.05 cfs 0.152 af Primary=0.57 cfs 0.159 af Secondary=0.00 cfs 0.000 af Outflow=0.62 cfs 0.311 af

Pond Bio X: Bio X

Peak Elev=948.96' Storage=0.349 af Inflow=9.51 cfs 0.658 af
Discarded=0.08 cfs 0.204 af Primary=0.79 cfs 0.431 af Secondary=0.00 cfs 0.000 af Outflow=0.87 cfs 0.635 af

Pond IP A: Infil A

Peak Elev=923.16' Storage=1.024 af Inflow=3.64 cfs 3.311 af
Discarded=0.25 cfs 0.664 af Primary=1.20 cfs 2.533 af Secondary=0.00 cfs 0.000 af Outflow=1.44 cfs 3.198 af

Pond IP B: Infil B

Peak Elev=910.68' Storage=0.980 af Inflow=8.50 cfs 5.495 af
Discarded=0.55 cfs 1.601 af Primary=3.56 cfs 3.455 af Outflow=4.11 cfs 5.056 af

Pond IP C: IP C

Peak Elev=935.62' Storage=11,765 cf Inflow=8.57 cfs 0.540 af
Discarded=0.08 cfs 0.107 af Primary=0.94 cfs 0.433 af Secondary=0.00 cfs 0.000 af Outflow=1.02 cfs 0.540 af

Pond IP D: IP D

Peak Elev=936.29' Storage=9,827 cf Inflow=7.37 cfs 0.459 af
Discarded=0.08 cfs 0.102 af Primary=0.76 cfs 0.358 af Secondary=0.00 cfs 0.000 af Outflow=0.84 cfs 0.459 af

Pond IP E: IP E

Peak Elev=930.20' Storage=9,527 cf Inflow=7.09 cfs 0.442 af
Discarded=0.08 cfs 0.104 af Primary=0.68 cfs 0.338 af Secondary=0.00 cfs 0.000 af Outflow=0.76 cfs 0.442 af

Pond IP F: IP F

Peak Elev=926.02' Storage=15,140 cf Inflow=9.89 cfs 0.620 af
Discarded=0.13 cfs 0.200 af Primary=0.57 cfs 0.420 af Secondary=0.00 cfs 0.000 af Outflow=0.70 cfs 0.620 af

Pond IP G: IP G

Peak Elev=922.82' Storage=13,807 cf Inflow=9.19 cfs 0.575 af
Discarded=0.13 cfs 0.203 af Primary=0.54 cfs 0.372 af Secondary=0.00 cfs 0.000 af Outflow=0.67 cfs 0.575 af

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Page 103

Pond IP H: IP H Peak Elev=925.28' Storage=5,139 cf Inflow=5.14 cfs 0.321 af
Discarded=0.03 cfs 0.030 af Primary=1.41 cfs 0.291 af Secondary=0.00 cfs 0.000 af Outflow=1.44 cfs 0.321 af

Pond IP L: Inf L Peak Elev=920.19' Storage=3,024 cf Inflow=4.60 cfs 0.287 af
Discarded=0.03 cfs 0.030 af Primary=4.00 cfs 0.257 af Secondary=0.00 cfs 0.000 af Outflow=4.03 cfs 0.287 af

Pond IP M: Inf M Peak Elev=927.14' Storage=2,186 cf Inflow=2.02 cfs 0.126 af
Discarded=0.03 cfs 0.055 af Primary=0.41 cfs 0.071 af Secondary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.126 af

Pond IP P: Infil P Peak Elev=937.25' Storage=0.854 af Inflow=7.45 cfs 2.642 af
Discarded=0.23 cfs 0.484 af Primary=1.22 cfs 2.158 af Secondary=0.00 cfs 0.000 af Outflow=1.45 cfs 2.642 af

Pond IP Q: Infil Q Peak Elev=941.20' Storage=0.514 af Inflow=19.96 cfs 1.788 af
Discarded=0.10 cfs 0.129 af Primary=5.18 cfs 1.659 af Secondary=0.00 cfs 0.000 af Outflow=5.28 cfs 1.788 af

Pond IP T: Infil T Peak Elev=927.98' Storage=0.063 af Inflow=5.02 cfs 2.458 af
Discarded=0.03 cfs 0.075 af Primary=4.94 cfs 2.380 af Secondary=0.00 cfs 0.000 af Outflow=4.97 cfs 2.455 af

Pond IP U: Infil U Peak Elev=919.21' Storage=0.481 af Inflow=2.70 cfs 3.004 af
Discarded=0.12 cfs 0.324 af Primary=1.21 cfs 2.680 af Secondary=0.00 cfs 0.000 af Outflow=1.33 cfs 3.004 af

Pond IP V: Infil V Peak Elev=905.90' Storage=0.089 af Inflow=2.73 cfs 0.170 af
Discarded=0.15 cfs 0.170 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.170 af

Pond IP W: Infil W Peak Elev=914.11' Storage=0.054 af Inflow=7.33 cfs 0.459 af
Discarded=0.03 cfs 0.022 af Primary=7.12 cfs 0.437 af Secondary=0.00 cfs 0.000 af Outflow=7.14 cfs 0.459 af

Pond WP A: Wet Pond A Peak Elev=923.43' Storage=1.652 af Inflow=37.84 cfs 3.486 af
Primary=3.64 cfs 3.311 af Secondary=0.00 cfs 0.000 af Outflow=3.64 cfs 3.311 af

Pond WP B: Wet Pond B Peak Elev=911.73' Storage=1.012 af Inflow=43.26 cfs 6.636 af
Primary=8.50 cfs 5.495 af Secondary=6.49 cfs 0.926 af Tertiary=0.00 cfs 0.000 af Outflow=14.99 cfs 6.421 af

Pond WP P: Wet Pond P Peak Elev=937.52' Storage=0.447 af Inflow=15.90 cfs 0.994 af
Primary=2.27 cfs 0.983 af Secondary=0.00 cfs 0.000 af Outflow=2.27 cfs 0.983 af

Pond WP Q: Wet Pond Q Peak Elev=941.64' Storage=0.456 af Inflow=24.49 cfs 1.791 af
Primary=12.51 cfs 1.702 af Secondary=7.45 cfs 0.086 af Outflow=19.96 cfs 1.788 af

Pond WP R: Wet Pond R Peak Elev=935.85' Storage=0.165 af Inflow=4.83 cfs 0.371 af
Primary=0.73 cfs 0.367 af Secondary=0.00 cfs 0.000 af Outflow=0.73 cfs 0.367 af

Pond WP U: Wet Pond U Peak Elev=919.99' Storage=0.375 af Inflow=14.82 cfs 3.015 af
Primary=2.70 cfs 3.004 af Secondary=0.00 cfs 0.000 af Outflow=2.70 cfs 3.004 af

Total Runoff Area = 188.510 ac Runoff Volume = 19.426 af Average Runoff Depth = 1.24"
48.50% Pervious = 91.420 ac 51.50% Impervious = 97.090 ac

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Page 104

Summary for Subcatchment 1 OS: Offsite- School

Runoff = 0.81 cfs @ 12.15 hrs, Volume= 0.066 af, Depth= 0.31"
 Routed to Pond WP B : Wet Pond B

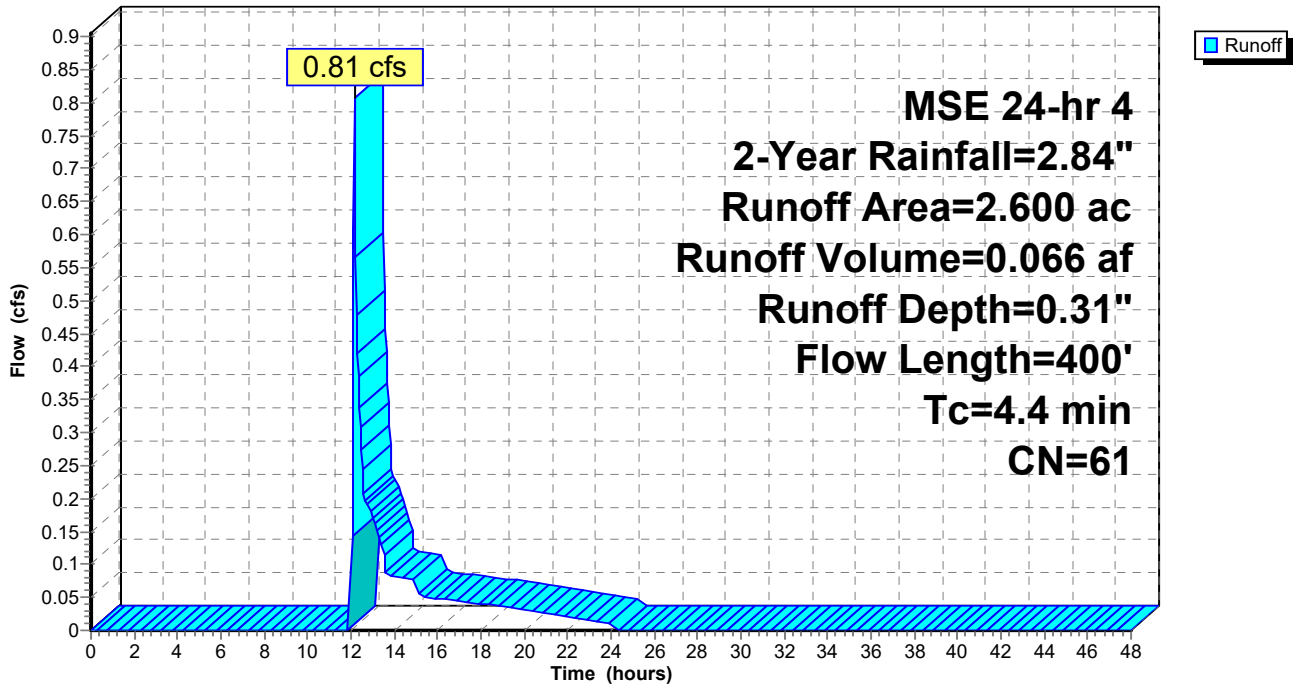
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.0	300	0.1000	5.09		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.4	400	Total			

Subcatchment 1 OS: Offsite- School

Hydrograph



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Page 105

Summary for Subcatchment 2 OS: Offsite - North Residential

Runoff = 3.16 cfs @ 12.14 hrs, Volume= 0.213 af, Depth= 0.40"
 Routed to Pond WP B : Wet Pond B

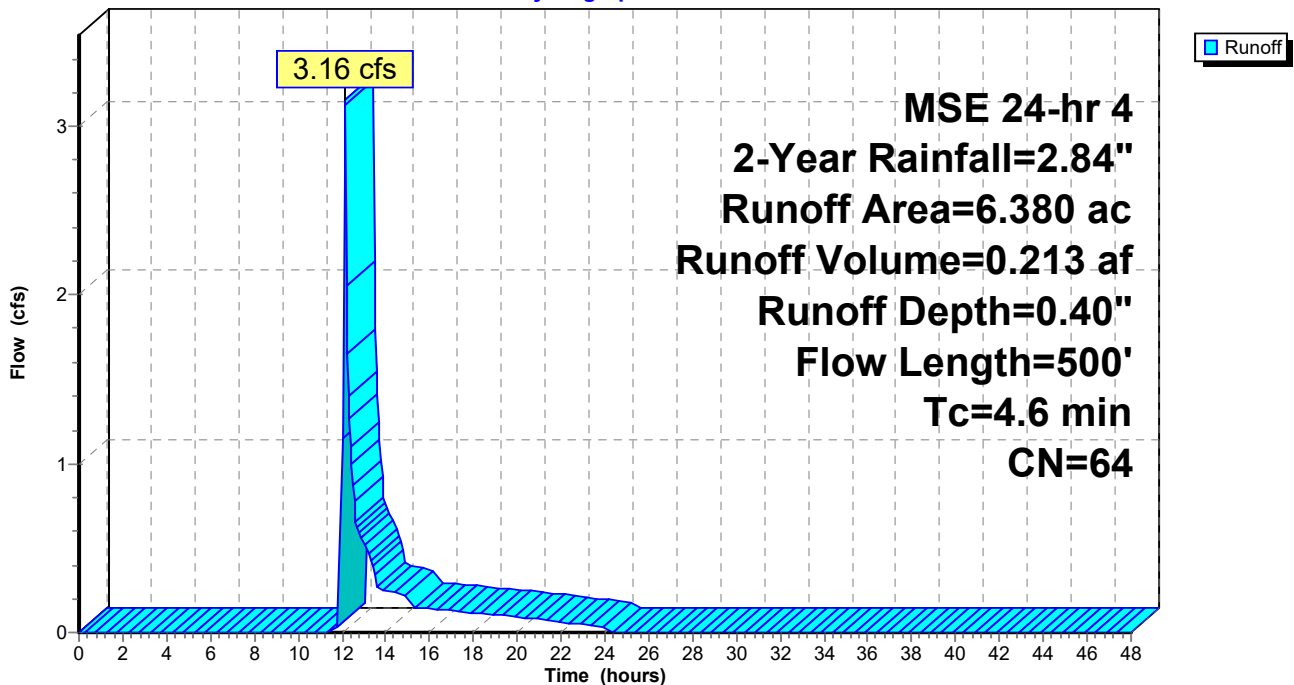
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2 OS: Offsite - North Residential

Hydrograph



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Page 106

Summary for Subcatchment 3 OS: Offsite- School

Runoff = 0.90 cfs @ 12.41 hrs, Volume= 0.134 af, Depth= 0.31"
Routed to Pond BIO J : Bio J

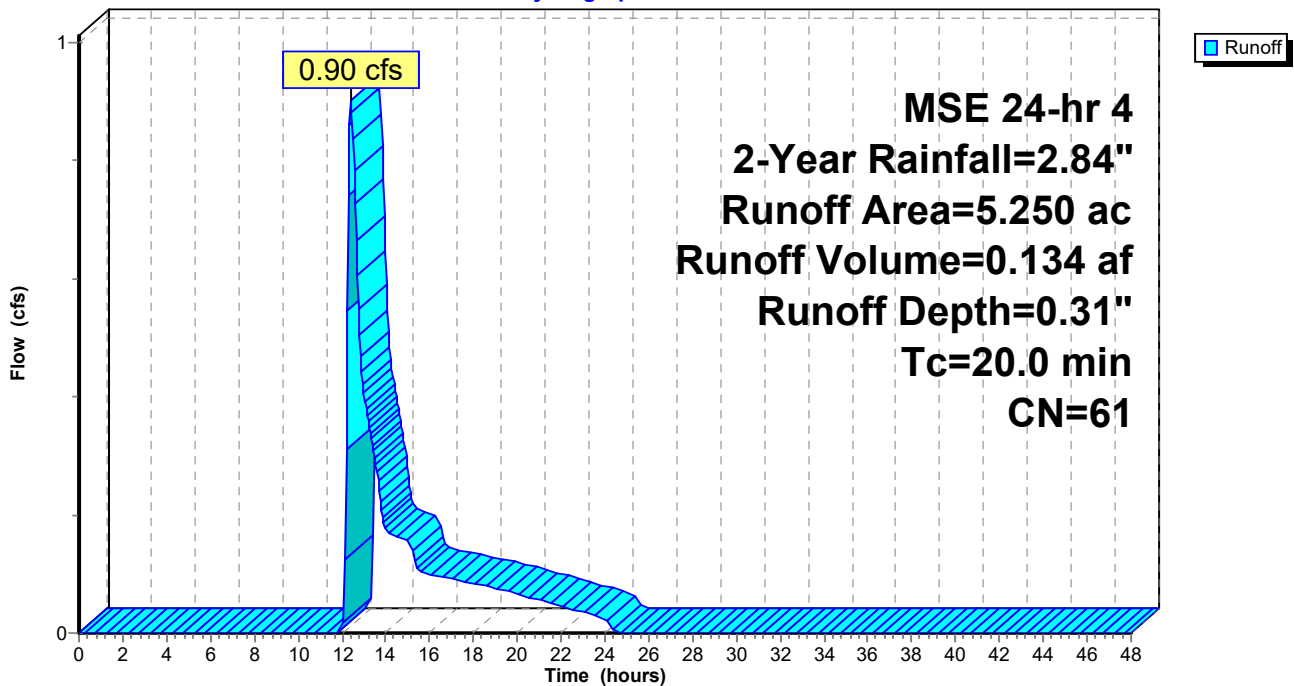
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3 OS: Offsite- School

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 107

Summary for Subcatchment 4 OS: Offsite - Church

Runoff = 0.12 cfs @ 12.23 hrs, Volume= 0.014 af, Depth= 0.31"
Routed to Pond WP Q : Wet Pond Q

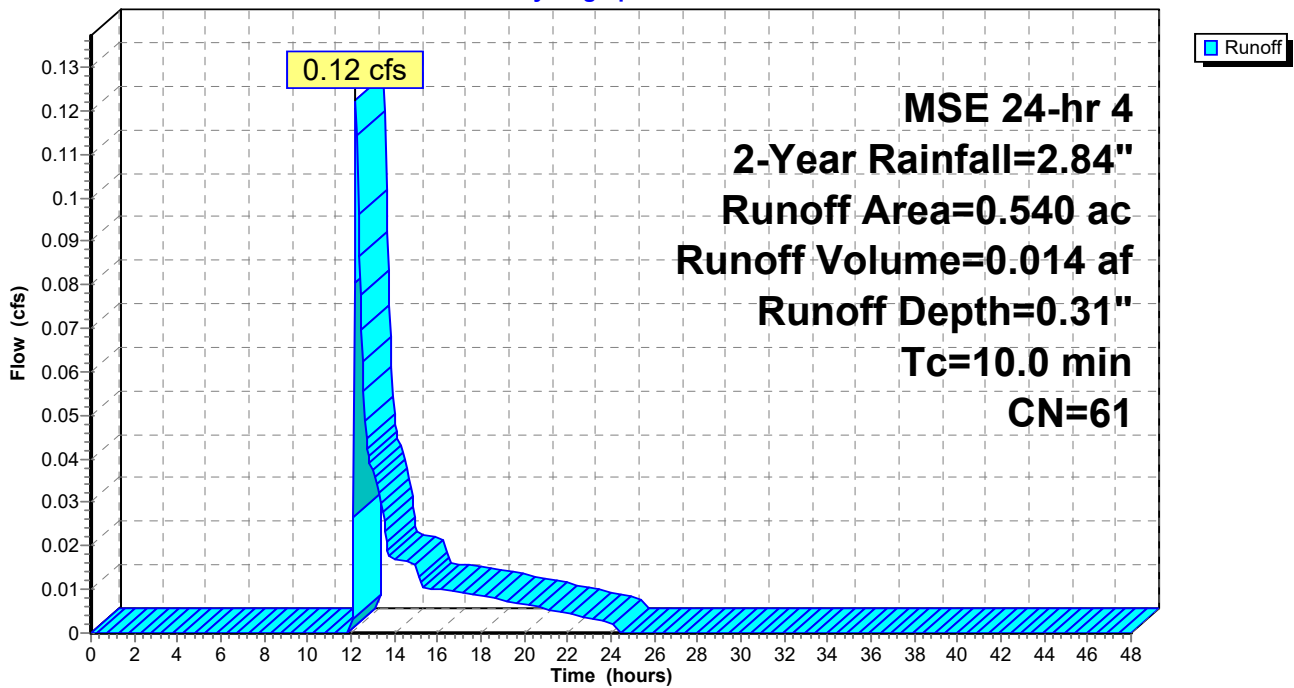
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4 OS: Offsite - Church

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 108

Summary for Subcatchment 5 OS: Offsite - Funeral

Runoff = 1.08 cfs @ 12.35 hrs, Volume= 0.107 af, Depth= 0.67"
 Routed to Pond WP R : Wet Pond R

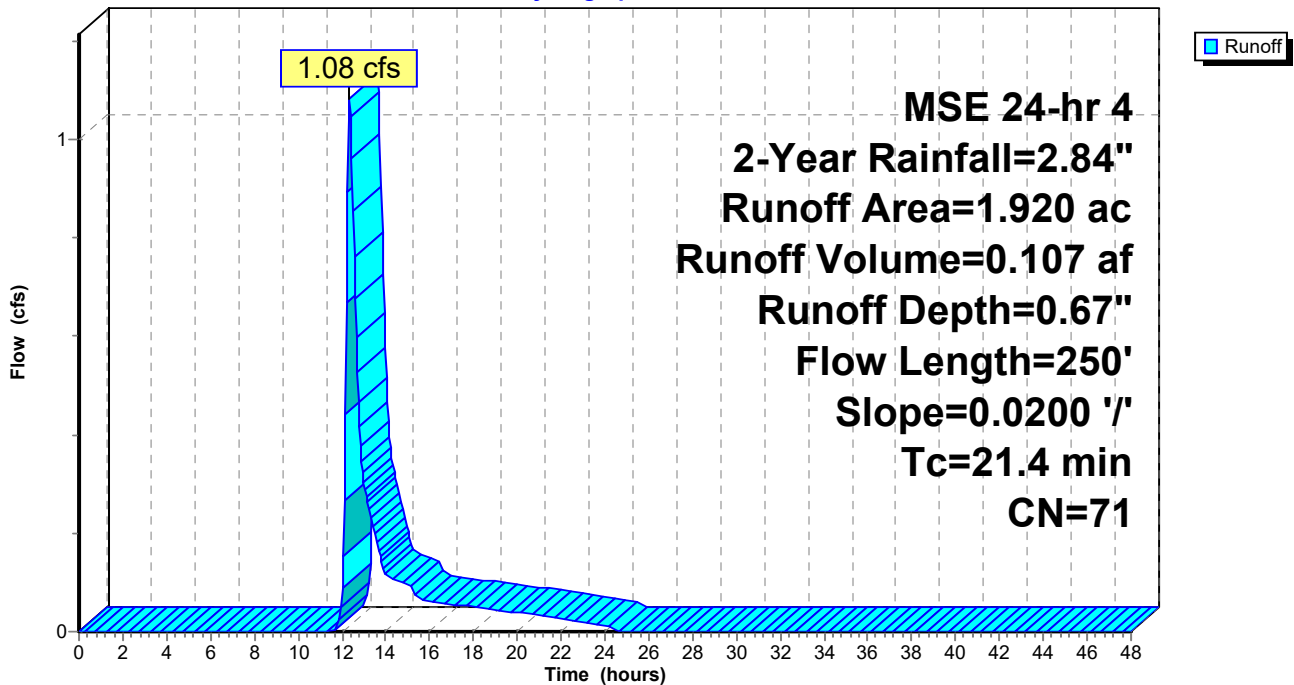
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5 OS: Offsite - Funeral

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 109

Summary for Subcatchment 30S: Prop. 30S

Runoff = 33.73 cfs @ 12.18 hrs, Volume= 2.106 af, Depth= 1.32"
 Routed to Pond WP A : Wet Pond A

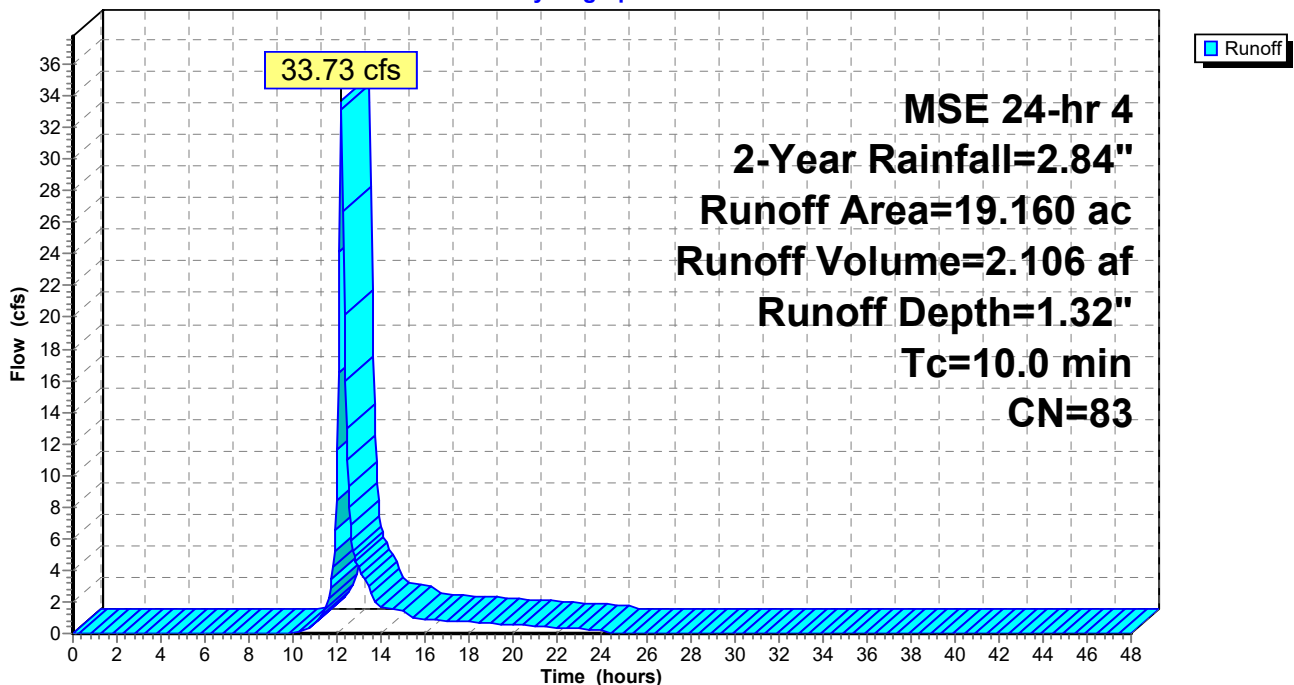
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 2.910	98	Roofs
* 1.450	98	Driveways
* 1.450	98	Sidewalks - House
* 0.900	98	Sidewalks - Street
* 3.240	98	Streets
7.780	61	>75% Grass cover, Good, HSG B
* 1.070	100	Wet Pond
* 0.360	100	Infiltration
19.160	83	Weighted Average
7.780		40.61% Pervious Area
11.380		59.39% Impervious Area

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

Subcatchment 30S: Prop. 30S

Hydrograph



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Page 110

Summary for Subcatchment 31S: Future Commercial

Runoff = 5.69 cfs @ 12.35 hrs, Volume= 0.589 af, Depth= 0.55"
Routed to Pond WP A : Wet Pond A

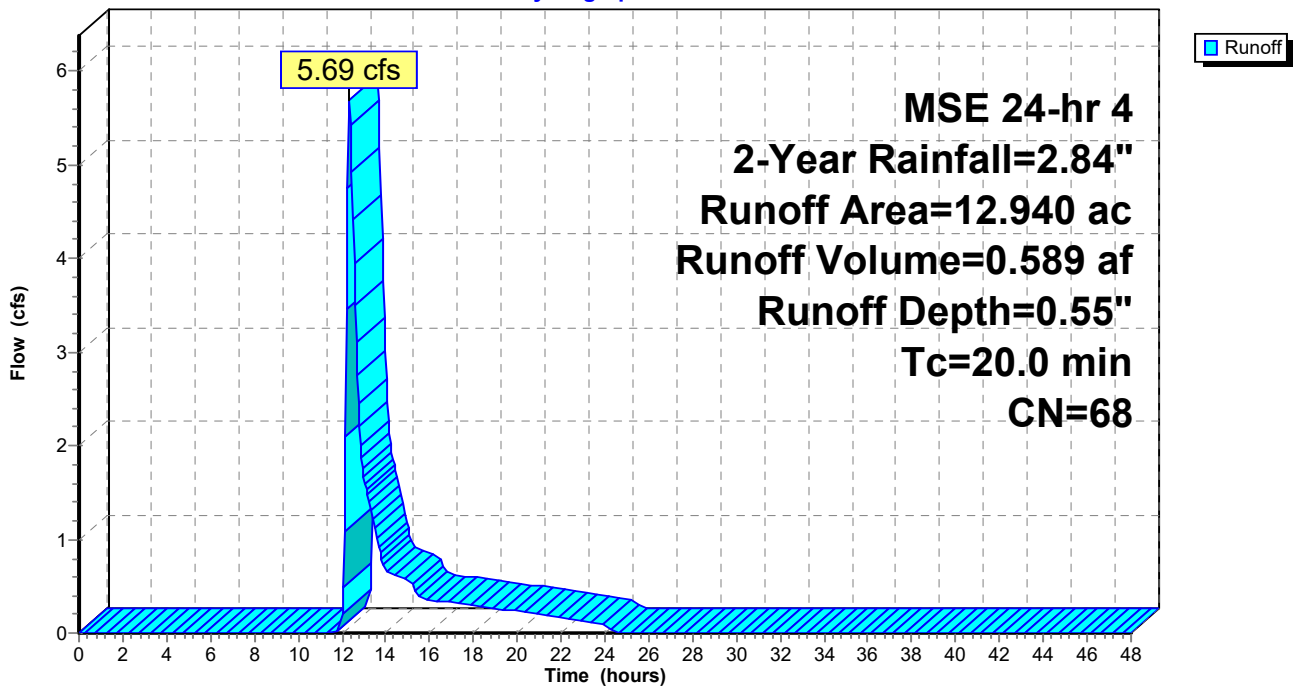
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 12.940	68	B Soil Row Crop
12.940		100.00% Pervious Area

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

Subcatchment 31S: Future Commercial

Hydrograph



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Page 111

Summary for Subcatchment 32S: 32S

Runoff = 8.57 cfs @ 12.18 hrs, Volume= 0.540 af, Depth= 1.76"
Routed to Pond IP C : IP C

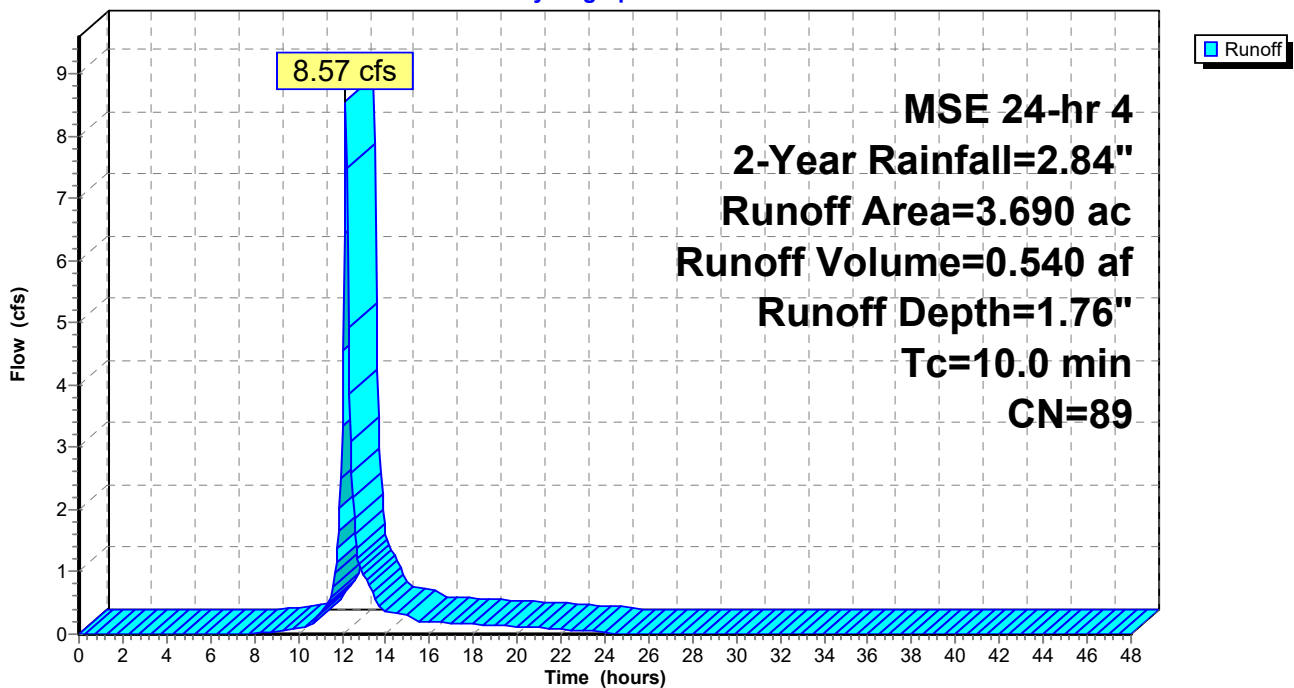
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.370	98	Roof
* 0.680	98	Patio
* 0.680	98	Driveways
0.860	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.690	89	Weighted Average
0.860		23.31% Pervious Area
2.830		76.69% Impervious Area

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

Subcatchment 32S: 32S

Hydrograph



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Page 112

Summary for Subcatchment 33S: 33S

Runoff = 7.37 cfs @ 12.18 hrs, Volume= 0.459 af, Depth= 1.45"
Routed to Pond IP D : IP D

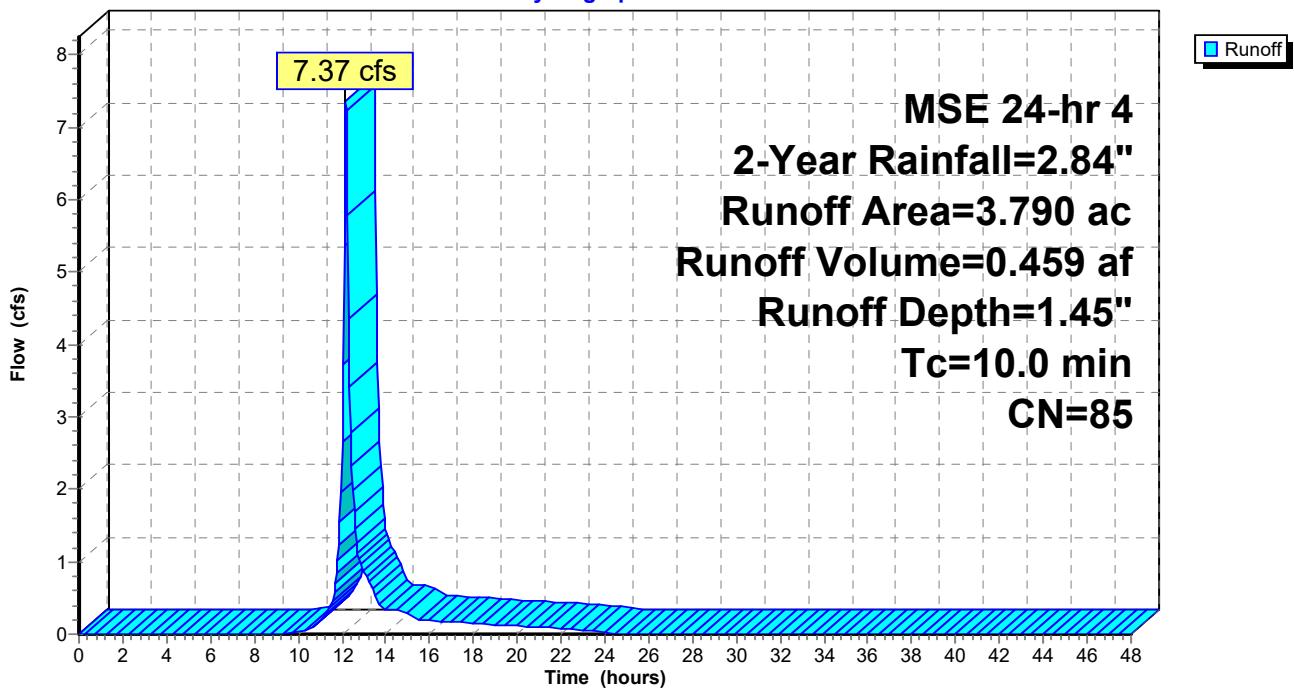
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.380	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.790	85	Weighted Average
1.380		36.41% Pervious Area
2.410		63.59% Impervious Area

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

Subcatchment 33S: 33S

Hydrograph



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Page 113

Summary for Subcatchment 34S: (new Subcat)

Runoff = 38.02 cfs @ 12.18 hrs, Volume= 2.401 af, Depth= 1.07"
 Routed to Pond WP B : Wet Pond B

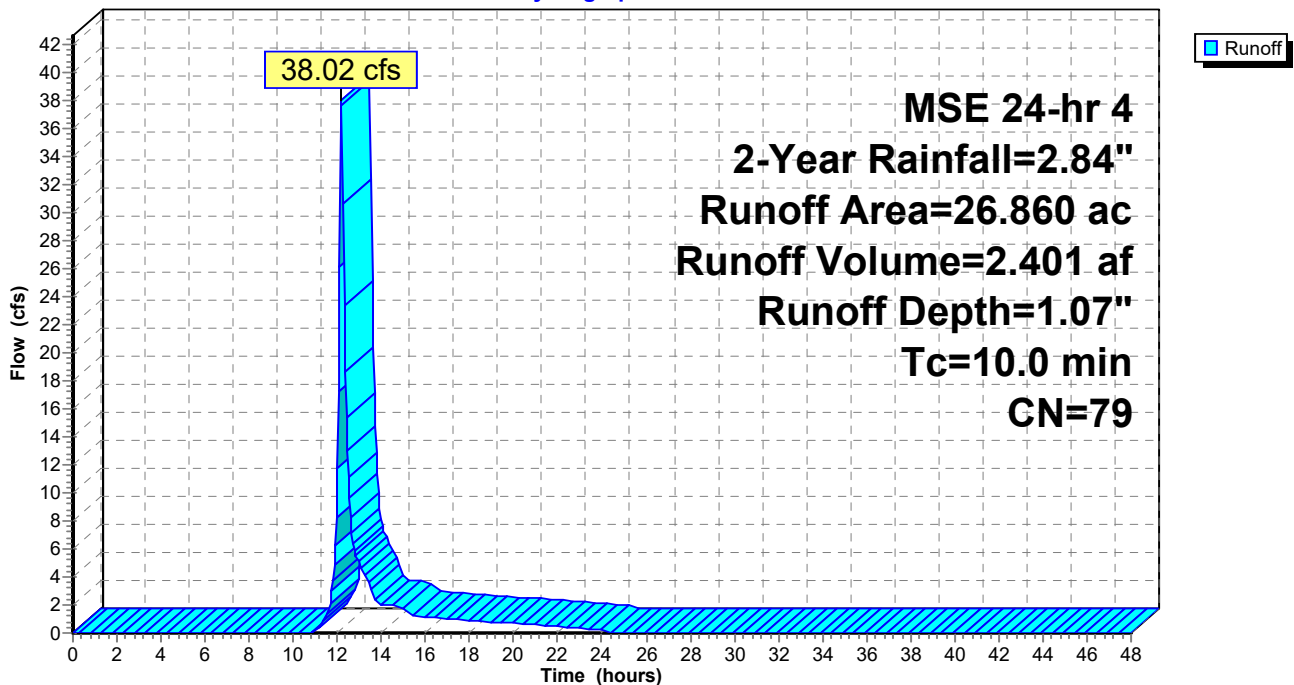
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 2.640	98	Roofs
* 0.210	98	Parking
* 1.320	98	Driveways
* 1.320	98	Sidewalks - House
* 1.190	98	Sidewalks - Street
* 4.050	98	Streets
13.820	61	>75% Grass cover, Good, HSG B
* 1.320	100	Wet Pond
* 0.990	100	Infiltration
26.860	79	Weighted Average
13.820		51.45% Pervious Area
13.040		48.55% Impervious Area

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

Subcatchment 34S: (new Subcat)

Hydrograph



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Page 114

Summary for Subcatchment 35S: 35S

Runoff = 7.09 cfs @ 12.18 hrs, Volume= 0.442 af, Depth= 1.39"
 Routed to Pond IP E : IP E

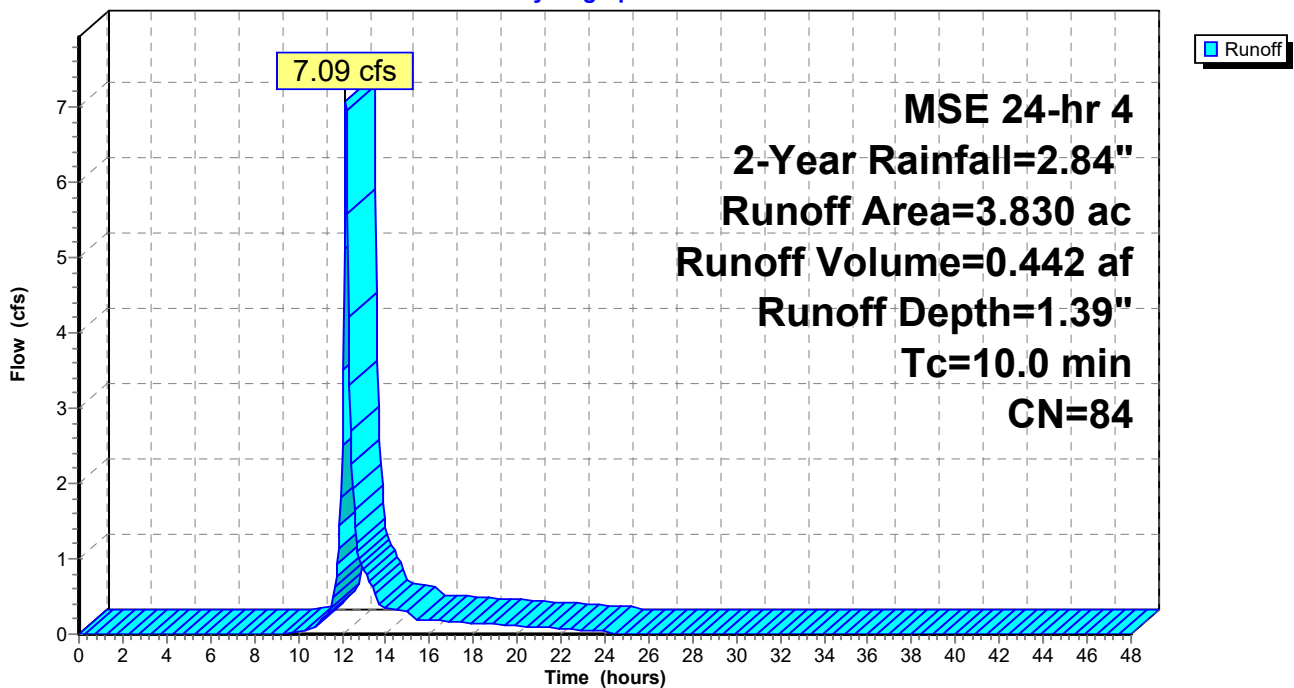
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.420	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.830	84	Weighted Average
1.420		37.08% Pervious Area
2.410		62.92% Impervious Area

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

Subcatchment 35S: 35S

Hydrograph



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Page 115

Summary for Subcatchment 36S: (new Subcat)

Runoff = 9.89 cfs @ 12.18 hrs, Volume= 0.620 af, Depth= 1.68"
Routed to Pond IP F : IP F

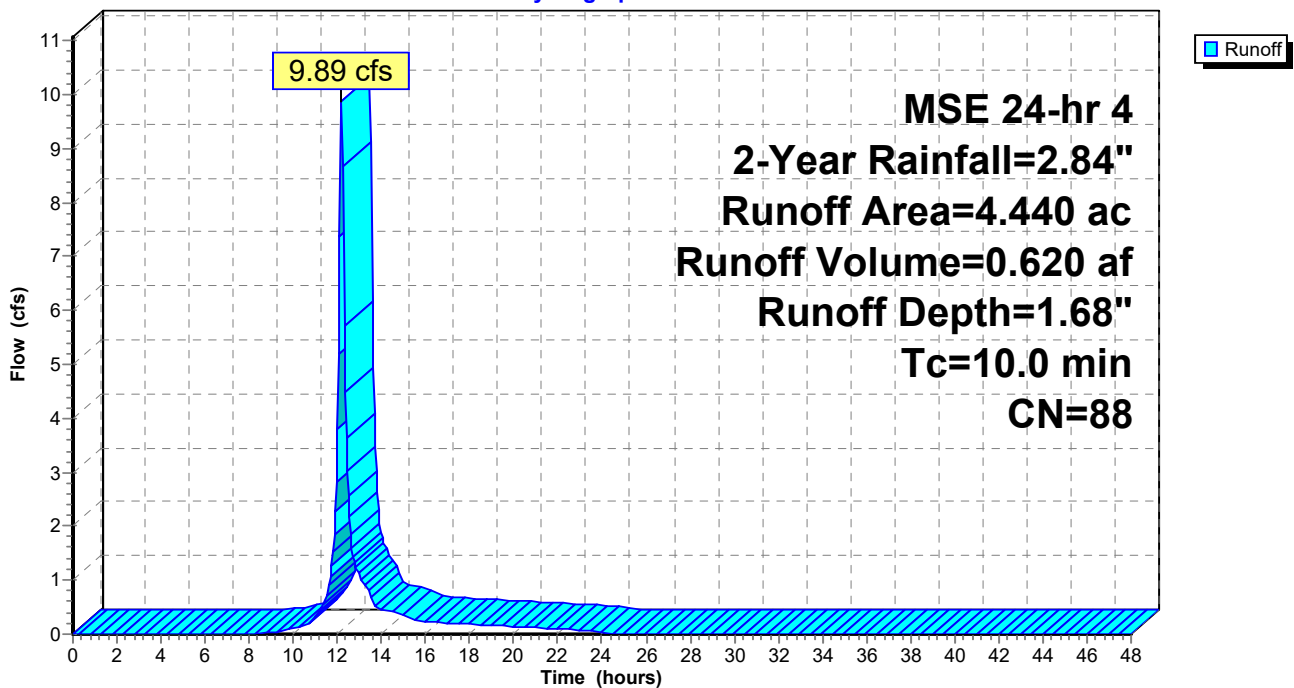
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.490	98	Roof
* 0.750	98	Patio
* 0.750	98	Driveways
1.260	61	>75% Grass cover, Good, HSG B
* 0.190	100	Infiltration Basin
4.440	88	Weighted Average
1.260		28.38% Pervious Area
3.180		71.62% Impervious Area

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

Subcatchment 36S: (new Subcat)

Hydrograph



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Page 116

Summary for Subcatchment 37S: (new Subcat)

Runoff = 9.19 cfs @ 12.18 hrs, Volume= 0.575 af, Depth= 1.60"
Routed to Pond IP G : IP G

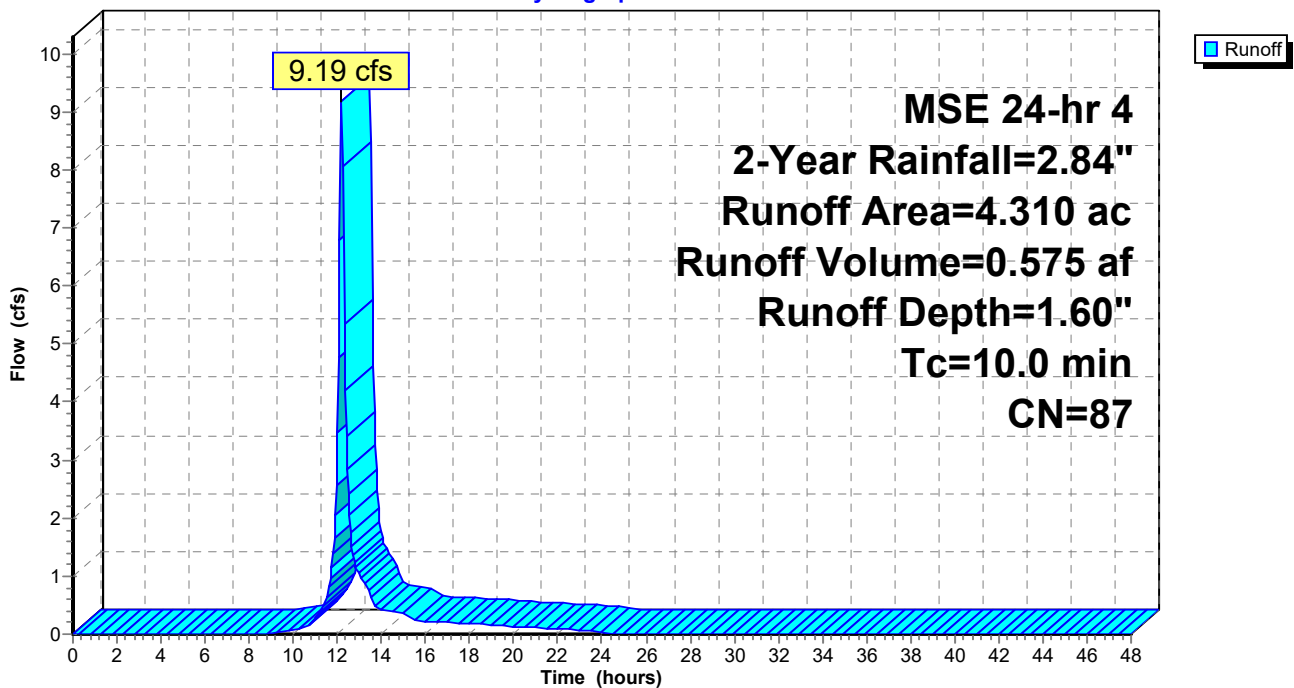
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.420	98	Roof
* 0.710	98	Patio
* 0.710	98	Driveways
1.270	61	>75% Grass cover, Good, HSG B
* 0.200	100	Infiltration Basin
4.310	87	Weighted Average
1.270		29.47% Pervious Area
3.040		70.53% Impervious Area

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

Subcatchment 37S: (new Subcat)

Hydrograph



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Page 117

Summary for Subcatchment 38S: (new Subcat)

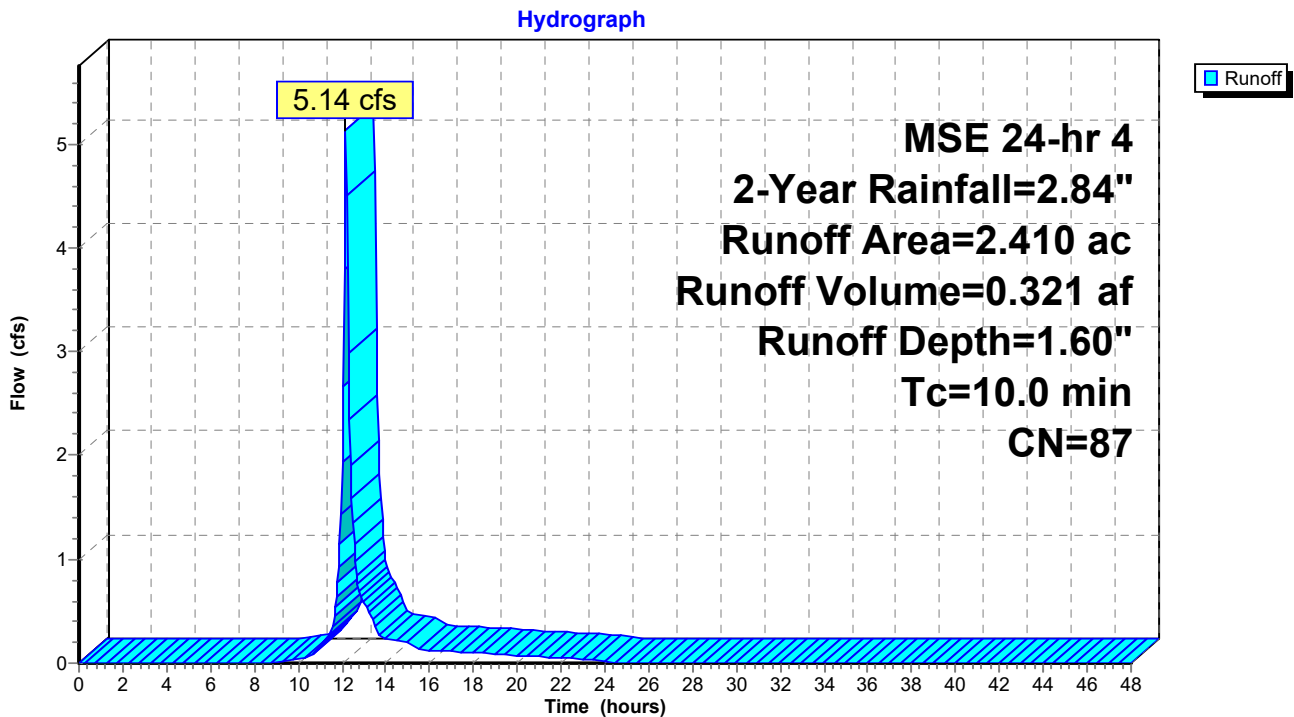
Runoff = 5.14 cfs @ 12.18 hrs, Volume= 0.321 af, Depth= 1.60"
 Routed to Pond IP H : IP H

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.830	98	Roof
* 0.420	98	Patio
* 0.420	98	Driveways
0.710	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.410	87	Weighted Average
0.710		29.46% Pervious Area
1.700		70.54% Impervious Area

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

Subcatchment 38S: (new Subcat)



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Page 118

Summary for Subcatchment 39S: Prop. 39S

Runoff = 10.94 cfs @ 12.18 hrs, Volume= 0.683 af, Depth= 1.45"
 Routed to Pond BIO J : Bio J

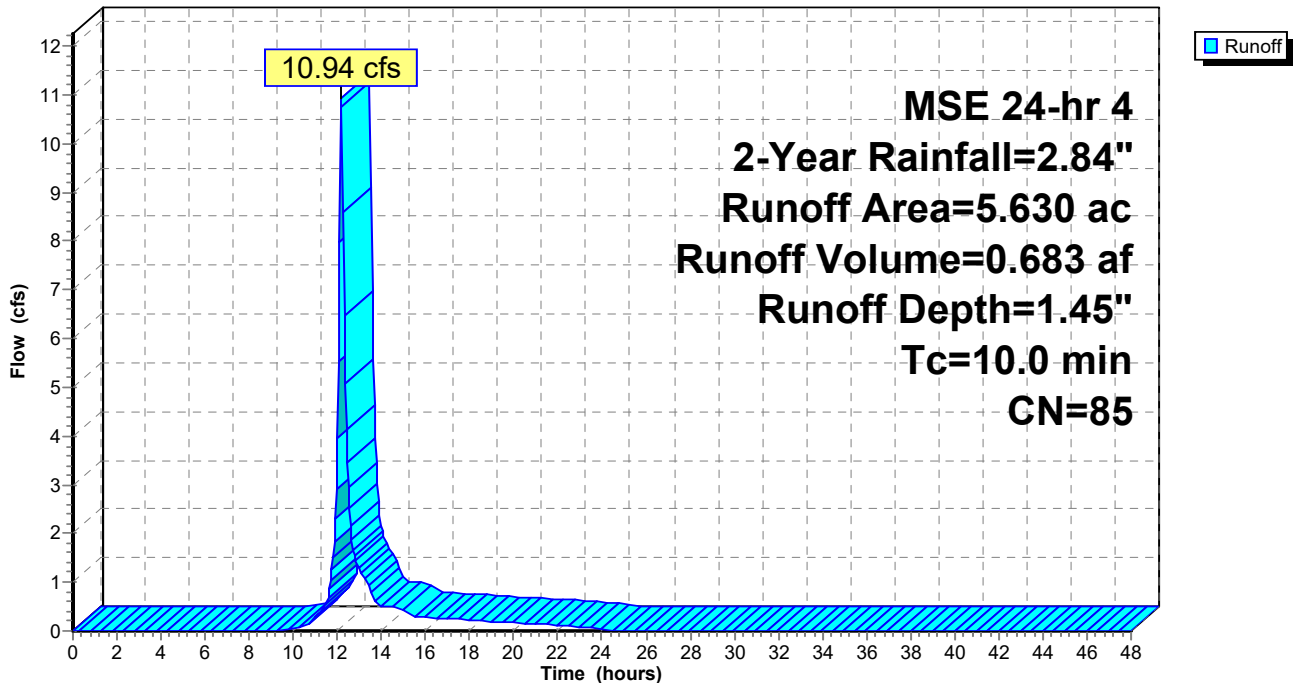
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.660	98	Roof
* 0.830	98	Patio
* 0.830	98	Driveways
* 0.030	98	Sidewalk
* 0.100	98	Street
2.060	61	>75% Grass cover, Good, HSG B
* 0.120	100	Infiltration Basin
5.630	85	Weighted Average
2.060		36.59% Pervious Area
3.570		63.41% Impervious Area

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

Subcatchment 39S: Prop. 39S

Hydrograph



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Page 119

Summary for Subcatchment 40S: Prop. 40S

Runoff = 8.91 cfs @ 12.18 hrs, Volume= 0.557 af, Depth= 1.60"
 Routed to Pond BIO K : Bio K

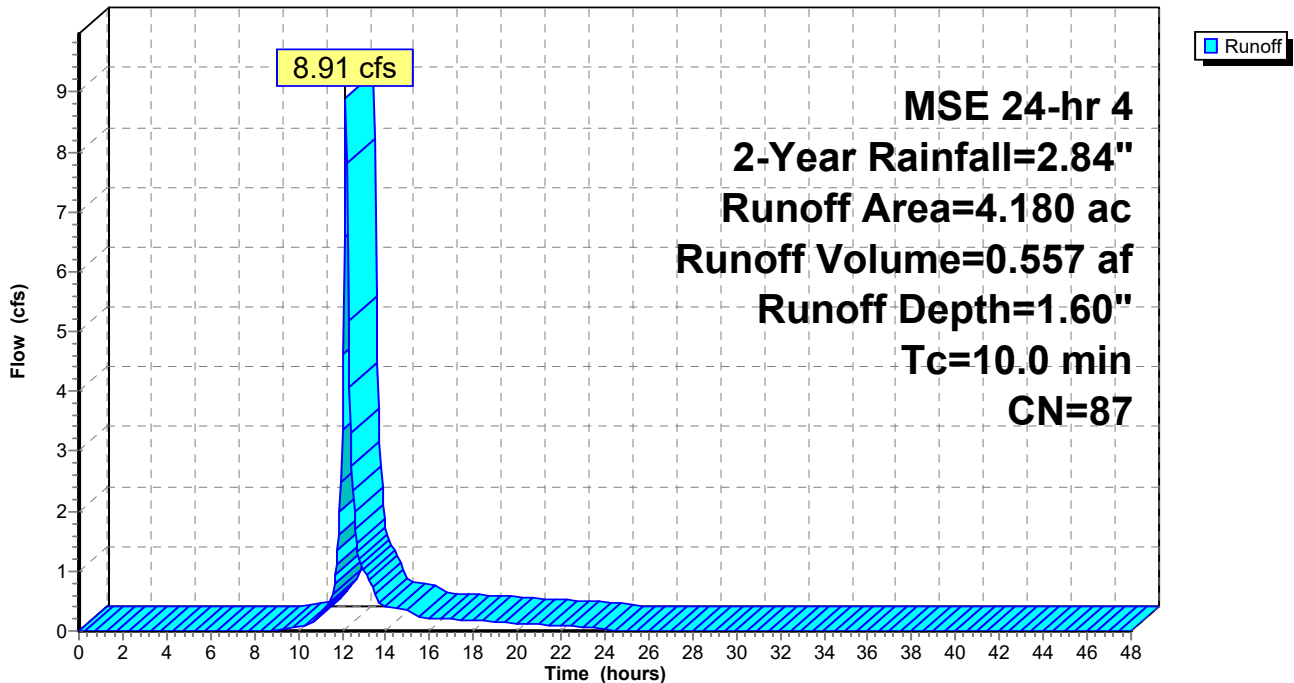
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.960	98	Roof
* 0.480	98	Patio
* 0.480	98	Driveways
* 0.190	98	Sidewalk
* 0.670	98	Street
1.300	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
4.180	87	Weighted Average
1.300		31.10% Pervious Area
2.880		68.90% Impervious Area

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

Subcatchment 40S: Prop. 40S

Hydrograph



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Page 120

Summary for Subcatchment 41S: Prop. 41S

Runoff = 4.60 cfs @ 12.18 hrs, Volume= 0.287 af, Depth= 1.53"
 Routed to Pond IP L : Inf L

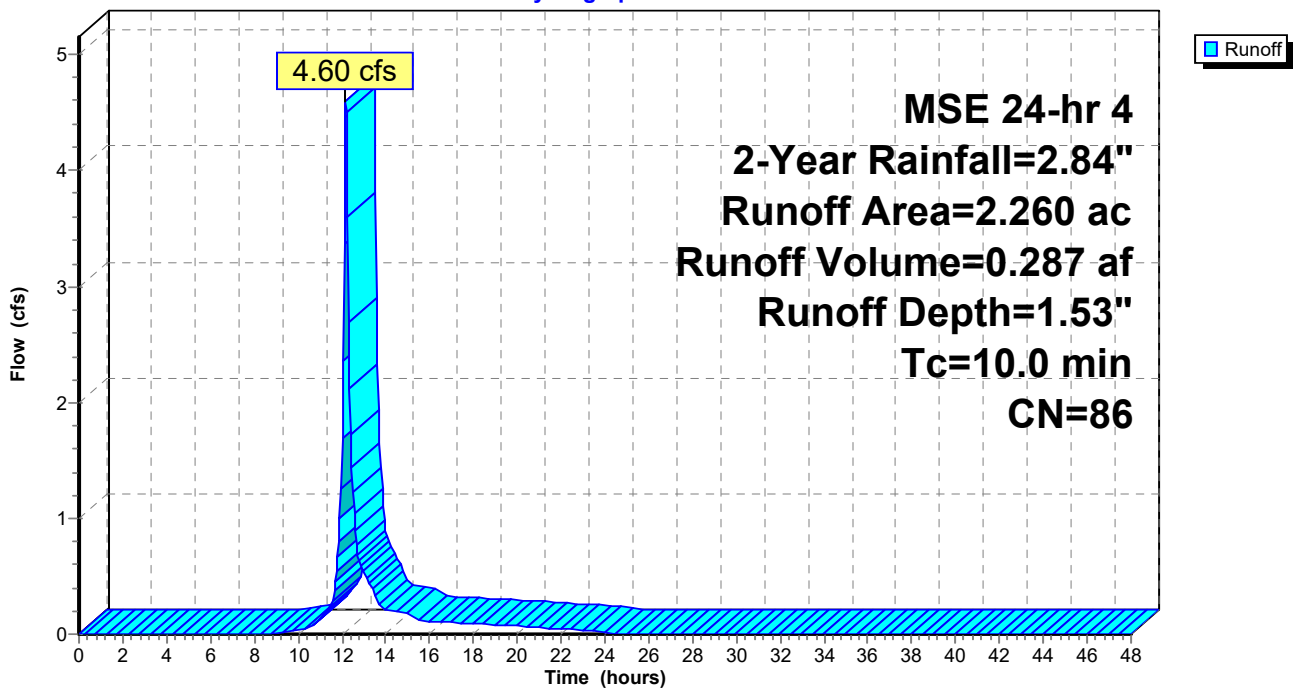
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.750	98	Roof
* 0.380	98	Patio
* 0.380	98	Driveways
0.720	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.260	86	Weighted Average
0.720		31.86% Pervious Area
1.540		68.14% Impervious Area

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

Subcatchment 41S: Prop. 41S

Hydrograph



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Page 121

Summary for Subcatchment 42S: Prop. 42S

Runoff = 2.02 cfs @ 12.18 hrs, Volume= 0.126 af, Depth= 1.39"
 Routed to Pond IP M : Inf M

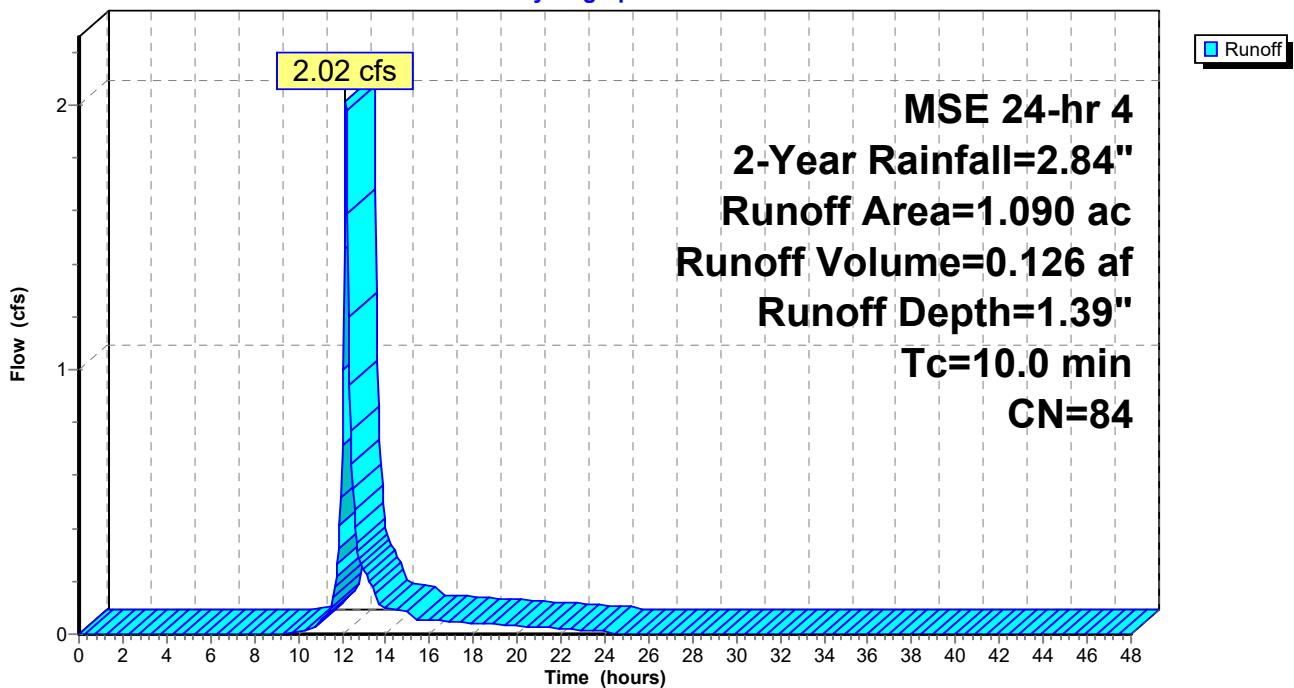
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.300	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.430	61	>75% Grass cover, Good, HSG B
* 0.060	100	Infiltration Basin
1.090	84	Weighted Average
0.430		39.45% Pervious Area
0.660		60.55% Impervious Area

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

Subcatchment 42S: Prop. 42S

Hydrograph



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Page 122

Summary for Subcatchment 43S: Prop. 43S

Runoff = 7.59 cfs @ 12.18 hrs, Volume= 0.474 af, Depth= 1.32"
 Routed to Pond BIO N : Bio N

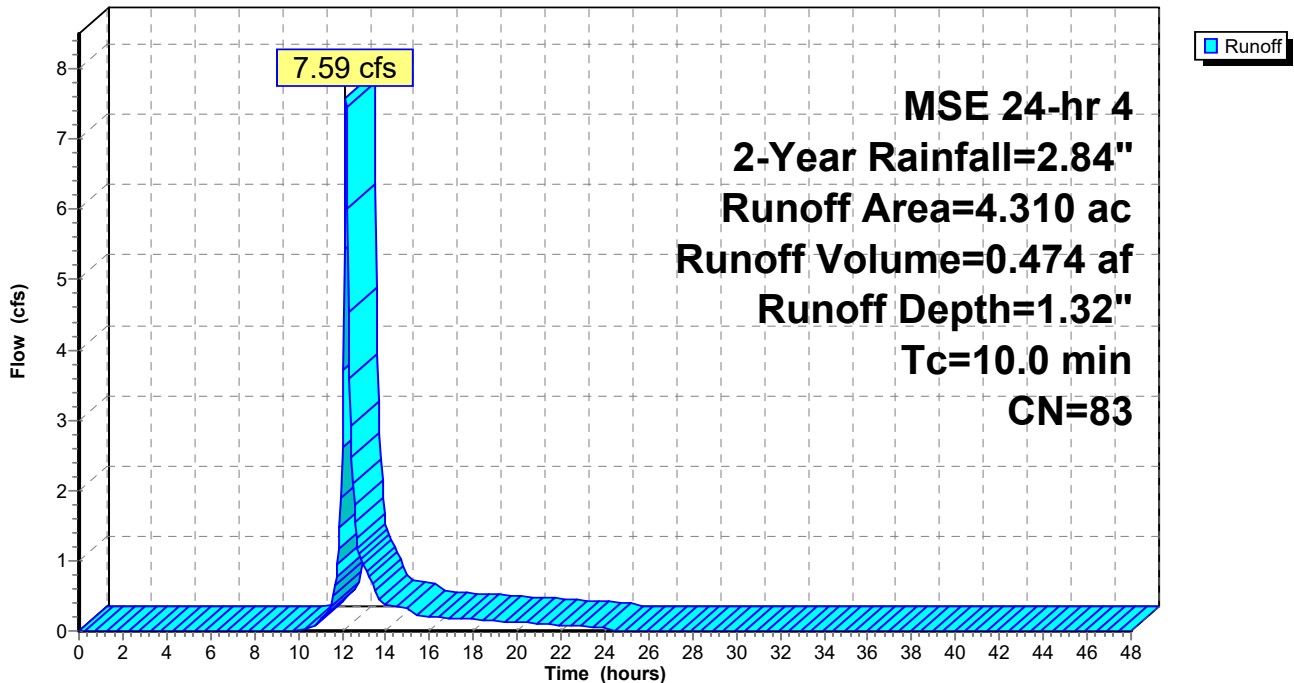
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 43S: Prop. 43S

Hydrograph



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MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 123

Summary for Subcatchment 44S: Prop. 44S

Runoff = 7.59 cfs @ 12.18 hrs, Volume= 0.474 af, Depth= 1.32"
 Routed to Pond BIO O : Bio O

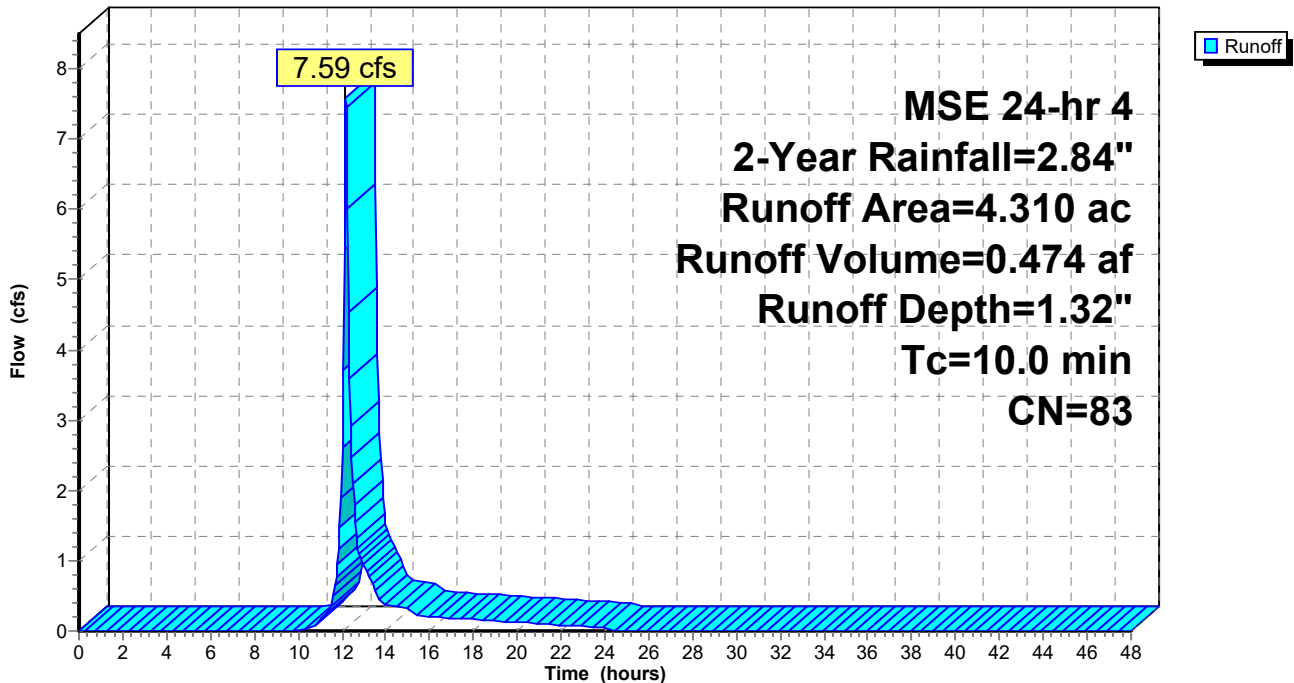
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 44S: Prop. 44S

Hydrograph



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Page 124

Summary for Subcatchment 45S: Prop. 45S

Runoff = 15.90 cfs @ 12.18 hrs, Volume= 0.994 af, Depth= 1.25"
 Routed to Pond WP P : Wet Pond P

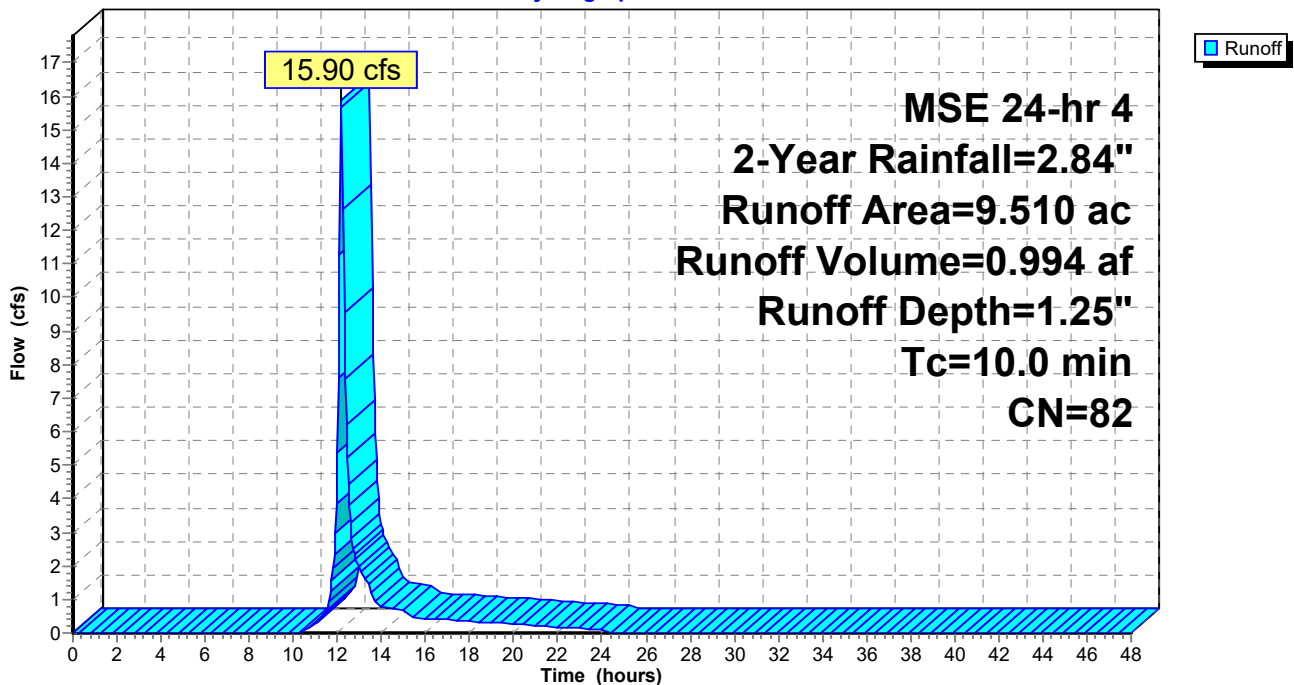
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.690	98	Roofs
* 0.190	98	Parking
* 0.850	98	Driveways
* 0.850	98	Sidewalks - House
* 0.280	98	Sidewalks - Street
* 1.050	98	Streets
4.100	61	>75% Grass cover, Good, HSG B
* 0.250	100	Wet Pond
* 0.250	100	Infiltration
9.510	82	Weighted Average
4.100		43.11% Pervious Area
5.410		56.89% Impervious Area

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

Subcatchment 45S: Prop. 45S

Hydrograph



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Page 125

Summary for Subcatchment 46S: Prop. 46S

Runoff = 24.37 cfs @ 12.24 hrs, Volume= 1.777 af, Depth= 1.53"
 Routed to Pond WP Q : Wet Pond Q

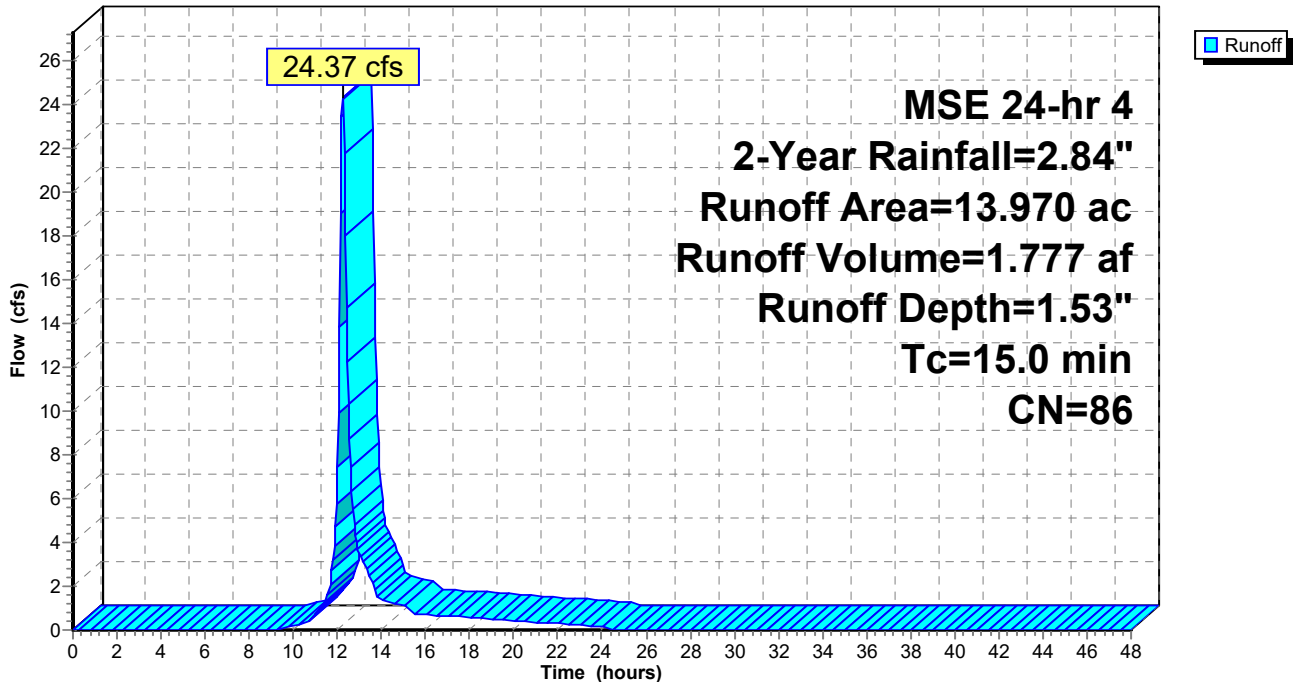
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 3.370	98	Roofs
* 0.080	98	Parking
* 1.680	98	Driveways
* 1.680	98	Sidewalks - House
* 0.510	98	Sidewalks - Street
* 2.050	98	Streets
4.370	61	>75% Grass cover, Good, HSG B
* 0.130	100	Wet Pond
* 0.100	100	Infiltration
13.970	86	Weighted Average
4.370		31.28% Pervious Area
9.600		68.72% Impervious Area

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

Subcatchment 46S: Prop. 46S

Hydrograph



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Page 126

Summary for Subcatchment 47S: Prop. 47S

Runoff = 4.21 cfs @ 12.18 hrs, Volume= 0.264 af, Depth= 1.19"
 Routed to Pond WP R : Wet Pond R

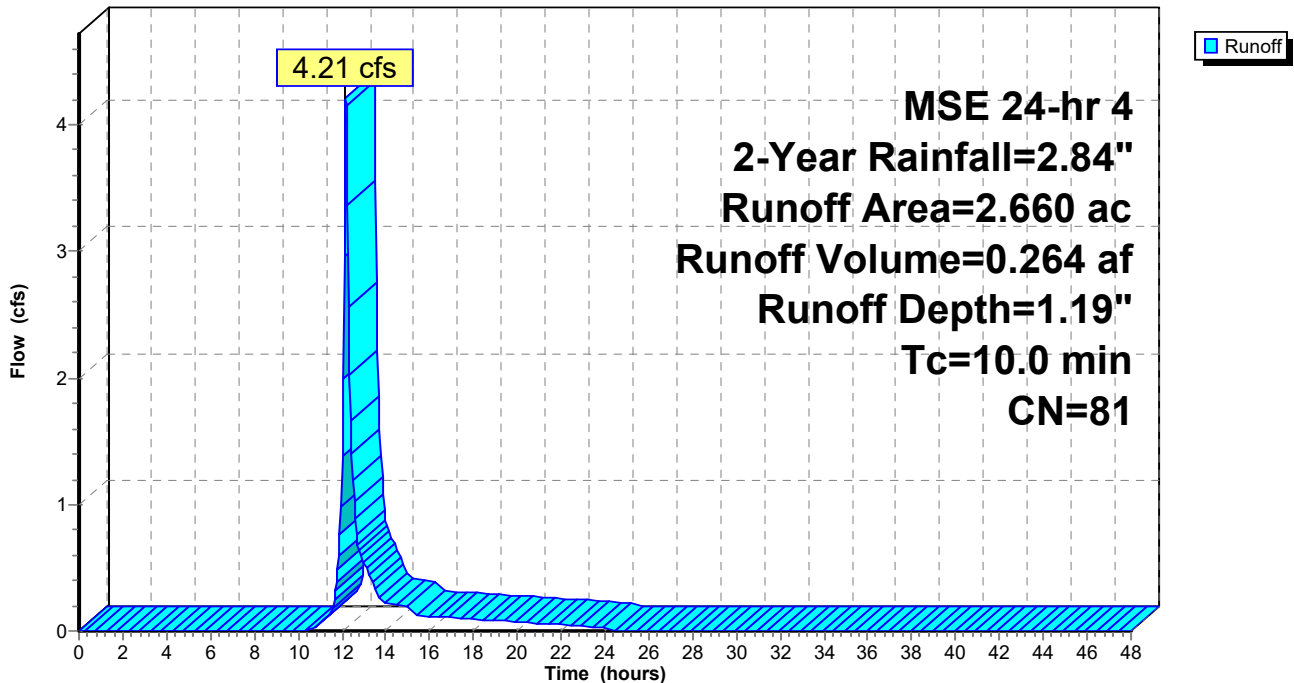
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.350	98	Roofs
* 0.180	98	Driveways
* 0.180	98	Sidewalks - House
* 0.060	98	Sidewalks - Street
* 0.500	98	Streets
1.210	61	>75% Grass cover, Good, HSG B
* 0.180	100	Wet Pond
2.660	81	Weighted Average
1.210		45.49% Pervious Area
1.450		54.51% Impervious Area

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

Subcatchment 47S: Prop. 47S

Hydrograph



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Page 127

Summary for Subcatchment 48S: Prop. 48S

Runoff = 5.20 cfs @ 12.18 hrs, Volume= 0.325 af, Depth= 1.60"
 Routed to Pond Bio S : Bio S

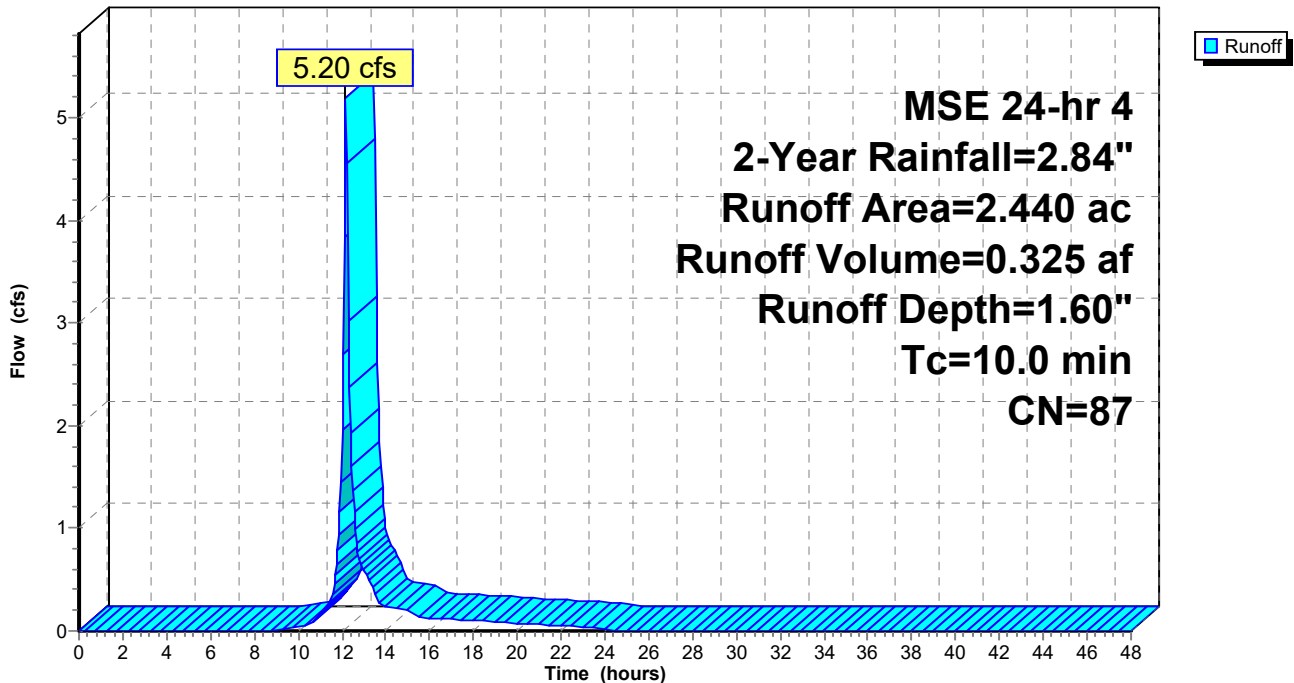
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.430	98	Roof
* 0.220	98	Patio
* 0.210	98	Driveways
* 0.170	98	Sidewalk
* 0.600	98	Street
0.720	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.440	87	Weighted Average
0.720		29.51% Pervious Area
1.720		70.49% Impervious Area

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

Subcatchment 48S: Prop. 48S

Hydrograph



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Page 128

Summary for Subcatchment 49S: 49S

Runoff = 4.80 cfs @ 12.18 hrs, Volume= 0.300 af, Depth= 1.60"
 Routed to Pond IP T : Infil T

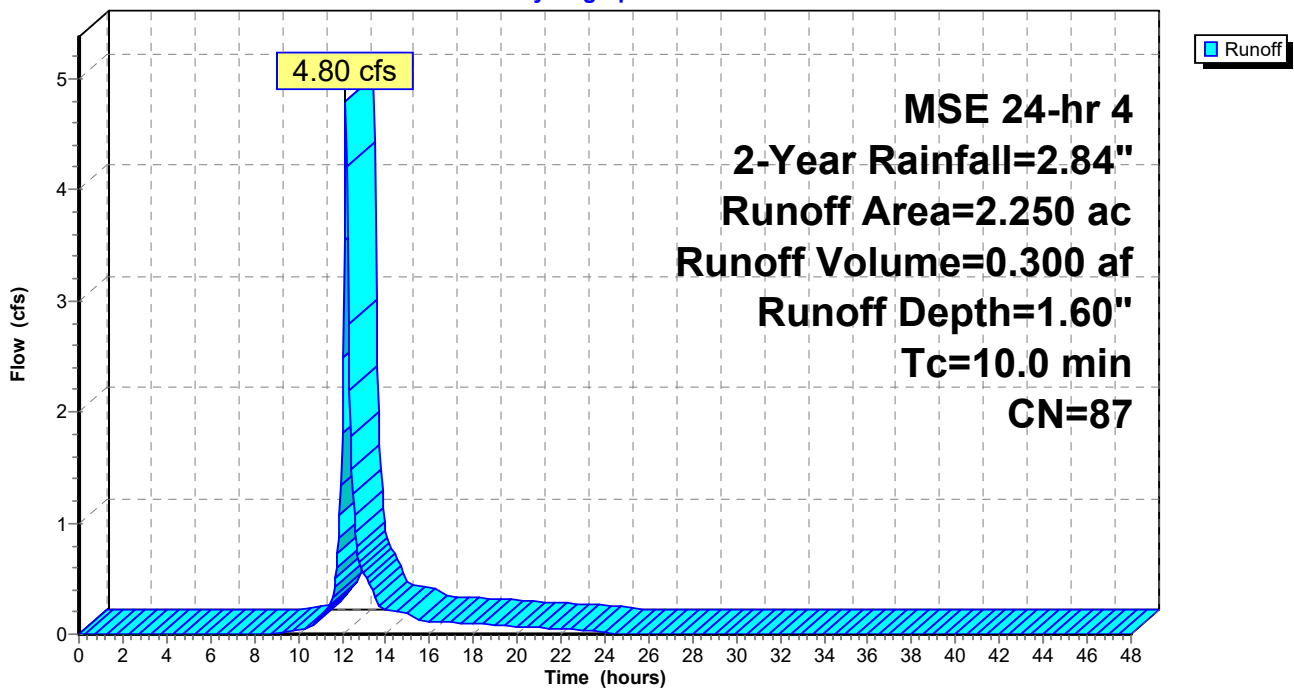
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.740	98	Roof
* 0.370	98	Patio
* 0.370	98	Driveways
0.680	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.250	87	Weighted Average
0.680		30.22% Pervious Area
1.570		69.78% Impervious Area

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

Subcatchment 49S: 49S

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Page 129

Summary for Subcatchment 50S: Prop. 50S

Runoff = 10.18 cfs @ 12.18 hrs, Volume= 0.635 af, Depth= 1.45"
 Routed to Pond WP U : Wet Pond U

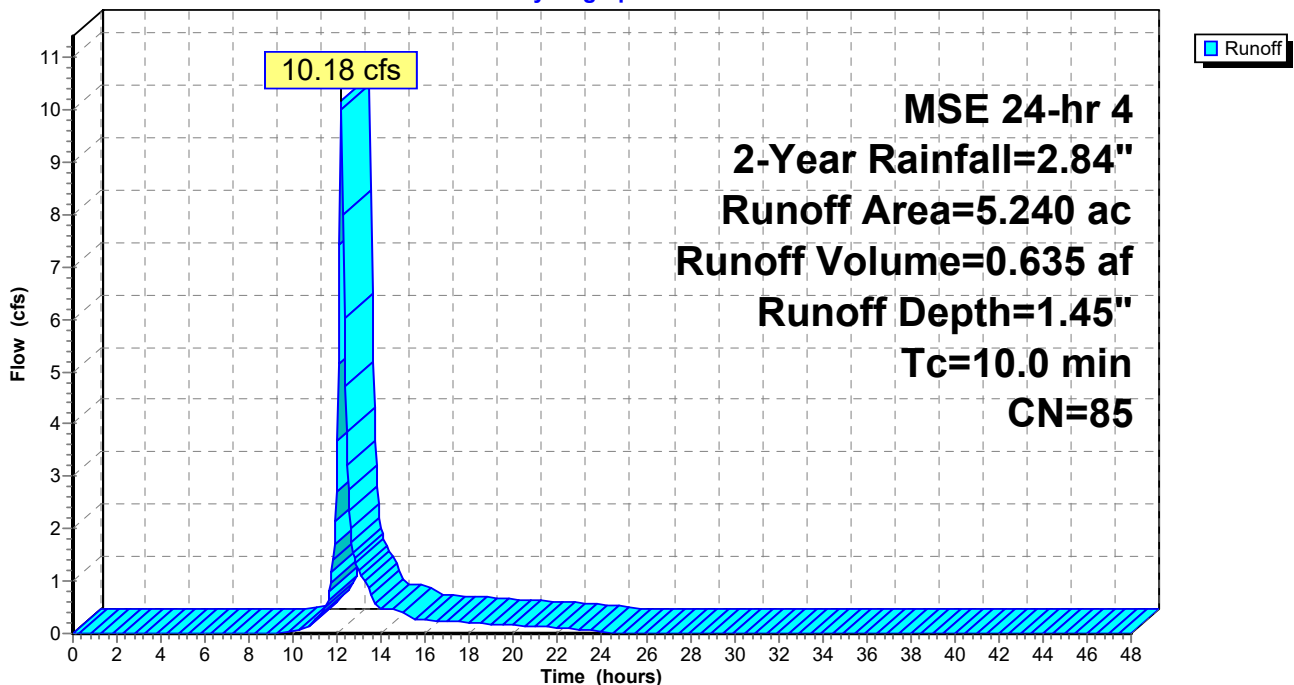
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.420	98	Roofs
* 0.210	98	Driveways
* 0.210	98	Sidewalks - House
* 0.500	98	Sidewalks - Street
* 1.800	98	Streets
1.790	61	>75% Grass cover, Good, HSG B
* 0.160	100	Wet Pond
* 0.150	100	Infiltration
5.240	85	Weighted Average
1.790		34.16% Pervious Area
3.450		65.84% Impervious Area

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

Subcatchment 50S: Prop. 50S

Hydrograph



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Page 130

Summary for Subcatchment 51S: Prop. 51S

Runoff = 2.73 cfs @ 12.18 hrs, Volume= 0.170 af, Depth= 1.32"
 Routed to Pond IP V : Infil V

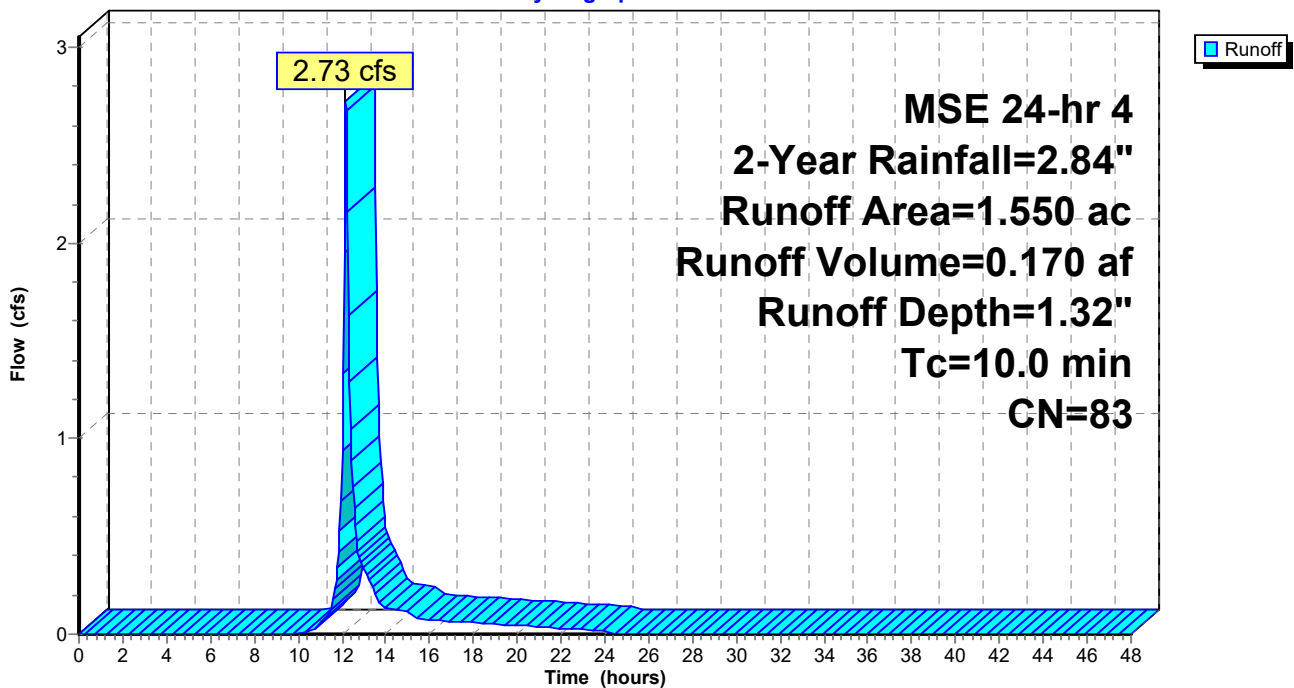
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.290	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.660	61	>75% Grass cover, Good, HSG B
* 0.300	100	Infiltration Basin
1.550	83	Weighted Average
0.660		42.58% Pervious Area
0.890		57.42% Impervious Area

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

Subcatchment 51S: Prop. 51S

Hydrograph



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Page 131

Summary for Subcatchment 52S: Prop. 52S

Runoff = 7.33 cfs @ 12.18 hrs, Volume= 0.459 af, Depth= 1.60"
 Routed to Pond IP W : Infil W

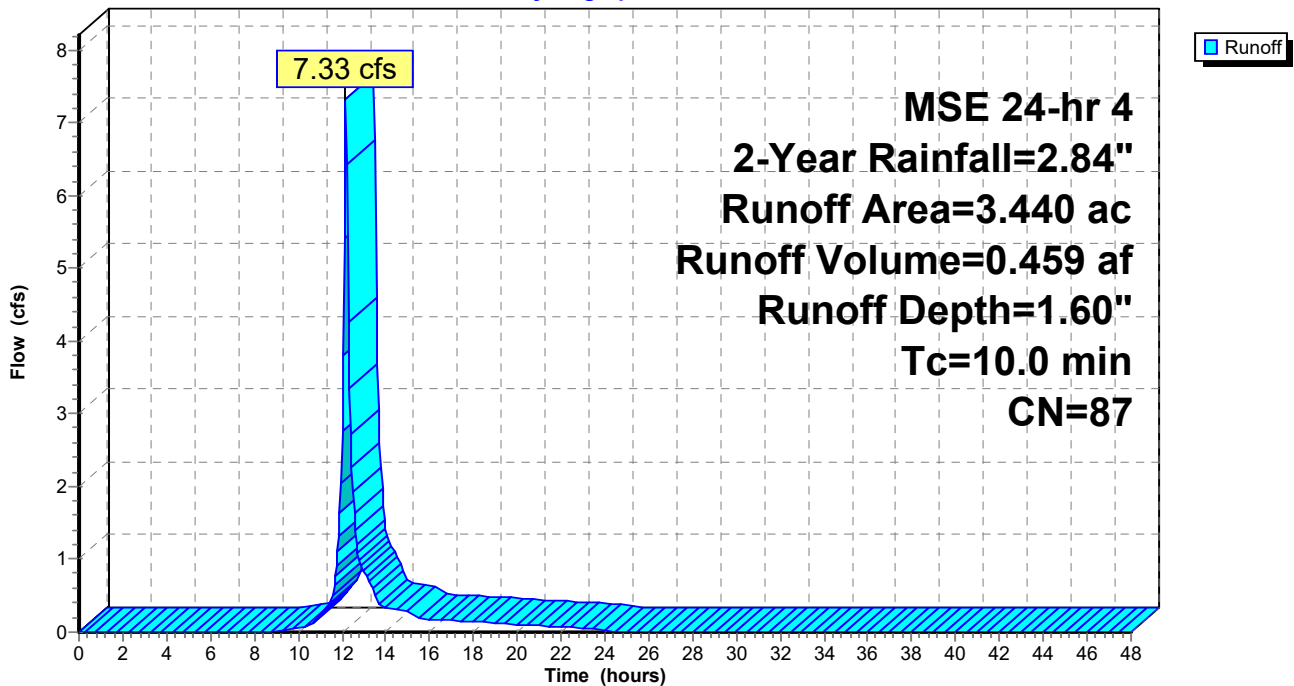
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.170	98	Roof
* 0.590	98	Patio
* 0.590	98	Driveways
1.070	61	>75% Grass cover, Good, HSG B
* 0.020	100	Infiltration Basin
3.440	87	Weighted Average
1.070		31.10% Pervious Area
2.370		68.90% Impervious Area

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

Subcatchment 52S: Prop. 52S

Hydrograph



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Page 132

Summary for Subcatchment 53S: Prop. 53S

Runoff = 8.25 cfs @ 12.18 hrs, Volume= 0.515 af, Depth= 1.53"
 Routed to Pond Bio X : Bio X

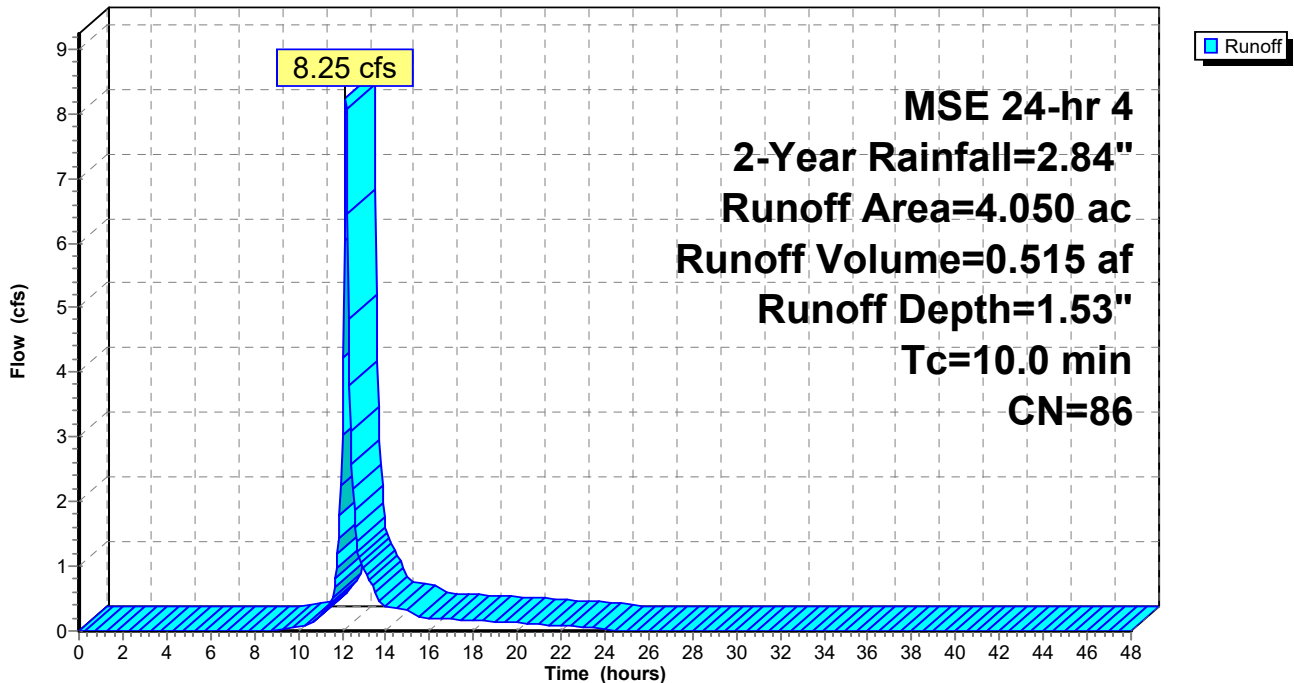
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.000	98	Roof
* 0.000	98	Patio
* 0.000	98	Driveways
* 0.570	98	Sidewalk
* 2.020	98	Street
1.330	61	>75% Grass cover, Good, HSG B
* 0.130	100	Infiltration Basin
4.050	86	Weighted Average
1.330		32.84% Pervious Area
2.720		67.16% Impervious Area

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

Subcatchment 53S: Prop. 53S

Hydrograph



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Page 133

Summary for Subcatchment 54S: Future 54S

Runoff = 1.62 cfs @ 12.27 hrs, Volume= 0.143 af, Depth= 0.55"
Routed to Pond Bio X : Bio X

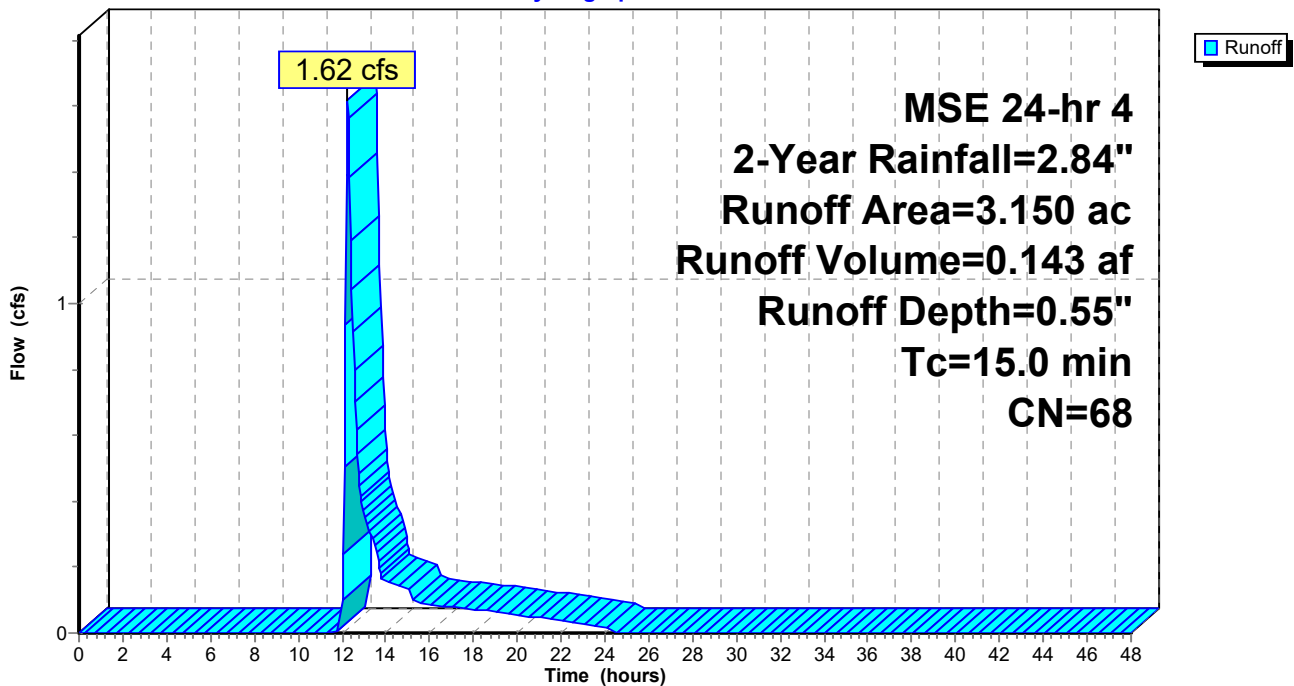
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 3.150	68	HSG B Ag
3.150		100.00% Pervious Area

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

Subcatchment 54S: Future 54S

Hydrograph



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Page 134

Summary for Subcatchment 55S: Prop. 55S

Runoff = 2.97 cfs @ 12.19 hrs, Volume= 0.189 af, Depth= 1.02"
 Routed to Reach 12R : Prop CTH Q

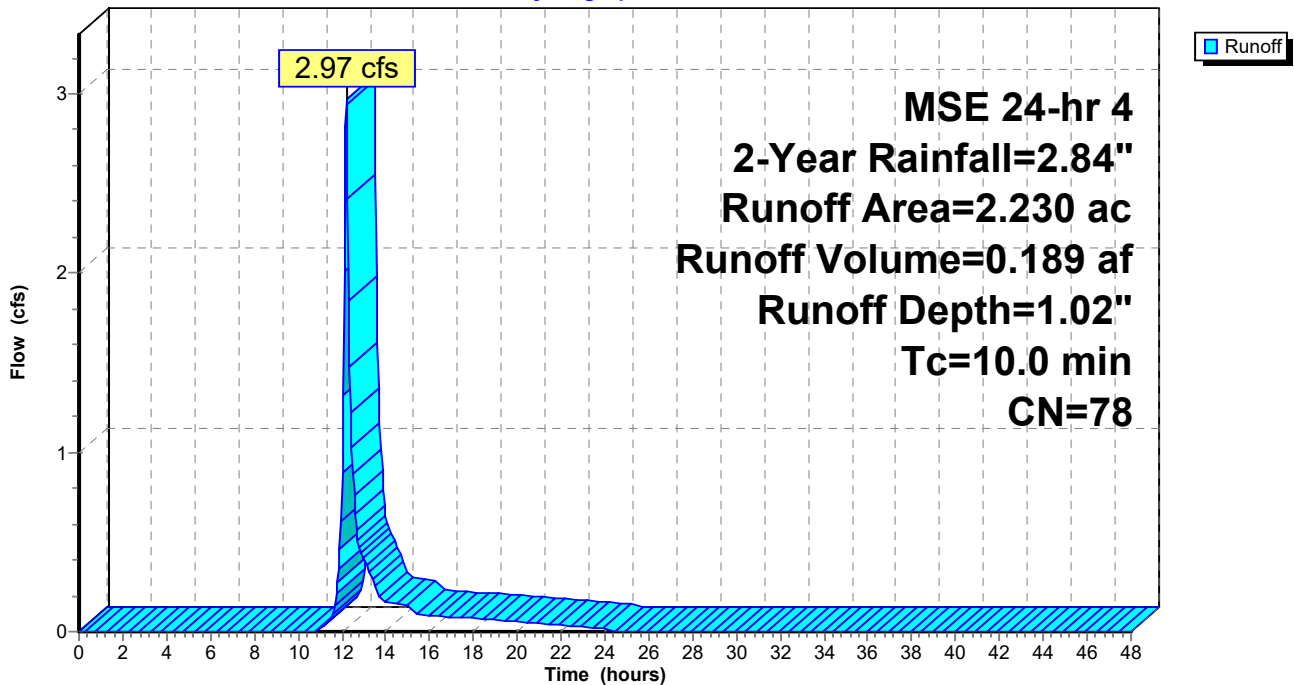
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.120	98	Parking
* 0.200	98	Sidewalk
* 0.720	98	Street
1.190	61	>75% Grass cover, Good, HSG B
2.230	78	Weighted Average
1.190		53.36% Pervious Area
1.040		46.64% Impervious Area

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

Subcatchment 55S: Prop. 55S

Hydrograph



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Page 135

Summary for Subcatchment 56S: (new Subcat)

Runoff = 37.31 cfs @ 12.18 hrs, Volume= 2.350 af, Depth= 1.76"
 Routed to Reach 27R : Post Wetland

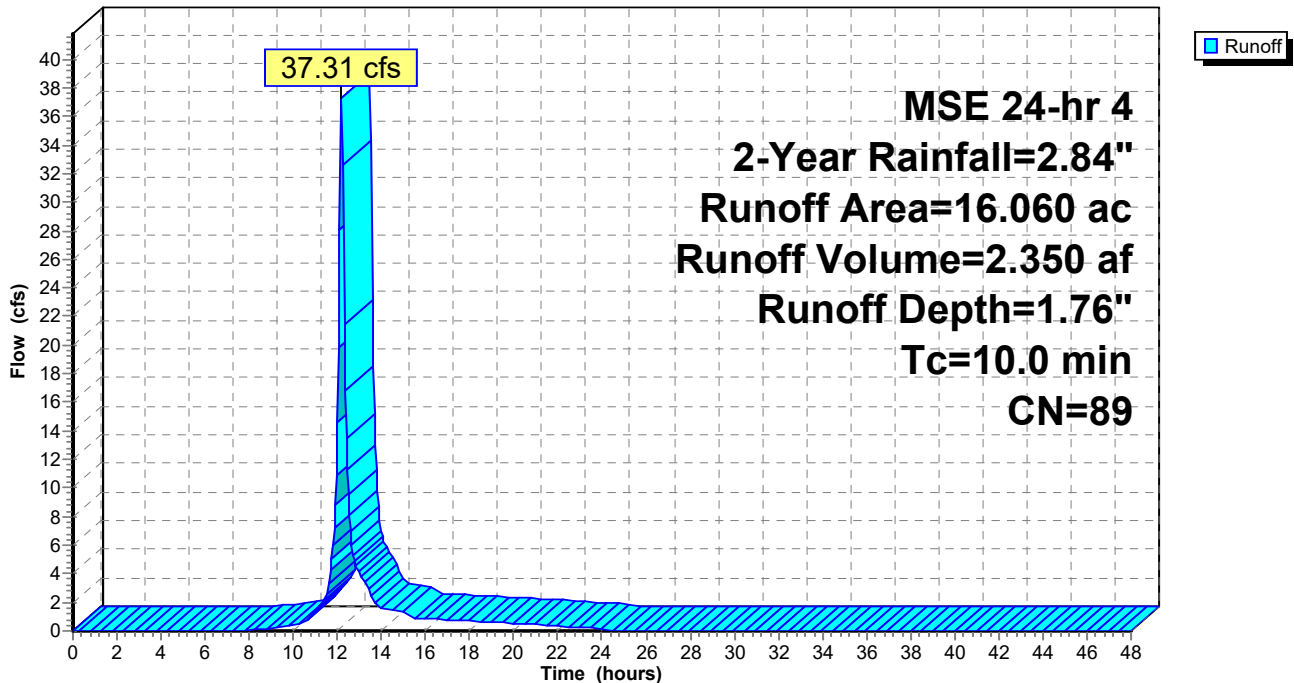
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.120	98	Roof
* 0.560	98	Driveways
* 0.560	98	Patio
* 0.030	98	Sidewalk
* 0.110	98	Street
4.330	61	>75% Grass cover, Good, HSG B
* 9.350	100	Wetland
16.060	89	Weighted Average
4.330		26.96% Pervious Area
11.730		73.04% Impervious Area

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

Subcatchment 56S: (new Subcat)

Hydrograph



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Page 136

Summary for Subcatchment 57S: Existing 56S

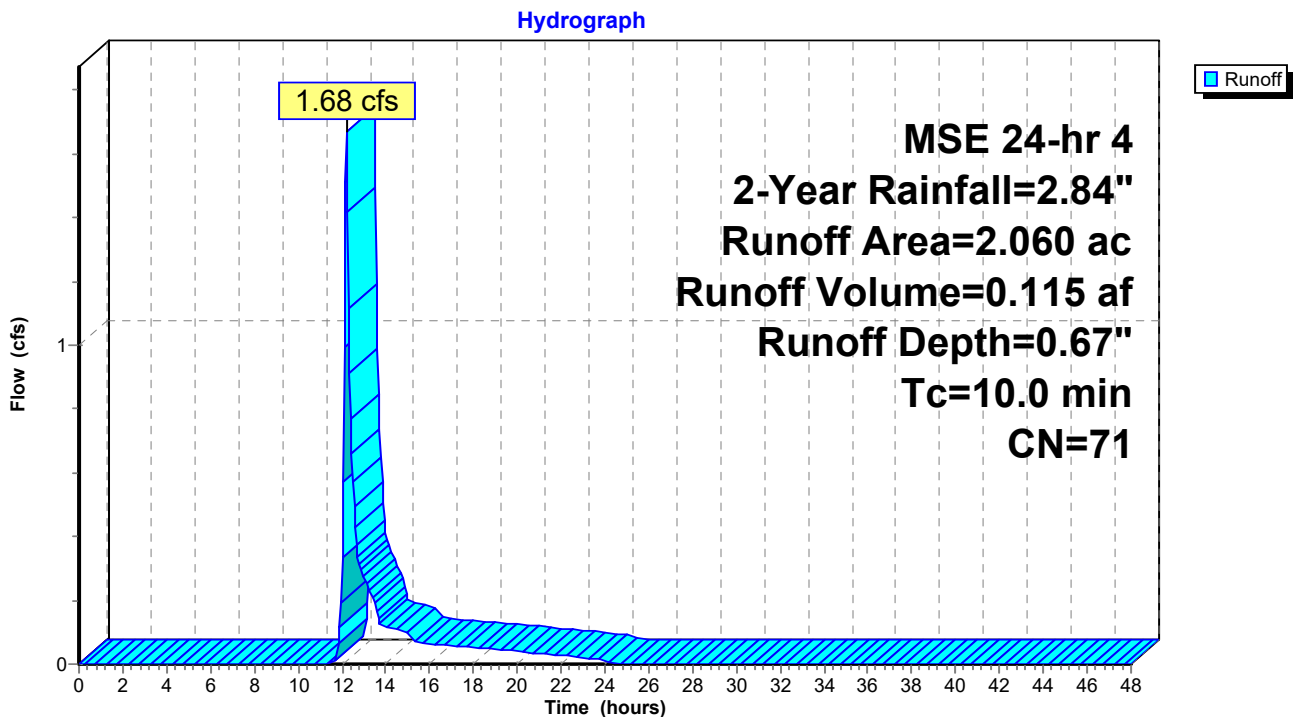
Runoff = 1.68 cfs @ 12.19 hrs, Volume= 0.115 af, Depth= 0.67"
Routed to Reach 52R : TOTAL PROPOSED

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
1.510	61	>75% Grass cover, Good, HSG B
* 0.300	98	House
* 0.250	98	Impervious
2.060	71	Weighted Average
1.510		73.30% Pervious Area
0.550		26.70% Impervious Area

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

Subcatchment 57S: Existing 56S



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Page 137

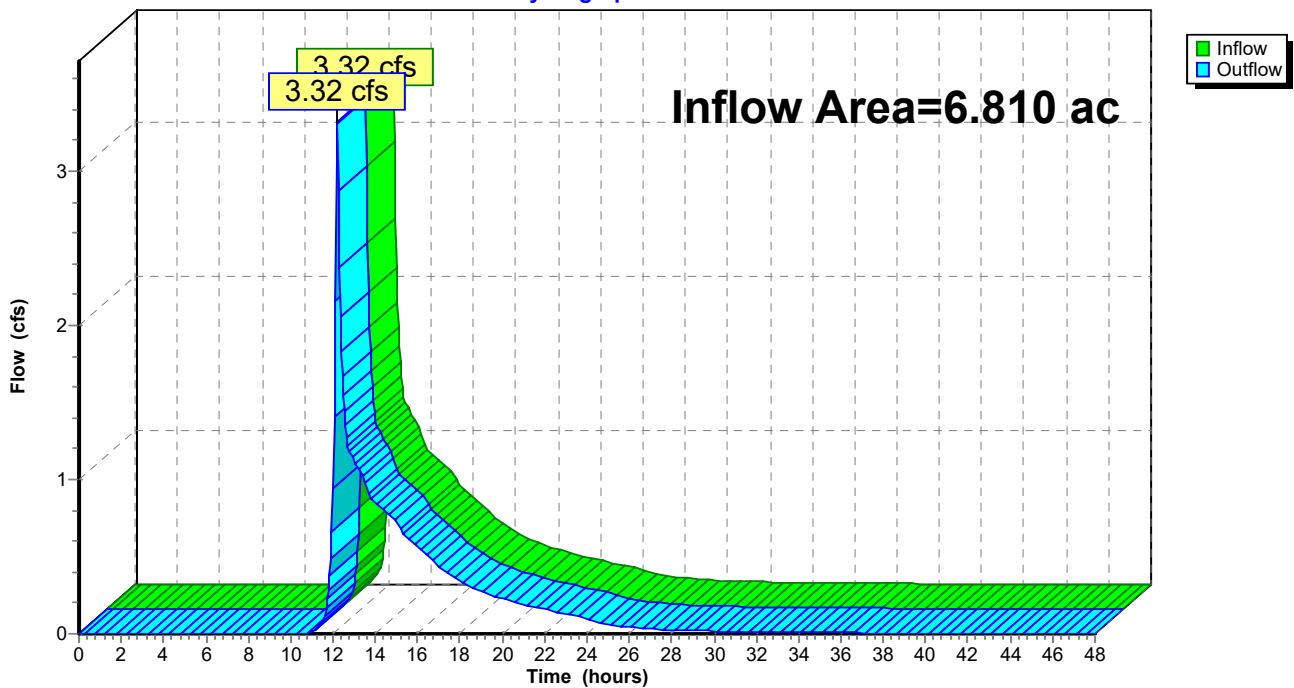
Summary for Reach 12R: Prop CTH Q

Inflow Area = 6.810 ac, 43.91% Impervious, Inflow Depth > 0.98" for 2-Year event
Inflow = 3.32 cfs @ 12.19 hrs, Volume= 0.555 af
Outflow = 3.32 cfs @ 12.19 hrs, Volume= 0.555 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 12R: Prop CTH Q

Hydrograph



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Page 138

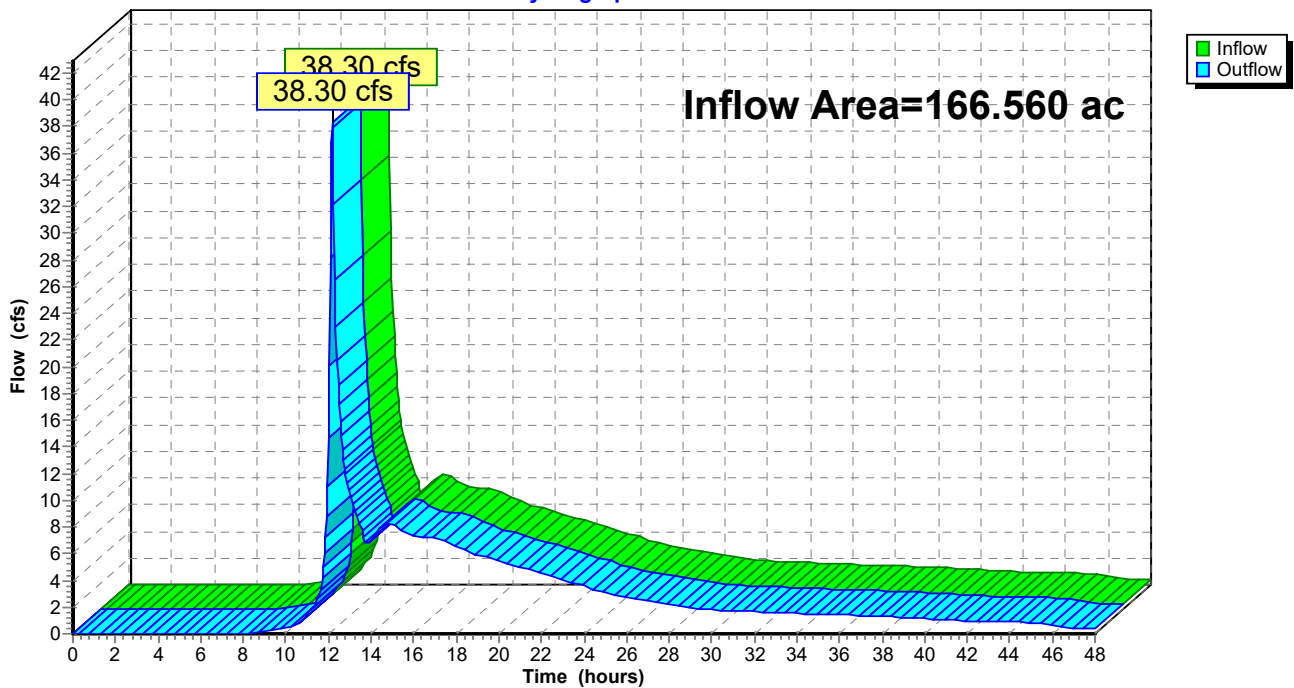
Summary for Reach 27R: Post Wetland

Inflow Area = 166.560 ac, 52.08% Impervious, Inflow Depth > 0.77" for 2-Year event
Inflow = 38.30 cfs @ 12.18 hrs, Volume= 10.629 af
Outflow = 38.30 cfs @ 12.18 hrs, Volume= 10.629 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 27R: Post Wetland

Hydrograph



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Page 139

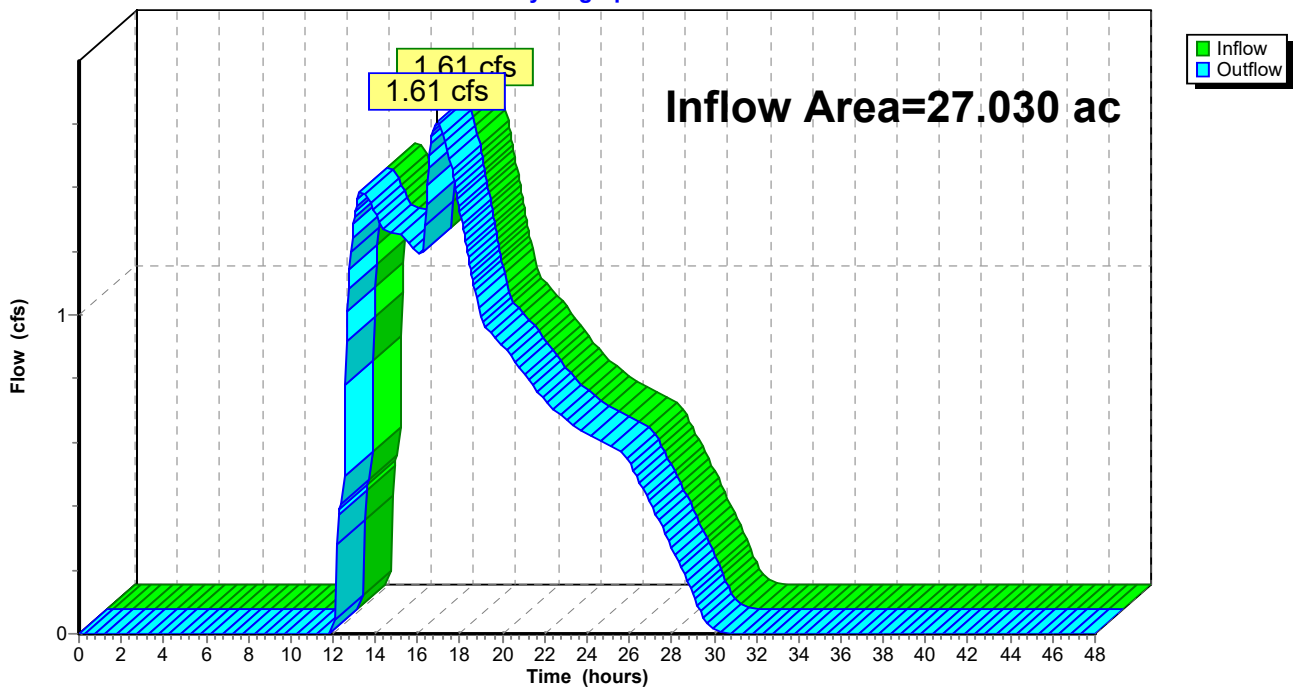
Summary for Reach 41R: (new Reach)

Inflow Area = 27.030 ac, 50.50% Impervious, Inflow Depth = 0.54" for 2-Year event
Inflow = 1.61 cfs @ 16.90 hrs, Volume= 1.218 af
Outflow = 1.61 cfs @ 16.90 hrs, Volume= 1.218 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 41R: (new Reach)

Hydrograph



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Page 140

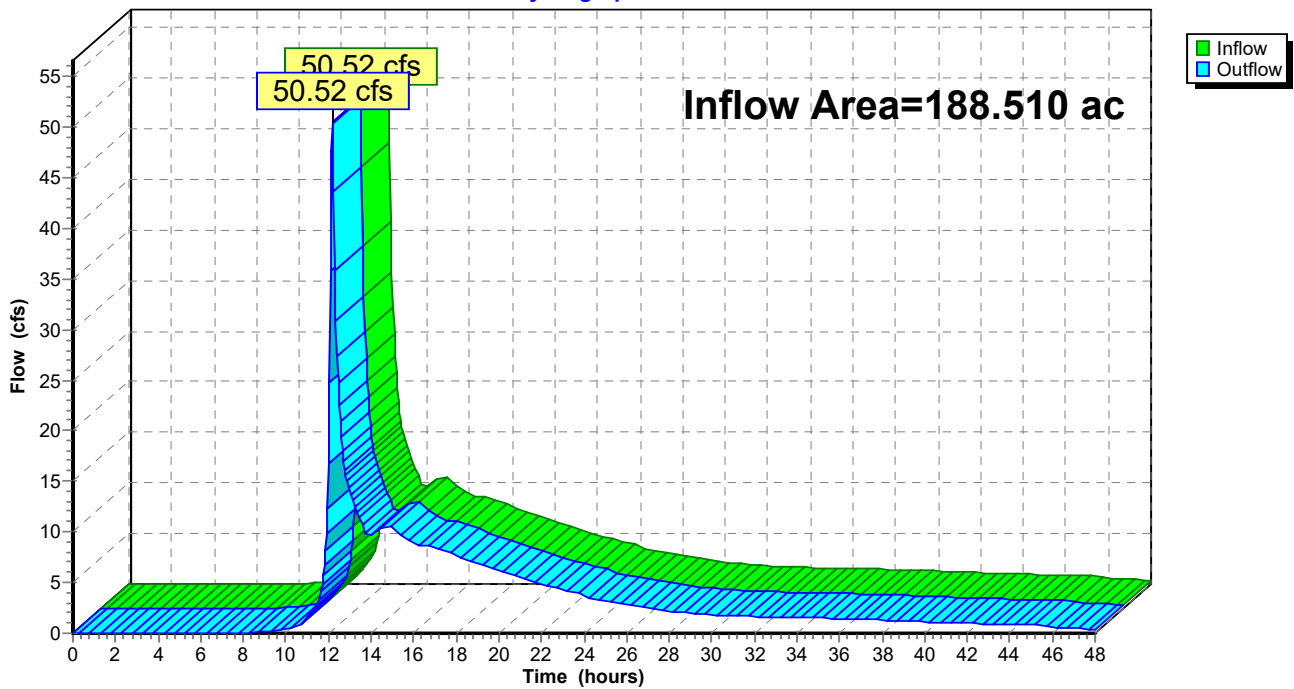
Summary for Reach 52R: TOTAL PROPOSED

Inflow Area = 188.510 ac, 51.50% Impervious, Inflow Depth > 0.78" for 2-Year event
Inflow = 50.52 cfs @ 12.19 hrs, Volume= 12.327 af
Outflow = 50.52 cfs @ 12.19 hrs, Volume= 12.327 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 52R: TOTAL PROPOSED

Hydrograph



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Page 141

Summary for Pond BIO J: Bio J

Inflow Area = 10.880 ac, 32.81% Impervious, Inflow Depth = 0.90" for 2-Year event
 Inflow = 11.17 cfs @ 12.18 hrs, Volume= 0.817 af
 Outflow = 4.67 cfs @ 12.43 hrs, Volume= 0.792 af, Atten= 58%, Lag= 15.0 min
 Discarded = 0.07 cfs @ 12.43 hrs, Volume= 0.197 af
 Primary = 4.61 cfs @ 12.43 hrs, Volume= 0.595 af
 Routed to Pond BIO N : Bio N
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.21' @ 12.43 hrs Surf.Area= 5,808 sf Storage= 13,239 cf

Plug-Flow detention time= 301.4 min calculated for 0.791 af (97% of inflow)
 Center-of-Mass det. time= 286.2 min (1,123.2 - 836.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	69,813 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
916.00	5,358	0.0	0	0
916.01	5,358	33.0	18	18
919.99	5,358	33.0	7,037	7,055
920.00	5,358	27.0	14	7,069
921.49	5,358	27.0	2,156	9,225
921.50	5,358	100.0	54	9,278
925.00	7,579	100.0	22,640	31,918
930.00	7,579	100.0	37,895	69,813

Device	Routing	Invert	Outlet Devices
#1	Primary	919.50'	24.0" Round 24" Outlet Pipe L= 660.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 919.50' / 916.00' S= 0.0053 1/8" Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	919.50'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	922.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	925.00'	10.0' long + 4.0 1/8" SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 142

Discarded OutFlow Max=0.07 cfs @ 12.43 hrs HW=922.21' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=4.56 cfs @ 12.43 hrs HW=922.21' TW=907.50' (Dynamic Tailwater)

↳ **1=24" Outlet Pipe** (Passes 4.56 cfs of 19.42 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.67 cfs @ 7.68 fps)

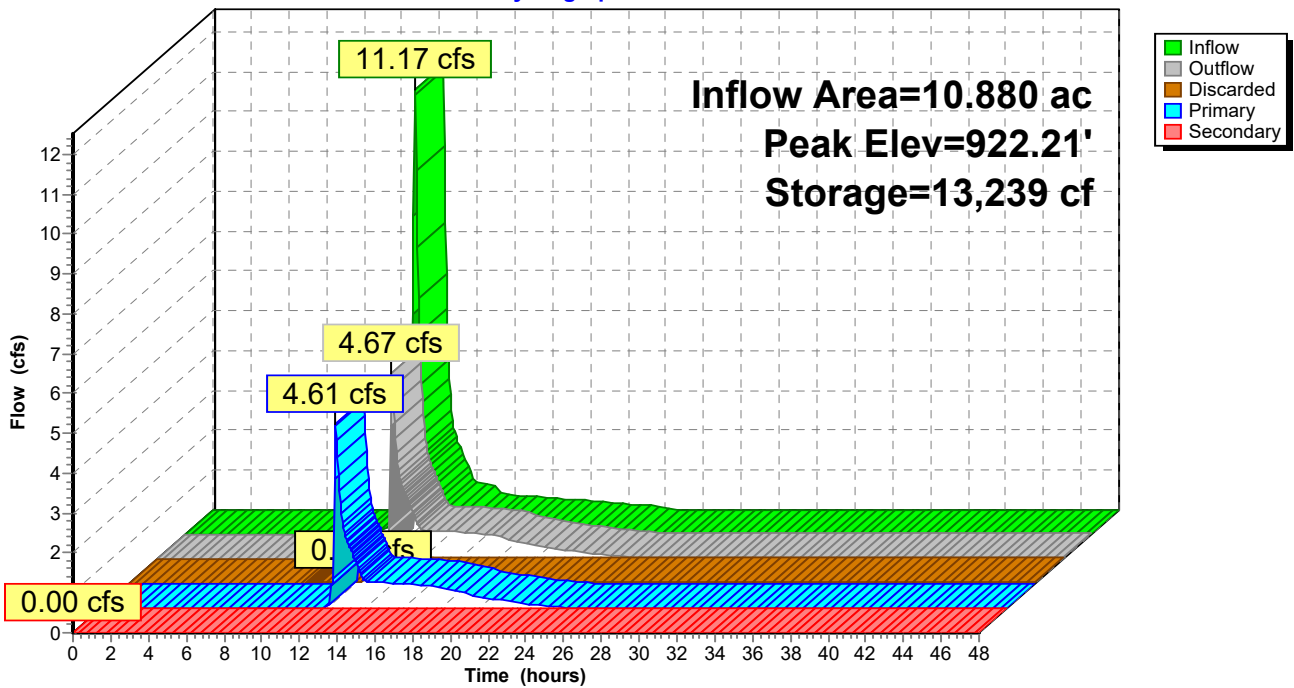
↳ **3=48" Riser** (Weir Controls 3.89 cfs @ 1.49 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=916.00' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BIO J: Bio J

Hydrograph



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Page 143

Summary for Pond BIO K: Bio K

Inflow Area = 4.180 ac, 68.90% Impervious, Inflow Depth = 1.60" for 2-Year event
 Inflow = 8.91 cfs @ 12.18 hrs, Volume= 0.557 af
 Outflow = 0.97 cfs @ 13.05 hrs, Volume= 0.539 af, Atten= 89%, Lag= 52.5 min
 Discarded = 0.07 cfs @ 13.05 hrs, Volume= 0.169 af
 Primary = 0.90 cfs @ 13.05 hrs, Volume= 0.371 af
 Routed to Pond BIO N : Bio N
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond BIO N : Bio N

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 920.03' @ 13.05 hrs Surf.Area= 6,077 sf Storage= 13,024 cf

Plug-Flow detention time= 375.3 min calculated for 0.539 af (97% of inflow)
 Center-of-Mass det. time= 357.4 min (1,172.4 - 815.0)

Volume	Invert	Avail.Storage	Storage Description
#1	913.50'	33,012 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
913.50	4,410	0.0	0	0
913.51	4,410	33.0	15	15
917.49	4,410	33.0	5,792	5,807
917.50	4,410	27.0	12	5,819
918.99	4,410	27.0	1,774	7,593
919.00	4,410	100.0	44	7,637
922.50	10,090	100.0	25,375	33,012

Device	Routing	Invert	Outlet Devices
#1	Primary	917.00'	18.0" Round 18" Outlet Pipe L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 917.00' / 916.50' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	917.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	921.50'	10.0' long + 4.0 1/2" SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	913.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 144

Discarded OutFlow Max=0.07 cfs @ 13.05 hrs HW=920.03' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.90 cfs @ 13.05 hrs HW=920.03' TW=910.07' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 0.90 cfs of 12.75 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.71 cfs @ 8.14 fps)

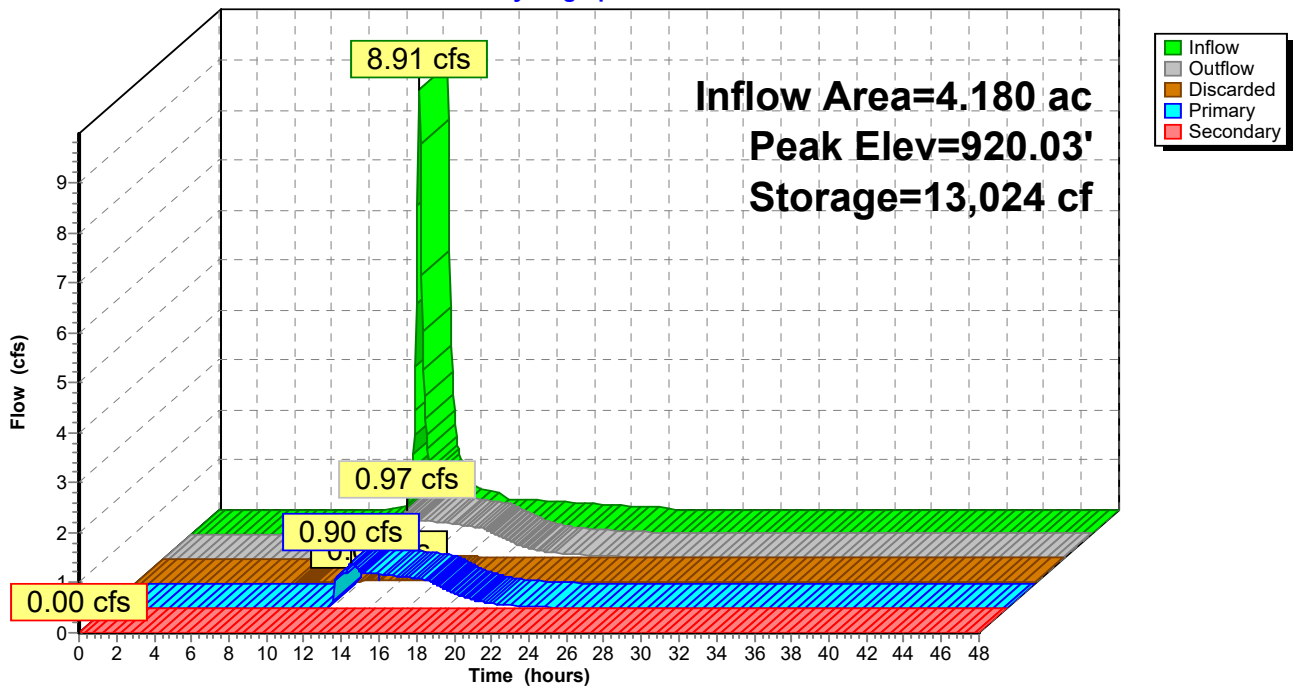
↳ **3=48" Riser** (Weir Controls 0.19 cfs @ 0.54 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=913.50' TW=904.50' (Dynamic Tailwater)

↳ **4=Weir** (Controls 0.00 cfs)

Pond BIO K: Bio K

Hydrograph



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Page 145

Summary for Pond BIO N: Bio N

Inflow Area = 19.370 ac, 46.21% Impervious, Inflow Depth = 0.89" for 2-Year event
 Inflow = 8.62 cfs @ 12.19 hrs, Volume= 1.439 af
 Outflow = 1.34 cfs @ 17.00 hrs, Volume= 1.323 af, Atten= 84%, Lag= 288.4 min
 Discarded = 0.16 cfs @ 17.00 hrs, Volume= 0.438 af
 Primary = 0.71 cfs @ 17.00 hrs, Volume= 0.821 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.47 cfs @ 17.00 hrs, Volume= 0.063 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 911.04' @ 17.00 hrs Surf.Area= 13,647 sf Storage= 33,720 cf

Plug-Flow detention time= 514.5 min calculated for 1.323 af (92% of inflow)
 Center-of-Mass det. time= 480.7 min (1,375.3 - 894.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	904.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
904.50	11,850	0.0	0	0
904.51	11,850	33.0	39	39
908.49	11,850	33.0	15,564	15,603
908.50	11,850	27.0	32	15,635
909.99	11,850	27.0	4,767	20,402
910.00	11,850	100.0	118	20,521
912.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	908.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	911.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	904.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.16 cfs @ 17.00 hrs HW=911.04' (Free Discharge)

↑**3=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=0.71 cfs @ 17.00 hrs HW=911.04' TW=0.00' (Dynamic Tailwater)

↑**1=4" Underdrain** (Orifice Controls 0.71 cfs @ 8.16 fps)

Secondary OutFlow Max=0.47 cfs @ 17.00 hrs HW=911.04' TW=0.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 0.47 cfs @ 0.44 fps)

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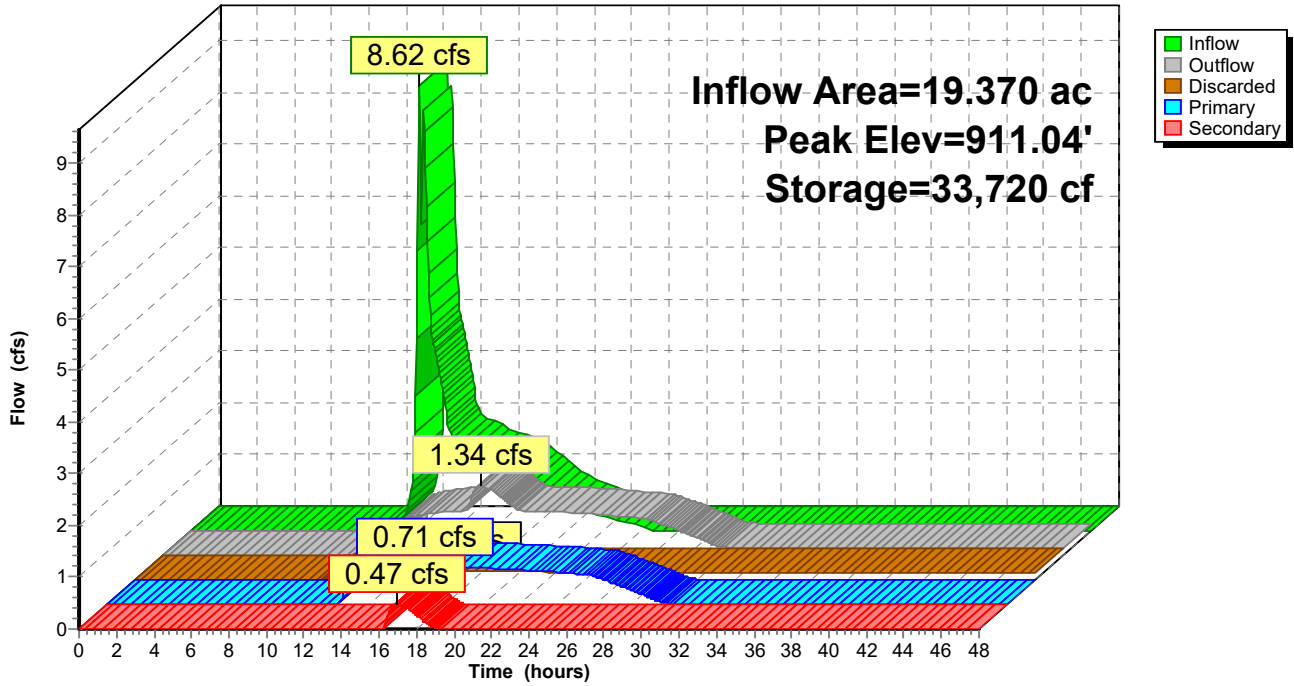
MSE 24-hr 4 2-Year Rainfall=2.84"

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Page 146

Pond BIO N: Bio N

Hydrograph



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Page 147

Summary for Pond BIO O: Bio O

Inflow Area = 6.570 ac, 61.49% Impervious, Inflow Depth = 1.34" for 2-Year event
 Inflow = 10.82 cfs @ 12.22 hrs, Volume= 0.731 af
 Outflow = 0.65 cfs @ 15.09 hrs, Volume= 0.686 af, Atten= 94%, Lag= 172.4 min
 Discarded = 0.14 cfs @ 11.55 hrs, Volume= 0.423 af
 Primary = 0.51 cfs @ 15.09 hrs, Volume= 0.263 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 908.65' @ 15.09 hrs Surf.Area= 11,850 sf Storage= 19,325 cf

Plug-Flow detention time= 662.9 min calculated for 0.686 af (94% of inflow)
 Center-of-Mass det. time= 633.2 min (1,465.1 - 831.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	903.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.50	11,850	0.0	0	0
903.51	11,850	33.0	39	39
907.49	11,850	33.0	15,564	15,603
907.50	11,850	27.0	32	15,635
908.99	11,850	27.0	4,767	20,402
909.00	11,850	100.0	118	20,521
911.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	910.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	903.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.14 cfs @ 11.55 hrs HW=903.58' (Free Discharge)

↳ **3=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=0.51 cfs @ 15.09 hrs HW=908.65' TW=0.00' (Dynamic Tailwater)

↳ **1=4" Underdrain** (Orifice Controls 0.51 cfs @ 5.87 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=903.50' TW=0.00' (Dynamic Tailwater)

↳ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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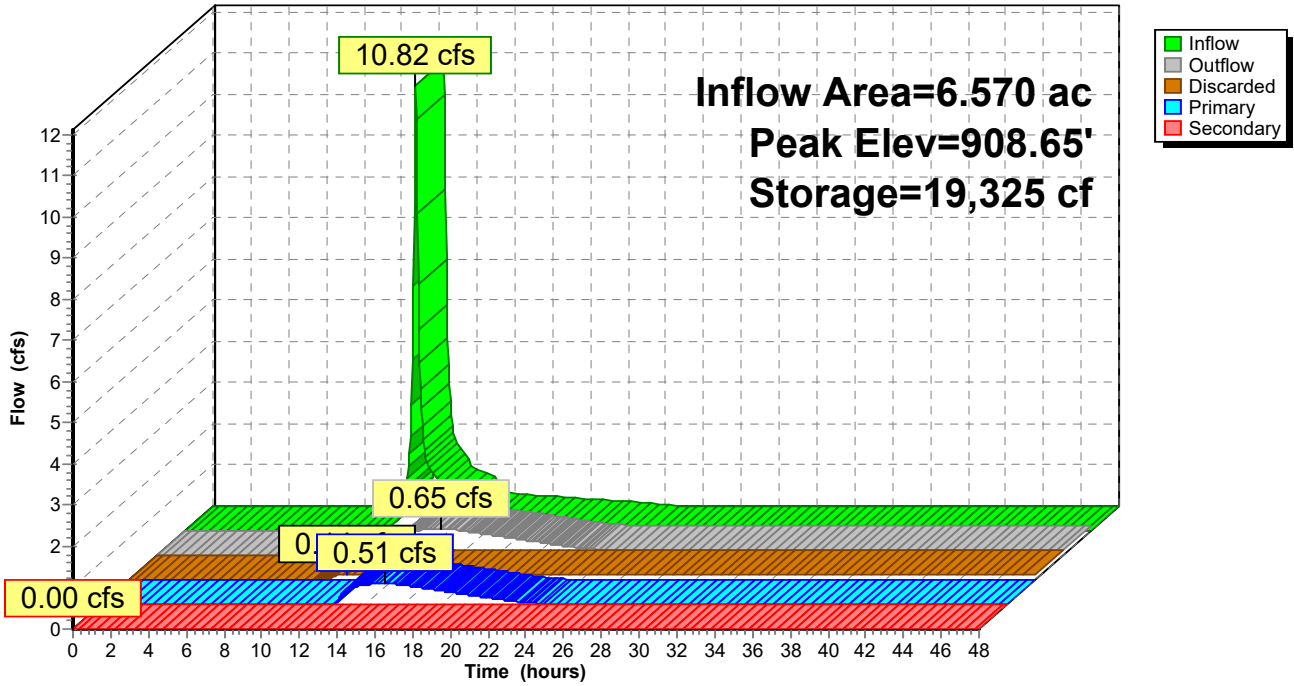
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Page 148

Pond BIO O: Bio O

Hydrograph



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Page 149

Summary for Pond Bio S: Bio S

Inflow Area = 2.440 ac, 70.49% Impervious, Inflow Depth = 1.60" for 2-Year event
 Inflow = 5.20 cfs @ 12.18 hrs, Volume= 0.325 af
 Outflow = 0.62 cfs @ 12.90 hrs, Volume= 0.311 af, Atten= 88%, Lag= 43.5 min
 Discarded = 0.05 cfs @ 12.90 hrs, Volume= 0.152 af
 Primary = 0.57 cfs @ 12.90 hrs, Volume= 0.159 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 923.04' @ 12.90 hrs Surf.Area= 4,134 sf Storage= 7,271 cf

Plug-Flow detention time= 498.4 min calculated for 0.310 af (95% of inflow)
 Center-of-Mass det. time= 475.8 min (1,290.8 - 815.0)

Volume	Invert	Avail.Storage	Storage Description
#1	917.50'	42,501 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.50	4,115	0.0	0	0
917.51	4,115	33.0	14	14
921.49	4,115	33.0	5,405	5,418
921.50	4,115	27.0	11	5,429
922.99	4,115	27.0	1,655	7,085
923.00	4,115	100.0	41	7,126
925.00	5,210	100.0	9,325	16,451
930.00	5,210	100.0	26,050	42,501

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.90' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.75'	36.0" Horiz. 36" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	924.50'	5.0' long + 4.0' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 150

Discarded OutFlow Max=0.05 cfs @ 12.90 hrs HW=923.04' (Free Discharge)

↳5=Exfiltration (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.57 cfs @ 12.90 hrs HW=923.04' TW=0.00' (Dynamic Tailwater)

↳1=18" Outlet Pipe (Passes 0.57 cfs of 9.35 cfs potential flow)

↳2=4" Underdrain (Orifice Controls 0.57 cfs @ 6.58 fps)

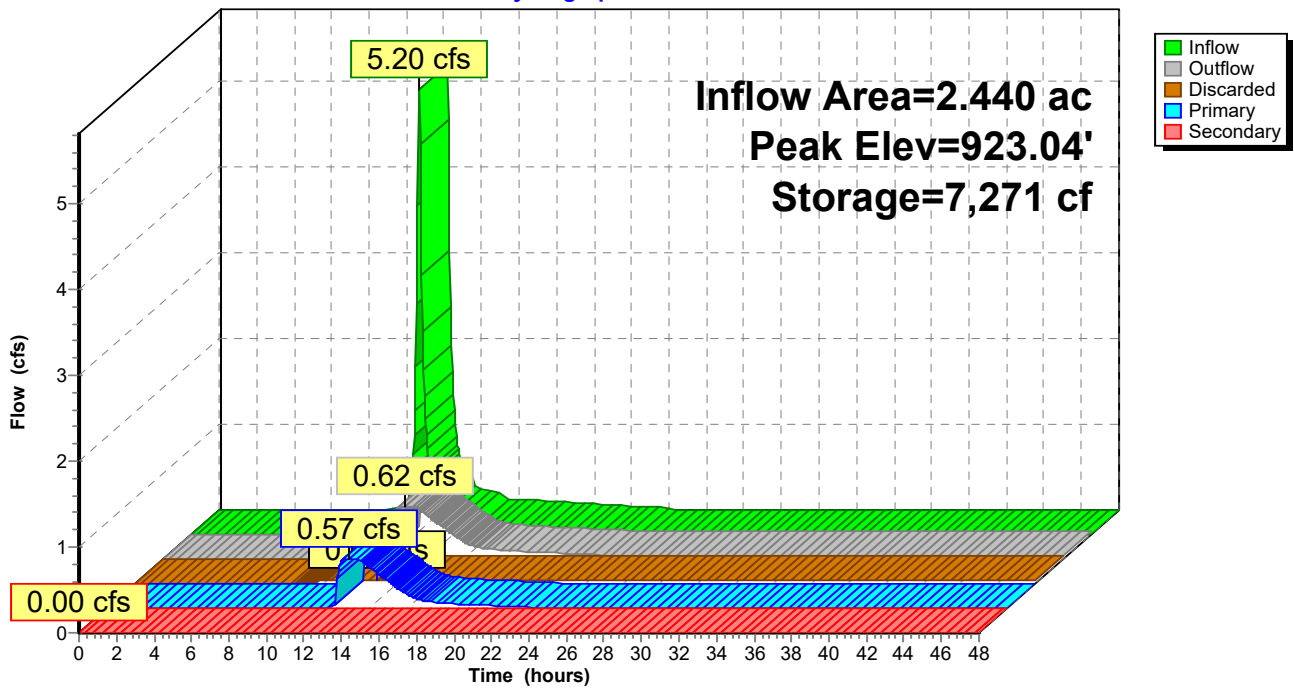
↳3=36" Riser (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=917.50' TW=0.00' (Dynamic Tailwater)

↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond Bio S: Bio S

Hydrograph



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Page 151

Summary for Pond Bio X: Bio X

Inflow Area = 7.200 ac, 37.78% Impervious, Inflow Depth = 1.10" for 2-Year event
 Inflow = 9.51 cfs @ 12.19 hrs, Volume= 0.658 af
 Outflow = 0.87 cfs @ 13.53 hrs, Volume= 0.635 af, Atten= 91%, Lag= 80.2 min
 Discarded = 0.08 cfs @ 13.53 hrs, Volume= 0.204 af
 Primary = 0.79 cfs @ 13.53 hrs, Volume= 0.431 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 948.96' @ 13.53 hrs Surf.Area= 0.151 ac Storage= 0.349 af

Plug-Flow detention time= 399.1 min calculated for 0.635 af (96% of inflow)
 Center-of-Mass det. time= 379.7 min (1,211.1 - 831.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	942.50'	3.327 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
942.50	0.125	0.0	0.000	0.000
942.51	0.125	33.0	0.000	0.000
946.49	0.125	33.0	0.164	0.165
946.50	0.125	27.0	0.000	0.165
947.99	0.125	27.0	0.050	0.215
948.00	0.125	100.0	0.001	0.216
949.00	0.152	100.0	0.138	0.355
950.00	0.181	100.0	0.166	0.521
951.00	0.225	100.0	0.203	0.724
952.00	0.293	100.0	0.259	0.983
960.00	0.293	100.0	2.344	3.327

Device	Routing	Invert	Outlet Devices
#1	Primary	946.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 946.00' / 945.90' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	946.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	948.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	950.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	951.75'	5.0' long + 4.0' /' SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	942.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 152

Discarded OutFlow Max=0.08 cfs @ 13.53 hrs HW=948.96' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.79 cfs @ 13.53 hrs HW=948.96' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 0.79 cfs of 14.64 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.70 cfs @ 8.04 fps)

↳ **3=4" Orifice** (Orifice Controls 0.09 cfs @ 1.55 fps)

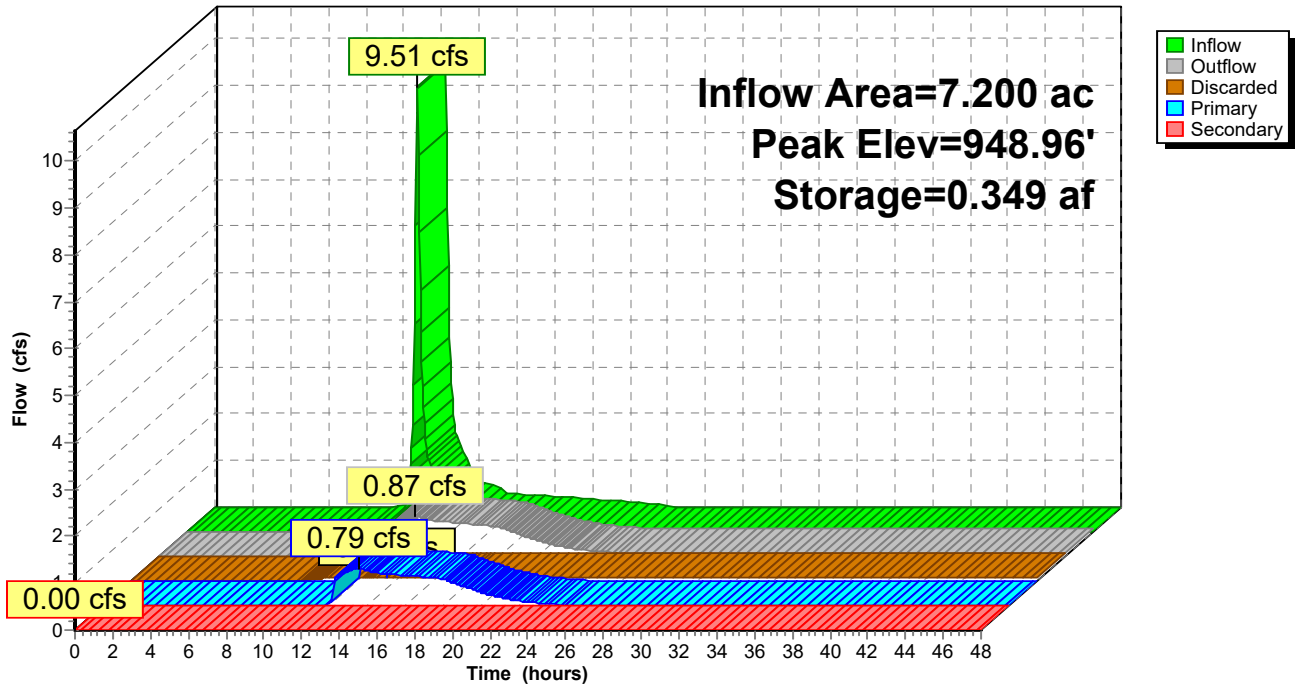
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=942.50' TW=0.00' (Dynamic Tailwater)

↳ **5=Weir** (Controls 0.00 cfs)

Pond Bio X: Bio X

Hydrograph



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Page 153

Summary for Pond IP A: Infil A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth > 1.00" for 2-Year event
 Inflow = 3.64 cfs @ 14.23 hrs, Volume= 3.311 af
 Outflow = 1.44 cfs @ 20.41 hrs, Volume= 3.198 af, Atten= 60%, Lag= 370.7 min
 Discarded = 0.25 cfs @ 20.41 hrs, Volume= 0.664 af
 Primary = 1.20 cfs @ 20.41 hrs, Volume= 2.533 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 923.16' @ 20.41 hrs Surf.Area= 0.491 ac Storage= 1.024 af

Plug-Flow detention time= 424.9 min calculated for 3.194 af (96% of inflow)
 Center-of-Mass det. time= 378.9 min (1,701.2 - 1,322.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	5.281 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
920.00	0.364	0.0	0.000	0.000
920.01	0.364	27.0	0.001	0.001
920.99	0.364	27.0	0.096	0.097
921.00	0.364	100.0	0.004	0.101
926.00	0.657	100.0	2.552	2.653
930.00	0.657	100.0	2.628	5.281

Device	Routing	Invert	Outlet Devices
#1	Primary	920.00'	36.0" Round 36" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 920.00' / 919.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	920.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.00'	5.0' long + 4.0 1/1' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 154

Discarded OutFlow Max=0.25 cfs @ 20.41 hrs HW=923.16' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.25 cfs)

Primary OutFlow Max=1.20 cfs @ 20.41 hrs HW=923.16' TW=911.41' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 1.20 cfs of 41.42 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.73 cfs @ 8.33 fps)

↳ **3=4" Orifice** (Orifice Controls 0.47 cfs @ 5.37 fps)

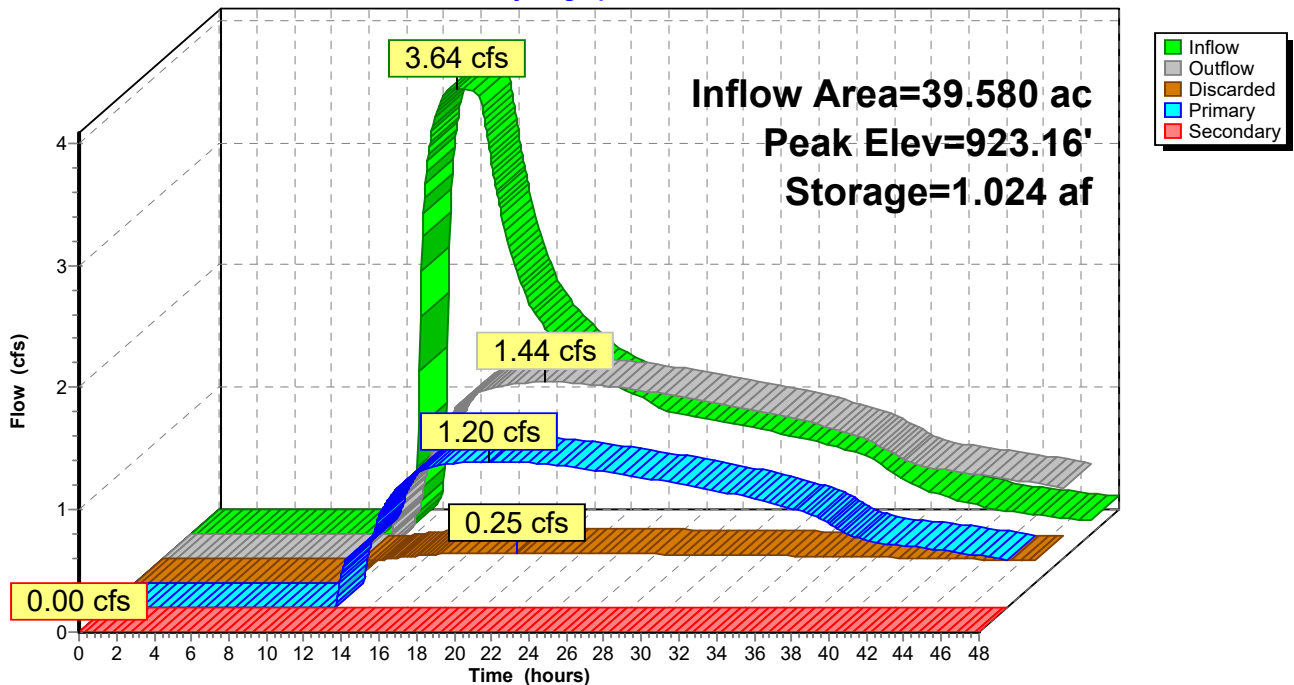
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=920.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP A: Infil A

Hydrograph



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Page 155

Summary for Pond IP B: Infil B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth > 0.73" for 2-Year event
 Inflow = 8.50 cfs @ 12.52 hrs, Volume= 5.495 af
 Outflow = 4.11 cfs @ 15.35 hrs, Volume= 5.056 af, Atten= 52%, Lag= 169.7 min
 Discarded = 0.55 cfs @ 15.35 hrs, Volume= 1.601 af
 Primary = 3.56 cfs @ 15.35 hrs, Volume= 3.455 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 910.68' @ 15.35 hrs Surf.Area= 1.095 ac Storage= 0.980 af

Plug-Flow detention time= 303.9 min calculated for 5.056 af (92% of inflow)
 Center-of-Mass det. time= 196.2 min (1,537.4 - 1,341.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	909.00'	13.525 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
909.00	0.990	0.0	0.000	0.000
909.01	0.990	27.0	0.003	0.003
909.99	0.990	27.0	0.262	0.265
910.00	0.990	100.0	0.010	0.275
914.00	1.610	100.0	5.200	5.475
919.00	1.610	100.0	8.050	13.525

Device	Routing	Invert	Outlet Devices
#1	Primary	909.00'	36.0" Round 36" Outlet Pipe L= 380.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 909.00' / 908.00' S= 0.0026 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	909.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	910.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Discarded	909.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.55 cfs @ 15.35 hrs HW=910.68' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.55 cfs)

Primary OutFlow Max=3.56 cfs @ 15.35 hrs HW=910.68' TW=0.00' (Dynamic Tailwater)
 ↳1=36" Outlet Pipe (Passes 3.56 cfs of 14.32 cfs potential flow)
 ↳2=4" Underdrain (Orifice Controls 0.52 cfs @ 5.92 fps)
 ↳3=48" Riser (Weir Controls 3.04 cfs @ 1.37 fps)

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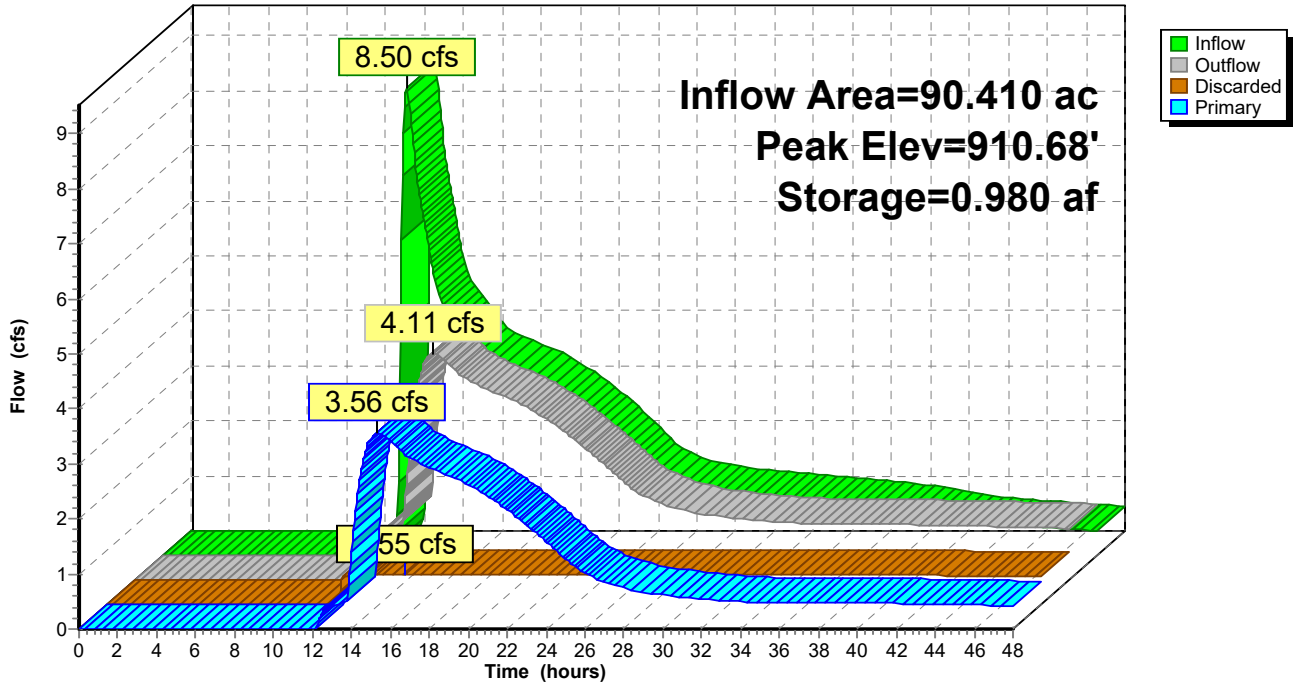
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Page 156

Pond IP B: Infil B

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Page 157

Summary for Pond IP C: IP C

Inflow Area = 3.690 ac, 76.69% Impervious, Inflow Depth = 1.76" for 2-Year event
 Inflow = 8.57 cfs @ 12.18 hrs, Volume= 0.540 af
 Outflow = 1.02 cfs @ 12.86 hrs, Volume= 0.540 af, Atten= 88%, Lag= 41.2 min
 Discarded = 0.08 cfs @ 12.86 hrs, Volume= 0.107 af
 Primary = 0.94 cfs @ 12.86 hrs, Volume= 0.433 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 935.62' @ 12.86 hrs Surf.Area= 7,104 sf Storage= 11,765 cf

Plug-Flow detention time= 179.7 min calculated for 0.539 af (100% of inflow)
 Center-of-Mass det. time= 180.1 min (988.4 - 808.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	932.00'	23,322 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
932.00	4,165	0.0	0	0
932.01	4,165	33.0	14	14
933.49	4,165	33.0	2,034	2,048
933.50	4,165	27.0	11	2,059
933.99	4,165	27.0	551	2,610
934.00	4,165	100.0	42	2,652
937.00	9,615	100.0	20,670	23,322

Device	Routing	Invert	Outlet Devices
#1	Primary	933.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 933.00' / 932.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	933.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	936.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	936.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	932.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 158

Discarded OutFlow Max=0.08 cfs @ 12.86 hrs HW=935.62' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.94 cfs @ 12.86 hrs HW=935.62' TW=923.26' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 0.94 cfs of 12.18 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.66 cfs @ 7.54 fps)

↳ **3=4" Orifice** (Orifice Controls 0.28 cfs @ 3.23 fps)

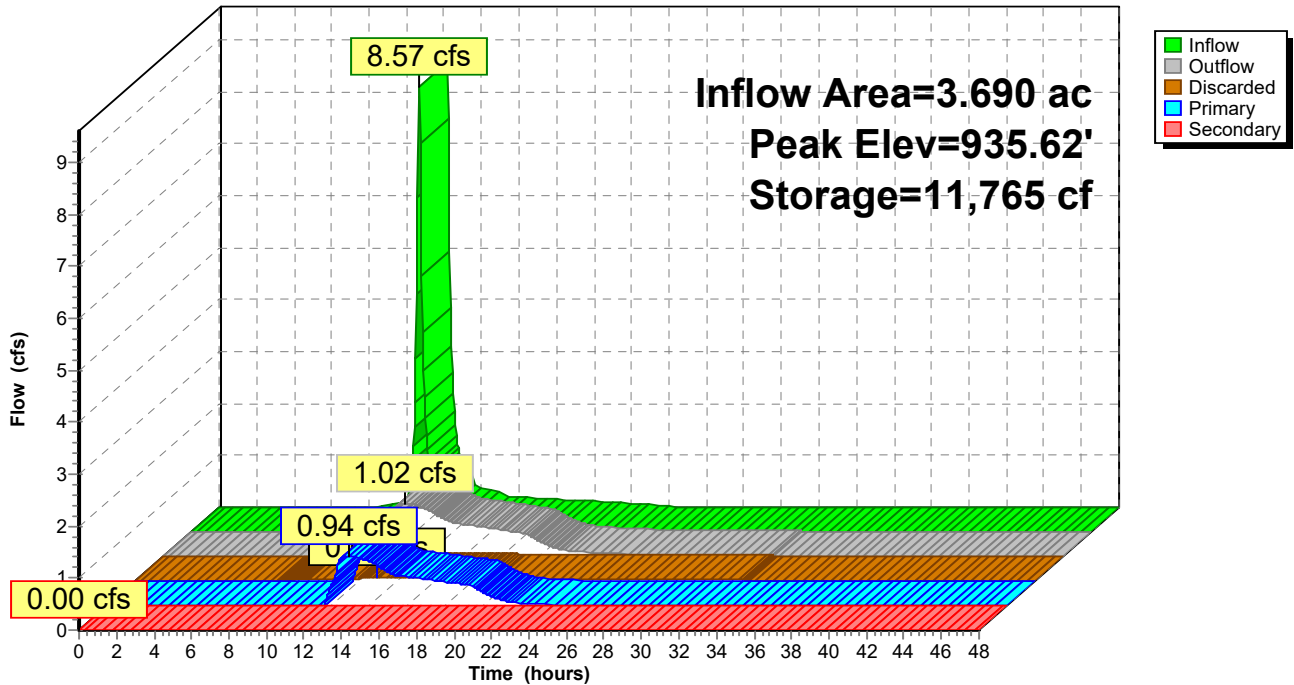
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=932.00' TW=922.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP C: IP C

Hydrograph



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Page 159

Summary for Pond IP D: IP D

Inflow Area = 3.790 ac, 63.59% Impervious, Inflow Depth = 1.45" for 2-Year event
 Inflow = 7.37 cfs @ 12.18 hrs, Volume= 0.459 af
 Outflow = 0.84 cfs @ 13.02 hrs, Volume= 0.459 af, Atten= 89%, Lag= 50.7 min
 Discarded = 0.08 cfs @ 13.02 hrs, Volume= 0.102 af
 Primary = 0.76 cfs @ 13.02 hrs, Volume= 0.358 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 936.29' @ 13.02 hrs Surf.Area= 6,689 sf Storage= 9,827 cf

Plug-Flow detention time= 184.4 min calculated for 0.459 af (100% of inflow)
 Center-of-Mass det. time= 184.3 min (1,005.6 - 821.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	933.00'	23,947 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
933.00	4,285	0.0	0	0
933.01	4,285	33.0	14	14
934.49	4,285	33.0	2,093	2,107
934.50	4,285	27.0	12	2,119
934.99	4,285	27.0	567	2,685
935.00	4,285	100.0	43	2,728
938.00	9,861	100.0	21,219	23,947

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	937.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	933.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 160

Discarded OutFlow Max=0.08 cfs @ 13.02 hrs HW=936.29' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.76 cfs @ 13.02 hrs HW=936.29' TW=923.31' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 0.76 cfs of 10.64 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.61 cfs @ 7.02 fps)

↳ **3=4" Orifice** (Orifice Controls 0.15 cfs @ 1.84 fps)

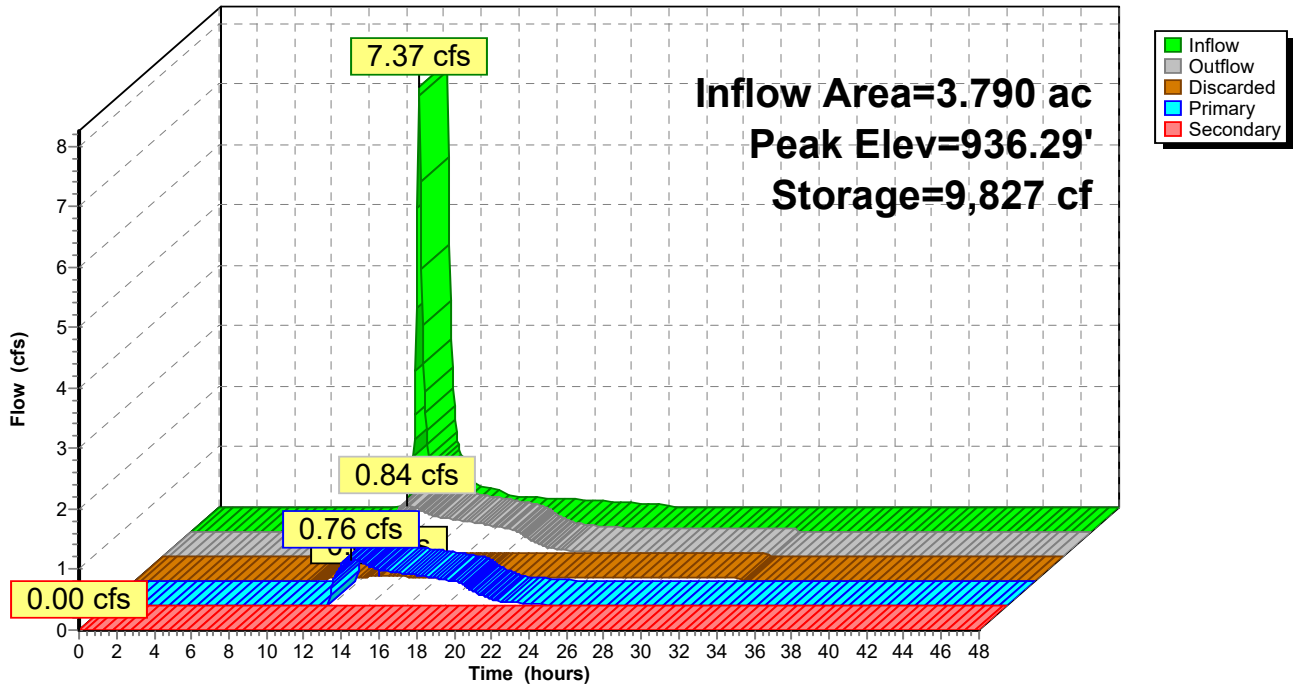
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=933.00' TW=922.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP D: IP D

Hydrograph



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Page 161

Summary for Pond IP E: IP E

Inflow Area = 3.830 ac, 62.92% Impervious, Inflow Depth = 1.39" for 2-Year event
 Inflow = 7.09 cfs @ 12.18 hrs, Volume= 0.442 af
 Outflow = 0.76 cfs @ 13.15 hrs, Volume= 0.442 af, Atten= 89%, Lag= 58.1 min
 Discarded = 0.08 cfs @ 13.15 hrs, Volume= 0.104 af
 Primary = 0.68 cfs @ 13.15 hrs, Volume= 0.338 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 930.20' @ 13.15 hrs Surf.Area= 6,525 sf Storage= 9,527 cf

Plug-Flow detention time= 191.3 min calculated for 0.442 af (100% of inflow)
 Center-of-Mass det. time= 191.2 min (1,015.5 - 824.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	927.00'	23,960 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
927.00	4,541	0.0	0	0
927.01	4,541	33.0	15	15
928.49	4,541	33.0	2,218	2,233
928.50	4,541	27.0	12	2,245
928.99	4,541	27.0	601	2,846
929.00	4,541	100.0	45	2,891
932.00	9,505	100.0	21,069	23,960

Device	Routing	Invert	Outlet Devices
#1	Primary	928.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 928.00' / 927.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	928.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	930.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	931.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	931.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	927.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 162

Discarded OutFlow Max=0.08 cfs @ 13.15 hrs HW=930.20' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.68 cfs @ 13.15 hrs HW=930.20' TW=911.64' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 0.68 cfs of 7.56 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.60 cfs @ 6.86 fps)

↳ **3=4" Orifice** (Orifice Controls 0.08 cfs @ 1.52 fps)

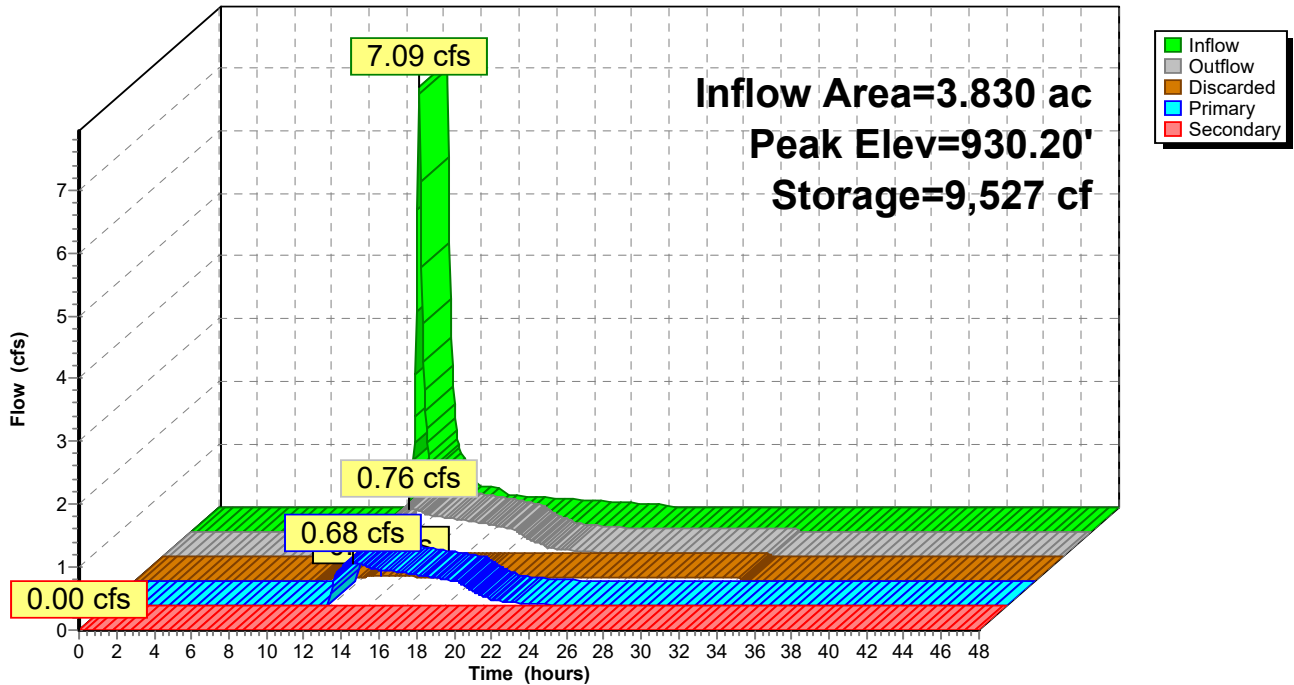
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=927.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP E: IP E

Hydrograph



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Page 163

Summary for Pond IP F: IP F

Inflow Area = 4.440 ac, 71.62% Impervious, Inflow Depth = 1.68" for 2-Year event
 Inflow = 9.89 cfs @ 12.18 hrs, Volume= 0.620 af
 Outflow = 0.70 cfs @ 13.53 hrs, Volume= 0.620 af, Atten= 93%, Lag= 81.2 min
 Discarded = 0.13 cfs @ 13.53 hrs, Volume= 0.200 af
 Primary = 0.57 cfs @ 13.53 hrs, Volume= 0.420 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 926.02' @ 13.53 hrs Surf.Area= 10,982 sf Storage= 15,140 cf

Plug-Flow detention time= 275.9 min calculated for 0.620 af (100% of inflow)
 Center-of-Mass det. time= 276.1 min (1,087.9 - 811.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	923.00'	41,988 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
923.00	8,293	0.0	0	0
923.01	8,293	33.0	27	27
924.49	8,293	33.0	4,050	4,078
924.50	8,293	27.0	22	4,100
924.99	8,293	27.0	1,097	5,197
925.00	8,293	100.0	83	5,280
928.00	16,179	100.0	36,708	41,988

Device	Routing	Invert	Outlet Devices
#1	Primary	924.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 924.00' / 923.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	924.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	926.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	927.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	927.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	923.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 164

Discarded OutFlow Max=0.13 cfs @ 13.53 hrs HW=926.02' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.57 cfs @ 13.53 hrs HW=926.02' TW=911.60' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 0.57 cfs of 6.98 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.57 cfs @ 6.56 fps)

↳ **3=4" Orifice** (Orifice Controls 0.00 cfs @ 0.52 fps)

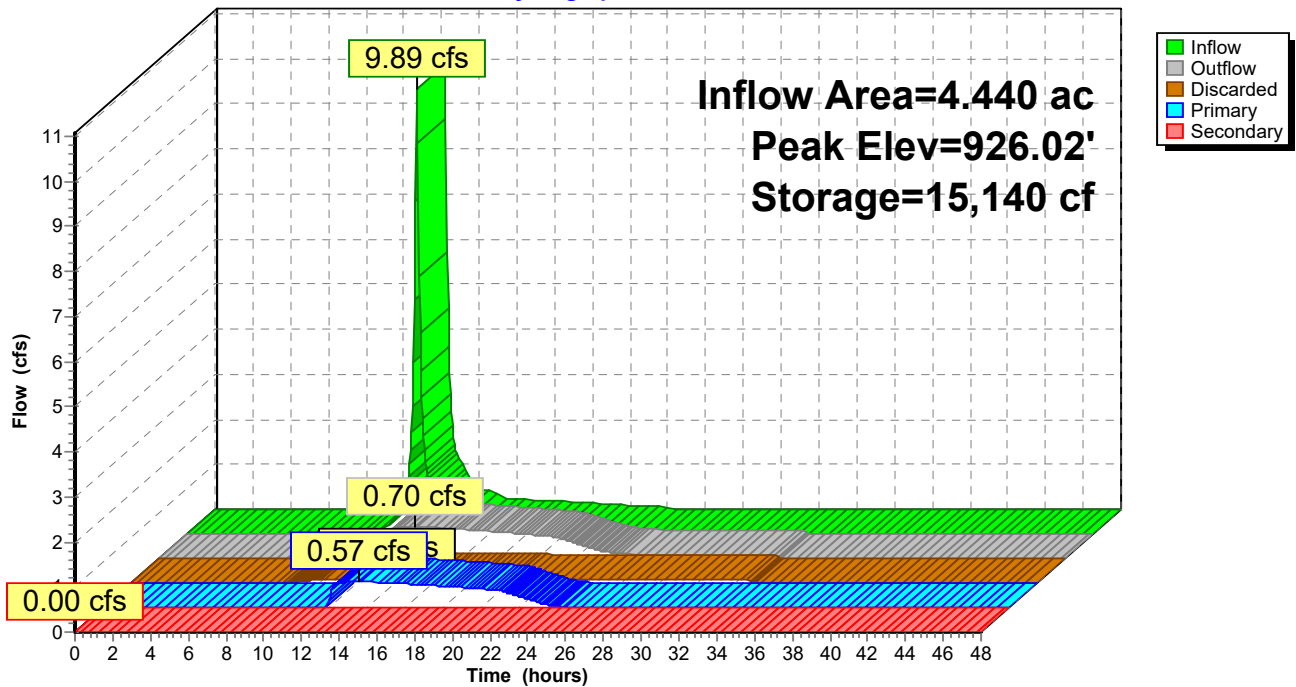
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=923.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP F: IP F

Hydrograph



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Page 165

Summary for Pond IP G: IP G

Inflow Area = 4.310 ac, 70.53% Impervious, Inflow Depth = 1.60" for 2-Year event
 Inflow = 9.19 cfs @ 12.18 hrs, Volume= 0.575 af
 Outflow = 0.67 cfs @ 13.52 hrs, Volume= 0.575 af, Atten= 93%, Lag= 80.5 min
 Discarded = 0.13 cfs @ 13.52 hrs, Volume= 0.203 af
 Primary = 0.54 cfs @ 13.52 hrs, Volume= 0.372 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.82' @ 13.52 hrs Surf.Area= 11,346 sf Storage= 13,807 cf

Plug-Flow detention time= 269.5 min calculated for 0.574 af (100% of inflow)
 Center-of-Mass det. time= 269.7 min (1,084.8 - 815.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	46,073 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
920.00	8,741	0.0	0	0
920.01	8,741	33.0	29	29
921.49	8,741	33.0	4,269	4,298
921.50	8,741	27.0	24	4,322
921.99	8,741	27.0	1,156	5,478
922.00	8,741	100.0	87	5,565
925.00	18,264	100.0	40,508	46,073

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	924.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 166

Discarded OutFlow Max=0.13 cfs @ 13.52 hrs HW=922.82' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.54 cfs @ 13.52 hrs HW=922.82' TW=911.60' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 0.54 cfs of 6.25 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.54 cfs @ 6.19 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

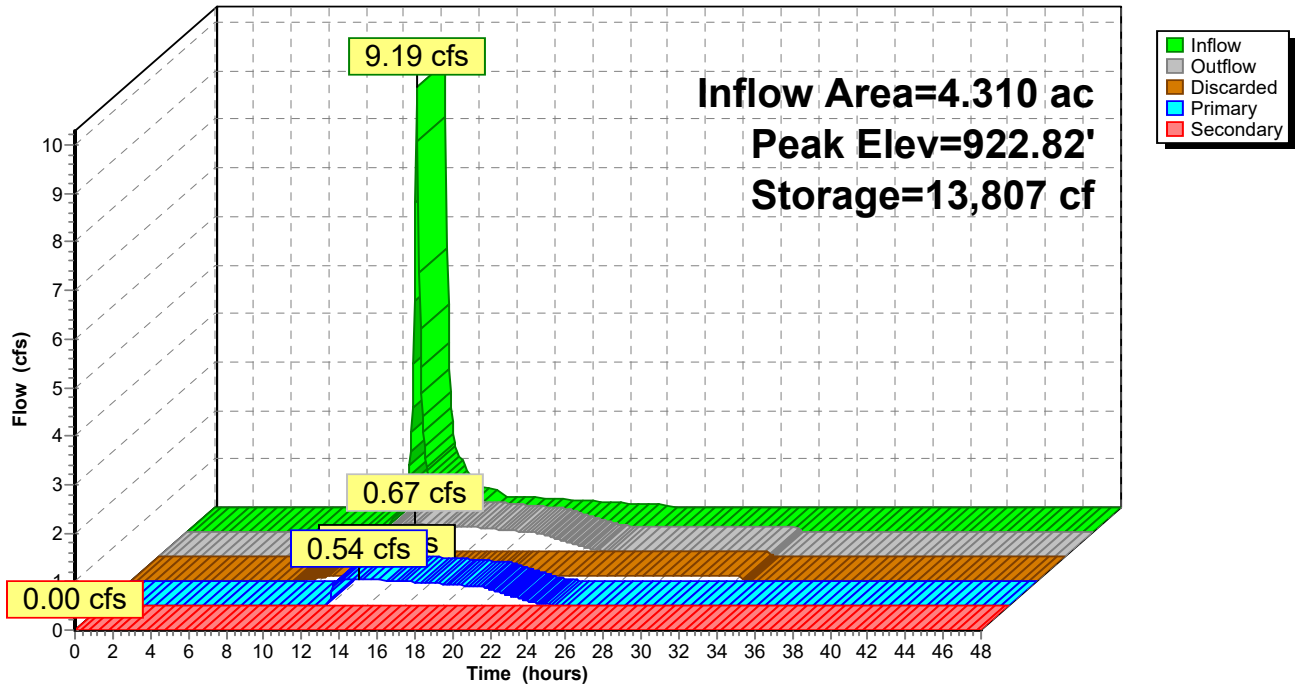
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=920.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP G: IP G

Hydrograph



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Page 167

Summary for Pond IP H: IP H

Inflow Area = 2.410 ac, 70.54% Impervious, Inflow Depth = 1.60" for 2-Year event
 Inflow = 5.14 cfs @ 12.18 hrs, Volume= 0.321 af
 Outflow = 1.44 cfs @ 12.49 hrs, Volume= 0.321 af, Atten= 72%, Lag= 18.6 min
 Discarded = 0.03 cfs @ 12.49 hrs, Volume= 0.030 af
 Primary = 1.41 cfs @ 12.49 hrs, Volume= 0.291 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.28' @ 12.49 hrs Surf.Area= 2,578 sf Storage= 5,139 cf

Plug-Flow detention time= 71.8 min calculated for 0.321 af (100% of inflow)
 Center-of-Mass det. time= 72.2 min (887.2 - 815.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	921.00'	7,143 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
921.00	1,237	0.0	0	0
921.01	1,237	33.0	4	4
922.49	1,237	33.0	604	608
922.50	1,237	27.0	3	612
922.99	1,237	27.0	164	775
923.00	1,237	100.0	12	788
926.00	3,000	100.0	6,356	7,143

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	922.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	924.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	921.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 168

Discarded OutFlow Max=0.03 cfs @ 12.49 hrs HW=925.28' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=1.40 cfs @ 12.49 hrs HW=925.28' TW=911.73' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 1.40 cfs of 10.43 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.74 cfs @ 8.50 fps)

↳ **3=4" Orifice** (Orifice Controls 0.44 cfs @ 5.08 fps)

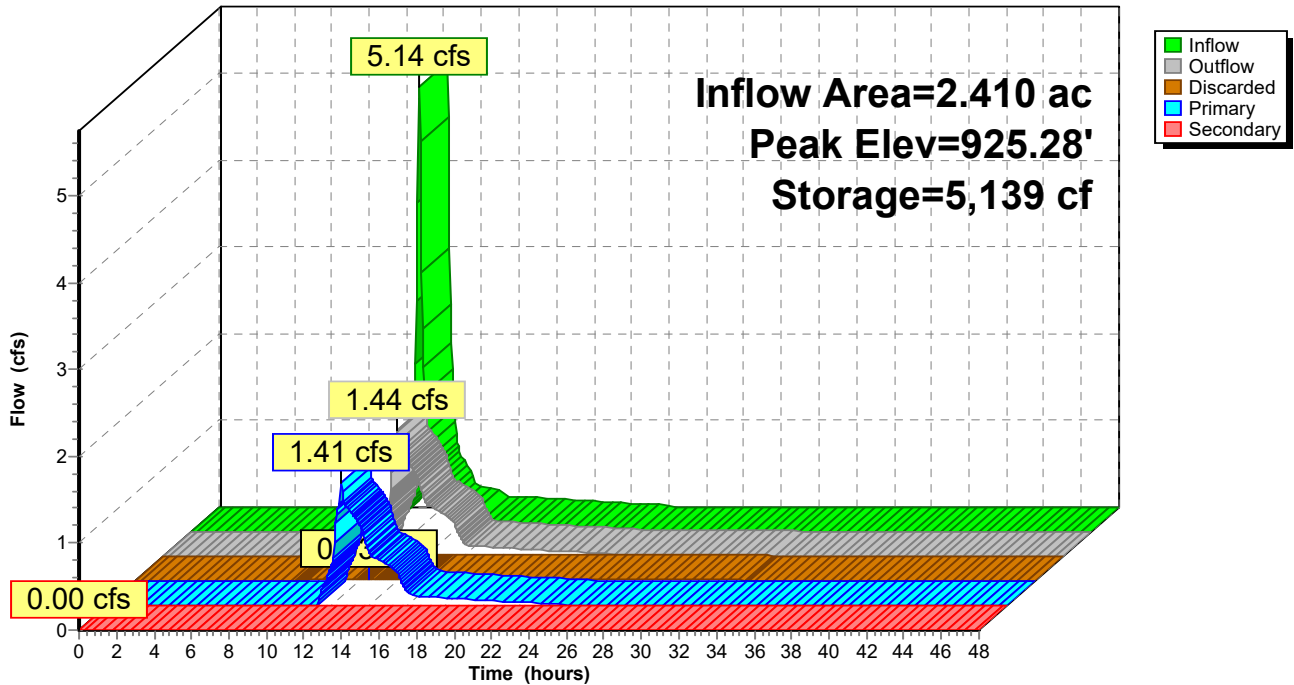
↳ **4=48" Riser** (Weir Controls 0.22 cfs @ 0.57 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=921.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP H: IP H

Hydrograph



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Page 169

Summary for Pond IP L: Inf L

Inflow Area = 2.260 ac, 68.14% Impervious, Inflow Depth = 1.53" for 2-Year event
 Inflow = 4.60 cfs @ 12.18 hrs, Volume= 0.287 af
 Outflow = 4.03 cfs @ 12.25 hrs, Volume= 0.287 af, Atten= 12%, Lag= 4.3 min
 Discarded = 0.03 cfs @ 12.25 hrs, Volume= 0.030 af
 Primary = 4.00 cfs @ 12.25 hrs, Volume= 0.257 af
 Routed to Pond BIO O : Bio O
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond BIO O : Bio O

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 920.19' @ 12.25 hrs Surf.Area= 2,474 sf Storage= 3,024 cf

Plug-Flow detention time= 61.8 min calculated for 0.287 af (100% of inflow)
 Center-of-Mass det. time= 62.3 min (880.5 - 818.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	917.00'	5,362 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.00	1,260	0.0	0	0
917.01	1,260	33.0	4	4
918.49	1,260	33.0	615	620
918.50	1,260	27.0	3	623
918.99	1,260	27.0	167	790
919.00	1,260	100.0	13	802
921.00	3,300	100.0	4,560	5,362

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	918.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	920.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 170

Discarded OutFlow Max=0.03 cfs @ 12.25 hrs HW=920.19' (Free Discharge)

↳5=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=3.99 cfs @ 12.25 hrs HW=920.19' TW=905.66' (Dynamic Tailwater)

↳1=18" Outlet Pipe (Passes 3.99 cfs of 10.09 cfs potential flow)

↳2=4" Underdrain (Orifice Controls 0.60 cfs @ 6.85 fps)

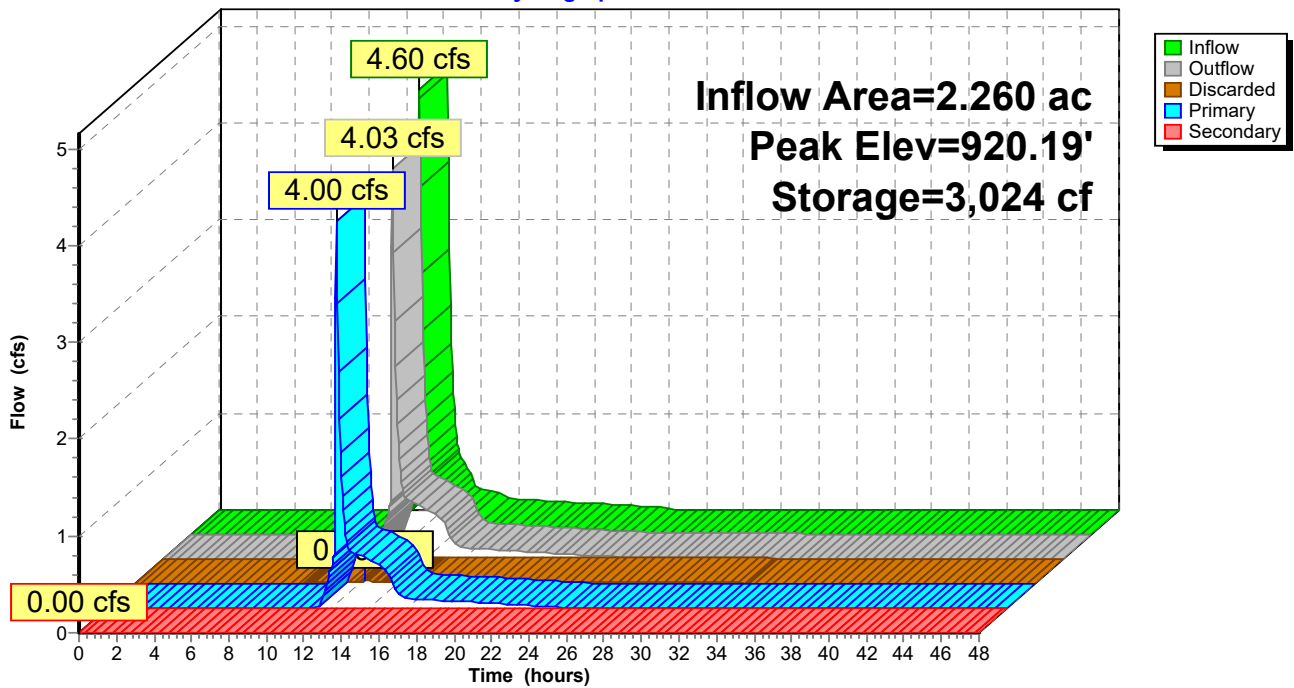
↳3=48" Riser (Weir Controls 3.39 cfs @ 1.42 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=917.00' TW=903.50' (Dynamic Tailwater)

↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond IP L: Inf L

Hydrograph



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Page 171

Summary for Pond IP M: Inf M

Inflow Area = 1.090 ac, 60.55% Impervious, Inflow Depth = 1.39" for 2-Year event
 Inflow = 2.02 cfs @ 12.18 hrs, Volume= 0.126 af
 Outflow = 0.45 cfs @ 12.57 hrs, Volume= 0.126 af, Atten= 78%, Lag= 23.3 min
 Discarded = 0.03 cfs @ 12.57 hrs, Volume= 0.055 af
 Primary = 0.41 cfs @ 12.57 hrs, Volume= 0.071 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 927.14' @ 12.57 hrs Surf.Area= 2,958 sf Storage= 2,186 cf

Plug-Flow detention time= 175.7 min calculated for 0.126 af (100% of inflow)
 Center-of-Mass det. time= 175.9 min (1,000.1 - 824.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	15,057 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
925.00	2,810	0.0	0	0
925.01	2,810	33.0	9	9
926.49	2,810	33.0	1,372	1,382
926.50	2,810	27.0	8	1,389
926.99	2,810	27.0	372	1,761
927.00	2,810	100.0	28	1,789
930.00	6,035	100.0	13,268	15,057

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	12.0" Round 12" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	928.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	929.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	929.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 172

Discarded OutFlow Max=0.03 cfs @ 12.57 hrs HW=927.14' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.41 cfs @ 12.57 hrs HW=927.14' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Passes 0.41 cfs of 2.91 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.41 cfs @ 4.74 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

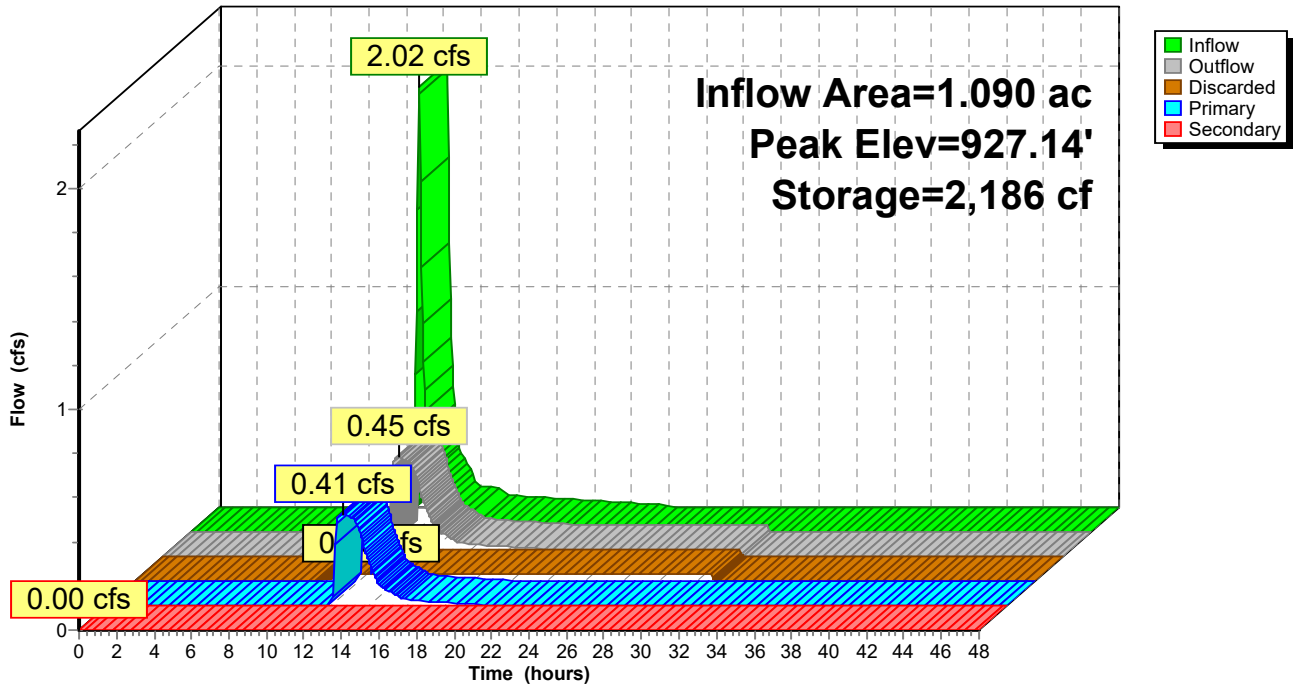
↳ **4=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=925.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP M: Inf M

Hydrograph



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Page 173

Summary for Pond IP P: Infil P

Inflow Area = 24.020 ac, 62.49% Impervious, Inflow Depth > 1.32" for 2-Year event
 Inflow = 7.45 cfs @ 12.79 hrs, Volume= 2.642 af
 Outflow = 1.45 cfs @ 19.69 hrs, Volume= 2.642 af, Atten= 81%, Lag= 414.4 min
 Discarded = 0.23 cfs @ 19.69 hrs, Volume= 0.484 af
 Primary = 1.22 cfs @ 19.69 hrs, Volume= 2.158 af
 Routed to Pond IP T : Infil T
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP T : Infil T

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 937.25' @ 19.69 hrs Surf.Area= 0.447 ac Storage= 0.854 af

Plug-Flow detention time= 360.0 min calculated for 2.642 af (100% of inflow)
 Center-of-Mass det. time= 360.0 min (1,481.0 - 1,121.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	934.00'	9.318 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
934.00	0.252	0.0	0.000	0.000
934.01	0.252	27.0	0.001	0.001
934.99	0.252	27.0	0.067	0.067
935.00	0.252	100.0	0.003	0.070
941.00	0.772	100.0	3.072	3.142
949.00	0.772	100.0	6.176	9.318

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	940.50'	5.0' long + 4.0' /' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	934.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 174

Discarded OutFlow Max=0.23 cfs @ 19.69 hrs HW=937.25' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=1.22 cfs @ 19.69 hrs HW=937.25' TW=927.82' (Dynamic Tailwater)

↳ **1=24" Outlet Pipe** (Passes 1.22 cfs of 24.29 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.74 cfs @ 8.45 fps)

↳ **3=4" Orifice** (Orifice Controls 0.48 cfs @ 5.55 fps)

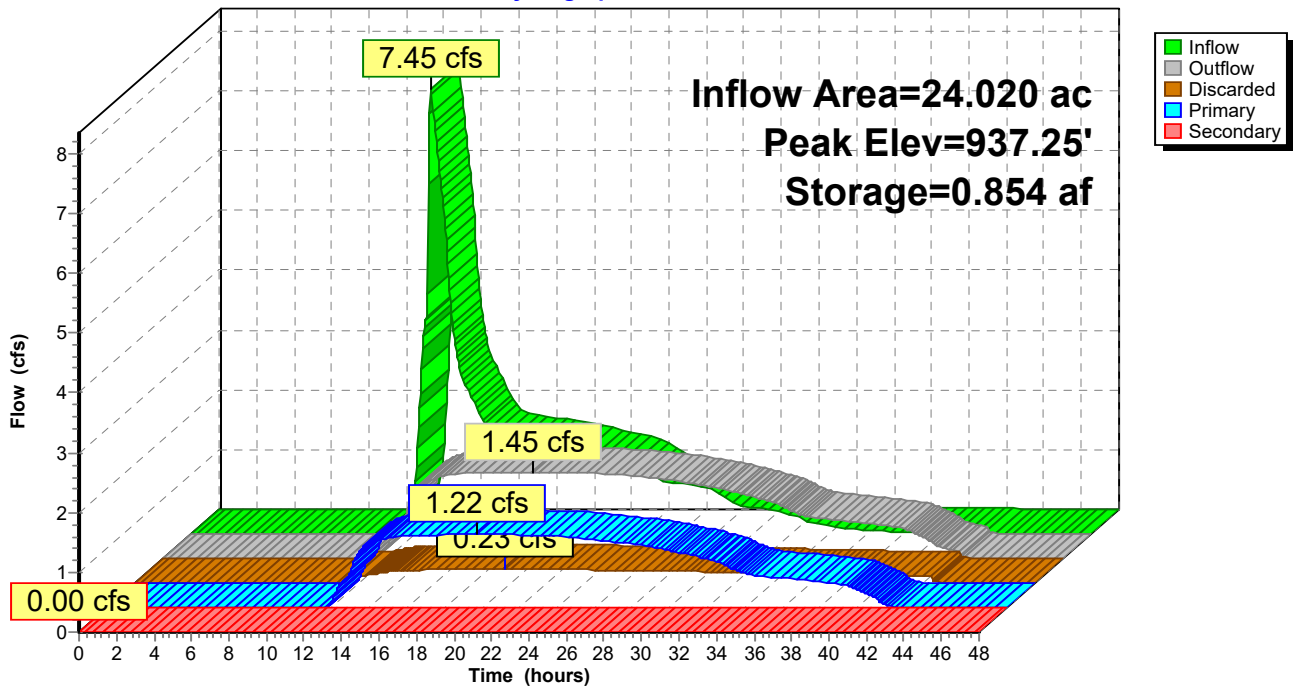
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=934.00' TW=925.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP P: Infil P

Hydrograph



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Page 175

Summary for Pond IP Q: Infil Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth = 1.48" for 2-Year event
 Inflow = 19.96 cfs @ 12.34 hrs, Volume= 1.788 af
 Outflow = 5.28 cfs @ 12.79 hrs, Volume= 1.788 af, Atten= 74%, Lag= 26.9 min
 Discarded = 0.10 cfs @ 12.79 hrs, Volume= 0.129 af
 Primary = 5.18 cfs @ 12.79 hrs, Volume= 1.659 af
 Routed to Pond IP P : Infil P
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 941.20' @ 12.79 hrs Surf.Area= 0.204 ac Storage= 0.514 af

Plug-Flow detention time= 153.3 min calculated for 1.788 af (100% of inflow)
 Center-of-Mass det. time= 153.3 min (1,083.4 - 930.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	937.00'	2.828 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
937.00	0.100	0.0	0.000	0.000
937.01	0.100	27.0	0.000	0.000
937.99	0.100	27.0	0.026	0.027
938.00	0.100	100.0	0.001	0.028
942.00	0.230	100.0	0.660	0.688
943.00	0.270	100.0	0.250	0.938
950.00	0.270	100.0	1.890	2.828

Device	Routing	Invert	Outlet Devices
#1	Primary	937.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 937.00' / 935.70' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	937.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	942.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	937.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 176

Discarded OutFlow Max=0.10 cfs @ 12.79 hrs HW=941.20' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=5.17 cfs @ 12.79 hrs HW=941.20' TW=935.52' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 5.17 cfs of 56.16 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.84 cfs @ 9.67 fps)

↳ **3=4" Orifice** (Orifice Controls 0.64 cfs @ 7.28 fps)

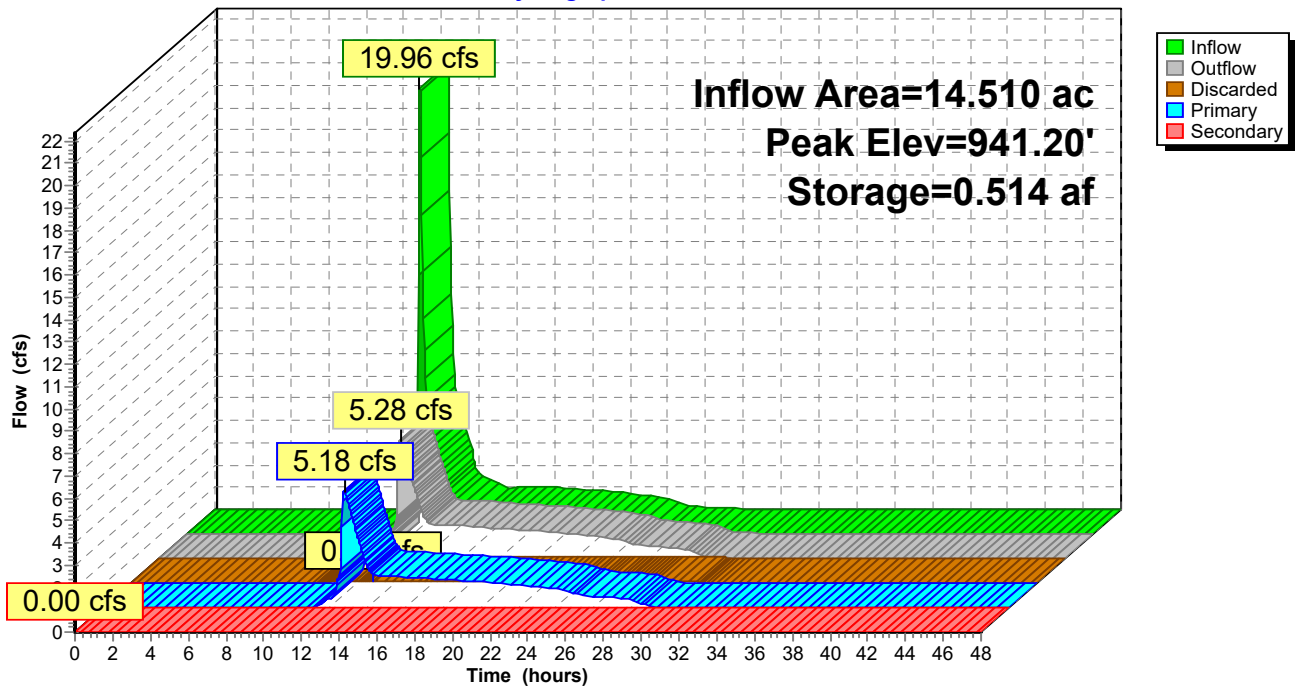
↳ **4=48" Riser** (Weir Controls 3.69 cfs @ 1.46 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=937.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP Q: Infil Q

Hydrograph



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Page 177

Summary for Pond IP T: Infil T

Inflow Area = 26.270 ac, 63.11% Impervious, Inflow Depth = 1.12" for 2-Year event
 Inflow = 5.02 cfs @ 12.18 hrs, Volume= 2.458 af
 Outflow = 4.97 cfs @ 12.22 hrs, Volume= 2.455 af, Atten= 1%, Lag= 2.2 min
 Discarded = 0.03 cfs @ 12.22 hrs, Volume= 0.075 af
 Primary = 4.94 cfs @ 12.22 hrs, Volume= 2.380 af
 Routed to Pond WP U : Wet Pond U
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP U : Wet Pond U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 927.98' @ 12.22 hrs Surf.Area= 0.058 ac Storage= 0.063 af

Plug-Flow detention time= 36.4 min calculated for 2.452 af (100% of inflow)
 Center-of-Mass det. time= 35.2 min (1,419.9 - 1,384.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	2.143 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
925.00	0.031	0.0	0.000	0.000
925.01	0.031	33.0	0.000	0.000
926.49	0.031	33.0	0.015	0.015
926.50	0.031	27.0	0.000	0.015
926.99	0.031	27.0	0.004	0.019
927.00	0.031	100.0	0.000	0.020
930.00	0.115	100.0	0.219	0.239
931.00	0.240	100.0	0.177	0.416
932.00	0.189	100.0	0.214	0.631
940.00	0.189	100.0	1.512	2.143

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	18.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	927.75'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	931.50'	25.0' long + 4.0 1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 178

Discarded OutFlow Max=0.03 cfs @ 12.22 hrs HW=927.97' (Free Discharge)

↳5=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=4.70 cfs @ 12.22 hrs HW=927.97' TW=919.27' (Dynamic Tailwater)

↳1=36" Outlet Pipe (Passes 4.70 cfs of 9.10 cfs potential flow)

↳2=4" Underdrain (Orifice Controls 0.56 cfs @ 6.46 fps)

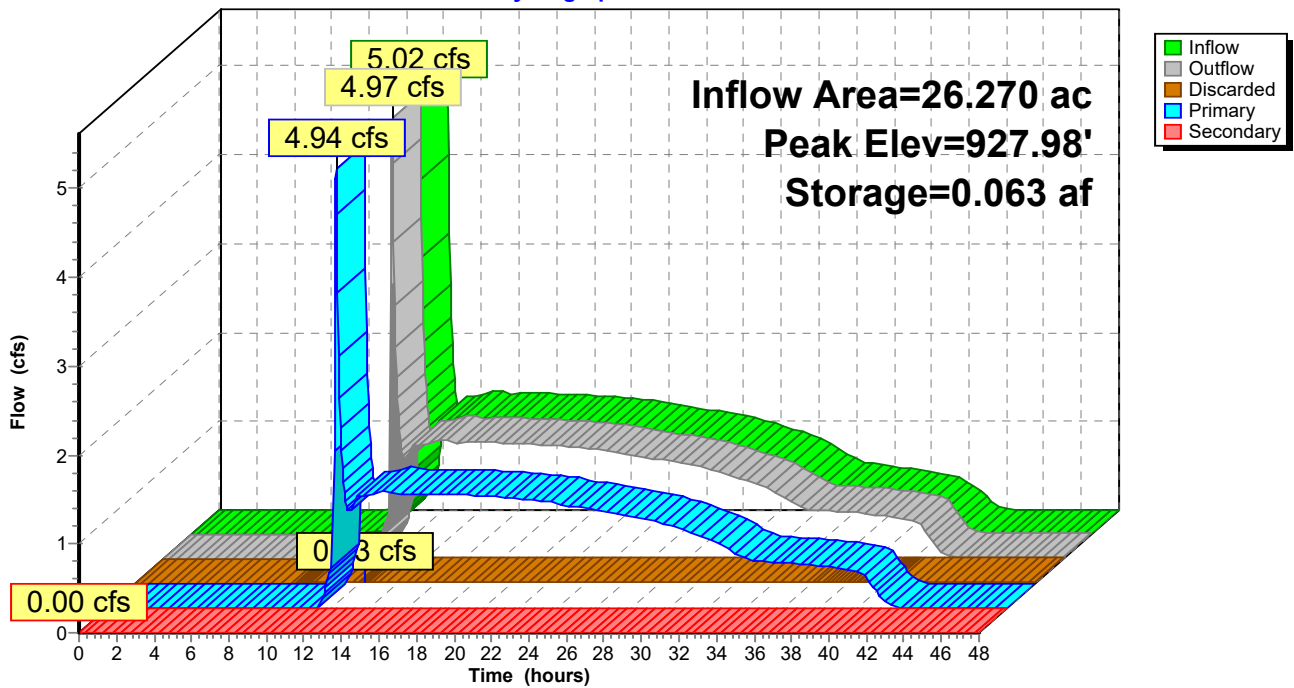
↳3=48" Riser (Weir Controls 4.14 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=925.00' TW=918.00' (Dynamic Tailwater)

↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond IP T: Infil T

Hydrograph



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Page 179

Summary for Pond IP U: Infil U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth > 1.14" for 2-Year event
 Inflow = 2.70 cfs @ 12.71 hrs, Volume= 3.004 af
 Outflow = 1.33 cfs @ 22.79 hrs, Volume= 3.004 af, Atten= 51%, Lag= 604.7 min
 Discarded = 0.12 cfs @ 22.79 hrs, Volume= 0.324 af
 Primary = 1.21 cfs @ 22.79 hrs, Volume= 2.680 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 919.21' @ 22.79 hrs Surf.Area= 0.245 ac Storage= 0.481 af

Plug-Flow detention time= 230.4 min calculated for 3.004 af (100% of inflow)
 Center-of-Mass det. time= 230.4 min (1,646.7 - 1,416.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	4.538 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
916.00	0.152	0.0	0.000	0.000
916.01	0.152	27.0	0.000	0.000
916.99	0.152	27.0	0.040	0.041
917.00	0.152	100.0	0.002	0.042
923.00	0.404	100.0	1.668	1.710
930.00	0.404	100.0	2.828	4.538

Device	Routing	Invert	Outlet Devices
#1	Primary	916.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 916.00' / 914.70' S= 0.0050 '/ S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	916.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	917.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	921.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	922.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 180

Discarded OutFlow Max=0.12 cfs @ 22.79 hrs HW=919.21' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=1.21 cfs @ 22.79 hrs HW=919.21' TW=0.00' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 1.21 cfs of 47.30 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.73 cfs @ 8.40 fps)

↳ **3=4" Orifice** (Orifice Controls 0.48 cfs @ 5.48 fps)

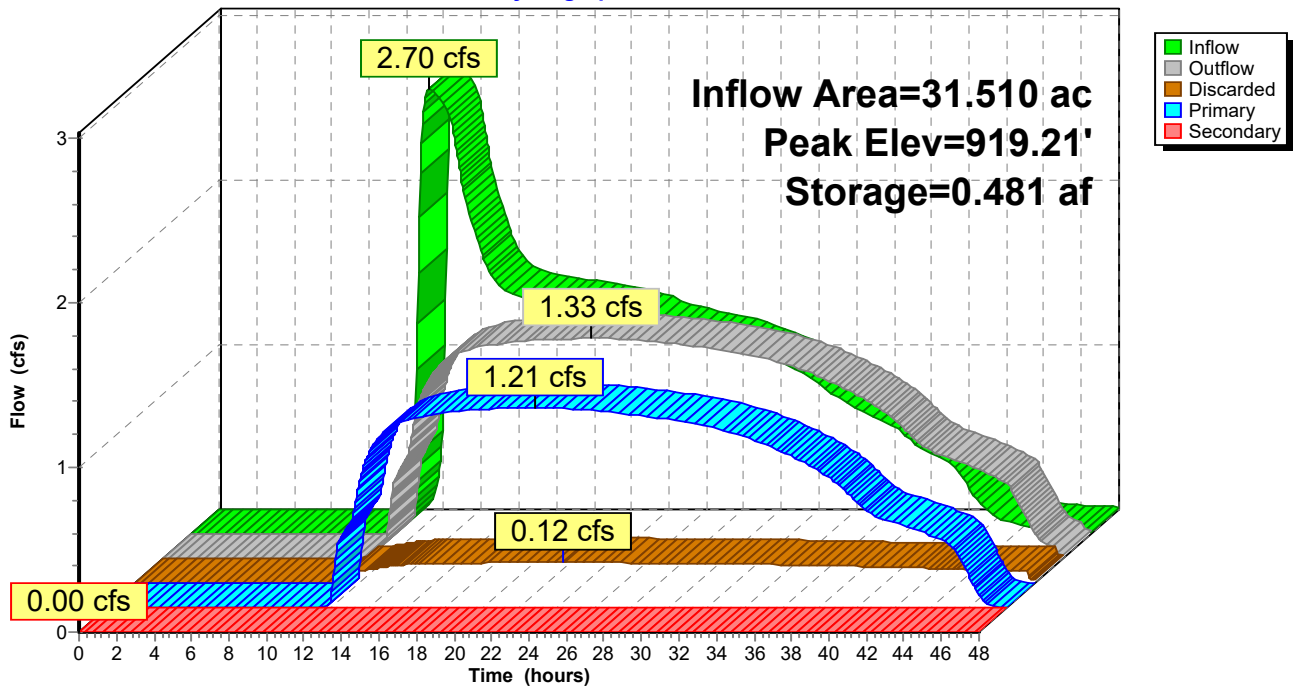
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=916.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP U: Infil U

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Page 181

Summary for Pond IP V: Infil V

Inflow Area = 1.550 ac, 57.42% Impervious, Inflow Depth = 1.32" for 2-Year event
 Inflow = 2.73 cfs @ 12.18 hrs, Volume= 0.170 af
 Outflow = 0.15 cfs @ 12.05 hrs, Volume= 0.170 af, Atten= 94%, Lag= 0.0 min
 Discarded = 0.15 cfs @ 12.05 hrs, Volume= 0.170 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 905.90' @ 13.71 hrs Surf.Area= 0.299 ac Storage= 0.089 af

Plug-Flow detention time= 252.5 min calculated for 0.170 af (100% of inflow)
 Center-of-Mass det. time= 252.3 min (1,079.4 - 827.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	905.00'	3.915 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
905.00	0.299	0.0	0.000	0.000
905.01	0.299	33.0	0.001	0.001
906.49	0.299	33.0	0.146	0.147
906.50	0.299	27.0	0.001	0.148
906.99	0.299	27.0	0.040	0.187
907.00	0.299	100.0	0.003	0.190
910.00	0.504	100.0	1.205	1.395
915.00	0.504	100.0	2.520	3.915

Device	Routing	Invert	Outlet Devices
#1	Primary	906.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 906.00' / 905.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	906.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	907.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	909.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	909.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	905.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 182

Discarded OutFlow Max=0.15 cfs @ 12.05 hrs HW=905.14' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=905.00' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Controls 0.00 cfs)

↳ **2=4" Underdrain** (Controls 0.00 cfs)

↳ **3=4" Orifice** (Controls 0.00 cfs)

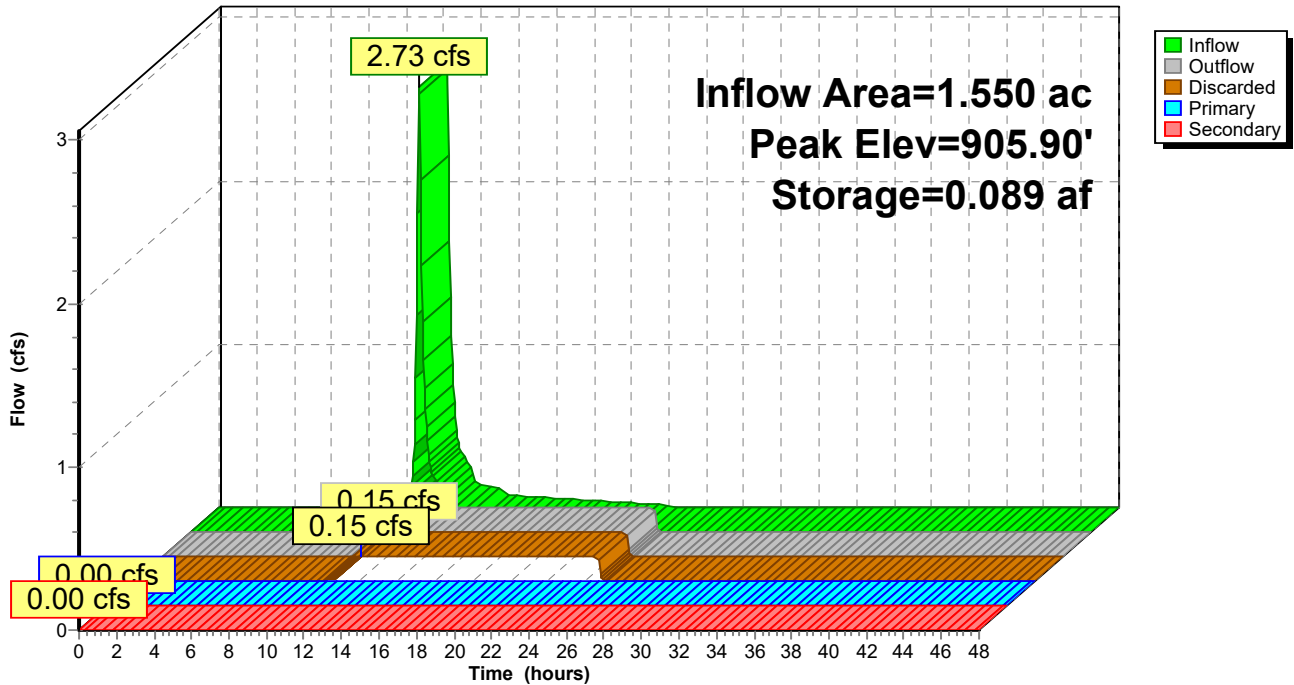
↳ **4=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=905.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP V: Infil V

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Page 183

Summary for Pond IP W: Infil W

Inflow Area = 3.440 ac, 68.90% Impervious, Inflow Depth = 1.60" for 2-Year event
 Inflow = 7.33 cfs @ 12.18 hrs, Volume= 0.459 af
 Outflow = 7.14 cfs @ 12.20 hrs, Volume= 0.459 af, Atten= 3%, Lag= 1.6 min
 Discarded = 0.03 cfs @ 12.20 hrs, Volume= 0.022 af
 Primary = 7.12 cfs @ 12.20 hrs, Volume= 0.437 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 914.11' @ 12.20 hrs Surf.Area= 0.057 ac Storage= 0.054 af

Plug-Flow detention time= 28.7 min calculated for 0.458 af (100% of inflow)
 Center-of-Mass det. time= 29.2 min (844.2 - 815.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	911.00'	0.553 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	0.019	0.0	0.000	0.000
911.01	0.019	33.0	0.000	0.000
912.49	0.019	33.0	0.009	0.009
912.50	0.019	27.0	0.000	0.009
912.99	0.019	27.0	0.003	0.012
913.00	0.019	100.0	0.000	0.012
915.00	0.087	100.0	0.106	0.118
920.00	0.087	100.0	0.435	0.553

Device	Routing	Invert	Outlet Devices
#1	Primary	912.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 912.00' / 911.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	912.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	913.75'	36.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	914.50'	15.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	911.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 184

Discarded OutFlow Max=0.03 cfs @ 12.20 hrs HW=914.10' (Free Discharge)

↳5=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=7.07 cfs @ 12.20 hrs HW=914.10' TW=0.00' (Dynamic Tailwater)

↳1=18" Outlet Pipe (Passes 7.07 cfs of 9.68 cfs potential flow)

↳2=4" Underdrain (Orifice Controls 0.58 cfs @ 6.70 fps)

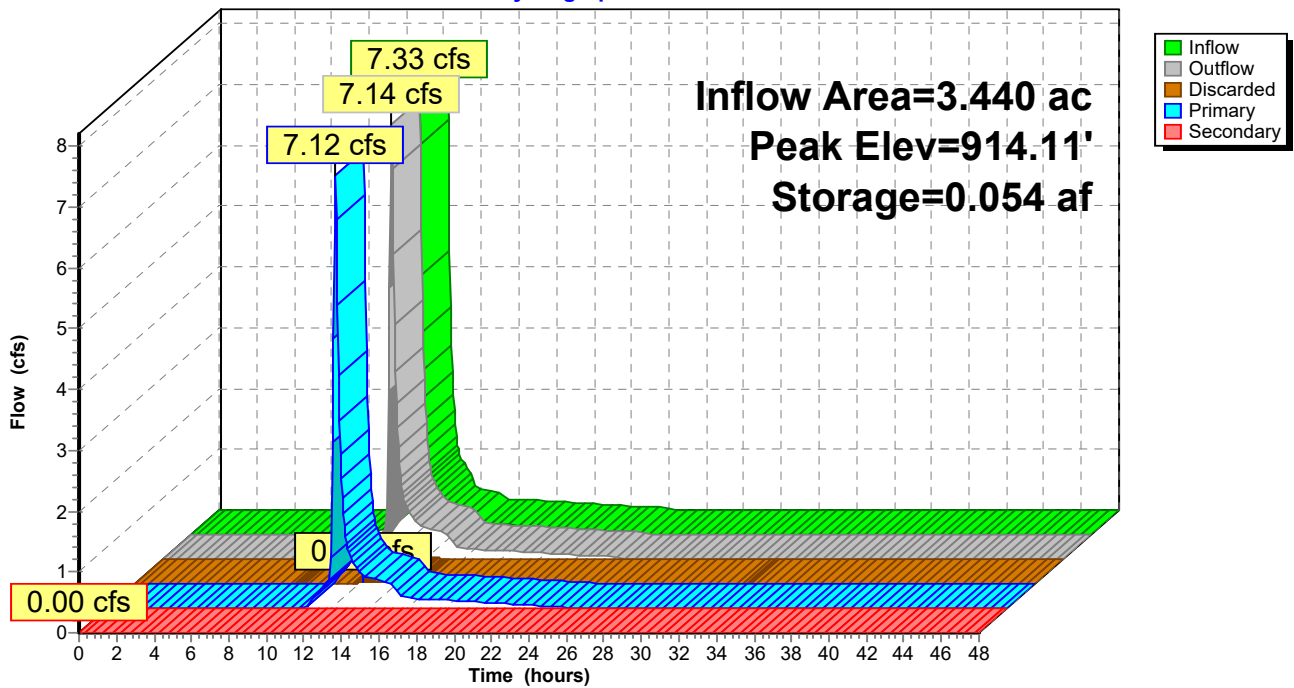
↳3=48" Riser (Weir Controls 6.48 cfs @ 1.94 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=911.00' TW=0.00' (Dynamic Tailwater)

↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond IP W: Infil W

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Page 185

Summary for Pond WP A: Wet Pond A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth = 1.06" for 2-Year event
 Inflow = 37.84 cfs @ 12.19 hrs, Volume= 3.486 af
 Outflow = 3.64 cfs @ 14.23 hrs, Volume= 3.311 af, Atten= 90%, Lag= 122.5 min
 Primary = 3.64 cfs @ 14.23 hrs, Volume= 3.311 af
 Routed to Pond IP A : Infil A
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP A : Infil A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 923.43' @ 14.23 hrs Surf.Area= 1.241 ac Storage= 1.652 af

Plug-Flow detention time= 483.0 min calculated for 3.308 af (95% of inflow)
 Center-of-Mass det. time= 460.2 min (1,322.3 - 862.1)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	11.459 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
922.00	1.071	0.000	0.000
923.00	1.190	1.130	1.130
924.00	1.310	1.250	2.380
925.00	1.431	1.371	3.751
926.00	1.554	1.493	5.243
930.00	1.554	6.216	11.459

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.80' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	922.00'	12.0" Vert. 12" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.50'	6.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#4	Secondary	925.00'	30.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=3.64 cfs @ 14.23 hrs HW=923.43' TW=921.92' (Dynamic Tailwater)

↑ **1=36" Outlet Pipe** (Passes 3.64 cfs of 11.14 cfs potential flow)

↑ **2=12" Orifice** (Orifice Controls 3.64 cfs @ 4.64 fps)

↑ **3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=922.00' TW=920.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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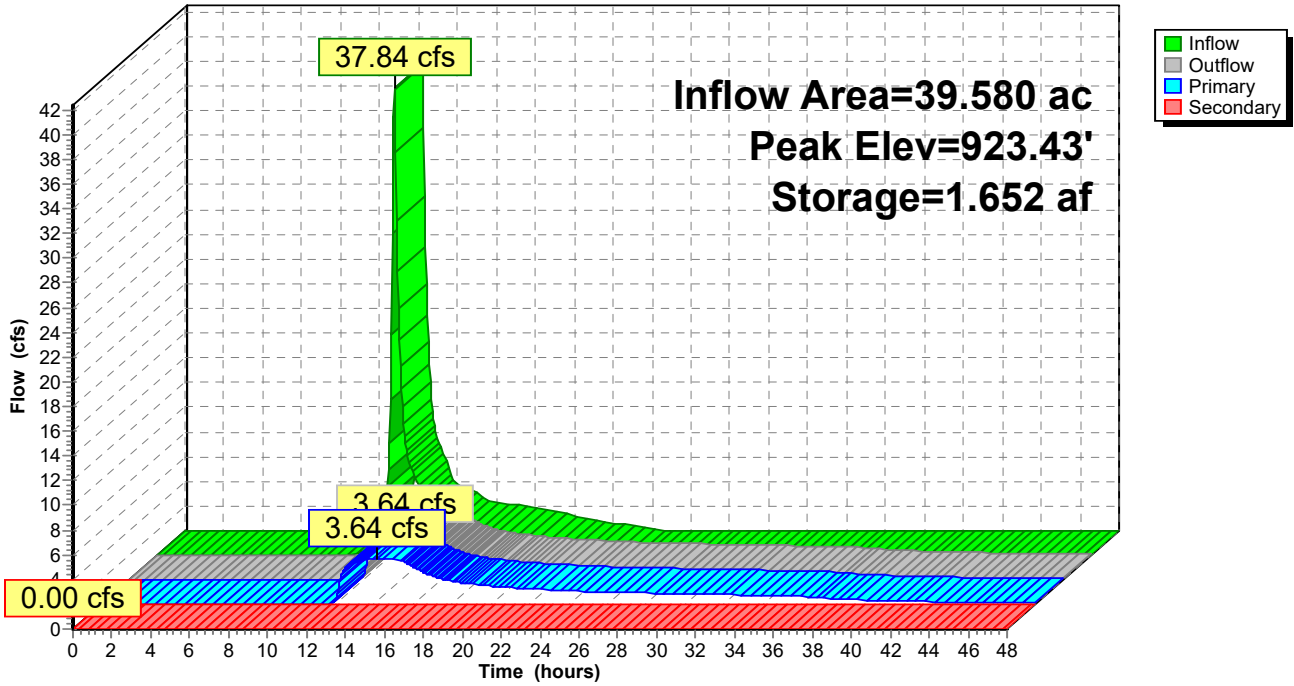
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Page 186

Pond WP A: Wet Pond A

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Page 187

Summary for Pond WP B: Wet Pond B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth > 0.88" for 2-Year event
 Inflow = 43.26 cfs @ 12.18 hrs, Volume= 6.636 af
 Outflow = 14.99 cfs @ 12.52 hrs, Volume= 6.421 af, Atten= 65%, Lag= 20.4 min
 Primary = 8.50 cfs @ 12.52 hrs, Volume= 5.495 af
 Routed to Pond IP B : Infil B
 Secondary = 6.49 cfs @ 12.52 hrs, Volume= 0.926 af
 Routed to Reach 27R : Post Wetland
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 911.73' @ 12.52 hrs Surf.Area= 1.458 ac Storage= 1.012 af

Plug-Flow detention time= 131.7 min calculated for 6.421 af (97% of inflow)
 Center-of-Mass det. time= 81.0 min (1,271.0 - 1,190.0)

Volume	Invert	Avail.Storage	Storage Description
#1	911.00'	16.295 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	1.320	0.000	0.000
912.00	1.510	1.415	1.415
913.00	1.710	1.610	3.025
914.00	1.910	1.810	4.835
920.00	1.910	11.460	16.295

Device	Routing	Invert	Outlet Devices
#1	Primary	911.00'	18.0" Round 4 - 18" Outlet to Infiltration X 4.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.00' / 910.75' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Secondary	911.35'	24.0" Round 6 - 24" Outlet Pipes X 6.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.35' / 910.00' S= 0.0270 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Tertiary	913.50'	5.0' long + 4.0 ' SideZ x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=8.49 cfs @ 12.52 hrs HW=911.73' TW=909.73' (Dynamic Tailwater)
 ↳1=4 - 18" Outlet to Infiltration (Barrel Controls 8.49 cfs @ 3.65 fps)

Secondary OutFlow Max=6.47 cfs @ 12.52 hrs HW=911.73' TW=0.00' (Dynamic Tailwater)
 ↳2=6 - 24" Outlet Pipes (Inlet Controls 6.47 cfs @ 2.62 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=911.00' TW=0.00' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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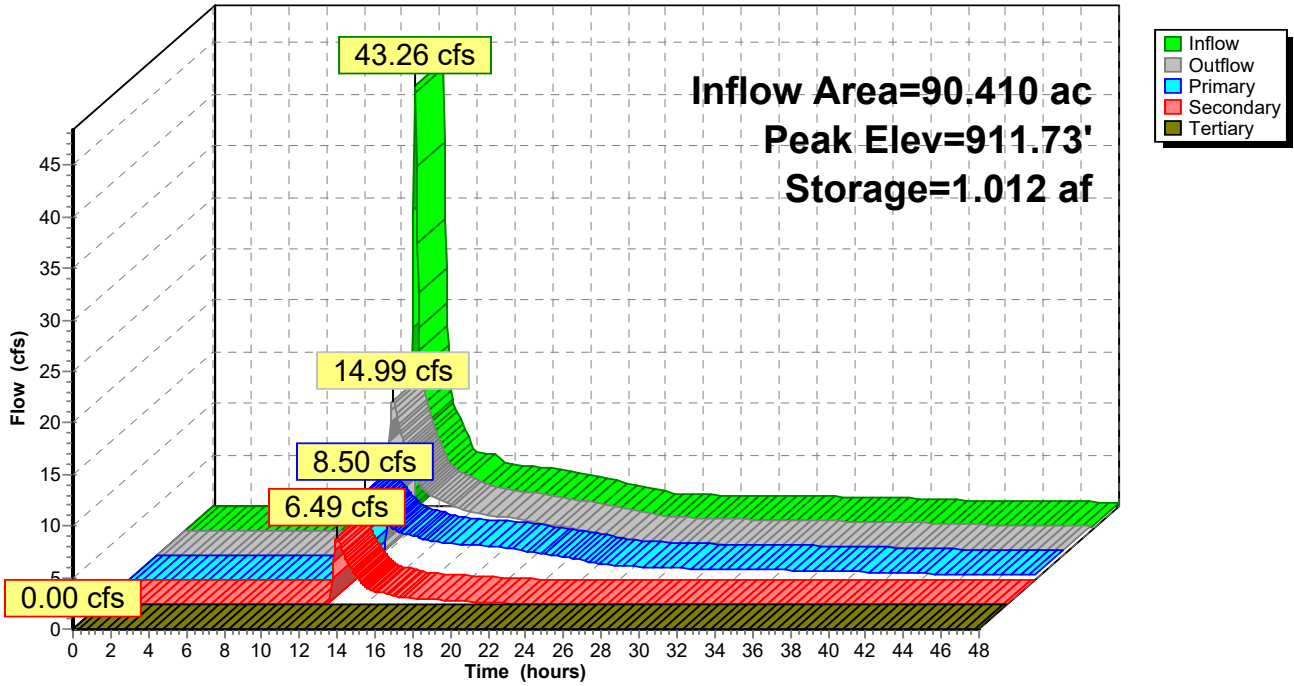
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Page 188

Pond WP B: Wet Pond B

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Page 189

Summary for Pond WP P: Wet Pond P

Inflow Area = 9.510 ac, 56.89% Impervious, Inflow Depth = 1.25" for 2-Year event
 Inflow = 15.90 cfs @ 12.18 hrs, Volume= 0.994 af
 Outflow = 2.27 cfs @ 12.78 hrs, Volume= 0.983 af, Atten= 86%, Lag= 36.0 min
 Primary = 2.27 cfs @ 12.78 hrs, Volume= 0.983 af
 Routed to Pond IP P : Infil P
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP P : Infil P

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 937.52' @ 12.78 hrs Surf.Area= 0.344 ac Storage= 0.447 af

Plug-Flow detention time= 377.4 min calculated for 0.982 af (99% of inflow)
 Center-of-Mass det. time= 372.2 min (1,202.2 - 830.1)

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	2.045 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
936.00	0.247	0.000	0.000
937.00	0.310	0.278	0.278
938.00	0.375	0.342	0.621
939.00	0.440	0.408	1.028
940.00	0.508	0.474	1.502
941.00	0.576	0.542	2.045

Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 936.00' / 935.80' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	936.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	940.50'	5.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=2.27 cfs @ 12.78 hrs HW=937.52' TW=935.50' (Dynamic Tailwater)

↑ **1=24" Outlet Pipe** (Passes 2.27 cfs of 9.12 cfs potential flow)

↑ **2=9" Orifice** (Orifice Controls 2.27 cfs @ 5.14 fps)

↑ **3=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=936.00' TW=934.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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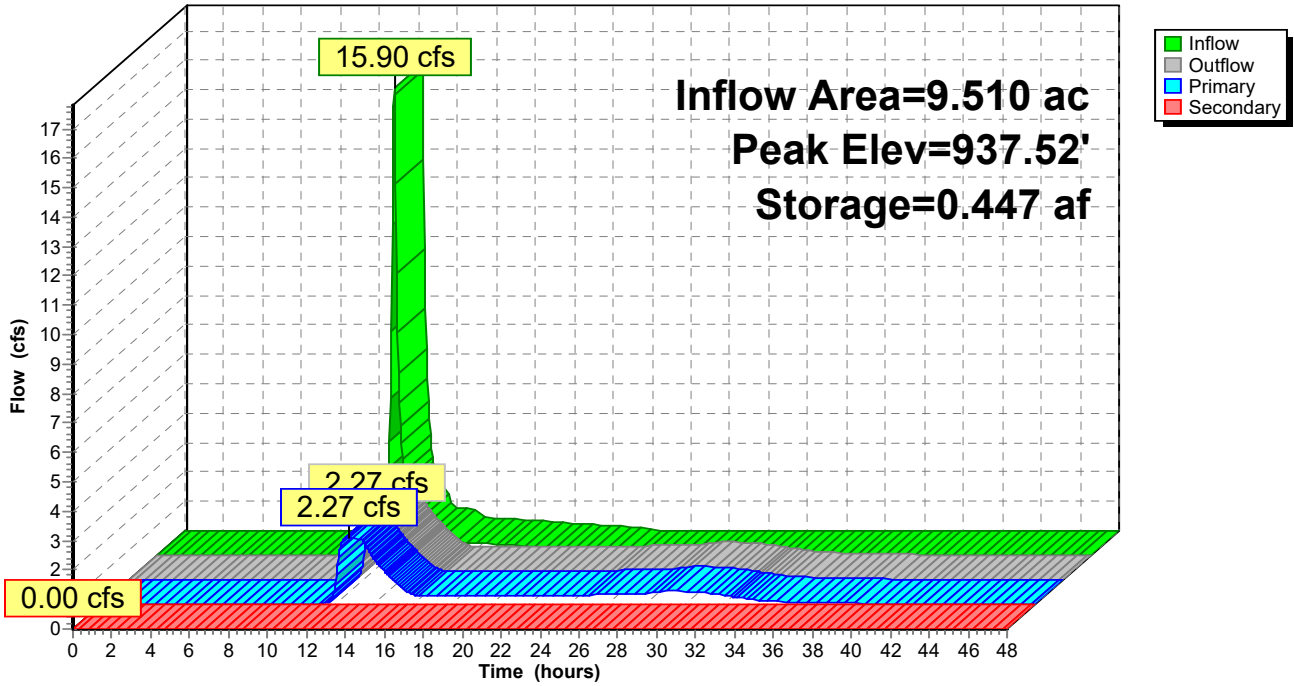
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Page 190

Pond WP P: Wet Pond P

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Page 191

Summary for Pond WP Q: Wet Pond Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth = 1.48" for 2-Year event
 Inflow = 24.49 cfs @ 12.24 hrs, Volume= 1.791 af
 Outflow = 19.96 cfs @ 12.34 hrs, Volume= 1.788 af, Atten= 19%, Lag= 6.2 min
 Primary = 12.51 cfs @ 12.34 hrs, Volume= 1.702 af
 Routed to Pond IP Q : Infil Q
 Secondary = 7.45 cfs @ 12.34 hrs, Volume= 0.086 af
 Routed to Pond IP Q : Infil Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 941.64' @ 12.34 hrs Surf.Area= 0.206 ac Storage= 0.456 af

Plug-Flow detention time= 106.6 min calculated for 1.786 af (100% of inflow)
 Center-of-Mass det. time= 106.7 min (930.1 - 823.5)

Volume	Invert	Avail.Storage	Storage Description
#1	939.00'	2.439 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
939.00	0.141	0.000	0.000
940.00	0.165	0.153	0.153
941.00	0.189	0.177	0.330
942.00	0.215	0.202	0.532
943.00	0.240	0.227	0.759
950.00	0.240	1.680	2.439

Device	Routing	Invert	Outlet Devices
#1	Primary	939.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 939.00' / 938.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	939.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	941.50'	60.0' long + 4.0 '/ SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=12.49 cfs @ 12.34 hrs HW=941.64' TW=939.53' (Dynamic Tailwater)

↑ **1=18" Outlet Pipe** (Barrel Controls 12.49 cfs @ 7.07 fps)

↑ **2=9" Orifice** (Passes < 3.08 cfs potential flow)

↑ **3=48" Riser** (Passes < 20.86 cfs potential flow)

Secondary OutFlow Max=7.13 cfs @ 12.34 hrs HW=941.64' TW=939.54' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Weir Controls 7.13 cfs @ 0.86 fps)

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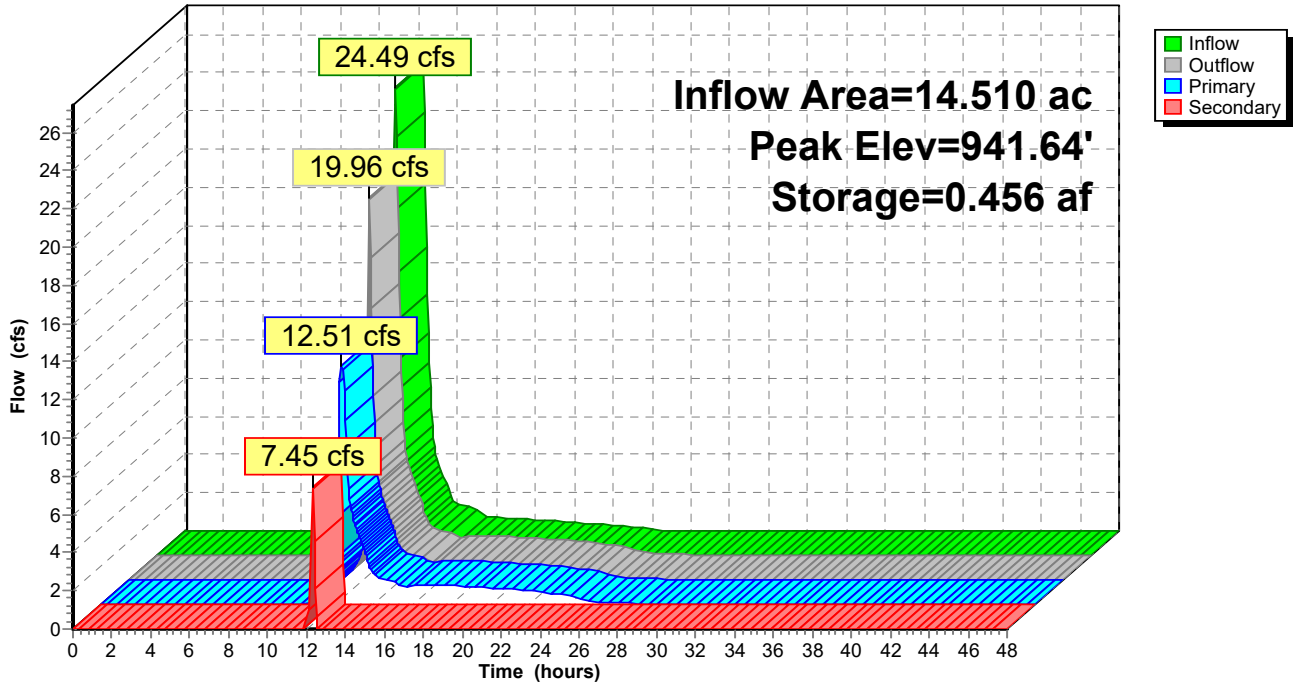
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Page 192

Pond WP Q: Wet Pond Q

Hydrograph



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Page 193

Summary for Pond WP R: Wet Pond R

Inflow Area = 4.580 ac, 42.58% Impervious, Inflow Depth = 0.97" for 2-Year event
 Inflow = 4.83 cfs @ 12.19 hrs, Volume= 0.371 af
 Outflow = 0.73 cfs @ 13.16 hrs, Volume= 0.367 af, Atten= 85%, Lag= 58.2 min
 Primary = 0.73 cfs @ 13.16 hrs, Volume= 0.367 af
 Routed to Reach 12R : Prop CTH Q
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 935.85' @ 13.16 hrs Surf.Area= 0.204 ac Storage= 0.165 af

Plug-Flow detention time= 178.4 min calculated for 0.367 af (99% of inflow)
 Center-of-Mass det. time= 171.0 min (1,015.7 - 844.8)

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	2.491 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
935.00	0.183	0.000	0.000
936.00	0.208	0.196	0.196
937.00	0.234	0.221	0.417
938.00	0.261	0.248	0.664
945.00	0.261	1.827	2.491

Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 935.00' / 934.80' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	935.00'	6.0" Vert. 6" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	937.50'	5.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.73 cfs @ 13.16 hrs HW=935.85' TW=0.00' (Dynamic Tailwater)

↑ **1=12" Outlet Pipe** (Passes 0.73 cfs of 1.95 cfs potential flow)

↑ **2=6" Orifice** (Orifice Controls 0.73 cfs @ 3.73 fps)

↑ **3=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=935.00' TW=0.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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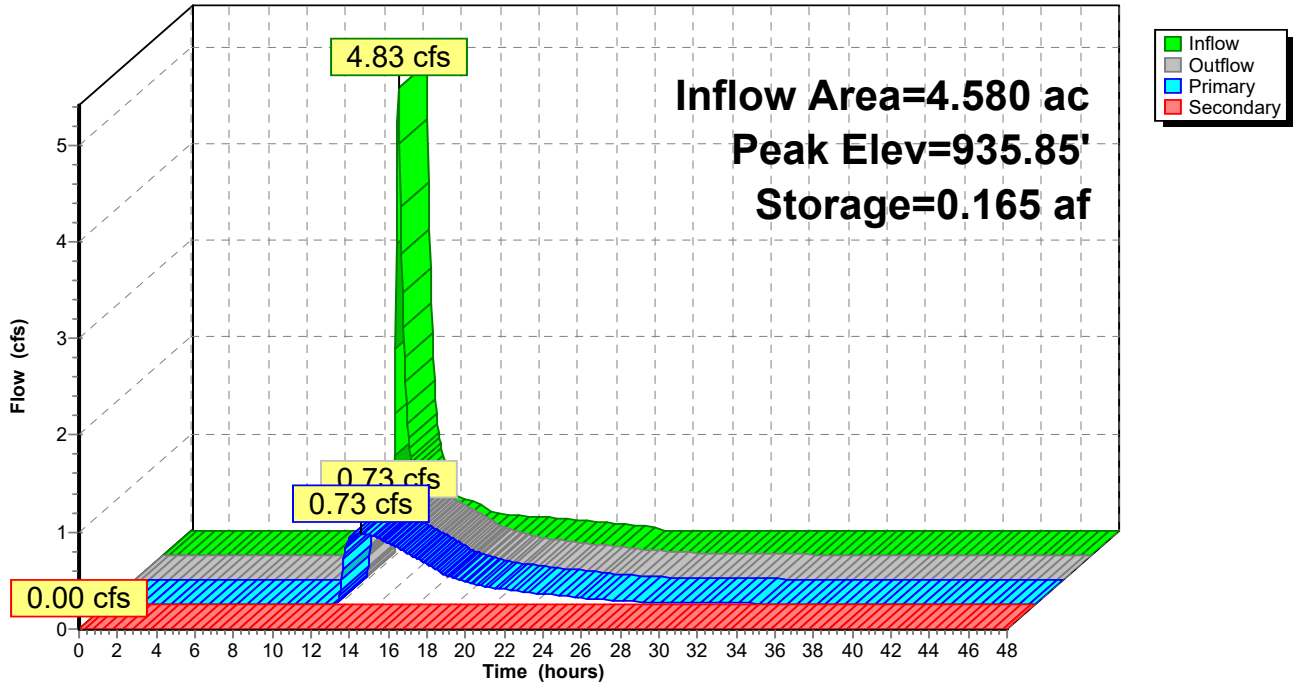
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Page 194

Pond WP R: Wet Pond R

Hydrograph



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Page 195

Summary for Pond WP U: Wet Pond U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth = 1.15" for 2-Year event
 Inflow = 14.82 cfs @ 12.20 hrs, Volume= 3.015 af
 Outflow = 2.70 cfs @ 12.71 hrs, Volume= 3.004 af, Atten= 82%, Lag= 30.9 min
 Primary = 2.70 cfs @ 12.71 hrs, Volume= 3.004 af
 Routed to Pond IP U : Infil U
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP U : Infil U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 919.99' @ 12.71 hrs Surf.Area= 0.216 ac Storage= 0.375 af

Plug-Flow detention time= 131.9 min calculated for 3.001 af (100% of inflow)
 Center-of-Mass det. time= 128.1 min (1,416.3 - 1,288.2)

Volume	Invert	Avail.Storage	Storage Description
#1	918.00'	1.160 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
918.00	0.161	0.000	0.000
919.00	0.188	0.174	0.174
920.00	0.216	0.202	0.376
921.00	0.245	0.230	0.607
922.00	0.276	0.261	0.868
923.00	0.308	0.292	1.160

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.80' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	918.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	922.50'	50.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=2.70 cfs @ 12.71 hrs HW=919.99' TW=917.44' (Dynamic Tailwater)
 1=36" Outlet Pipe (Passes 2.70 cfs of 19.84 cfs potential flow)
 2=9" Orifice (Orifice Controls 2.70 cfs @ 6.12 fps)
 3=48" Riser (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=918.00' TW=916.00' (Dynamic Tailwater)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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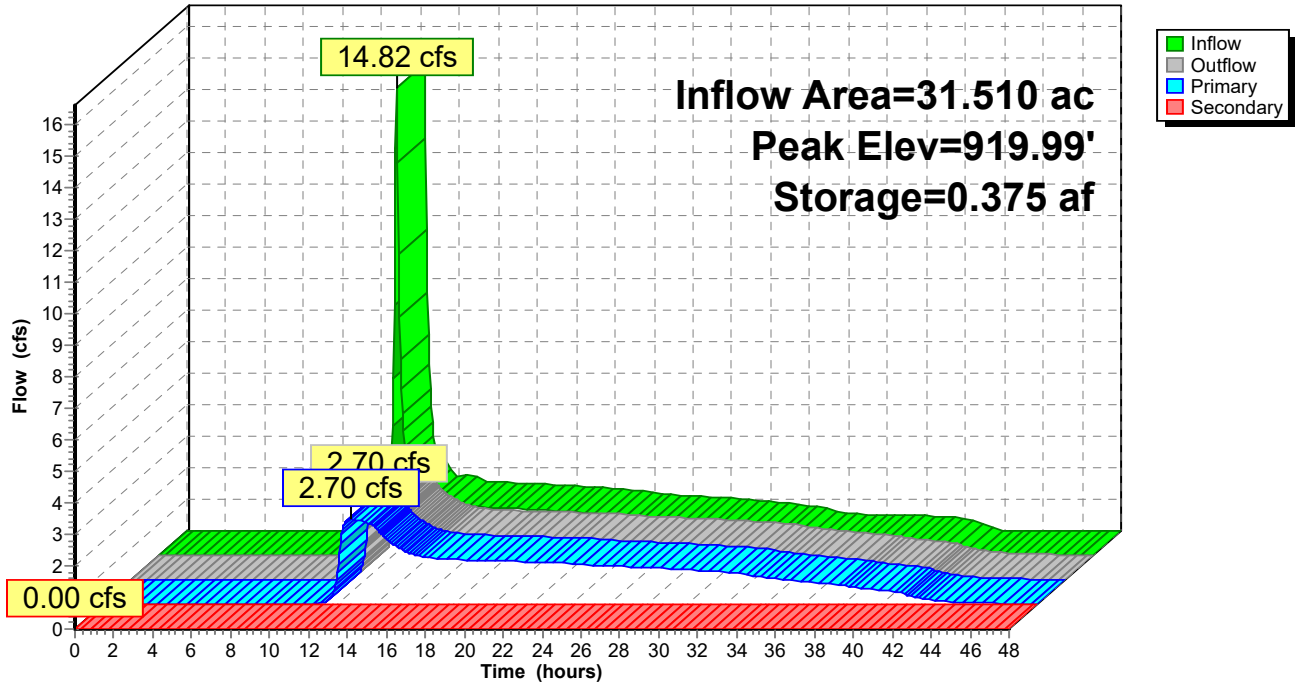
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Page 196

Pond WP U: Wet Pond U

Hydrograph



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Page 197

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1 OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=0.86" Flow Length=400' Tc=4.4 min CN=61 Runoff=3.30 cfs 0.186 af
Subcatchment 2 OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=1.02" Flow Length=500' Tc=4.6 min CN=64 Runoff=10.02 cfs 0.544 af
Subcatchment 3 OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=0.86" Tc=20.0 min CN=61 Runoff=3.77 cfs 0.376 af
Subcatchment 4 OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.86" Tc=10.0 min CN=61 Runoff=0.54 cfs 0.039 af
Subcatchment 5 OS: Offsite - Funeral	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=1.46" Flow Length=250' Slope=0.0200 '/' Tc=21.4 min CN=71 Runoff=2.58 cfs 0.233 af
Subcatchment 30S: Prop. 30S	Runoff Area=19.160 ac 59.39% Impervious Runoff Depth=2.36" Tc=10.0 min CN=83 Runoff=60.26 cfs 3.775 af
Subcatchment 31S: Future Commercial	Runoff Area=12.940 ac 0.00% Impervious Runoff Depth=1.26" Tc=20.0 min CN=68 Runoff=15.33 cfs 1.361 af
Subcatchment 32S: 32S	Runoff Area=3.690 ac 76.69% Impervious Runoff Depth=2.91" Tc=10.0 min CN=89 Runoff=13.96 cfs 0.894 af
Subcatchment 33S: 33S	Runoff Area=3.790 ac 63.59% Impervious Runoff Depth=2.54" Tc=10.0 min CN=85 Runoff=12.76 cfs 0.802 af
Subcatchment 34S: (new Subcat)	Runoff Area=26.860 ac 48.55% Impervious Runoff Depth=2.04" Tc=10.0 min CN=79 Runoff=73.09 cfs 4.559 af
Subcatchment 35S: 35S	Runoff Area=3.830 ac 62.92% Impervious Runoff Depth=2.45" Tc=10.0 min CN=84 Runoff=12.45 cfs 0.782 af
Subcatchment 36S: (new Subcat)	Runoff Area=4.440 ac 71.62% Impervious Runoff Depth=2.81" Tc=10.0 min CN=88 Runoff=16.35 cfs 1.041 af
Subcatchment 37S: (new Subcat)	Runoff Area=4.310 ac 70.53% Impervious Runoff Depth=2.72" Tc=10.0 min CN=87 Runoff=15.42 cfs 0.977 af
Subcatchment 38S: (new Subcat)	Runoff Area=2.410 ac 70.54% Impervious Runoff Depth=2.72" Tc=10.0 min CN=87 Runoff=8.62 cfs 0.546 af
Subcatchment 39S: Prop. 39S	Runoff Area=5.630 ac 63.41% Impervious Runoff Depth=2.54" Tc=10.0 min CN=85 Runoff=18.95 cfs 1.191 af
Subcatchment 40S: Prop. 40S	Runoff Area=4.180 ac 68.90% Impervious Runoff Depth=2.72" Tc=10.0 min CN=87 Runoff=14.95 cfs 0.947 af

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Page 198

Subcatchment41S: Prop. 41S	Runoff Area=2.260 ac 68.14% Impervious Runoff Depth=2.63" Tc=10.0 min CN=86 Runoff=7.85 cfs 0.495 af
Subcatchment42S: Prop. 42S	Runoff Area=1.090 ac 60.55% Impervious Runoff Depth=2.45" Tc=10.0 min CN=84 Runoff=3.54 cfs 0.223 af
Subcatchment43S: Prop. 43S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=2.36" Tc=10.0 min CN=83 Runoff=13.56 cfs 0.849 af
Subcatchment44S: Prop. 44S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=2.36" Tc=10.0 min CN=83 Runoff=13.56 cfs 0.849 af
Subcatchment45S: Prop. 45S	Runoff Area=9.510 ac 56.89% Impervious Runoff Depth=2.28" Tc=10.0 min CN=82 Runoff=28.90 cfs 1.807 af
Subcatchment46S: Prop. 46S	Runoff Area=13.970 ac 68.72% Impervious Runoff Depth=2.63" Tc=15.0 min CN=86 Runoff=41.59 cfs 3.059 af
Subcatchment47S: Prop. 47S	Runoff Area=2.660 ac 54.51% Impervious Runoff Depth=2.20" Tc=10.0 min CN=81 Runoff=7.80 cfs 0.487 af
Subcatchment48S: Prop. 48S	Runoff Area=2.440 ac 70.49% Impervious Runoff Depth=2.72" Tc=10.0 min CN=87 Runoff=8.73 cfs 0.553 af
Subcatchment49S: 49S	Runoff Area=2.250 ac 69.78% Impervious Runoff Depth=2.72" Tc=10.0 min CN=87 Runoff=8.05 cfs 0.510 af
Subcatchment50S: Prop. 50S	Runoff Area=5.240 ac 65.84% Impervious Runoff Depth=2.54" Tc=10.0 min CN=85 Runoff=17.64 cfs 1.108 af
Subcatchment51S: Prop. 51S	Runoff Area=1.550 ac 57.42% Impervious Runoff Depth=2.36" Tc=10.0 min CN=83 Runoff=4.87 cfs 0.305 af
Subcatchment52S: Prop. 52S	Runoff Area=3.440 ac 68.90% Impervious Runoff Depth=2.72" Tc=10.0 min CN=87 Runoff=12.31 cfs 0.780 af
Subcatchment53S: Prop. 53S	Runoff Area=4.050 ac 67.16% Impervious Runoff Depth=2.63" Tc=10.0 min CN=86 Runoff=14.06 cfs 0.887 af
Subcatchment54S: Future 54S	Runoff Area=3.150 ac 0.00% Impervious Runoff Depth=1.26" Tc=15.0 min CN=68 Runoff=4.32 cfs 0.331 af
Subcatchment55S: Prop. 55S	Runoff Area=2.230 ac 46.64% Impervious Runoff Depth=1.96" Tc=10.0 min CN=78 Runoff=5.83 cfs 0.364 af
Subcatchment56S: (new Subcat)	Runoff Area=16.060 ac 73.04% Impervious Runoff Depth=2.91" Tc=10.0 min CN=89 Runoff=60.76 cfs 3.891 af
Subcatchment57S: Existing 56S	Runoff Area=2.060 ac 26.70% Impervious Runoff Depth=1.46" Tc=10.0 min CN=71 Runoff=3.93 cfs 0.250 af

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Page 199

Reach 12R: Prop CTH Q

Inflow=6.56 cfs 1.079 af
Outflow=6.56 cfs 1.079 af

Reach 27R: Post Wetland

Inflow=80.38 cfs 22.044 af
Outflow=80.38 cfs 22.044 af

Reach 41R: (new Reach)

Inflow=21.11 cfs 3.265 af
Outflow=21.11 cfs 3.265 af

Reach 52R: TOTAL PROPOSED

Inflow=103.10 cfs 25.476 af
Outflow=103.10 cfs 25.476 af

Pond BIO J: Bio J

Peak Elev=922.59' Storage=15,472 cf Inflow=20.98 cfs 1.567 af
Discarded=0.07 cfs 0.206 af Primary=19.15 cfs 1.333 af Secondary=0.00 cfs 0.000 af Outflow=19.22 cfs 1.539 af

Pond BIO K: Bio K

Peak Elev=920.39' Storage=15,338 cf Inflow=14.95 cfs 0.947 af
Discarded=0.08 cfs 0.177 af Primary=10.71 cfs 0.750 af Secondary=0.00 cfs 0.000 af Outflow=10.79 cfs 0.928 af

Pond BIO N: Bio N

Peak Elev=911.39' Storage=38,708 cf Inflow=39.85 cfs 2.932 af
Discarded=0.17 cfs 0.460 af Primary=0.75 cfs 0.987 af Secondary=19.18 cfs 1.346 af Outflow=20.10 cfs 2.793 af

Pond BIO O: Bio O

Peak Elev=910.05' Storage=33,868 cf Inflow=21.11 cfs 1.311 af
Discarded=0.16 cfs 0.450 af Primary=0.71 cfs 0.713 af Secondary=0.70 cfs 0.059 af Outflow=1.57 cfs 1.221 af

Pond Bio S: Bio S

Peak Elev=923.93' Storage=11,195 cf Inflow=8.73 cfs 0.553 af
Discarded=0.05 cfs 0.158 af Primary=3.07 cfs 0.378 af Secondary=0.00 cfs 0.000 af Outflow=3.13 cfs 0.536 af

Pond Bio X: Bio X

Peak Elev=950.21' Storage=0.560 af Inflow=17.75 cfs 1.218 af
Discarded=0.10 cfs 0.220 af Primary=5.25 cfs 0.970 af Secondary=0.00 cfs 0.000 af Outflow=5.34 cfs 1.190 af

Pond IP A: Infil A

Peak Elev=924.18' Storage=1.557 af Inflow=17.31 cfs 6.155 af
Discarded=0.28 cfs 0.764 af Primary=4.71 cfs 4.814 af Secondary=0.00 cfs 0.000 af Outflow=4.99 cfs 5.578 af

Pond IP B: Infil B

Peak Elev=910.81' Storage=1.132 af Inflow=19.70 cfs 8.784 af
Discarded=0.56 cfs 1.649 af Primary=7.77 cfs 6.363 af Outflow=8.34 cfs 8.011 af

Pond IP C: IP C

Peak Elev=936.23' Storage=16,497 cf Inflow=13.96 cfs 0.894 af
Discarded=0.10 cfs 0.122 af Primary=5.84 cfs 0.772 af Secondary=0.00 cfs 0.000 af Outflow=5.94 cfs 0.894 af

Pond IP D: IP D

Peak Elev=937.14' Storage=16,139 cf Inflow=12.76 cfs 0.802 af
Discarded=0.10 cfs 0.119 af Primary=3.25 cfs 0.683 af Secondary=0.00 cfs 0.000 af Outflow=3.34 cfs 0.802 af

Pond IP E: IP E

Peak Elev=931.27' Storage=17,479 cf Inflow=12.45 cfs 0.782 af
Discarded=0.10 cfs 0.124 af Primary=1.32 cfs 0.659 af Secondary=0.00 cfs 0.000 af Outflow=1.41 cfs 0.782 af

Pond IP F: IP F

Peak Elev=926.92' Storage=26,097 cf Inflow=16.35 cfs 1.041 af
Discarded=0.15 cfs 0.256 af Primary=1.06 cfs 0.785 af Secondary=0.00 cfs 0.000 af Outflow=1.22 cfs 1.041 af

Pond IP G: IP G

Peak Elev=923.67' Storage=24,545 cf Inflow=15.42 cfs 0.977 af
Discarded=0.16 cfs 0.264 af Primary=0.96 cfs 0.712 af Secondary=0.00 cfs 0.000 af Outflow=1.12 cfs 0.977 af

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Page 200

Pond IP H: IP H

Peak Elev=925.56' Storage=5,893 cf Inflow=8.62 cfs 0.546 af
Discarded=0.03 cfs 0.033 af Primary=8.23 cfs 0.511 af Secondary=0.27 cfs 0.002 af Outflow=8.52 cfs 0.546 af

Pond IP L: Inf L

Peak Elev=920.31' Storage=3,325 cf Inflow=7.85 cfs 0.495 af
Discarded=0.03 cfs 0.033 af Primary=7.66 cfs 0.462 af Secondary=0.00 cfs 0.000 af Outflow=7.69 cfs 0.495 af

Pond IP M: Inf M

Peak Elev=927.79' Storage=4,341 cf Inflow=3.54 cfs 0.223 af
Discarded=0.04 cfs 0.062 af Primary=0.54 cfs 0.160 af Secondary=0.00 cfs 0.000 af Outflow=0.58 cfs 0.223 af

Pond IP P: Infil P

Peak Elev=938.27' Storage=1.356 af Inflow=33.33 cfs 4.726 af
Discarded=0.27 cfs 0.654 af Primary=7.21 cfs 4.065 af Secondary=0.00 cfs 0.000 af Outflow=7.48 cfs 4.719 af

Pond IP Q: Infil Q

Peak Elev=941.79' Storage=0.640 af Inflow=41.66 cfs 3.095 af
Discarded=0.11 cfs 0.160 af Primary=30.31 cfs 2.935 af Secondary=0.00 cfs 0.000 af Outflow=30.43 cfs 3.095 af

Pond IP T: Infil T

Peak Elev=928.08' Storage=0.069 af Inflow=8.45 cfs 4.575 af
Discarded=0.03 cfs 0.084 af Primary=8.26 cfs 4.479 af Secondary=0.00 cfs 0.000 af Outflow=8.29 cfs 4.564 af

Pond IP U: Infil U

Peak Elev=921.14' Storage=1.033 af Inflow=8.72 cfs 5.502 af
Discarded=0.16 cfs 0.439 af Primary=3.94 cfs 4.764 af Secondary=0.00 cfs 0.000 af Outflow=4.10 cfs 5.203 af

Pond IP V: Infil V

Peak Elev=906.61' Storage=0.157 af Inflow=4.87 cfs 0.305 af
Discarded=0.15 cfs 0.230 af Primary=0.28 cfs 0.075 af Secondary=0.00 cfs 0.000 af Outflow=0.43 cfs 0.305 af

Pond IP W: Infil W

Peak Elev=914.32' Storage=0.067 af Inflow=12.31 cfs 0.780 af
Discarded=0.03 cfs 0.025 af Primary=10.93 cfs 0.754 af Secondary=0.00 cfs 0.000 af Outflow=10.96 cfs 0.780 af

Pond WP A: Wet Pond A

Peak Elev=924.25' Storage=2.705 af Inflow=72.22 cfs 6.591 af
Primary=17.31 cfs 6.155 af Secondary=0.00 cfs 0.000 af Outflow=17.31 cfs 6.155 af

Pond WP B: Wet Pond B

Peak Elev=912.20' Storage=1.714 af Inflow=90.48 cfs 12.772 af
Primary=19.70 cfs 8.784 af Secondary=29.66 cfs 3.686 af Tertiary=0.00 cfs 0.000 af Outflow=49.36 cfs 12.470 af

Pond WP P: Wet Pond P

Peak Elev=938.63' Storage=0.869 af Inflow=28.90 cfs 1.807 af
Primary=4.35 cfs 1.790 af Secondary=0.00 cfs 0.000 af Outflow=4.35 cfs 1.790 af

Pond WP Q: Wet Pond Q

Peak Elev=941.86' Storage=0.502 af Inflow=42.09 cfs 3.098 af
Primary=13.27 cfs 2.151 af Secondary=29.10 cfs 0.944 af Outflow=41.66 cfs 3.095 af

Pond WP R: Wet Pond R

Peak Elev=936.63' Storage=0.331 af Inflow=9.50 cfs 0.720 af
Primary=2.03 cfs 0.715 af Secondary=0.00 cfs 0.000 af Outflow=2.03 cfs 0.715 af

Pond WP U: Wet Pond U

Peak Elev=921.76' Storage=0.802 af Inflow=25.73 cfs 5.588 af
Primary=8.72 cfs 5.502 af Secondary=0.00 cfs 0.000 af Outflow=8.72 cfs 5.502 af

Total Runoff Area = 188.510 ac Runoff Volume = 35.002 af Average Runoff Depth = 2.23"
48.50% Pervious = 91.420 ac 51.50% Impervious = 97.090 ac

Kilkenny Phase Master

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 201

Summary for Subcatchment 1 OS: Offsite- School

Runoff = 3.30 cfs @ 12.12 hrs, Volume= 0.186 af, Depth= 0.86"
 Routed to Pond WP B : Wet Pond B

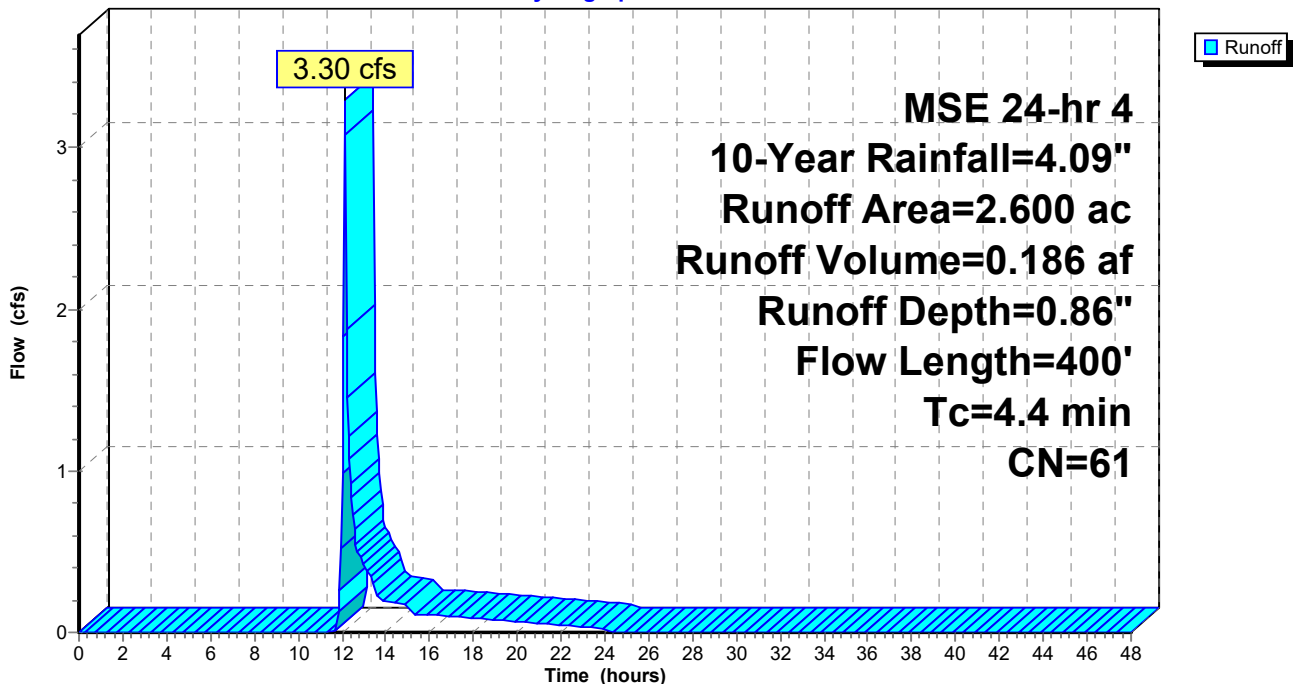
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.0	300	0.1000	5.09		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.4	400	Total			

Subcatchment 1 OS: Offsite- School

Hydrograph



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Page 202

Summary for Subcatchment 2 OS: Offsite - North Residential

Runoff = 10.02 cfs @ 12.12 hrs, Volume= 0.544 af, Depth= 1.02"
 Routed to Pond WP B : Wet Pond B

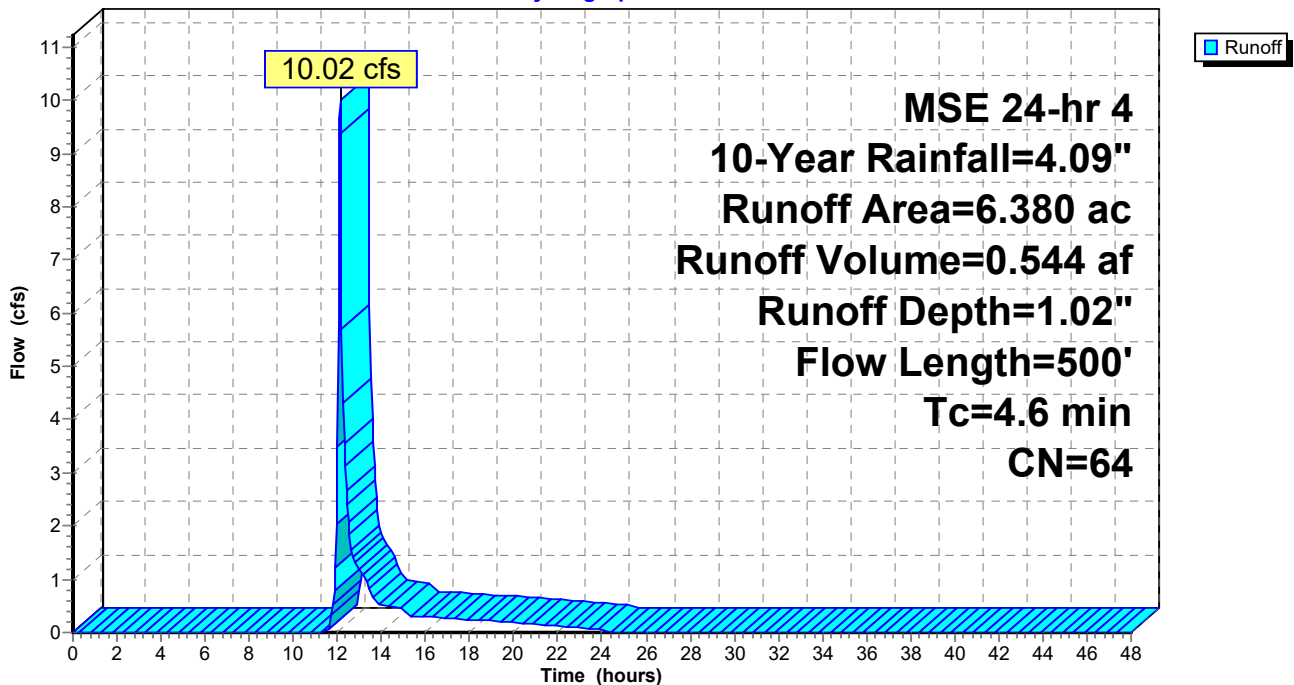
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2 OS: Offsite - North Residential

Hydrograph



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Page 203

Summary for Subcatchment 3 OS: Offsite- School

Runoff = 3.77 cfs @ 12.34 hrs, Volume= 0.376 af, Depth= 0.86"
Routed to Pond BIO J : Bio J

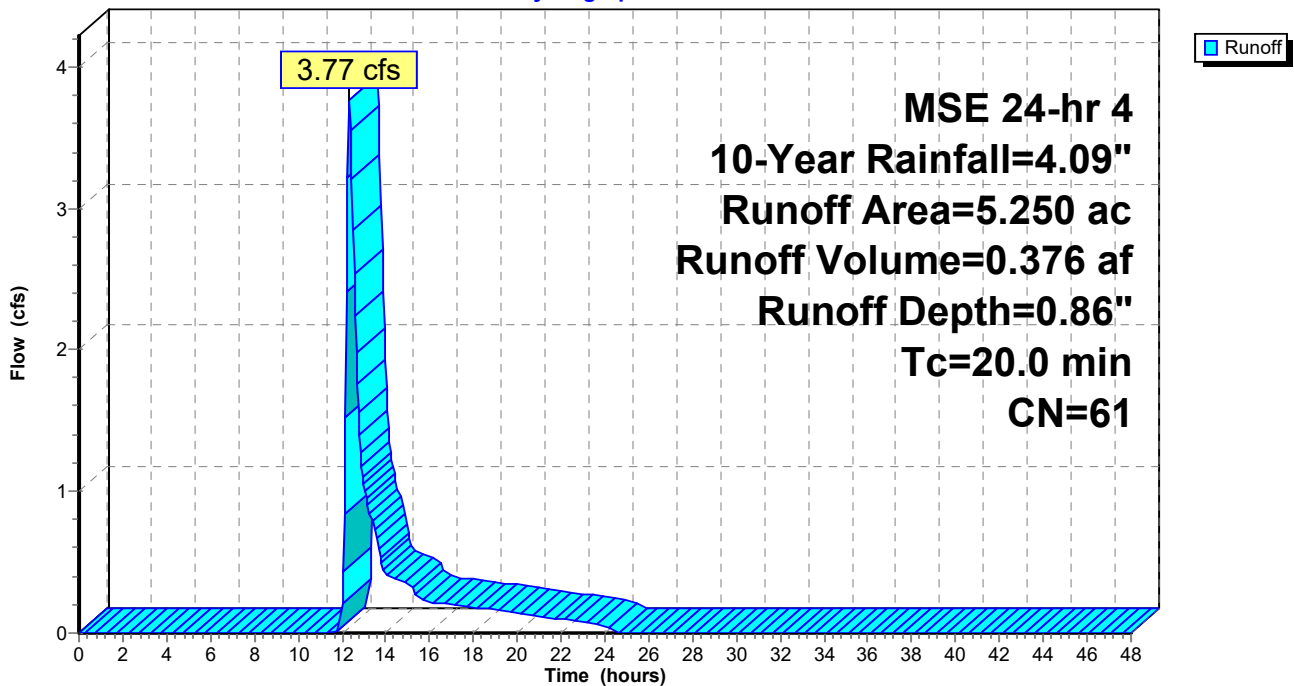
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3 OS: Offsite- School

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 204

Summary for Subcatchment 4 OS: Offsite - Church

Runoff = 0.54 cfs @ 12.20 hrs, Volume= 0.039 af, Depth= 0.86"
Routed to Pond WP Q : Wet Pond Q

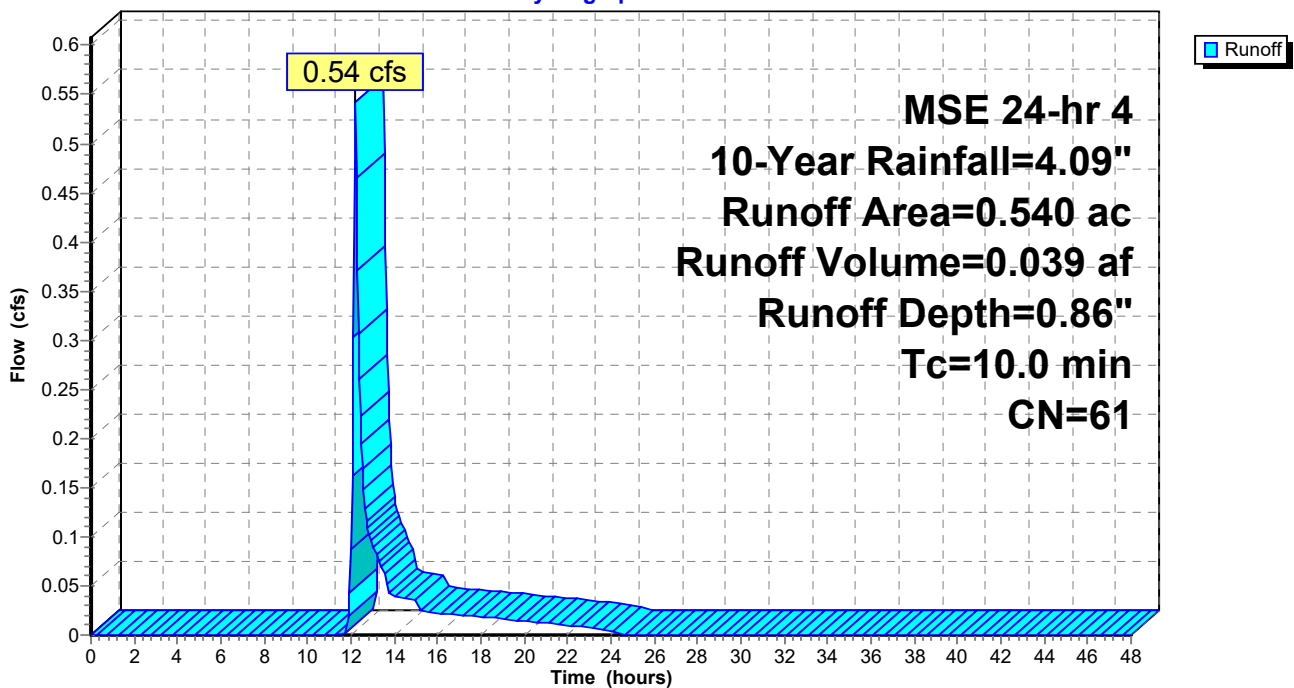
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4 OS: Offsite - Church

Hydrograph



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Page 205

Summary for Subcatchment 5 OS: Offsite - Funeral

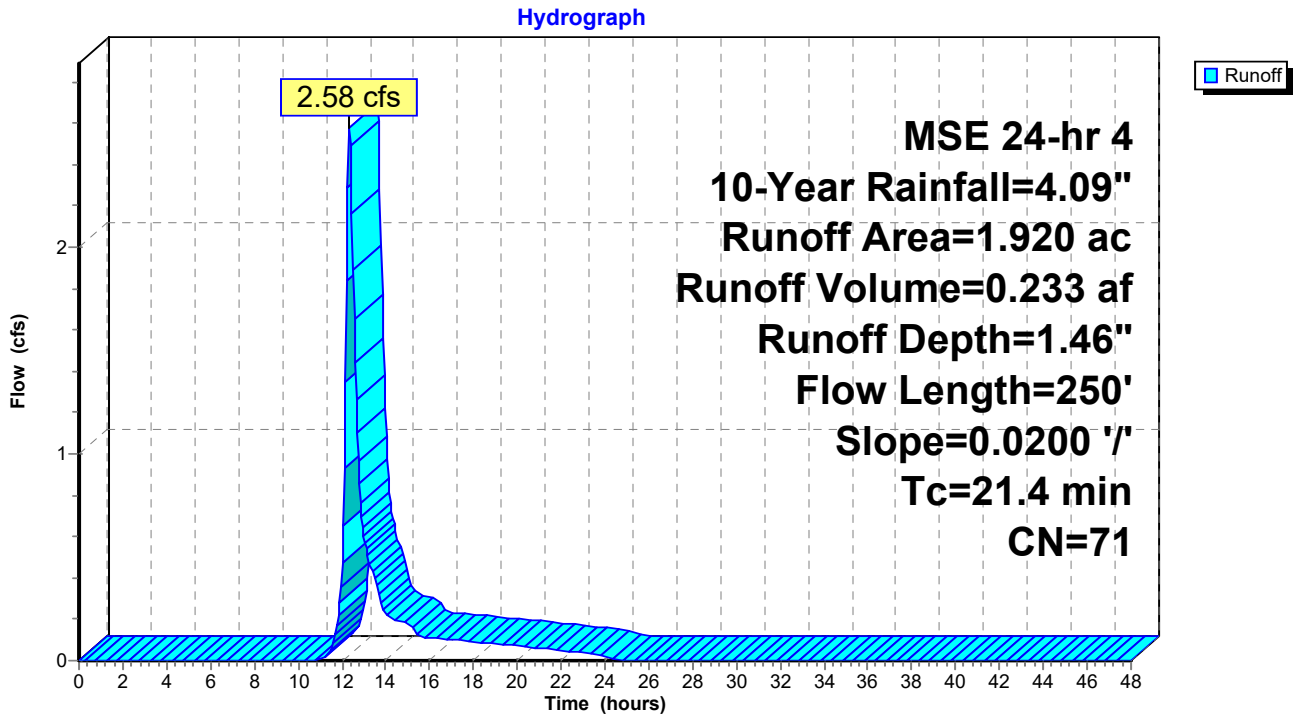
Runoff = 2.58 cfs @ 12.33 hrs, Volume= 0.233 af, Depth= 1.46"
 Routed to Pond WP R : Wet Pond R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5 OS: Offsite - Funeral



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 206

Summary for Subcatchment 30S: Prop. 30S

Runoff = 60.26 cfs @ 12.18 hrs, Volume= 3.775 af, Depth= 2.36"
 Routed to Pond WP A : Wet Pond A

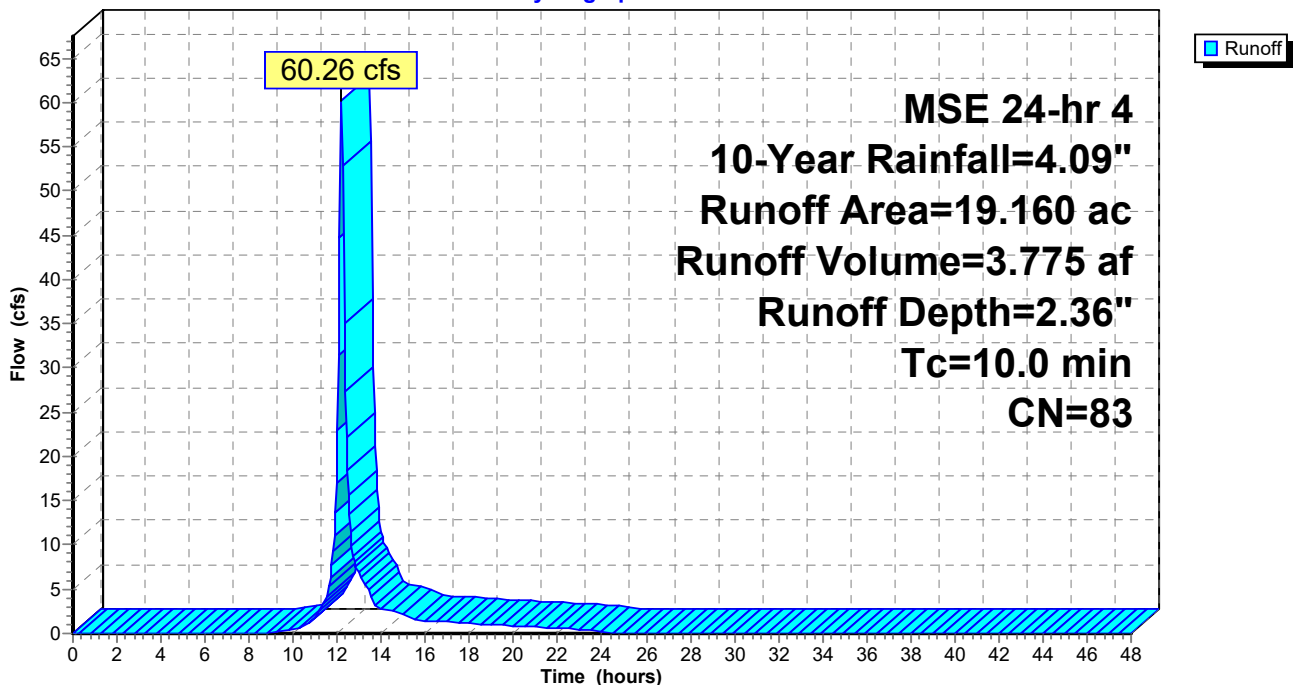
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 2.910	98	Roofs
* 1.450	98	Driveways
* 1.450	98	Sidewalks - House
* 0.900	98	Sidewalks - Street
* 3.240	98	Streets
7.780	61	>75% Grass cover, Good, HSG B
* 1.070	100	Wet Pond
* 0.360	100	Infiltration
19.160	83	Weighted Average
7.780		40.61% Pervious Area
11.380		59.39% Impervious Area

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

Subcatchment 30S: Prop. 30S

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 207

Summary for Subcatchment 31S: Future Commercial

Runoff = 15.33 cfs @ 12.32 hrs, Volume= 1.361 af, Depth= 1.26"
Routed to Pond WP A : Wet Pond A

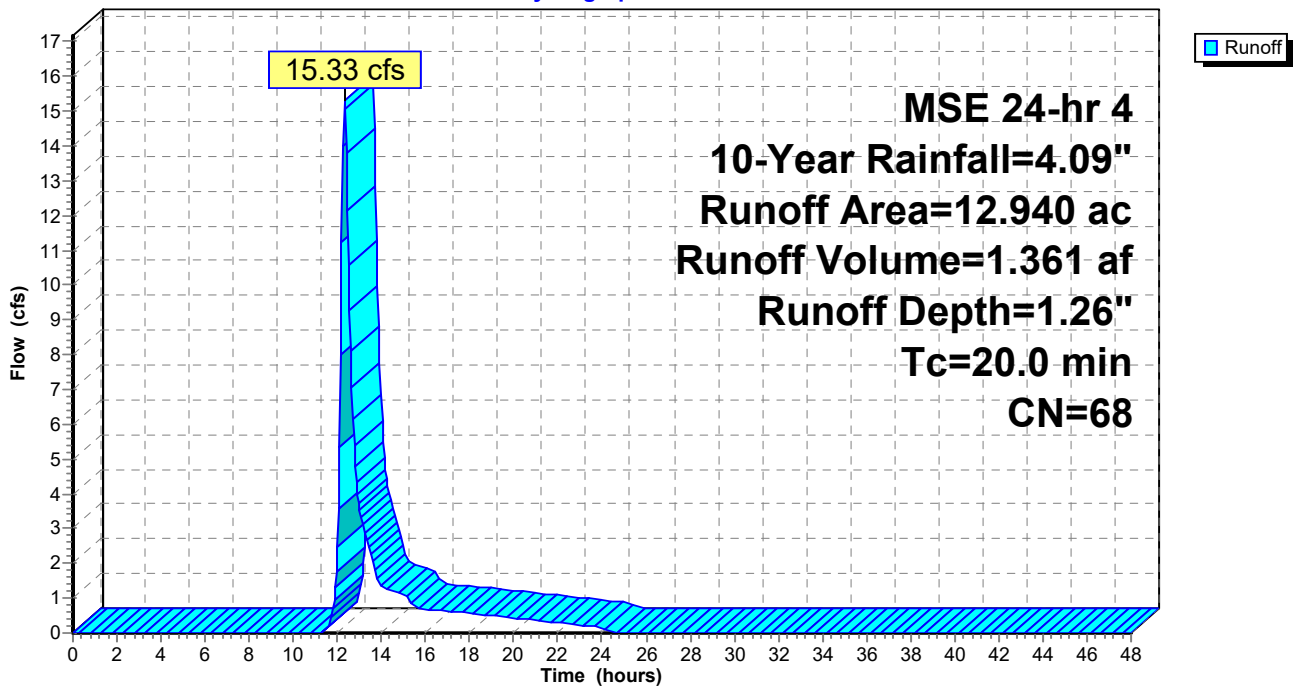
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 12.940	68	B Soil Row Crop
12.940		100.00% Pervious Area

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

Subcatchment 31S: Future Commercial

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 208

Summary for Subcatchment 32S: 32S

Runoff = 13.96 cfs @ 12.17 hrs, Volume= 0.894 af, Depth= 2.91"
Routed to Pond IP C : IP C

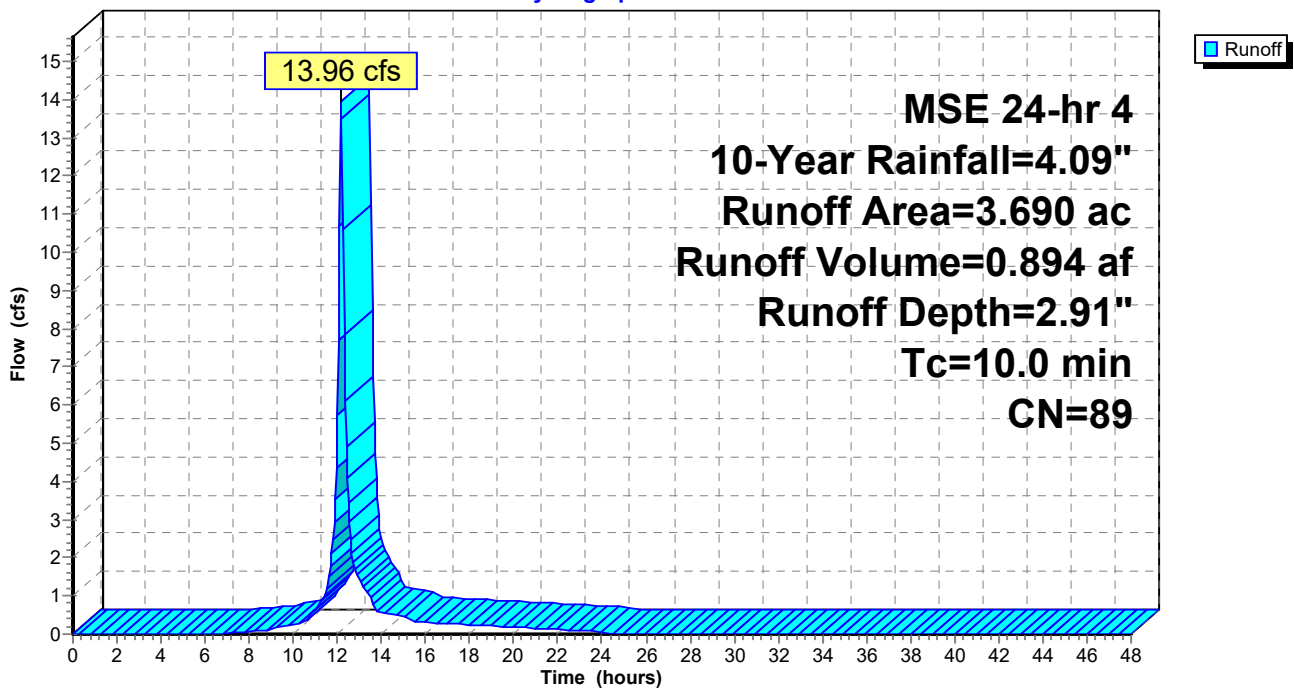
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.370	98	Roof
* 0.680	98	Patio
* 0.680	98	Driveways
0.860	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.690	89	Weighted Average
0.860		23.31% Pervious Area
2.830		76.69% Impervious Area

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

Subcatchment 32S: 32S

Hydrograph



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Page 209

Summary for Subcatchment 33S: 33S

Runoff = 12.76 cfs @ 12.17 hrs, Volume= 0.802 af, Depth= 2.54"
 Routed to Pond IP D : IP D

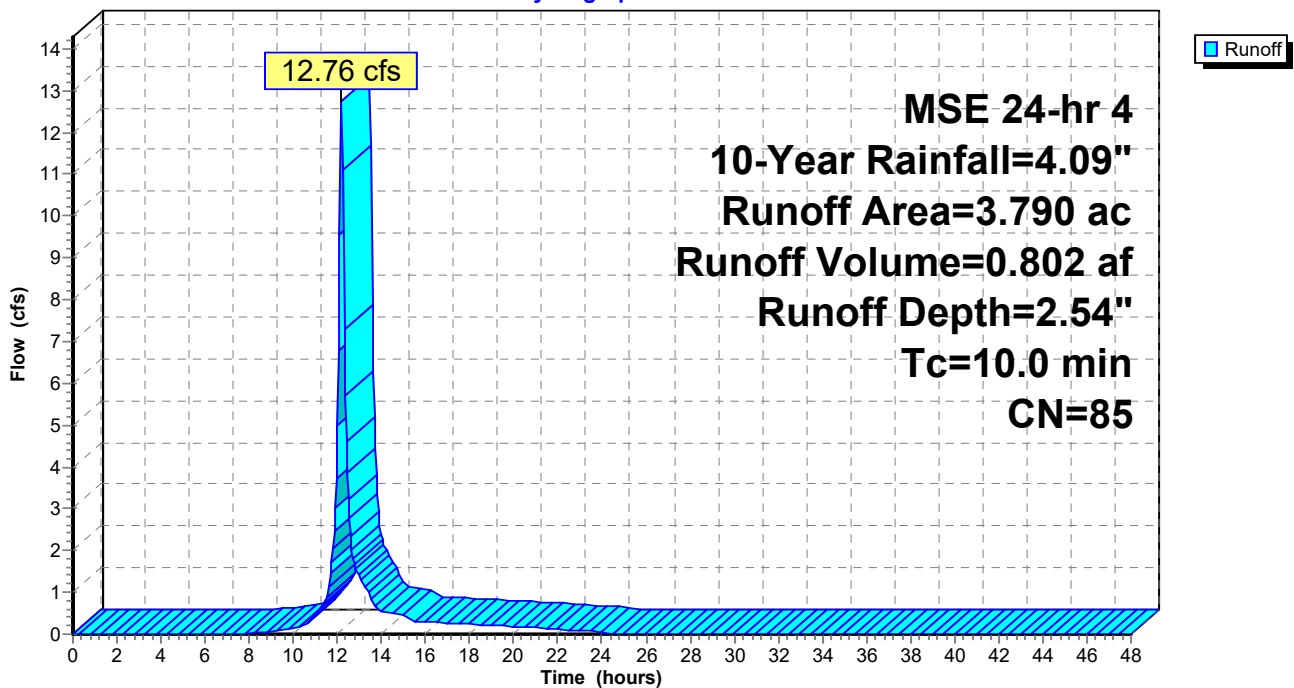
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.380	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.790	85	Weighted Average
1.380		36.41% Pervious Area
2.410		63.59% Impervious Area

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

Subcatchment 33S: 33S

Hydrograph



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Page 210

Summary for Subcatchment 34S: (new Subcat)

Runoff = 73.09 cfs @ 12.18 hrs, Volume= 4.559 af, Depth= 2.04"
 Routed to Pond WP B : Wet Pond B

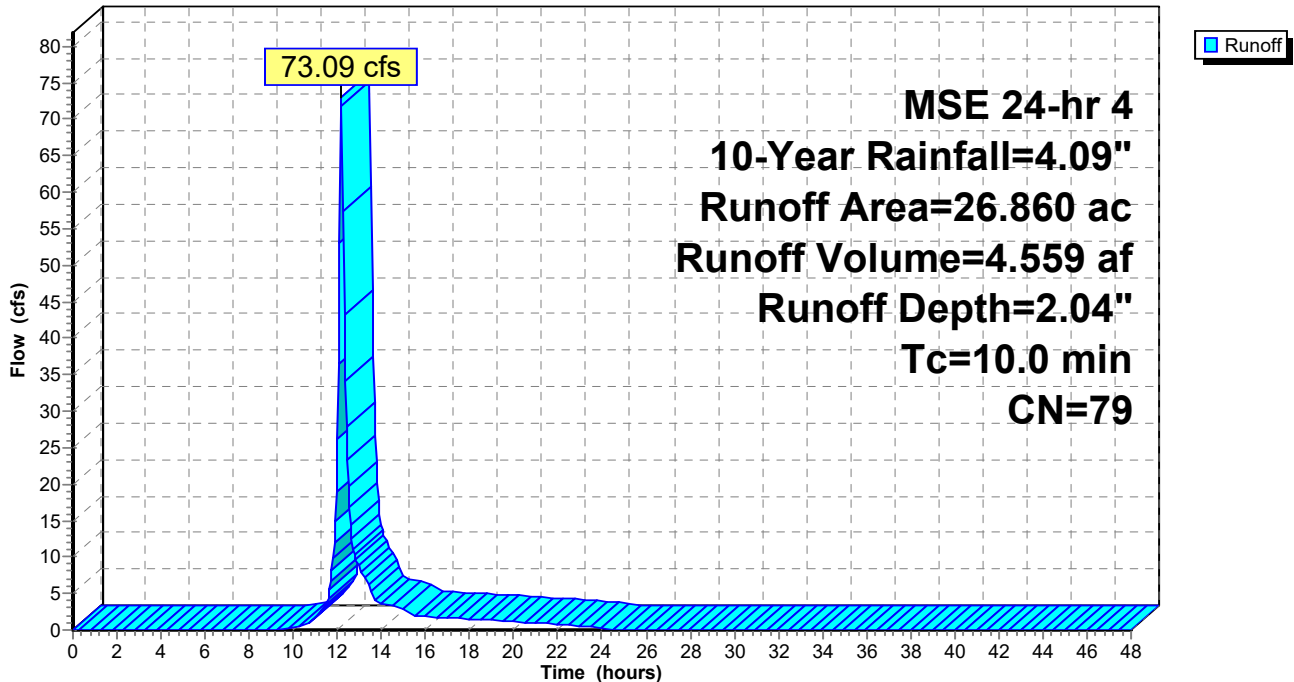
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 2.640	98	Roofs
* 0.210	98	Parking
* 1.320	98	Driveways
* 1.320	98	Sidewalks - House
* 1.190	98	Sidewalks - Street
* 4.050	98	Streets
13.820	61	>75% Grass cover, Good, HSG B
* 1.320	100	Wet Pond
* 0.990	100	Infiltration
26.860	79	Weighted Average
13.820		51.45% Pervious Area
13.040		48.55% Impervious Area

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

Subcatchment 34S: (new Subcat)

Hydrograph



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Page 211

Summary for Subcatchment 35S: 35S

Runoff = 12.45 cfs @ 12.18 hrs, Volume= 0.782 af, Depth= 2.45"
Routed to Pond IP E : IP E

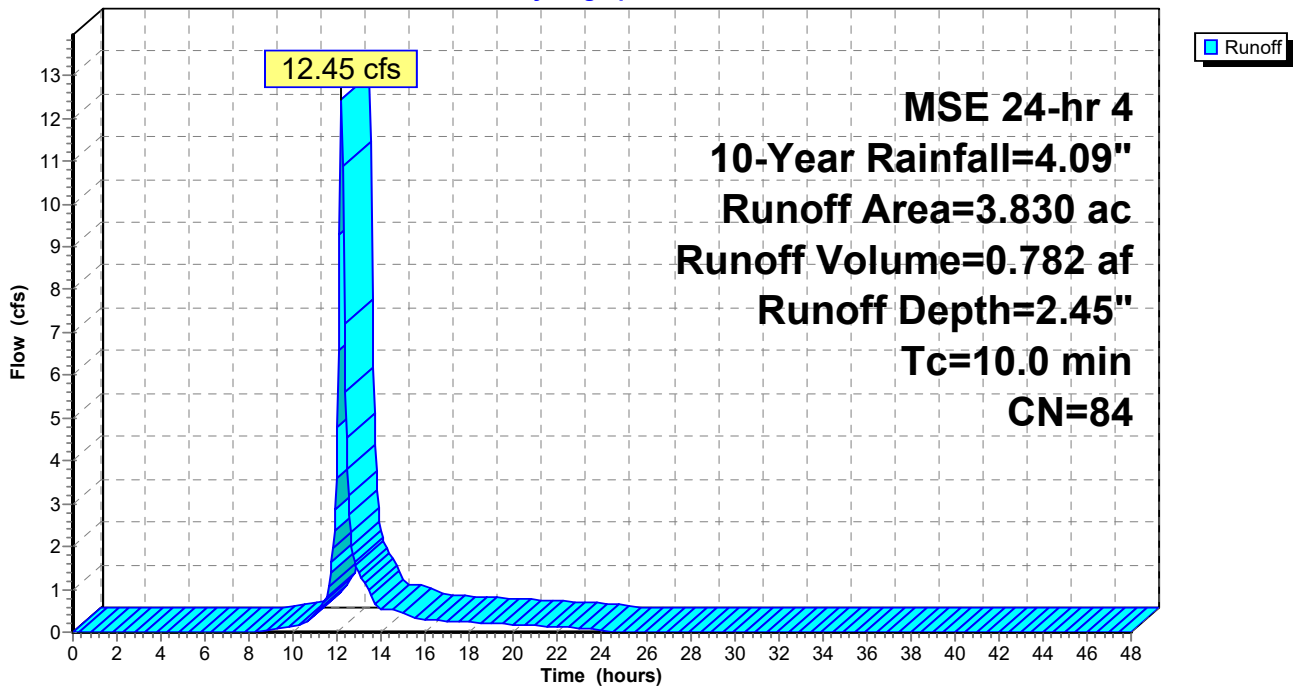
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.420	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.830	84	Weighted Average
1.420		37.08% Pervious Area
2.410		62.92% Impervious Area

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

Subcatchment 35S: 35S

Hydrograph



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Page 212

Summary for Subcatchment 36S: (new Subcat)

Runoff = 16.35 cfs @ 12.17 hrs, Volume= 1.041 af, Depth= 2.81"
Routed to Pond IP F : IP F

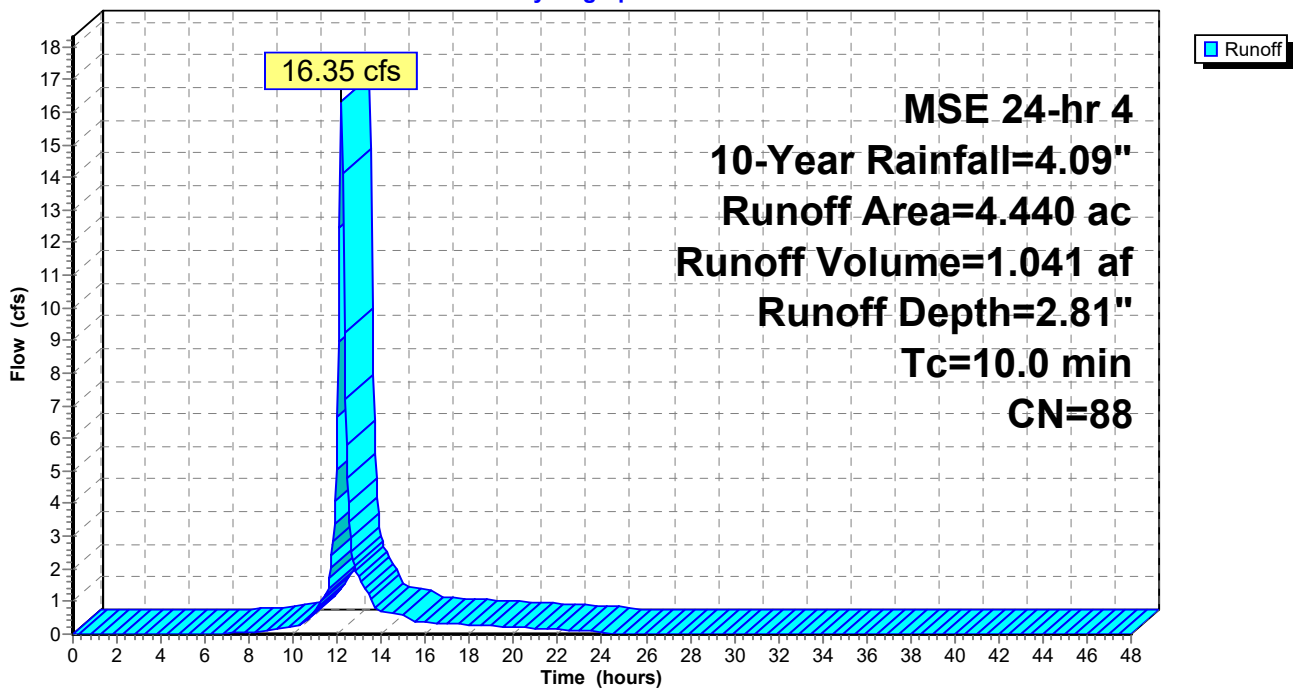
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.490	98	Roof
* 0.750	98	Patio
* 0.750	98	Driveways
1.260	61	>75% Grass cover, Good, HSG B
* 0.190	100	Infiltration Basin
4.440	88	Weighted Average
1.260		28.38% Pervious Area
3.180		71.62% Impervious Area

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

Subcatchment 36S: (new Subcat)

Hydrograph



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Page 213

Summary for Subcatchment 37S: (new Subcat)

Runoff = 15.42 cfs @ 12.17 hrs, Volume= 0.977 af, Depth= 2.72"
 Routed to Pond IP G : IP G

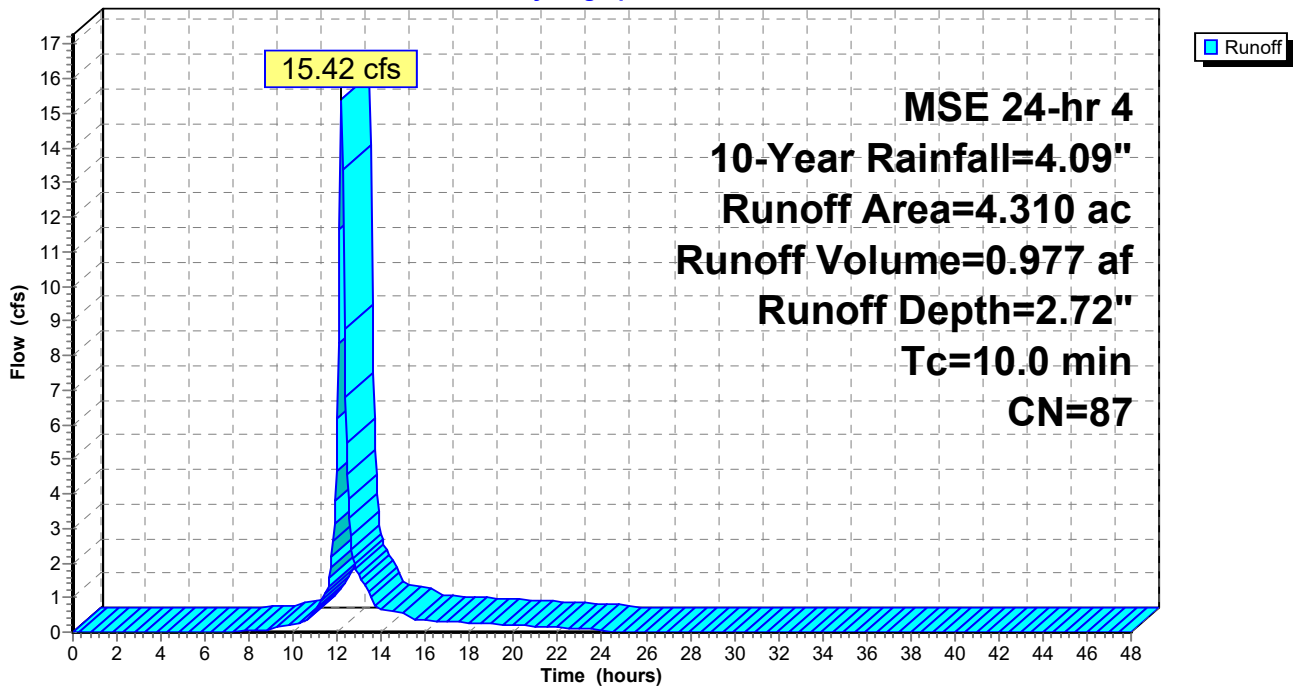
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.420	98	Roof
* 0.710	98	Patio
* 0.710	98	Driveways
1.270	61	>75% Grass cover, Good, HSG B
* 0.200	100	Infiltration Basin
4.310	87	Weighted Average
1.270		29.47% Pervious Area
3.040		70.53% Impervious Area

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

Subcatchment 37S: (new Subcat)

Hydrograph



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Page 214

Summary for Subcatchment 38S: (new Subcat)

Runoff = 8.62 cfs @ 12.17 hrs, Volume= 0.546 af, Depth= 2.72"
 Routed to Pond IP H : IP H

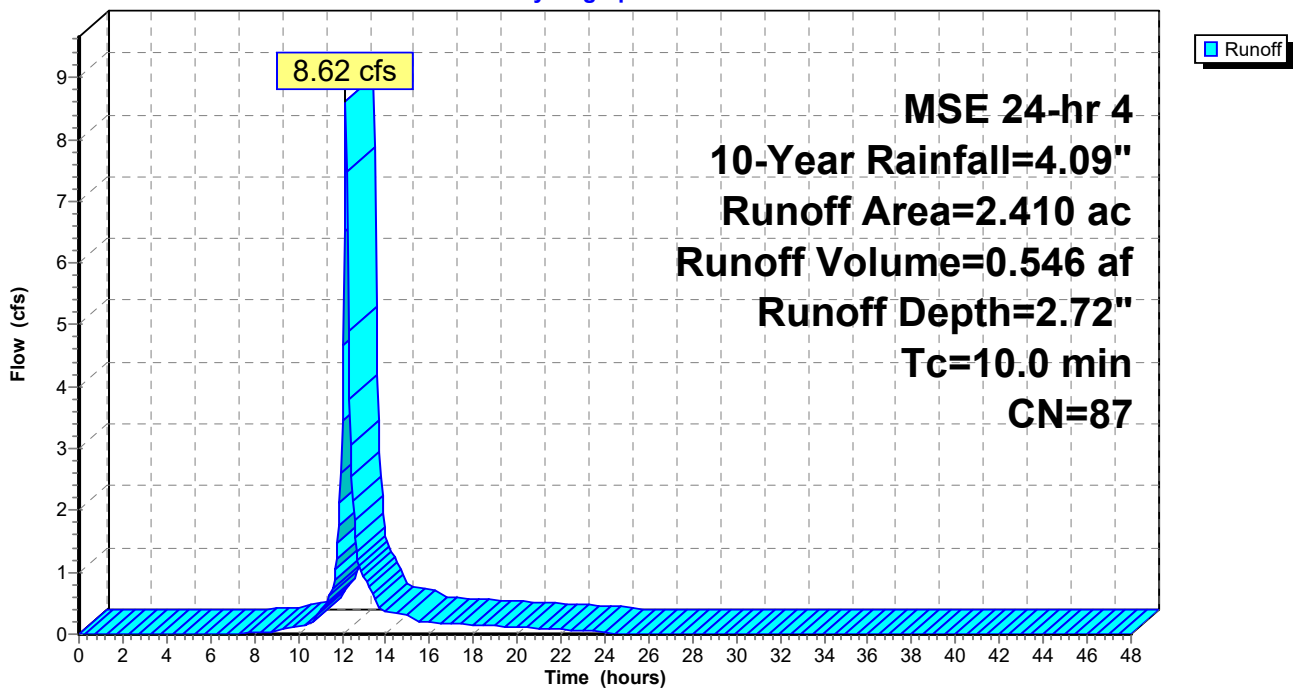
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.830	98	Roof
* 0.420	98	Patio
* 0.420	98	Driveways
0.710	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.410	87	Weighted Average
0.710		29.46% Pervious Area
1.700		70.54% Impervious Area

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

Subcatchment 38S: (new Subcat)

Hydrograph



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Page 215

Summary for Subcatchment 39S: Prop. 39S

Runoff = 18.95 cfs @ 12.17 hrs, Volume= 1.191 af, Depth= 2.54"
 Routed to Pond BIO J : Bio J

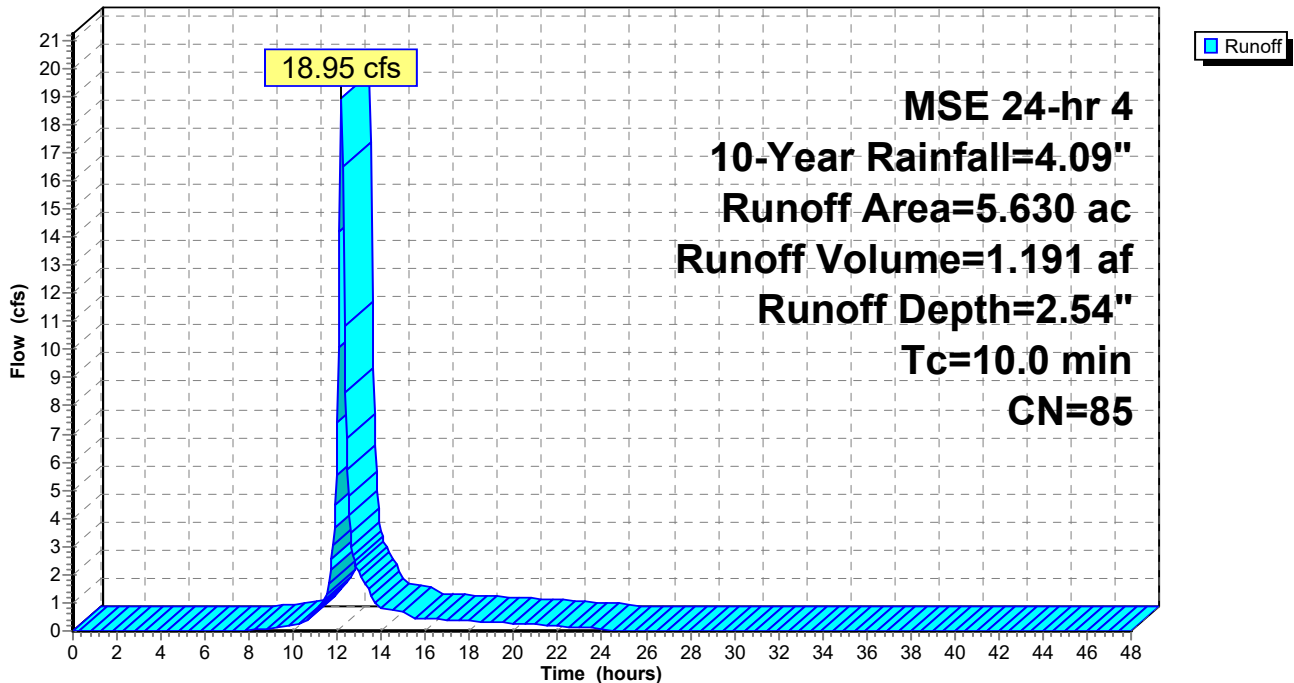
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.660	98	Roof
* 0.830	98	Patio
* 0.830	98	Driveways
* 0.030	98	Sidewalk
* 0.100	98	Street
2.060	61	>75% Grass cover, Good, HSG B
* 0.120	100	Infiltration Basin
5.630	85	Weighted Average
2.060		36.59% Pervious Area
3.570		63.41% Impervious Area

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

Subcatchment 39S: Prop. 39S

Hydrograph



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Page 216

Summary for Subcatchment 40S: Prop. 40S

Runoff = 14.95 cfs @ 12.17 hrs, Volume= 0.947 af, Depth= 2.72"
 Routed to Pond BIO K : Bio K

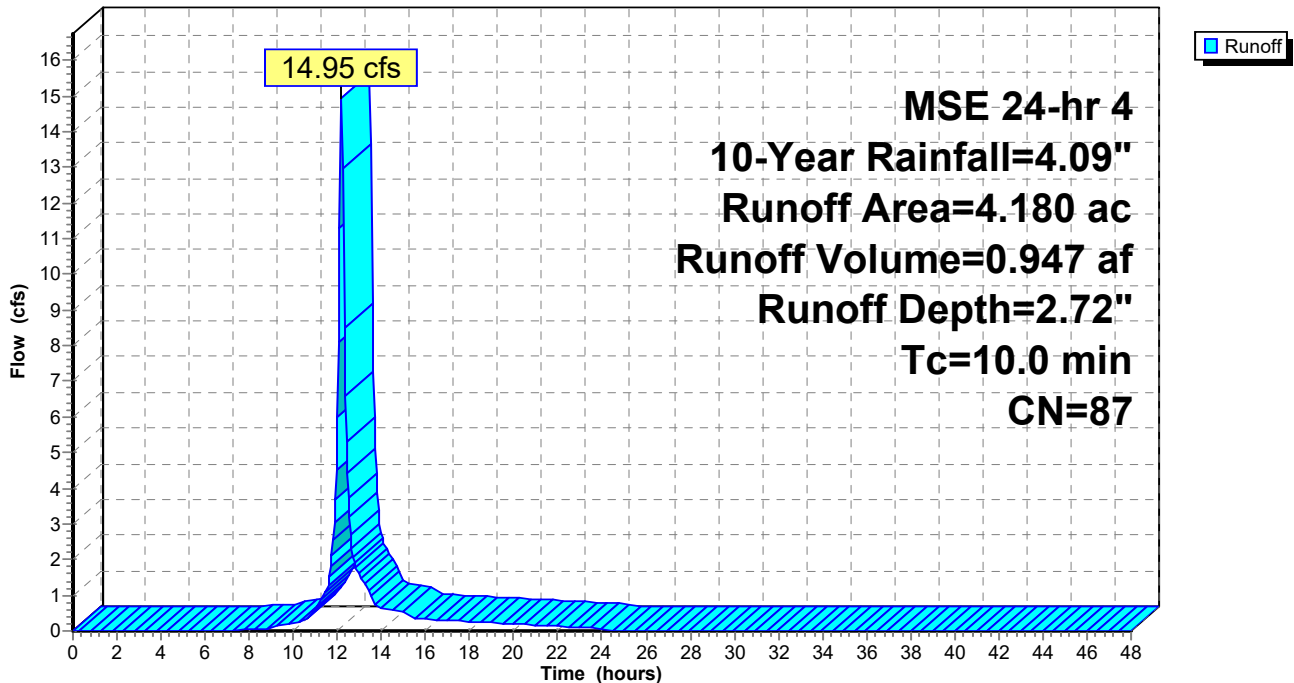
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.960	98	Roof
* 0.480	98	Patio
* 0.480	98	Driveways
* 0.190	98	Sidewalk
* 0.670	98	Street
1.300	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
4.180	87	Weighted Average
1.300		31.10% Pervious Area
2.880		68.90% Impervious Area

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

Subcatchment 40S: Prop. 40S

Hydrograph



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Page 217

Summary for Subcatchment 41S: Prop. 41S

Runoff = 7.85 cfs @ 12.17 hrs, Volume= 0.495 af, Depth= 2.63"
Routed to Pond IP L : Inf L

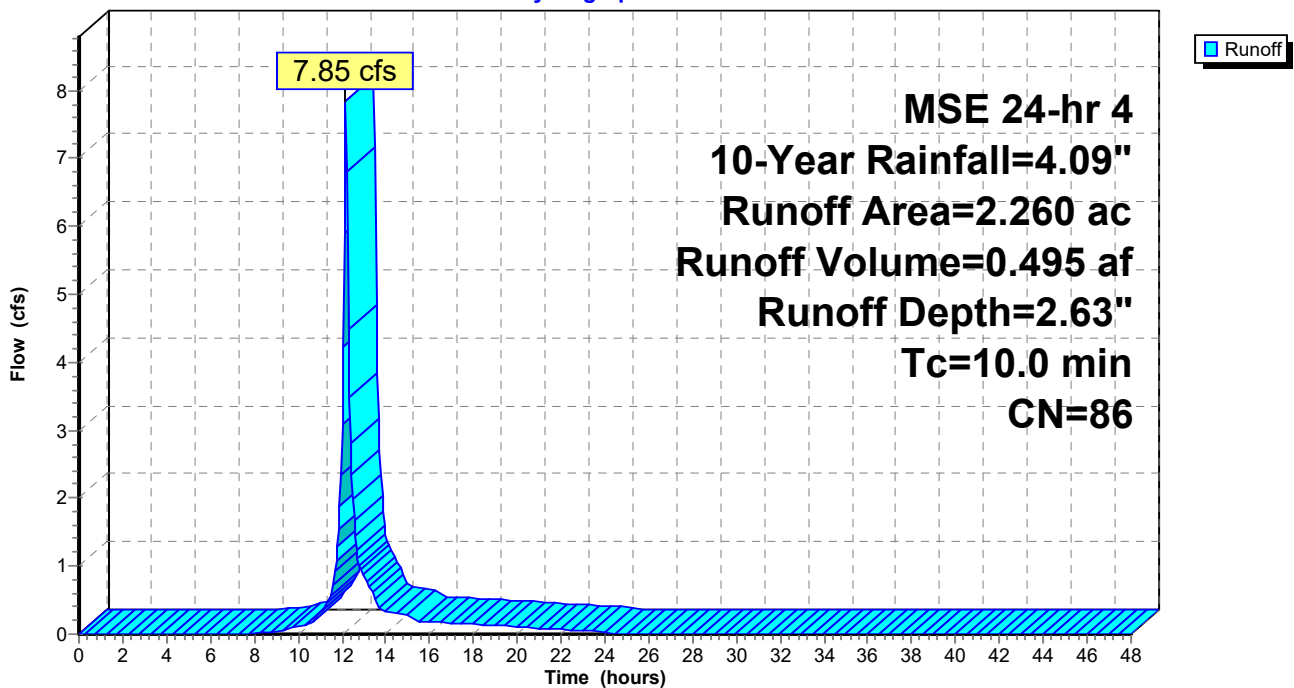
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.750	98	Roof
* 0.380	98	Patio
* 0.380	98	Driveways
0.720	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.260	86	Weighted Average
0.720		31.86% Pervious Area
1.540		68.14% Impervious Area

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

Subcatchment 41S: Prop. 41S

Hydrograph



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Page 218

Summary for Subcatchment 42S: Prop. 42S

Runoff = 3.54 cfs @ 12.18 hrs, Volume= 0.223 af, Depth= 2.45"
Routed to Pond IP M : Inf M

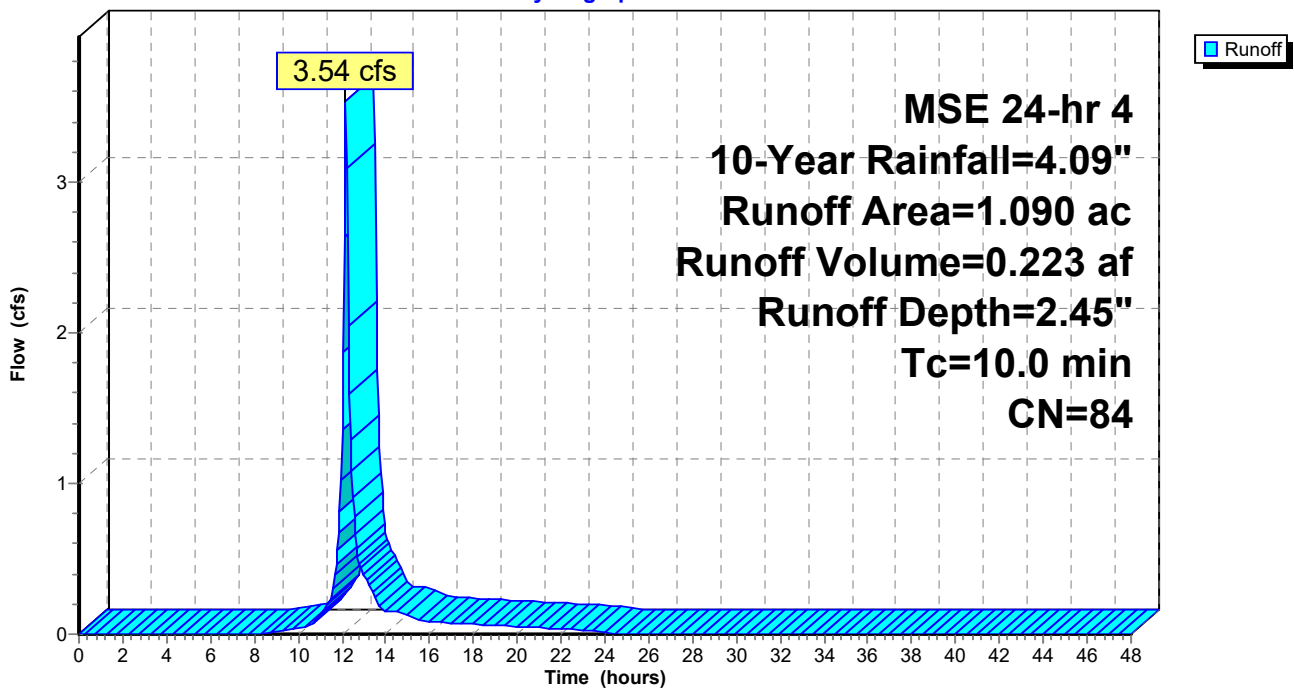
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.300	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.430	61	>75% Grass cover, Good, HSG B
* 0.060	100	Infiltration Basin
1.090	84	Weighted Average
0.430		39.45% Pervious Area
0.660		60.55% Impervious Area

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

Subcatchment 42S: Prop. 42S

Hydrograph



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Page 219

Summary for Subcatchment 43S: Prop. 43S

Runoff = 13.56 cfs @ 12.18 hrs, Volume= 0.849 af, Depth= 2.36"
 Routed to Pond BIO N : Bio N

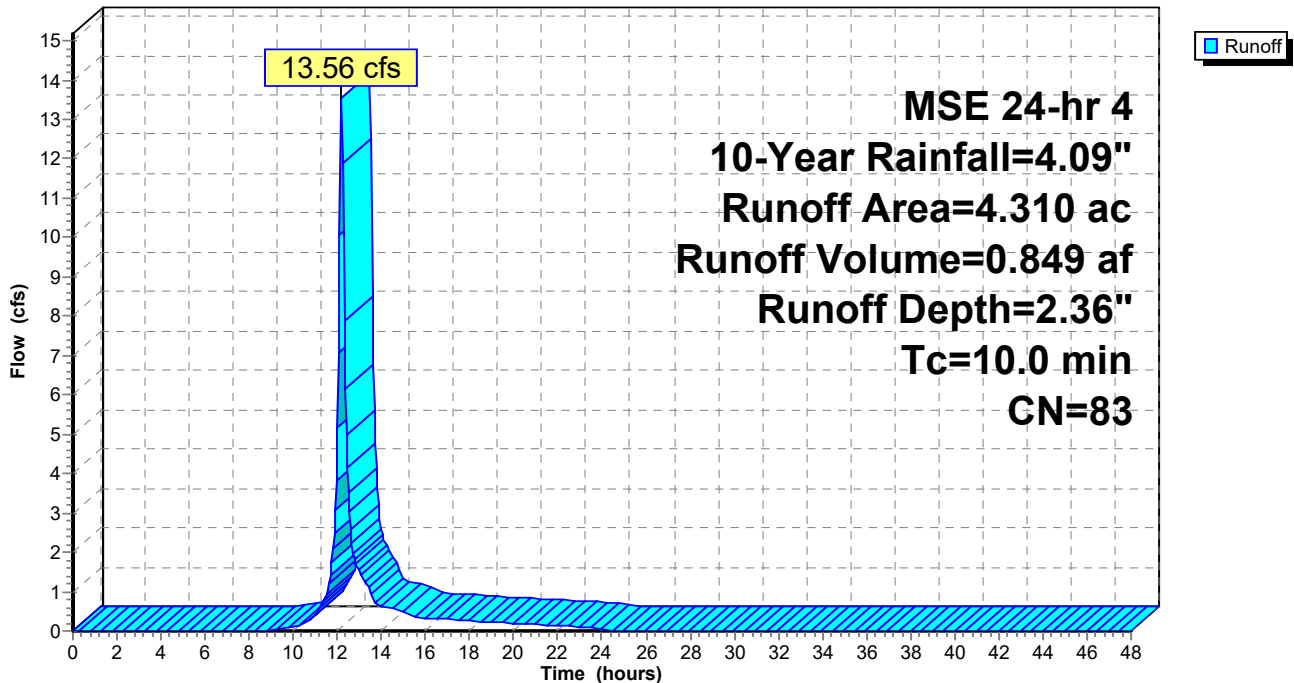
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 43S: Prop. 43S

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 220

Summary for Subcatchment 44S: Prop. 44S

Runoff = 13.56 cfs @ 12.18 hrs, Volume= 0.849 af, Depth= 2.36"
 Routed to Pond BIO O : Bio O

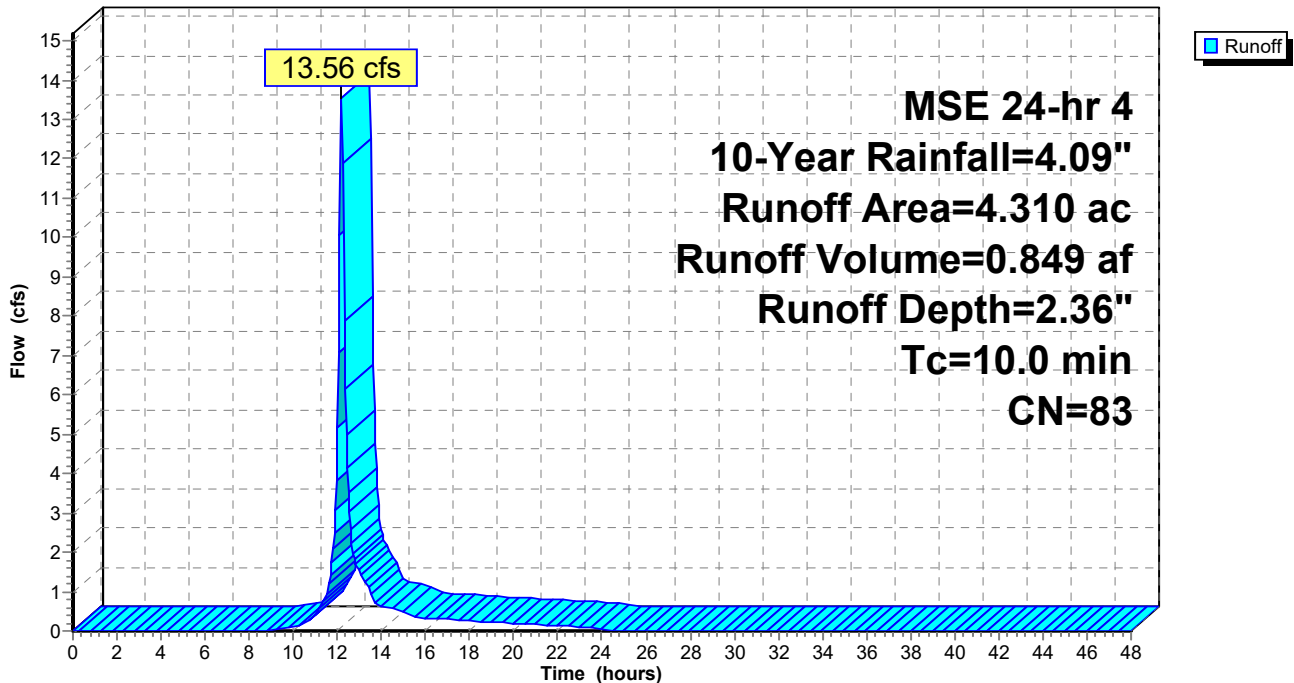
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 44S: Prop. 44S

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 221

Summary for Subcatchment 45S: Prop. 45S

Runoff = 28.90 cfs @ 12.18 hrs, Volume= 1.807 af, Depth= 2.28"
 Routed to Pond WP P : Wet Pond P

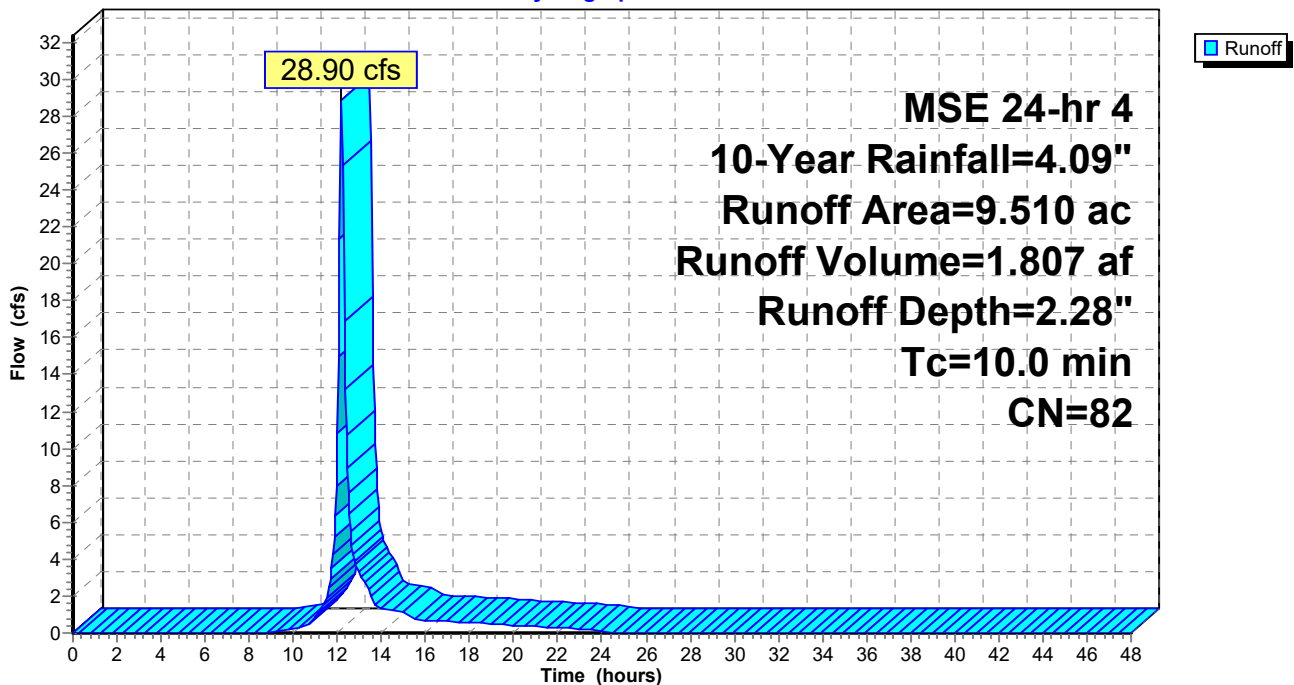
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.690	98	Roofs
* 0.190	98	Parking
* 0.850	98	Driveways
* 0.850	98	Sidewalks - House
* 0.280	98	Sidewalks - Street
* 1.050	98	Streets
4.100	61	>75% Grass cover, Good, HSG B
* 0.250	100	Wet Pond
* 0.250	100	Infiltration
9.510	82	Weighted Average
4.100		43.11% Pervious Area
5.410		56.89% Impervious Area

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

Subcatchment 45S: Prop. 45S

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 222

Summary for Subcatchment 46S: Prop. 46S

Runoff = 41.59 cfs @ 12.23 hrs, Volume= 3.059 af, Depth= 2.63"
 Routed to Pond WP Q : Wet Pond Q

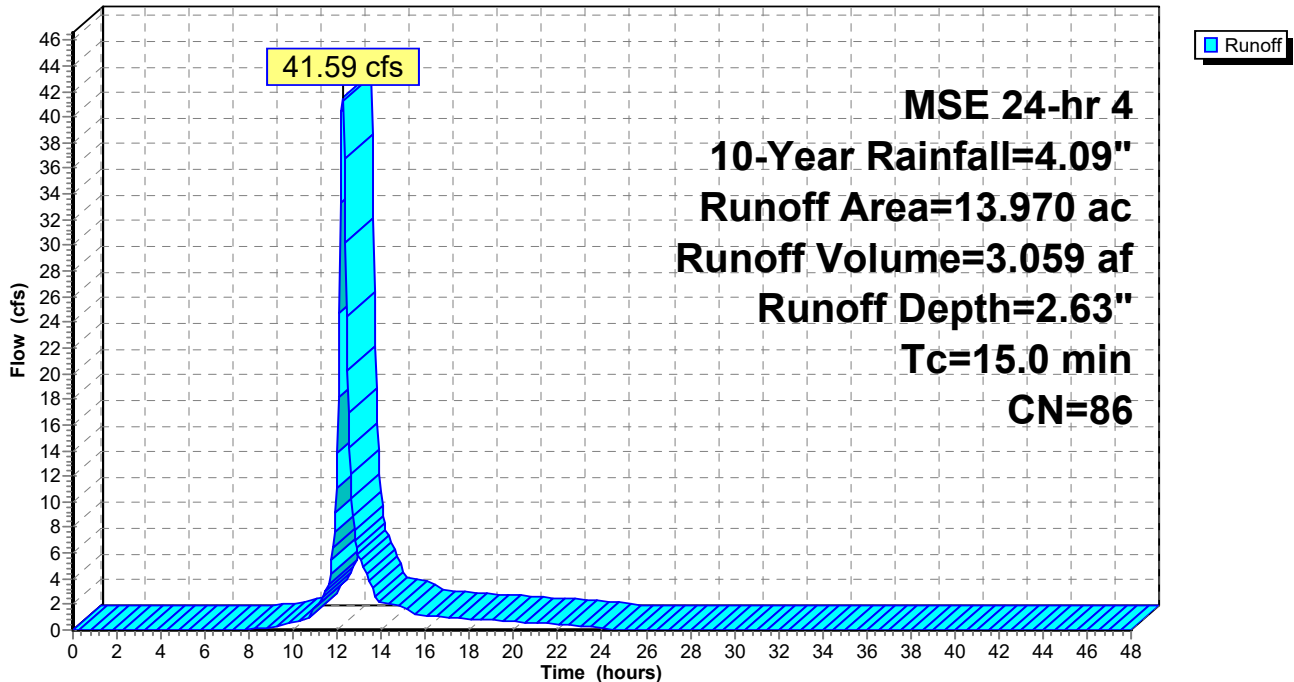
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 3.370	98	Roofs
* 0.080	98	Parking
* 1.680	98	Driveways
* 1.680	98	Sidewalks - House
* 0.510	98	Sidewalks - Street
* 2.050	98	Streets
4.370	61	>75% Grass cover, Good, HSG B
* 0.130	100	Wet Pond
* 0.100	100	Infiltration
13.970	86	Weighted Average
4.370		31.28% Pervious Area
9.600		68.72% Impervious Area

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

Subcatchment 46S: Prop. 46S

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 223

Summary for Subcatchment 47S: Prop. 47S

Runoff = 7.80 cfs @ 12.18 hrs, Volume= 0.487 af, Depth= 2.20"
 Routed to Pond WP R : Wet Pond R

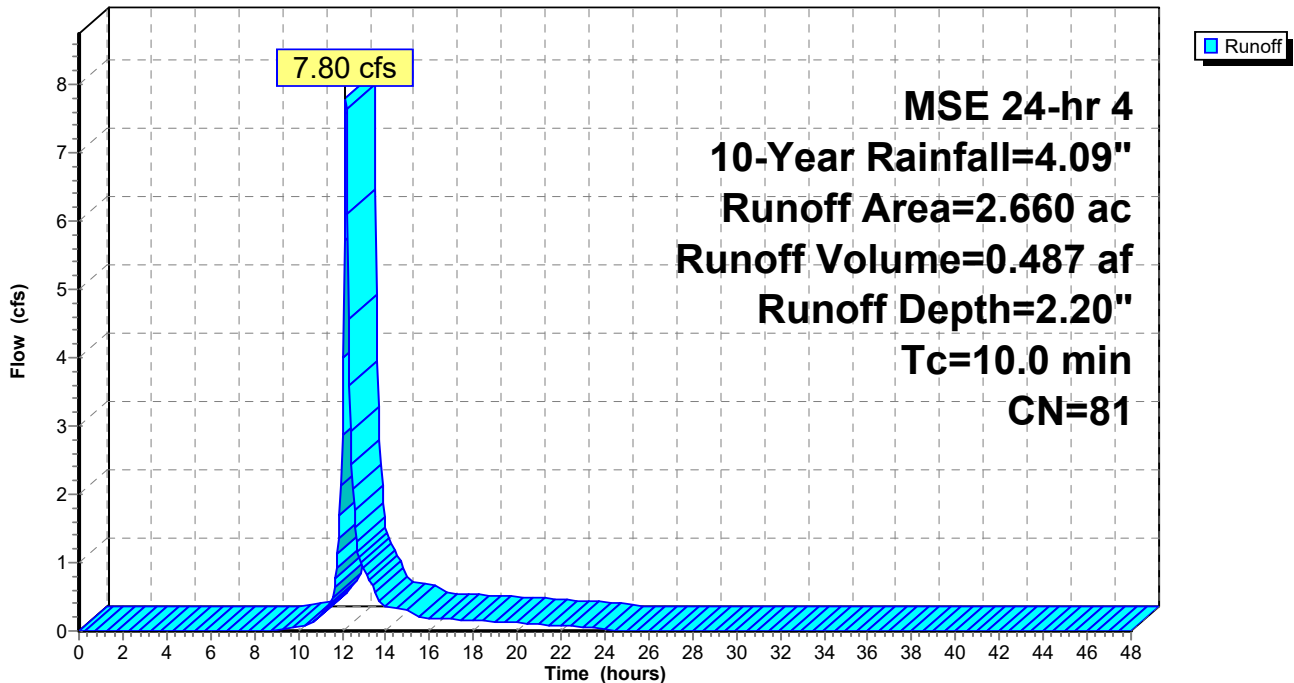
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.350	98	Roofs
* 0.180	98	Driveways
* 0.180	98	Sidewalks - House
* 0.060	98	Sidewalks - Street
* 0.500	98	Streets
1.210	61	>75% Grass cover, Good, HSG B
* 0.180	100	Wet Pond
2.660	81	Weighted Average
1.210		45.49% Pervious Area
1.450		54.51% Impervious Area

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

Subcatchment 47S: Prop. 47S

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 224

Summary for Subcatchment 48S: Prop. 48S

Runoff = 8.73 cfs @ 12.17 hrs, Volume= 0.553 af, Depth= 2.72"
 Routed to Pond Bio S : Bio S

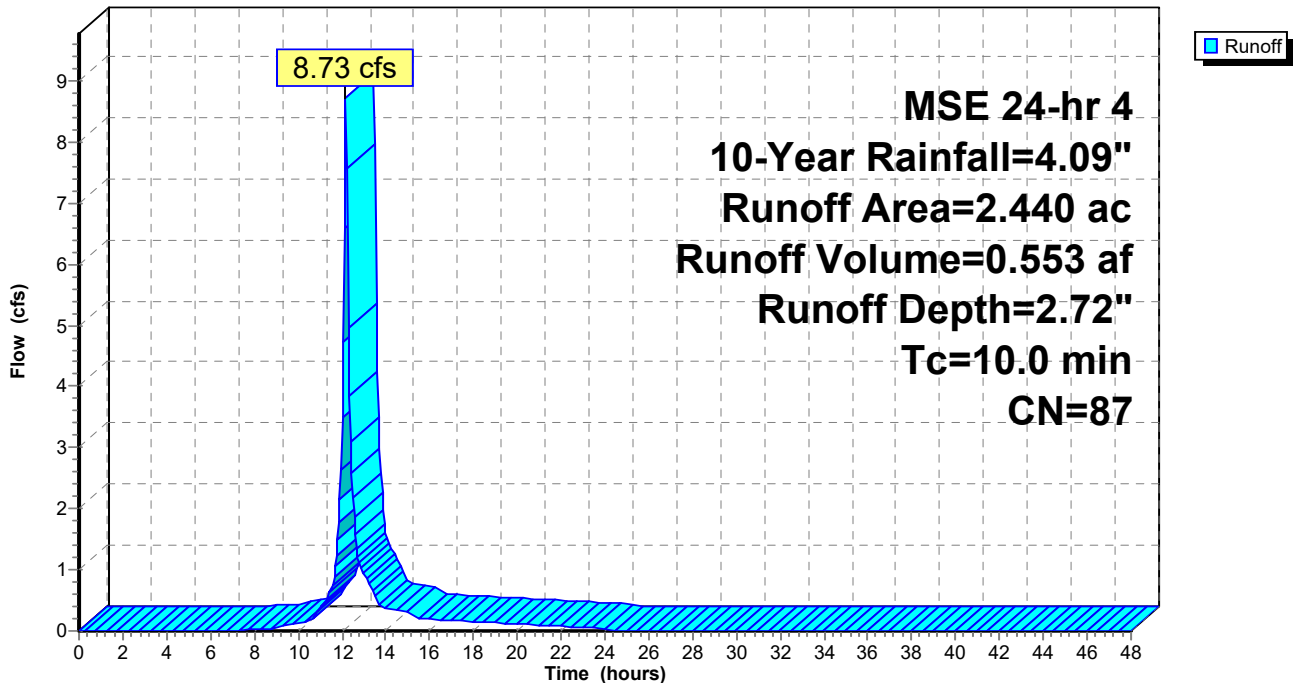
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.430	98	Roof
* 0.220	98	Patio
* 0.210	98	Driveways
* 0.170	98	Sidewalk
* 0.600	98	Street
0.720	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.440	87	Weighted Average
0.720		29.51% Pervious Area
1.720		70.49% Impervious Area

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

Subcatchment 48S: Prop. 48S

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 225

Summary for Subcatchment 49S: 49S

Runoff = 8.05 cfs @ 12.17 hrs, Volume= 0.510 af, Depth= 2.72"
 Routed to Pond IP T : Infil T

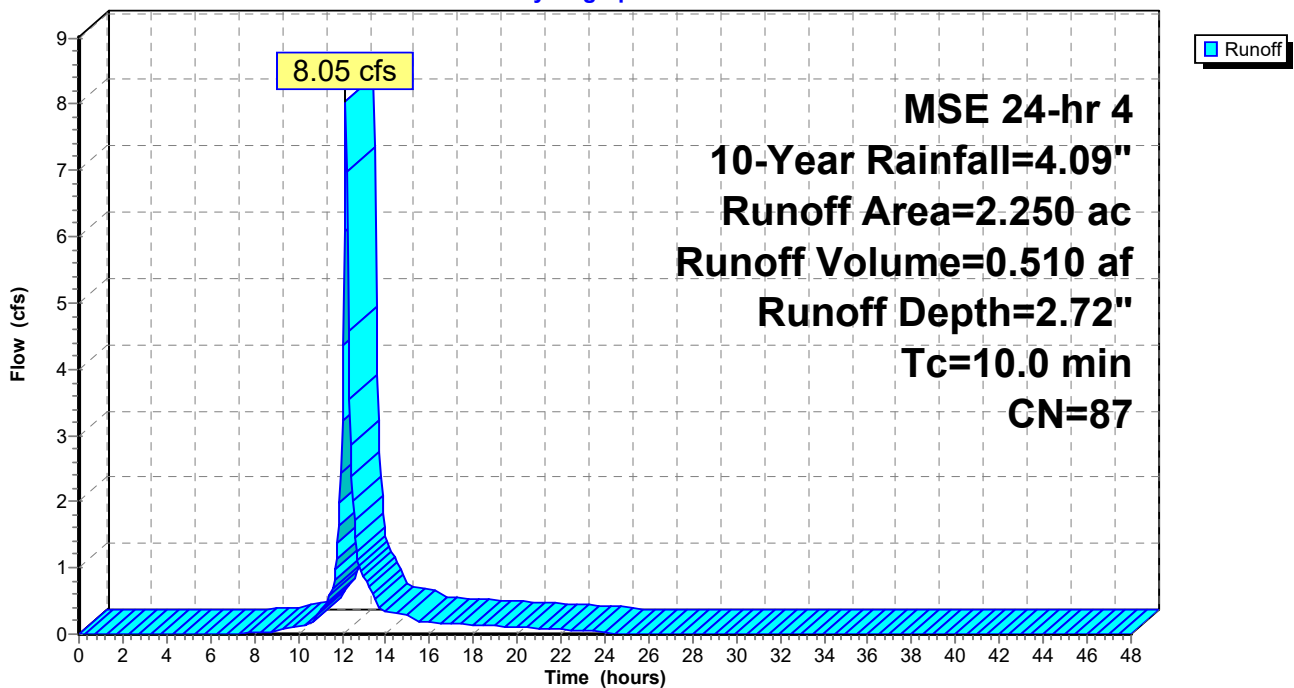
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.740	98	Roof
* 0.370	98	Patio
* 0.370	98	Driveways
0.680	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.250	87	Weighted Average
0.680		30.22% Pervious Area
1.570		69.78% Impervious Area

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

Subcatchment 49S: 49S

Hydrograph



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Page 226

Summary for Subcatchment 50S: Prop. 50S

Runoff = 17.64 cfs @ 12.17 hrs, Volume= 1.108 af, Depth= 2.54"
 Routed to Pond WP U : Wet Pond U

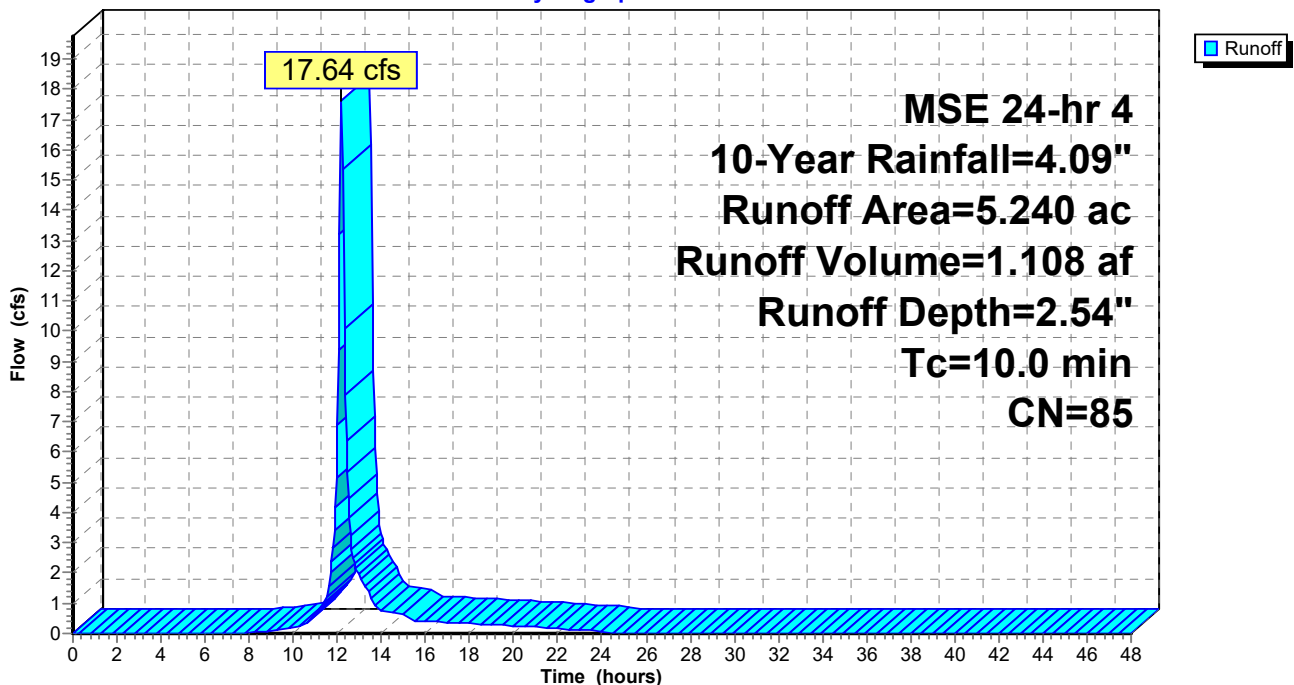
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.420	98	Roofs
* 0.210	98	Driveways
* 0.210	98	Sidewalks - House
* 0.500	98	Sidewalks - Street
* 1.800	98	Streets
1.790	61	>75% Grass cover, Good, HSG B
* 0.160	100	Wet Pond
* 0.150	100	Infiltration
5.240	85	Weighted Average
1.790		34.16% Pervious Area
3.450		65.84% Impervious Area

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

Subcatchment 50S: Prop. 50S

Hydrograph



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Page 227

Summary for Subcatchment 51S: Prop. 51S

Runoff = 4.87 cfs @ 12.18 hrs, Volume= 0.305 af, Depth= 2.36"
Routed to Pond IP V : Infil V

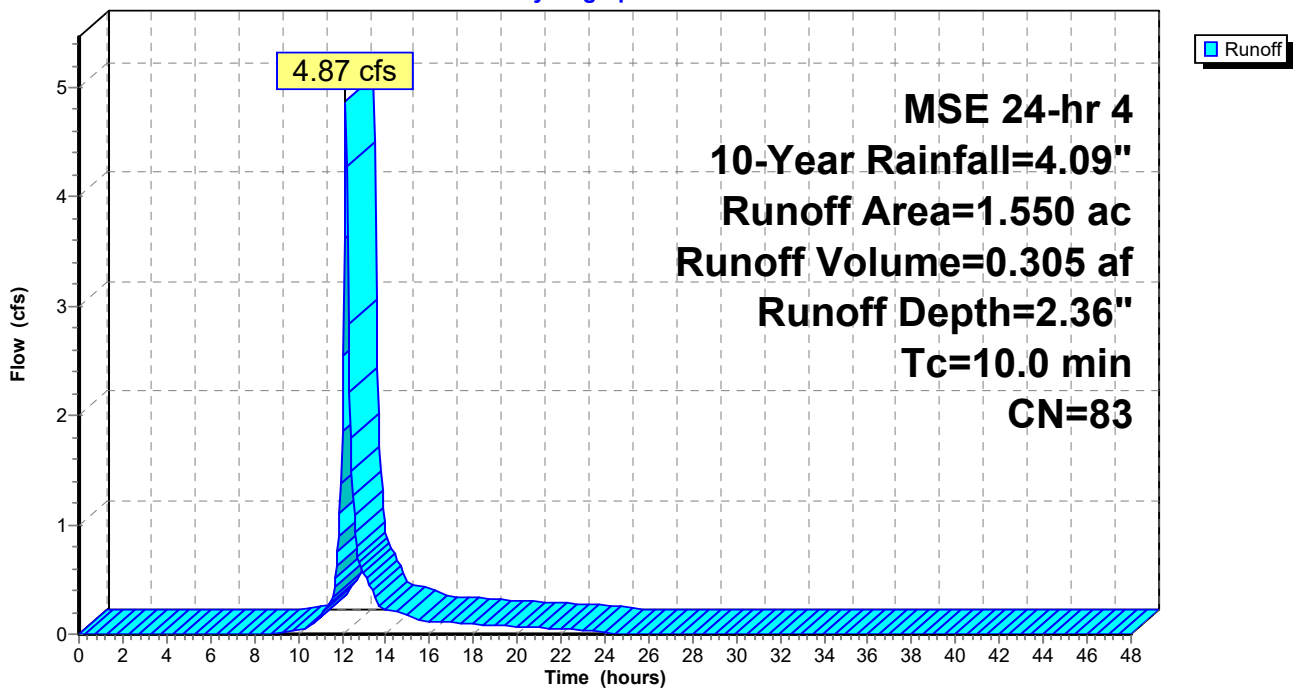
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.290	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.660	61	>75% Grass cover, Good, HSG B
* 0.300	100	Infiltration Basin
1.550	83	Weighted Average
0.660		42.58% Pervious Area
0.890		57.42% Impervious Area

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

Subcatchment 51S: Prop. 51S

Hydrograph



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Page 228

Summary for Subcatchment 52S: Prop. 52S

Runoff = 12.31 cfs @ 12.17 hrs, Volume= 0.780 af, Depth= 2.72"
 Routed to Pond IP W : Infil W

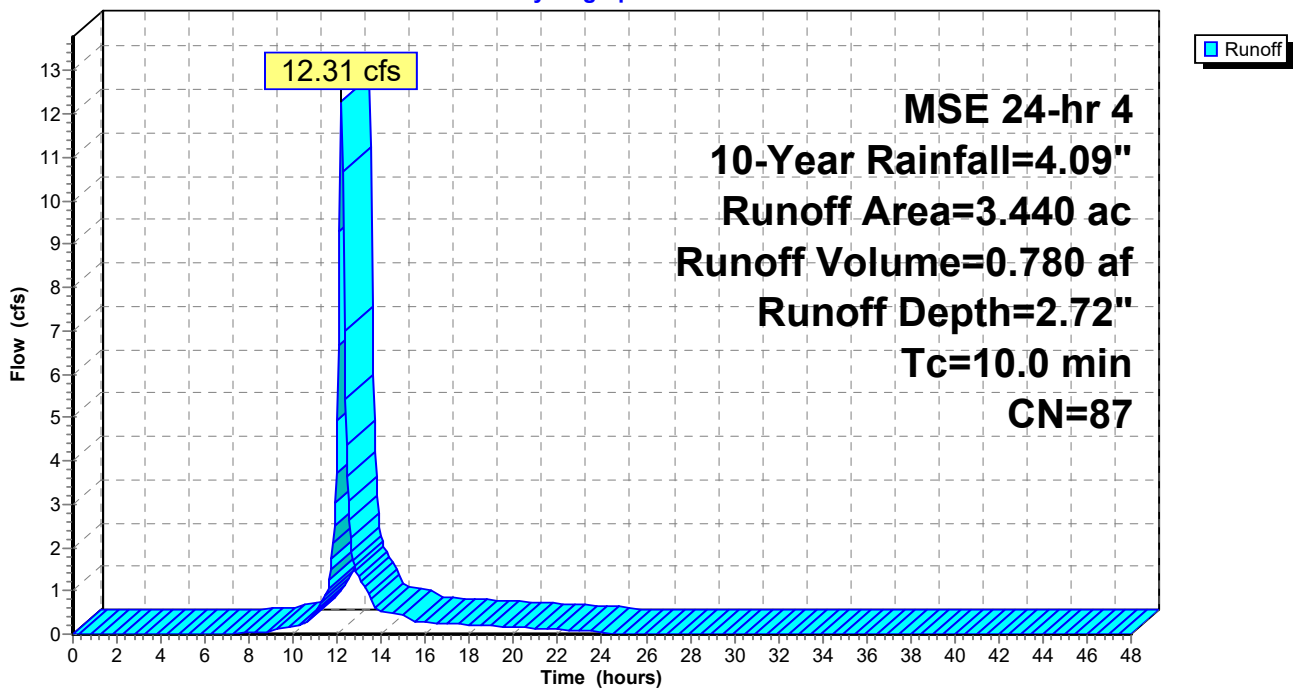
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.170	98	Roof
* 0.590	98	Patio
* 0.590	98	Driveways
1.070	61	>75% Grass cover, Good, HSG B
* 0.020	100	Infiltration Basin
3.440	87	Weighted Average
1.070		31.10% Pervious Area
2.370		68.90% Impervious Area

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

Subcatchment 52S: Prop. 52S

Hydrograph



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Page 229

Summary for Subcatchment 53S: Prop. 53S

Runoff = 14.06 cfs @ 12.17 hrs, Volume= 0.887 af, Depth= 2.63"
 Routed to Pond Bio X : Bio X

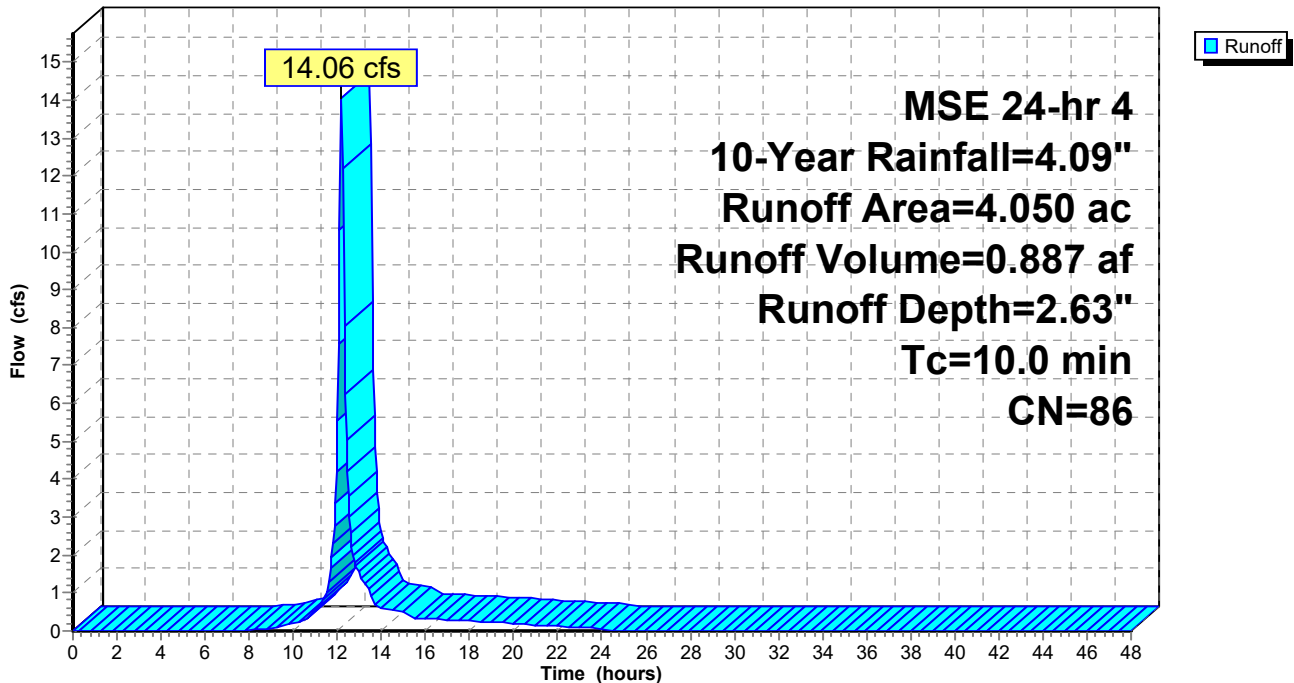
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.000	98	Roof
* 0.000	98	Patio
* 0.000	98	Driveways
* 0.570	98	Sidewalk
* 2.020	98	Street
1.330	61	>75% Grass cover, Good, HSG B
* 0.130	100	Infiltration Basin
4.050	86	Weighted Average
1.330		32.84% Pervious Area
2.720		67.16% Impervious Area

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

Subcatchment 53S: Prop. 53S

Hydrograph



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Page 230

Summary for Subcatchment 54S: Future 54S

Runoff = 4.32 cfs @ 12.25 hrs, Volume= 0.331 af, Depth= 1.26"
Routed to Pond Bio X : Bio X

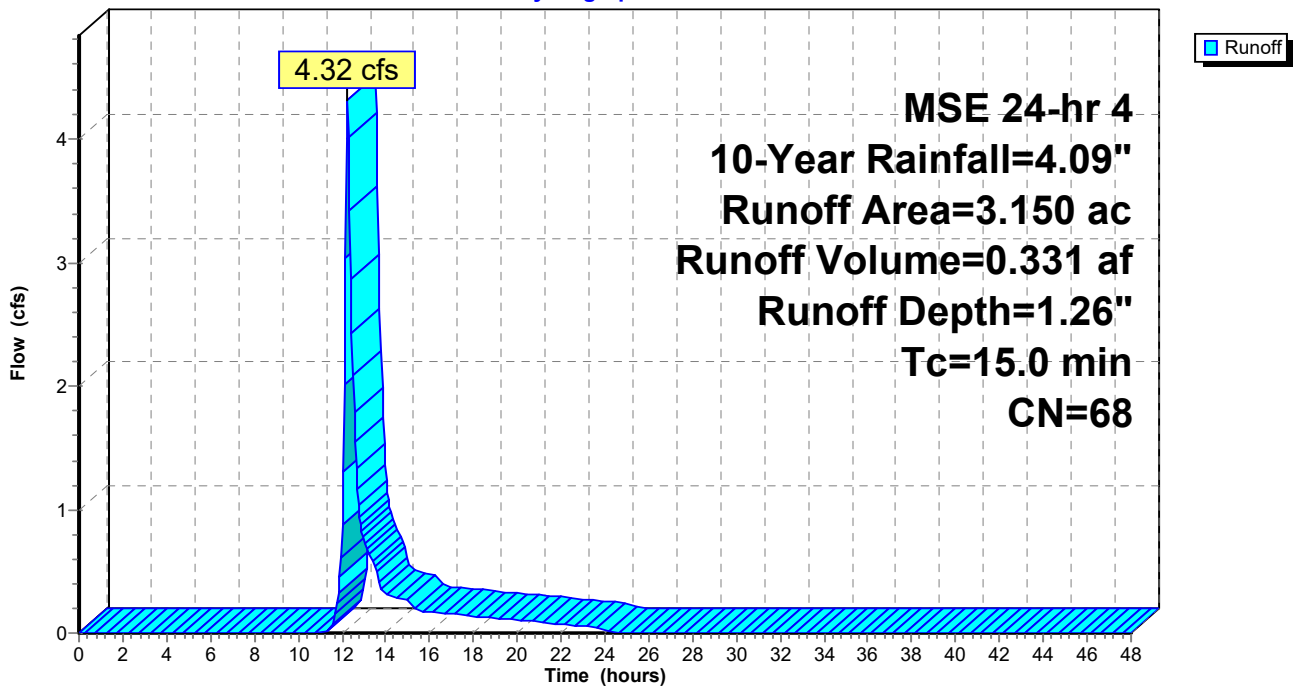
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 3.150	68	HSG B Ag
3.150		100.00% Pervious Area

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

Subcatchment 54S: Future 54S

Hydrograph



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Page 231

Summary for Subcatchment 55S: Prop. 55S

Runoff = 5.83 cfs @ 12.18 hrs, Volume= 0.364 af, Depth= 1.96"
Routed to Reach 12R : Prop CTH Q

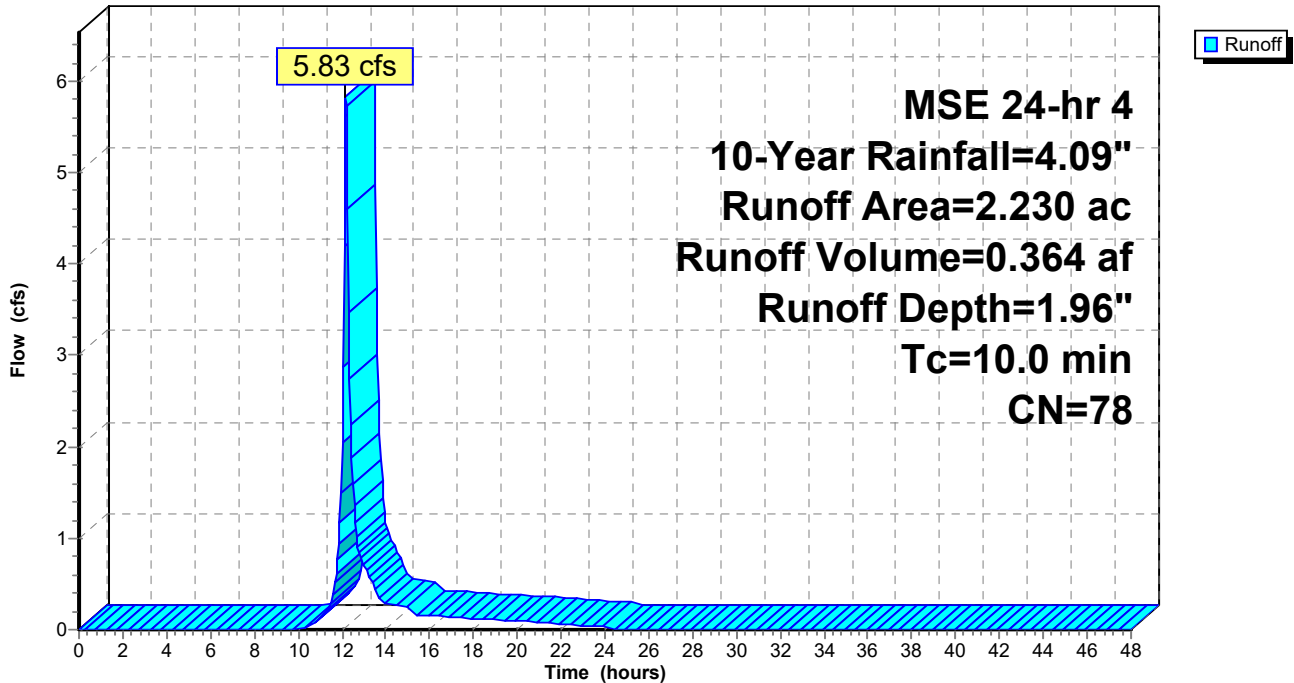
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.120	98	Parking
* 0.200	98	Sidewalk
* 0.720	98	Street
1.190	61	>75% Grass cover, Good, HSG B
2.230	78	Weighted Average
1.190		53.36% Pervious Area
1.040		46.64% Impervious Area

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

Subcatchment 55S: Prop. 55S

Hydrograph



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Page 232

Summary for Subcatchment 56S: (new Subcat)

Runoff = 60.76 cfs @ 12.17 hrs, Volume= 3.891 af, Depth= 2.91"
 Routed to Reach 27R : Post Wetland

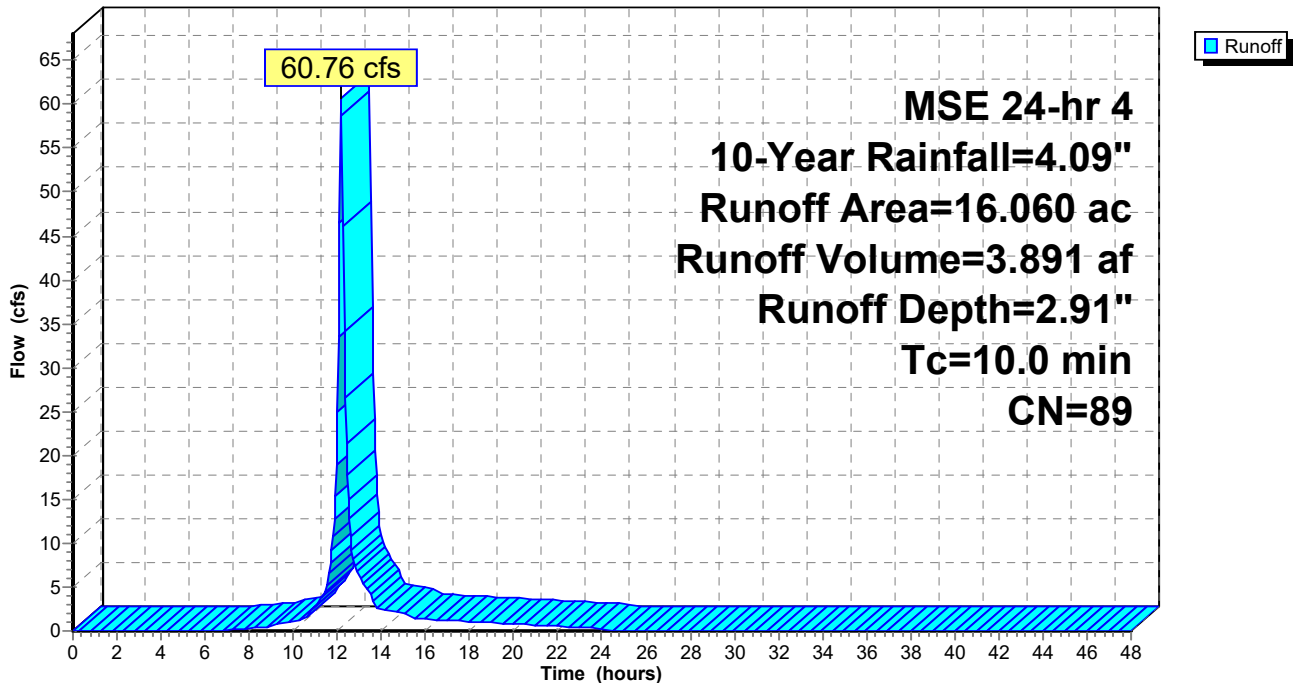
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.120	98	Roof
* 0.560	98	Driveways
* 0.560	98	Patio
* 0.030	98	Sidewalk
* 0.110	98	Street
4.330	61	>75% Grass cover, Good, HSG B
* 9.350	100	Wetland
16.060	89	Weighted Average
4.330		26.96% Pervious Area
11.730		73.04% Impervious Area

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

Subcatchment 56S: (new Subcat)

Hydrograph



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Page 233

Summary for Subcatchment 57S: Existing 56S

Runoff = 3.93 cfs @ 12.19 hrs, Volume= 0.250 af, Depth= 1.46"
 Routed to Reach 52R : TOTAL PROPOSED

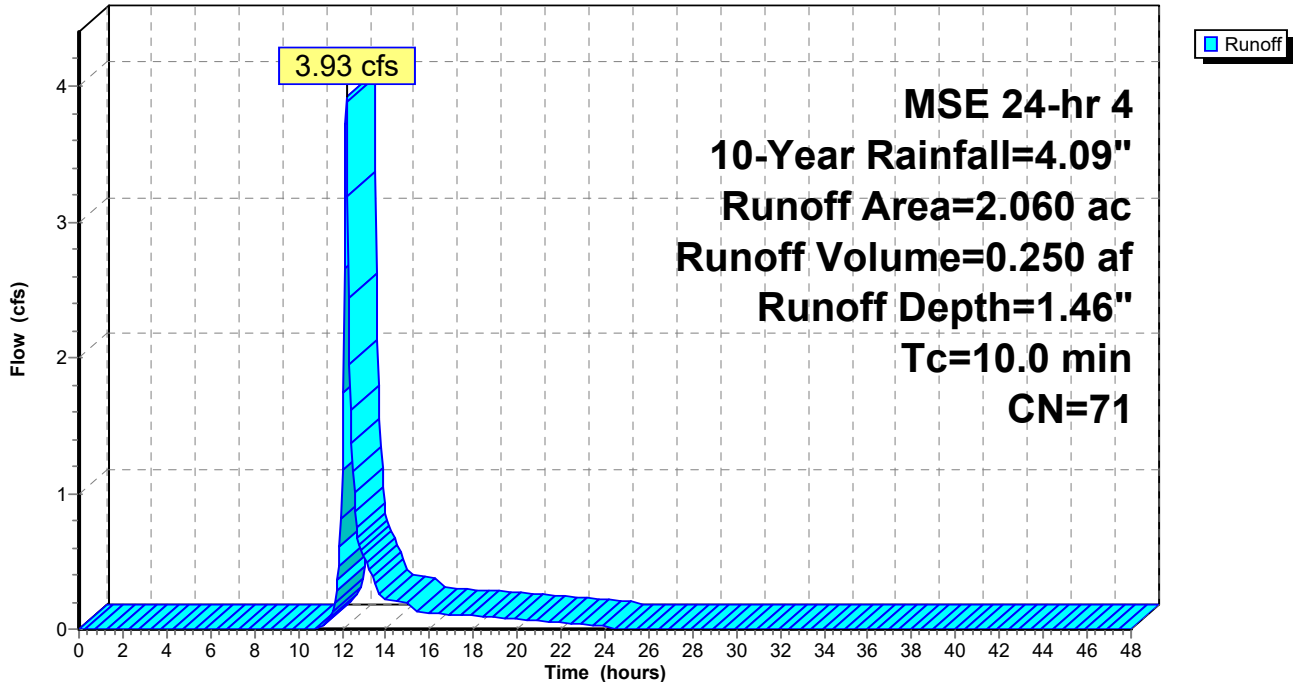
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
1.510	61	>75% Grass cover, Good, HSG B
* 0.300	98	House
* 0.250	98	Impervious
2.060	71	Weighted Average
1.510		73.30% Pervious Area
0.550		26.70% Impervious Area

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

Subcatchment 57S: Existing 56S

Hydrograph



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Page 234

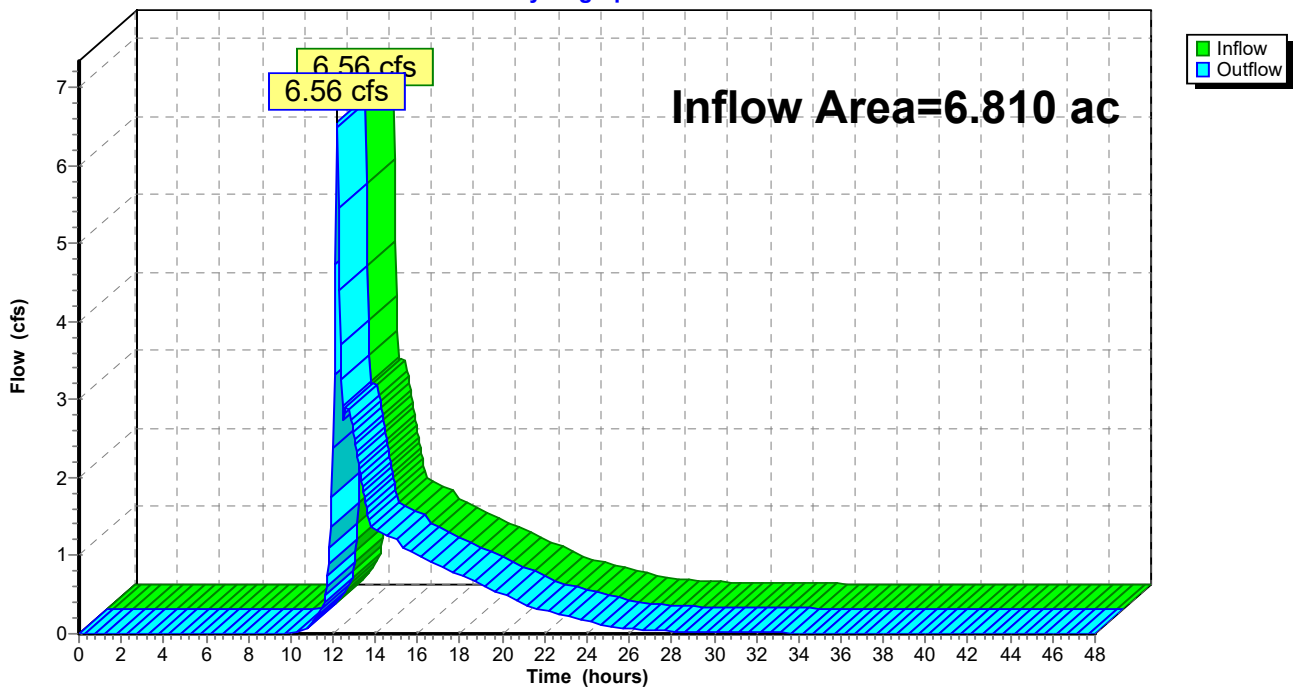
Summary for Reach 12R: Prop CTH Q

Inflow Area = 6.810 ac, 43.91% Impervious, Inflow Depth > 1.90" for 10-Year event
Inflow = 6.56 cfs @ 12.18 hrs, Volume= 1.079 af
Outflow = 6.56 cfs @ 12.18 hrs, Volume= 1.079 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 12R: Prop CTH Q

Hydrograph



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Page 235

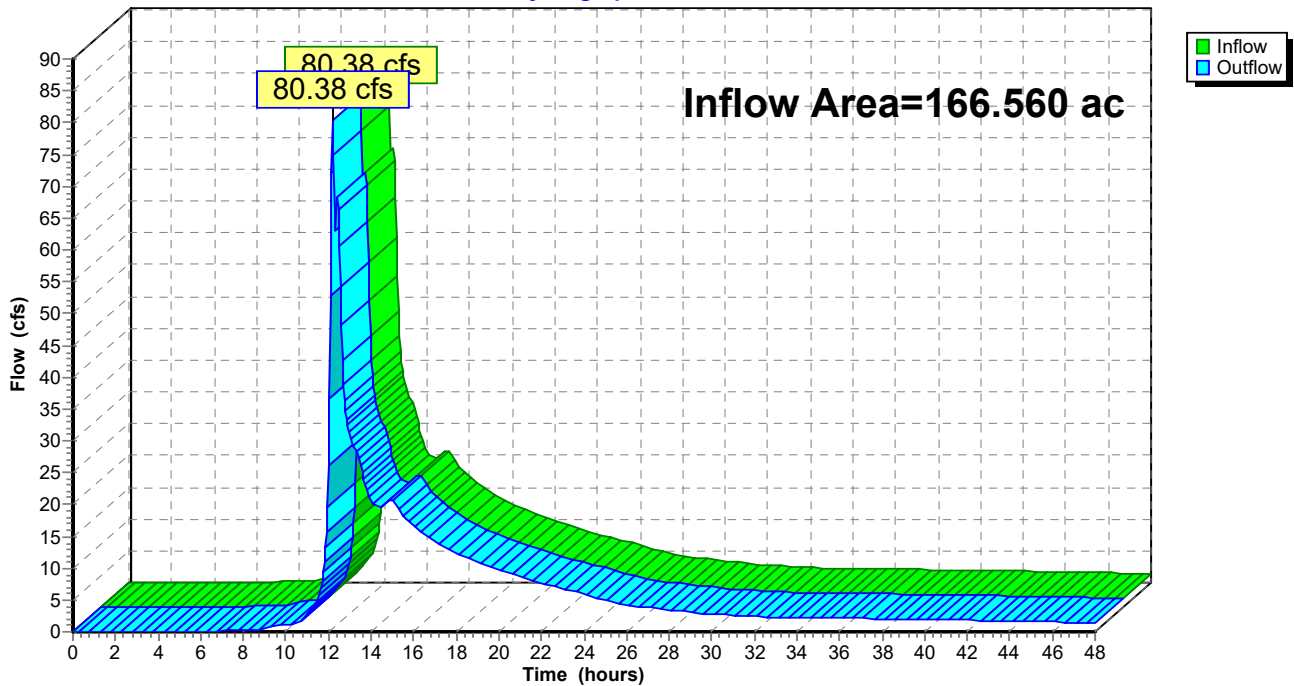
Summary for Reach 27R: Post Wetland

Inflow Area = 166.560 ac, 52.08% Impervious, Inflow Depth > 1.59" for 10-Year event
Inflow = 80.38 cfs @ 12.20 hrs, Volume= 22.044 af
Outflow = 80.38 cfs @ 12.20 hrs, Volume= 22.044 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 27R: Post Wetland

Hydrograph



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MSE 24-hr 4 10-Year Rainfall=4.09"

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Page 236

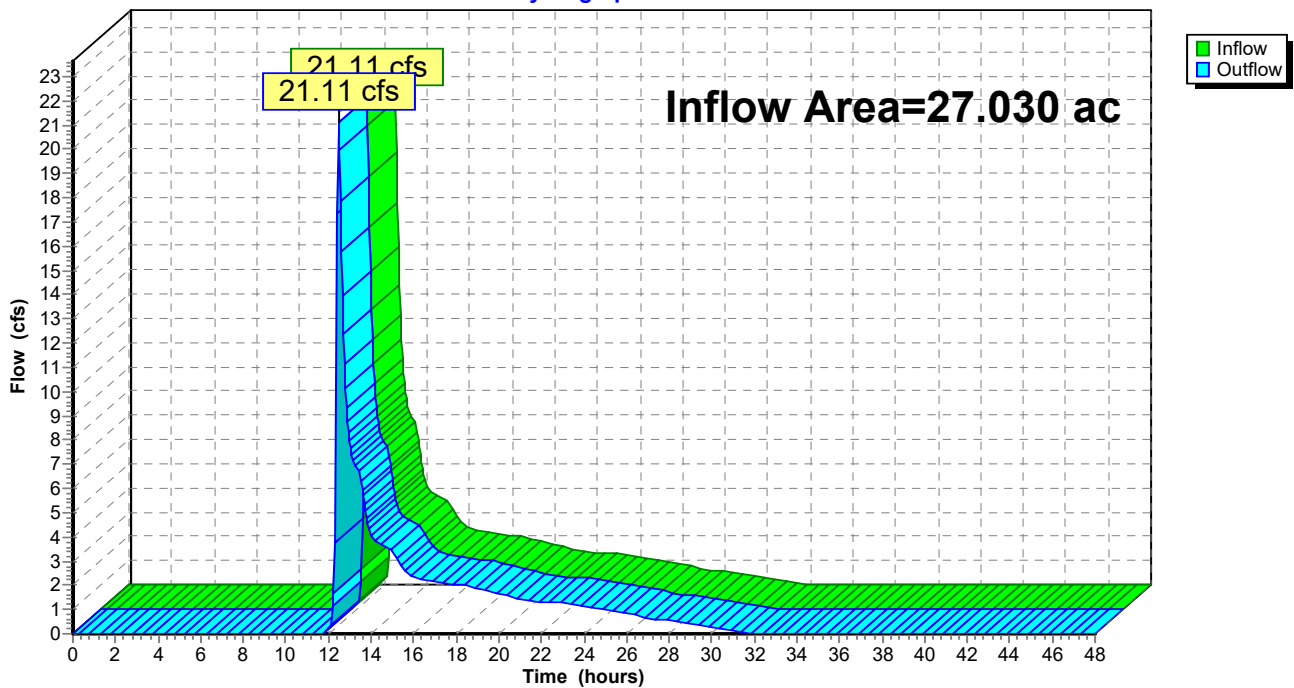
Summary for Reach 41R: (new Reach)

Inflow Area = 27.030 ac, 50.50% Impervious, Inflow Depth = 1.45" for 10-Year event
Inflow = 21.11 cfs @ 12.46 hrs, Volume= 3.265 af
Outflow = 21.11 cfs @ 12.46 hrs, Volume= 3.265 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 41R: (new Reach)

Hydrograph



Kilkenny Phase Master

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Page 237

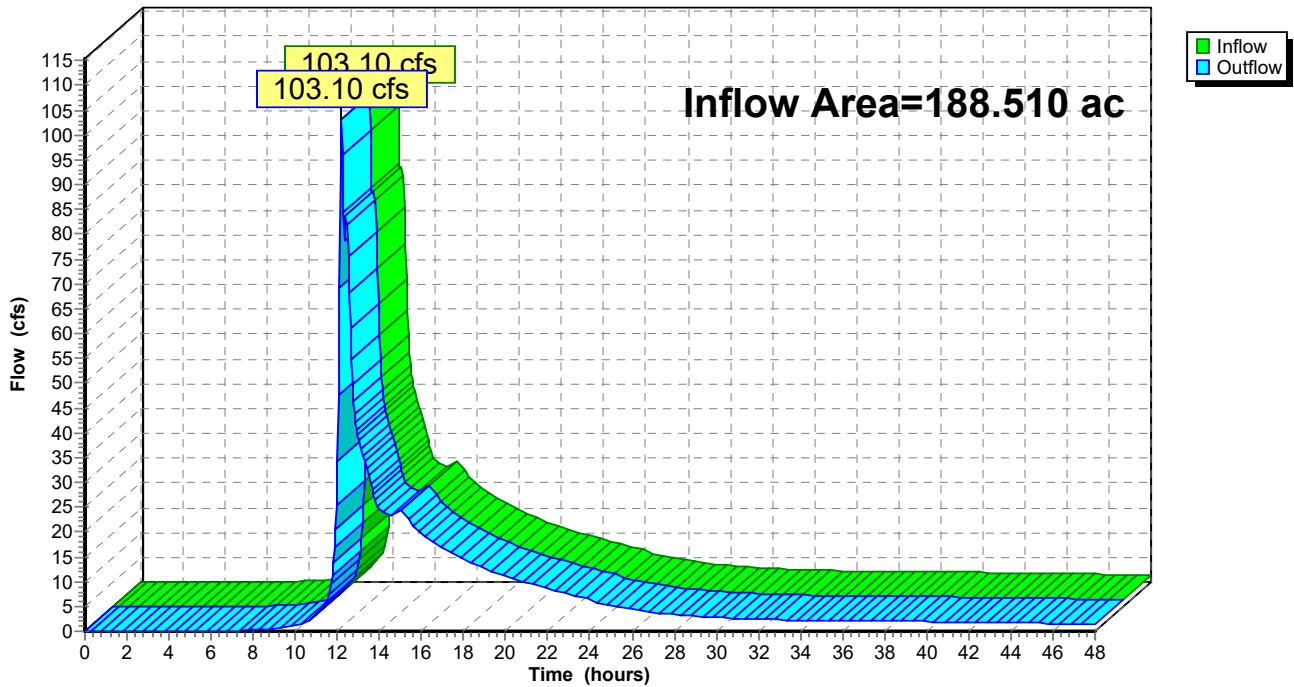
Summary for Reach 52R: TOTAL PROPOSED

Inflow Area = 188.510 ac, 51.50% Impervious, Inflow Depth > 1.62" for 10-Year event
Inflow = 103.10 cfs @ 12.20 hrs, Volume= 25.476 af
Outflow = 103.10 cfs @ 12.20 hrs, Volume= 25.476 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 52R: TOTAL PROPOSED

Hydrograph



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Printed 3/13/2023

Page 238

Summary for Pond BIO J: Bio J

Inflow Area = 10.880 ac, 32.81% Impervious, Inflow Depth = 1.73" for 10-Year event
 Inflow = 20.98 cfs @ 12.19 hrs, Volume= 1.567 af
 Outflow = 19.22 cfs @ 12.24 hrs, Volume= 1.539 af, Atten= 8%, Lag= 3.1 min
 Discarded = 0.07 cfs @ 12.24 hrs, Volume= 0.206 af
 Primary = 19.15 cfs @ 12.24 hrs, Volume= 1.333 af
 Routed to Pond BIO N : Bio N
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.59' @ 12.24 hrs Surf.Area= 6,047 sf Storage= 15,472 cf

Plug-Flow detention time= 175.4 min calculated for 1.539 af (98% of inflow)
 Center-of-Mass det. time= 165.2 min (990.2 - 825.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	69,813 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
916.00	5,358	0.0	0	0
916.01	5,358	33.0	18	18
919.99	5,358	33.0	7,037	7,055
920.00	5,358	27.0	14	7,069
921.49	5,358	27.0	2,156	9,225
921.50	5,358	100.0	54	9,278
925.00	7,579	100.0	22,640	31,918
930.00	7,579	100.0	37,895	69,813

Device	Routing	Invert	Outlet Devices
#1	Primary	919.50'	24.0" Round 24" Outlet Pipe L= 660.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 919.50' / 916.00' S= 0.0053 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	919.50'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	922.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	925.00'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Printed 3/13/2023

Page 239

Discarded OutFlow Max=0.07 cfs @ 12.24 hrs HW=922.58' (Free Discharge)

↳5=Exfiltration (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=18.86 cfs @ 12.24 hrs HW=922.58' TW=909.92' (Dynamic Tailwater)

↳1=24" Outlet Pipe (Passes 18.86 cfs of 20.26 cfs potential flow)

↳2=4" Underdrain (Orifice Controls 0.72 cfs @ 8.22 fps)

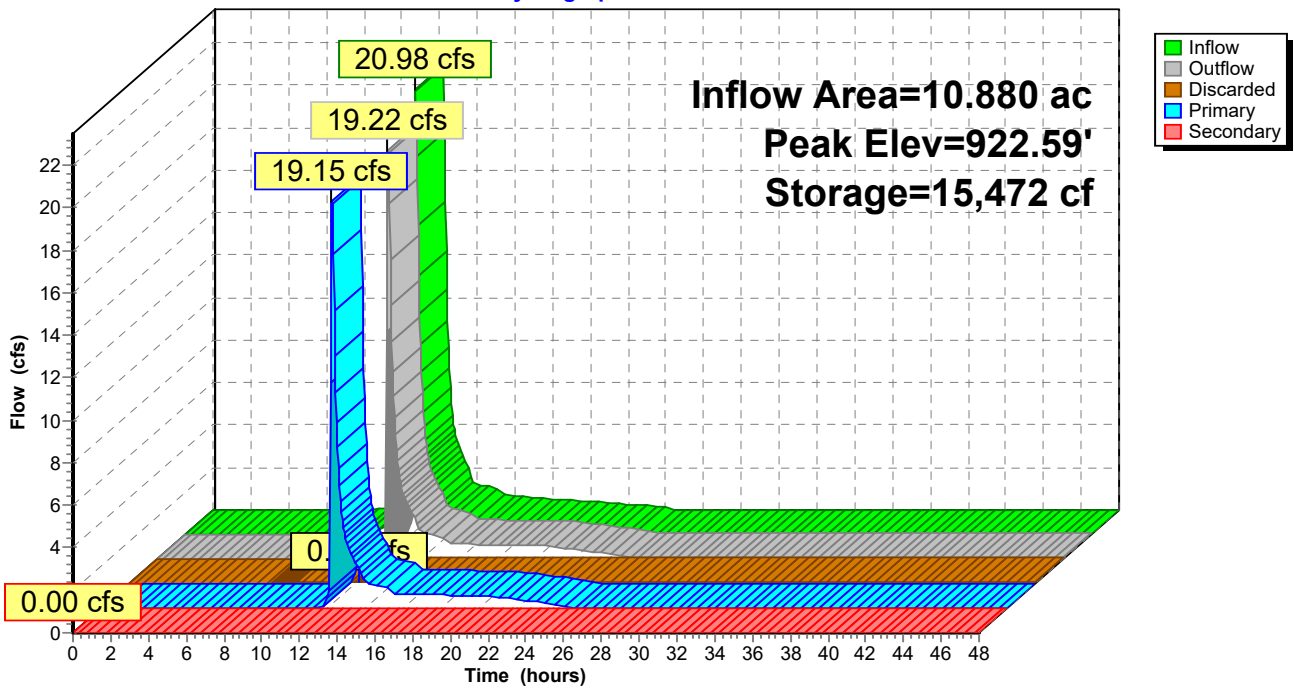
↳3=48" Riser (Weir Controls 18.14 cfs @ 2.49 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=916.00' TW=0.00' (Dynamic Tailwater)

↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond BIO J: Bio J

Hydrograph



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Page 240

Summary for Pond BIO K: Bio K

Inflow Area = 4.180 ac, 68.90% Impervious, Inflow Depth = 2.72" for 10-Year event
 Inflow = 14.95 cfs @ 12.17 hrs, Volume= 0.947 af
 Outflow = 10.79 cfs @ 12.27 hrs, Volume= 0.928 af, Atten= 28%, Lag= 5.9 min
 Discarded = 0.08 cfs @ 12.27 hrs, Volume= 0.177 af
 Primary = 10.71 cfs @ 12.27 hrs, Volume= 0.750 af
 Routed to Pond BIO N : Bio N
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond BIO N : Bio N

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 920.39' @ 12.27 hrs Surf.Area= 6,667 sf Storage= 15,338 cf

Plug-Flow detention time= 239.0 min calculated for 0.927 af (98% of inflow)
 Center-of-Mass det. time= 228.4 min (1,030.9 - 802.5)

Volume	Invert	Avail.Storage	Storage Description
#1	913.50'	33,012 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
913.50	4,410	0.0	0	0
913.51	4,410	33.0	15	15
917.49	4,410	33.0	5,792	5,807
917.50	4,410	27.0	12	5,819
918.99	4,410	27.0	1,774	7,593
919.00	4,410	100.0	44	7,637
922.50	10,090	100.0	25,375	33,012

Device	Routing	Invert	Outlet Devices
#1	Primary	917.00'	18.0" Round 18" Outlet Pipe L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 917.00' / 916.50' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	917.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	921.50'	10.0' long + 4.0 1/2" SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	913.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 241

Discarded OutFlow Max=0.08 cfs @ 12.27 hrs HW=920.37' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=10.09 cfs @ 12.27 hrs HW=920.37' TW=910.49' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 10.09 cfs of 13.79 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.75 cfs @ 8.62 fps)

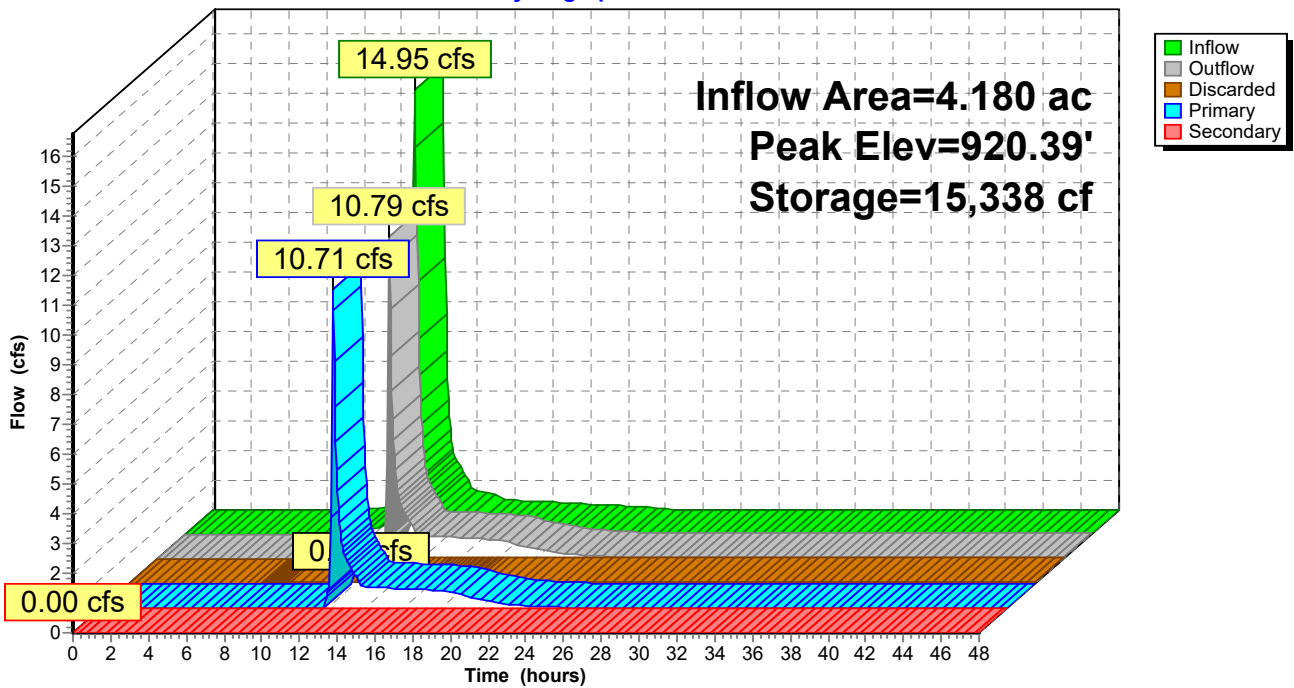
↳ **3=48" Riser** (Weir Controls 9.34 cfs @ 2.00 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=913.50' TW=904.50' (Dynamic Tailwater)

↳ **4=Weir** (Controls 0.00 cfs)

Pond BIO K: Bio K

Hydrograph



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Page 242

Summary for Pond BIO N: Bio N

Inflow Area = 19.370 ac, 46.21% Impervious, Inflow Depth = 1.82" for 10-Year event
 Inflow = 39.85 cfs @ 12.24 hrs, Volume= 2.932 af
 Outflow = 20.10 cfs @ 12.46 hrs, Volume= 2.793 af, Atten= 50%, Lag= 13.3 min
 Discarded = 0.17 cfs @ 12.46 hrs, Volume= 0.460 af
 Primary = 0.75 cfs @ 12.46 hrs, Volume= 0.987 af
 Routed to Reach 41R : (new Reach)
 Secondary = 19.18 cfs @ 12.46 hrs, Volume= 1.346 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 911.39' @ 12.46 hrs Surf.Area= 14,267 sf Storage= 38,708 cf

Plug-Flow detention time= 280.7 min calculated for 2.791 af (95% of inflow)
 Center-of-Mass det. time= 257.8 min (1,122.0 - 864.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	904.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
904.50	11,850	0.0	0	0
904.51	11,850	33.0	39	39
908.49	11,850	33.0	15,564	15,603
908.50	11,850	27.0	32	15,635
909.99	11,850	27.0	4,767	20,402
910.00	11,850	100.0	118	20,521
912.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	908.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	911.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	904.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.17 cfs @ 12.46 hrs HW=911.39' (Free Discharge)

↳ **3=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.75 cfs @ 12.46 hrs HW=911.39' TW=0.00' (Dynamic Tailwater)

↳ **1=4" Underdrain** (Orifice Controls 0.75 cfs @ 8.64 fps)

Secondary OutFlow Max=18.71 cfs @ 12.46 hrs HW=911.39' TW=0.00' (Dynamic Tailwater)

↳ **2=Broad-Crested Rectangular Weir** (Weir Controls 18.71 cfs @ 1.53 fps)

Kilkenny Phase Master

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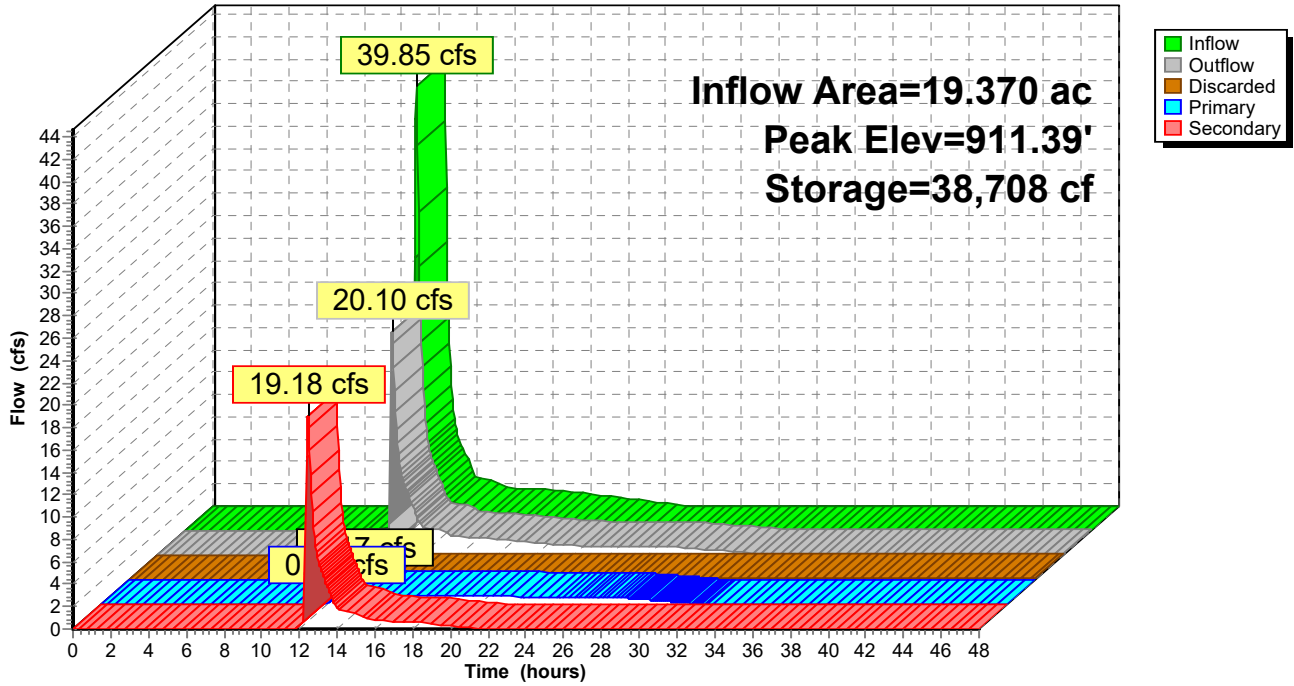
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Page 243

Pond BIO N: Bio N

Hydrograph



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Page 244

Summary for Pond BIO O: Bio O

Inflow Area = 6.570 ac, 61.49% Impervious, Inflow Depth = 2.39" for 10-Year event
 Inflow = 21.11 cfs @ 12.18 hrs, Volume= 1.311 af
 Outflow = 1.57 cfs @ 13.51 hrs, Volume= 1.221 af, Atten= 93%, Lag= 79.8 min
 Discarded = 0.16 cfs @ 13.51 hrs, Volume= 0.450 af
 Primary = 0.71 cfs @ 13.51 hrs, Volume= 0.713 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.70 cfs @ 13.51 hrs, Volume= 0.059 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 910.05' @ 13.51 hrs Surf.Area= 13,666 sf Storage= 33,868 cf

Plug-Flow detention time= 534.9 min calculated for 1.221 af (93% of inflow)
 Center-of-Mass det. time= 502.1 min (1,319.9 - 817.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	903.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.50	11,850	0.0	0	0
903.51	11,850	33.0	39	39
907.49	11,850	33.0	15,564	15,603
907.50	11,850	27.0	32	15,635
908.99	11,850	27.0	4,767	20,402
909.00	11,850	100.0	118	20,521
911.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	910.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	903.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.16 cfs @ 13.51 hrs HW=910.05' (Free Discharge)

↳ **3=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=0.71 cfs @ 13.51 hrs HW=910.05' TW=0.00' (Dynamic Tailwater)

↳ **1=4" Underdrain** (Orifice Controls 0.71 cfs @ 8.17 fps)

Secondary OutFlow Max=0.70 cfs @ 13.51 hrs HW=910.05' TW=0.00' (Dynamic Tailwater)

↳ **2=Broad-Crested Rectangular Weir** (Weir Controls 0.70 cfs @ 0.50 fps)

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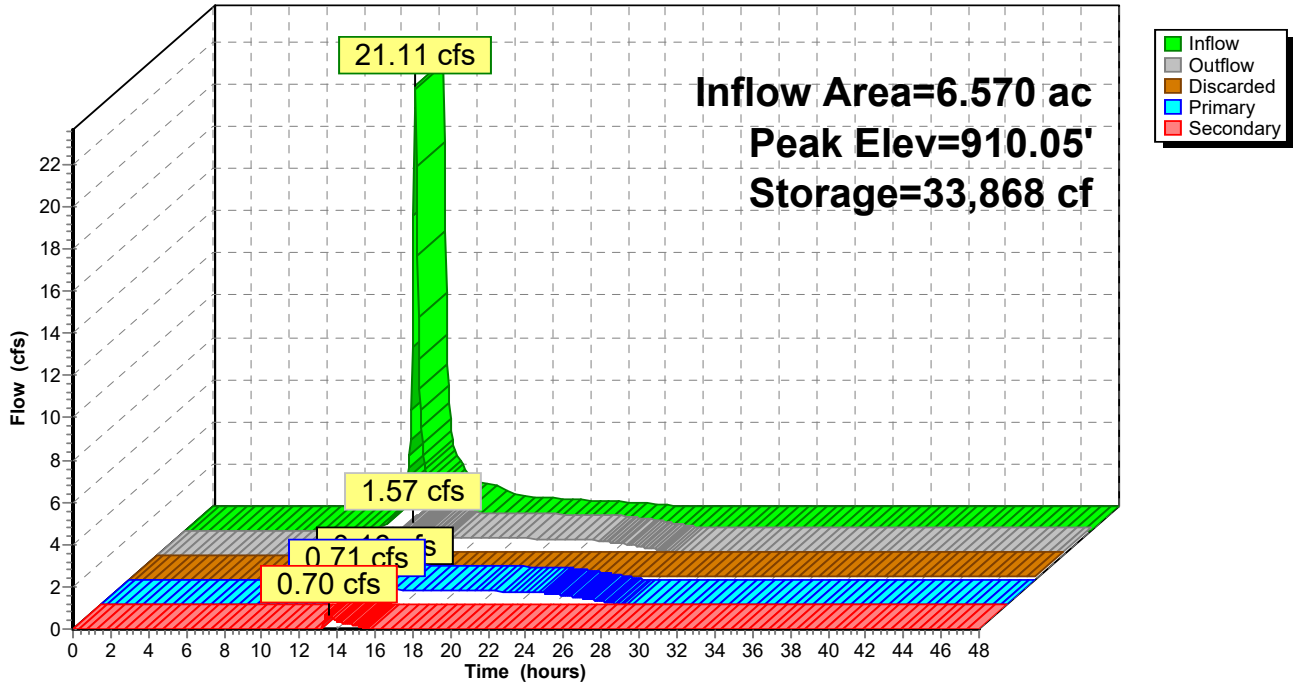
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Page 245

Pond BIO O: Bio O

Hydrograph



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Page 246

Summary for Pond Bio S: Bio S

Inflow Area = 2.440 ac, 70.49% Impervious, Inflow Depth = 2.72" for 10-Year event
 Inflow = 8.73 cfs @ 12.17 hrs, Volume= 0.553 af
 Outflow = 3.13 cfs @ 12.41 hrs, Volume= 0.536 af, Atten= 64%, Lag= 14.3 min
 Discarded = 0.05 cfs @ 12.41 hrs, Volume= 0.158 af
 Primary = 3.07 cfs @ 12.41 hrs, Volume= 0.378 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 923.93' @ 12.41 hrs Surf.Area= 4,625 sf Storage= 11,195 cf

Plug-Flow detention time= 332.0 min calculated for 0.536 af (97% of inflow)
 Center-of-Mass det. time= 316.5 min (1,118.9 - 802.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	917.50'	42,501 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.50	4,115	0.0	0	0
917.51	4,115	33.0	14	14
921.49	4,115	33.0	5,405	5,418
921.50	4,115	27.0	11	5,429
922.99	4,115	27.0	1,655	7,085
923.00	4,115	100.0	41	7,126
925.00	5,210	100.0	9,325	16,451
930.00	5,210	100.0	26,050	42,501

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.90' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.75'	36.0" Horiz. 36" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	924.50'	5.0' long + 4.0' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 247

Discarded OutFlow Max=0.05 cfs @ 12.41 hrs HW=923.93' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=3.02 cfs @ 12.41 hrs HW=923.93' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 3.02 cfs of 14.50 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.70 cfs @ 8.00 fps)

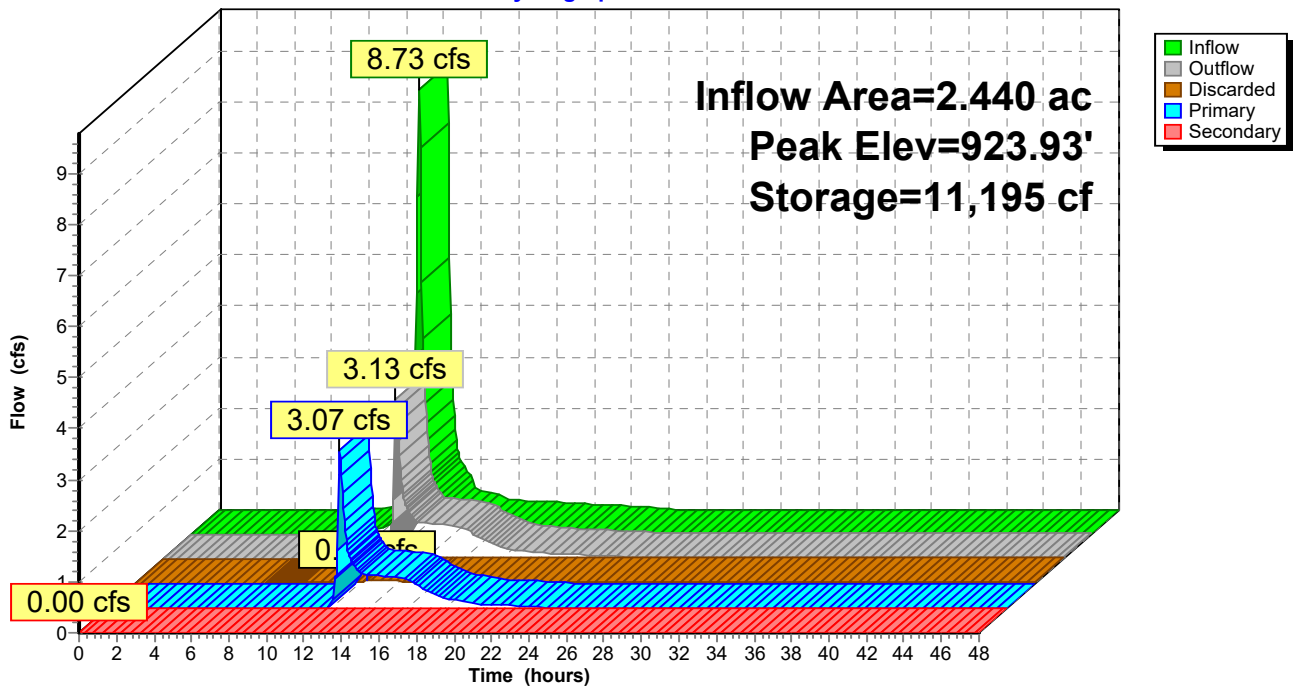
↳ **3=36" Riser** (Weir Controls 2.32 cfs @ 1.38 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=917.50' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Bio S: Bio S

Hydrograph



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Page 248

Summary for Pond Bio X: Bio X

Inflow Area = 7.200 ac, 37.78% Impervious, Inflow Depth = 2.03" for 10-Year event
 Inflow = 17.75 cfs @ 12.19 hrs, Volume= 1.218 af
 Outflow = 5.34 cfs @ 12.52 hrs, Volume= 1.190 af, Atten= 70%, Lag= 20.1 min
 Discarded = 0.10 cfs @ 12.52 hrs, Volume= 0.220 af
 Primary = 5.25 cfs @ 12.52 hrs, Volume= 0.970 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 950.21' @ 12.52 hrs Surf.Area= 0.190 ac Storage= 0.560 af

Plug-Flow detention time= 286.5 min calculated for 1.190 af (98% of inflow)
 Center-of-Mass det. time= 273.5 min (1,092.1 - 818.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	942.50'	3.327 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
942.50	0.125	0.0	0.000	0.000
942.51	0.125	33.0	0.000	0.000
946.49	0.125	33.0	0.164	0.165
946.50	0.125	27.0	0.000	0.165
947.99	0.125	27.0	0.050	0.215
948.00	0.125	100.0	0.001	0.216
949.00	0.152	100.0	0.138	0.355
950.00	0.181	100.0	0.166	0.521
951.00	0.225	100.0	0.203	0.724
952.00	0.293	100.0	0.259	0.983
960.00	0.293	100.0	2.344	3.327

Device	Routing	Invert	Outlet Devices
#1	Primary	946.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 946.00' / 945.90' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	946.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	948.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	950.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	951.75'	5.0' long + 4.0' /' SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	942.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 249

Discarded OutFlow Max=0.10 cfs @ 12.52 hrs HW=950.21' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=5.15 cfs @ 12.52 hrs HW=950.21' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 5.15 cfs of 19.65 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.84 cfs @ 9.68 fps)

↳ **3=4" Orifice** (Orifice Controls 0.48 cfs @ 5.47 fps)

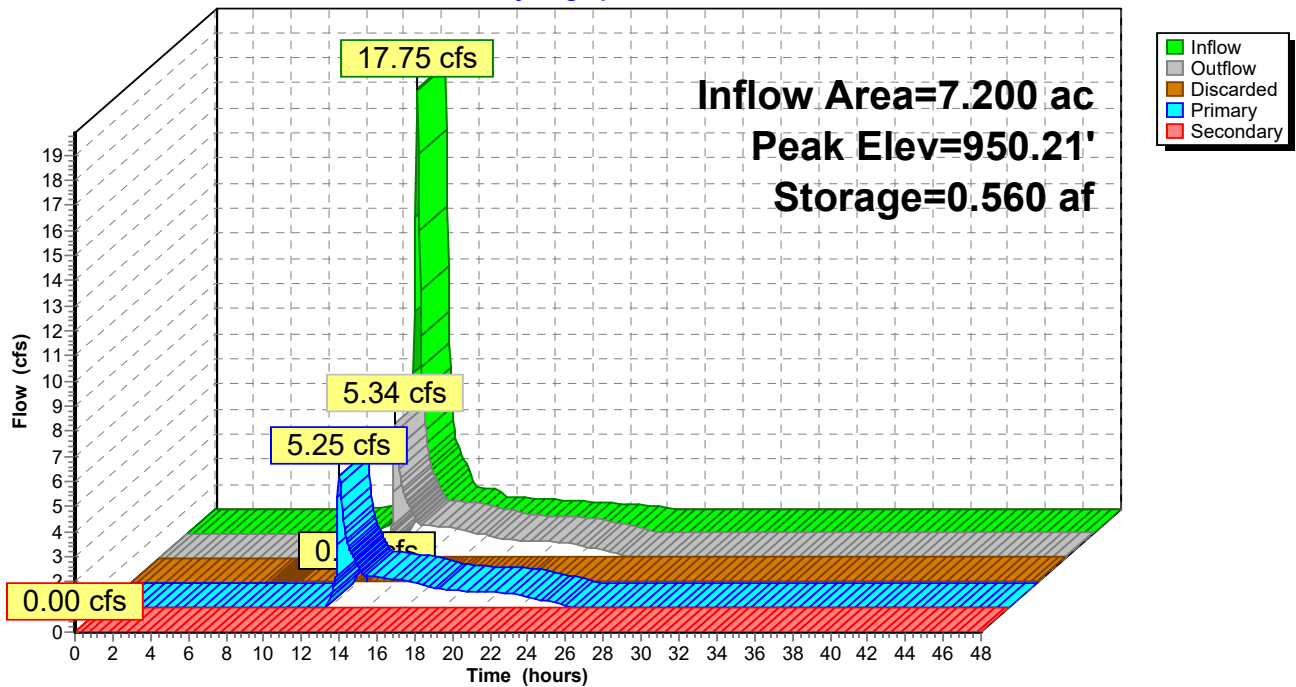
↳ **4=48" Riser** (Weir Controls 3.83 cfs @ 1.48 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=942.50' TW=0.00' (Dynamic Tailwater)

↳ **5=Weir** (Controls 0.00 cfs)

Pond Bio X: Bio X

Hydrograph



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Page 250

Summary for Pond IP A: Infil A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth > 1.87" for 10-Year event
 Inflow = 17.31 cfs @ 12.77 hrs, Volume= 6.155 af
 Outflow = 4.99 cfs @ 15.16 hrs, Volume= 5.578 af, Atten= 71%, Lag= 143.6 min
 Discarded = 0.28 cfs @ 15.16 hrs, Volume= 0.764 af
 Primary = 4.71 cfs @ 15.16 hrs, Volume= 4.814 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 924.18' @ 15.16 hrs Surf.Area= 0.551 ac Storage= 1.557 af

Plug-Flow detention time= 405.1 min calculated for 5.572 af (91% of inflow)
 Center-of-Mass det. time= 271.2 min (1,578.6 - 1,307.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	5.281 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
920.00	0.364	0.0	0.000	0.000
920.01	0.364	27.0	0.001	0.001
920.99	0.364	27.0	0.096	0.097
921.00	0.364	100.0	0.004	0.101
926.00	0.657	100.0	2.552	2.653
930.00	0.657	100.0	2.628	5.281

Device	Routing	Invert	Outlet Devices
#1	Primary	920.00'	36.0" Round 36" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 920.00' / 919.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	920.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.00'	5.0' long + 4.0 1/1' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 251

Discarded OutFlow Max=0.28 cfs @ 15.16 hrs HW=924.18' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=4.71 cfs @ 15.16 hrs HW=924.18' TW=911.66' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 4.71 cfs of 56.21 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.84 cfs @ 9.65 fps)

↳ **3=4" Orifice** (Orifice Controls 0.63 cfs @ 7.25 fps)

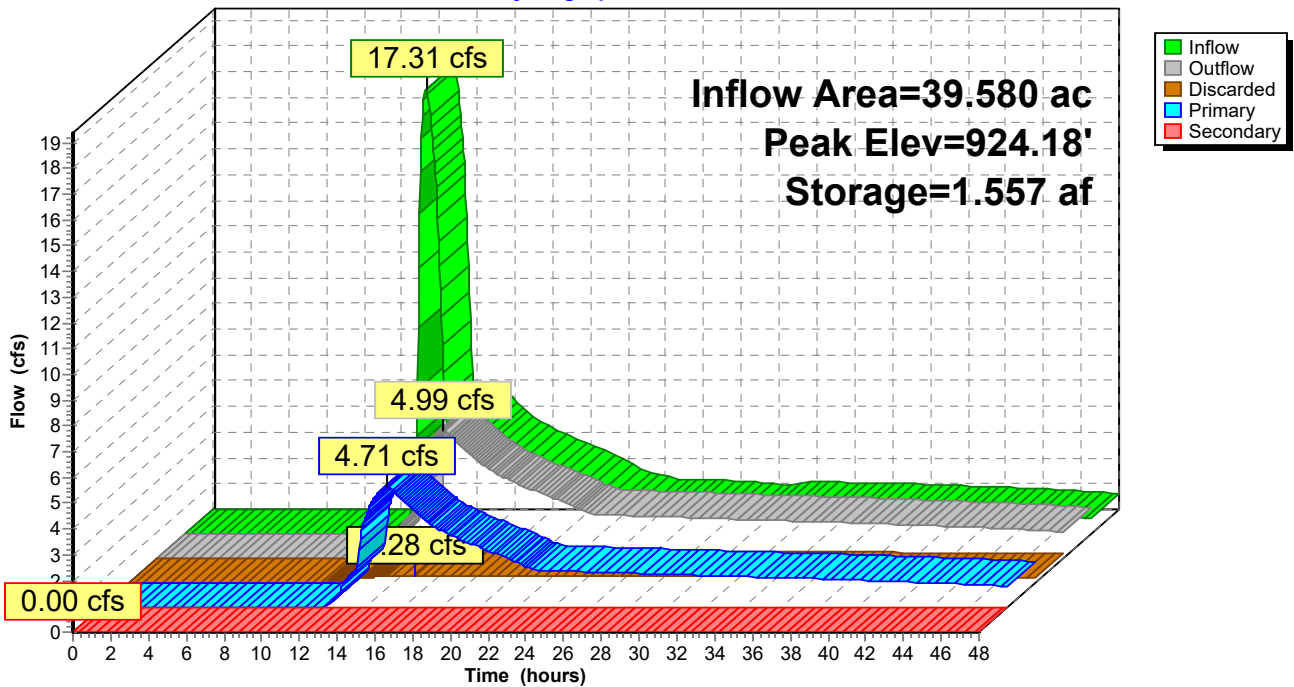
↳ **4=48" Riser** (Weir Controls 3.23 cfs @ 1.40 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=920.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP A: Infil A

Hydrograph



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Page 252

Summary for Pond IP B: Infil B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth > 1.17" for 10-Year event
 Inflow = 19.70 cfs @ 12.34 hrs, Volume= 8.784 af
 Outflow = 8.34 cfs @ 13.57 hrs, Volume= 8.011 af, Atten= 58%, Lag= 74.0 min
 Discarded = 0.56 cfs @ 13.57 hrs, Volume= 1.649 af
 Primary = 7.77 cfs @ 13.57 hrs, Volume= 6.363 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 910.81' @ 13.57 hrs Surf.Area= 1.116 ac Storage= 1.132 af

Plug-Flow detention time= 210.6 min calculated for 8.003 af (91% of inflow)
 Center-of-Mass det. time= 87.0 min (1,398.3 - 1,311.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	909.00'	13.525 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
909.00	0.990	0.0	0.000	0.000
909.01	0.990	27.0	0.003	0.003
909.99	0.990	27.0	0.262	0.265
910.00	0.990	100.0	0.010	0.275
914.00	1.610	100.0	5.200	5.475
919.00	1.610	100.0	8.050	13.525

Device	Routing	Invert	Outlet Devices
#1	Primary	909.00'	36.0" Round 36" Outlet Pipe L= 380.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 909.00' / 908.00' S= 0.0026 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	909.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	910.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Discarded	909.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.56 cfs @ 13.57 hrs HW=910.81' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.56 cfs)

Primary OutFlow Max=7.77 cfs @ 13.57 hrs HW=910.81' TW=0.00' (Dynamic Tailwater)
 ↳1=36" Outlet Pipe (Passes 7.77 cfs of 16.47 cfs potential flow)
 ↳2=4" Underdrain (Orifice Controls 0.54 cfs @ 6.18 fps)
 ↳3=48" Riser (Weir Controls 7.23 cfs @ 1.83 fps)

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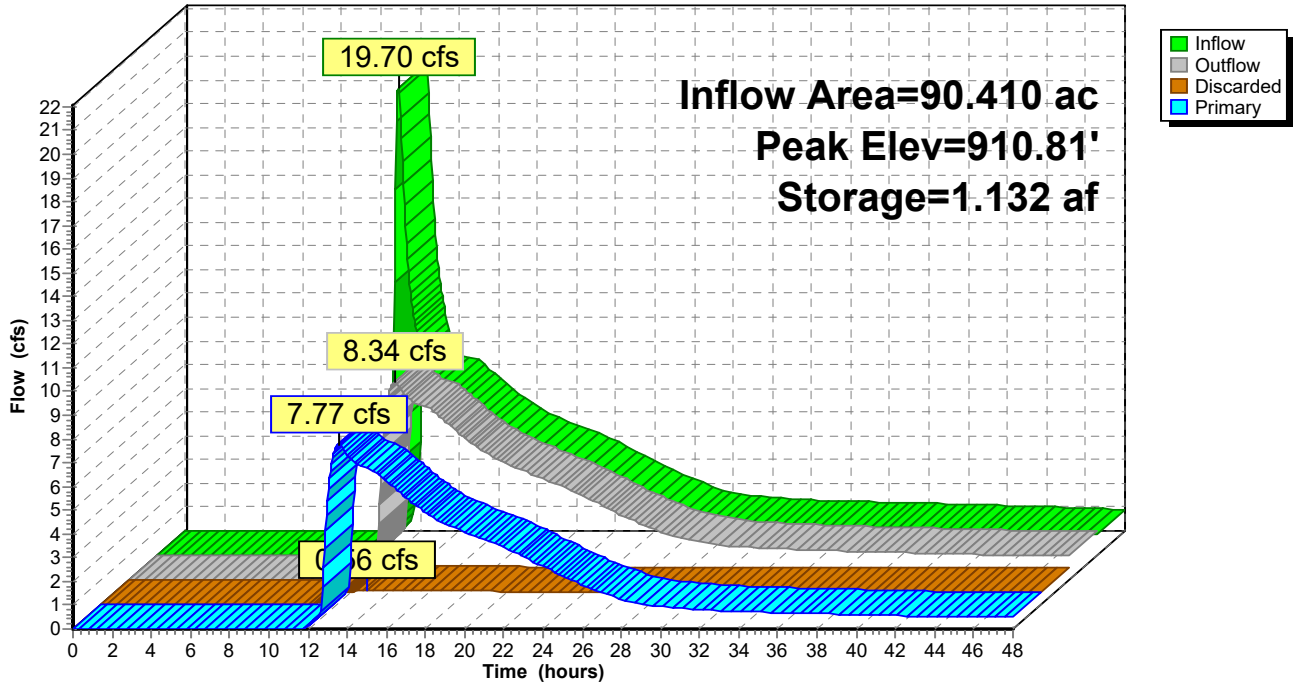
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Page 253

Pond IP B: Infil B

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Page 254

Summary for Pond IP C: IP C

Inflow Area = 3.690 ac, 76.69% Impervious, Inflow Depth = 2.91" for 10-Year event
 Inflow = 13.96 cfs @ 12.17 hrs, Volume= 0.894 af
 Outflow = 5.94 cfs @ 12.37 hrs, Volume= 0.894 af, Atten= 57%, Lag= 11.7 min
 Discarded = 0.10 cfs @ 12.37 hrs, Volume= 0.122 af
 Primary = 5.84 cfs @ 12.37 hrs, Volume= 0.772 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 936.23' @ 12.37 hrs Surf.Area= 8,225 sf Storage= 16,497 cf

Plug-Flow detention time= 154.1 min calculated for 0.893 af (100% of inflow)
 Center-of-Mass det. time= 154.5 min (950.9 - 796.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	932.00'	23,322 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
932.00	4,165	0.0	0	0
932.01	4,165	33.0	14	14
933.49	4,165	33.0	2,034	2,048
933.50	4,165	27.0	11	2,059
933.99	4,165	27.0	551	2,610
934.00	4,165	100.0	42	2,652
937.00	9,615	100.0	20,670	23,322

Device	Routing	Invert	Outlet Devices
#1	Primary	933.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 933.00' / 932.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	933.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	936.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	936.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	932.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 255

Discarded OutFlow Max=0.10 cfs @ 12.37 hrs HW=936.23' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=5.71 cfs @ 12.37 hrs HW=936.23' TW=923.87' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 5.71 cfs of 14.65 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.74 cfs @ 8.43 fps)

↳ **3=4" Orifice** (Orifice Controls 0.43 cfs @ 4.97 fps)

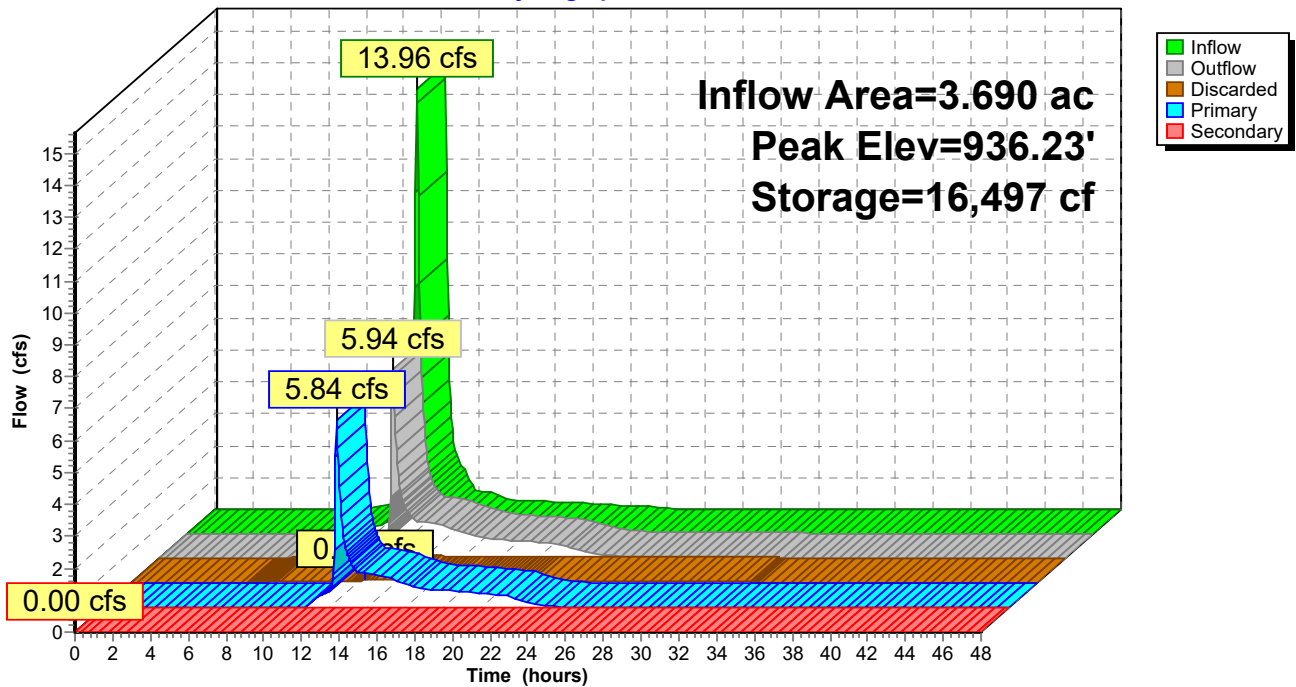
↳ **4=48" Riser** (Weir Controls 4.54 cfs @ 1.57 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=932.00' TW=922.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP C: IP C

Hydrograph



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Page 256

Summary for Pond IP D: IP D

Inflow Area = 3.790 ac, 63.59% Impervious, Inflow Depth = 2.54" for 10-Year event
 Inflow = 12.76 cfs @ 12.17 hrs, Volume= 0.802 af
 Outflow = 3.34 cfs @ 12.50 hrs, Volume= 0.802 af, Atten= 74%, Lag= 19.5 min
 Discarded = 0.10 cfs @ 12.50 hrs, Volume= 0.119 af
 Primary = 3.25 cfs @ 12.50 hrs, Volume= 0.683 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 937.14' @ 12.50 hrs Surf.Area= 8,259 sf Storage= 16,139 cf

Plug-Flow detention time= 171.9 min calculated for 0.802 af (100% of inflow)
 Center-of-Mass det. time= 171.9 min (979.9 - 808.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	933.00'	23,947 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
933.00	4,285	0.0	0	0
933.01	4,285	33.0	14	14
934.49	4,285	33.0	2,093	2,107
934.50	4,285	27.0	12	2,119
934.99	4,285	27.0	567	2,685
935.00	4,285	100.0	43	2,728
938.00	9,861	100.0	21,219	23,947

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	937.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	933.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 257

Discarded OutFlow Max=0.10 cfs @ 12.50 hrs HW=937.14' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=3.25 cfs @ 12.50 hrs HW=937.14' TW=924.11' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 3.25 cfs of 14.31 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.72 cfs @ 8.30 fps)

↳ **3=4" Orifice** (Orifice Controls 0.41 cfs @ 4.75 fps)

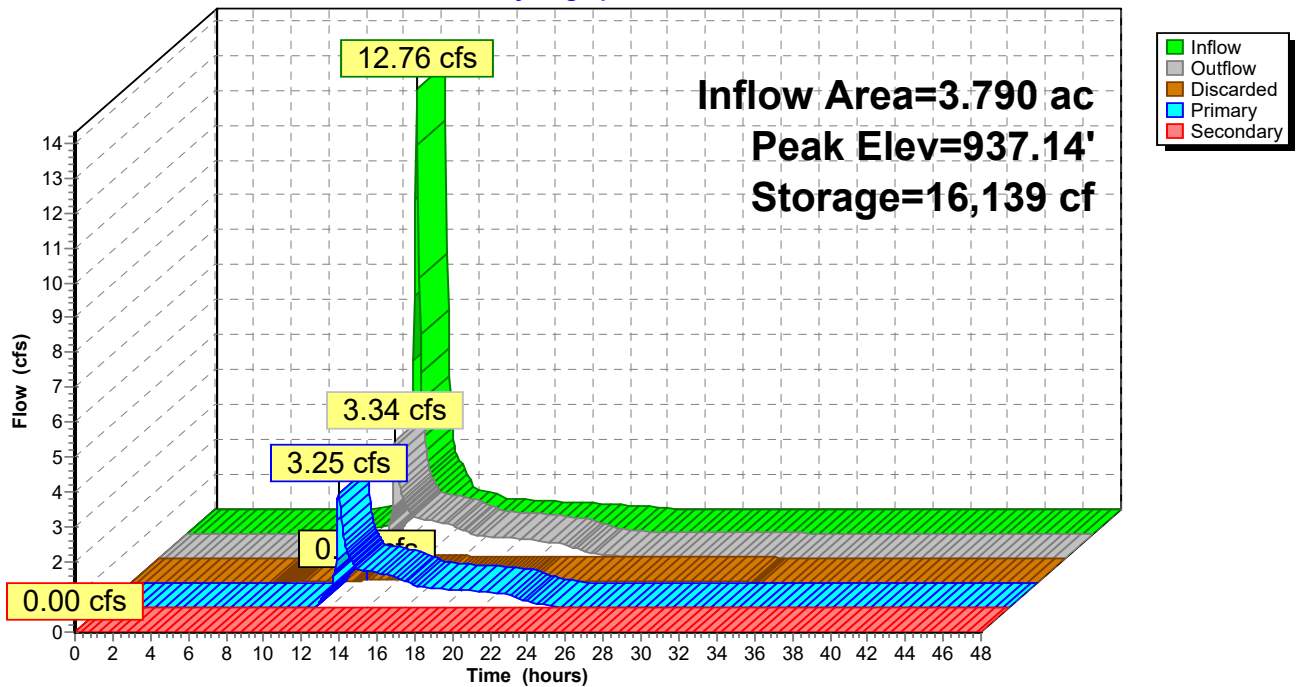
↳ **4=48" Riser** (Weir Controls 2.11 cfs @ 1.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=933.00' TW=922.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP D: IP D

Hydrograph



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Page 258

Summary for Pond IP E: IP E

Inflow Area = 3.830 ac, 62.92% Impervious, Inflow Depth = 2.45" for 10-Year event
 Inflow = 12.45 cfs @ 12.18 hrs, Volume= 0.782 af
 Outflow = 1.41 cfs @ 12.95 hrs, Volume= 0.782 af, Atten= 89%, Lag= 46.5 min
 Discarded = 0.10 cfs @ 12.95 hrs, Volume= 0.124 af
 Primary = 1.32 cfs @ 12.95 hrs, Volume= 0.659 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 931.27' @ 12.95 hrs Surf.Area= 8,300 sf Storage= 17,479 cf

Plug-Flow detention time= 196.6 min calculated for 0.781 af (100% of inflow)
 Center-of-Mass det. time= 196.9 min (1,007.6 - 810.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	927.00'	23,960 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
927.00	4,541	0.0	0	0
927.01	4,541	33.0	15	15
928.49	4,541	33.0	2,218	2,233
928.50	4,541	27.0	12	2,245
928.99	4,541	27.0	601	2,846
929.00	4,541	100.0	45	2,891
932.00	9,505	100.0	21,069	23,960

Device	Routing	Invert	Outlet Devices
#1	Primary	928.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 928.00' / 927.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	928.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	930.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	931.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	931.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	927.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 259

Discarded OutFlow Max=0.10 cfs @ 12.95 hrs HW=931.27' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=1.32 cfs @ 12.95 hrs HW=931.27' TW=911.84' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 1.32 cfs of 10.41 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.74 cfs @ 8.48 fps)

↳ **3=4" Orifice** (Orifice Controls 0.44 cfs @ 5.06 fps)

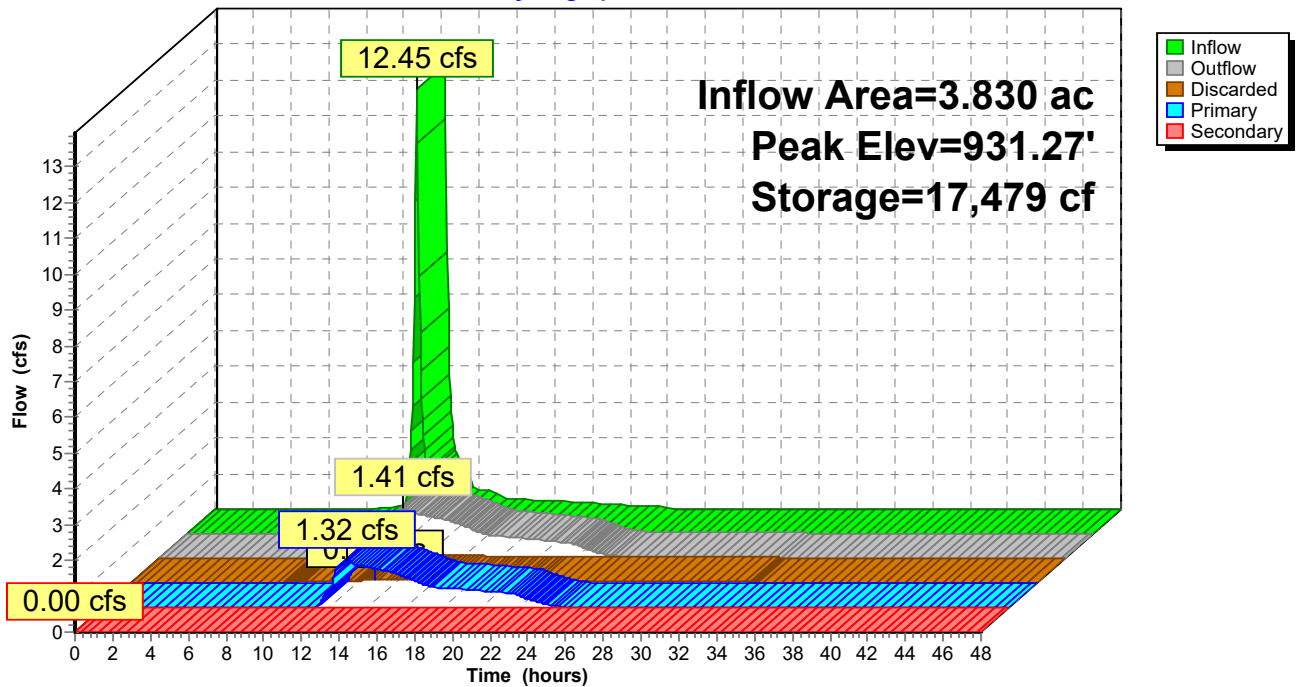
↳ **4=48" Riser** (Weir Controls 0.13 cfs @ 0.48 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=927.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP E: IP E

Hydrograph



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Page 260

Summary for Pond IP F: IP F

Inflow Area = 4.440 ac, 71.62% Impervious, Inflow Depth = 2.81" for 10-Year event
 Inflow = 16.35 cfs @ 12.17 hrs, Volume= 1.041 af
 Outflow = 1.22 cfs @ 13.42 hrs, Volume= 1.041 af, Atten= 93%, Lag= 74.9 min
 Discarded = 0.15 cfs @ 13.42 hrs, Volume= 0.256 af
 Primary = 1.06 cfs @ 13.42 hrs, Volume= 0.785 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 926.92' @ 13.42 hrs Surf.Area= 13,350 sf Storage= 26,097 cf

Plug-Flow detention time= 307.4 min calculated for 1.040 af (100% of inflow)
 Center-of-Mass det. time= 307.8 min (1,107.3 - 799.5)

Volume	Invert	Avail.Storage	Storage Description
#1	923.00'	41,988 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
923.00	8,293	0.0	0	0
923.01	8,293	33.0	27	27
924.49	8,293	33.0	4,050	4,078
924.50	8,293	27.0	22	4,100
924.99	8,293	27.0	1,097	5,197
925.00	8,293	100.0	83	5,280
928.00	16,179	100.0	36,708	41,988

Device	Routing	Invert	Outlet Devices
#1	Primary	924.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 924.00' / 923.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	924.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	926.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	927.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	927.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	923.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 261

Discarded OutFlow Max=0.15 cfs @ 13.42 hrs HW=926.92' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=1.06 cfs @ 13.42 hrs HW=926.92' TW=911.74' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 1.06 cfs of 9.58 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.70 cfs @ 7.99 fps)

↳ **3=4" Orifice** (Orifice Controls 0.37 cfs @ 4.19 fps)

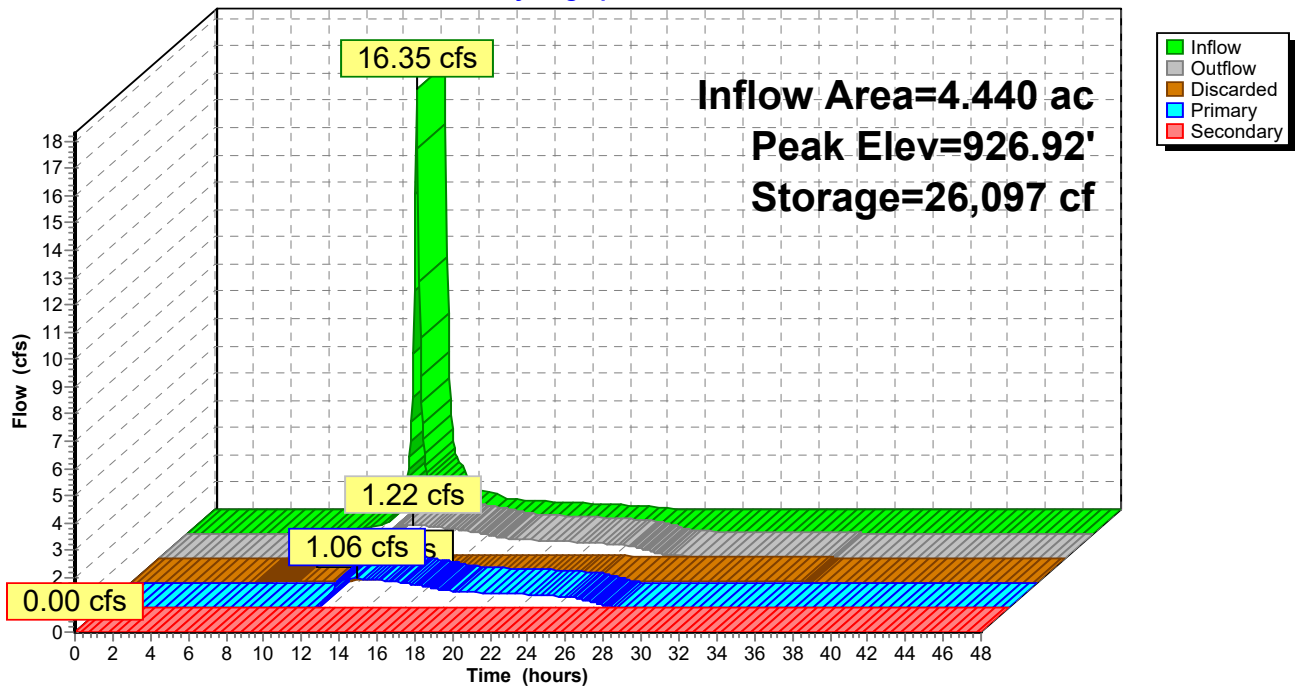
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=923.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP F: IP F

Hydrograph



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Page 262

Summary for Pond IP G: IP G

Inflow Area = 4.310 ac, 70.53% Impervious, Inflow Depth = 2.72" for 10-Year event
 Inflow = 15.42 cfs @ 12.17 hrs, Volume= 0.977 af
 Outflow = 1.12 cfs @ 13.46 hrs, Volume= 0.977 af, Atten= 93%, Lag= 77.1 min
 Discarded = 0.16 cfs @ 13.46 hrs, Volume= 0.264 af
 Primary = 0.96 cfs @ 13.46 hrs, Volume= 0.712 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 923.67' @ 13.46 hrs Surf.Area= 14,032 sf Storage= 24,545 cf

Plug-Flow detention time= 315.3 min calculated for 0.976 af (100% of inflow)
 Center-of-Mass det. time= 315.7 min (1,118.2 - 802.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	46,073 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
920.00	8,741	0.0	0	0
920.01	8,741	33.0	29	29
921.49	8,741	33.0	4,269	4,298
921.50	8,741	27.0	24	4,322
921.99	8,741	27.0	1,156	5,478
922.00	8,741	100.0	87	5,565
925.00	18,264	100.0	40,508	46,073

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	924.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 263

Discarded OutFlow Max=0.16 cfs @ 13.46 hrs HW=923.67' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=0.96 cfs @ 13.46 hrs HW=923.67' TW=911.74' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 0.96 cfs of 8.91 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.66 cfs @ 7.61 fps)

↳ **3=4" Orifice** (Orifice Controls 0.30 cfs @ 3.41 fps)

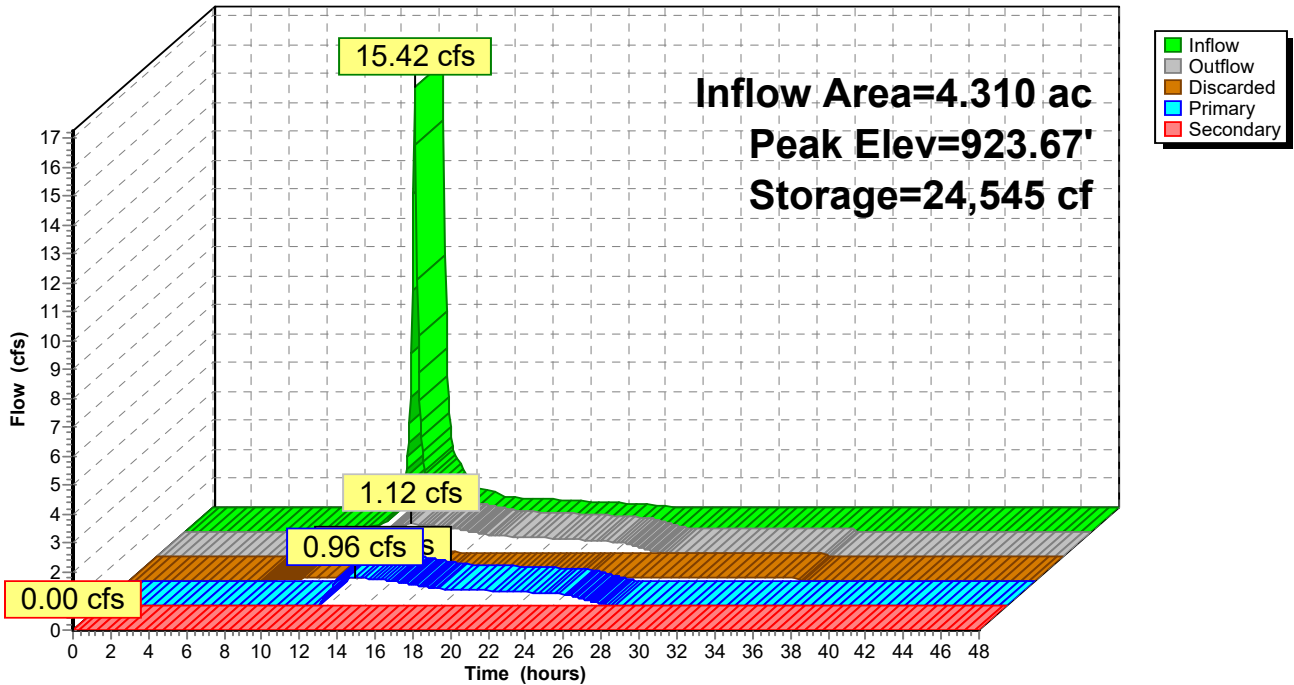
↳ **4=48" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=920.00' TW=911.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP G: IP G

Hydrograph



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Page 264

Summary for Pond IP H: IP H

Inflow Area = 2.410 ac, 70.54% Impervious, Inflow Depth = 2.72" for 10-Year event
 Inflow = 8.62 cfs @ 12.17 hrs, Volume= 0.546 af
 Outflow = 8.52 cfs @ 12.22 hrs, Volume= 0.546 af, Atten= 1%, Lag= 2.9 min
 Discarded = 0.03 cfs @ 12.22 hrs, Volume= 0.033 af
 Primary = 8.23 cfs @ 12.22 hrs, Volume= 0.511 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.27 cfs @ 12.21 hrs, Volume= 0.002 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.56' @ 12.22 hrs Surf.Area= 2,744 sf Storage= 5,893 cf

Plug-Flow detention time= 52.9 min calculated for 0.546 af (100% of inflow)
 Center-of-Mass det. time= 53.4 min (855.8 - 802.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	921.00'	7,143 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
921.00	1,237	0.0	0	0
921.01	1,237	33.0	4	4
922.49	1,237	33.0	604	608
922.50	1,237	27.0	3	612
922.99	1,237	27.0	164	775
923.00	1,237	100.0	12	788
926.00	3,000	100.0	6,356	7,143

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	922.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	924.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	921.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 265

Discarded OutFlow Max=0.03 cfs @ 12.22 hrs HW=925.53' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=7.44 cfs @ 12.22 hrs HW=925.53' TW=912.08' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 7.44 cfs of 10.99 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.77 cfs @ 8.83 fps)

↳ **3=4" Orifice** (Orifice Controls 0.49 cfs @ 5.63 fps)

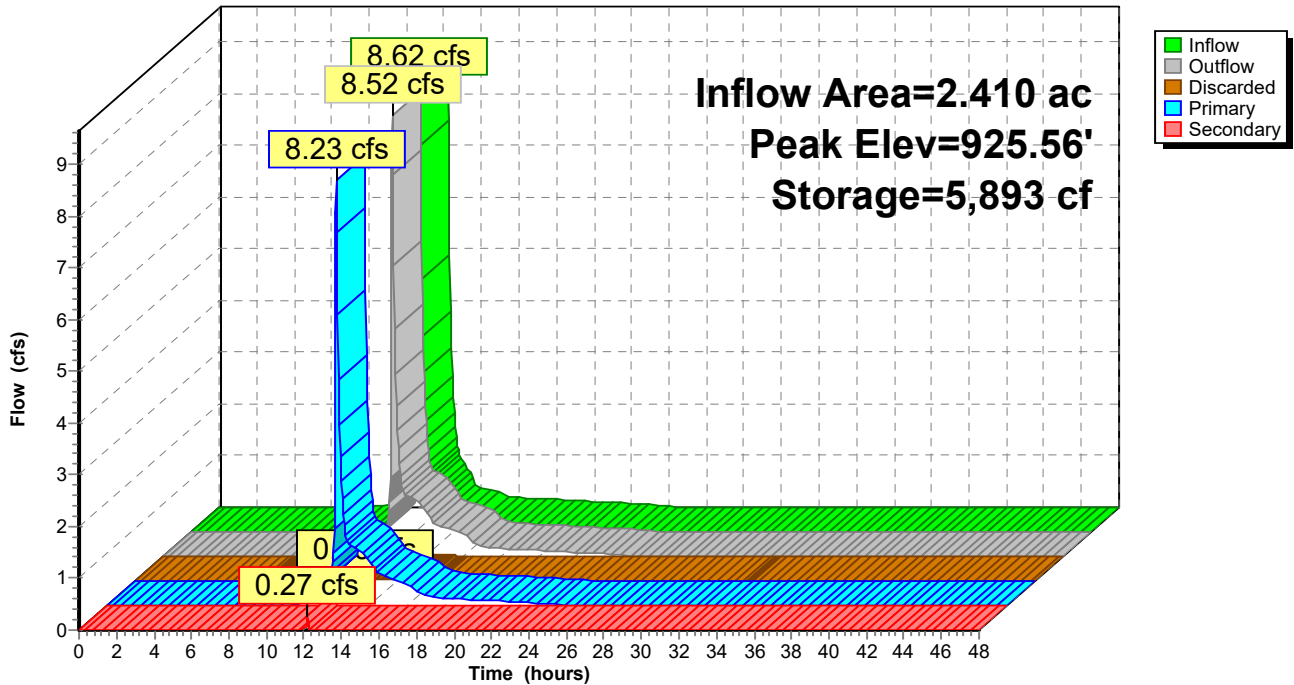
↳ **4=48" Riser** (Weir Controls 6.17 cfs @ 1.74 fps)

Secondary OutFlow Max=0.24 cfs @ 12.21 hrs HW=925.54' TW=912.05' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 0.24 cfs @ 0.44 fps)

Pond IP H: IP H

Hydrograph



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Page 266

Summary for Pond IP L: Inf L

Inflow Area = 2.260 ac, 68.14% Impervious, Inflow Depth = 2.63" for 10-Year event
 Inflow = 7.85 cfs @ 12.17 hrs, Volume= 0.495 af
 Outflow = 7.69 cfs @ 12.20 hrs, Volume= 0.495 af, Atten= 2%, Lag= 1.4 min
 Discarded = 0.03 cfs @ 12.20 hrs, Volume= 0.033 af
 Primary = 7.66 cfs @ 12.20 hrs, Volume= 0.462 af
 Routed to Pond BIO O : Bio O
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond BIO O : Bio O

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 920.31' @ 12.20 hrs Surf.Area= 2,595 sf Storage= 3,325 cf

Plug-Flow detention time= 43.6 min calculated for 0.494 af (100% of inflow)
 Center-of-Mass det. time= 44.1 min (849.4 - 805.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	917.00'	5,362 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.00	1,260	0.0	0	0
917.01	1,260	33.0	4	4
918.49	1,260	33.0	615	620
918.50	1,260	27.0	3	623
918.99	1,260	27.0	167	790
919.00	1,260	100.0	13	802
921.00	3,300	100.0	4,560	5,362

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	918.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	920.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 267

Discarded OutFlow Max=0.03 cfs @ 12.20 hrs HW=920.31' (Free Discharge)

↳5=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=7.63 cfs @ 12.20 hrs HW=920.31' TW=907.72' (Dynamic Tailwater)

↳1=18" Outlet Pipe (Passes 7.63 cfs of 10.71 cfs potential flow)

↳2=4" Underdrain (Orifice Controls 0.61 cfs @ 7.05 fps)

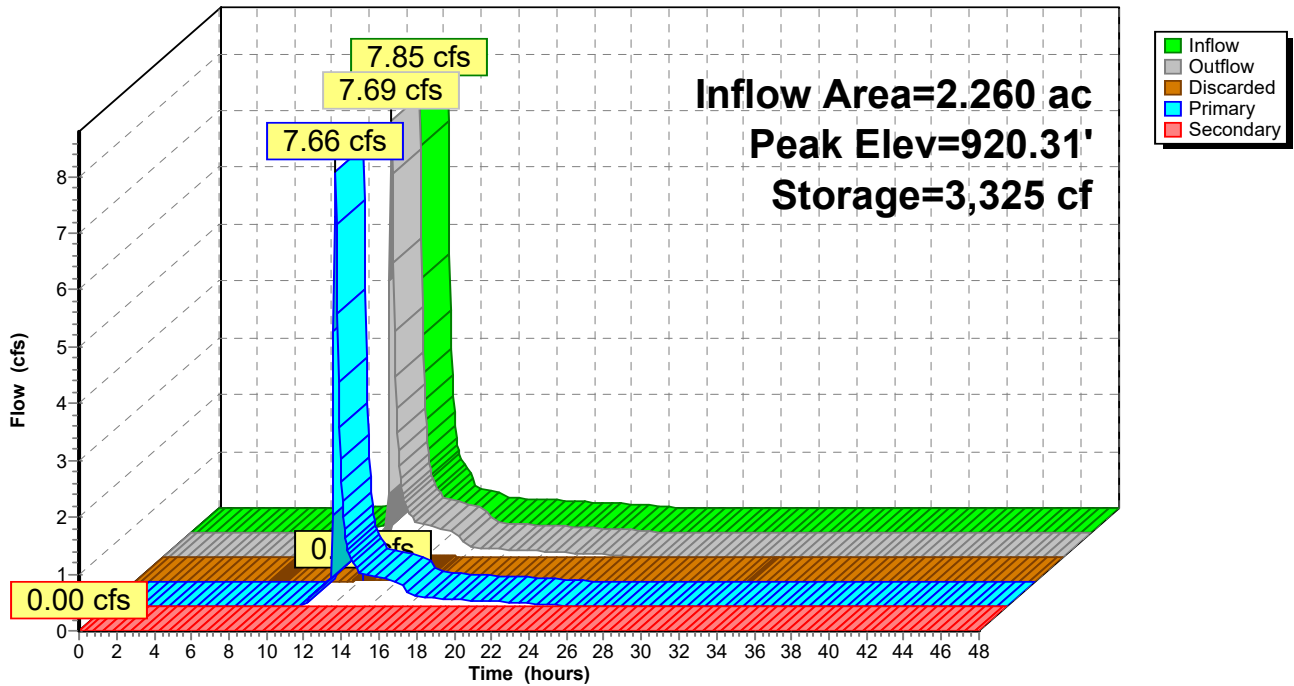
↳3=48" Riser (Weir Controls 7.02 cfs @ 1.81 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=917.00' TW=903.50' (Dynamic Tailwater)

↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond IP L: Inf L

Hydrograph



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Page 268

Summary for Pond IP M: Inf M

Inflow Area = 1.090 ac, 60.55% Impervious, Inflow Depth = 2.45" for 10-Year event
 Inflow = 3.54 cfs @ 12.18 hrs, Volume= 0.223 af
 Outflow = 0.58 cfs @ 12.65 hrs, Volume= 0.223 af, Atten= 84%, Lag= 28.5 min
 Discarded = 0.04 cfs @ 12.65 hrs, Volume= 0.062 af
 Primary = 0.54 cfs @ 12.65 hrs, Volume= 0.160 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 927.79' @ 12.65 hrs Surf.Area= 3,658 sf Storage= 4,341 cf

Plug-Flow detention time= 146.1 min calculated for 0.222 af (100% of inflow)
 Center-of-Mass det. time= 146.5 min (957.1 - 810.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	15,057 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
925.00	2,810	0.0	0	0
925.01	2,810	33.0	9	9
926.49	2,810	33.0	1,372	1,382
926.50	2,810	27.0	8	1,389
926.99	2,810	27.0	372	1,761
927.00	2,810	100.0	28	1,789
930.00	6,035	100.0	13,268	15,057

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	12.0" Round 12" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	928.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	929.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	929.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 269

Discarded OutFlow Max=0.04 cfs @ 12.65 hrs HW=927.79' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.54 cfs @ 12.65 hrs HW=927.79' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Passes 0.54 cfs of 4.21 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.54 cfs @ 6.13 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

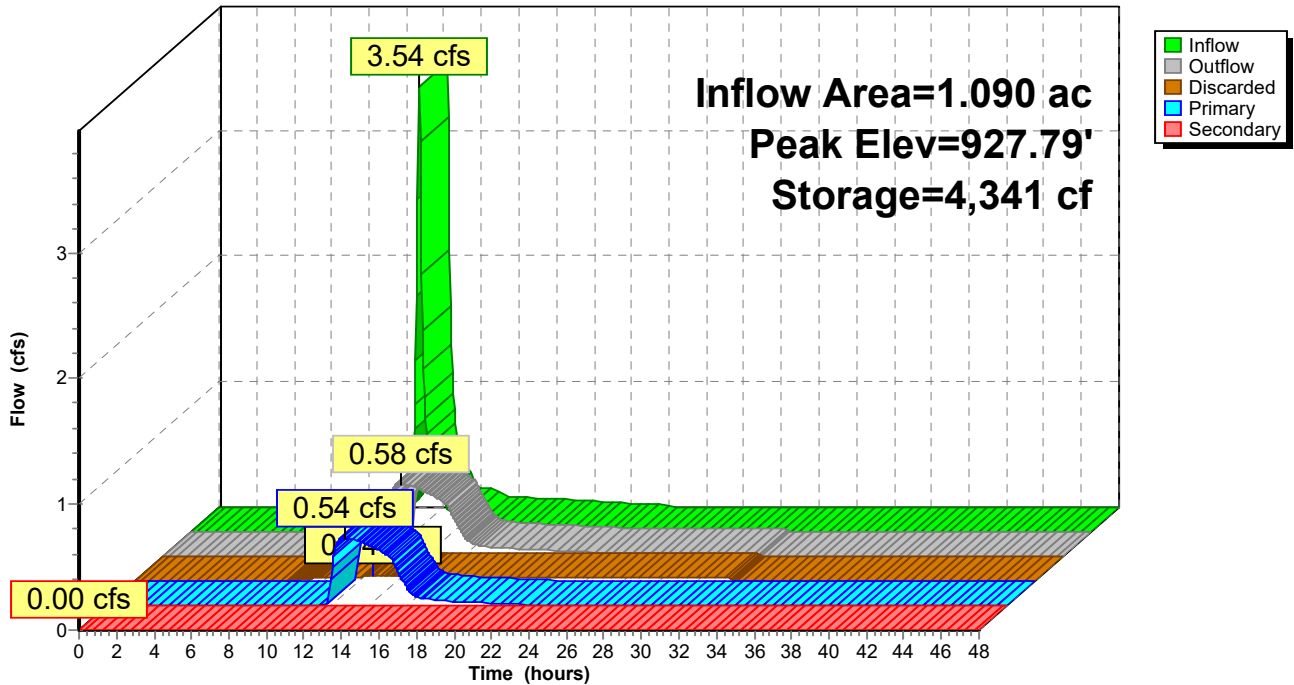
↳ **4=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=925.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP M: Inf M

Hydrograph



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Page 270

Summary for Pond IP P: Infil P

Inflow Area = 24.020 ac, 62.49% Impervious, Inflow Depth > 2.36" for 10-Year event
 Inflow = 33.33 cfs @ 12.36 hrs, Volume= 4.726 af
 Outflow = 7.48 cfs @ 13.47 hrs, Volume= 4.719 af, Atten= 78%, Lag= 66.7 min
 Discarded = 0.27 cfs @ 13.47 hrs, Volume= 0.654 af
 Primary = 7.21 cfs @ 13.47 hrs, Volume= 4.065 af
 Routed to Pond IP T : Infil T
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP T : Infil T

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 938.27' @ 13.47 hrs Surf.Area= 0.535 ac Storage= 1.356 af

Plug-Flow detention time= 356.2 min calculated for 4.719 af (100% of inflow)
 Center-of-Mass det. time= 353.8 min (1,455.6 - 1,101.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	934.00'	9.318 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
934.00	0.252	0.0	0.000	0.000
934.01	0.252	27.0	0.001	0.001
934.99	0.252	27.0	0.067	0.067
935.00	0.252	100.0	0.003	0.070
941.00	0.772	100.0	3.072	3.142
949.00	0.772	100.0	6.176	9.318

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.80' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	940.50'	5.0' long + 4.0 1/1' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	934.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 271

Discarded OutFlow Max=0.27 cfs @ 13.47 hrs HW=938.27' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=7.21 cfs @ 13.47 hrs HW=938.27' TW=928.06' (Dynamic Tailwater)

↳ **1=24" Outlet Pipe** (Passes 7.21 cfs of 31.74 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.85 cfs @ 9.75 fps)

↳ **3=4" Orifice** (Orifice Controls 0.64 cfs @ 7.38 fps)

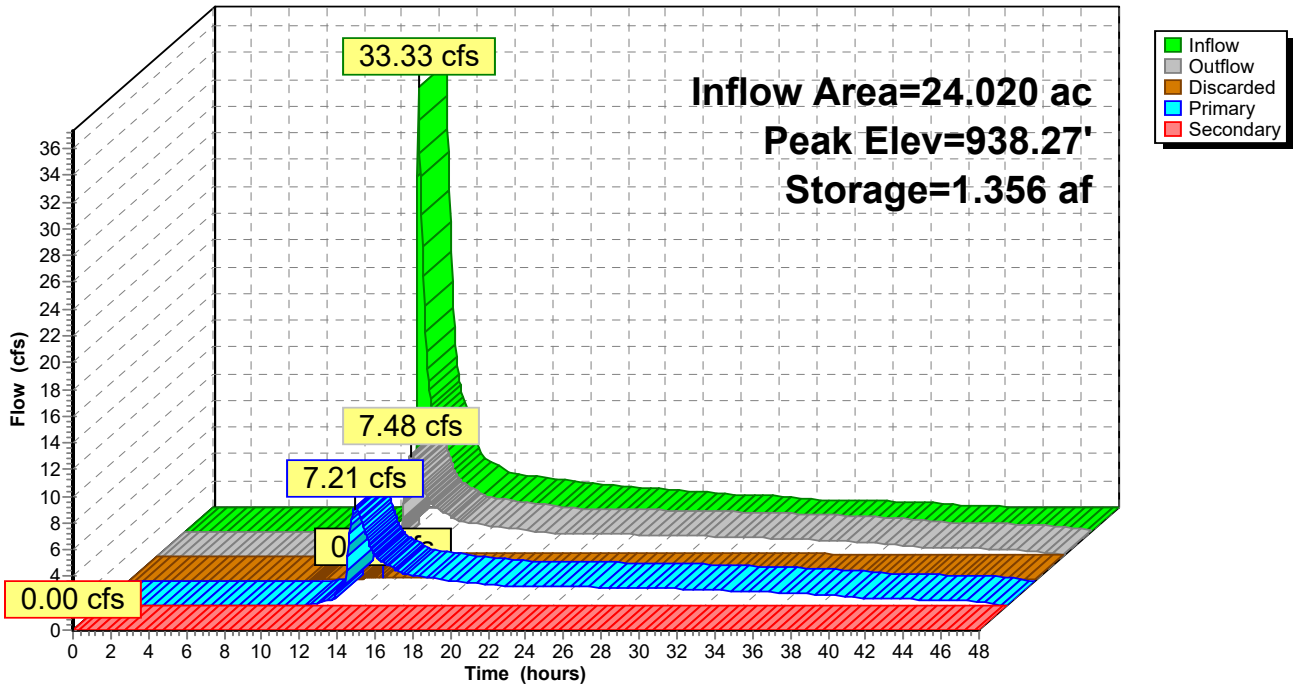
↳ **4=48" Riser** (Weir Controls 5.71 cfs @ 1.69 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=934.00' TW=925.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP P: Infil P

Hydrograph



Kilkenny Phase Master

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Page 272

Summary for Pond IP Q: Infil Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth = 2.56" for 10-Year event
 Inflow = 41.66 cfs @ 12.25 hrs, Volume= 3.095 af
 Outflow = 30.43 cfs @ 12.36 hrs, Volume= 3.095 af, Atten= 27%, Lag= 6.9 min
 Discarded = 0.11 cfs @ 12.36 hrs, Volume= 0.160 af
 Primary = 30.31 cfs @ 12.36 hrs, Volume= 2.935 af
 Routed to Pond IP P : Infil P
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 941.79' @ 12.36 hrs Surf.Area= 0.223 ac Storage= 0.640 af

Plug-Flow detention time= 117.3 min calculated for 3.095 af (100% of inflow)
 Center-of-Mass det. time= 117.3 min (1,011.5 - 894.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	937.00'	2.828 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
937.00	0.100	0.0	0.000	0.000
937.01	0.100	27.0	0.000	0.000
937.99	0.100	27.0	0.026	0.027
938.00	0.100	100.0	0.001	0.028
942.00	0.230	100.0	0.660	0.688
943.00	0.270	100.0	0.250	0.938
950.00	0.270	100.0	1.890	2.828

Device	Routing	Invert	Outlet Devices
#1	Primary	937.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 937.00' / 935.70' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	937.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	942.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	937.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 273

Discarded OutFlow Max=0.11 cfs @ 12.36 hrs HW=941.77' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=29.54 cfs @ 12.36 hrs HW=941.77' TW=935.91' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 29.54 cfs of 62.26 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.90 cfs @ 10.33 fps)

↳ **3=4" Orifice** (Orifice Controls 0.71 cfs @ 8.14 fps)

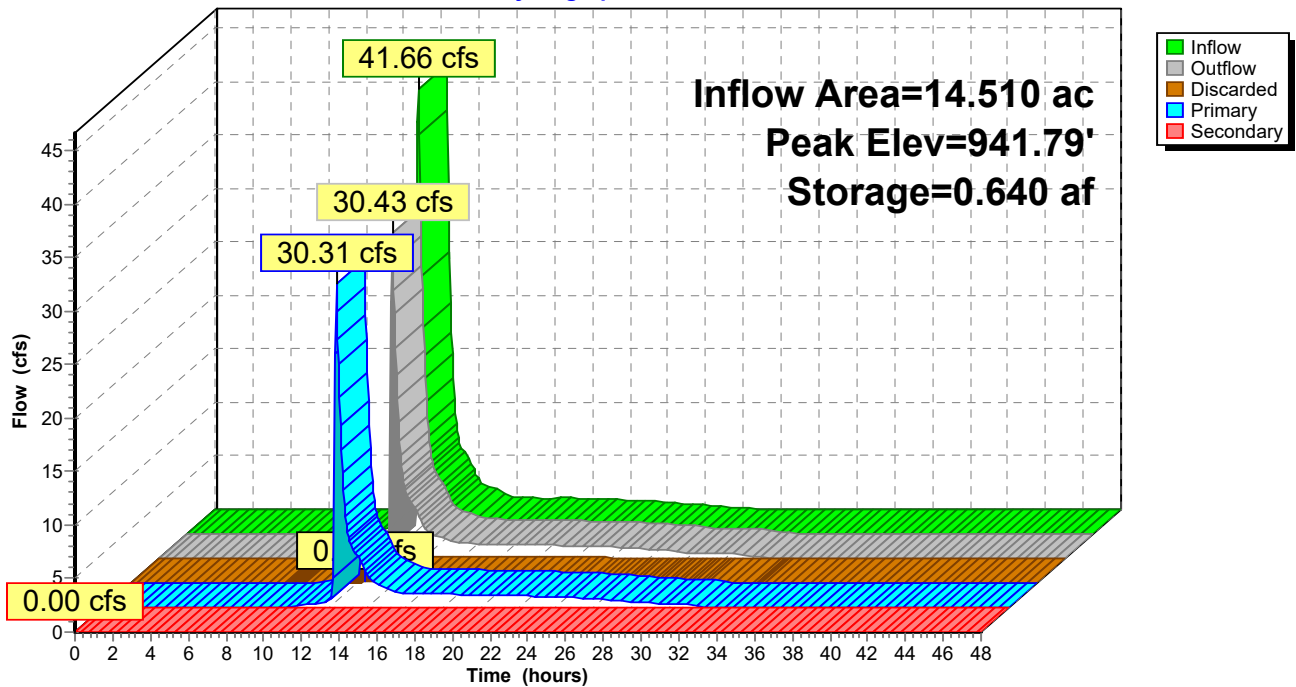
↳ **4=48" Riser** (Weir Controls 27.93 cfs @ 2.88 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=937.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP Q: Infil Q

Hydrograph



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Page 274

Summary for Pond IP T: Infil T

Inflow Area = 26.270 ac, 63.11% Impervious, Inflow Depth > 2.09" for 10-Year event
 Inflow = 8.45 cfs @ 12.17 hrs, Volume= 4.575 af
 Outflow = 8.29 cfs @ 12.20 hrs, Volume= 4.564 af, Atten= 2%, Lag= 1.4 min
 Discarded = 0.03 cfs @ 12.20 hrs, Volume= 0.084 af
 Primary = 8.26 cfs @ 12.20 hrs, Volume= 4.479 af
 Routed to Pond WP U : Wet Pond U
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond WP U : Wet Pond U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 928.08' @ 12.20 hrs Surf.Area= 0.061 ac Storage= 0.069 af

Plug-Flow detention time= 24.7 min calculated for 4.559 af (100% of inflow)
 Center-of-Mass det. time= 21.0 min (1,377.2 - 1,356.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	2.143 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
925.00	0.031	0.0	0.000	0.000
925.01	0.031	33.0	0.000	0.000
926.49	0.031	33.0	0.015	0.015
926.50	0.031	27.0	0.000	0.015
926.99	0.031	27.0	0.004	0.019
927.00	0.031	100.0	0.000	0.020
930.00	0.115	100.0	0.219	0.239
931.00	0.240	100.0	0.177	0.416
932.00	0.189	100.0	0.214	0.631
940.00	0.189	100.0	1.512	2.143

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	18.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	927.75'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	931.50'	25.0' long + 4.0 1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 275

Discarded OutFlow Max=0.03 cfs @ 12.20 hrs HW=928.08' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=8.23 cfs @ 12.20 hrs HW=928.08' TW=920.33' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 8.23 cfs of 9.51 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.58 cfs @ 6.65 fps)

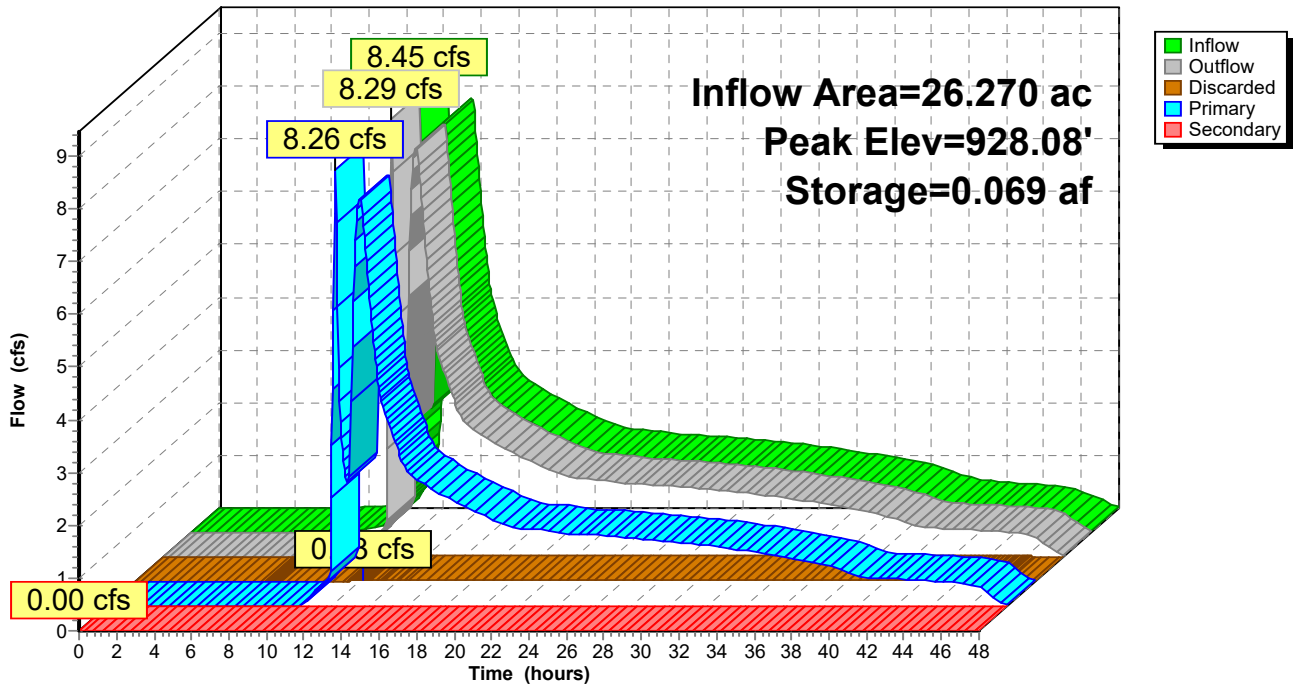
↳ **3=48" Riser** (Weir Controls 7.65 cfs @ 1.87 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=925.00' TW=918.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP T: Infil T

Hydrograph



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Page 276

Summary for Pond IP U: Infil U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth > 2.10" for 10-Year event
 Inflow = 8.72 cfs @ 13.55 hrs, Volume= 5.502 af
 Outflow = 4.10 cfs @ 15.13 hrs, Volume= 5.203 af, Atten= 53%, Lag= 94.9 min
 Discarded = 0.16 cfs @ 15.13 hrs, Volume= 0.439 af
 Primary = 3.94 cfs @ 15.13 hrs, Volume= 4.764 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 921.14' @ 15.13 hrs Surf.Area= 0.326 ac Storage= 1.033 af

Plug-Flow detention time= 301.7 min calculated for 5.198 af (94% of inflow)
 Center-of-Mass det. time= 228.4 min (1,679.3 - 1,450.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	4.538 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
916.00	0.152	0.0	0.000	0.000
916.01	0.152	27.0	0.000	0.000
916.99	0.152	27.0	0.040	0.041
917.00	0.152	100.0	0.002	0.042
923.00	0.404	100.0	1.668	1.710
930.00	0.404	100.0	2.828	4.538

Device	Routing	Invert	Outlet Devices
#1	Primary	916.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 916.00' / 914.70' S= 0.0050 '/ S= 0.0050 ' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	916.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	917.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	921.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	922.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 277

Discarded OutFlow Max=0.16 cfs @ 15.13 hrs HW=921.14' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=3.93 cfs @ 15.13 hrs HW=921.14' TW=0.00' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 3.93 cfs of 65.90 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.94 cfs @ 10.74 fps)

↳ **3=4" Orifice** (Orifice Controls 0.75 cfs @ 8.65 fps)

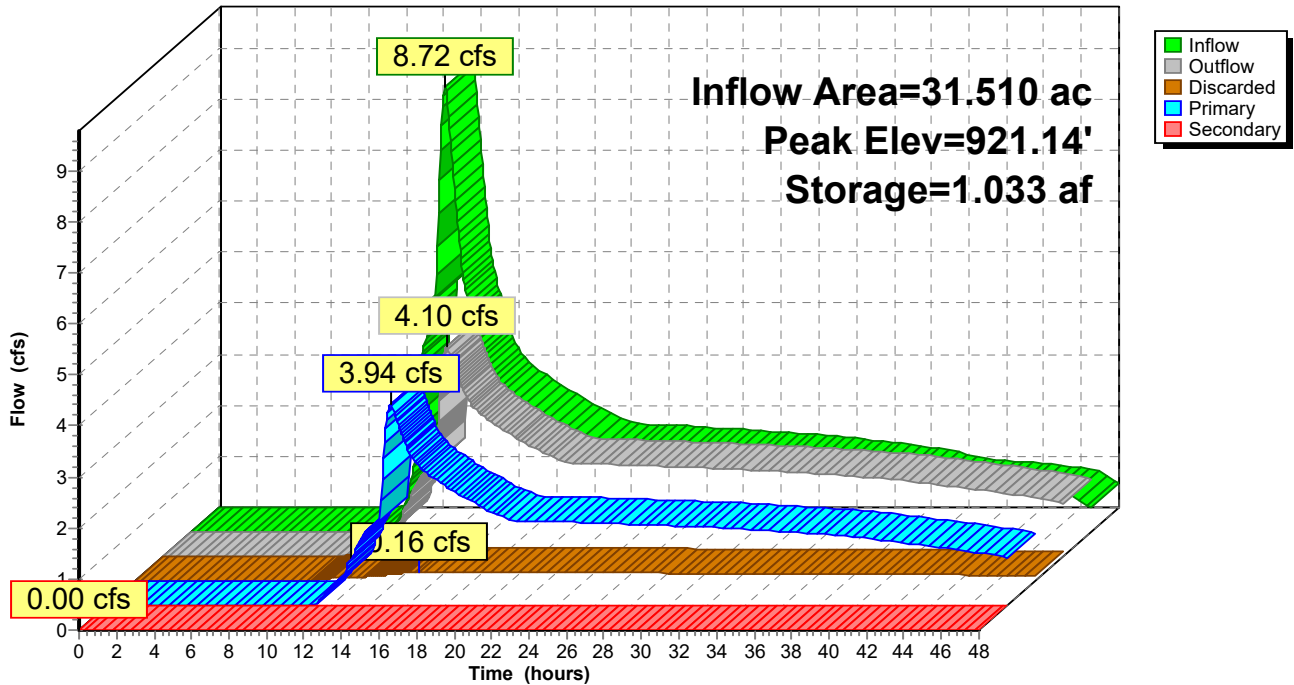
↳ **4=48" Riser** (Weir Controls 2.24 cfs @ 1.24 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=916.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP U: Infil U

Hydrograph



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Page 278

Summary for Pond IP V: Infil V

Inflow Area = 1.550 ac, 57.42% Impervious, Inflow Depth = 2.36" for 10-Year event
 Inflow = 4.87 cfs @ 12.18 hrs, Volume= 0.305 af
 Outflow = 0.43 cfs @ 13.31 hrs, Volume= 0.305 af, Atten= 91%, Lag= 68.0 min
 Discarded = 0.15 cfs @ 11.75 hrs, Volume= 0.230 af
 Primary = 0.28 cfs @ 13.31 hrs, Volume= 0.075 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 906.61' @ 13.31 hrs Surf.Area= 0.299 ac Storage= 0.157 af

Plug-Flow detention time= 282.6 min calculated for 0.305 af (100% of inflow)
 Center-of-Mass det. time= 282.6 min (1,095.8 - 813.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	905.00'	3.915 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
905.00	0.299	0.0	0.000	0.000
905.01	0.299	33.0	0.001	0.001
906.49	0.299	33.0	0.146	0.147
906.50	0.299	27.0	0.001	0.148
906.99	0.299	27.0	0.040	0.187
907.00	0.299	100.0	0.003	0.190
910.00	0.504	100.0	1.205	1.395
915.00	0.504	100.0	2.520	3.915

Device	Routing	Invert	Outlet Devices
#1	Primary	906.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 906.00' / 905.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	906.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	907.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	909.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	909.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	905.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 279

Discarded OutFlow Max=0.15 cfs @ 11.75 hrs HW=905.10' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=0.28 cfs @ 13.31 hrs HW=906.61' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Passes 0.28 cfs of 1.13 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.28 cfs @ 3.20 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

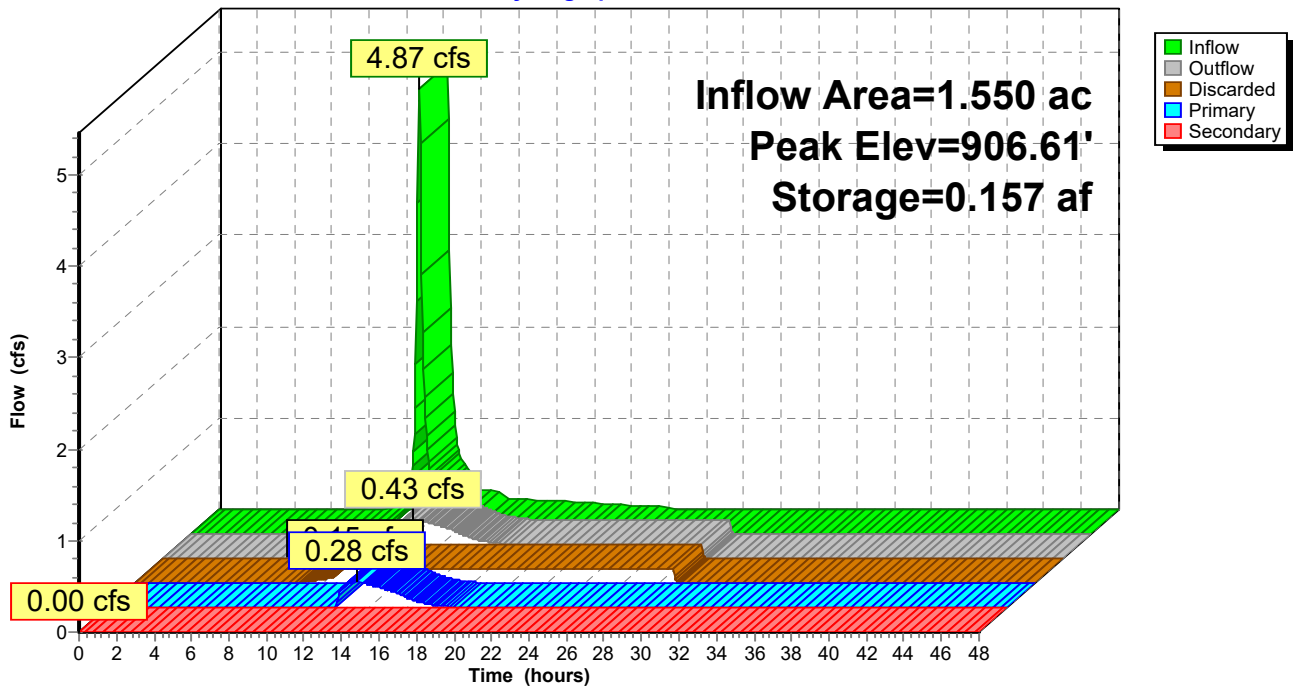
↳ **4=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=905.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP V: Infil V

Hydrograph



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Page 280

Summary for Pond IP W: Infil W

Inflow Area = 3.440 ac, 68.90% Impervious, Inflow Depth = 2.72" for 10-Year event
 Inflow = 12.31 cfs @ 12.17 hrs, Volume= 0.780 af
 Outflow = 10.96 cfs @ 12.22 hrs, Volume= 0.780 af, Atten= 11%, Lag= 2.6 min
 Discarded = 0.03 cfs @ 12.22 hrs, Volume= 0.025 af
 Primary = 10.93 cfs @ 12.22 hrs, Volume= 0.754 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 914.32' @ 12.22 hrs Surf.Area= 0.064 ac Storage= 0.067 af

Plug-Flow detention time= 21.7 min calculated for 0.779 af (100% of inflow)
 Center-of-Mass det. time= 22.1 min (824.6 - 802.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	911.00'	0.553 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	0.019	0.0	0.000	0.000
911.01	0.019	33.0	0.000	0.000
912.49	0.019	33.0	0.009	0.009
912.50	0.019	27.0	0.000	0.009
912.99	0.019	27.0	0.003	0.012
913.00	0.019	100.0	0.000	0.012
915.00	0.087	100.0	0.106	0.118
920.00	0.087	100.0	0.435	0.553

Device	Routing	Invert	Outlet Devices
#1	Primary	912.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 912.00' / 911.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	912.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	913.75'	36.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	914.50'	15.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	911.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 281

Discarded OutFlow Max=0.03 cfs @ 12.22 hrs HW=914.31' (Free Discharge)

↳5=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=10.87 cfs @ 12.22 hrs HW=914.31' TW=0.00' (Dynamic Tailwater)

↳1=18" Outlet Pipe (Barrel Controls 10.87 cfs @ 6.15 fps)

↳2=4" Underdrain (Passes < 0.62 cfs potential flow)

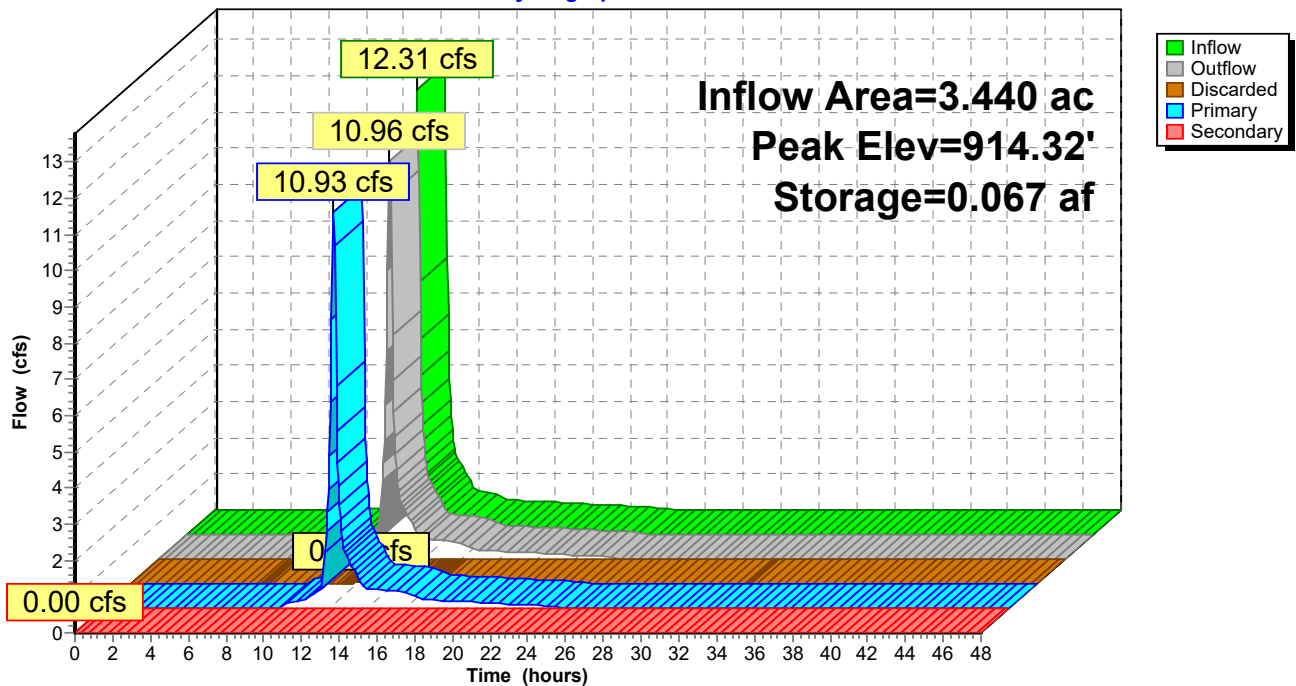
↳3=48" Riser (Passes < 13.02 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=911.00' TW=0.00' (Dynamic Tailwater)

↳4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond IP W: Infil W

Hydrograph



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Page 282

Summary for Pond WP A: Wet Pond A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth = 2.00" for 10-Year event
 Inflow = 72.22 cfs @ 12.19 hrs, Volume= 6.591 af
 Outflow = 17.31 cfs @ 12.77 hrs, Volume= 6.155 af, Atten= 76%, Lag= 34.8 min
 Primary = 17.31 cfs @ 12.77 hrs, Volume= 6.155 af
 Routed to Pond IP A : Infil A
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP A : Infil A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 924.25' @ 12.77 hrs Surf.Area= 1.340 ac Storage= 2.705 af

Plug-Flow detention time= 489.7 min calculated for 6.149 af (93% of inflow)
 Center-of-Mass det. time= 458.9 min (1,307.5 - 848.6)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	11.459 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
922.00	1.071	0.000	0.000
923.00	1.190	1.130	1.130
924.00	1.310	1.250	2.380
925.00	1.431	1.371	3.751
926.00	1.554	1.493	5.243
930.00	1.554	6.216	11.459

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.80' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	922.00'	12.0" Vert. 12" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.50'	6.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#4	Secondary	925.00'	30.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=17.29 cfs @ 12.77 hrs HW=924.24' TW=922.21' (Dynamic Tailwater)

↑ **1=36" Outlet Pipe** (Passes 17.29 cfs of 24.25 cfs potential flow)

↑ **2=12" Orifice** (Orifice Controls 5.00 cfs @ 6.36 fps)

↑ **3=Sharp-Crested Rectangular Weir** (Weir Controls 12.29 cfs @ 2.82 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=922.00' TW=920.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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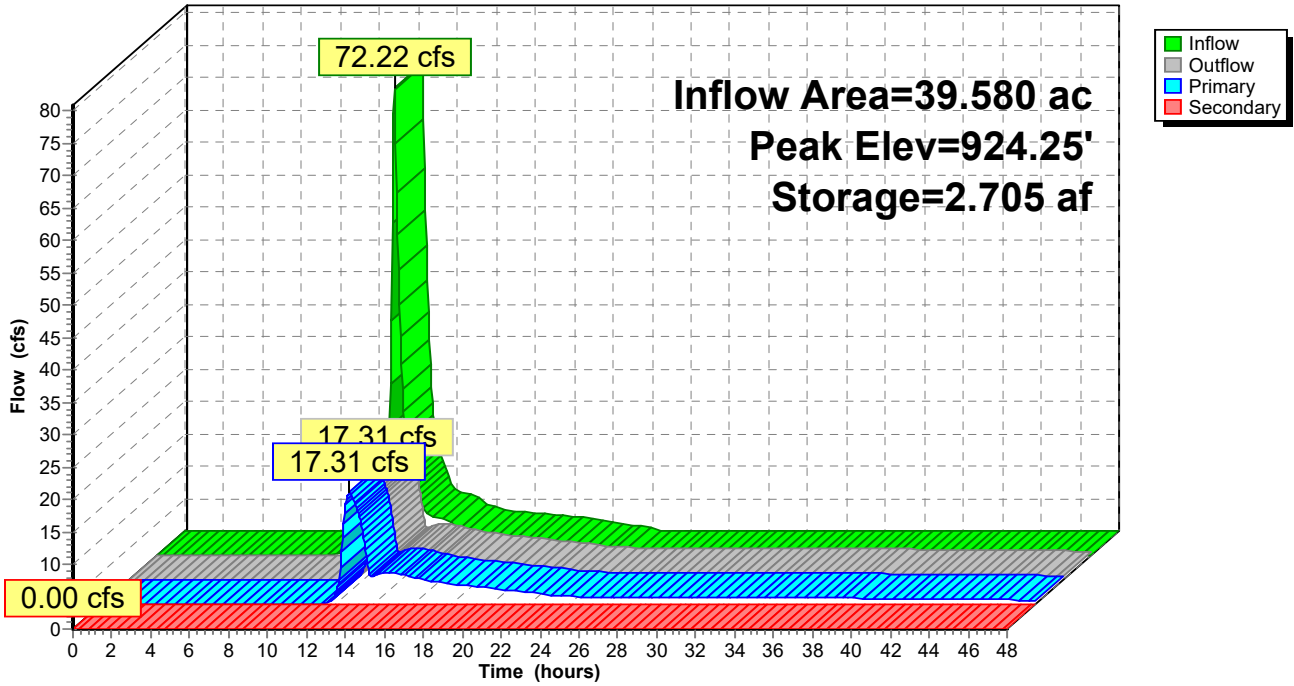
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Page 283

Pond WP A: Wet Pond A

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Page 284

Summary for Pond WP B: Wet Pond B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth > 1.70" for 10-Year event
 Inflow = 90.48 cfs @ 12.18 hrs, Volume= 12.772 af
 Outflow = 49.36 cfs @ 12.34 hrs, Volume= 12.470 af, Atten= 45%, Lag= 9.3 min
 Primary = 19.70 cfs @ 12.34 hrs, Volume= 8.784 af
 Routed to Pond IP B : Infil B
 Secondary = 29.66 cfs @ 12.34 hrs, Volume= 3.686 af
 Routed to Reach 27R : Post Wetland
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 912.20' @ 12.34 hrs Surf.Area= 1.549 ac Storage= 1.714 af

Plug-Flow detention time= 87.9 min calculated for 12.457 af (98% of inflow)
 Center-of-Mass det. time= 48.9 min (1,184.6 - 1,135.6)

Volume	Invert	Avail.Storage	Storage Description
#1	911.00'	16.295 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	1.320	0.000	0.000
912.00	1.510	1.415	1.415
913.00	1.710	1.610	3.025
914.00	1.910	1.810	4.835
920.00	1.910	11.460	16.295

Device	Routing	Invert	Outlet Devices
#1	Primary	911.00'	18.0" Round 4 - 18" Outlet to Infiltration X 4.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.00' / 910.75' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Secondary	911.35'	24.0" Round 6 - 24" Outlet Pipes X 6.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.35' / 910.00' S= 0.0270 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Tertiary	913.50'	5.0' long + 4.0 ' SideZ x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=19.64 cfs @ 12.34 hrs HW=912.19' TW=910.09' (Dynamic Tailwater)
 ↳1=4 - 18" Outlet to Infiltration (Barrel Controls 19.64 cfs @ 4.46 fps)

Secondary OutFlow Max=29.52 cfs @ 12.34 hrs HW=912.19' TW=0.00' (Dynamic Tailwater)
 ↳2=6 - 24" Outlet Pipes (Inlet Controls 29.52 cfs @ 3.91 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=911.00' TW=0.00' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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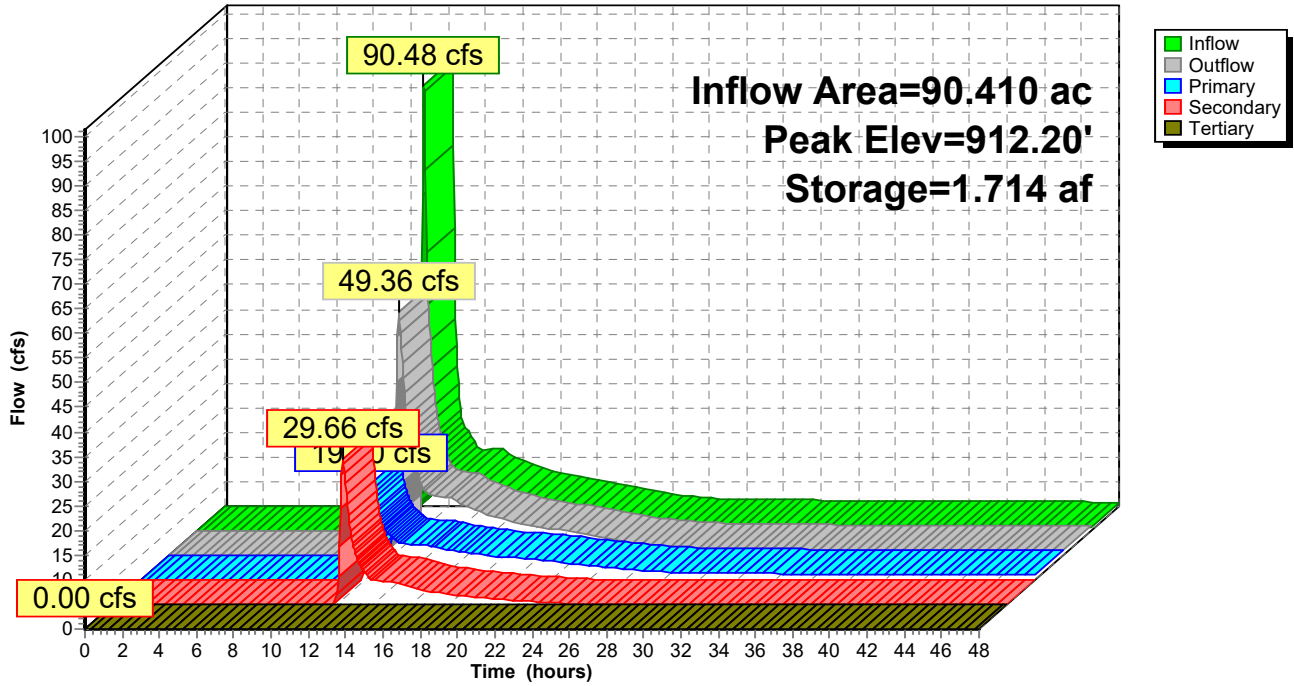
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Page 285

Pond WP B: Wet Pond B

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Page 286

Summary for Pond WP P: Wet Pond P

Inflow Area = 9.510 ac, 56.89% Impervious, Inflow Depth = 2.28" for 10-Year event
 Inflow = 28.90 cfs @ 12.18 hrs, Volume= 1.807 af
 Outflow = 4.35 cfs @ 12.63 hrs, Volume= 1.790 af, Atten= 85%, Lag= 27.0 min
 Primary = 4.35 cfs @ 12.63 hrs, Volume= 1.790 af
 Routed to Pond IP P : Infil P
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP P : Infil P

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 938.63' @ 12.71 hrs Surf.Area= 0.416 ac Storage= 0.869 af

Plug-Flow detention time= 461.5 min calculated for 1.790 af (99% of inflow)
 Center-of-Mass det. time= 455.9 min (1,271.7 - 815.7)

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	2.045 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
936.00	0.247	0.000	0.000
937.00	0.310	0.278	0.278
938.00	0.375	0.342	0.621
939.00	0.440	0.408	1.028
940.00	0.508	0.474	1.502
941.00	0.576	0.542	2.045

Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 936.00' / 935.80' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	936.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	940.50'	5.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=4.17 cfs @ 12.63 hrs HW=938.62' TW=937.32' (Dynamic Tailwater)

↑ **1=24" Outlet Pipe** (Passes 4.17 cfs of 18.85 cfs potential flow)

↑ **2=9" Orifice** (Orifice Controls 2.42 cfs @ 5.49 fps)

↑ **3=48" Riser** (Weir Controls 1.75 cfs @ 1.14 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=936.00' TW=934.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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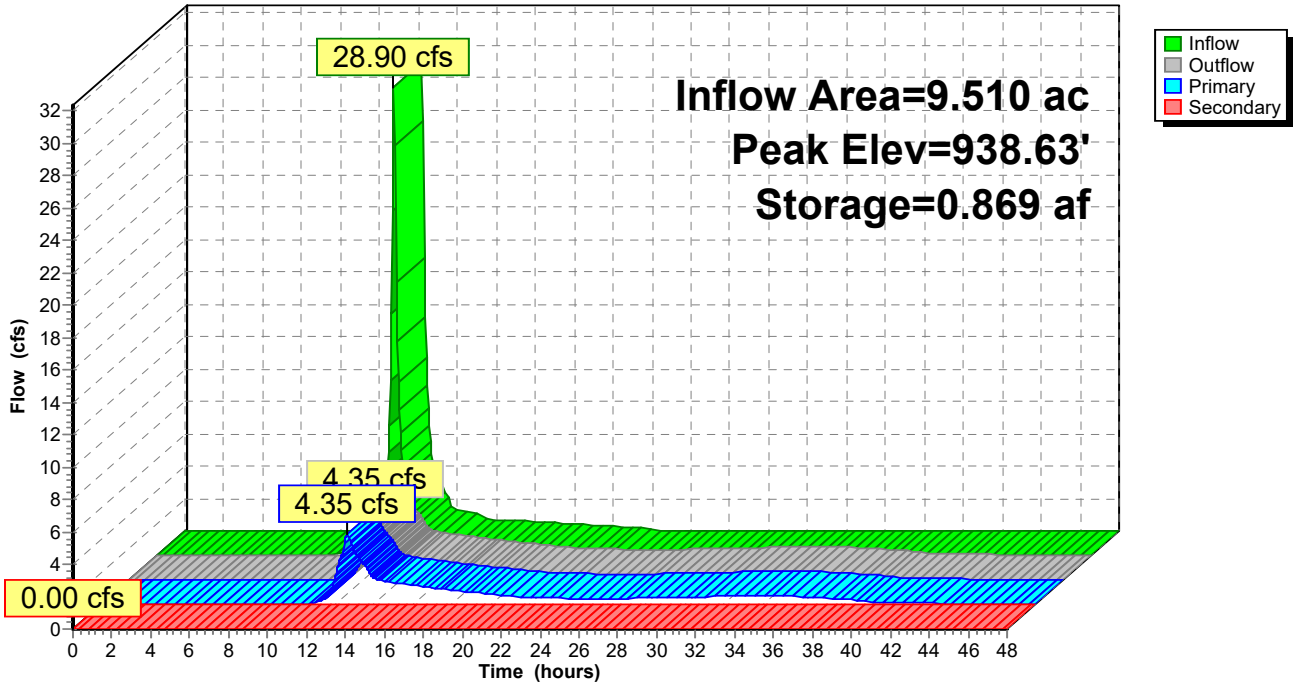
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Page 287

Pond WP P: Wet Pond P

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Page 288

Summary for Pond WP Q: Wet Pond Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth = 2.56" for 10-Year event
 Inflow = 42.09 cfs @ 12.23 hrs, Volume= 3.098 af
 Outflow = 41.66 cfs @ 12.25 hrs, Volume= 3.095 af, Atten= 1%, Lag= 0.8 min
 Primary = 13.27 cfs @ 12.21 hrs, Volume= 2.151 af
 Routed to Pond IP Q : Infil Q
 Secondary = 29.10 cfs @ 12.27 hrs, Volume= 0.944 af
 Routed to Pond IP Q : Infil Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 941.86' @ 12.40 hrs Surf.Area= 0.211 ac Storage= 0.502 af

Plug-Flow detention time= 84.2 min calculated for 3.095 af (100% of inflow)
 Center-of-Mass det. time= 83.5 min (894.2 - 810.7)

Volume	Invert	Avail.Storage	Storage Description
#1	939.00'	2.439 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
939.00	0.141	0.000	0.000
940.00	0.165	0.153	0.153
941.00	0.189	0.177	0.330
942.00	0.215	0.202	0.532
943.00	0.240	0.227	0.759
950.00	0.240	1.680	2.439

Device	Routing	Invert	Outlet Devices
#1	Primary	939.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 939.00' / 938.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	939.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	941.50'	60.0' long + 4.0 '/ SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=12.38 cfs @ 12.21 hrs HW=941.81' TW=940.46' (Dynamic Tailwater)

↑ **1=18" Outlet Pipe** (Inlet Controls 12.38 cfs @ 7.00 fps)

↑ **2=9" Orifice** (Passes < 2.48 cfs potential flow)

↑ **3=48" Riser** (Passes < 30.00 cfs potential flow)

Secondary OutFlow Max=28.65 cfs @ 12.27 hrs HW=941.83' TW=941.40' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Weir Controls 28.65 cfs @ 1.40 fps)

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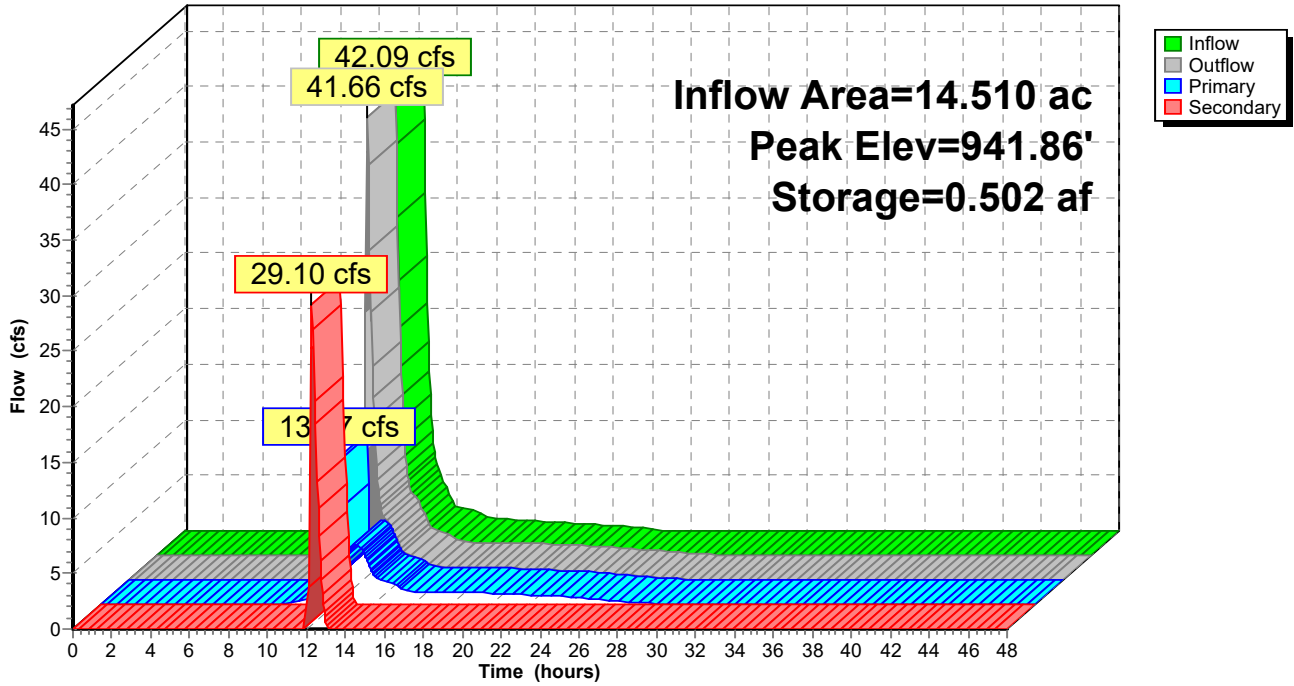
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Page 289

Pond WP Q: Wet Pond Q

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Page 290

Summary for Pond WP R: Wet Pond R

Inflow Area = 4.580 ac, 42.58% Impervious, Inflow Depth = 1.89" for 10-Year event
 Inflow = 9.50 cfs @ 12.19 hrs, Volume= 0.720 af
 Outflow = 2.03 cfs @ 12.76 hrs, Volume= 0.715 af, Atten= 79%, Lag= 34.0 min
 Primary = 2.03 cfs @ 12.76 hrs, Volume= 0.715 af
 Routed to Reach 12R : Prop CTH Q
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 936.63' @ 12.76 hrs Surf.Area= 0.224 ac Storage= 0.331 af

Plug-Flow detention time= 174.9 min calculated for 0.715 af (99% of inflow)
 Center-of-Mass det. time= 170.7 min (1,000.0 - 829.3)

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	2.491 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
935.00	0.183	0.000	0.000
936.00	0.208	0.196	0.196
937.00	0.234	0.221	0.417
938.00	0.261	0.248	0.664
945.00	0.261	1.827	2.491

Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 935.00' / 934.80' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	935.00'	6.0" Vert. 6" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	937.50'	5.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=2.03 cfs @ 12.76 hrs HW=936.63' TW=0.00' (Dynamic Tailwater)

↑ **1=12" Outlet Pipe** (Passes 2.03 cfs of 3.95 cfs potential flow)

↑ **2=6" Orifice** (Orifice Controls 1.11 cfs @ 5.65 fps)

↑ **3=24" Riser** (Weir Controls 0.92 cfs @ 1.16 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=935.00' TW=0.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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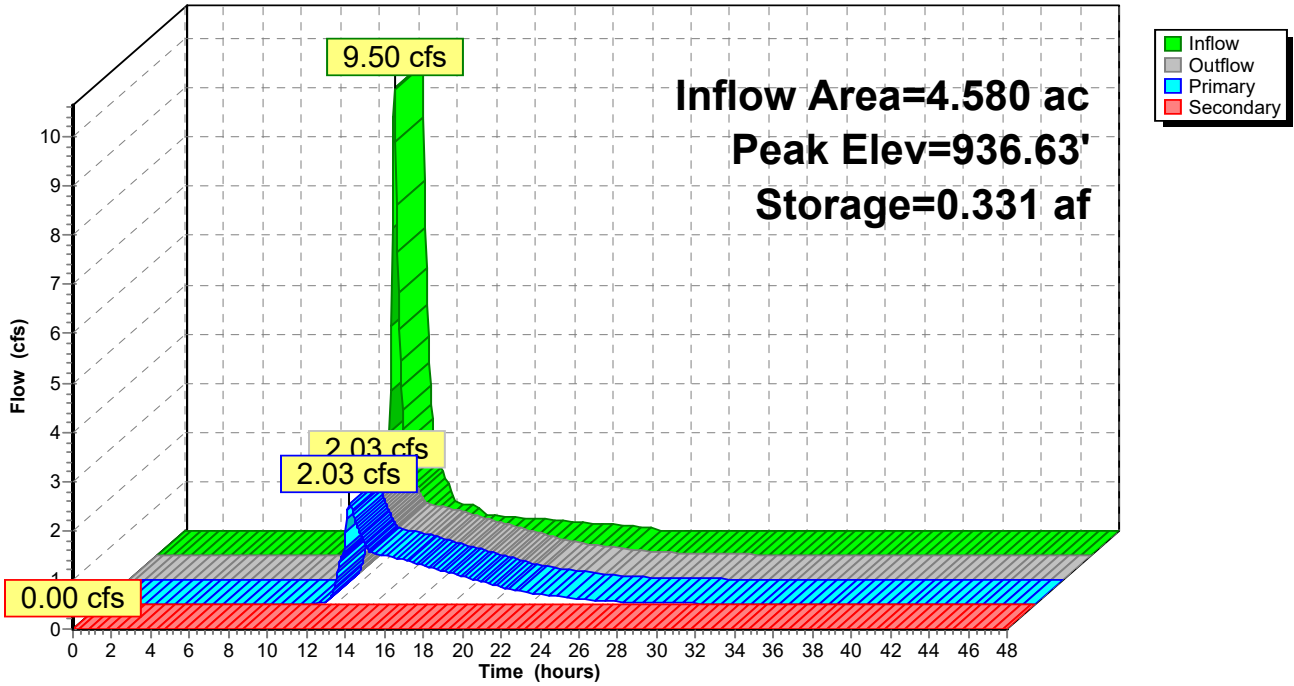
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Page 291

Pond WP R: Wet Pond R

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Page 292

Summary for Pond WP U: Wet Pond U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth > 2.13" for 10-Year event
 Inflow = 25.73 cfs @ 12.18 hrs, Volume= 5.588 af
 Outflow = 8.72 cfs @ 13.55 hrs, Volume= 5.502 af, Atten= 66%, Lag= 81.9 min
 Primary = 8.72 cfs @ 13.55 hrs, Volume= 5.502 af
 Routed to Pond IP U : Infil U
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP U : Infil U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 921.76' @ 13.60 hrs Surf.Area= 0.269 ac Storage= 0.802 af

Plug-Flow detention time= 214.2 min calculated for 5.502 af (98% of inflow)
 Center-of-Mass det. time= 190.8 min (1,450.9 - 1,260.1)

Volume	Invert	Avail.Storage	Storage Description
#1	918.00'	1.160 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
918.00	0.161	0.000	0.000
919.00	0.188	0.174	0.174
920.00	0.216	0.202	0.376
921.00	0.245	0.230	0.607
922.00	0.276	0.261	0.868
923.00	0.308	0.292	1.160

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.80' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	918.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	922.50'	50.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=8.64 cfs @ 13.55 hrs HW=921.76' TW=919.49' (Dynamic Tailwater)

↑1=36" Outlet Pipe (Passes 8.64 cfs of 50.45 cfs potential flow)

↑2=9" Orifice (Orifice Controls 3.21 cfs @ 7.26 fps)

↑3=48" Riser (Weir Controls 5.43 cfs @ 1.67 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=918.00' TW=916.00' (Dynamic Tailwater)

↑4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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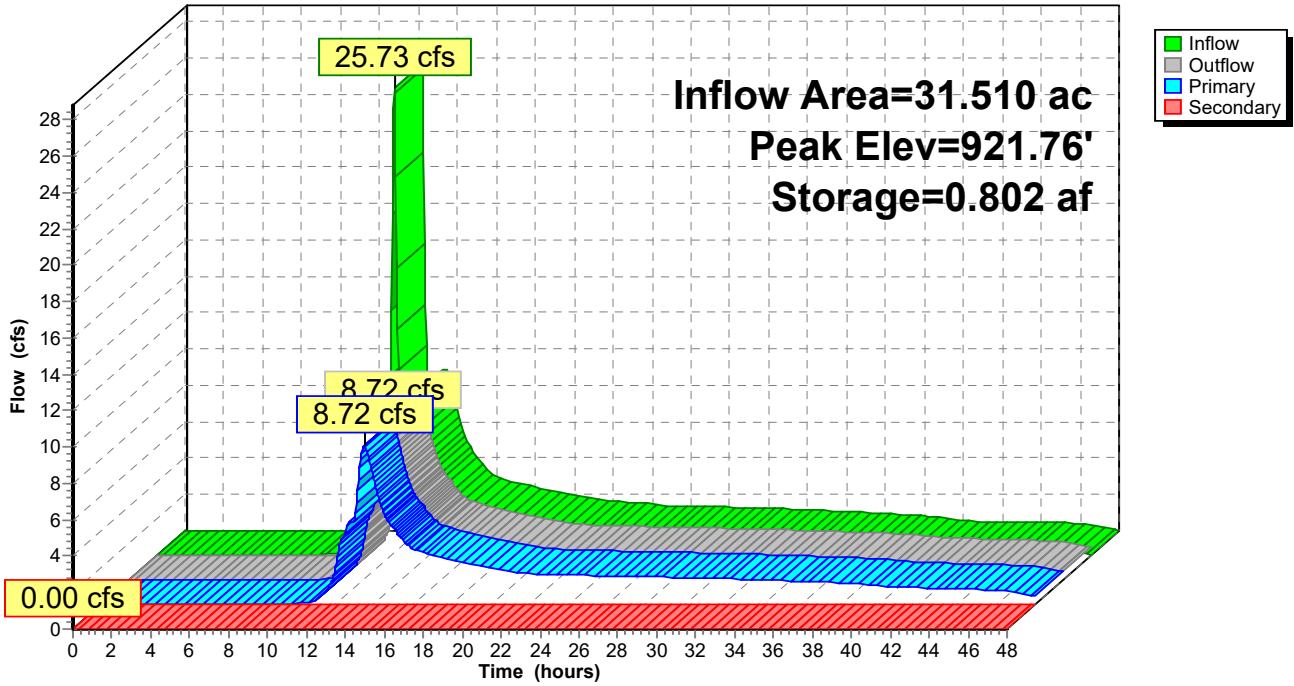
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Page 293

Pond WP U: Wet Pond U

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Page 294

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1 OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=2.46" Flow Length=400' Tc=4.4 min CN=61 Runoff=10.50 cfs 0.533 af
Subcatchment 2 OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=2.75" Flow Length=500' Tc=4.6 min CN=64 Runoff=28.65 cfs 1.460 af
Subcatchment 3 OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=2.46" Tc=20.0 min CN=61 Runoff=12.49 cfs 1.076 af
Subcatchment 4 OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=2.46" Tc=10.0 min CN=61 Runoff=1.75 cfs 0.111 af
Subcatchment 5 OS: Offsite - Funeral	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=3.44" Flow Length=250' Slope=0.0200 '/' Tc=21.4 min CN=71 Runoff=6.33 cfs 0.550 af
Subcatchment 30S: Prop. 30S	Runoff Area=19.160 ac 59.39% Impervious Runoff Depth=4.71" Tc=10.0 min CN=83 Runoff=117.50 cfs 7.517 af
Subcatchment 31S: Future Commercial	Runoff Area=12.940 ac 0.00% Impervious Runoff Depth=3.14" Tc=20.0 min CN=68 Runoff=40.17 cfs 3.383 af
Subcatchment 32S: 32S	Runoff Area=3.690 ac 76.69% Impervious Runoff Depth=5.38" Tc=10.0 min CN=89 Runoff=24.97 cfs 1.653 af
Subcatchment 33S: 33S	Runoff Area=3.790 ac 63.59% Impervious Runoff Depth=4.93" Tc=10.0 min CN=85 Runoff=24.10 cfs 1.556 af
Subcatchment 34S: (new Subcat)	Runoff Area=26.860 ac 48.55% Impervious Runoff Depth=4.27" Tc=10.0 min CN=79 Runoff=151.72 cfs 9.567 af
Subcatchment 35S: 35S	Runoff Area=3.830 ac 62.92% Impervious Runoff Depth=4.82" Tc=10.0 min CN=84 Runoff=23.93 cfs 1.538 af
Subcatchment 36S: (new Subcat)	Runoff Area=4.440 ac 71.62% Impervious Runoff Depth=5.26" Tc=10.0 min CN=88 Runoff=29.62 cfs 1.948 af
Subcatchment 37S: (new Subcat)	Runoff Area=4.310 ac 70.53% Impervious Runoff Depth=5.15" Tc=10.0 min CN=87 Runoff=28.32 cfs 1.850 af
Subcatchment 38S: (new Subcat)	Runoff Area=2.410 ac 70.54% Impervious Runoff Depth=5.15" Tc=10.0 min CN=87 Runoff=15.84 cfs 1.035 af
Subcatchment 39S: Prop. 39S	Runoff Area=5.630 ac 63.41% Impervious Runoff Depth=4.93" Tc=10.0 min CN=85 Runoff=35.80 cfs 2.312 af
Subcatchment 40S: Prop. 40S	Runoff Area=4.180 ac 68.90% Impervious Runoff Depth=5.15" Tc=10.0 min CN=87 Runoff=27.47 cfs 1.794 af

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Page 295

Subcatchment41S: Prop. 41S	Runoff Area=2.260 ac 68.14% Impervious Runoff Depth=5.04" Tc=10.0 min CN=86 Runoff=14.61 cfs 0.949 af
Subcatchment42S: Prop. 42S	Runoff Area=1.090 ac 60.55% Impervious Runoff Depth=4.82" Tc=10.0 min CN=84 Runoff=6.81 cfs 0.438 af
Subcatchment43S: Prop. 43S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=4.71" Tc=10.0 min CN=83 Runoff=26.43 cfs 1.691 af
Subcatchment44S: Prop. 44S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=4.71" Tc=10.0 min CN=83 Runoff=26.43 cfs 1.691 af
Subcatchment45S: Prop. 45S	Runoff Area=9.510 ac 56.89% Impervious Runoff Depth=4.60" Tc=10.0 min CN=82 Runoff=57.20 cfs 3.644 af
Subcatchment46S: Prop. 46S	Runoff Area=13.970 ac 68.72% Impervious Runoff Depth=5.04" Tc=15.0 min CN=86 Runoff=77.69 cfs 5.867 af
Subcatchment47S: Prop. 47S	Runoff Area=2.660 ac 54.51% Impervious Runoff Depth=4.49" Tc=10.0 min CN=81 Runoff=15.68 cfs 0.995 af
Subcatchment48S: Prop. 48S	Runoff Area=2.440 ac 70.49% Impervious Runoff Depth=5.15" Tc=10.0 min CN=87 Runoff=16.03 cfs 1.047 af
Subcatchment49S: 49S	Runoff Area=2.250 ac 69.78% Impervious Runoff Depth=5.15" Tc=10.0 min CN=87 Runoff=14.78 cfs 0.966 af
Subcatchment50S: Prop. 50S	Runoff Area=5.240 ac 65.84% Impervious Runoff Depth=4.93" Tc=10.0 min CN=85 Runoff=33.32 cfs 2.152 af
Subcatchment51S: Prop. 51S	Runoff Area=1.550 ac 57.42% Impervious Runoff Depth=4.71" Tc=10.0 min CN=83 Runoff=9.51 cfs 0.608 af
Subcatchment52S: Prop. 52S	Runoff Area=3.440 ac 68.90% Impervious Runoff Depth=5.15" Tc=10.0 min CN=87 Runoff=22.60 cfs 1.477 af
Subcatchment53S: Prop. 53S	Runoff Area=4.050 ac 67.16% Impervious Runoff Depth=5.04" Tc=10.0 min CN=86 Runoff=26.19 cfs 1.701 af
Subcatchment54S: Future 54S	Runoff Area=3.150 ac 0.00% Impervious Runoff Depth=3.14" Tc=15.0 min CN=68 Runoff=11.27 cfs 0.824 af
Subcatchment55S: Prop. 55S	Runoff Area=2.230 ac 46.64% Impervious Runoff Depth=4.17" Tc=10.0 min CN=78 Runoff=12.31 cfs 0.774 af
Subcatchment56S: (new Subcat)	Runoff Area=16.060 ac 73.04% Impervious Runoff Depth=5.38" Tc=10.0 min CN=89 Runoff=108.66 cfs 7.196 af
Subcatchment57S: Existing 56S	Runoff Area=2.060 ac 26.70% Impervious Runoff Depth=3.44" Tc=10.0 min CN=71 Runoff=9.46 cfs 0.590 af

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Page 296

Reach 12R: Prop CTH Q

Inflow=16.70 cfs 2.315 af
Outflow=16.70 cfs 2.315 af

Reach 27R: Post Wetland

Inflow=278.32 cfs 52.441 af
Outflow=278.32 cfs 52.441 af

Reach 41R: (new Reach)

Inflow=94.17 cfs 8.130 af
Outflow=94.17 cfs 8.130 af

Reach 52R: TOTAL PROPOSED

Inflow=363.33 cfs 59.902 af
Outflow=363.33 cfs 59.902 af

Pond BIO J: Bio J

Peak Elev=924.74' Storage=29,970 cf Inflow=44.27 cfs 3.388 af
Discarded=0.09 cfs 0.220 af Primary=24.58 cfs 3.133 af Secondary=0.00 cfs 0.000 af Outflow=24.67 cfs 3.352 af

Pond BIO K: Bio K

Peak Elev=921.27' Storage=21,852 cf Inflow=27.47 cfs 1.794 af
Discarded=0.09 cfs 0.191 af Primary=16.20 cfs 1.582 af Secondary=0.00 cfs 0.000 af Outflow=16.29 cfs 1.773 af

Pond BIO N: Bio N

Peak Elev=911.79' Storage=44,508 cf Inflow=64.22 cfs 6.406 af
Discarded=0.17 cfs 0.488 af Primary=0.80 cfs 1.120 af Secondary=61.20 cfs 4.638 af Outflow=62.17 cfs 6.246 af

Pond BIO O: Bio O

Peak Elev=910.52' Storage=40,603 cf Inflow=38.76 cfs 2.602 af
Discarded=0.17 cfs 0.479 af Primary=0.77 cfs 0.873 af Secondary=31.41 cfs 1.135 af Outflow=32.35 cfs 2.487 af

Pond Bio S: Bio S

Peak Elev=924.34' Storage=13,156 cf Inflow=16.03 cfs 1.047 af
Discarded=0.06 cfs 0.168 af Primary=14.88 cfs 0.861 af Secondary=0.00 cfs 0.000 af Outflow=14.94 cfs 1.029 af

Pond Bio X: Bio X

Peak Elev=951.19' Storage=0.768 af Inflow=36.24 cfs 2.524 af
Discarded=0.12 cfs 0.239 af Primary=22.40 cfs 2.248 af Secondary=0.00 cfs 0.000 af Outflow=22.52 cfs 2.487 af

Pond IP A: Infil A

Peak Elev=925.27' Storage=2.188 af Inflow=98.75 cfs 13.319 af
Discarded=0.31 cfs 0.806 af Primary=60.40 cfs 11.849 af Secondary=2.18 cfs 0.041 af Outflow=62.90 cfs 12.696 af

Pond IP B: Infil B

Peak Elev=911.46' Storage=1.880 af Inflow=39.09 cfs 14.401 af
Discarded=0.61 cfs 1.728 af Primary=27.29 cfs 11.889 af Outflow=27.90 cfs 13.616 af

Pond IP C: IP C

Peak Elev=936.73' Storage=20,795 cf Inflow=24.97 cfs 1.653 af
Discarded=0.11 cfs 0.141 af Primary=16.40 cfs 1.483 af Secondary=2.81 cfs 0.030 af Outflow=19.31 cfs 1.653 af

Pond IP D: IP D

Peak Elev=937.66' Storage=20,741 cf Inflow=24.10 cfs 1.556 af
Discarded=0.11 cfs 0.140 af Primary=16.18 cfs 1.401 af Secondary=1.63 cfs 0.015 af Outflow=17.92 cfs 1.556 af

Pond IP E: IP E

Peak Elev=931.81' Storage=22,139 cf Inflow=23.93 cfs 1.538 af
Discarded=0.11 cfs 0.146 af Primary=11.56 cfs 1.305 af Secondary=6.51 cfs 0.087 af Outflow=18.18 cfs 1.538 af

Pond IP F: IP F

Peak Elev=927.68' Storage=36,962 cf Inflow=29.62 cfs 1.948 af
Discarded=0.18 cfs 0.311 af Primary=11.30 cfs 1.591 af Secondary=2.81 cfs 0.045 af Outflow=14.29 cfs 1.948 af

Pond IP G: IP G

Peak Elev=924.57' Storage=38,589 cf Inflow=28.32 cfs 1.850 af
Discarded=0.20 cfs 0.337 af Primary=8.87 cfs 1.503 af Secondary=0.72 cfs 0.010 af Outflow=9.79 cfs 1.850 af

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Page 297

Pond IP H: IP H

Peak Elev=925.72' Storage=6,335 cf Inflow=15.84 cfs 1.035 af
Discarded=0.03 cfs 0.038 af Primary=11.39 cfs 0.949 af Secondary=3.90 cfs 0.048 af Outflow=15.33 cfs 1.035 af

Pond IP L: Inf L

Peak Elev=920.64' Storage=4,231 cf Inflow=14.61 cfs 0.949 af
Discarded=0.03 cfs 0.038 af Primary=12.26 cfs 0.907 af Secondary=0.60 cfs 0.004 af Outflow=12.90 cfs 0.949 af

Pond IP M: Inf M

Peak Elev=928.85' Storage=8,845 cf Inflow=6.81 cfs 0.438 af
Discarded=0.06 cfs 0.074 af Primary=1.04 cfs 0.364 af Secondary=0.00 cfs 0.000 af Outflow=1.09 cfs 0.438 af

Pond IP P: Infil P

Peak Elev=939.70' Storage=2.213 af Inflow=94.00 cfs 9.406 af
Discarded=0.33 cfs 0.710 af Primary=39.91 cfs 8.642 af Secondary=0.00 cfs 0.000 af Outflow=40.24 cfs 9.352 af

Pond IP Q: Infil Q

Peak Elev=942.38' Storage=0.779 af Inflow=71.56 cfs 5.974 af
Discarded=0.12 cfs 0.192 af Primary=68.41 cfs 5.782 af Secondary=0.00 cfs 0.000 af Outflow=68.54 cfs 5.974 af

Pond IP T: Infil T

Peak Elev=931.93' Storage=0.617 af Inflow=43.26 cfs 9.608 af
Discarded=0.12 cfs 0.101 af Primary=23.24 cfs 8.441 af Secondary=18.82 cfs 1.040 af Outflow=42.16 cfs 9.582 af

Pond IP U: Infil U

Peak Elev=922.00' Storage=1.328 af Inflow=43.91 cfs 11.480 af
Discarded=0.18 cfs 0.472 af Primary=43.13 cfs 10.638 af Secondary=0.00 cfs 0.000 af Outflow=43.31 cfs 11.110 af

Pond IP V: Infil V

Peak Elev=907.48' Storage=0.342 af Inflow=9.51 cfs 0.608 af
Discarded=0.17 cfs 0.296 af Primary=0.48 cfs 0.312 af Secondary=0.00 cfs 0.000 af Outflow=0.65 cfs 0.608 af

Pond IP W: Infil W

Peak Elev=914.86' Storage=0.106 af Inflow=22.60 cfs 1.477 af
Discarded=0.04 cfs 0.030 af Primary=13.48 cfs 1.354 af Secondary=8.53 cfs 0.092 af Outflow=22.05 cfs 1.477 af

Pond WP A: Wet Pond A

Peak Elev=925.69' Storage=4.762 af Inflow=180.40 cfs 13.829 af
Primary=49.50 cfs 11.157 af Secondary=49.25 cfs 2.162 af Outflow=98.75 cfs 13.319 af

Pond WP B: Wet Pond B

Peak Elev=913.13' Storage=3.250 af Inflow=208.87 cfs 28.987 af
Primary=39.09 cfs 14.401 af Secondary=100.69 cfs 14.277 af Tertiary=0.00 cfs 0.000 af Outflow=139.78 cfs 28.678 af

Pond WP P: Wet Pond P

Peak Elev=939.87' Storage=1.437 af Inflow=57.20 cfs 3.644 af
Primary=26.10 cfs 3.624 af Secondary=0.00 cfs 0.000 af Outflow=26.10 cfs 3.624 af

Pond WP Q: Wet Pond Q

Peak Elev=942.44' Storage=0.629 af Inflow=79.24 cfs 5.977 af
Primary=11.50 cfs 3.099 af Secondary=67.96 cfs 2.875 af Outflow=71.56 cfs 5.974 af

Pond WP R: Wet Pond R

Peak Elev=937.74' Storage=0.597 af Inflow=20.10 cfs 1.545 af
Primary=6.06 cfs 1.500 af Secondary=1.60 cfs 0.041 af Outflow=7.65 cfs 1.540 af

Pond WP U: Wet Pond U

Peak Elev=922.67' Storage=1.060 af Inflow=47.12 cfs 11.633 af
Primary=39.71 cfs 11.134 af Secondary=8.48 cfs 0.347 af Outflow=43.91 cfs 11.480 af

Total Runoff Area = 188.510 ac Runoff Volume = 70.491 af Average Runoff Depth = 4.49"
48.50% Pervious = 91.420 ac 51.50% Impervious = 97.090 ac

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Page 298

Summary for Subcatchment 1 OS: Offsite- School

Runoff = 10.50 cfs @ 12.11 hrs, Volume= 0.533 af, Depth= 2.46"
Routed to Pond WP B : Wet Pond B

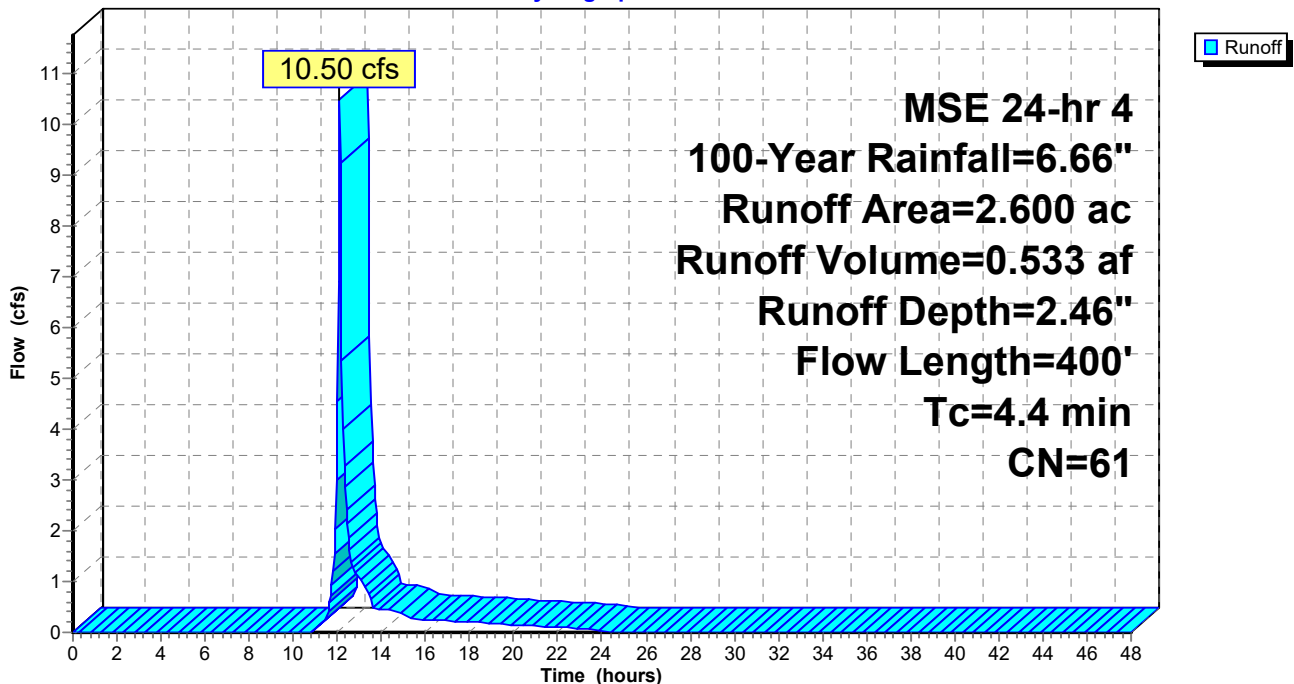
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.0	300	0.1000	5.09		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.4	400	Total			

Subcatchment 1 OS: Offsite- School

Hydrograph



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Page 299

Summary for Subcatchment 2 OS: Offsite - North Residential

Runoff = 28.65 cfs @ 12.11 hrs, Volume= 1.460 af, Depth= 2.75"
 Routed to Pond WP B : Wet Pond B

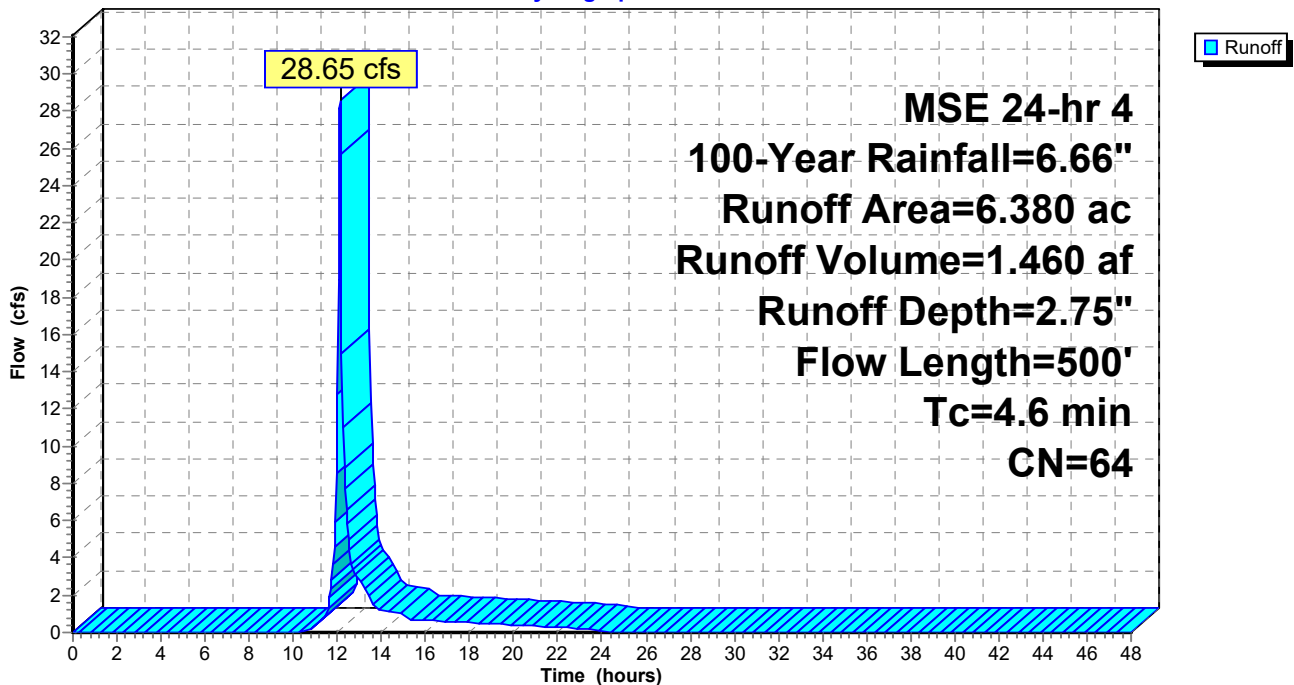
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2 OS: Offsite - North Residential

Hydrograph



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Page 300

Summary for Subcatchment 3 OS: Offsite- School

Runoff = 12.49 cfs @ 12.31 hrs, Volume= 1.076 af, Depth= 2.46"
Routed to Pond BIO J : Bio J

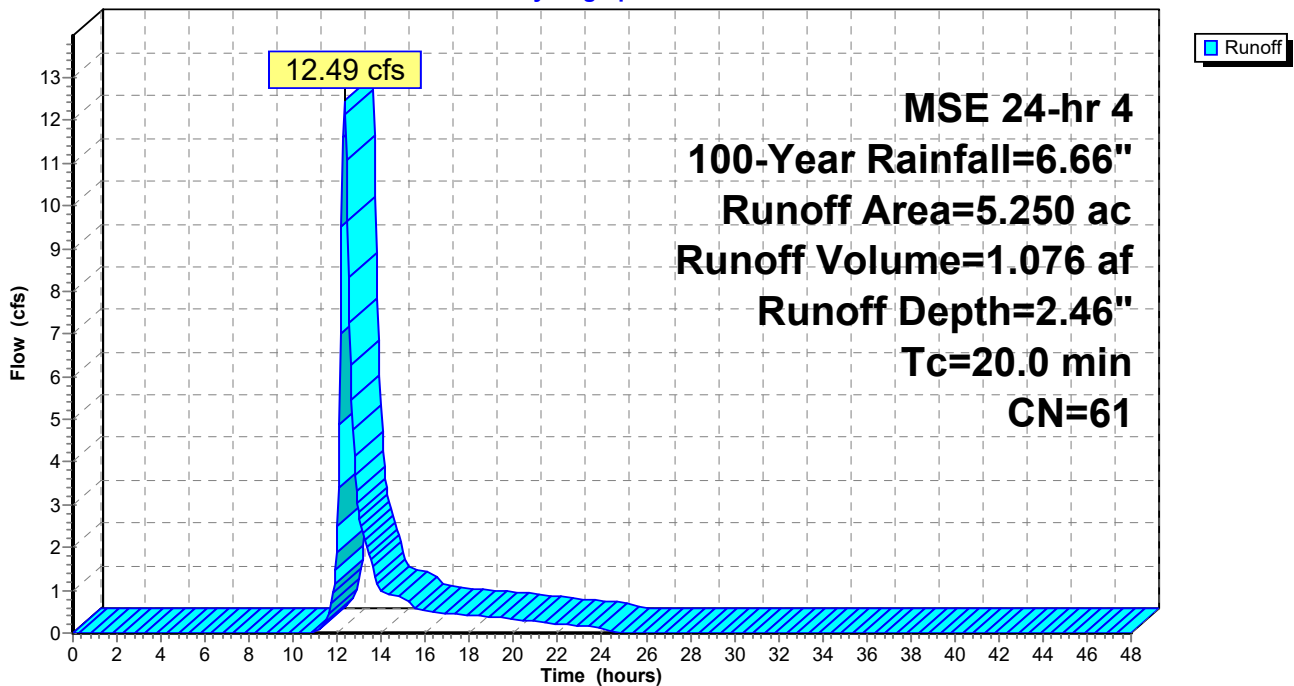
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3 OS: Offsite- School

Hydrograph



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Page 301

Summary for Subcatchment 4 OS: Offsite - Church

Runoff = 1.75 cfs @ 12.18 hrs, Volume= 0.111 af, Depth= 2.46"
Routed to Pond WP Q : Wet Pond Q

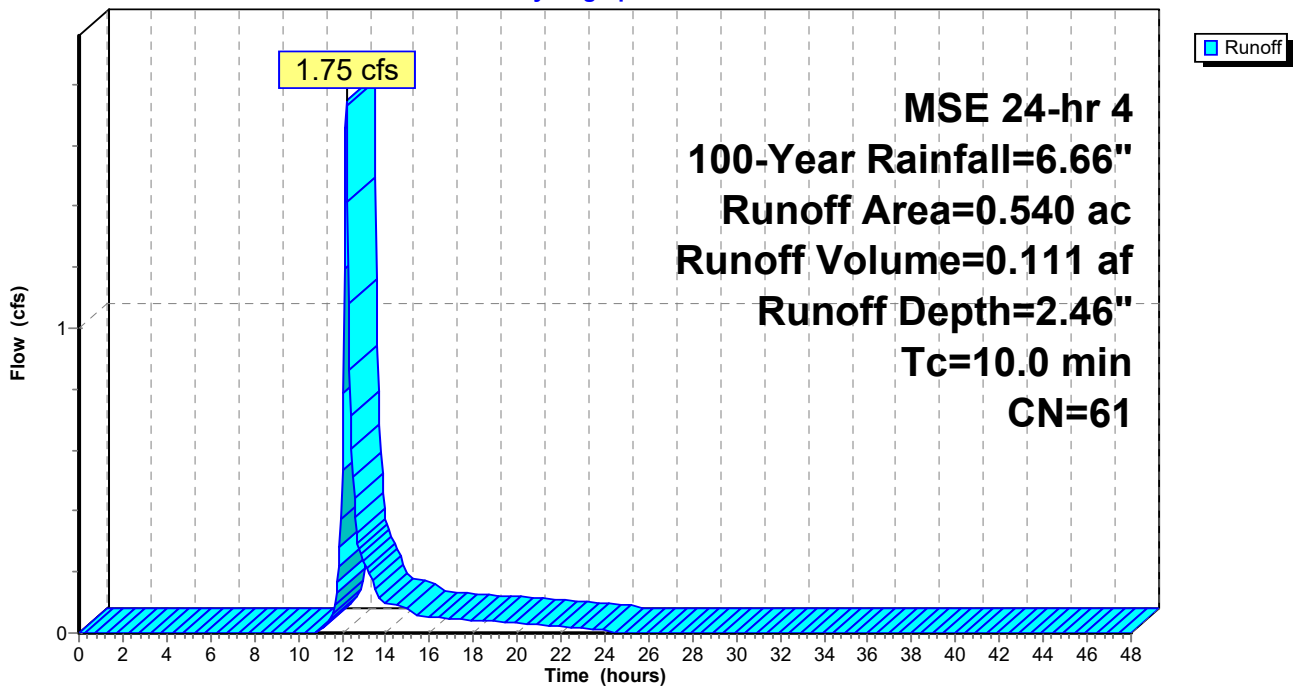
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4 OS: Offsite - Church

Hydrograph



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Page 302

Summary for Subcatchment 5 OS: Offsite - Funeral

Runoff = 6.33 cfs @ 12.32 hrs, Volume= 0.550 af, Depth= 3.44"
 Routed to Pond WP R : Wet Pond R

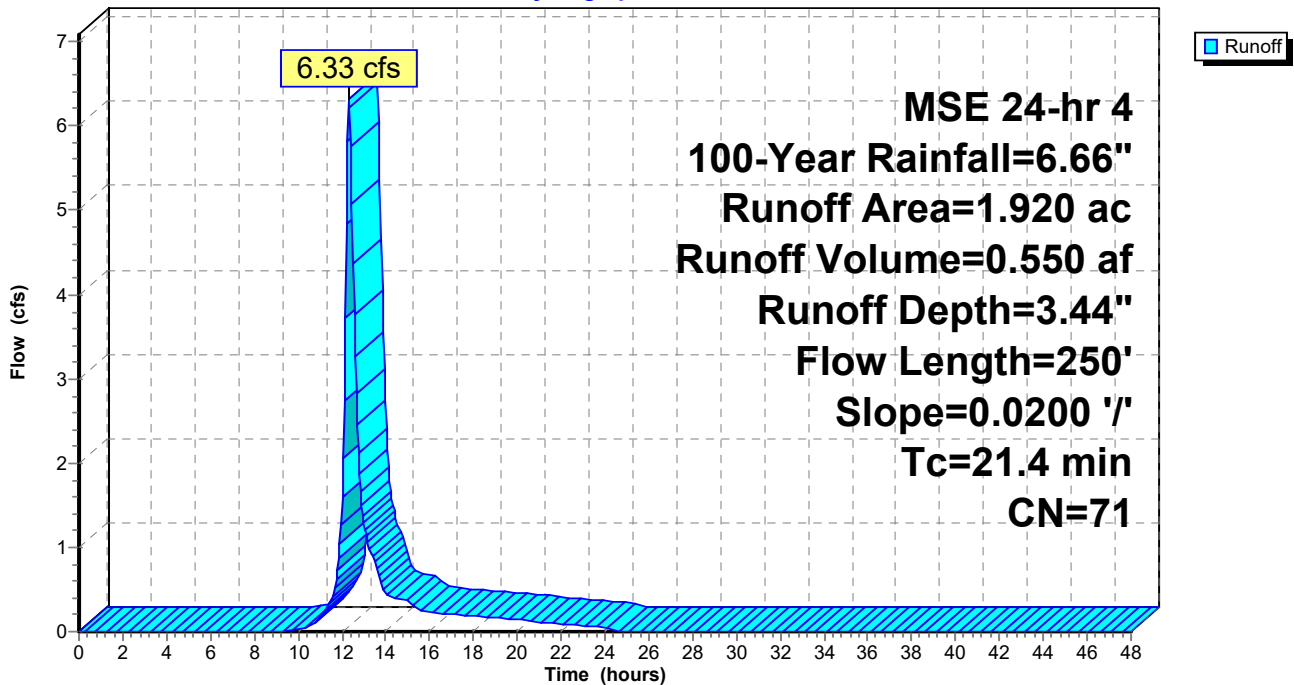
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5 OS: Offsite - Funeral

Hydrograph



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Page 303

Summary for Subcatchment 30S: Prop. 30S

Runoff = 117.50 cfs @ 12.17 hrs, Volume= 7.517 af, Depth= 4.71"
 Routed to Pond WP A : Wet Pond A

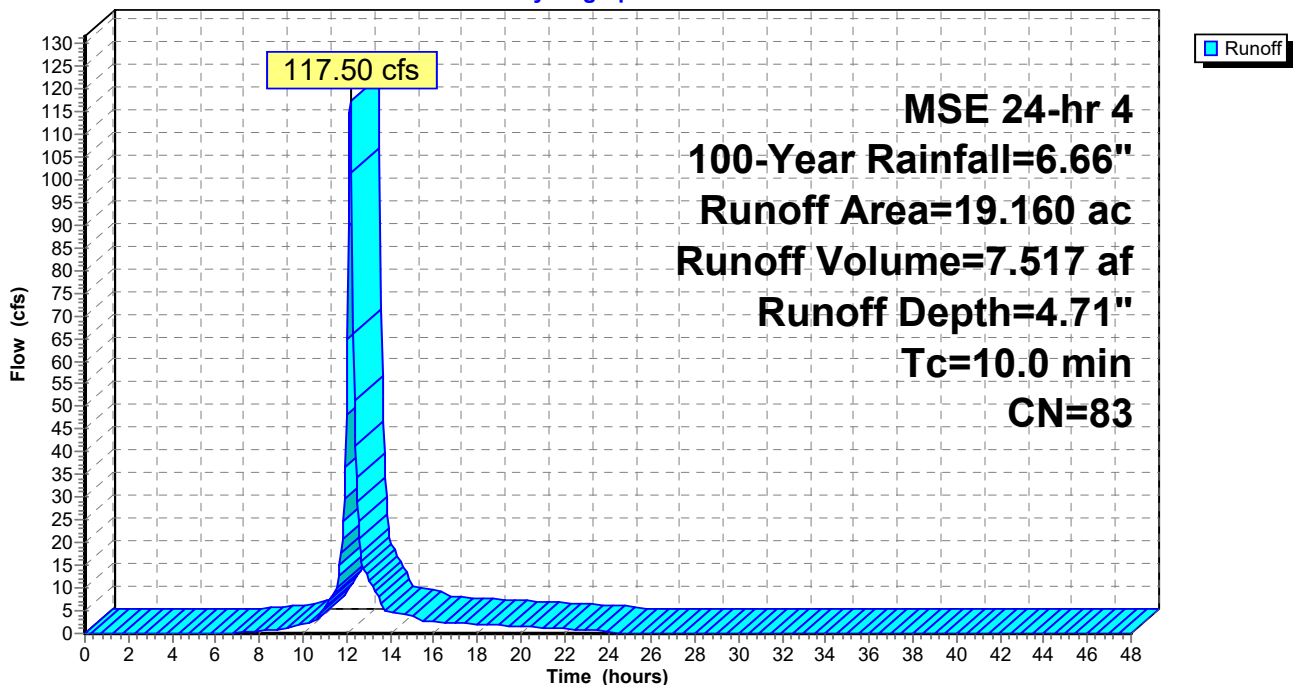
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 2.910	98	Roofs
* 1.450	98	Driveways
* 1.450	98	Sidewalks - House
* 0.900	98	Sidewalks - Street
* 3.240	98	Streets
7.780	61	>75% Grass cover, Good, HSG B
* 1.070	100	Wet Pond
* 0.360	100	Infiltration
19.160	83	Weighted Average
7.780		40.61% Pervious Area
11.380		59.39% Impervious Area

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

Subcatchment 30S: Prop. 30S

Hydrograph



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Page 304

Summary for Subcatchment 31S: Future Commercial

Runoff = 40.17 cfs @ 12.30 hrs, Volume= 3.383 af, Depth= 3.14"
Routed to Pond WP A : Wet Pond A

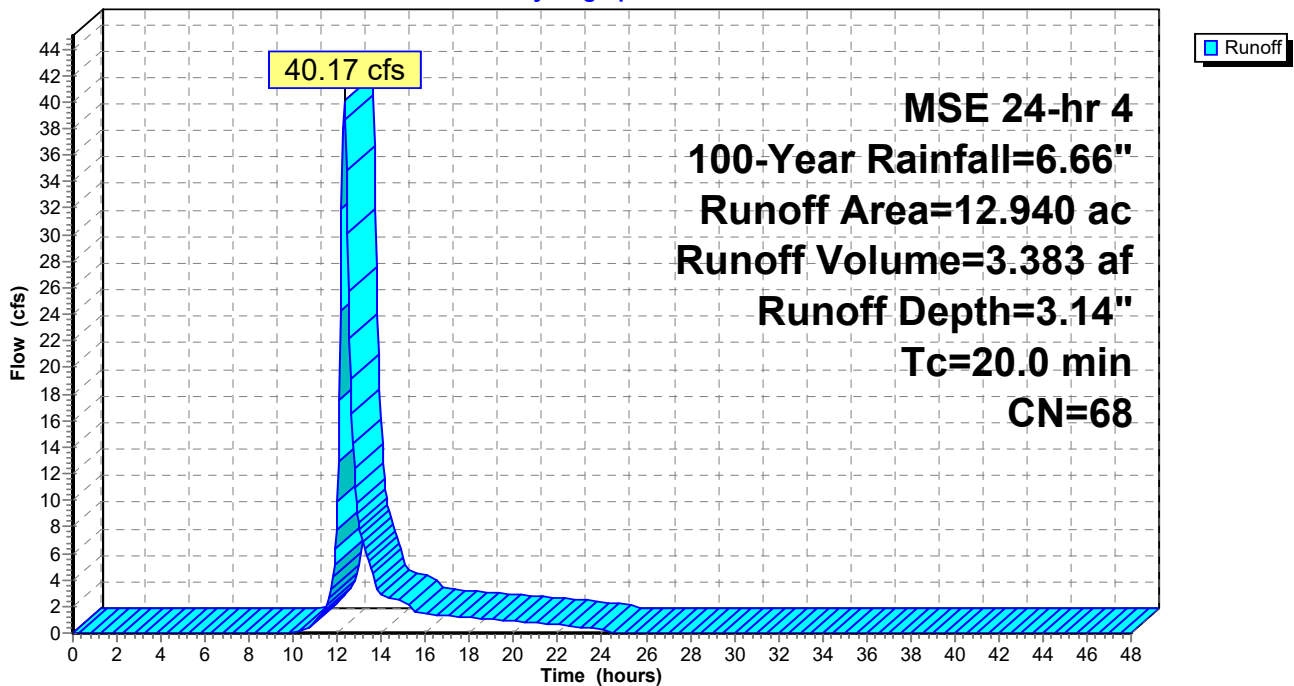
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 12.940	68	B Soil Row Crop
12.940		100.00% Pervious Area

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

Subcatchment 31S: Future Commercial

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Page 305

Summary for Subcatchment 32S: 32S

Runoff = 24.97 cfs @ 12.17 hrs, Volume= 1.653 af, Depth= 5.38"
 Routed to Pond IP C : IP C

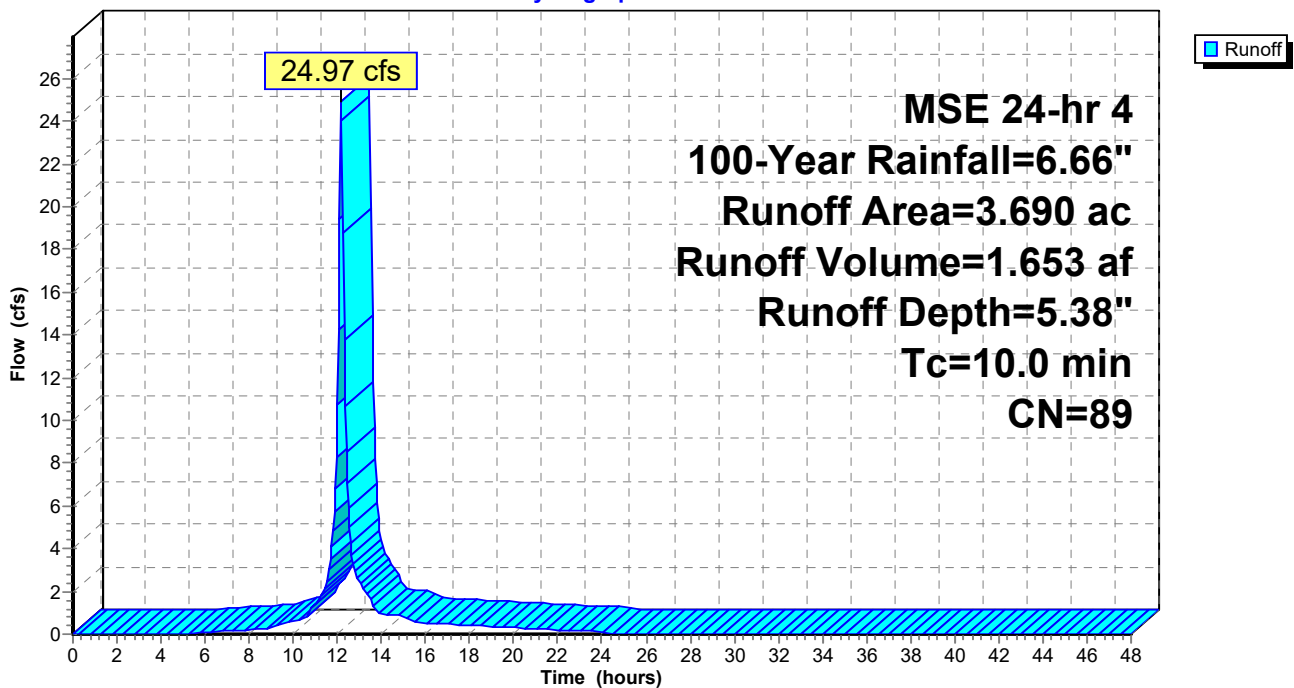
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.370	98	Roof
* 0.680	98	Patio
* 0.680	98	Driveways
0.860	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.690	89	Weighted Average
0.860		23.31% Pervious Area
2.830		76.69% Impervious Area

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

Subcatchment 32S: 32S

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Page 306

Summary for Subcatchment 33S: 33S

Runoff = 24.10 cfs @ 12.17 hrs, Volume= 1.556 af, Depth= 4.93"
Routed to Pond IP D : IP D

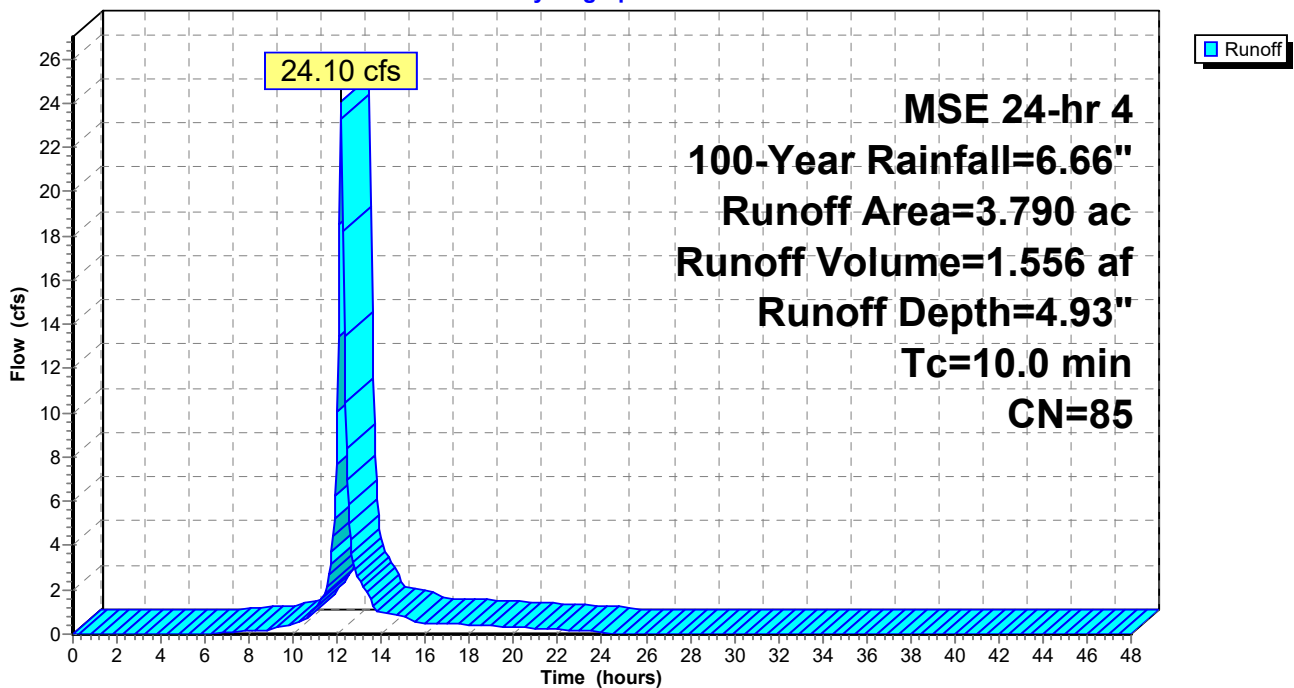
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.380	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.790	85	Weighted Average
1.380		36.41% Pervious Area
2.410		63.59% Impervious Area

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

Subcatchment 33S: 33S

Hydrograph



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Page 307

Summary for Subcatchment 34S: (new Subcat)

Runoff = 151.72 cfs @ 12.17 hrs, Volume= 9.567 af, Depth= 4.27"
 Routed to Pond WP B : Wet Pond B

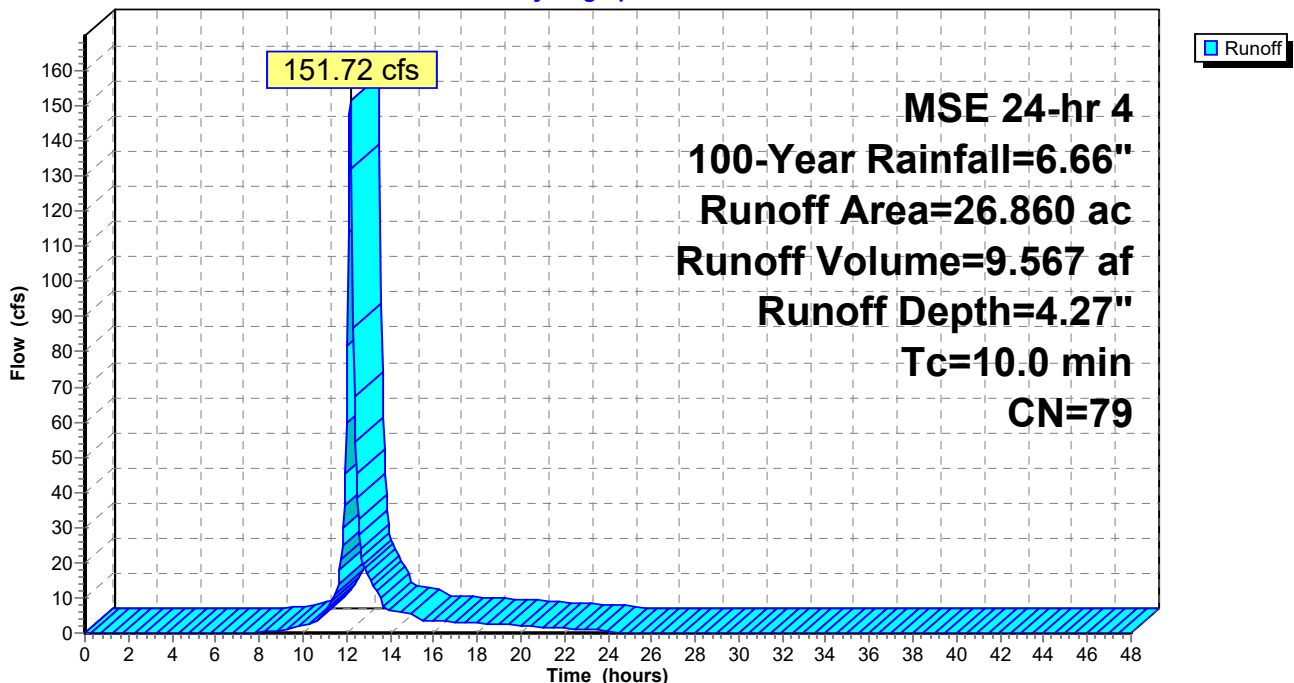
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 2.640	98	Roofs
* 0.210	98	Parking
* 1.320	98	Driveways
* 1.320	98	Sidewalks - House
* 1.190	98	Sidewalks - Street
* 4.050	98	Streets
13.820	61	>75% Grass cover, Good, HSG B
* 1.320	100	Wet Pond
* 0.990	100	Infiltration
26.860	79	Weighted Average
13.820		51.45% Pervious Area
13.040		48.55% Impervious Area

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

Subcatchment 34S: (new Subcat)

Hydrograph



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Page 308

Summary for Subcatchment 35S: 35S

Runoff = 23.93 cfs @ 12.17 hrs, Volume= 1.538 af, Depth= 4.82"
 Routed to Pond IP E : IP E

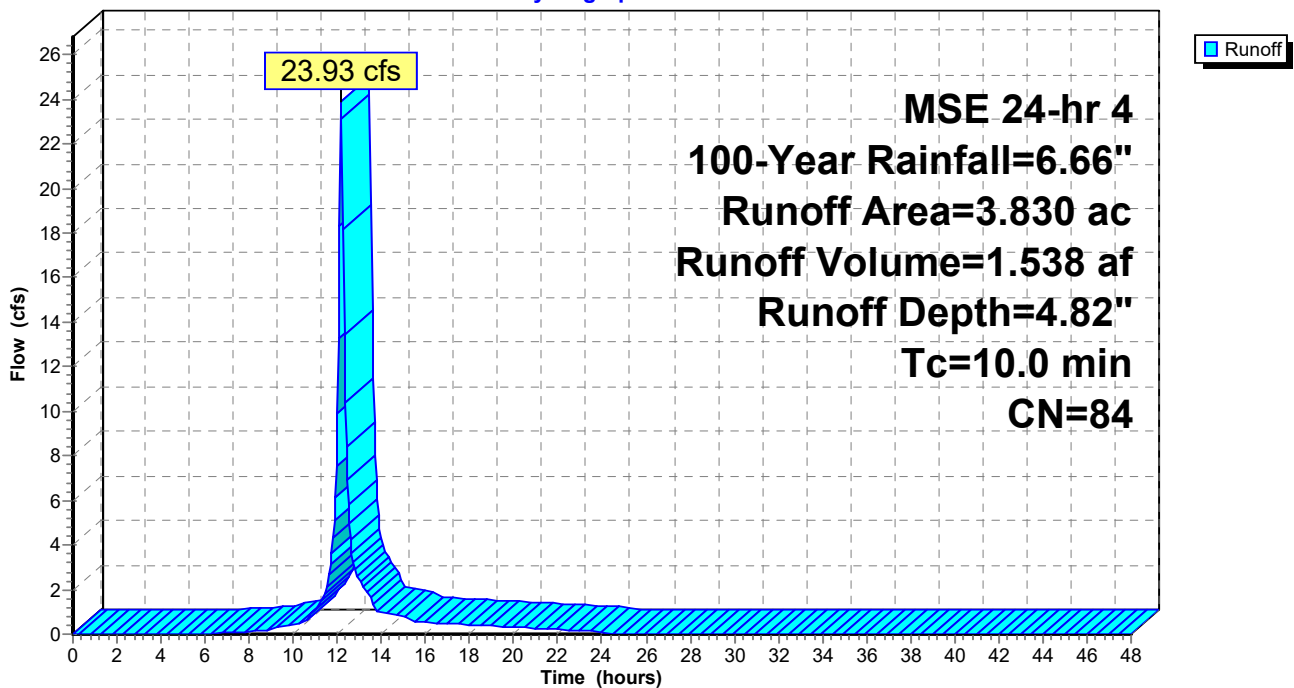
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.420	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.830	84	Weighted Average
1.420		37.08% Pervious Area
2.410		62.92% Impervious Area

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

Subcatchment 35S: 35S

Hydrograph



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Page 309

Summary for Subcatchment 36S: (new Subcat)

Runoff = 29.62 cfs @ 12.17 hrs, Volume= 1.948 af, Depth= 5.26"
 Routed to Pond IP F : IP F

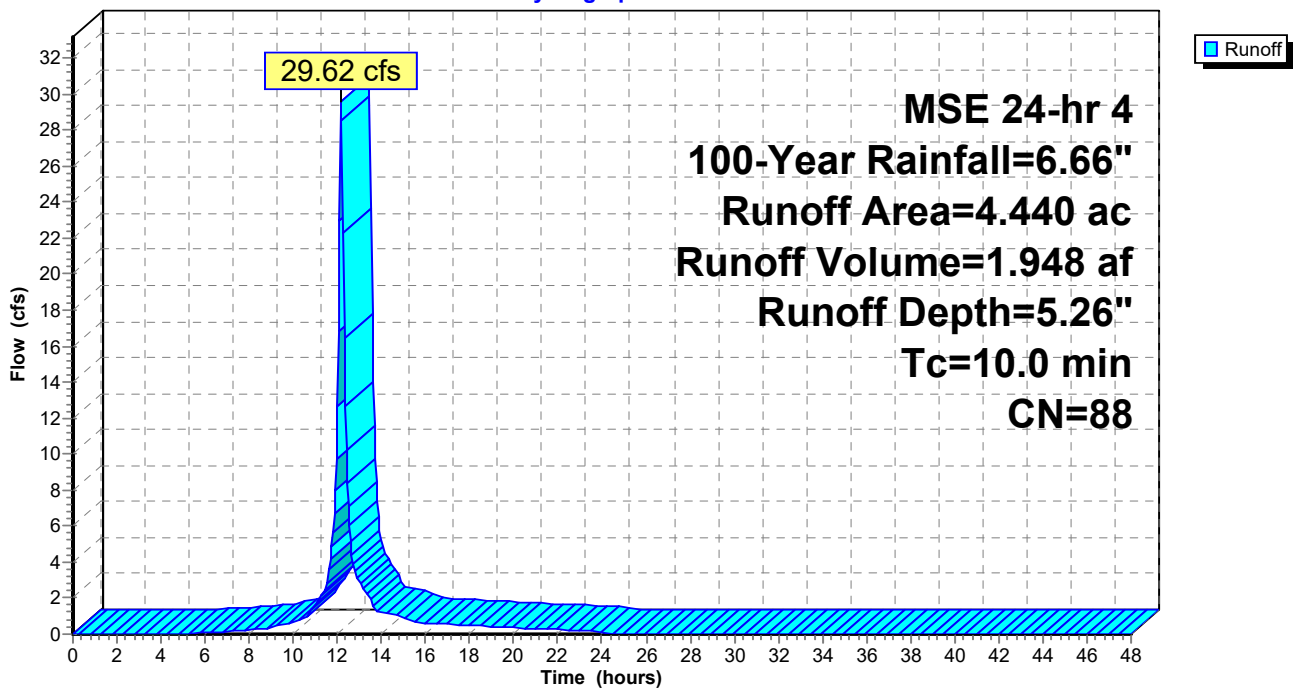
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.490	98	Roof
* 0.750	98	Patio
* 0.750	98	Driveways
1.260	61	>75% Grass cover, Good, HSG B
* 0.190	100	Infiltration Basin
4.440	88	Weighted Average
1.260		28.38% Pervious Area
3.180		71.62% Impervious Area

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

Subcatchment 36S: (new Subcat)

Hydrograph



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Page 310

Summary for Subcatchment 37S: (new Subcat)

Runoff = 28.32 cfs @ 12.17 hrs, Volume= 1.850 af, Depth= 5.15"
 Routed to Pond IP G : IP G

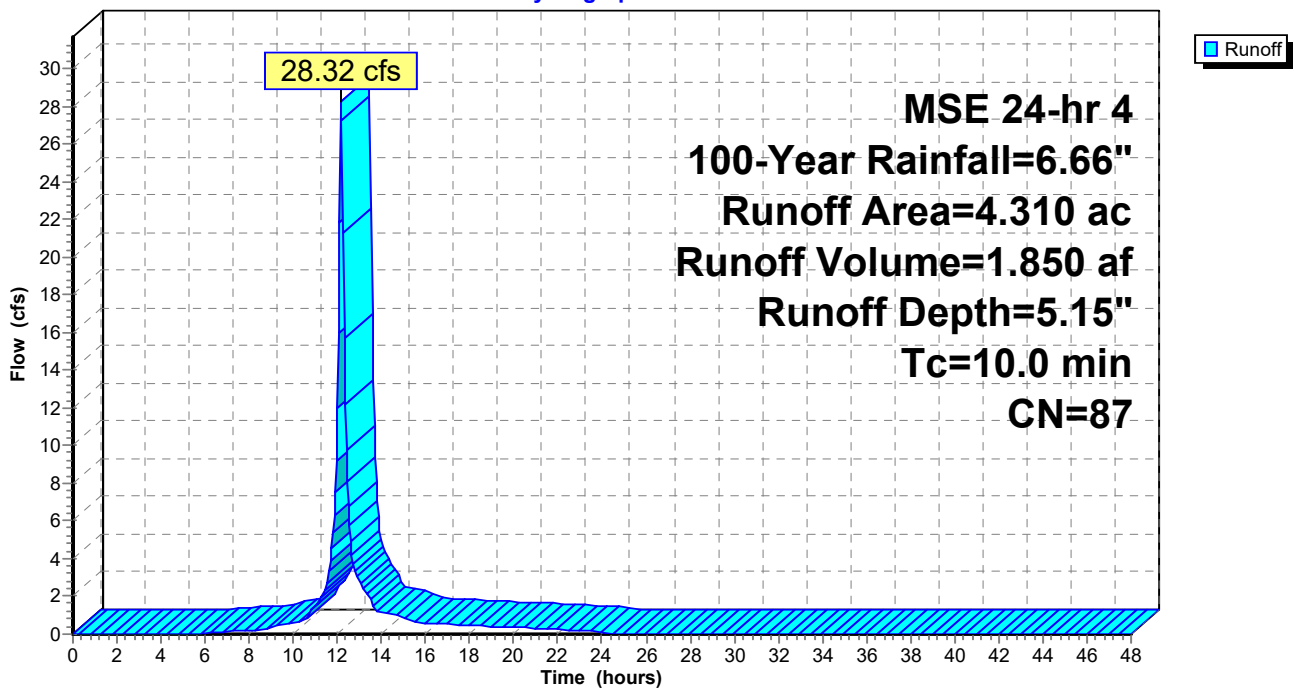
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.420	98	Roof
* 0.710	98	Patio
* 0.710	98	Driveways
1.270	61	>75% Grass cover, Good, HSG B
* 0.200	100	Infiltration Basin
4.310	87	Weighted Average
1.270		29.47% Pervious Area
3.040		70.53% Impervious Area

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

Subcatchment 37S: (new Subcat)

Hydrograph



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Page 311

Summary for Subcatchment 38S: (new Subcat)

Runoff = 15.84 cfs @ 12.17 hrs, Volume= 1.035 af, Depth= 5.15"
 Routed to Pond IP H : IP H

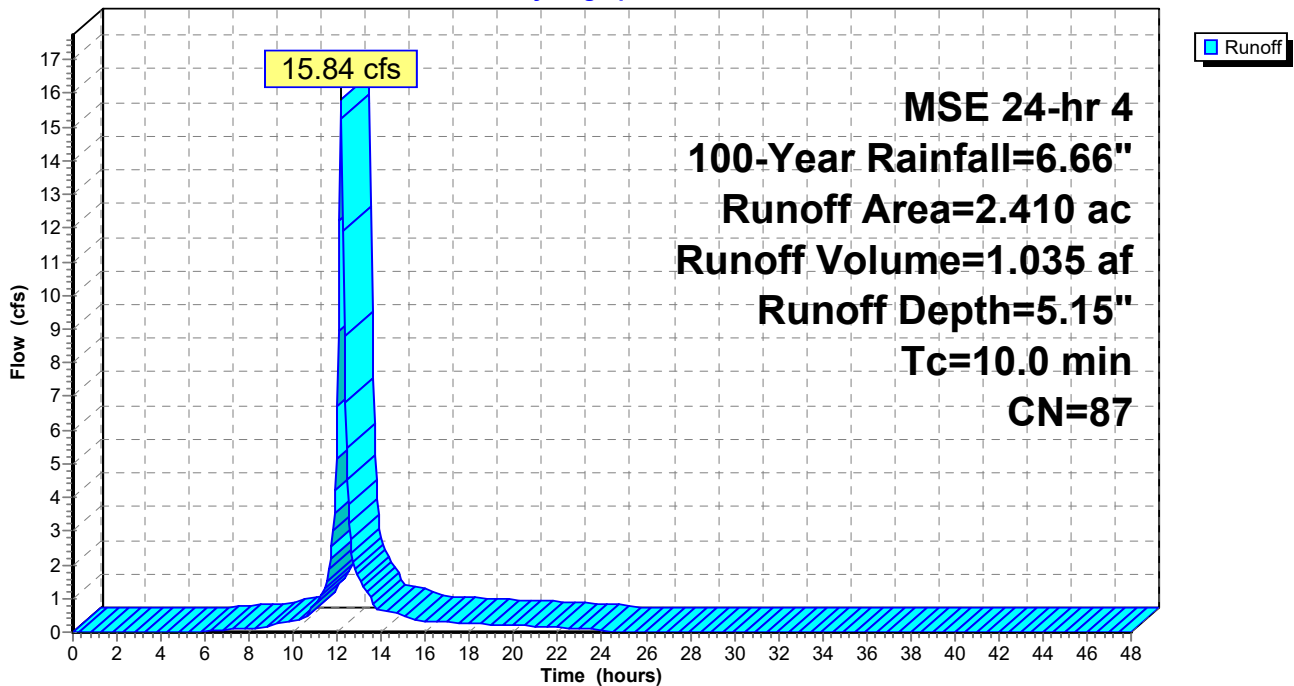
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.830	98	Roof
* 0.420	98	Patio
* 0.420	98	Driveways
0.710	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.410	87	Weighted Average
0.710		29.46% Pervious Area
1.700		70.54% Impervious Area

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

Subcatchment 38S: (new Subcat)

Hydrograph



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Page 312

Summary for Subcatchment 39S: Prop. 39S

Runoff = 35.80 cfs @ 12.17 hrs, Volume= 2.312 af, Depth= 4.93"
Routed to Pond BIO J : Bio J

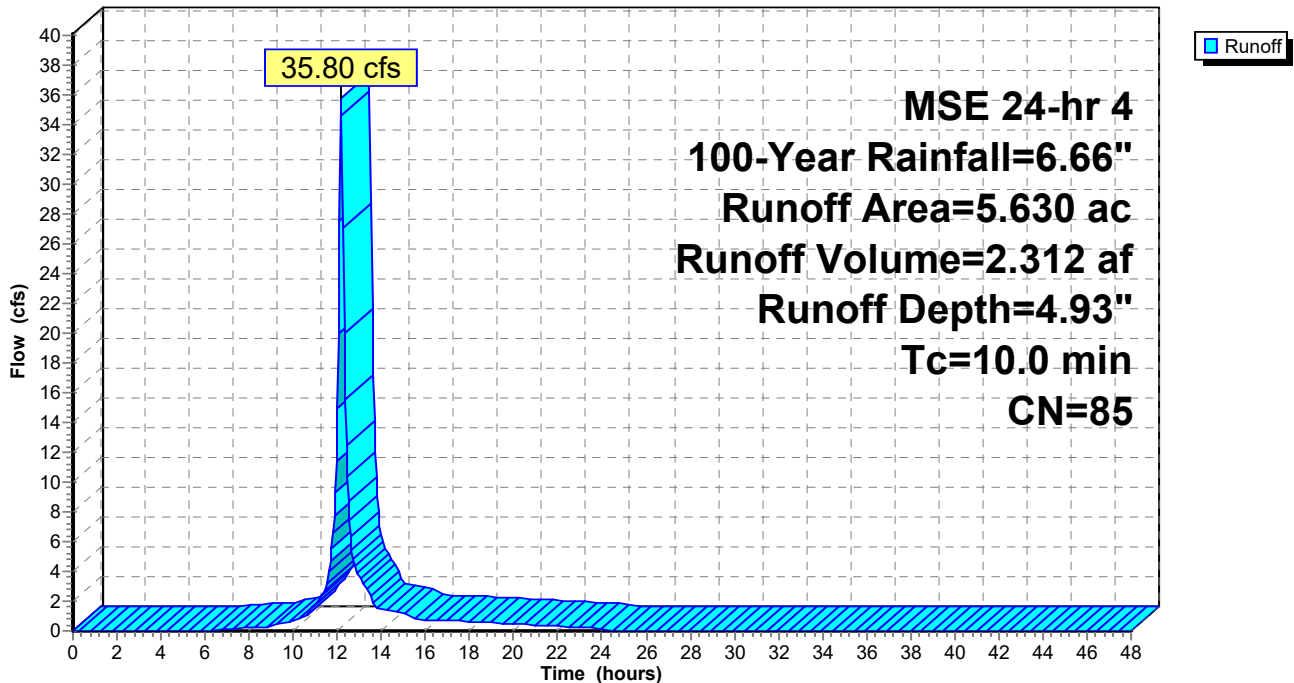
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.660	98	Roof
* 0.830	98	Patio
* 0.830	98	Driveways
* 0.030	98	Sidewalk
* 0.100	98	Street
2.060	61	>75% Grass cover, Good, HSG B
* 0.120	100	Infiltration Basin
5.630	85	Weighted Average
2.060		36.59% Pervious Area
3.570		63.41% Impervious Area

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

Subcatchment 39S: Prop. 39S

Hydrograph



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Page 313

Summary for Subcatchment 40S: Prop. 40S

Runoff = 27.47 cfs @ 12.17 hrs, Volume= 1.794 af, Depth= 5.15"
 Routed to Pond BIO K : Bio K

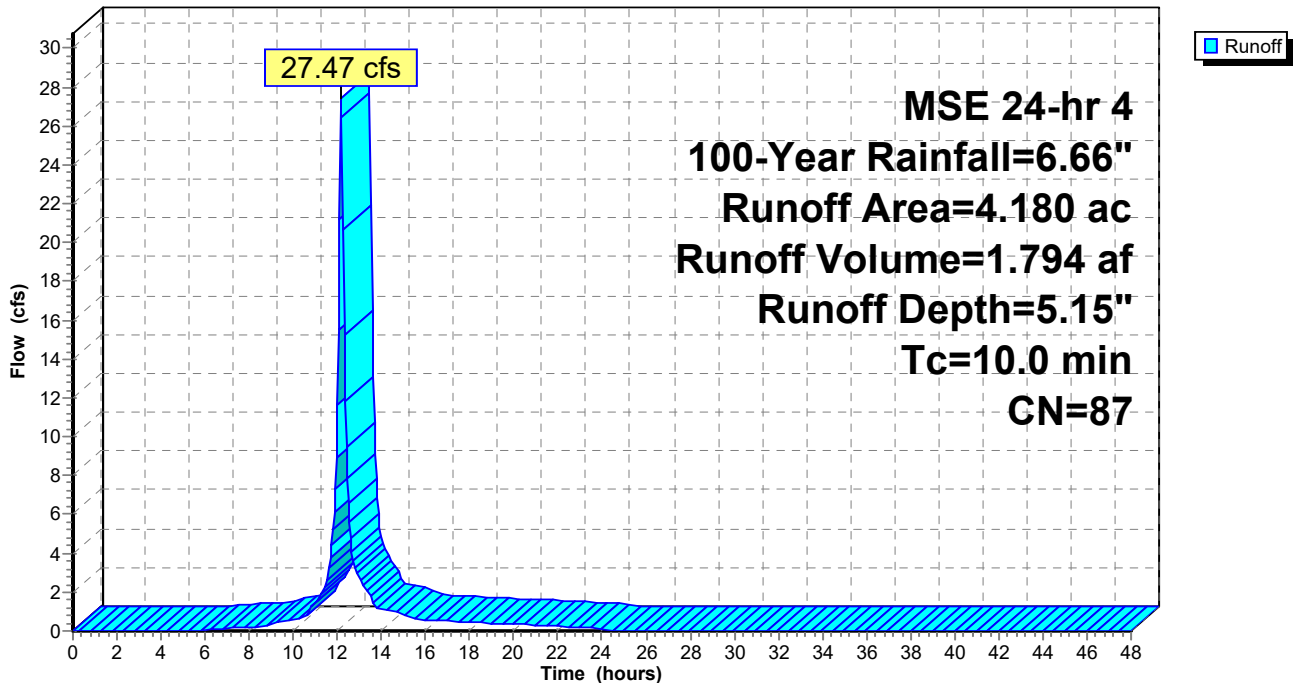
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.960	98	Roof
* 0.480	98	Patio
* 0.480	98	Driveways
* 0.190	98	Sidewalk
* 0.670	98	Street
1.300	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
4.180	87	Weighted Average
1.300		31.10% Pervious Area
2.880		68.90% Impervious Area

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

Subcatchment 40S: Prop. 40S

Hydrograph



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Page 314

Summary for Subcatchment 41S: Prop. 41S

Runoff = 14.61 cfs @ 12.17 hrs, Volume= 0.949 af, Depth= 5.04"
 Routed to Pond IP L : Inf L

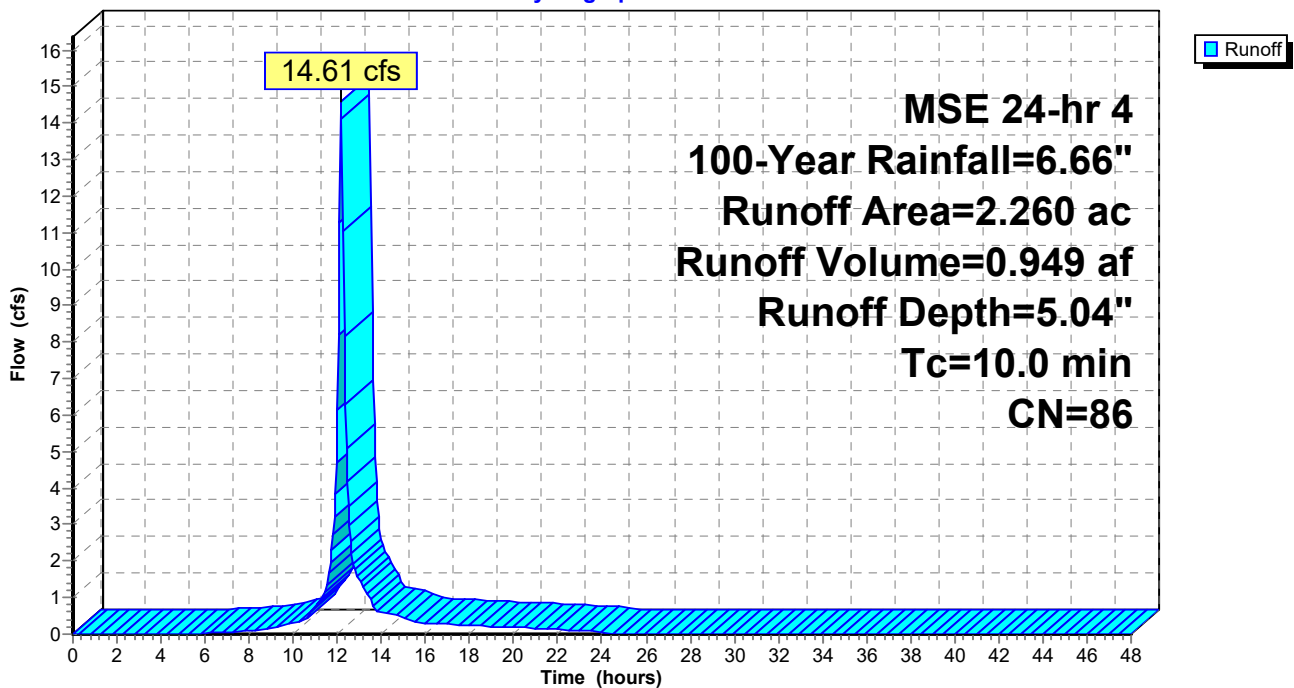
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.750	98	Roof
* 0.380	98	Patio
* 0.380	98	Driveways
0.720	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.260	86	Weighted Average
0.720		31.86% Pervious Area
1.540		68.14% Impervious Area

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

Subcatchment 41S: Prop. 41S

Hydrograph



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Page 315

Summary for Subcatchment 42S: Prop. 42S

Runoff = 6.81 cfs @ 12.17 hrs, Volume= 0.438 af, Depth= 4.82"
 Routed to Pond IP M : Inf M

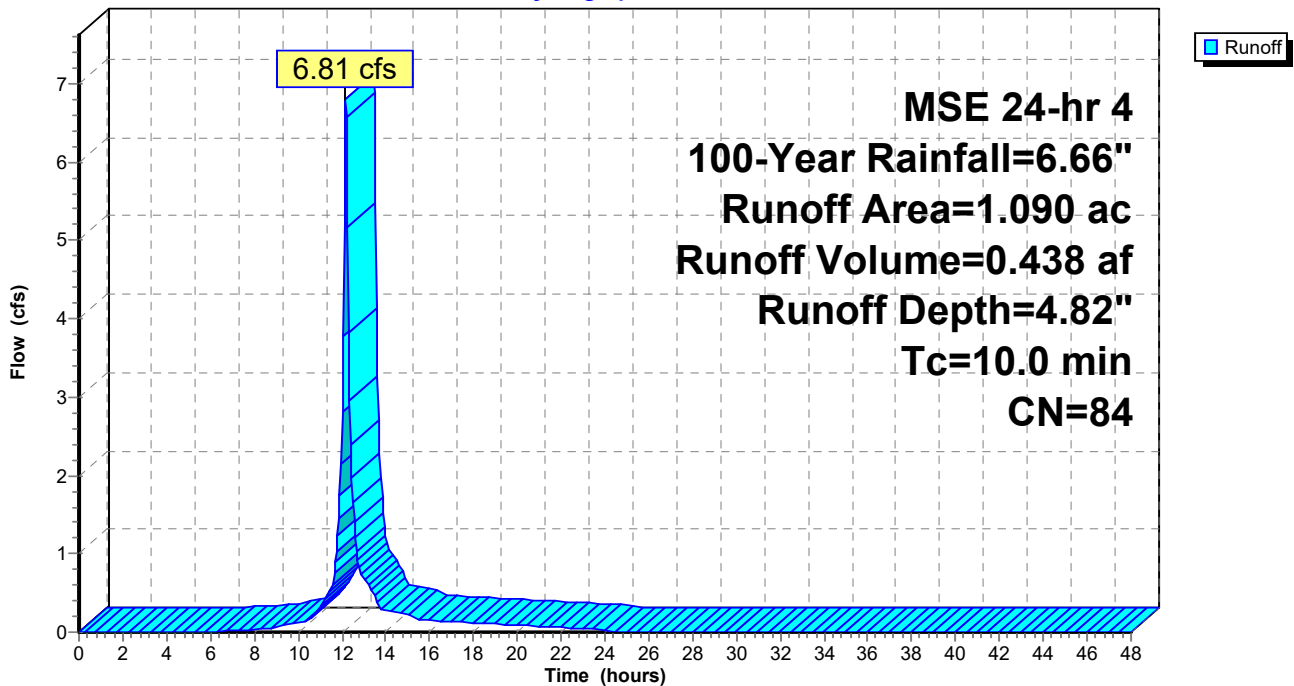
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.300	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.430	61	>75% Grass cover, Good, HSG B
* 0.060	100	Infiltration Basin
1.090	84	Weighted Average
0.430		39.45% Pervious Area
0.660		60.55% Impervious Area

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

Subcatchment 42S: Prop. 42S

Hydrograph



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Page 316

Summary for Subcatchment 43S: Prop. 43S

Runoff = 26.43 cfs @ 12.17 hrs, Volume= 1.691 af, Depth= 4.71"
 Routed to Pond BIO N : Bio N

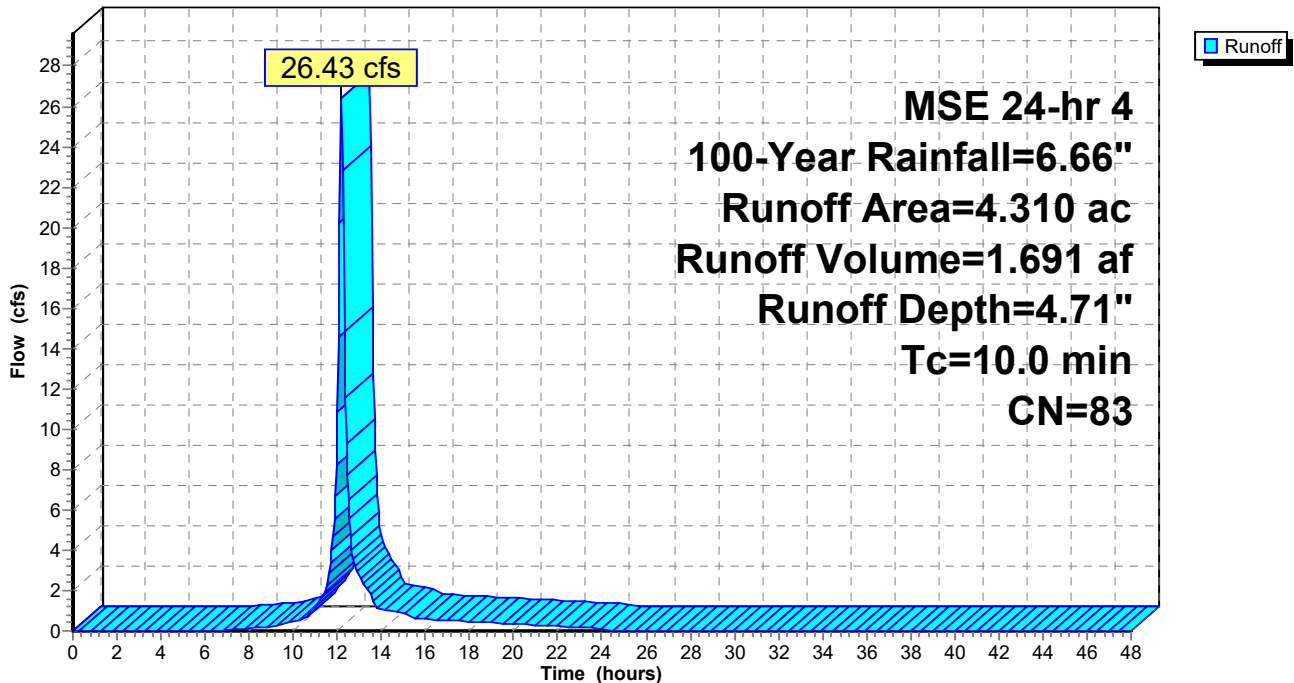
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 43S: Prop. 43S

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 317

Summary for Subcatchment 44S: Prop. 44S

Runoff = 26.43 cfs @ 12.17 hrs, Volume= 1.691 af, Depth= 4.71"
 Routed to Pond BIO O : Bio O

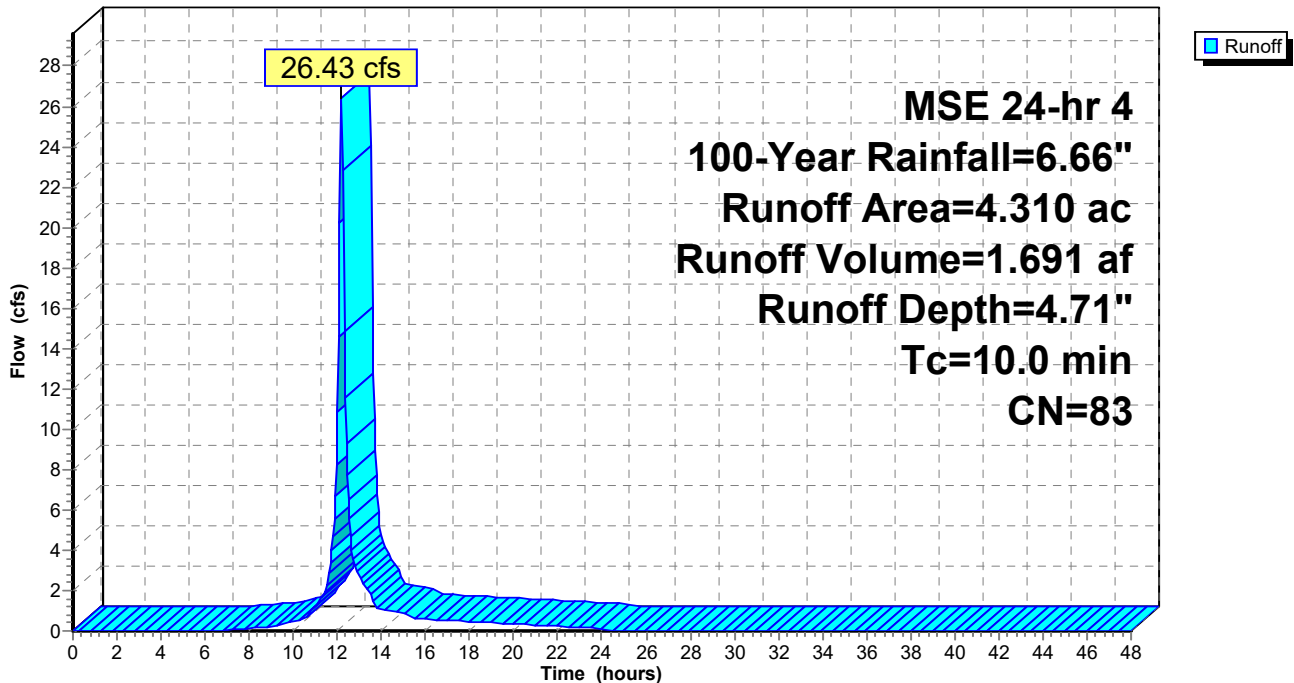
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 44S: Prop. 44S

Hydrograph



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Page 318

Summary for Subcatchment 45S: Prop. 45S

Runoff = 57.20 cfs @ 12.17 hrs, Volume= 3.644 af, Depth= 4.60"
 Routed to Pond WP P : Wet Pond P

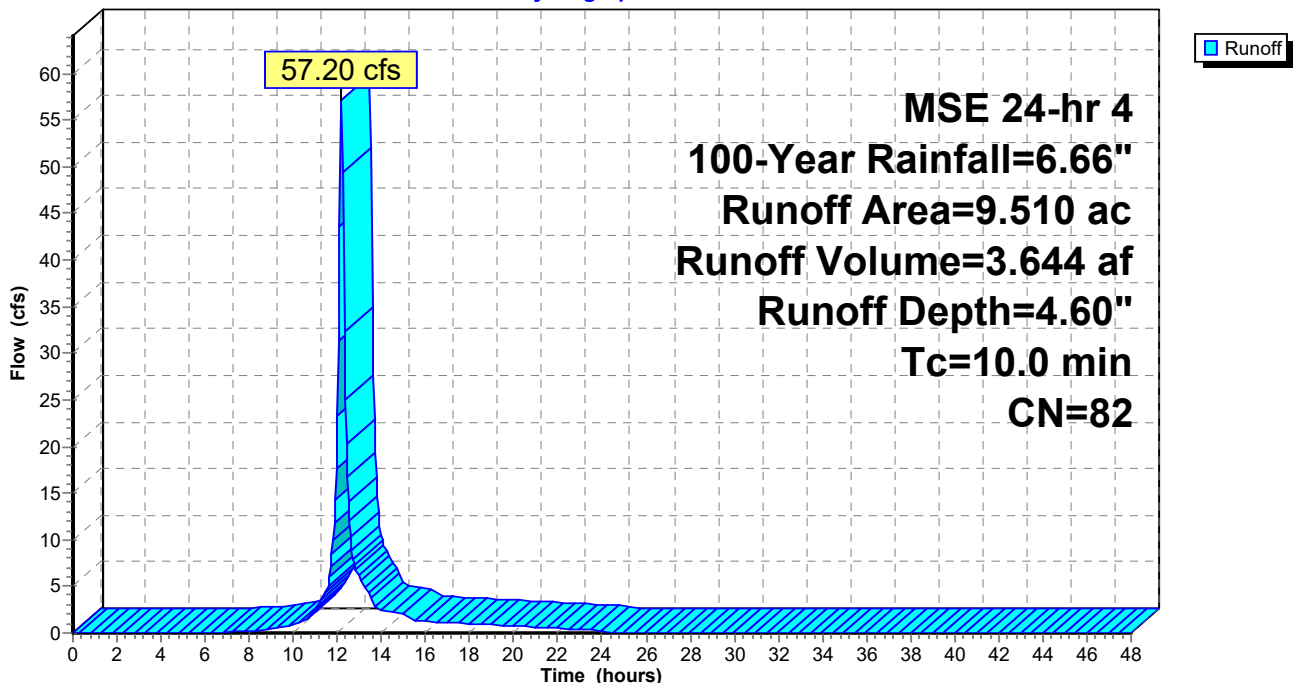
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.690	98	Roofs
* 0.190	98	Parking
* 0.850	98	Driveways
* 0.850	98	Sidewalks - House
* 0.280	98	Sidewalks - Street
* 1.050	98	Streets
4.100	61	>75% Grass cover, Good, HSG B
* 0.250	100	Wet Pond
* 0.250	100	Infiltration
9.510	82	Weighted Average
4.100		43.11% Pervious Area
5.410		56.89% Impervious Area

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

Subcatchment 45S: Prop. 45S

Hydrograph



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Page 319

Summary for Subcatchment 46S: Prop. 46S

Runoff = 77.69 cfs @ 12.23 hrs, Volume= 5.867 af, Depth= 5.04"
 Routed to Pond WP Q : Wet Pond Q

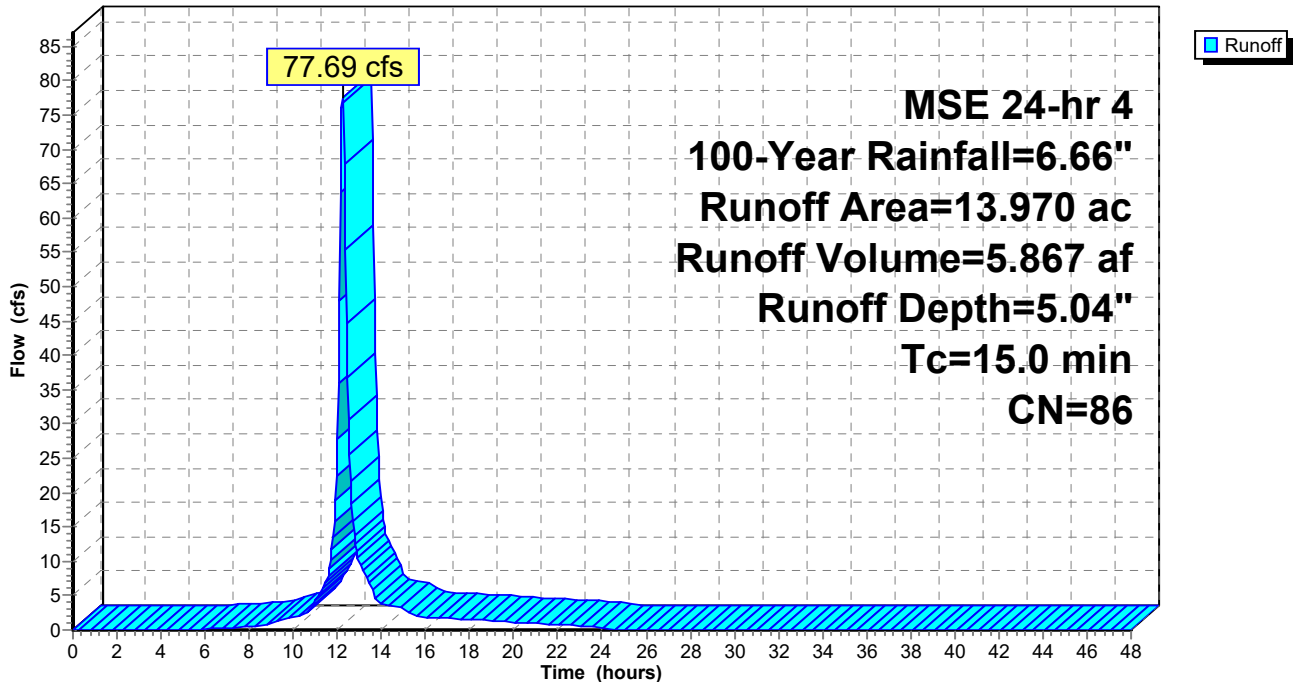
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 3.370	98	Roofs
* 0.080	98	Parking
* 1.680	98	Driveways
* 1.680	98	Sidewalks - House
* 0.510	98	Sidewalks - Street
* 2.050	98	Streets
4.370	61	>75% Grass cover, Good, HSG B
* 0.130	100	Wet Pond
* 0.100	100	Infiltration
13.970	86	Weighted Average
4.370		31.28% Pervious Area
9.600		68.72% Impervious Area

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

Subcatchment 46S: Prop. 46S

Hydrograph



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Page 320

Summary for Subcatchment 47S: Prop. 47S

Runoff = 15.68 cfs @ 12.17 hrs, Volume= 0.995 af, Depth= 4.49"
Routed to Pond WP R : Wet Pond R

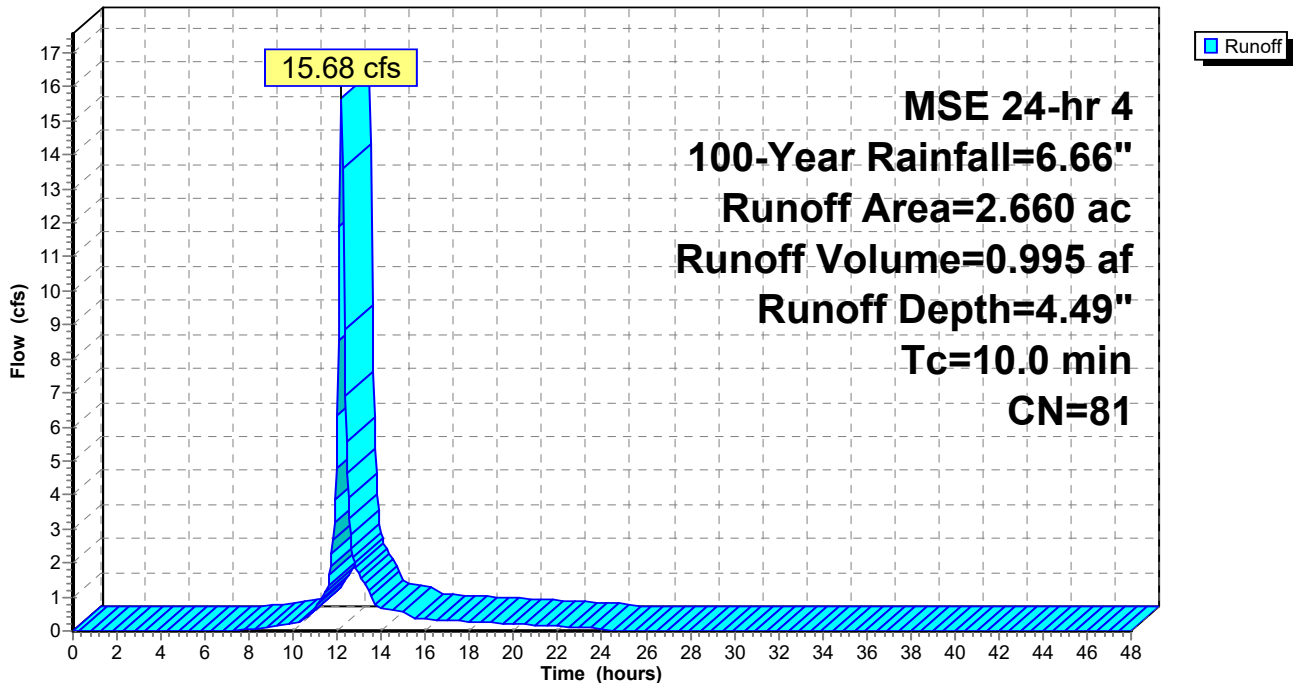
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.350	98	Roofs
* 0.180	98	Driveways
* 0.180	98	Sidewalks - House
* 0.060	98	Sidewalks - Street
* 0.500	98	Streets
1.210	61	>75% Grass cover, Good, HSG B
* 0.180	100	Wet Pond
2.660	81	Weighted Average
1.210		45.49% Pervious Area
1.450		54.51% Impervious Area

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

Subcatchment 47S: Prop. 47S

Hydrograph



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Page 321

Summary for Subcatchment 48S: Prop. 48S

Runoff = 16.03 cfs @ 12.17 hrs, Volume= 1.047 af, Depth= 5.15"
 Routed to Pond Bio S : Bio S

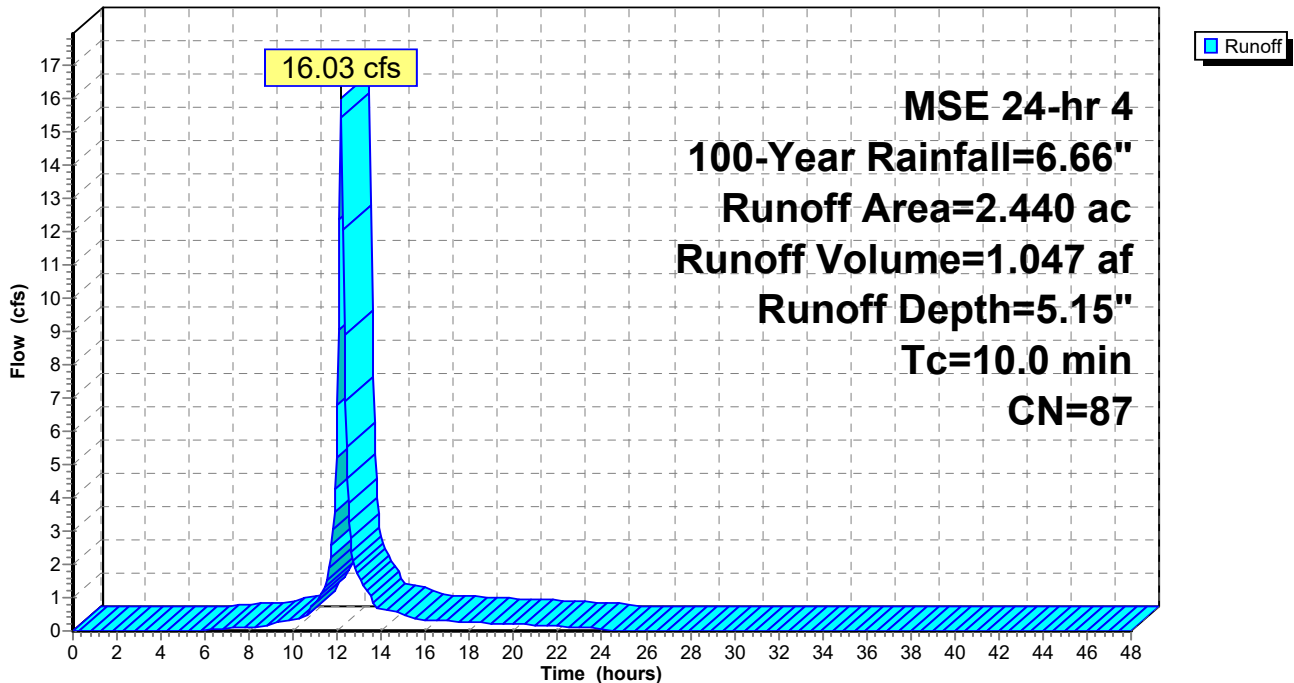
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.430	98	Roof
* 0.220	98	Patio
* 0.210	98	Driveways
* 0.170	98	Sidewalk
* 0.600	98	Street
0.720	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.440	87	Weighted Average
0.720		29.51% Pervious Area
1.720		70.49% Impervious Area

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

Subcatchment 48S: Prop. 48S

Hydrograph



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Page 322

Summary for Subcatchment 49S: 49S

Runoff = 14.78 cfs @ 12.17 hrs, Volume= 0.966 af, Depth= 5.15"
 Routed to Pond IP T : Infil T

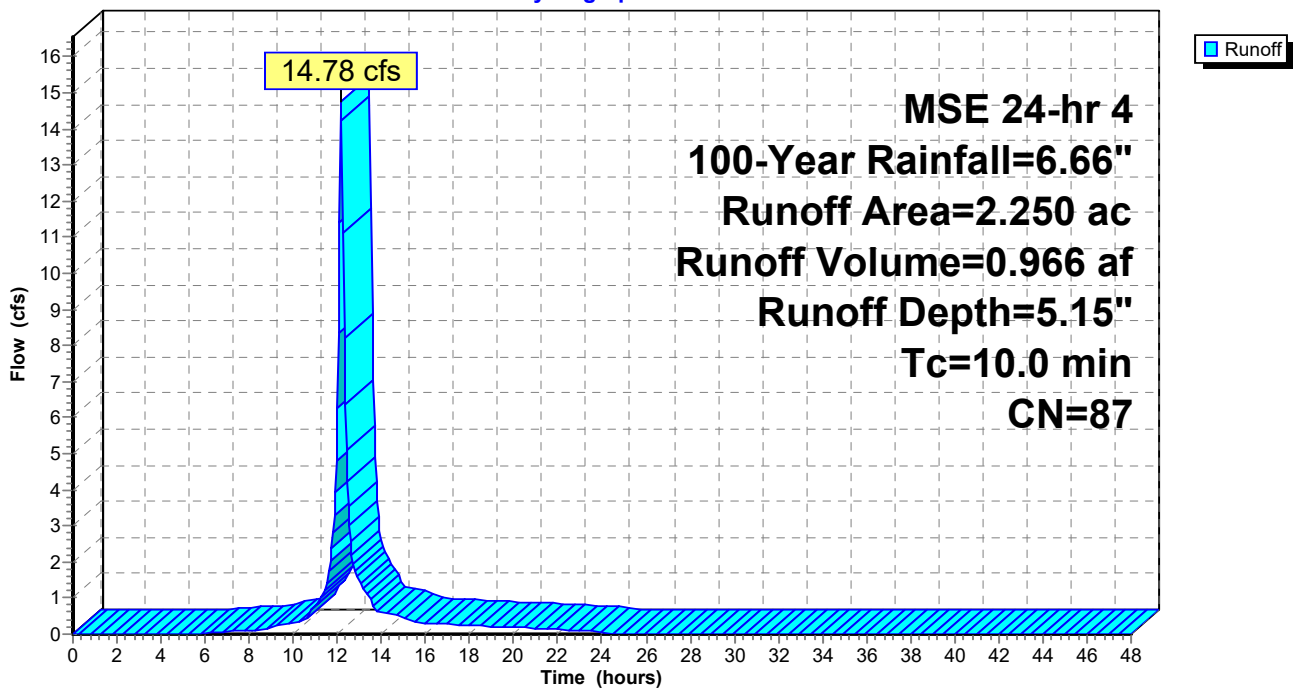
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.740	98	Roof
* 0.370	98	Patio
* 0.370	98	Driveways
0.680	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.250	87	Weighted Average
0.680		30.22% Pervious Area
1.570		69.78% Impervious Area

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

Subcatchment 49S: 49S

Hydrograph



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Page 323

Summary for Subcatchment 50S: Prop. 50S

Runoff = 33.32 cfs @ 12.17 hrs, Volume= 2.152 af, Depth= 4.93"
 Routed to Pond WP U : Wet Pond U

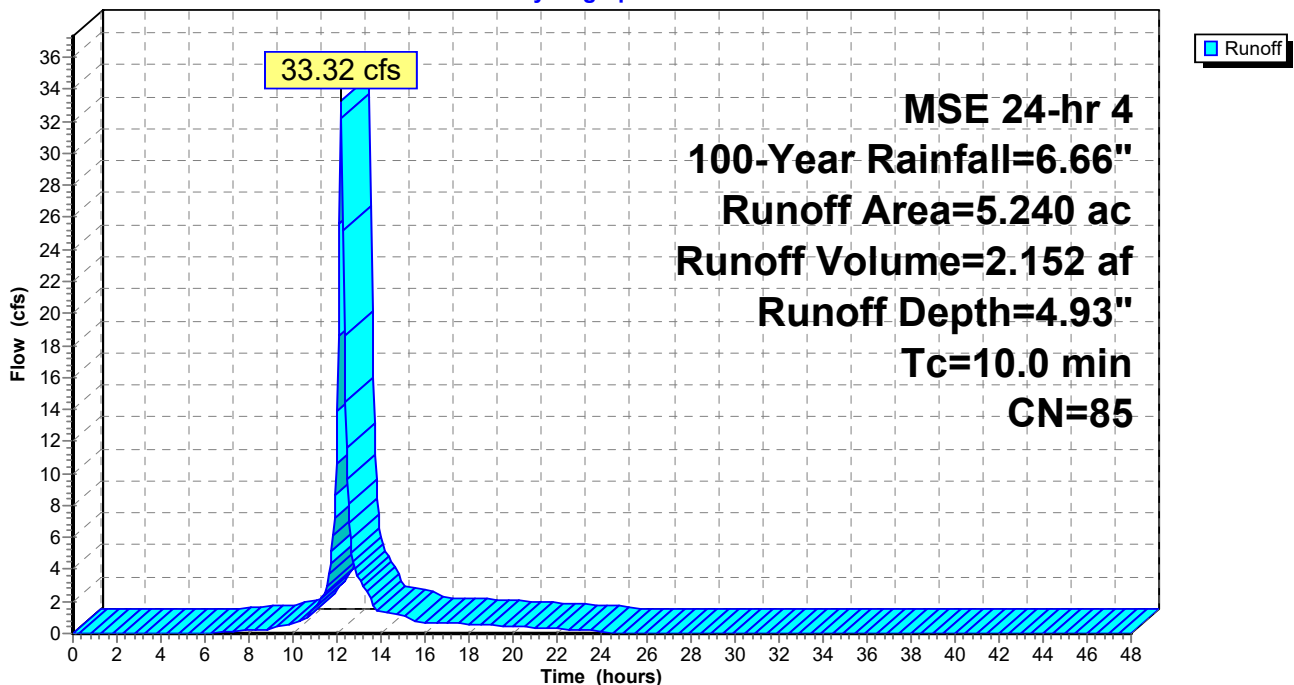
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.420	98	Roofs
* 0.210	98	Driveways
* 0.210	98	Sidewalks - House
* 0.500	98	Sidewalks - Street
* 1.800	98	Streets
1.790	61	>75% Grass cover, Good, HSG B
* 0.160	100	Wet Pond
* 0.150	100	Infiltration
5.240	85	Weighted Average
1.790		34.16% Pervious Area
3.450		65.84% Impervious Area

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

Subcatchment 50S: Prop. 50S

Hydrograph



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MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 324

Summary for Subcatchment 51S: Prop. 51S

Runoff = 9.51 cfs @ 12.17 hrs, Volume= 0.608 af, Depth= 4.71"
 Routed to Pond IP V : Infil V

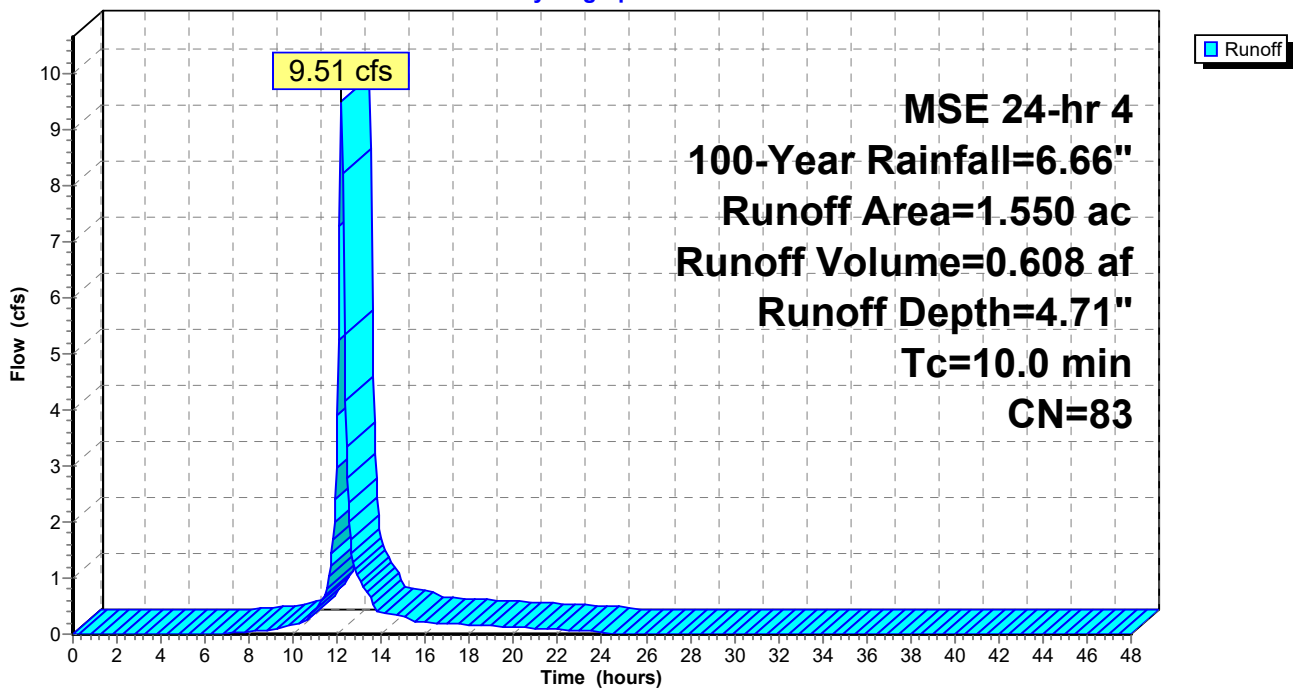
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.290	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.660	61	>75% Grass cover, Good, HSG B
* 0.300	100	Infiltration Basin
1.550	83	Weighted Average
0.660		42.58% Pervious Area
0.890		57.42% Impervious Area

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

Subcatchment 51S: Prop. 51S

Hydrograph



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Page 325

Summary for Subcatchment 52S: Prop. 52S

Runoff = 22.60 cfs @ 12.17 hrs, Volume= 1.477 af, Depth= 5.15"
Routed to Pond IP W : Infil W

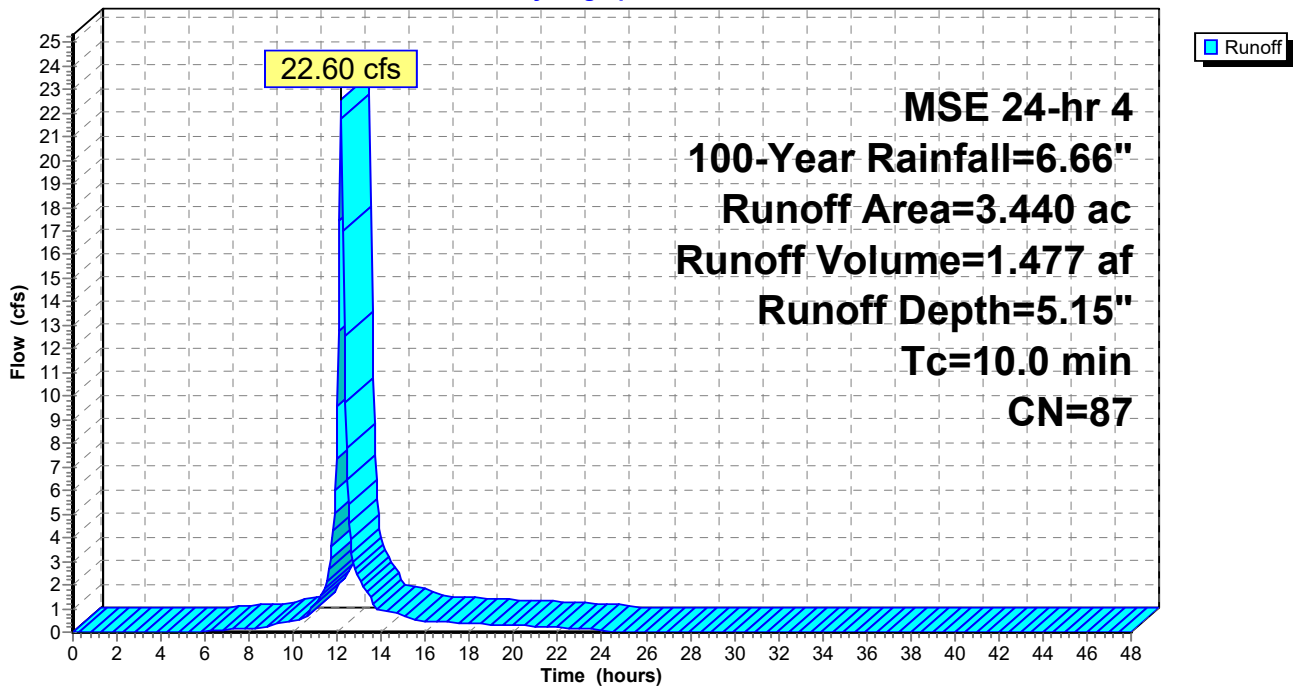
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.170	98	Roof
* 0.590	98	Patio
* 0.590	98	Driveways
1.070	61	>75% Grass cover, Good, HSG B
* 0.020	100	Infiltration Basin
3.440	87	Weighted Average
1.070		31.10% Pervious Area
2.370		68.90% Impervious Area

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

Subcatchment 52S: Prop. 52S

Hydrograph



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Page 326

Summary for Subcatchment 53S: Prop. 53S

Runoff = 26.19 cfs @ 12.17 hrs, Volume= 1.701 af, Depth= 5.04"
 Routed to Pond Bio X : Bio X

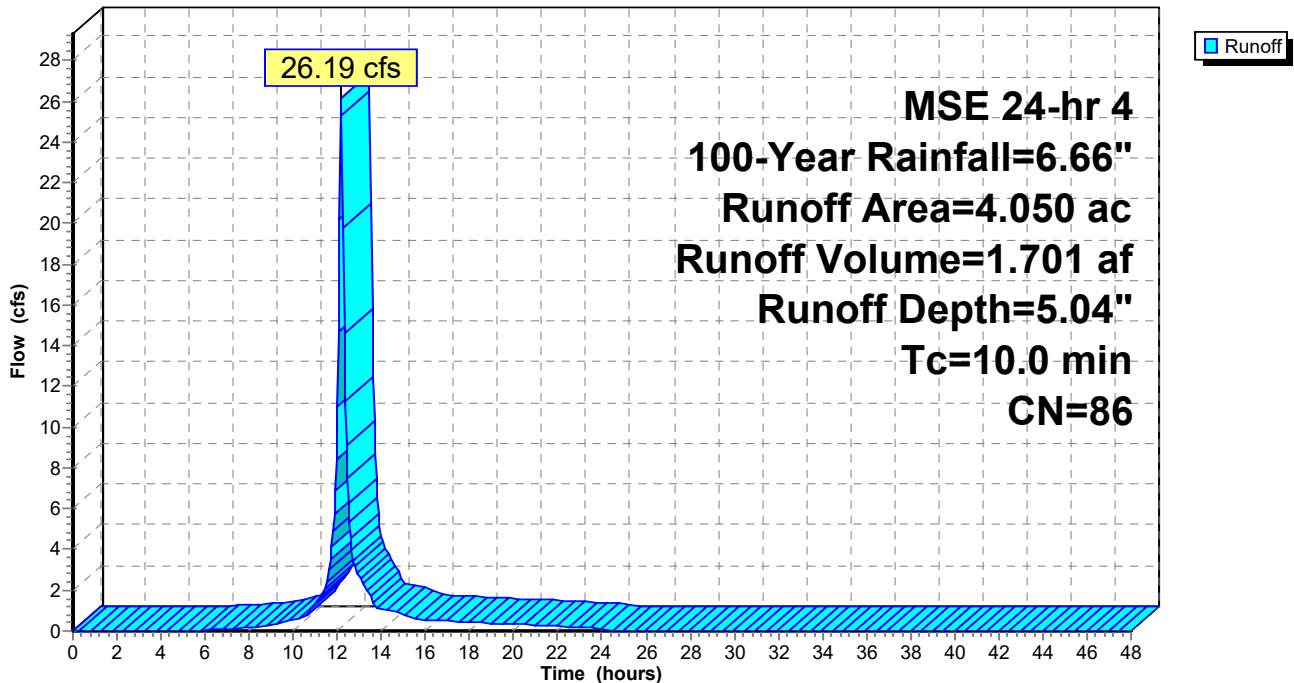
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.000	98	Roof
* 0.000	98	Patio
* 0.000	98	Driveways
* 0.570	98	Sidewalk
* 2.020	98	Street
1.330	61	>75% Grass cover, Good, HSG B
* 0.130	100	Infiltration Basin
4.050	86	Weighted Average
1.330		32.84% Pervious Area
2.720		67.16% Impervious Area

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

Subcatchment 53S: Prop. 53S

Hydrograph



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Page 327

Summary for Subcatchment 54S: Future 54S

Runoff = 11.27 cfs @ 12.24 hrs, Volume= 0.824 af, Depth= 3.14"
Routed to Pond Bio X : Bio X

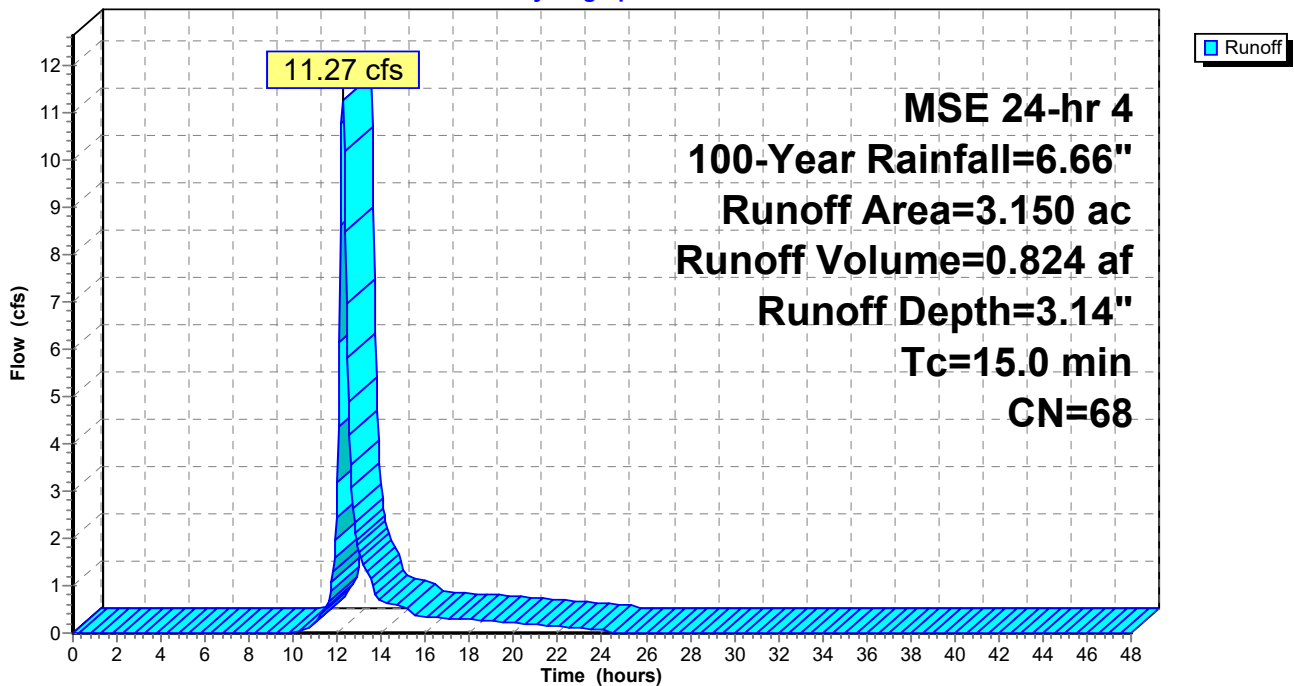
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 3.150	68	HSG B Ag
3.150		100.00% Pervious Area

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

Subcatchment 54S: Future 54S

Hydrograph



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Page 328

Summary for Subcatchment 55S: Prop. 55S

Runoff = 12.31 cfs @ 12.17 hrs, Volume= 0.774 af, Depth= 4.17"
 Routed to Reach 12R : Prop CTH Q

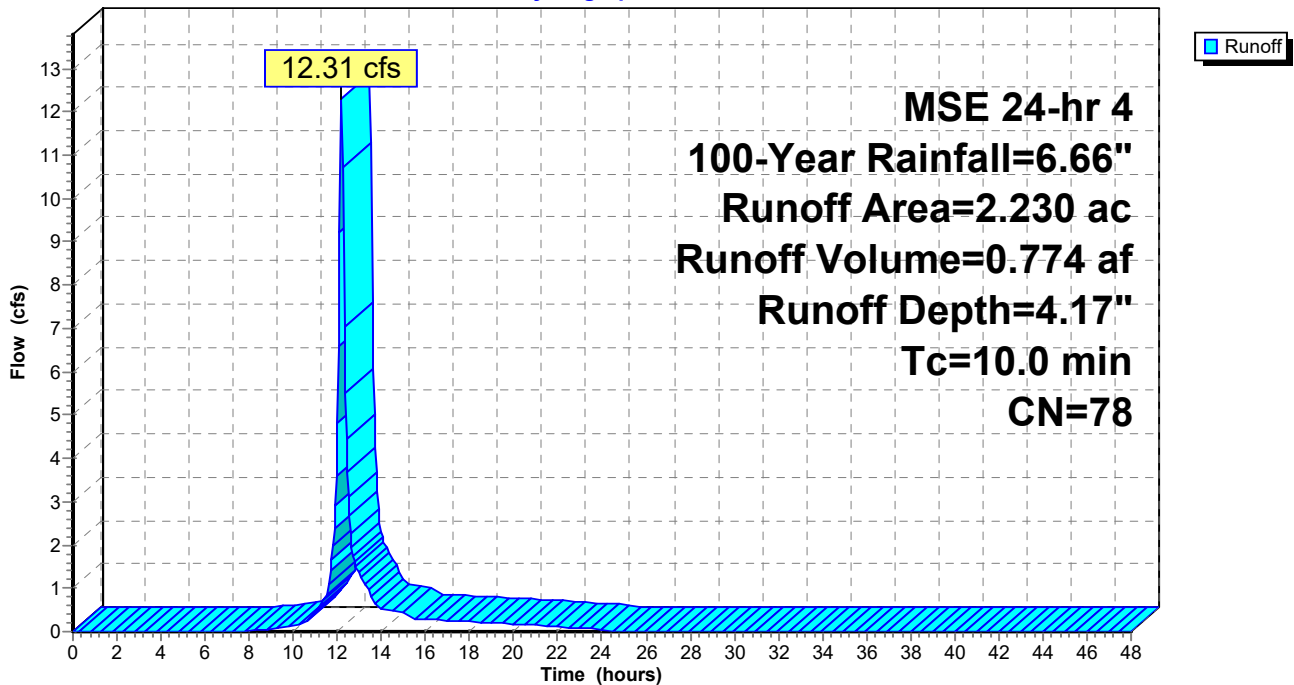
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.120	98	Parking
* 0.200	98	Sidewalk
* 0.720	98	Street
1.190	61	>75% Grass cover, Good, HSG B
2.230	78	Weighted Average
1.190		53.36% Pervious Area
1.040		46.64% Impervious Area

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

Subcatchment 55S: Prop. 55S

Hydrograph



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Page 329

Summary for Subcatchment 56S: (new Subcat)

Runoff = 108.66 cfs @ 12.17 hrs, Volume= 7.196 af, Depth= 5.38"
 Routed to Reach 27R : Post Wetland

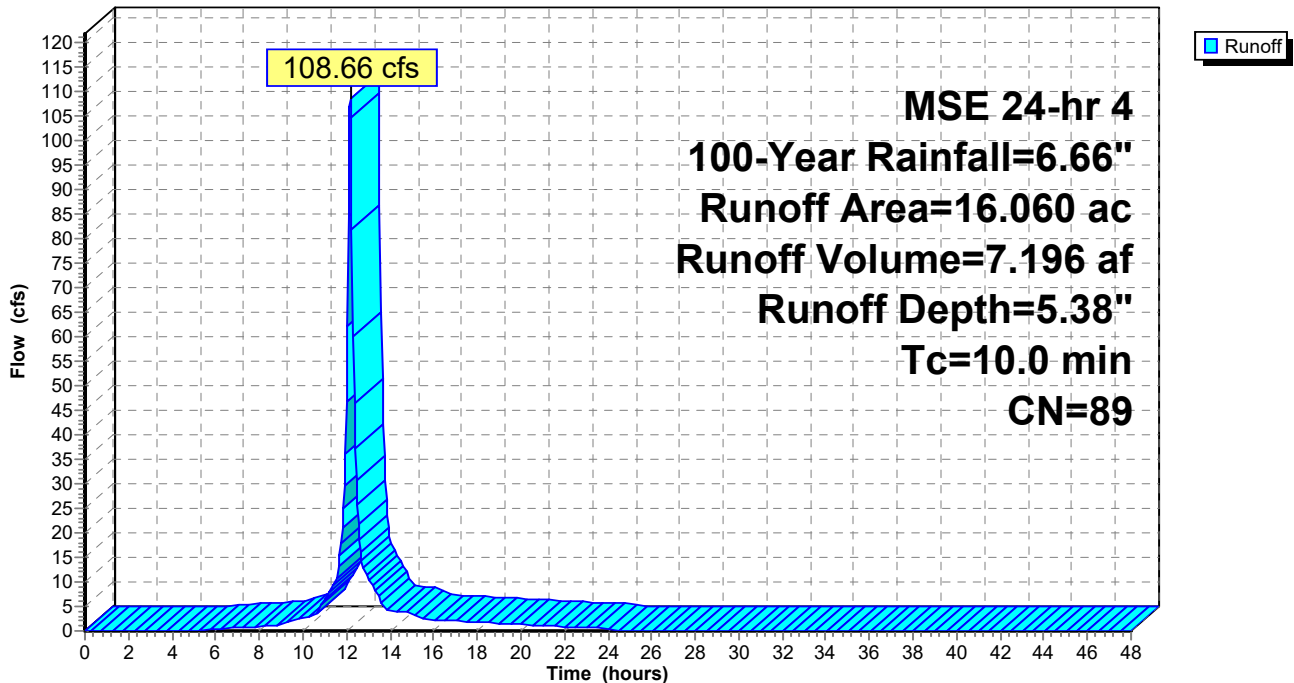
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.120	98	Roof
* 0.560	98	Driveways
* 0.560	98	Patio
* 0.030	98	Sidewalk
* 0.110	98	Street
4.330	61	>75% Grass cover, Good, HSG B
* 9.350	100	Wetland
16.060	89	Weighted Average
4.330		26.96% Pervious Area
11.730		73.04% Impervious Area

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

Subcatchment 56S: (new Subcat)

Hydrograph



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Page 330

Summary for Subcatchment 57S: Existing 56S

Runoff = 9.46 cfs @ 12.18 hrs, Volume= 0.590 af, Depth= 3.44"
Routed to Reach 52R : TOTAL PROPOSED

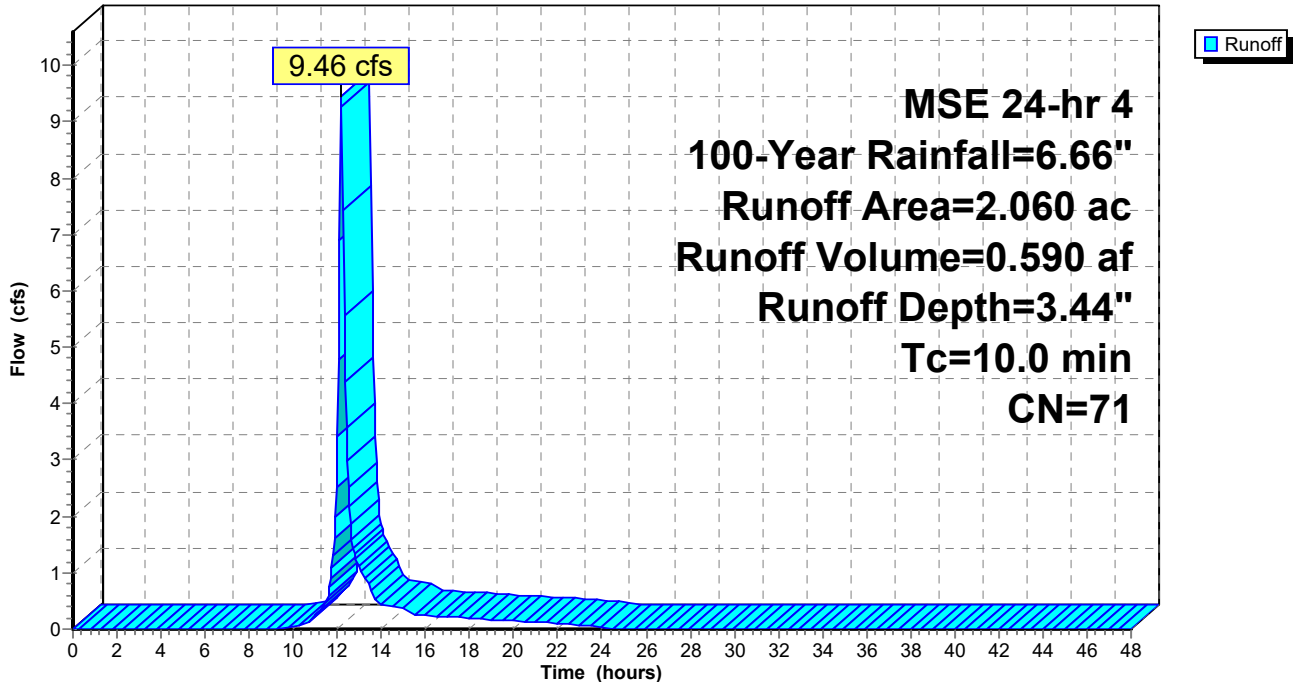
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
1.510	61	>75% Grass cover, Good, HSG B
* 0.300	98	House
* 0.250	98	Impervious
2.060	71	Weighted Average
1.510		73.30% Pervious Area
0.550		26.70% Impervious Area

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

Subcatchment 57S: Existing 56S

Hydrograph



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Page 331

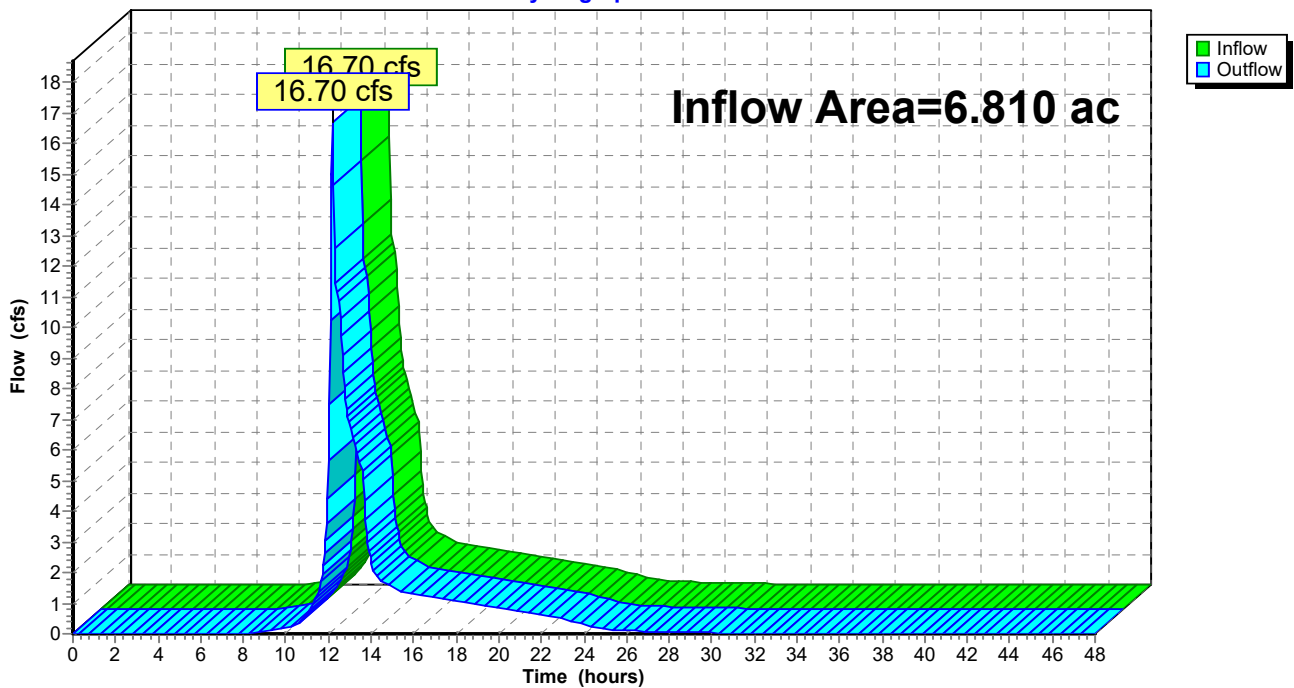
Summary for Reach 12R: Prop CTH Q

Inflow Area = 6.810 ac, 43.91% Impervious, Inflow Depth > 4.08" for 100-Year event
Inflow = 16.70 cfs @ 12.20 hrs, Volume= 2.315 af
Outflow = 16.70 cfs @ 12.20 hrs, Volume= 2.315 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 12R: Prop CTH Q

Hydrograph



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Page 332

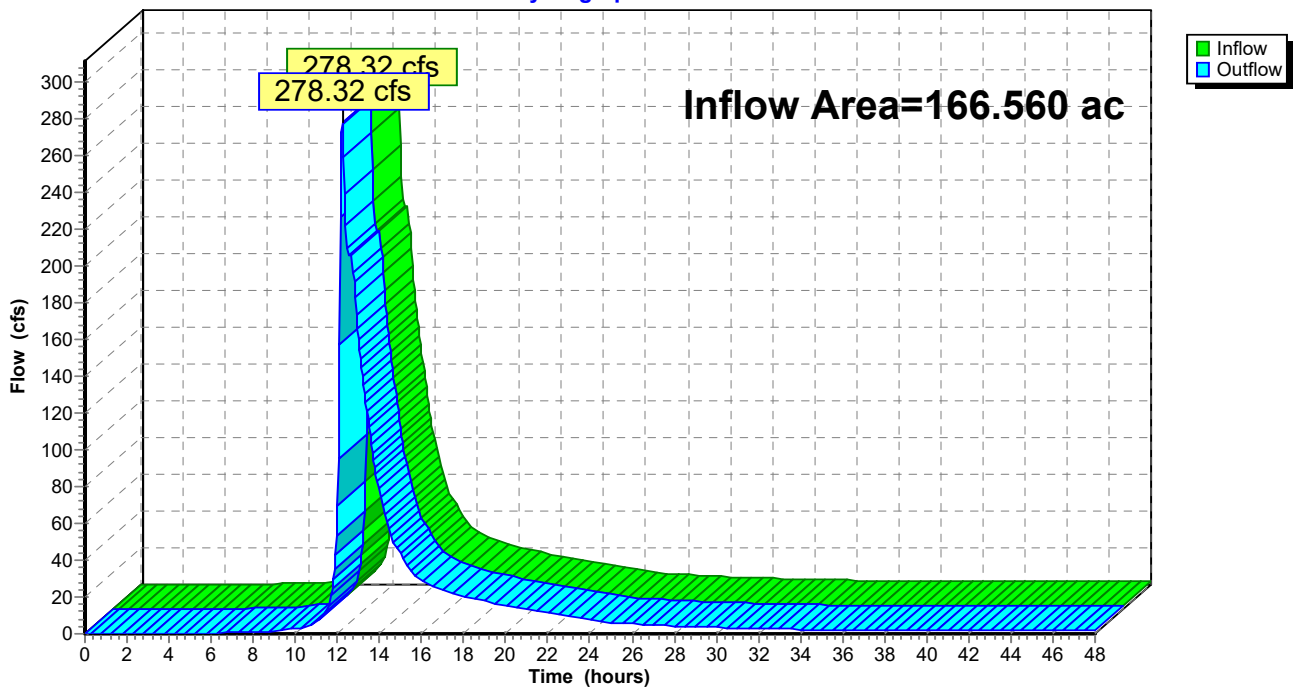
Summary for Reach 27R: Post Wetland

Inflow Area = 166.560 ac, 52.08% Impervious, Inflow Depth > 3.78" for 100-Year event
Inflow = 278.32 cfs @ 12.23 hrs, Volume= 52.441 af
Outflow = 278.32 cfs @ 12.23 hrs, Volume= 52.441 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 27R: Post Wetland

Hydrograph



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Page 333

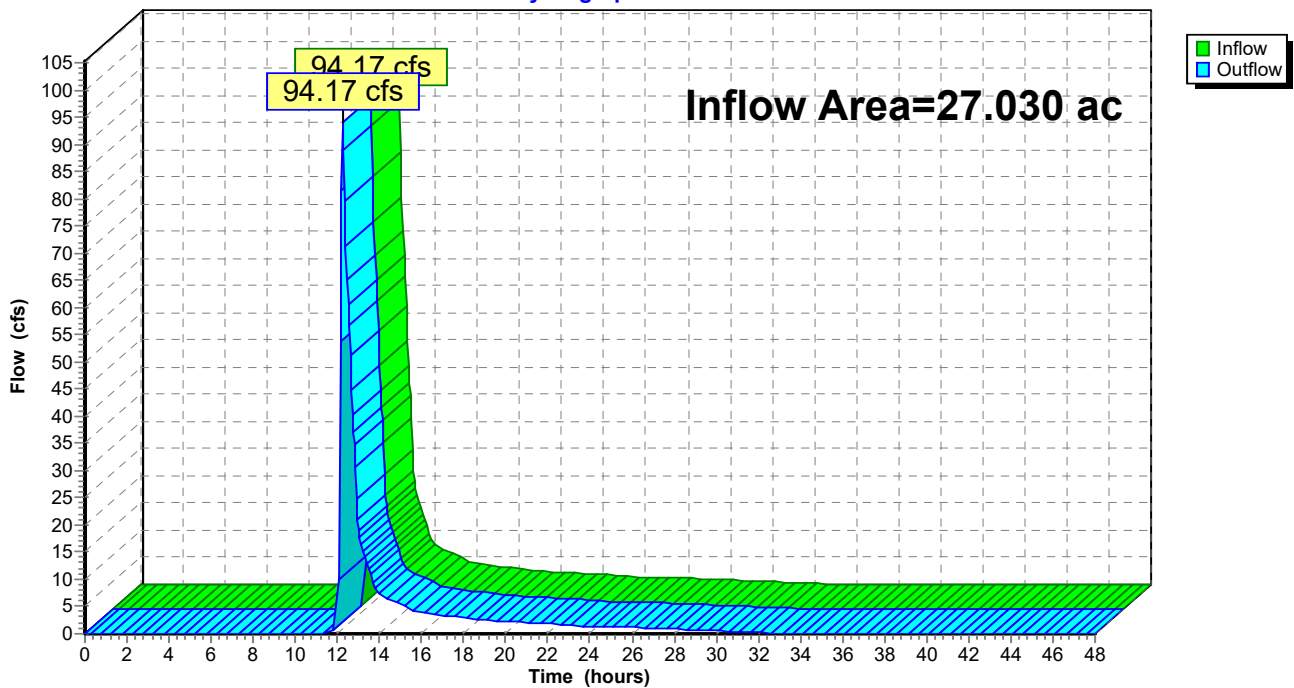
Summary for Reach 41R: (new Reach)

Inflow Area = 27.030 ac, 50.50% Impervious, Inflow Depth = 3.61" for 100-Year event
Inflow = 94.17 cfs @ 12.26 hrs, Volume= 8.130 af
Outflow = 94.17 cfs @ 12.26 hrs, Volume= 8.130 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 41R: (new Reach)

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Page 334

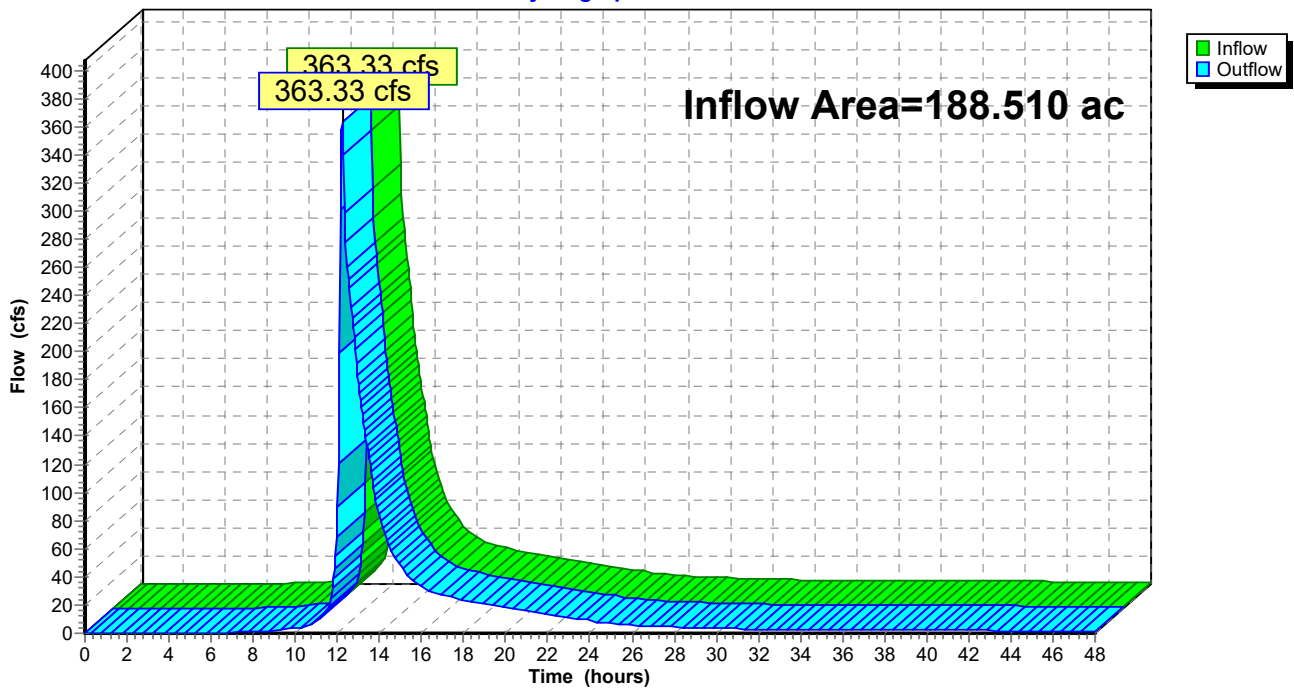
Summary for Reach 52R: TOTAL PROPOSED

Inflow Area = 188.510 ac, 51.50% Impervious, Inflow Depth > 3.81" for 100-Year event
Inflow = 363.33 cfs @ 12.22 hrs, Volume= 59.902 af
Outflow = 363.33 cfs @ 12.22 hrs, Volume= 59.902 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 52R: TOTAL PROPOSED

Hydrograph



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Page 335

Summary for Pond BIO J: Bio J

Inflow Area = 10.880 ac, 32.81% Impervious, Inflow Depth = 3.74" for 100-Year event
 Inflow = 44.27 cfs @ 12.19 hrs, Volume= 3.388 af
 Outflow = 24.67 cfs @ 12.39 hrs, Volume= 3.352 af, Atten= 44%, Lag= 11.9 min
 Discarded = 0.09 cfs @ 12.39 hrs, Volume= 0.220 af
 Primary = 24.58 cfs @ 12.39 hrs, Volume= 3.133 af
 Routed to Pond BIO N : Bio N
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 924.74' @ 12.39 hrs Surf.Area= 7,414 sf Storage= 29,970 cf

Plug-Flow detention time= 96.3 min calculated for 3.349 af (99% of inflow)
 Center-of-Mass det. time= 91.3 min (901.8 - 810.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	69,813 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
916.00	5,358	0.0	0	0
916.01	5,358	33.0	18	18
919.99	5,358	33.0	7,037	7,055
920.00	5,358	27.0	14	7,069
921.49	5,358	27.0	2,156	9,225
921.50	5,358	100.0	54	9,278
925.00	7,579	100.0	22,640	31,918
930.00	7,579	100.0	37,895	69,813

Device	Routing	Invert	Outlet Devices
#1	Primary	919.50'	24.0" Round 24" Outlet Pipe L= 660.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 919.50' / 916.00' S= 0.0053 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	919.50'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	922.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	925.00'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 336

Discarded OutFlow Max=0.09 cfs @ 12.39 hrs HW=924.73' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=24.57 cfs @ 12.39 hrs HW=924.73' TW=911.70' (Dynamic Tailwater)

↳ **1=24" Outlet Pipe** (Barrel Controls 24.57 cfs @ 7.82 fps)

↳ **2=4" Underdrain** (Passes < 0.95 cfs potential flow)

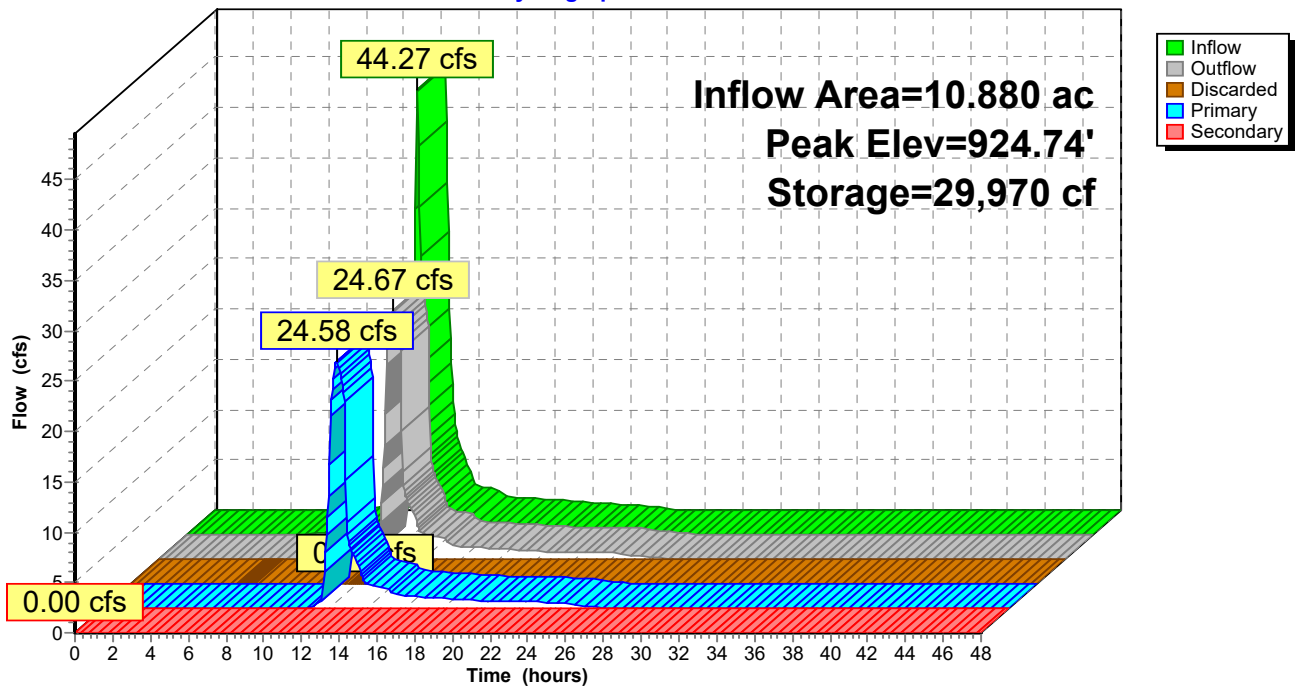
↳ **3=48" Riser** (Passes < 100.00 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=916.00' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond BIO J: Bio J

Hydrograph



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Page 337

Summary for Pond BIO K: Bio K

Inflow Area = 4.180 ac, 68.90% Impervious, Inflow Depth = 5.15" for 100-Year event
 Inflow = 27.47 cfs @ 12.17 hrs, Volume= 1.794 af
 Outflow = 16.29 cfs @ 12.29 hrs, Volume= 1.773 af, Atten= 41%, Lag= 7.4 min
 Discarded = 0.09 cfs @ 12.29 hrs, Volume= 0.191 af
 Primary = 16.20 cfs @ 12.29 hrs, Volume= 1.582 af
 Routed to Pond BIO N : Bio N
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond BIO N : Bio N

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 921.27' @ 12.29 hrs Surf.Area= 8,099 sf Storage= 21,852 cf

Plug-Flow detention time= 150.6 min calculated for 1.773 af (99% of inflow)
 Center-of-Mass det. time= 143.3 min (930.8 - 787.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	913.50'	33,012 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
913.50	4,410	0.0	0	0
913.51	4,410	33.0	15	15
917.49	4,410	33.0	5,792	5,807
917.50	4,410	27.0	12	5,819
918.99	4,410	27.0	1,774	7,593
919.00	4,410	100.0	44	7,637
922.50	10,090	100.0	25,375	33,012

Device	Routing	Invert	Outlet Devices
#1	Primary	917.00'	18.0" Round 18" Outlet Pipe L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 917.00' / 916.50' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	917.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	921.50'	10.0' long + 4.0 1/2" SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	913.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 338

Discarded OutFlow Max=0.09 cfs @ 12.29 hrs HW=921.27' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=16.18 cfs @ 12.29 hrs HW=921.27' TW=911.76' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 16.18 cfs @ 9.16 fps)

↳ **2=4" Underdrain** (Passes < 0.85 cfs potential flow)

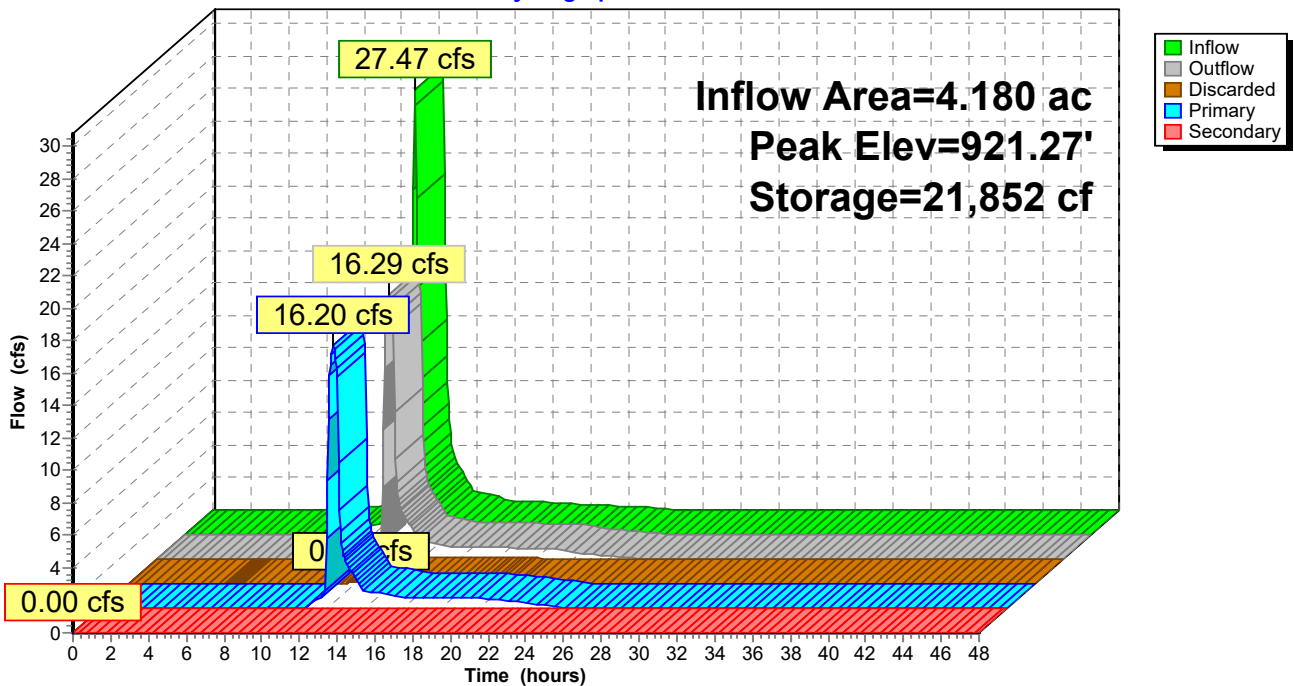
↳ **3=48" Riser** (Passes < 58.69 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=913.50' TW=904.50' (Dynamic Tailwater)

↳ **4=Weir** (Controls 0.00 cfs)

Pond BIO K: Bio K

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Page 339

Summary for Pond BIO N: Bio N

Inflow Area = 19.370 ac, 46.21% Impervious, Inflow Depth = 3.97" for 100-Year event
 Inflow = 64.22 cfs @ 12.19 hrs, Volume= 6.406 af
 Outflow = 62.17 cfs @ 12.23 hrs, Volume= 6.246 af, Atten= 3%, Lag= 2.6 min
 Discarded = 0.17 cfs @ 12.23 hrs, Volume= 0.488 af
 Primary = 0.80 cfs @ 12.23 hrs, Volume= 1.120 af
 Routed to Reach 41R : (new Reach)
 Secondary = 61.20 cfs @ 12.23 hrs, Volume= 4.638 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 911.79' @ 12.23 hrs Surf.Area= 14,956 sf Storage= 44,508 cf

Plug-Flow detention time= 140.0 min calculated for 6.246 af (98% of inflow)
 Center-of-Mass det. time= 124.5 min (962.6 - 838.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	904.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
904.50	11,850	0.0	0	0
904.51	11,850	33.0	39	39
908.49	11,850	33.0	15,564	15,603
908.50	11,850	27.0	32	15,635
909.99	11,850	27.0	4,767	20,402
910.00	11,850	100.0	118	20,521
912.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	908.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	911.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	904.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.17 cfs @ 12.23 hrs HW=911.79' (Free Discharge)

↳ **3=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.80 cfs @ 12.23 hrs HW=911.79' TW=0.00' (Dynamic Tailwater)

↳ **1=4" Underdrain** (Orifice Controls 0.80 cfs @ 9.16 fps)

Secondary OutFlow Max=60.72 cfs @ 12.23 hrs HW=911.79' TW=0.00' (Dynamic Tailwater)

↳ **2=Broad-Crested Rectangular Weir** (Weir Controls 60.72 cfs @ 2.33 fps)

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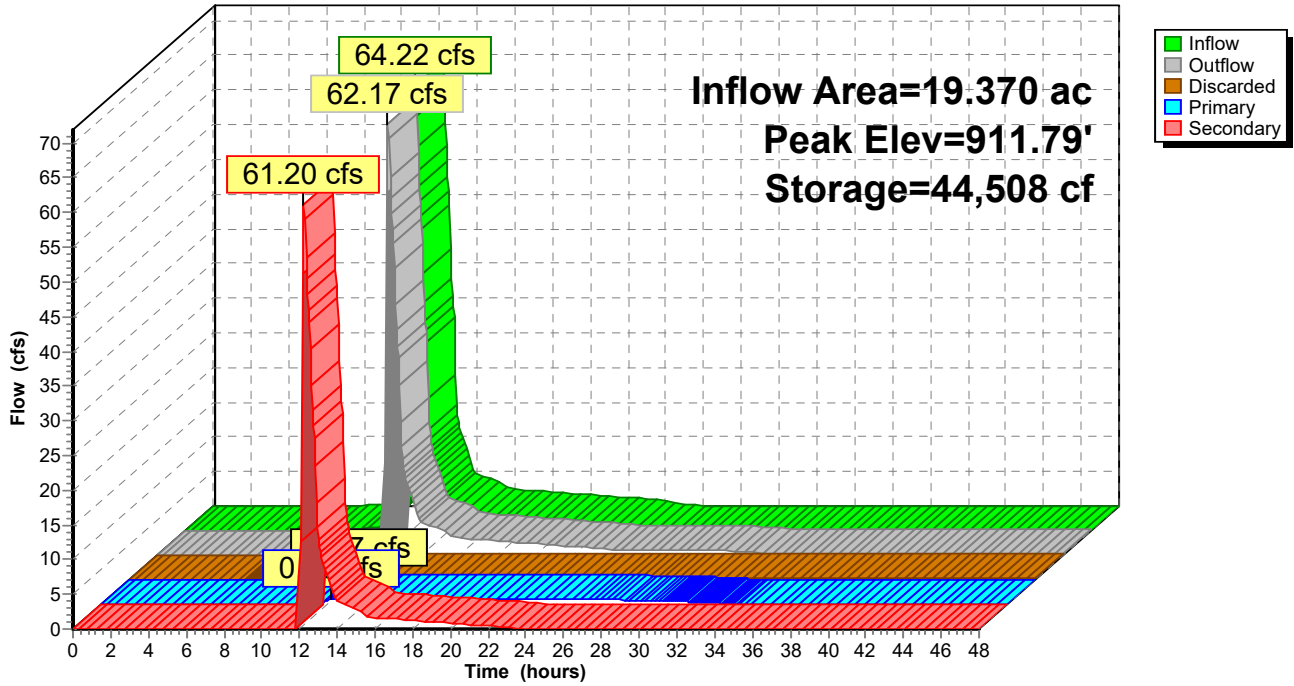
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Page 340

Pond BIO N: Bio N

Hydrograph



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Page 341

Summary for Pond BIO O: Bio O

Inflow Area = 6.570 ac, 61.49% Impervious, Inflow Depth = 4.75" for 100-Year event
 Inflow = 38.76 cfs @ 12.18 hrs, Volume= 2.602 af
 Outflow = 32.35 cfs @ 12.27 hrs, Volume= 2.487 af, Atten= 17%, Lag= 5.3 min
 Discarded = 0.17 cfs @ 12.27 hrs, Volume= 0.479 af
 Primary = 0.77 cfs @ 12.27 hrs, Volume= 0.873 af
 Routed to Reach 41R : (new Reach)
 Secondary = 31.41 cfs @ 12.27 hrs, Volume= 1.135 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 910.52' @ 12.27 hrs Surf.Area= 14,496 sf Storage= 40,603 cf

Plug-Flow detention time= 299.4 min calculated for 2.484 af (95% of inflow)
 Center-of-Mass det. time= 277.6 min (1,079.0 - 801.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	903.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.50	11,850	0.0	0	0
903.51	11,850	33.0	39	39
907.49	11,850	33.0	15,564	15,603
907.50	11,850	27.0	32	15,635
908.99	11,850	27.0	4,767	20,402
909.00	11,850	100.0	118	20,521
911.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	910.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	903.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.17 cfs @ 12.27 hrs HW=910.51' (Free Discharge)

↳ **3=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.77 cfs @ 12.27 hrs HW=910.51' TW=0.00' (Dynamic Tailwater)

↳ **1=4" Underdrain** (Orifice Controls 0.77 cfs @ 8.80 fps)

Secondary OutFlow Max=29.86 cfs @ 12.27 hrs HW=910.51' TW=0.00' (Dynamic Tailwater)

↳ **2=Broad-Crested Rectangular Weir** (Weir Controls 29.86 cfs @ 1.84 fps)

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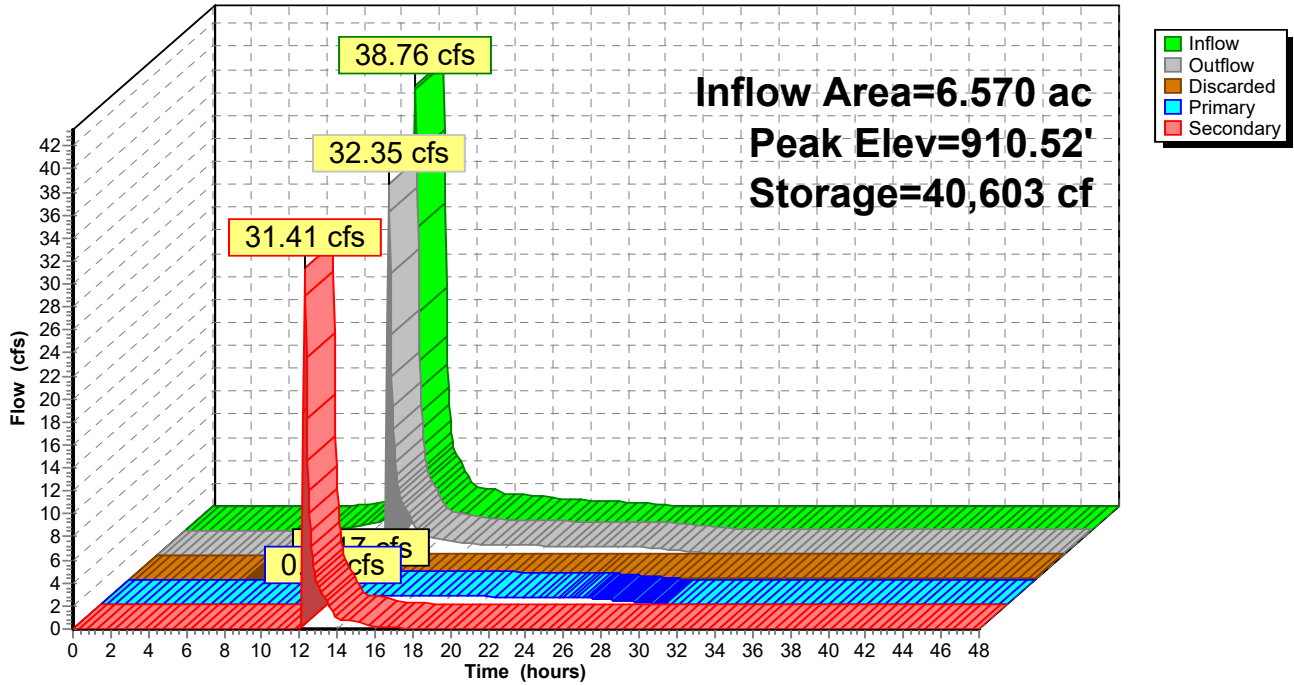
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Page 342

Pond BIO O: Bio O

Hydrograph



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Page 343

Summary for Pond Bio S: Bio S

Inflow Area = 2.440 ac, 70.49% Impervious, Inflow Depth = 5.15" for 100-Year event
 Inflow = 16.03 cfs @ 12.17 hrs, Volume= 1.047 af
 Outflow = 14.94 cfs @ 12.21 hrs, Volume= 1.029 af, Atten= 7%, Lag= 2.5 min
 Discarded = 0.06 cfs @ 12.21 hrs, Volume= 0.168 af
 Primary = 14.88 cfs @ 12.21 hrs, Volume= 0.861 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 924.34' @ 12.21 hrs Surf.Area= 4,851 sf Storage= 13,156 cf

Plug-Flow detention time= 195.4 min calculated for 1.029 af (98% of inflow)
 Center-of-Mass det. time= 185.0 min (972.5 - 787.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	917.50'	42,501 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.50	4,115	0.0	0	0
917.51	4,115	33.0	14	14
921.49	4,115	33.0	5,405	5,418
921.50	4,115	27.0	11	5,429
922.99	4,115	27.0	1,655	7,085
923.00	4,115	100.0	41	7,126
925.00	5,210	100.0	9,325	16,451
930.00	5,210	100.0	26,050	42,501

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.90' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.75'	36.0" Horiz. 36" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	924.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 344

Discarded OutFlow Max=0.06 cfs @ 12.21 hrs HW=924.33' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=14.53 cfs @ 12.21 hrs HW=924.33' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Passes 14.53 cfs of 16.31 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.75 cfs @ 8.57 fps)

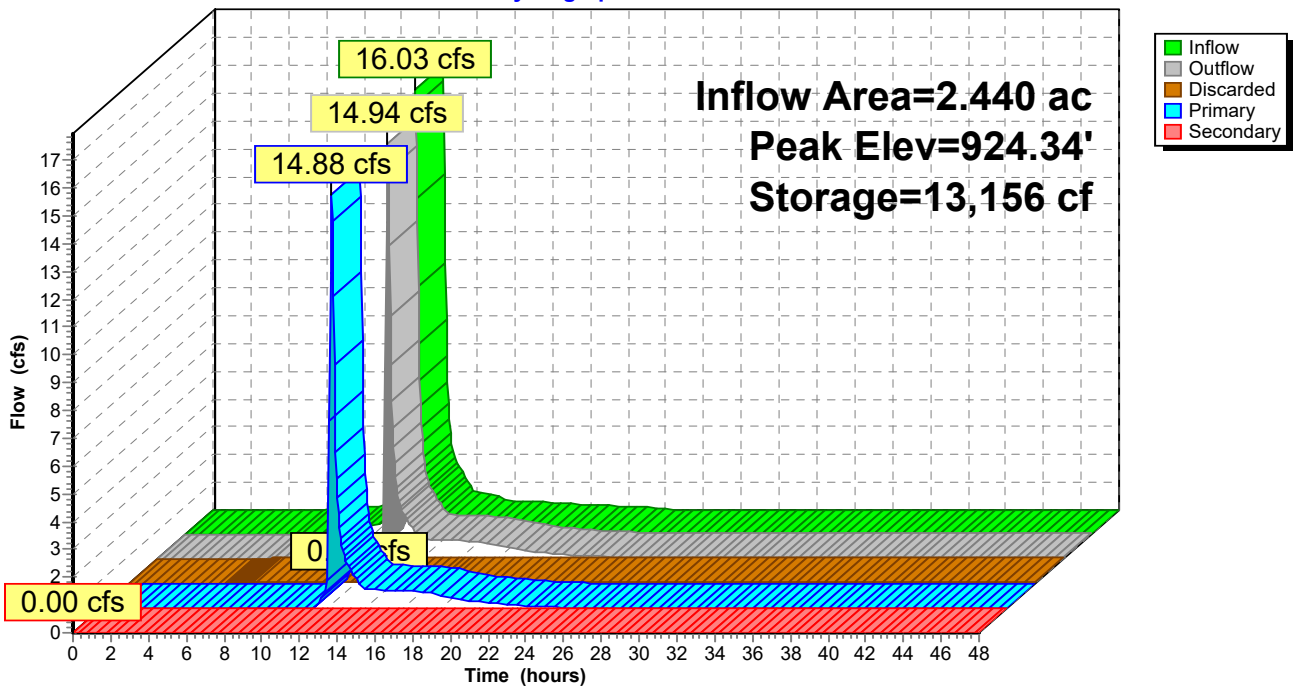
↳ **3=36" Riser** (Weir Controls 13.78 cfs @ 2.50 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=917.50' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Bio S: Bio S

Hydrograph



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Page 345

Summary for Pond Bio X: Bio X

Inflow Area = 7.200 ac, 37.78% Impervious, Inflow Depth = 4.21" for 100-Year event
 Inflow = 36.24 cfs @ 12.19 hrs, Volume= 2.524 af
 Outflow = 22.52 cfs @ 12.32 hrs, Volume= 2.487 af, Atten= 38%, Lag= 8.1 min
 Discarded = 0.12 cfs @ 12.32 hrs, Volume= 0.239 af
 Primary = 22.40 cfs @ 12.32 hrs, Volume= 2.248 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 951.19' @ 12.32 hrs Surf.Area= 0.238 ac Storage= 0.768 af

Plug-Flow detention time= 168.8 min calculated for 2.487 af (99% of inflow)
 Center-of-Mass det. time= 160.0 min (963.3 - 803.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	942.50'	3.327 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
942.50	0.125	0.0	0.000	0.000
942.51	0.125	33.0	0.000	0.000
946.49	0.125	33.0	0.164	0.165
946.50	0.125	27.0	0.000	0.165
947.99	0.125	27.0	0.050	0.215
948.00	0.125	100.0	0.001	0.216
949.00	0.152	100.0	0.138	0.355
950.00	0.181	100.0	0.166	0.521
951.00	0.225	100.0	0.203	0.724
952.00	0.293	100.0	0.259	0.983
960.00	0.293	100.0	2.344	3.327

Device	Routing	Invert	Outlet Devices
#1	Primary	946.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 946.00' / 945.90' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	946.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	948.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	950.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	951.75'	5.0' long + 4.0' /' SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	942.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 346

Discarded OutFlow Max=0.12 cfs @ 12.32 hrs HW=951.17' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=22.37 cfs @ 12.32 hrs HW=951.17' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Inlet Controls 22.37 cfs @ 12.66 fps)

↳ **2=4" Underdrain** (Passes < 0.94 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.63 cfs potential flow)

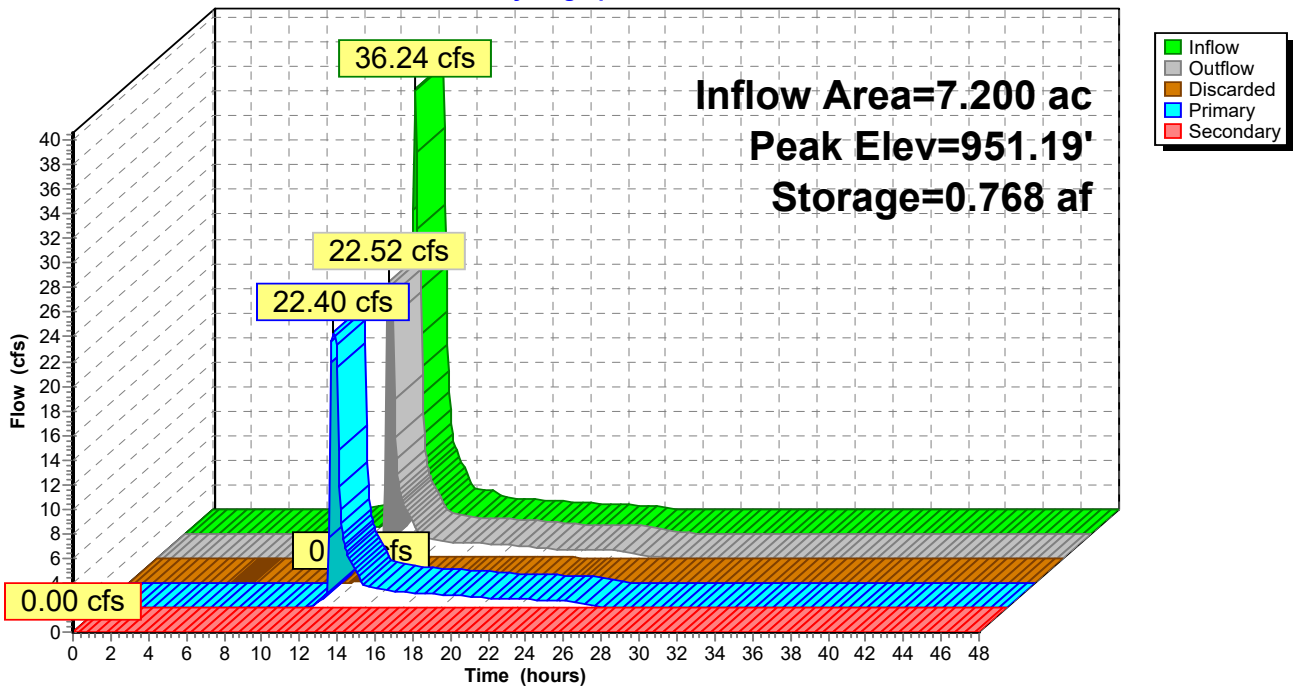
↳ **4=48" Riser** (Passes < 52.25 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=942.50' TW=0.00' (Dynamic Tailwater)

↳ **5=Weir** (Controls 0.00 cfs)

Pond Bio X: Bio X

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Page 347

Summary for Pond IP A: Infil A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth > 4.04" for 100-Year event
 Inflow = 98.75 cfs @ 12.42 hrs, Volume= 13.319 af
 Outflow = 62.90 cfs @ 12.58 hrs, Volume= 12.696 af, Atten= 36%, Lag= 10.1 min
 Discarded = 0.31 cfs @ 12.58 hrs, Volume= 0.806 af
 Primary = 60.40 cfs @ 12.58 hrs, Volume= 11.849 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 2.18 cfs @ 12.58 hrs, Volume= 0.041 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.27' @ 12.58 hrs Surf.Area= 0.614 ac Storage= 2.188 af

Plug-Flow detention time= 193.7 min calculated for 12.696 af (95% of inflow)
 Center-of-Mass det. time= 118.4 min (1,182.6 - 1,064.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	5.281 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
920.00	0.364	0.0	0.000	0.000
920.01	0.364	27.0	0.001	0.001
920.99	0.364	27.0	0.096	0.097
921.00	0.364	100.0	0.004	0.101
926.00	0.657	100.0	2.552	2.653
930.00	0.657	100.0	2.628	5.281

Device	Routing	Invert	Outlet Devices
#1	Primary	920.00'	36.0" Round 36" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 920.00' / 919.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	920.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.00'	5.0' long + 4.0 1/1' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 348

Discarded OutFlow Max=0.31 cfs @ 12.58 hrs HW=925.26' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.31 cfs)

Primary OutFlow Max=60.09 cfs @ 12.58 hrs HW=925.26' TW=913.00' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 60.09 cfs of 74.43 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.95 cfs @ 10.87 fps)

↳ **3=4" Orifice** (Orifice Controls 0.77 cfs @ 8.81 fps)

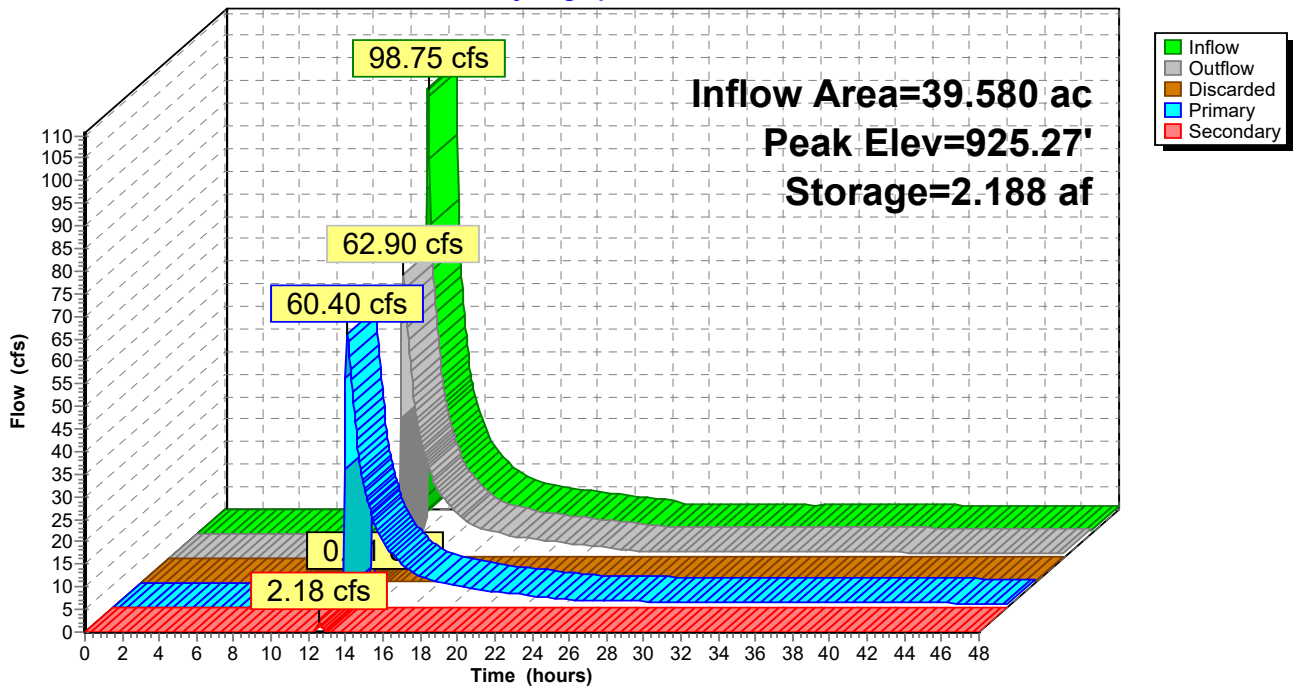
↳ **4=48" Riser** (Weir Controls 58.37 cfs @ 3.68 fps)

Secondary OutFlow Max=2.13 cfs @ 12.58 hrs HW=925.26' TW=913.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 2.13 cfs @ 1.33 fps)

Pond IP A: Infil A

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Page 349

Summary for Pond IP B: Infil B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth > 1.91" for 100-Year event
 Inflow = 39.09 cfs @ 12.32 hrs, Volume= 14.401 af
 Outflow = 27.90 cfs @ 13.12 hrs, Volume= 13.616 af, Atten= 29%, Lag= 47.8 min
 Discarded = 0.61 cfs @ 13.12 hrs, Volume= 1.728 af
 Primary = 27.29 cfs @ 13.12 hrs, Volume= 11.889 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 911.46' @ 13.12 hrs Surf.Area= 1.216 ac Storage= 1.880 af

Plug-Flow detention time= 136.5 min calculated for 13.602 af (94% of inflow)
 Center-of-Mass det. time= 53.9 min (1,214.4 - 1,160.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	909.00'	13.525 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
909.00	0.990	0.0	0.000	0.000
909.01	0.990	27.0	0.003	0.003
909.99	0.990	27.0	0.262	0.265
910.00	0.990	100.0	0.010	0.275
914.00	1.610	100.0	5.200	5.475
919.00	1.610	100.0	8.050	13.525

Device	Routing	Invert	Outlet Devices
#1	Primary	909.00'	36.0" Round 36" Outlet Pipe L= 380.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 909.00' / 908.00' S= 0.0026 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	909.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	910.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Discarded	909.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.61 cfs @ 13.12 hrs HW=911.46' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.61 cfs)

Primary OutFlow Max=27.28 cfs @ 13.12 hrs HW=911.46' TW=0.00' (Dynamic Tailwater)
 ↳1=36" Outlet Pipe (Barrel Controls 27.28 cfs @ 6.00 fps)
 ↳2=4" Underdrain (Passes < 0.64 cfs potential flow)
 ↳3=48" Riser (Passes < 38.39 cfs potential flow)

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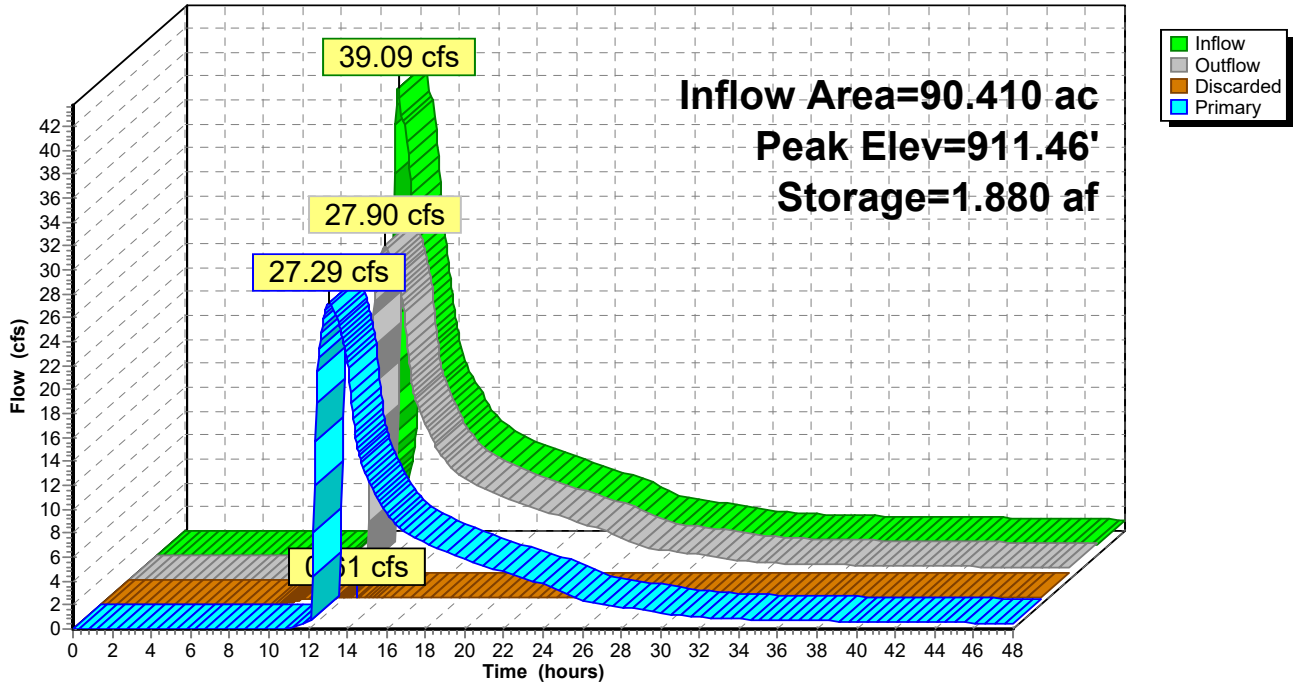
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Page 350

Pond IP B: Infil B

Hydrograph



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Page 351

Summary for Pond IP C: IP C

Inflow Area = 3.690 ac, 76.69% Impervious, Inflow Depth = 5.38" for 100-Year event
 Inflow = 24.97 cfs @ 12.17 hrs, Volume= 1.653 af
 Outflow = 19.31 cfs @ 12.25 hrs, Volume= 1.653 af, Atten= 23%, Lag= 4.8 min
 Discarded = 0.11 cfs @ 12.25 hrs, Volume= 0.141 af
 Primary = 16.40 cfs @ 12.25 hrs, Volume= 1.483 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 2.81 cfs @ 12.25 hrs, Volume= 0.030 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 936.73' @ 12.25 hrs Surf.Area= 9,125 sf Storage= 20,795 cf

Plug-Flow detention time= 111.8 min calculated for 1.652 af (100% of inflow)
 Center-of-Mass det. time= 112.3 min (894.5 - 782.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	932.00'	23,322 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
932.00	4,165	0.0	0	0
932.01	4,165	33.0	14	14
933.49	4,165	33.0	2,034	2,048
933.50	4,165	27.0	11	2,059
933.99	4,165	27.0	551	2,610
934.00	4,165	100.0	42	2,652
937.00	9,615	100.0	20,670	23,322

Device	Routing	Invert	Outlet Devices
#1	Primary	933.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 933.00' / 932.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	933.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	936.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	936.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	932.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 352

Discarded OutFlow Max=0.11 cfs @ 12.25 hrs HW=936.73' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=16.40 cfs @ 12.25 hrs HW=936.73' TW=925.26' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 16.40 cfs @ 9.28 fps)

↳ **2=4" Underdrain** (Passes < 0.79 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.53 cfs potential flow)

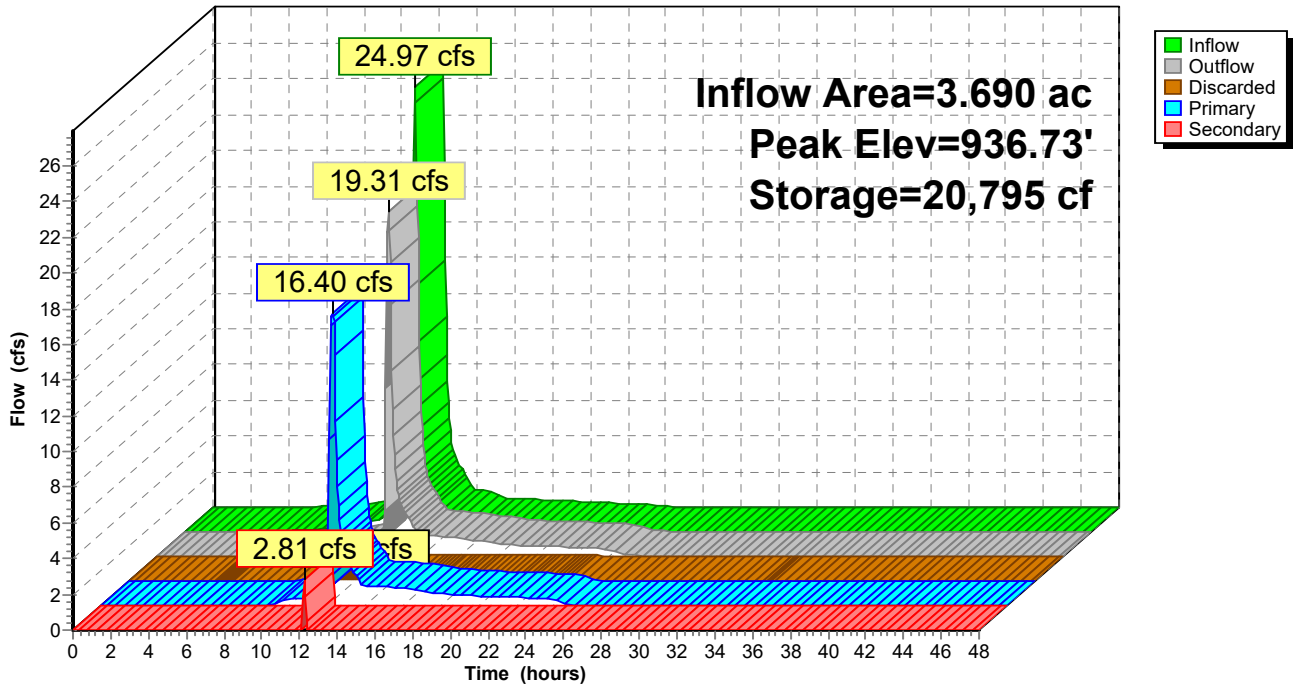
↳ **4=48" Riser** (Passes < 25.61 cfs potential flow)

Secondary OutFlow Max=2.79 cfs @ 12.25 hrs HW=936.73' TW=925.26' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 2.79 cfs @ 1.11 fps)

Pond IP C: IP C

Hydrograph



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Page 353

Summary for Pond IP D: IP D

Inflow Area = 3.790 ac, 63.59% Impervious, Inflow Depth = 4.93" for 100-Year event
 Inflow = 24.10 cfs @ 12.17 hrs, Volume= 1.556 af
 Outflow = 17.92 cfs @ 12.26 hrs, Volume= 1.556 af, Atten= 26%, Lag= 5.1 min
 Discarded = 0.11 cfs @ 12.26 hrs, Volume= 0.140 af
 Primary = 16.18 cfs @ 12.26 hrs, Volume= 1.401 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 1.63 cfs @ 12.26 hrs, Volume= 0.015 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 937.66' @ 12.26 hrs Surf.Area= 9,237 sf Storage= 20,741 cf

Plug-Flow detention time= 119.5 min calculated for 1.556 af (100% of inflow)
 Center-of-Mass det. time= 119.4 min (911.8 - 792.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	933.00'	23,947 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
933.00	4,285	0.0	0	0
933.01	4,285	33.0	14	14
934.49	4,285	33.0	2,093	2,107
934.50	4,285	27.0	12	2,119
934.99	4,285	27.0	567	2,685
935.00	4,285	100.0	43	2,728
938.00	9,861	100.0	21,219	23,947

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	937.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	933.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 354

Discarded OutFlow Max=0.11 cfs @ 12.26 hrs HW=937.66' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=16.16 cfs @ 12.26 hrs HW=937.66' TW=925.30' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 16.16 cfs @ 9.14 fps)

↳ **2=4" Underdrain** (Passes < 0.79 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.51 cfs potential flow)

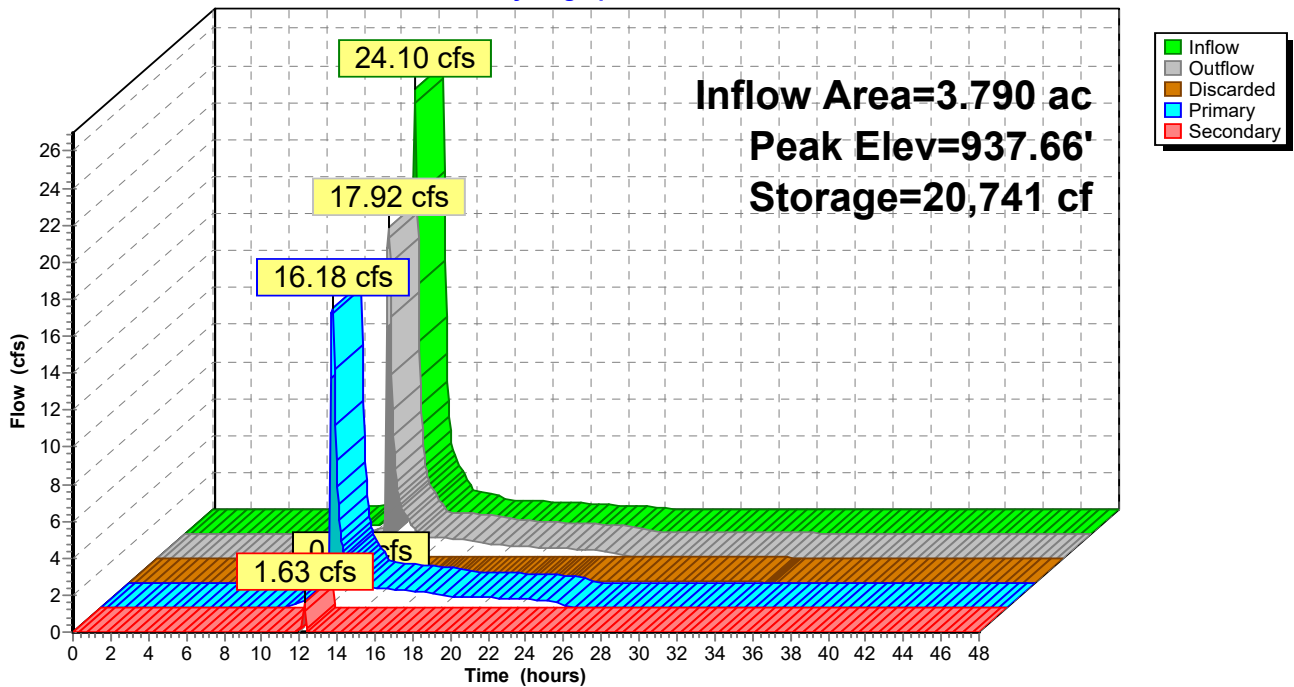
↳ **4=48" Riser** (Passes < 21.90 cfs potential flow)

Secondary OutFlow Max=1.54 cfs @ 12.26 hrs HW=937.66' TW=925.30' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 1.54 cfs @ 0.92 fps)

Pond IP D: IP D

Hydrograph



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Page 355

Summary for Pond IP E: IP E

Inflow Area = 3.830 ac, 62.92% Impervious, Inflow Depth = 4.82" for 100-Year event
 Inflow = 23.93 cfs @ 12.17 hrs, Volume= 1.538 af
 Outflow = 18.18 cfs @ 12.26 hrs, Volume= 1.538 af, Atten= 24%, Lag= 5.2 min
 Discarded = 0.11 cfs @ 12.26 hrs, Volume= 0.146 af
 Primary = 11.56 cfs @ 12.25 hrs, Volume= 1.305 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 6.51 cfs @ 12.26 hrs, Volume= 0.087 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 931.81' @ 12.26 hrs Surf.Area= 9,183 sf Storage= 22,139 cf

Plug-Flow detention time= 134.1 min calculated for 1.536 af (100% of inflow)
 Center-of-Mass det. time= 134.6 min (929.3 - 794.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	927.00'	23,960 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
927.00	4,541	0.0	0	0
927.01	4,541	33.0	15	15
928.49	4,541	33.0	2,218	2,233
928.50	4,541	27.0	12	2,245
928.99	4,541	27.0	601	2,846
929.00	4,541	100.0	45	2,891
932.00	9,505	100.0	21,069	23,960

Device	Routing	Invert	Outlet Devices
#1	Primary	928.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 928.00' / 927.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	928.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	930.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	931.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	931.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	927.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 356

Discarded OutFlow Max=0.11 cfs @ 12.26 hrs HW=931.80' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=11.56 cfs @ 12.25 hrs HW=931.80' TW=913.07' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Barrel Controls 11.56 cfs @ 9.42 fps)

↳ **2=4" Underdrain** (Passes < 0.80 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.54 cfs potential flow)

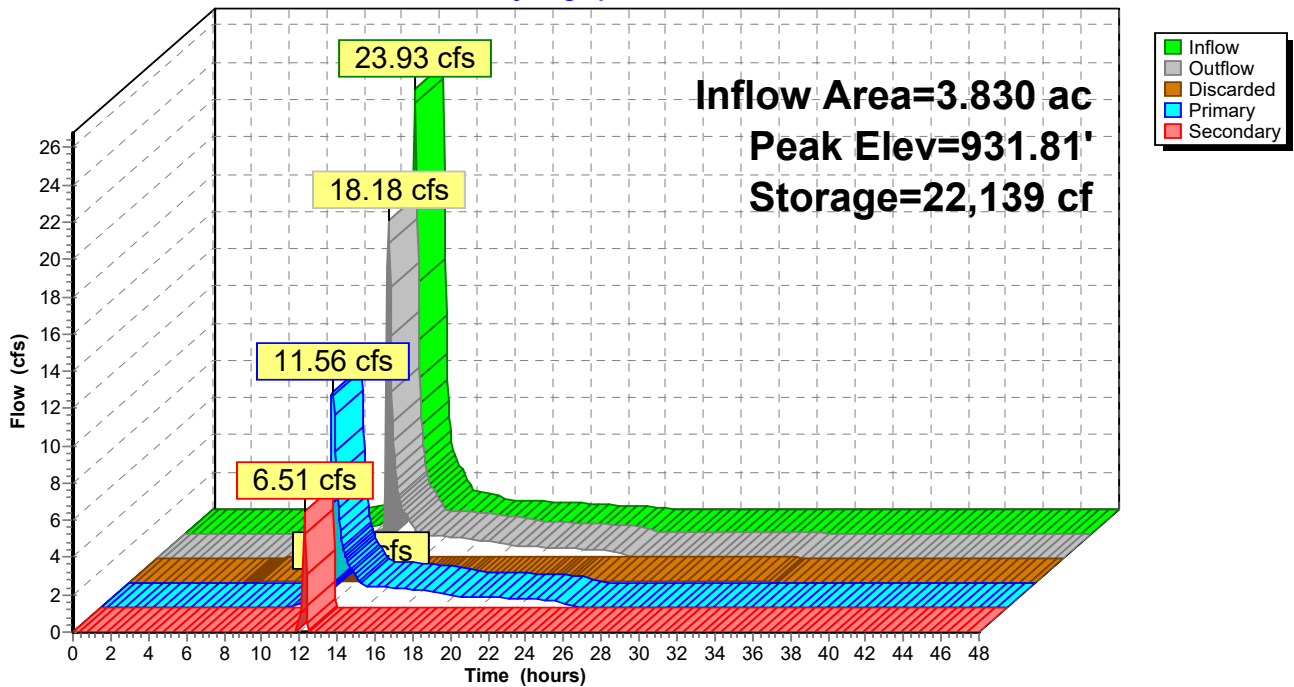
↳ **4=48" Riser** (Passes < 16.91 cfs potential flow)

Secondary OutFlow Max=6.25 cfs @ 12.26 hrs HW=931.80' TW=913.08' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 6.25 cfs @ 1.30 fps)

Pond IP E: IP E

Hydrograph



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Page 357

Summary for Pond IP F: IP F

Inflow Area = 4.440 ac, 71.62% Impervious, Inflow Depth = 5.26" for 100-Year event
 Inflow = 29.62 cfs @ 12.17 hrs, Volume= 1.948 af
 Outflow = 14.29 cfs @ 12.33 hrs, Volume= 1.948 af, Atten= 52%, Lag= 9.6 min
 Discarded = 0.18 cfs @ 12.33 hrs, Volume= 0.311 af
 Primary = 11.30 cfs @ 12.33 hrs, Volume= 1.591 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 2.81 cfs @ 12.33 hrs, Volume= 0.045 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 927.68' @ 12.33 hrs Surf.Area= 15,341 sf Storage= 36,962 cf

Plug-Flow detention time= 240.4 min calculated for 1.945 af (100% of inflow)
 Center-of-Mass det. time= 241.0 min (1,025.9 - 784.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	923.00'	41,988 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
923.00	8,293	0.0	0	0
923.01	8,293	33.0	27	27
924.49	8,293	33.0	4,050	4,078
924.50	8,293	27.0	22	4,100
924.99	8,293	27.0	1,097	5,197
925.00	8,293	100.0	83	5,280
928.00	16,179	100.0	36,708	41,988

Device	Routing	Invert	Outlet Devices
#1	Primary	924.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 924.00' / 923.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	924.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	926.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	927.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	927.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	923.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 358

Discarded OutFlow Max=0.18 cfs @ 12.33 hrs HW=927.68' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=11.30 cfs @ 12.33 hrs HW=927.68' TW=913.12' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Barrel Controls 11.30 cfs @ 9.21 fps)

↳ **2=4" Underdrain** (Passes < 0.79 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.52 cfs potential flow)

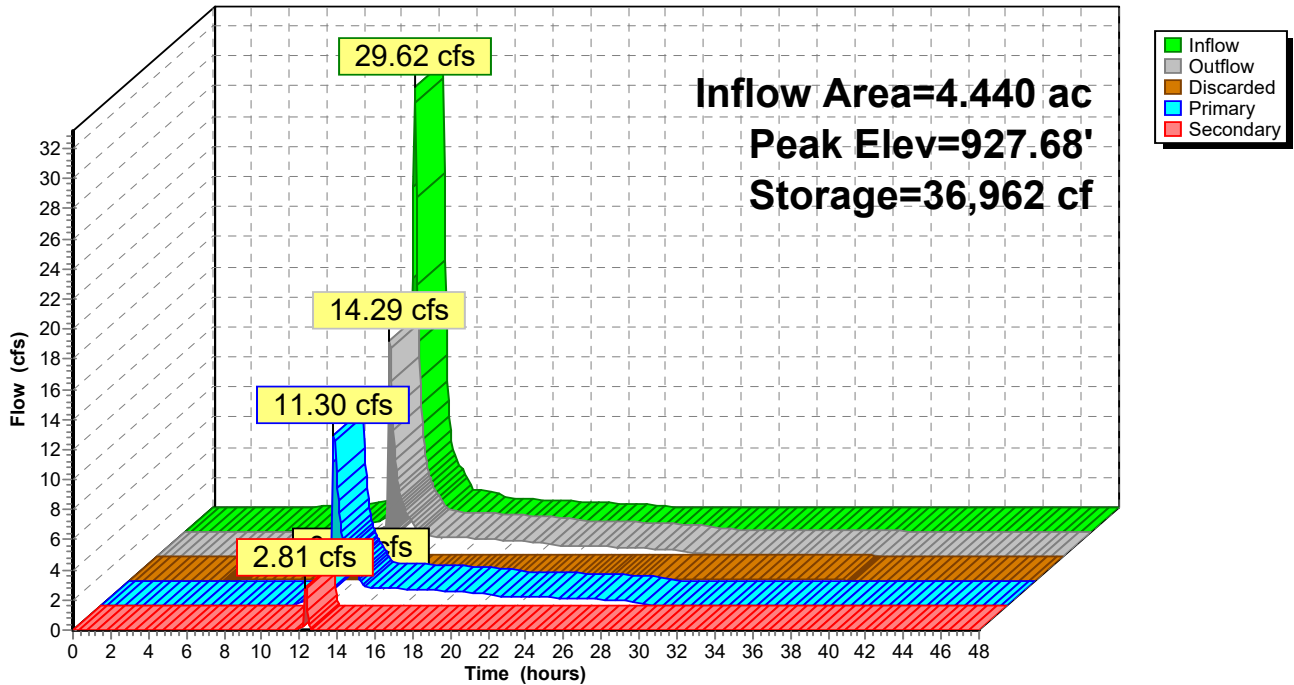
↳ **4=48" Riser** (Passes < 11.48 cfs potential flow)

Secondary OutFlow Max=2.72 cfs @ 12.33 hrs HW=927.68' TW=913.12' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 2.72 cfs @ 0.98 fps)

Pond IP F: IP F

Hydrograph



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Page 359

Summary for Pond IP G: IP G

Inflow Area = 4.310 ac, 70.53% Impervious, Inflow Depth = 5.15" for 100-Year event
 Inflow = 28.32 cfs @ 12.17 hrs, Volume= 1.850 af
 Outflow = 9.79 cfs @ 12.41 hrs, Volume= 1.850 af, Atten= 65%, Lag= 14.3 min
 Discarded = 0.20 cfs @ 12.41 hrs, Volume= 0.337 af
 Primary = 8.87 cfs @ 12.41 hrs, Volume= 1.503 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 0.72 cfs @ 12.41 hrs, Volume= 0.010 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 924.57' @ 12.41 hrs Surf.Area= 16,913 sf Storage= 38,589 cf

Plug-Flow detention time= 275.0 min calculated for 1.850 af (100% of inflow)
 Center-of-Mass det. time= 274.9 min (1,062.4 - 787.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	46,073 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
920.00	8,741	0.0	0	0
920.01	8,741	33.0	29	29
921.49	8,741	33.0	4,269	4,298
921.50	8,741	27.0	24	4,322
921.99	8,741	27.0	1,156	5,478
922.00	8,741	100.0	87	5,565
925.00	18,264	100.0	40,508	46,073

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	924.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 360

Discarded OutFlow Max=0.20 cfs @ 12.41 hrs HW=924.57' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=8.80 cfs @ 12.41 hrs HW=924.57' TW=913.06' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Passes 8.80 cfs of 11.07 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.78 cfs @ 8.89 fps)

↳ **3=4" Orifice** (Orifice Controls 0.50 cfs @ 5.71 fps)

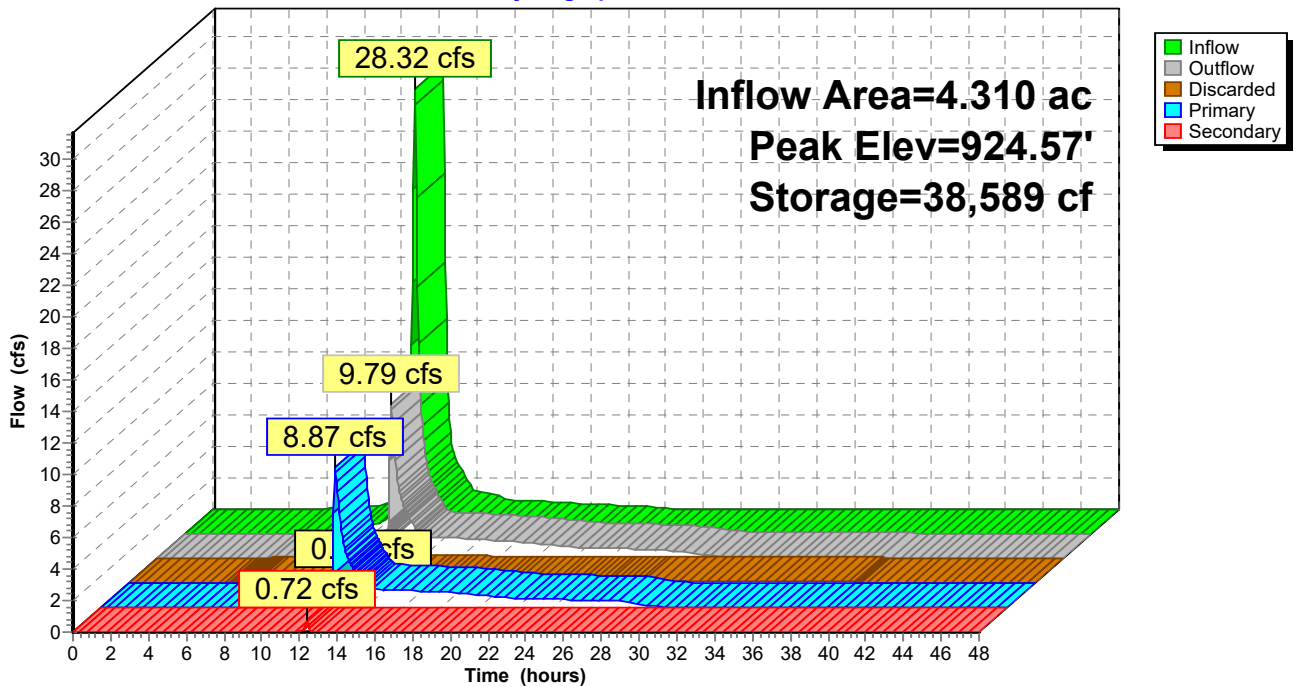
↳ **4=48" Riser** (Weir Controls 7.53 cfs @ 1.86 fps)

Secondary OutFlow Max=0.70 cfs @ 12.41 hrs HW=924.57' TW=913.06' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 0.70 cfs @ 0.63 fps)

Pond IP G: IP G

Hydrograph



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Page 361

Summary for Pond IP H: IP H

Inflow Area = 2.410 ac, 70.54% Impervious, Inflow Depth = 5.15" for 100-Year event
 Inflow = 15.84 cfs @ 12.17 hrs, Volume= 1.035 af
 Outflow = 15.33 cfs @ 12.20 hrs, Volume= 1.035 af, Atten= 3%, Lag= 1.5 min
 Discarded = 0.03 cfs @ 12.20 hrs, Volume= 0.038 af
 Primary = 11.39 cfs @ 12.20 hrs, Volume= 0.949 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 3.90 cfs @ 12.20 hrs, Volume= 0.048 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.72' @ 12.20 hrs Surf.Area= 2,837 sf Storage= 6,335 cf

Plug-Flow detention time= 38.8 min calculated for 1.035 af (100% of inflow)
 Center-of-Mass det. time= 38.7 min (826.2 - 787.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	921.00'	7,143 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
921.00	1,237	0.0	0	0
921.01	1,237	33.0	4	4
922.49	1,237	33.0	604	608
922.50	1,237	27.0	3	612
922.99	1,237	27.0	164	775
923.00	1,237	100.0	12	788
926.00	3,000	100.0	6,356	7,143

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	922.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	924.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	921.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 362

Discarded OutFlow Max=0.03 cfs @ 12.20 hrs HW=925.72' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=11.38 cfs @ 12.20 hrs HW=925.72' TW=912.89' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Barrel Controls 11.38 cfs @ 9.28 fps)

↳ **2=4" Underdrain** (Passes < 0.79 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.52 cfs potential flow)

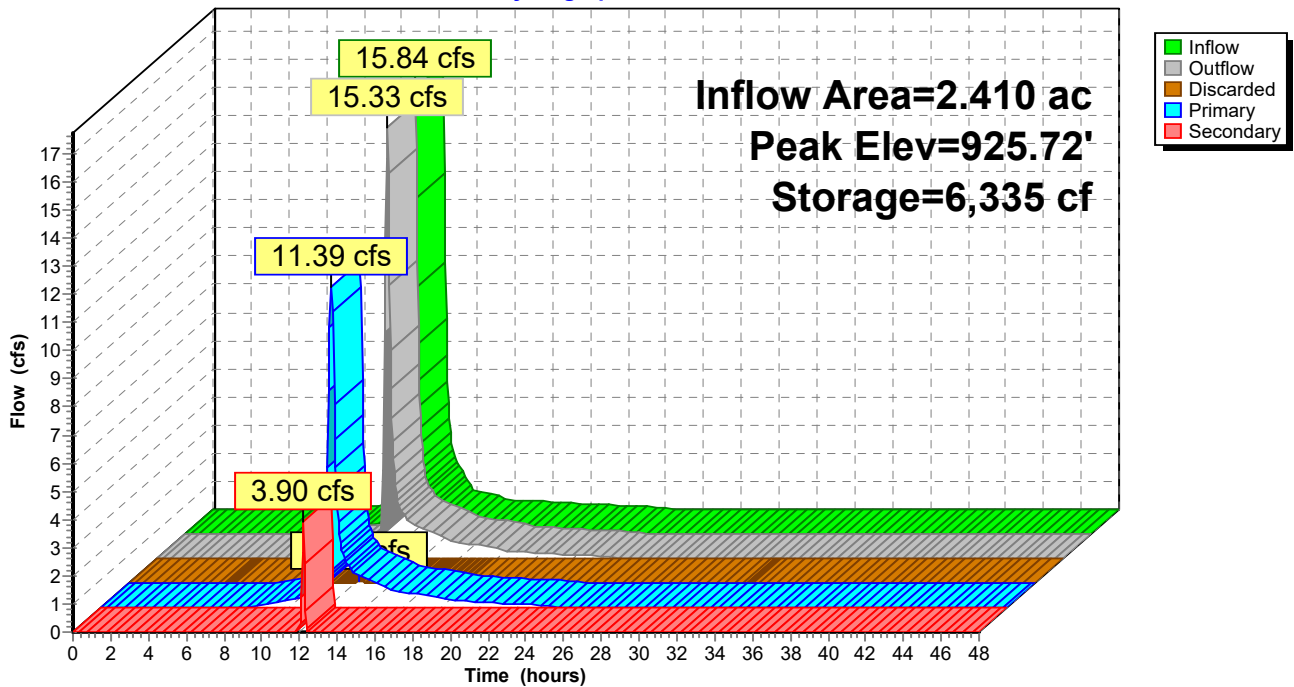
↳ **4=48" Riser** (Passes < 13.20 cfs potential flow)

Secondary OutFlow Max=3.80 cfs @ 12.20 hrs HW=925.72' TW=912.90' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 3.80 cfs @ 1.09 fps)

Pond IP H: IP H

Hydrograph



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Page 363

Summary for Pond IP L: Inf L

Inflow Area = 2.260 ac, 68.14% Impervious, Inflow Depth = 5.04" for 100-Year event
 Inflow = 14.61 cfs @ 12.17 hrs, Volume= 0.949 af
 Outflow = 12.90 cfs @ 12.22 hrs, Volume= 0.949 af, Atten= 12%, Lag= 2.9 min
 Discarded = 0.03 cfs @ 12.22 hrs, Volume= 0.038 af
 Primary = 12.26 cfs @ 12.22 hrs, Volume= 0.907 af
 Routed to Pond BIO O : Bio O
 Secondary = 0.60 cfs @ 12.22 hrs, Volume= 0.004 af
 Routed to Pond BIO O : Bio O

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 920.64' @ 12.22 hrs Surf.Area= 2,929 sf Storage= 4,231 cf

Plug-Flow detention time= 31.1 min calculated for 0.948 af (100% of inflow)
 Center-of-Mass det. time= 31.6 min (821.6 - 790.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	917.00'	5,362 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.00	1,260	0.0	0	0
917.01	1,260	33.0	4	4
918.49	1,260	33.0	615	620
918.50	1,260	27.0	3	623
918.99	1,260	27.0	167	790
919.00	1,260	100.0	13	802
921.00	3,300	100.0	4,560	5,362

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	918.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	920.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 364

Discarded OutFlow Max=0.03 cfs @ 12.22 hrs HW=920.62' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=12.19 cfs @ 12.22 hrs HW=920.62' TW=910.44' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 12.19 cfs @ 6.90 fps)

↳ **2=4" Underdrain** (Passes < 0.66 cfs potential flow)

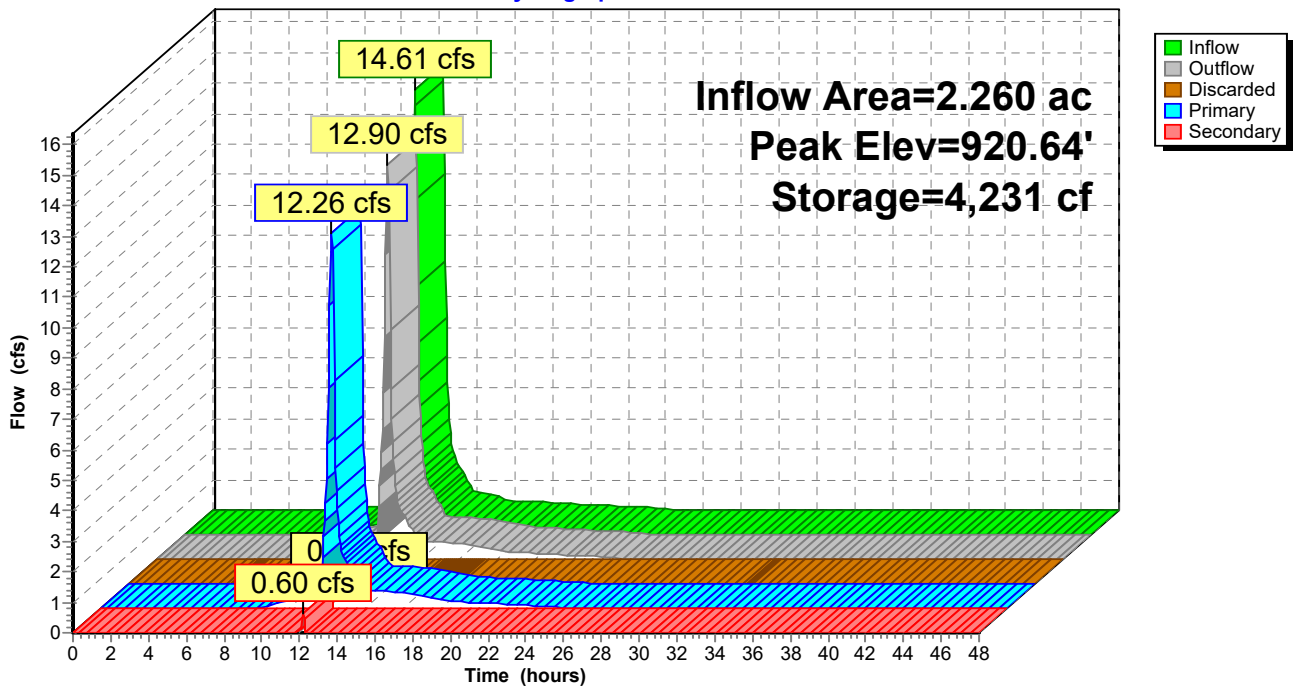
↳ **3=48" Riser** (Passes < 20.08 cfs potential flow)

Secondary OutFlow Max=0.53 cfs @ 12.22 hrs HW=920.62' TW=910.44' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Weir Controls 0.53 cfs @ 0.80 fps)

Pond IP L: Inf L

Hydrograph



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Page 365

Summary for Pond IP M: Inf M

Inflow Area = 1.090 ac, 60.55% Impervious, Inflow Depth = 4.82" for 100-Year event
 Inflow = 6.81 cfs @ 12.17 hrs, Volume= 0.438 af
 Outflow = 1.09 cfs @ 12.63 hrs, Volume= 0.438 af, Atten= 84%, Lag= 27.7 min
 Discarded = 0.06 cfs @ 12.63 hrs, Volume= 0.074 af
 Primary = 1.04 cfs @ 12.63 hrs, Volume= 0.364 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 928.85' @ 12.63 hrs Surf.Area= 4,803 sf Storage= 8,845 cf

Plug-Flow detention time= 133.8 min calculated for 0.437 af (100% of inflow)
 Center-of-Mass det. time= 134.2 min (928.9 - 794.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	15,057 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
925.00	2,810	0.0	0	0
925.01	2,810	33.0	9	9
926.49	2,810	33.0	1,372	1,382
926.50	2,810	27.0	8	1,389
926.99	2,810	27.0	372	1,761
927.00	2,810	100.0	28	1,789
930.00	6,035	100.0	13,268	15,057

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	12.0" Round 12" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	928.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	929.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	929.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 366

Discarded OutFlow Max=0.06 cfs @ 12.63 hrs HW=928.85' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=1.04 cfs @ 12.63 hrs HW=928.85' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Passes 1.04 cfs of 6.00 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.69 cfs @ 7.89 fps)

↳ **3=4" Orifice** (Orifice Controls 0.35 cfs @ 3.99 fps)

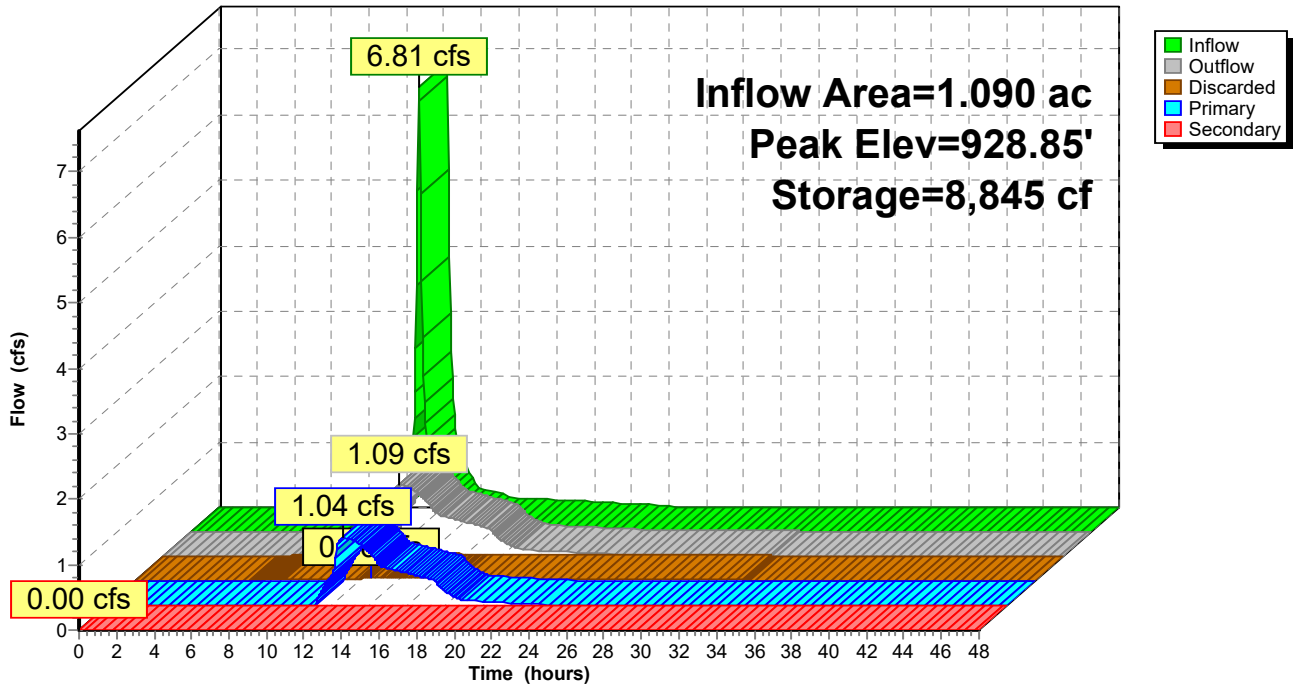
↳ **4=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=925.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP M: Inf M

Hydrograph



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Page 367

Summary for Pond IP P: Infil P

Inflow Area = 24.020 ac, 62.49% Impervious, Inflow Depth > 4.70" for 100-Year event
 Inflow = 94.00 cfs @ 12.27 hrs, Volume= 9.406 af
 Outflow = 40.24 cfs @ 12.59 hrs, Volume= 9.352 af, Atten= 57%, Lag= 19.3 min
 Discarded = 0.33 cfs @ 12.59 hrs, Volume= 0.710 af
 Primary = 39.91 cfs @ 12.59 hrs, Volume= 8.642 af
 Routed to Pond IP T : Infil T
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP T : Infil T

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 939.70' @ 12.59 hrs Surf.Area= 0.660 ac Storage= 2.213 af

Plug-Flow detention time= 204.2 min calculated for 9.343 af (99% of inflow)
 Center-of-Mass det. time= 195.3 min (1,173.8 - 978.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	934.00'	9.318 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
934.00	0.252	0.0	0.000	0.000
934.01	0.252	27.0	0.001	0.001
934.99	0.252	27.0	0.067	0.067
935.00	0.252	100.0	0.003	0.070
941.00	0.772	100.0	3.072	3.142
949.00	0.772	100.0	6.176	9.318

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	940.50'	5.0' long + 4.0 1' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	934.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 368

Discarded OutFlow Max=0.33 cfs @ 12.59 hrs HW=939.70' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.33 cfs)

Primary OutFlow Max=39.90 cfs @ 12.59 hrs HW=939.70' TW=931.89' (Dynamic Tailwater)

↳ **1=24" Outlet Pipe** (Barrel Controls 39.90 cfs @ 12.70 fps)

↳ **2=4" Underdrain** (Passes < 0.99 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.82 cfs potential flow)

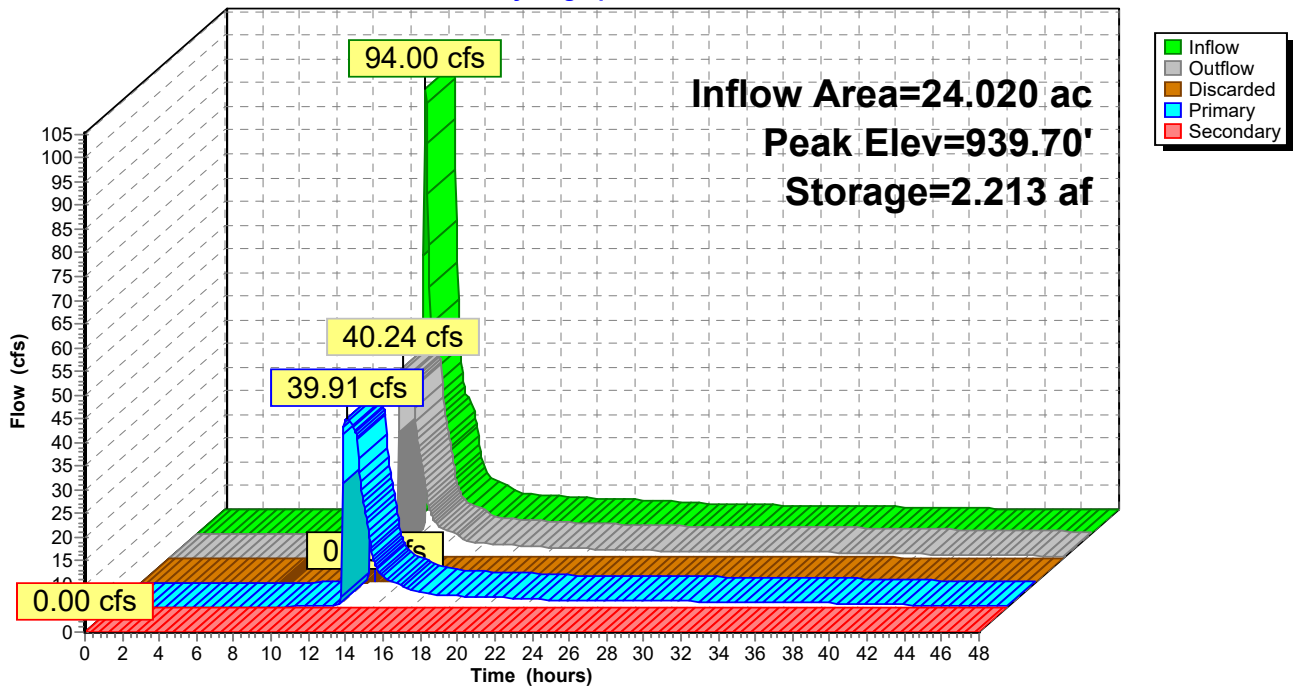
↳ **4=48" Riser** (Passes < 78.87 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=934.00' TW=925.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP P: Infil P

Hydrograph



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Page 369

Summary for Pond IP Q: Infil Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth = 4.94" for 100-Year event
 Inflow = 71.56 cfs @ 12.24 hrs, Volume= 5.974 af
 Outflow = 68.54 cfs @ 12.28 hrs, Volume= 5.974 af, Atten= 4%, Lag= 2.7 min
 Discarded = 0.12 cfs @ 12.29 hrs, Volume= 0.192 af
 Primary = 68.41 cfs @ 12.28 hrs, Volume= 5.782 af
 Routed to Pond IP P : Infil P
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 942.38' @ 12.29 hrs Surf.Area= 0.245 ac Storage= 0.779 af

Plug-Flow detention time= 78.8 min calculated for 5.974 af (100% of inflow)
 Center-of-Mass det. time= 78.8 min (932.0 - 853.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	937.00'	2.828 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
937.00	0.100	0.0	0.000	0.000
937.01	0.100	27.0	0.000	0.000
937.99	0.100	27.0	0.026	0.027
938.00	0.100	100.0	0.001	0.028
942.00	0.230	100.0	0.660	0.688
943.00	0.270	100.0	0.250	0.938
950.00	0.270	100.0	1.890	2.828

Device	Routing	Invert	Outlet Devices
#1	Primary	937.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 937.00' / 935.70' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	937.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	942.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	937.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 370

Discarded OutFlow Max=0.12 cfs @ 12.29 hrs HW=942.38' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=67.95 cfs @ 12.28 hrs HW=942.38' TW=938.52' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 67.95 cfs of 68.09 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.83 cfs @ 9.46 fps)

↳ **3=4" Orifice** (Orifice Controls 0.78 cfs @ 8.96 fps)

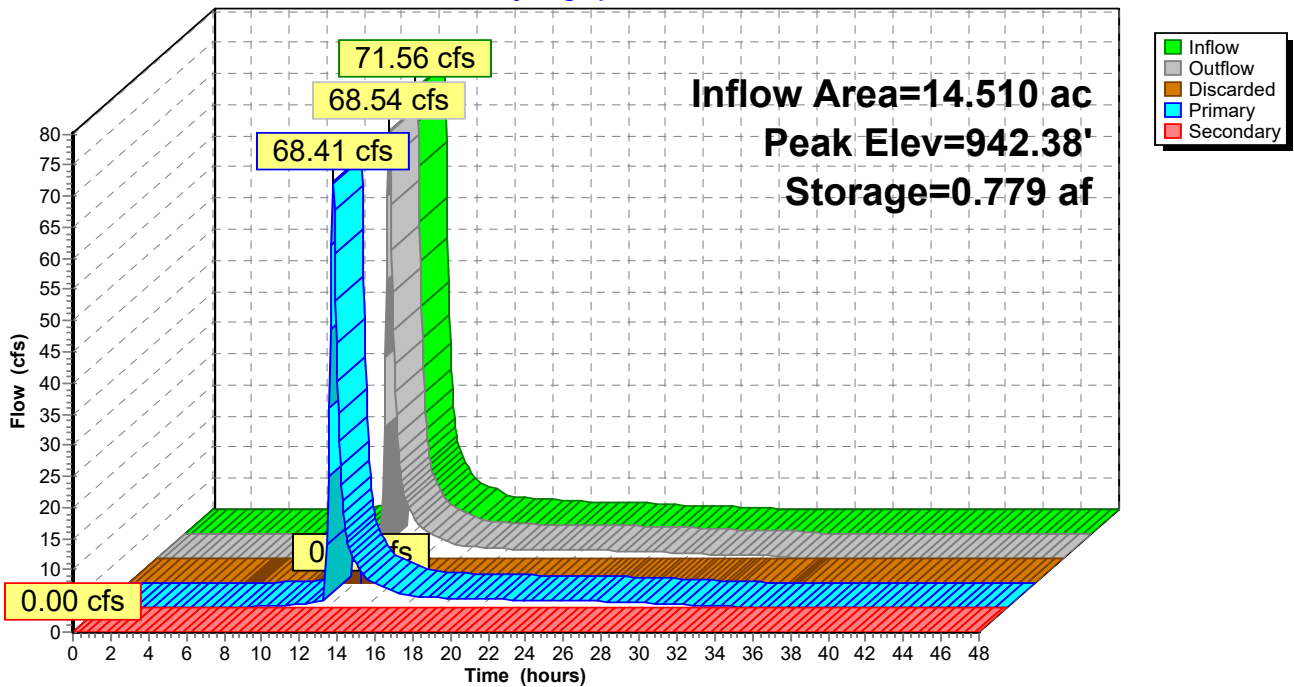
↳ **4=48" Riser** (Weir Controls 66.34 cfs @ 3.84 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=937.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP Q: Infil Q

Hydrograph



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Page 371

Summary for Pond IP T: Infil T

Inflow Area = 26.270 ac, 63.11% Impervious, Inflow Depth > 4.39" for 100-Year event
 Inflow = 43.26 cfs @ 12.44 hrs, Volume= 9.608 af
 Outflow = 42.16 cfs @ 12.66 hrs, Volume= 9.582 af, Atten= 3%, Lag= 13.2 min
 Discarded = 0.12 cfs @ 13.84 hrs, Volume= 0.101 af
 Primary = 23.24 cfs @ 12.66 hrs, Volume= 8.441 af
 Routed to Pond WP U : Wet Pond U
 Secondary = 18.82 cfs @ 12.66 hrs, Volume= 1.040 af
 Routed to Pond WP U : Wet Pond U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 931.93' @ 12.66 hrs Surf.Area= 0.193 ac Storage= 0.617 af

Plug-Flow detention time= 18.1 min calculated for 9.582 af (100% of inflow)
 Center-of-Mass det. time= 13.5 min (1,116.3 - 1,102.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	2.143 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
925.00	0.031	0.0	0.000	0.000
925.01	0.031	33.0	0.000	0.000
926.49	0.031	33.0	0.015	0.015
926.50	0.031	27.0	0.000	0.015
926.99	0.031	27.0	0.004	0.019
927.00	0.031	100.0	0.000	0.020
930.00	0.115	100.0	0.219	0.239
931.00	0.240	100.0	0.177	0.416
932.00	0.189	100.0	0.214	0.631
940.00	0.189	100.0	1.512	2.143

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	18.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	927.75'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	931.50'	25.0' long + 4.0 1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 372

Discarded OutFlow Max=0.12 cfs @ 13.84 hrs HW=931.04' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=23.24 cfs @ 12.66 hrs HW=931.93' TW=922.55' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Barrel Controls 23.24 cfs @ 13.15 fps)

↳ **2=4" Underdrain** (Passes < 1.01 cfs potential flow)

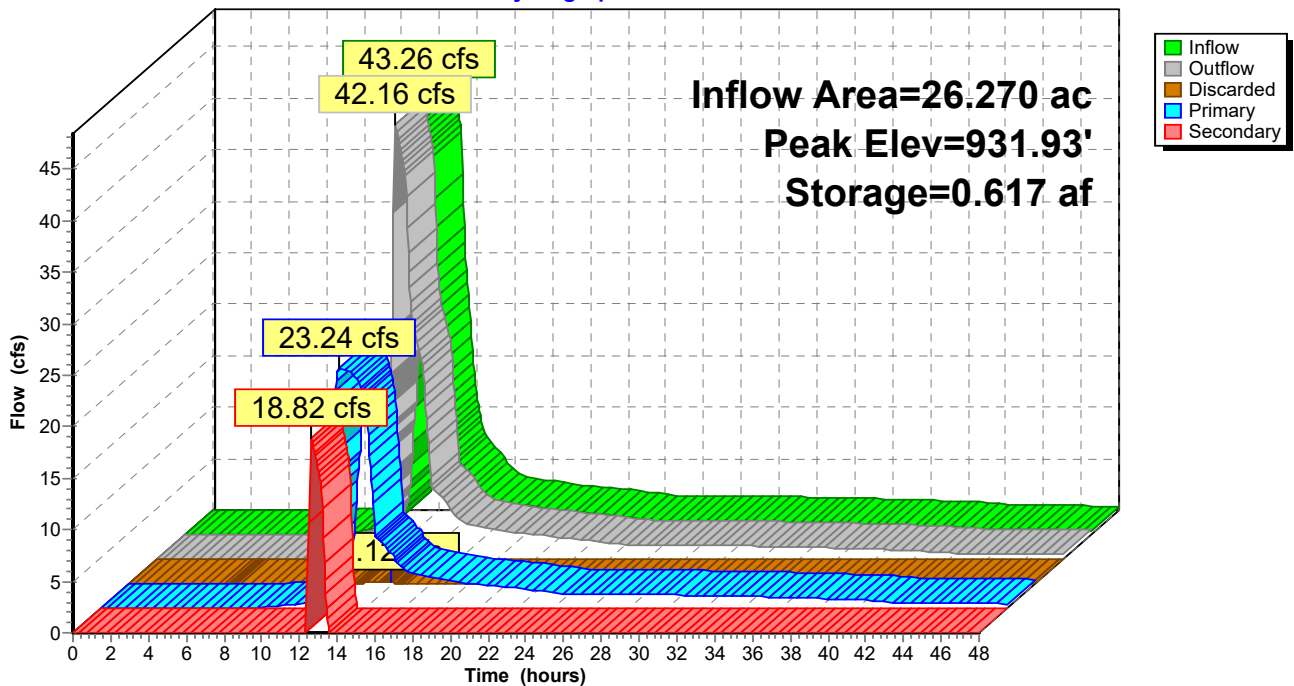
↳ **3=48" Riser** (Passes < 123.68 cfs potential flow)

Secondary OutFlow Max=18.82 cfs @ 12.66 hrs HW=931.93' TW=922.55' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Weir Controls 18.82 cfs @ 1.63 fps)

Pond IP T: Infil T

Hydrograph



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Page 373

Summary for Pond IP U: Infil U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth > 4.37" for 100-Year event
 Inflow = 43.91 cfs @ 12.81 hrs, Volume= 11.480 af
 Outflow = 43.31 cfs @ 12.92 hrs, Volume= 11.110 af, Atten= 1%, Lag= 7.1 min
 Discarded = 0.18 cfs @ 12.92 hrs, Volume= 0.472 af
 Primary = 43.13 cfs @ 12.92 hrs, Volume= 10.638 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.00' @ 12.92 hrs Surf.Area= 0.362 ac Storage= 1.328 af

Plug-Flow detention time= 156.7 min calculated for 11.098 af (97% of inflow)
 Center-of-Mass det. time= 104.2 min (1,247.1 - 1,142.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	4.538 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
916.00	0.152	0.0	0.000	0.000
916.01	0.152	27.0	0.000	0.000
916.99	0.152	27.0	0.040	0.041
917.00	0.152	100.0	0.002	0.042
923.00	0.404	100.0	1.668	1.710
930.00	0.404	100.0	2.828	4.538

Device	Routing	Invert	Outlet Devices
#1	Primary	916.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 916.00' / 914.70' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	916.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	917.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	921.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	922.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 374

Discarded OutFlow Max=0.18 cfs @ 12.92 hrs HW=922.00' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=43.08 cfs @ 12.92 hrs HW=922.00' TW=0.00' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 43.08 cfs of 73.66 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 1.02 cfs @ 11.63 fps)

↳ **3=4" Orifice** (Orifice Controls 0.85 cfs @ 9.73 fps)

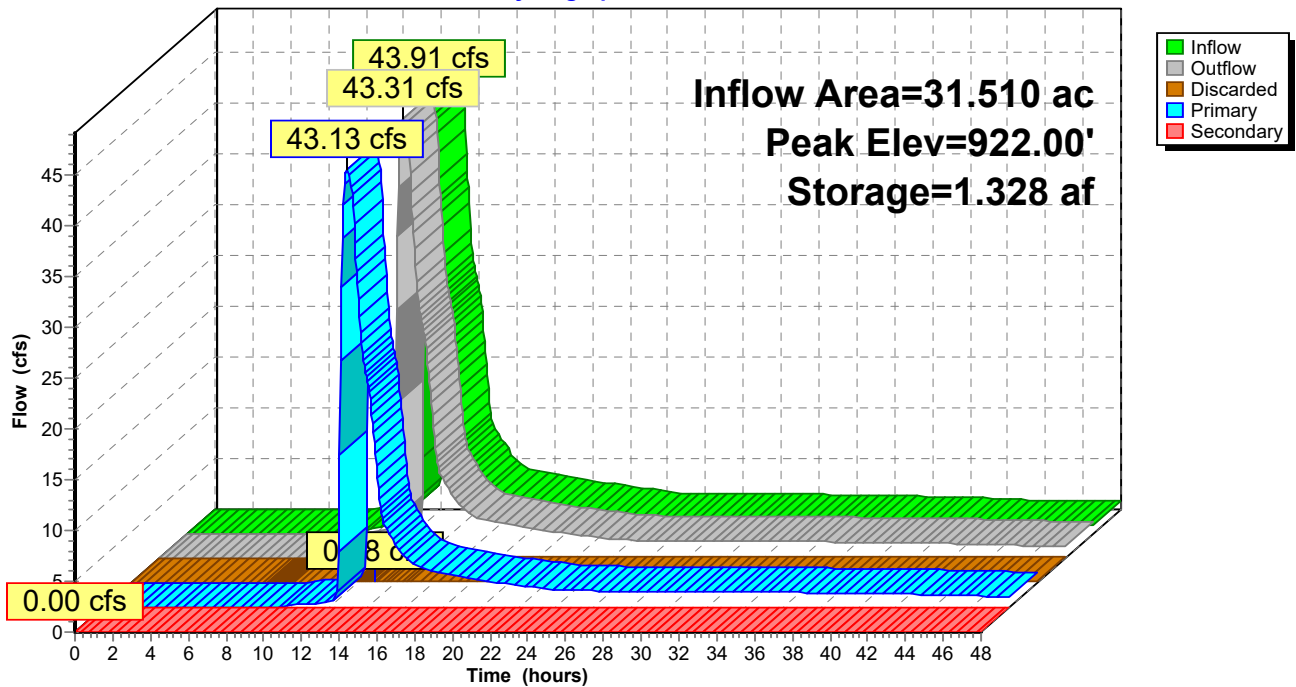
↳ **4=48" Riser** (Weir Controls 41.22 cfs @ 3.27 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=916.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP U: Infil U

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Page 375

Summary for Pond IP V: Infil V

Inflow Area = 1.550 ac, 57.42% Impervious, Inflow Depth = 4.71" for 100-Year event
 Inflow = 9.51 cfs @ 12.17 hrs, Volume= 0.608 af
 Outflow = 0.65 cfs @ 13.50 hrs, Volume= 0.608 af, Atten= 93%, Lag= 79.5 min
 Discarded = 0.17 cfs @ 13.50 hrs, Volume= 0.296 af
 Primary = 0.48 cfs @ 13.50 hrs, Volume= 0.312 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 907.48' @ 13.50 hrs Surf.Area= 0.332 ac Storage= 0.342 af

Plug-Flow detention time= 297.2 min calculated for 0.608 af (100% of inflow)
 Center-of-Mass det. time= 297.1 min (1,094.1 - 797.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	905.00'	3.915 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
905.00	0.299	0.0	0.000	0.000
905.01	0.299	33.0	0.001	0.001
906.49	0.299	33.0	0.146	0.147
906.50	0.299	27.0	0.001	0.148
906.99	0.299	27.0	0.040	0.187
907.00	0.299	100.0	0.003	0.190
910.00	0.504	100.0	1.205	1.395
915.00	0.504	100.0	2.520	3.915

Device	Routing	Invert	Outlet Devices
#1	Primary	906.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 906.00' / 905.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	906.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	907.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	909.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	909.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	905.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 376

Discarded OutFlow Max=0.17 cfs @ 13.50 hrs HW=907.48' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.48 cfs @ 13.50 hrs HW=907.48' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Passes 0.48 cfs of 3.59 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.48 cfs @ 5.52 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

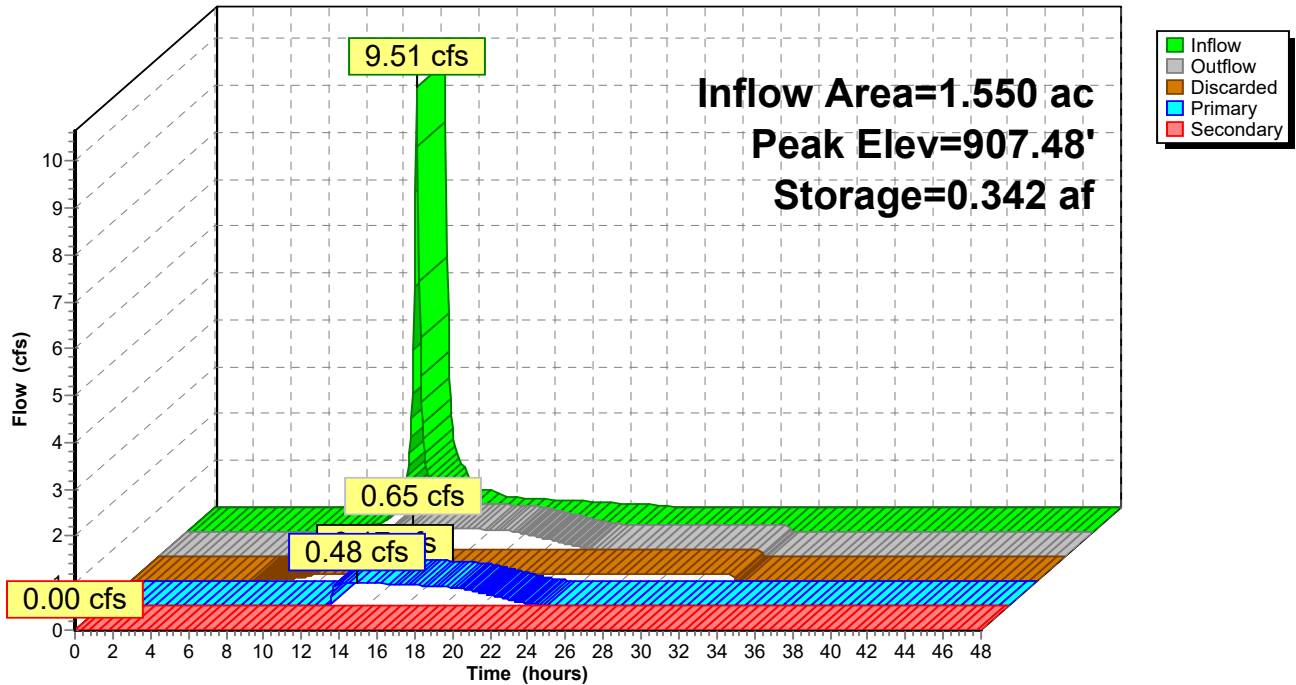
↳ **4=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=905.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP V: Infil V

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Page 377

Summary for Pond IP W: Infil W

Inflow Area = 3.440 ac, 68.90% Impervious, Inflow Depth = 5.15" for 100-Year event
 Inflow = 22.60 cfs @ 12.17 hrs, Volume= 1.477 af
 Outflow = 22.05 cfs @ 12.20 hrs, Volume= 1.477 af, Atten= 2%, Lag= 2.0 min
 Discarded = 0.04 cfs @ 12.20 hrs, Volume= 0.030 af
 Primary = 13.48 cfs @ 12.20 hrs, Volume= 1.354 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 8.53 cfs @ 12.20 hrs, Volume= 0.092 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 914.86' @ 12.20 hrs Surf.Area= 0.082 ac Storage= 0.106 af

Plug-Flow detention time= 16.9 min calculated for 1.477 af (100% of inflow)
 Center-of-Mass det. time= 16.8 min (804.3 - 787.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	911.00'	0.553 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	0.019	0.0	0.000	0.000
911.01	0.019	33.0	0.000	0.000
912.49	0.019	33.0	0.009	0.009
912.50	0.019	27.0	0.000	0.009
912.99	0.019	27.0	0.003	0.012
913.00	0.019	100.0	0.000	0.012
915.00	0.087	100.0	0.106	0.118
920.00	0.087	100.0	0.435	0.553

Device	Routing	Invert	Outlet Devices
#1	Primary	912.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 912.00' / 911.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	912.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	913.75'	36.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	914.50'	15.0' long + 4.0 '/' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	911.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 378

Discarded OutFlow Max=0.04 cfs @ 12.20 hrs HW=914.85' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=13.46 cfs @ 12.20 hrs HW=914.85' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 13.46 cfs @ 7.61 fps)

↳ **2=4" Underdrain** (Passes < 0.69 cfs potential flow)

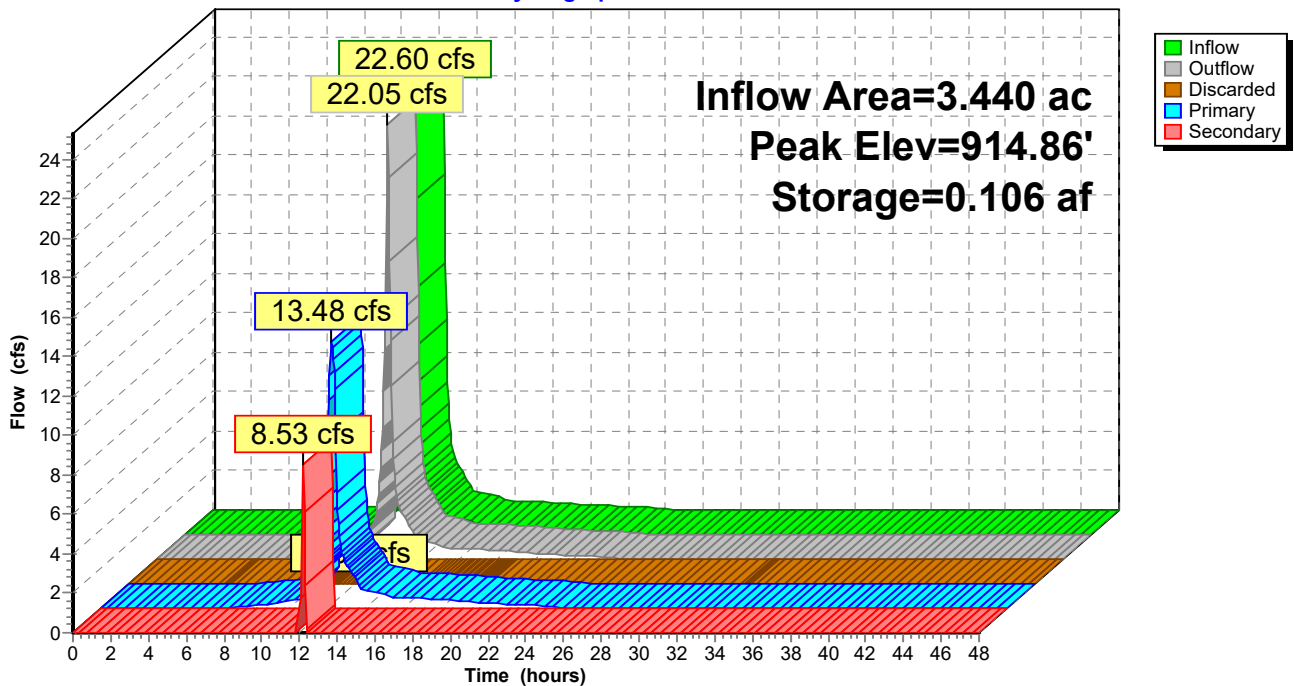
↳ **3=48" Riser** (Passes < 35.64 cfs potential flow)

Secondary OutFlow Max=8.31 cfs @ 12.20 hrs HW=914.85' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Weir Controls 8.31 cfs @ 1.44 fps)

Pond IP W: Infil W

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Page 379

Summary for Pond WP A: Wet Pond A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth = 4.19" for 100-Year event
 Inflow = 180.40 cfs @ 12.20 hrs, Volume= 13.829 af
 Outflow = 98.75 cfs @ 12.42 hrs, Volume= 13.319 af, Atten= 45%, Lag= 13.1 min
 Primary = 49.50 cfs @ 12.42 hrs, Volume= 11.157 af
 Routed to Pond IP A : Infil A
 Secondary = 49.25 cfs @ 12.42 hrs, Volume= 2.162 af
 Routed to Pond IP A : Infil A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.69' @ 12.42 hrs Surf.Area= 1.515 ac Storage= 4.762 af

Plug-Flow detention time= 260.7 min calculated for 13.319 af (96% of inflow)
 Center-of-Mass det. time= 240.1 min (1,064.2 - 824.1)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	11.459 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
922.00	1.071	0.000	0.000
923.00	1.190	1.130	1.130
924.00	1.310	1.250	2.380
925.00	1.431	1.371	3.751
926.00	1.554	1.493	5.243
930.00	1.554	6.216	11.459

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.80' S= 0.0050 1/8" Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	922.00'	12.0" Vert. 12" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.50'	6.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#4	Secondary	925.00'	30.0' long + 4.0 1/8" SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=48.20 cfs @ 12.42 hrs HW=925.68' TW=924.40' (Dynamic Tailwater)

1=36" Outlet Pipe (Inlet Controls 48.20 cfs @ 6.82 fps)

2=12" Orifice (Passes < 4.28 cfs potential flow)

3=Sharp-Crested Rectangular Weir (Passes < 52.05 cfs potential flow)

Secondary OutFlow Max=48.58 cfs @ 12.42 hrs HW=925.68' TW=924.39' (Dynamic Tailwater)

4=Broad-Crested Rectangular Weir (Weir Controls 48.58 cfs @ 2.18 fps)

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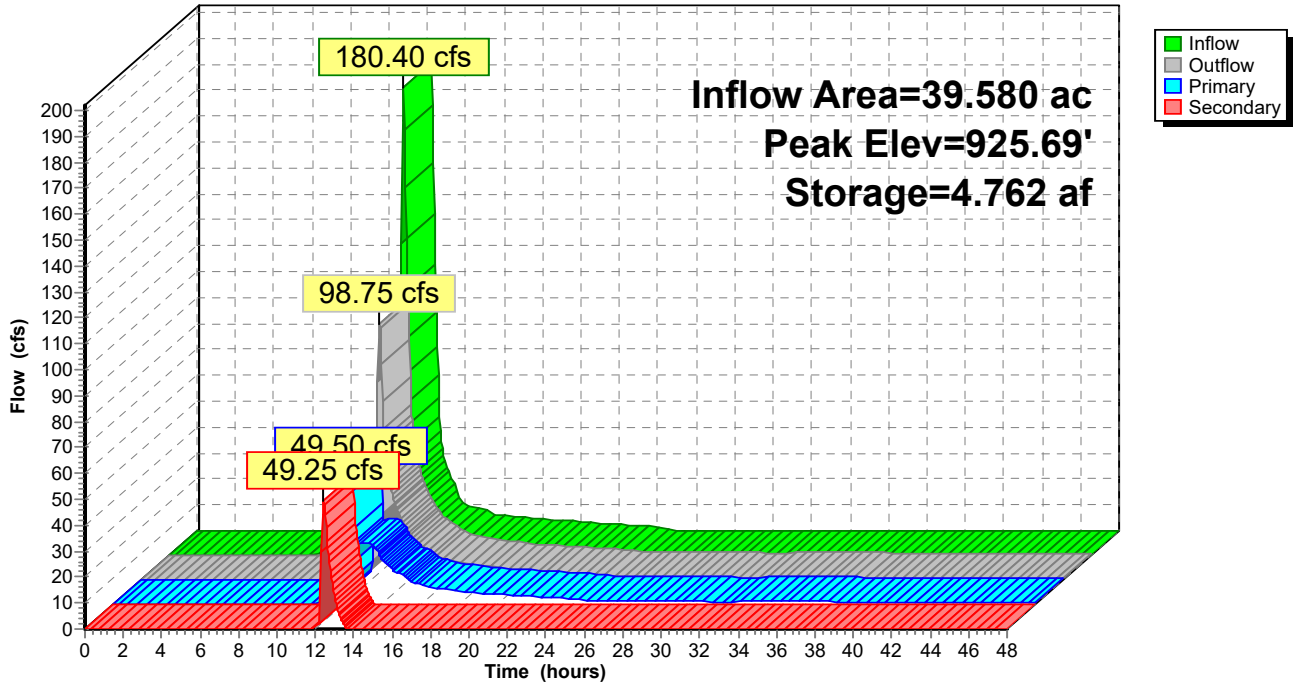
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Page 380

Pond WP A: Wet Pond A

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Page 381

Summary for Pond WP B: Wet Pond B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth > 3.85" for 100-Year event
 Inflow = 208.87 cfs @ 12.17 hrs, Volume= 28.987 af
 Outflow = 139.78 cfs @ 12.32 hrs, Volume= 28.678 af, Atten= 33%, Lag= 8.8 min
 Primary = 39.09 cfs @ 12.32 hrs, Volume= 14.401 af
 Routed to Pond IP B : Infil B
 Secondary = 100.69 cfs @ 12.32 hrs, Volume= 14.277 af
 Routed to Reach 27R : Post Wetland
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 913.13' @ 12.32 hrs Surf.Area= 1.736 ac Storage= 3.250 af

Plug-Flow detention time= 49.6 min calculated for 28.649 af (99% of inflow)
 Center-of-Mass det. time= 30.6 min (1,003.9 - 973.3)

Volume	Invert	Avail.Storage	Storage Description
#1	911.00'	16.295 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	1.320	0.000	0.000
912.00	1.510	1.415	1.415
913.00	1.710	1.610	3.025
914.00	1.910	1.810	4.835
920.00	1.910	11.460	16.295

Device	Routing	Invert	Outlet Devices
#1	Primary	911.00'	18.0" Round 4 - 18" Outlet to Infiltration X 4.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.00' / 910.75' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Secondary	911.35'	24.0" Round 6 - 24" Outlet Pipes X 6.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.35' / 910.00' S= 0.0270 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Tertiary	913.50'	5.0' long + 4.0 ' SideZ x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=38.91 cfs @ 12.32 hrs HW=913.12' TW=910.86' (Dynamic Tailwater)
 ↳1=4 - 18" Outlet to Infiltration (Barrel Controls 38.91 cfs @ 5.50 fps)

Secondary OutFlow Max=100.11 cfs @ 12.32 hrs HW=913.12' TW=0.00' (Dynamic Tailwater)
 ↳2=6 - 24" Outlet Pipes (Inlet Controls 100.11 cfs @ 5.67 fps)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=911.00' TW=0.00' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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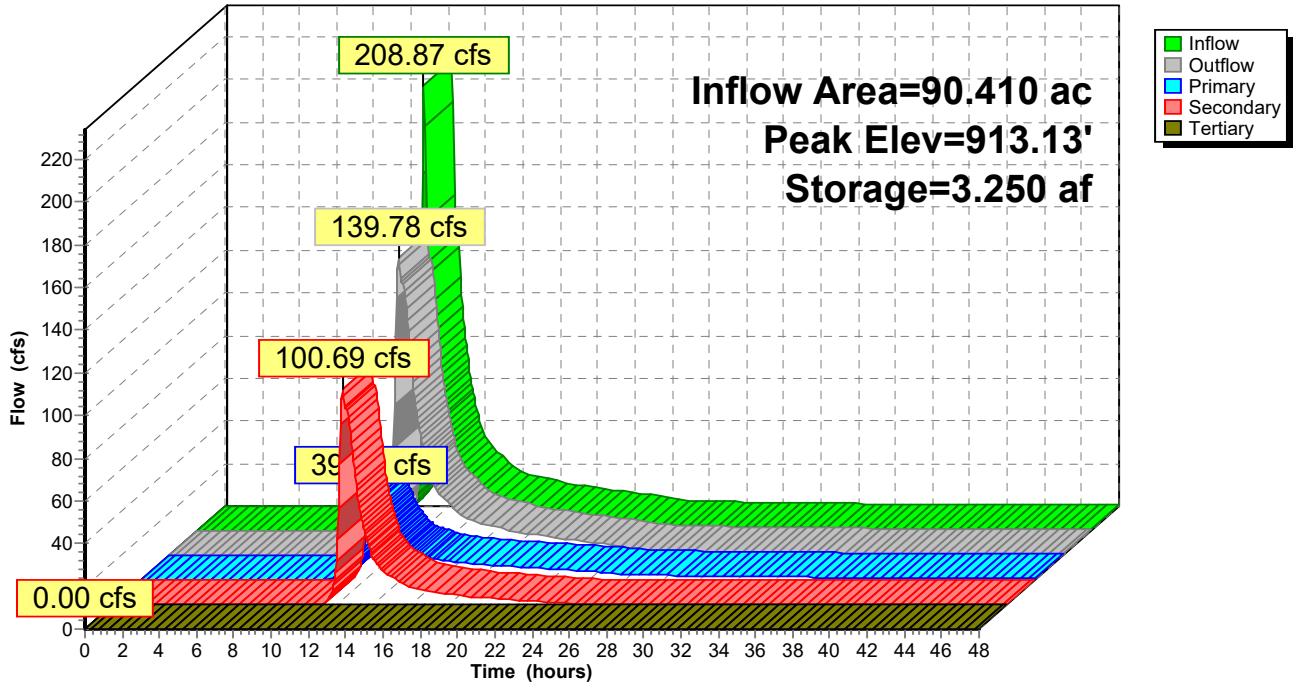
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Page 382

Pond WP B: Wet Pond B

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Page 383

Summary for Pond WP P: Wet Pond P

Inflow Area = 9.510 ac, 56.89% Impervious, Inflow Depth = 4.60" for 100-Year event
 Inflow = 57.20 cfs @ 12.17 hrs, Volume= 3.644 af
 Outflow = 26.10 cfs @ 12.24 hrs, Volume= 3.624 af, Atten= 54%, Lag= 4.2 min
 Primary = 26.10 cfs @ 12.24 hrs, Volume= 3.624 af
 Routed to Pond IP P : Infil P
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP P : Infil P

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 939.87' @ 12.69 hrs Surf.Area= 0.499 ac Storage= 1.437 af

Plug-Flow detention time= 274.2 min calculated for 3.624 af (99% of inflow)
 Center-of-Mass det. time= 270.7 min (1,069.9 - 799.2)

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	2.045 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
936.00	0.247	0.000	0.000
937.00	0.310	0.278	0.278
938.00	0.375	0.342	0.621
939.00	0.440	0.408	1.028
940.00	0.508	0.474	1.502
941.00	0.576	0.542	2.045

Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 936.00' / 935.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	936.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	940.50'	5.0' long + 4.0 1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=22.43 cfs @ 12.24 hrs HW=939.43' TW=938.02' (Dynamic Tailwater)
 ↳ **1=24" Outlet Pipe** (Inlet Controls 22.43 cfs @ 7.14 fps)
 ↳ **2=9" Orifice** (Passes < 2.52 cfs potential flow)
 ↳ **3=48" Riser** (Passes < 36.76 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=936.00' TW=934.00' (Dynamic Tailwater)
 ↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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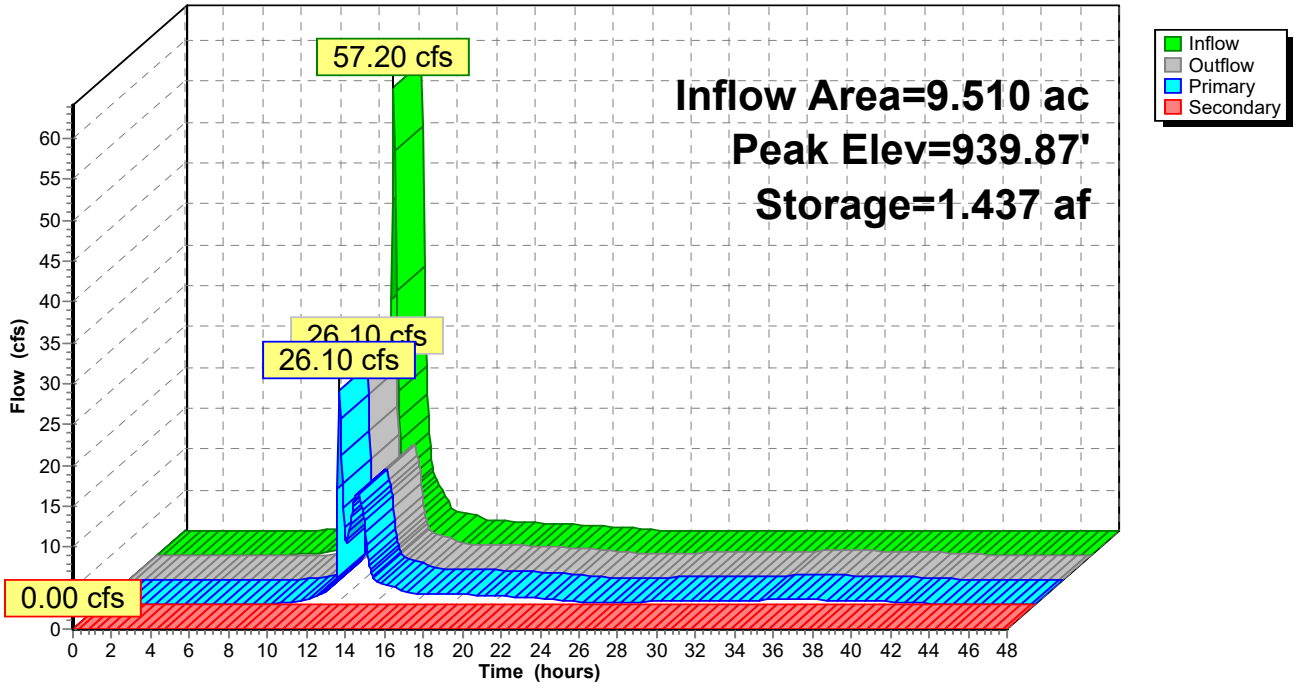
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Page 384

Pond WP P: Wet Pond P

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Page 385

Summary for Pond WP Q: Wet Pond Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth = 4.94" for 100-Year event
 Inflow = 79.24 cfs @ 12.23 hrs, Volume= 5.977 af
 Outflow = 71.56 cfs @ 12.24 hrs, Volume= 5.974 af, Atten= 10%, Lag= 0.7 min
 Primary = 11.50 cfs @ 11.85 hrs, Volume= 3.099 af
 Routed to Pond IP Q : Infil Q
 Secondary = 67.96 cfs @ 12.24 hrs, Volume= 2.875 af
 Routed to Pond IP Q : Infil Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 942.44' @ 12.32 hrs Surf.Area= 0.226 ac Storage= 0.629 af

Plug-Flow detention time= 58.2 min calculated for 5.974 af (100% of inflow)
 Center-of-Mass det. time= 57.7 min (853.2 - 795.5)

Volume	Invert	Avail.Storage	Storage Description
#1	939.00'	2.439 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
939.00	0.141	0.000	0.000
940.00	0.165	0.153	0.153
941.00	0.189	0.177	0.330
942.00	0.215	0.202	0.532
943.00	0.240	0.227	0.759
950.00	0.240	1.680	2.439

Device	Routing	Invert	Outlet Devices
#1	Primary	939.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 939.00' / 938.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	939.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	941.50'	60.0' long + 4.0 1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=10.39 cfs @ 11.85 hrs HW=941.43' TW=940.47' (Dynamic Tailwater)

↑ **1=18" Outlet Pipe** (Inlet Controls 10.39 cfs @ 5.88 fps)

↑ **2=9" Orifice** (Passes < 2.08 cfs potential flow)

↑ **3=48" Riser** (Passes < 11.41 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 12.24 hrs HW=942.33' TW=942.35' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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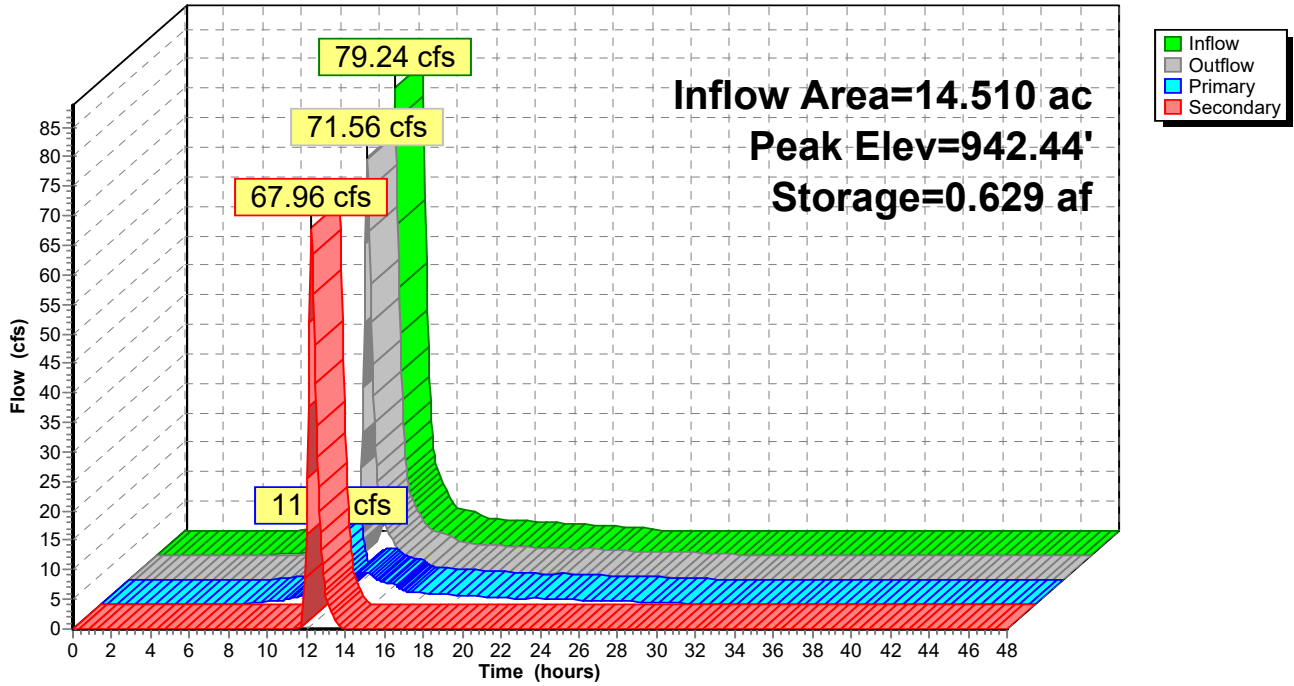
MSE 24-hr 4 100-Year Rainfall=6.66"

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Page 386

Pond WP Q: Wet Pond Q

Hydrograph



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Page 387

Summary for Pond WP R: Wet Pond R

Inflow Area = 4.580 ac, 42.58% Impervious, Inflow Depth = 4.05" for 100-Year event
 Inflow = 20.10 cfs @ 12.19 hrs, Volume= 1.545 af
 Outflow = 7.65 cfs @ 12.53 hrs, Volume= 1.540 af, Atten= 62%, Lag= 20.2 min
 Primary = 6.06 cfs @ 12.53 hrs, Volume= 1.500 af
 Routed to Reach 12R : Prop CTH Q
 Secondary = 1.60 cfs @ 12.53 hrs, Volume= 0.041 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 937.74' @ 12.53 hrs Surf.Area= 0.254 ac Storage= 0.597 af

Plug-Flow detention time= 120.8 min calculated for 1.539 af (100% of inflow)
 Center-of-Mass det. time= 119.9 min (931.9 - 812.0)

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	2.491 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
935.00	0.183	0.000	0.000
936.00	0.208	0.196	0.196
937.00	0.234	0.221	0.417
938.00	0.261	0.248	0.664
945.00	0.261	1.827	2.491

Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 935.00' / 934.80' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	935.00'	6.0" Vert. 6" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	937.50'	5.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=6.05 cfs @ 12.53 hrs HW=937.74' TW=0.00' (Dynamic Tailwater)

- ↑ 1=12" Outlet Pipe (Barrel Controls 6.05 cfs @ 7.71 fps)
- ↑ 2=6" Orifice (Passes < 1.49 cfs potential flow)
- ↑ 3=24" Riser (Passes < 16.82 cfs potential flow)

Secondary OutFlow Max=1.57 cfs @ 12.53 hrs HW=937.74' TW=0.00' (Dynamic Tailwater)

- ↑ 4=Broad-Crested Rectangular Weir (Weir Controls 1.57 cfs @ 1.12 fps)

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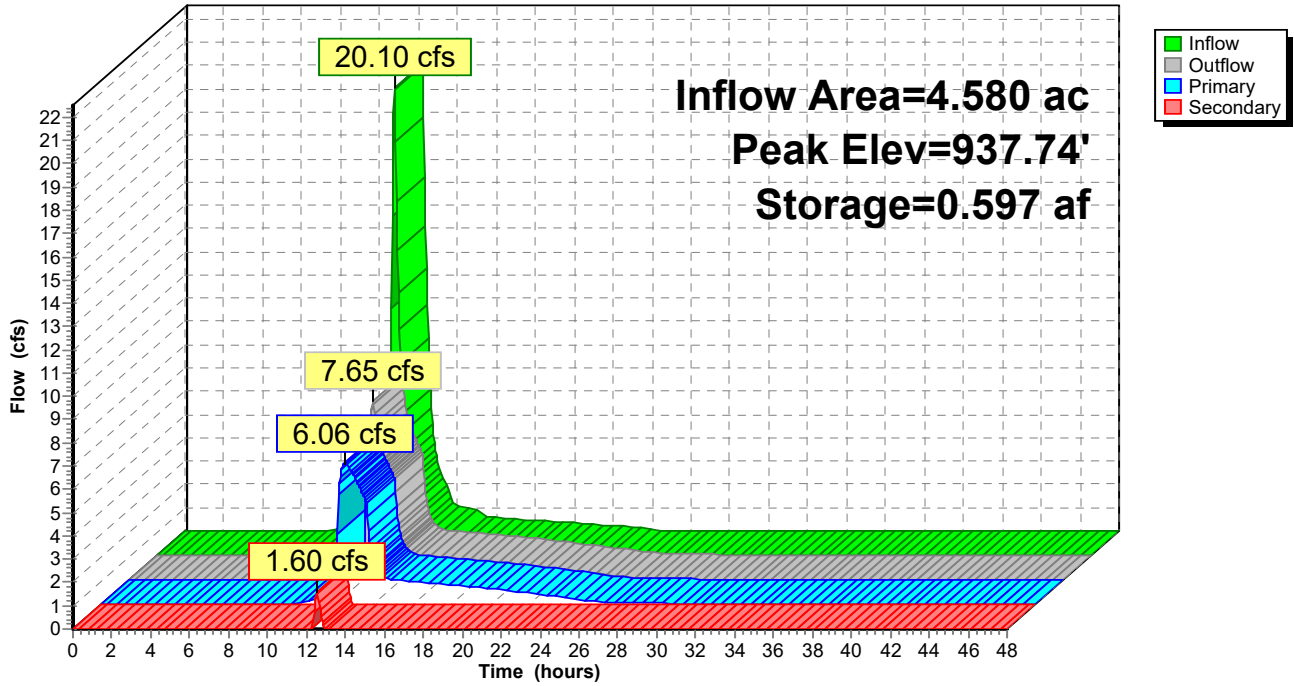
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Page 388

Pond WP R: Wet Pond R

Hydrograph



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Page 389

Summary for Pond WP U: Wet Pond U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth > 4.43" for 100-Year event
 Inflow = 47.12 cfs @ 12.63 hrs, Volume= 11.633 af
 Outflow = 43.91 cfs @ 12.81 hrs, Volume= 11.480 af, Atten= 7%, Lag= 10.4 min
 Primary = 39.71 cfs @ 12.64 hrs, Volume= 11.134 af
 Routed to Pond IP U : Infil U
 Secondary = 8.48 cfs @ 12.89 hrs, Volume= 0.347 af
 Routed to Pond IP U : Infil U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.67' @ 12.89 hrs Surf.Area= 0.298 ac Storage= 1.060 af

Plug-Flow detention time= 112.7 min calculated for 11.468 af (99% of inflow)
 Center-of-Mass det. time= 90.1 min (1,142.8 - 1,052.7)

Volume	Invert	Avail.Storage	Storage Description
#1	918.00'	1.160 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
918.00	0.161	0.000	0.000
919.00	0.188	0.174	0.174
920.00	0.216	0.202	0.376
921.00	0.245	0.230	0.607
922.00	0.276	0.261	0.868
923.00	0.308	0.292	1.160

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.80' S= 0.0050 1/8" Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	918.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	922.50'	50.0' long + 4.0 1/8" SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=36.60 cfs @ 12.64 hrs HW=922.51' TW=921.77' (Dynamic Tailwater)

1=36" Outlet Pipe (Inlet Controls 36.60 cfs @ 5.18 fps)

2=9" Orifice (Passes < 1.83 cfs potential flow)

3=48" Riser (Passes < 39.25 cfs potential flow)

Secondary OutFlow Max=8.46 cfs @ 12.89 hrs HW=922.67' TW=922.00' (Dynamic Tailwater)

4=Broad-Crested Rectangular Weir (Weir Controls 8.46 cfs @ 0.97 fps)

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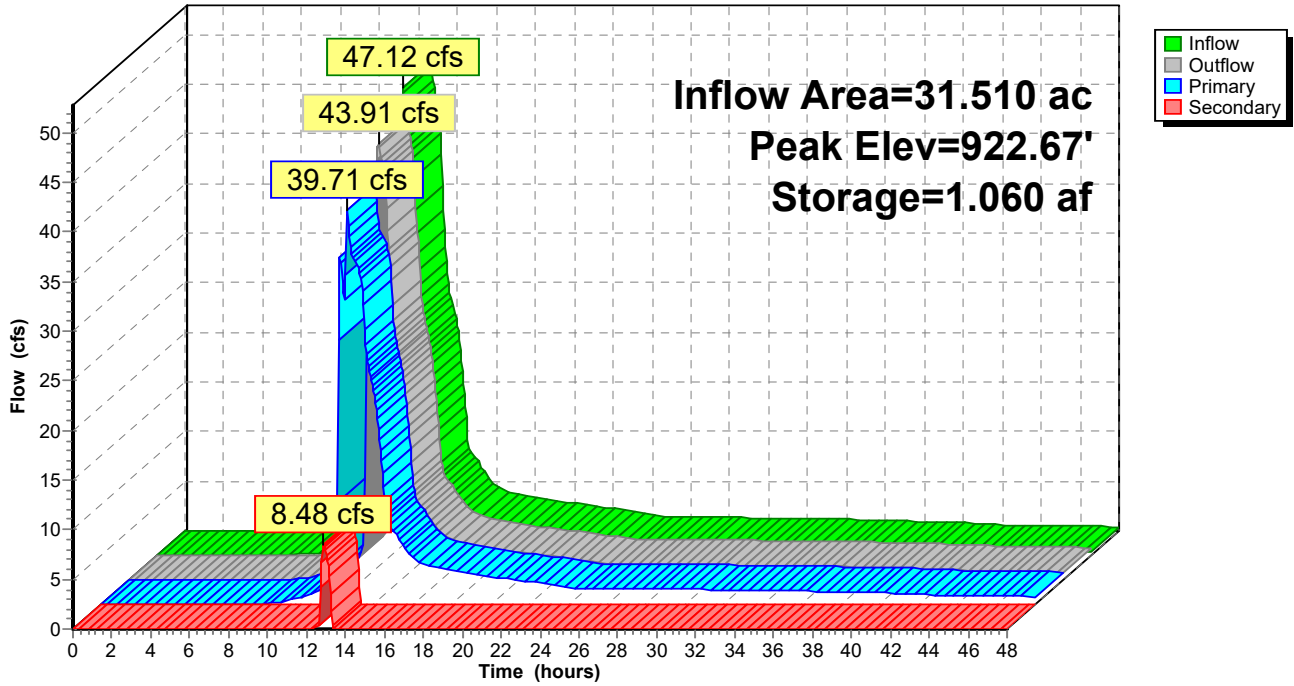
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Page 390

Pond WP U: Wet Pond U

Hydrograph



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Page 391

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1 OS: Offsite- School	Runoff Area=2.600 ac 0.00% Impervious Runoff Depth=3.09" Flow Length=400' Tc=4.4 min CN=61 Runoff=13.28 cfs 0.670 af
Subcatchment 2 OS: Offsite - North	Runoff Area=6.380 ac 7.05% Impervious Runoff Depth=3.41" Flow Length=500' Tc=4.6 min CN=64 Runoff=35.69 cfs 1.813 af
Subcatchment 3 OS: Offsite- School	Runoff Area=5.250 ac 0.00% Impervious Runoff Depth=3.09" Tc=20.0 min CN=61 Runoff=15.89 cfs 1.352 af
Subcatchment 4 OS: Offsite - Church	Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=3.09" Tc=10.0 min CN=61 Runoff=2.22 cfs 0.139 af
Subcatchment 5 OS: Offsite - Funeral	Runoff Area=1.920 ac 26.04% Impervious Runoff Depth=4.17" Flow Length=250' Slope=0.0200 '/' Tc=21.4 min CN=71 Runoff=7.69 cfs 0.668 af
Subcatchment 30S: Prop. 30S	Runoff Area=19.160 ac 59.39% Impervious Runoff Depth=5.53" Tc=10.0 min CN=83 Runoff=136.94 cfs 8.829 af
Subcatchment 31S: Future Commercial	Runoff Area=12.940 ac 0.00% Impervious Runoff Depth=3.84" Tc=20.0 min CN=68 Runoff=49.38 cfs 4.145 af
Subcatchment 32S: 32S	Runoff Area=3.690 ac 76.69% Impervious Runoff Depth=6.23" Tc=10.0 min CN=89 Runoff=28.66 cfs 1.915 af
Subcatchment 33S: 33S	Runoff Area=3.790 ac 63.59% Impervious Runoff Depth=5.76" Tc=10.0 min CN=85 Runoff=27.93 cfs 1.819 af
Subcatchment 34S: (new Subcat)	Runoff Area=26.860 ac 48.55% Impervious Runoff Depth=5.07" Tc=10.0 min CN=79 Runoff=178.90 cfs 11.353 af
Subcatchment 35S: 35S	Runoff Area=3.830 ac 62.92% Impervious Runoff Depth=5.65" Tc=10.0 min CN=84 Runoff=27.81 cfs 1.802 af
Subcatchment 36S: (new Subcat)	Runoff Area=4.440 ac 71.62% Impervious Runoff Depth=6.11" Tc=10.0 min CN=88 Runoff=34.08 cfs 2.260 af
Subcatchment 37S: (new Subcat)	Runoff Area=4.310 ac 70.53% Impervious Runoff Depth=5.99" Tc=10.0 min CN=87 Runoff=32.66 cfs 2.152 af
Subcatchment 38S: (new Subcat)	Runoff Area=2.410 ac 70.54% Impervious Runoff Depth=5.99" Tc=10.0 min CN=87 Runoff=18.26 cfs 1.204 af
Subcatchment 39S: Prop. 39S	Runoff Area=5.630 ac 63.41% Impervious Runoff Depth=5.76" Tc=10.0 min CN=85 Runoff=41.50 cfs 2.703 af
Subcatchment 40S: Prop. 40S	Runoff Area=4.180 ac 68.90% Impervious Runoff Depth=5.99" Tc=10.0 min CN=87 Runoff=31.68 cfs 2.087 af

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Page 392

Subcatchment41S: Prop. 41S	Runoff Area=2.260 ac 68.14% Impervious Runoff Depth=5.88" Tc=10.0 min CN=86 Runoff=16.90 cfs 1.107 af
Subcatchment42S: Prop. 42S	Runoff Area=1.090 ac 60.55% Impervious Runoff Depth=5.65" Tc=10.0 min CN=84 Runoff=7.91 cfs 0.513 af
Subcatchment43S: Prop. 43S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=5.53" Tc=10.0 min CN=83 Runoff=30.80 cfs 1.986 af
Subcatchment44S: Prop. 44S	Runoff Area=4.310 ac 58.00% Impervious Runoff Depth=5.53" Tc=10.0 min CN=83 Runoff=30.80 cfs 1.986 af
Subcatchment45S: Prop. 45S	Runoff Area=9.510 ac 56.89% Impervious Runoff Depth=5.41" Tc=10.0 min CN=82 Runoff=66.86 cfs 4.291 af
Subcatchment46S: Prop. 46S	Runoff Area=13.970 ac 68.72% Impervious Runoff Depth=5.88" Tc=15.0 min CN=86 Runoff=89.87 cfs 6.841 af
Subcatchment47S: Prop. 47S	Runoff Area=2.660 ac 54.51% Impervious Runoff Depth=5.30" Tc=10.0 min CN=81 Runoff=18.38 cfs 1.175 af
Subcatchment48S: Prop. 48S	Runoff Area=2.440 ac 70.49% Impervious Runoff Depth=5.99" Tc=10.0 min CN=87 Runoff=18.49 cfs 1.219 af
Subcatchment49S: 49S	Runoff Area=2.250 ac 69.78% Impervious Runoff Depth=5.99" Tc=10.0 min CN=87 Runoff=17.05 cfs 1.124 af
Subcatchment50S: Prop. 50S	Runoff Area=5.240 ac 65.84% Impervious Runoff Depth=5.76" Tc=10.0 min CN=85 Runoff=38.62 cfs 2.515 af
Subcatchment51S: Prop. 51S	Runoff Area=1.550 ac 57.42% Impervious Runoff Depth=5.53" Tc=10.0 min CN=83 Runoff=11.08 cfs 0.714 af
Subcatchment52S: Prop. 52S	Runoff Area=3.440 ac 68.90% Impervious Runoff Depth=5.99" Tc=10.0 min CN=87 Runoff=26.07 cfs 1.718 af
Subcatchment53S: Prop. 53S	Runoff Area=4.050 ac 67.16% Impervious Runoff Depth=5.88" Tc=10.0 min CN=86 Runoff=30.28 cfs 1.983 af
Subcatchment54S: Future 54S	Runoff Area=3.150 ac 0.00% Impervious Runoff Depth=3.84" Tc=15.0 min CN=68 Runoff=13.83 cfs 1.009 af
Subcatchment55S: Prop. 55S	Runoff Area=2.230 ac 46.64% Impervious Runoff Depth=4.96" Tc=10.0 min CN=78 Runoff=14.57 cfs 0.921 af
Subcatchment56S: (new Subcat)	Runoff Area=16.060 ac 73.04% Impervious Runoff Depth=6.23" Tc=10.0 min CN=89 Runoff=124.73 cfs 8.333 af
Subcatchment57S: Existing 56S	Runoff Area=2.060 ac 26.70% Impervious Runoff Depth=4.17" Tc=10.0 min CN=71 Runoff=11.46 cfs 0.716 af

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Page 393

Reach 12R: Prop CTH Q

Inflow=19.55 cfs 2.778 af
Outflow=19.55 cfs 2.778 af

Reach 27R: Post Wetland

Inflow=346.23 cfs 63.298 af
Outflow=346.23 cfs 63.298 af

Reach 41R: (new Reach)

Inflow=109.34 cfs 9.875 af
Outflow=109.34 cfs 9.875 af

Reach 52R: TOTAL PROPOSED

Inflow=440.99 cfs 72.217 af
Outflow=440.99 cfs 72.217 af

Pond BIO J: Bio J

Peak Elev=925.43' Storage=35,155 cf Inflow=52.56 cfs 4.055 af
Discarded=0.09 cfs 0.223 af Primary=25.80 cfs 3.694 af Secondary=8.01 cfs 0.101 af Outflow=33.90 cfs 4.017 af

Pond BIO K: Bio K

Peak Elev=921.60' Storage=24,591 cf Inflow=31.68 cfs 2.087 af
Discarded=0.10 cfs 0.194 af Primary=16.99 cfs 1.866 af Secondary=0.76 cfs 0.005 af Outflow=17.85 cfs 2.065 af

Pond BIO N: Bio N

Peak Elev=911.84' Storage=45,292 cf Inflow=70.12 cfs 7.551 af
Discarded=0.17 cfs 0.496 af Primary=0.81 cfs 1.148 af Secondary=67.67 cfs 5.744 af Outflow=68.65 cfs 7.388 af

Pond BIO O: Bio O

Peak Elev=910.60' Storage=41,717 cf Inflow=44.90 cfs 3.054 af
Discarded=0.17 cfs 0.487 af Primary=0.78 cfs 0.913 af Secondary=40.16 cfs 1.533 af Outflow=41.10 cfs 2.933 af

Pond Bio S: Bio S

Peak Elev=924.43' Storage=13,553 cf Inflow=18.49 cfs 1.219 af
Discarded=0.06 cfs 0.170 af Primary=16.86 cfs 1.030 af Secondary=0.00 cfs 0.000 af Outflow=16.91 cfs 1.200 af

Pond Bio X: Bio X

Peak Elev=951.68' Storage=0.894 af Inflow=42.70 cfs 2.992 af
Discarded=0.14 cfs 0.244 af Primary=23.62 cfs 2.708 af Secondary=0.00 cfs 0.000 af Outflow=23.76 cfs 2.953 af

Pond IP A: Infil A

Peak Elev=925.67' Storage=2.437 af Inflow=135.87 cfs 15.887 af
Discarded=0.32 cfs 0.817 af Primary=79.90 cfs 14.165 af Secondary=10.39 cfs 0.272 af Outflow=90.61 cfs 15.254 af

Pond IP B: Infil B

Peak Elev=911.80' Storage=2.309 af Inflow=49.48 cfs 16.148 af
Discarded=0.64 cfs 1.754 af Primary=33.21 cfs 13.607 af Outflow=33.85 cfs 15.361 af

Pond IP C: IP C

Peak Elev=936.86' Storage=22,024 cf Inflow=28.66 cfs 1.915 af
Discarded=0.11 cfs 0.147 af Primary=16.83 cfs 1.689 af Secondary=6.03 cfs 0.079 af Outflow=22.98 cfs 1.915 af

Pond IP D: IP D

Peak Elev=937.82' Storage=22,246 cf Inflow=27.93 cfs 1.819 af
Discarded=0.11 cfs 0.146 af Primary=16.71 cfs 1.611 af Secondary=4.98 cfs 0.062 af Outflow=21.80 cfs 1.819 af

Pond IP E: IP E

Peak Elev=931.92' Storage=23,237 cf Inflow=27.81 cfs 1.802 af
Discarded=0.11 cfs 0.153 af Primary=11.80 cfs 1.470 af Secondary=11.36 cfs 0.179 af Outflow=23.27 cfs 1.802 af

Pond IP F: IP F

Peak Elev=927.85' Storage=39,597 cf Inflow=34.08 cfs 2.260 af
Discarded=0.18 cfs 0.322 af Primary=11.66 cfs 1.787 af Secondary=8.23 cfs 0.152 af Outflow=20.07 cfs 2.260 af

Pond IP G: IP G

Peak Elev=924.72' Storage=41,001 cf Inflow=32.66 cfs 2.152 af
Discarded=0.20 cfs 0.349 af Primary=11.38 cfs 1.736 af Secondary=3.68 cfs 0.067 af Outflow=15.26 cfs 2.152 af

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Page 394

Pond IP H: IP H

Peak Elev=925.80' Storage=6,546 cf Inflow=18.26 cfs 1.204 af
Discarded=0.03 cfs 0.039 af Primary=11.55 cfs 1.086 af Secondary=6.24 cfs 0.079 af Outflow=17.82 cfs 1.204 af

Pond IP L: Inf L

Peak Elev=920.79' Storage=4,680 cf Inflow=16.90 cfs 1.107 af
Discarded=0.04 cfs 0.039 af Primary=12.91 cfs 1.049 af Secondary=2.11 cfs 0.019 af Outflow=15.06 cfs 1.107 af

Pond IP M: Inf M

Peak Elev=929.10' Storage=10,072 cf Inflow=7.91 cfs 0.513 af
Discarded=0.06 cfs 0.077 af Primary=1.80 cfs 0.436 af Secondary=0.00 cfs 0.000 af Outflow=1.86 cfs 0.513 af

Pond IP P: Infil P

Peak Elev=940.33' Storage=2.644 af Inflow=96.25 cfs 11.029 af
Discarded=0.36 cfs 0.725 af Primary=43.00 cfs 10.236 af Secondary=0.00 cfs 0.000 af Outflow=43.36 cfs 10.961 af

Pond IP Q: Infil Q

Peak Elev=942.69' Storage=0.855 af Inflow=83.64 cfs 6.977 af
Discarded=0.13 cfs 0.199 af Primary=70.12 cfs 6.759 af Secondary=2.00 cfs 0.019 af Outflow=71.89 cfs 6.977 af

Pond IP T: Infil T

Peak Elev=931.98' Storage=0.627 af Inflow=46.88 cfs 11.359 af
Discarded=0.12 cfs 0.105 af Primary=23.37 cfs 9.339 af Secondary=22.76 cfs 1.887 af Outflow=46.22 cfs 11.331 af

Pond IP U: Infil U

Peak Elev=922.10' Storage=1.365 af Inflow=51.24 cfs 13.579 af
Discarded=0.18 cfs 0.479 af Primary=49.55 cfs 12.718 af Secondary=0.00 cfs 0.000 af Outflow=49.73 cfs 13.197 af

Pond IP V: Infil V

Peak Elev=907.69' Storage=0.414 af Inflow=11.08 cfs 0.714 af
Discarded=0.17 cfs 0.319 af Primary=0.52 cfs 0.395 af Secondary=0.00 cfs 0.000 af Outflow=0.69 cfs 0.714 af

Pond IP W: Infil W

Peak Elev=914.93' Storage=0.112 af Inflow=26.07 cfs 1.718 af
Discarded=0.04 cfs 0.032 af Primary=13.80 cfs 1.535 af Secondary=11.74 cfs 0.150 af Outflow=25.58 cfs 1.718 af

Pond WP A: Wet Pond A

Peak Elev=925.96' Storage=5.187 af Inflow=213.74 cfs 16.415 af
Primary=53.31 cfs 11.935 af Secondary=85.05 cfs 3.952 af Outflow=135.87 cfs 15.887 af

Pond WP B: Wet Pond B

Peak Elev=913.66' Storage=4.199 af Inflow=259.77 cfs 34.828 af
Primary=49.48 cfs 16.148 af Secondary=129.90 cfs 18.356 af Tertiary=0.89 cfs 0.014 af Outflow=180.26 cfs 34.518 af

Pond WP P: Wet Pond P

Peak Elev=940.48' Storage=1.752 af Inflow=66.86 cfs 4.291 af
Primary=26.31 cfs 4.270 af Secondary=0.00 cfs 0.000 af Outflow=26.31 cfs 4.270 af

Pond WP Q: Wet Pond Q

Peak Elev=942.71' Storage=0.692 af Inflow=91.83 cfs 6.980 af
Primary=9.99 cfs 3.365 af Secondary=80.05 cfs 3.612 af Outflow=83.64 cfs 6.977 af

Pond WP R: Wet Pond R

Peak Elev=937.98' Storage=0.658 af Inflow=23.81 cfs 1.843 af
Primary=6.42 cfs 1.669 af Secondary=5.55 cfs 0.168 af Outflow=11.97 cfs 1.837 af

Pond WP U: Wet Pond U

Peak Elev=922.75' Storage=1.084 af Inflow=55.13 cfs 13.742 af
Primary=45.53 cfs 12.578 af Secondary=15.42 cfs 1.001 af Outflow=51.24 cfs 13.579 af

Total Runoff Area = 188.510 ac Runoff Volume = 83.062 af Average Runoff Depth = 5.29"
48.50% Pervious = 91.420 ac 51.50% Impervious = 97.090 ac

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Page 395

Summary for Subcatchment 1 OS: Offsite- School

Runoff = 13.28 cfs @ 12.11 hrs, Volume= 0.670 af, Depth= 3.09"
Routed to Pond WP B : Wet Pond B

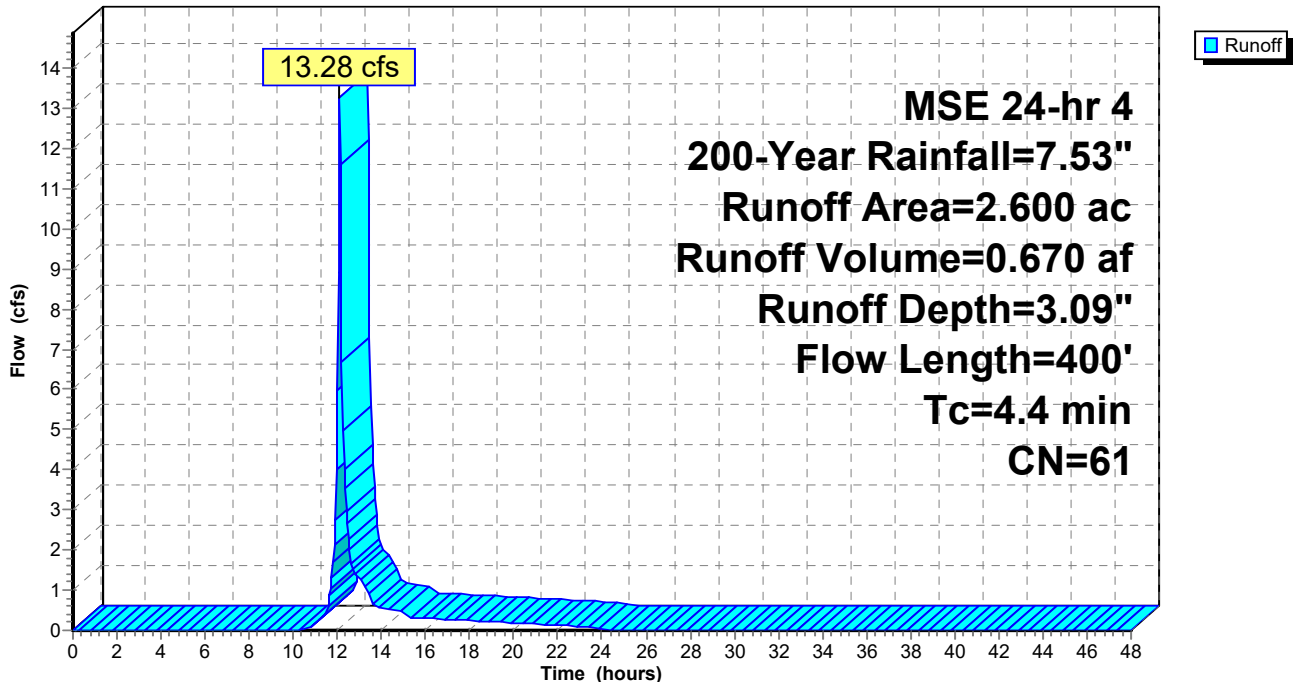
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
2.600	61	>75% Grass cover, Good, HSG B
2.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.0	300	0.1000	5.09		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.4	400	Total			

Subcatchment 1 OS: Offsite- School

Hydrograph



Kilkenny Phase Master

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 396

Summary for Subcatchment 2 OS: Offsite - North Residential

Runoff = 35.69 cfs @ 12.11 hrs, Volume= 1.813 af, Depth= 3.41"
 Routed to Pond WP B : Wet Pond B

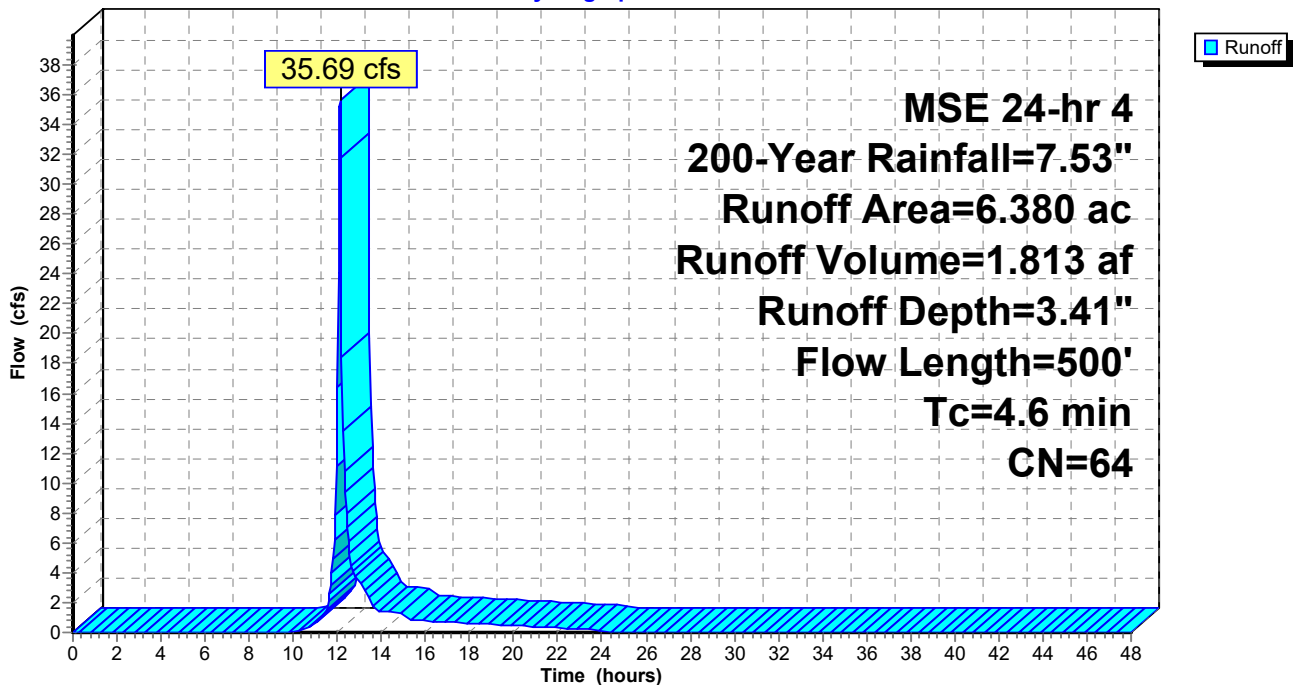
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
5.930	61	>75% Grass cover, Good, HSG B
* 0.340	98	Roof
* 0.110	98	Patio
6.380	64	Weighted Average
5.930		92.95% Pervious Area
0.450		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	100	0.3300	0.50		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"
1.2	400	0.1200	5.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
4.6	500	Total			

Subcatchment 2 OS: Offsite - North Residential

Hydrograph



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Page 397

Summary for Subcatchment 3 OS: Offsite- School

Runoff = 15.89 cfs @ 12.31 hrs, Volume= 1.352 af, Depth= 3.09"
Routed to Pond BIO J : Bio J

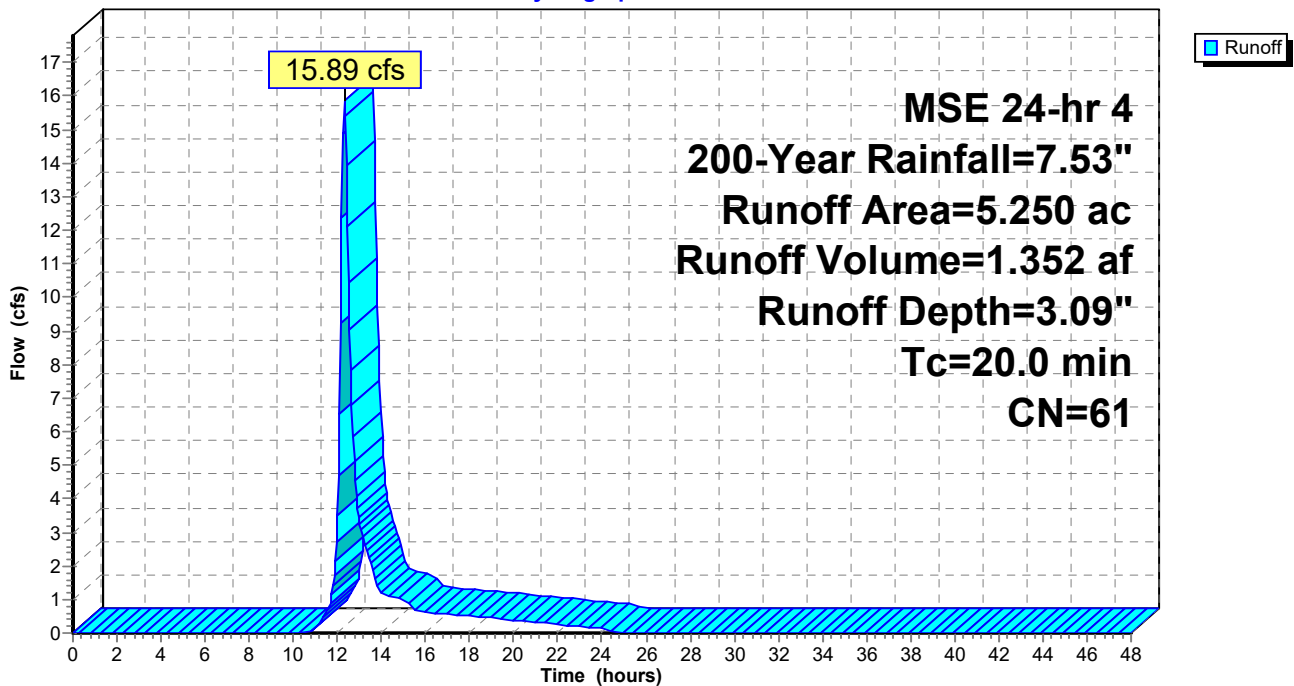
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
5.250	61	>75% Grass cover, Good, HSG B
5.250		100.00% Pervious Area

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

Subcatchment 3 OS: Offsite- School

Hydrograph



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Page 398

Summary for Subcatchment 4 OS: Offsite - Church

Runoff = 2.22 cfs @ 12.18 hrs, Volume= 0.139 af, Depth= 3.09"
Routed to Pond WP Q : Wet Pond Q

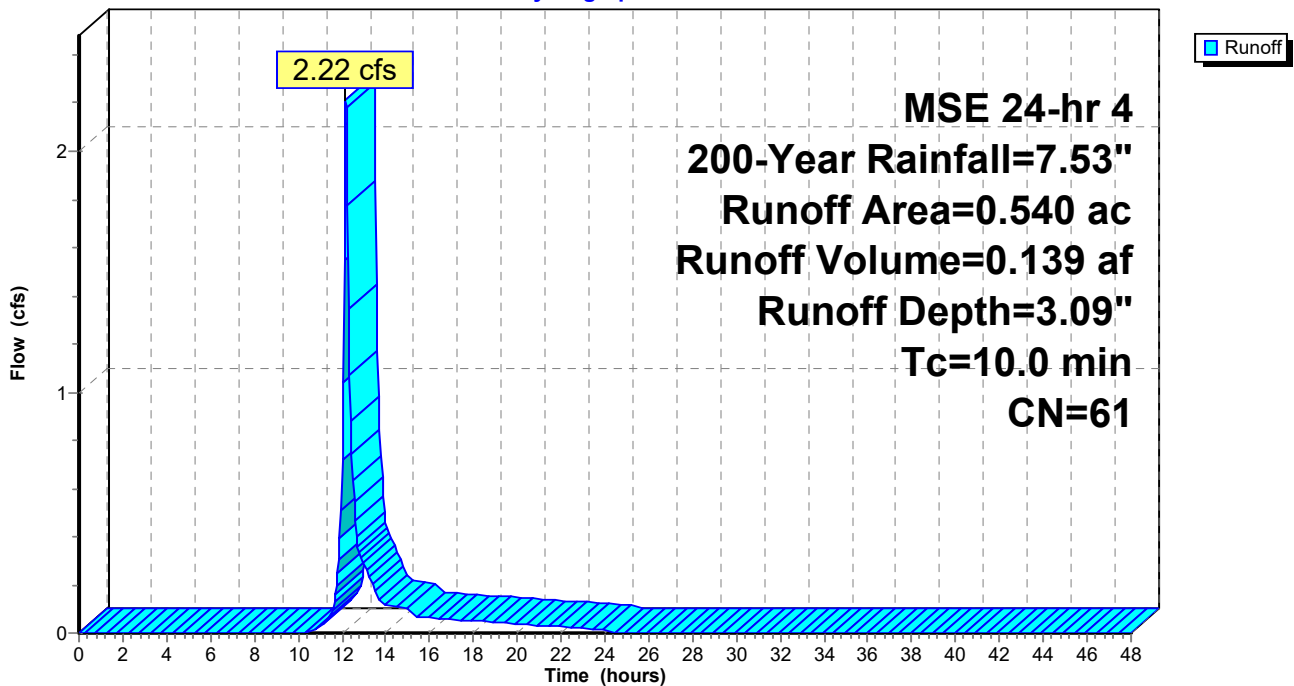
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
0.540	61	>75% Grass cover, Good, HSG B
0.540		100.00% Pervious Area

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

Subcatchment 4 OS: Offsite - Church

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 399

Summary for Subcatchment 5 OS: Offsite - Funeral

Runoff = 7.69 cfs @ 12.32 hrs, Volume= 0.668 af, Depth= 4.17"
 Routed to Pond WP R : Wet Pond R

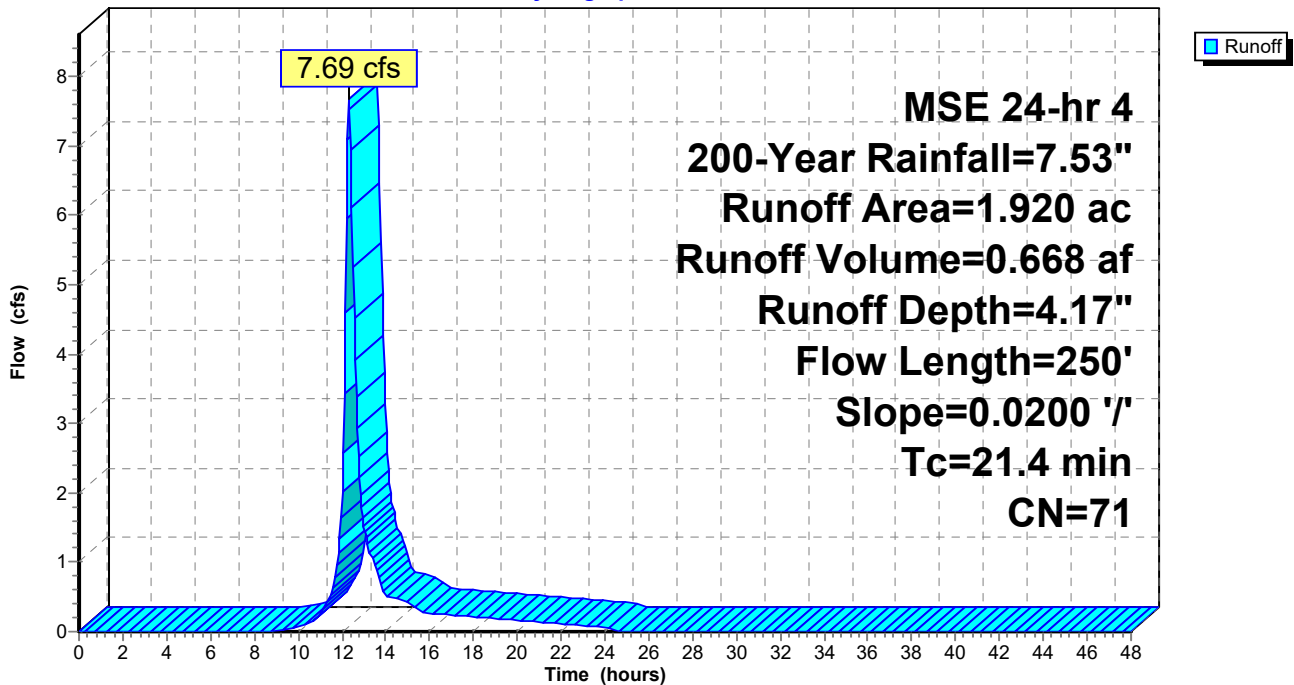
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
1.420	61	>75% Grass cover, Good, HSG B
* 0.300	98	Parking
* 0.200	98	Roof
1.920	71	Weighted Average
1.420		73.96% Pervious Area
0.500		26.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.4	250	0.0200	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 2.90"

Subcatchment 5 OS: Offsite - Funeral

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 400

Summary for Subcatchment 30S: Prop. 30S

Runoff = 136.94 cfs @ 12.17 hrs, Volume= 8.829 af, Depth= 5.53"
 Routed to Pond WP A : Wet Pond A

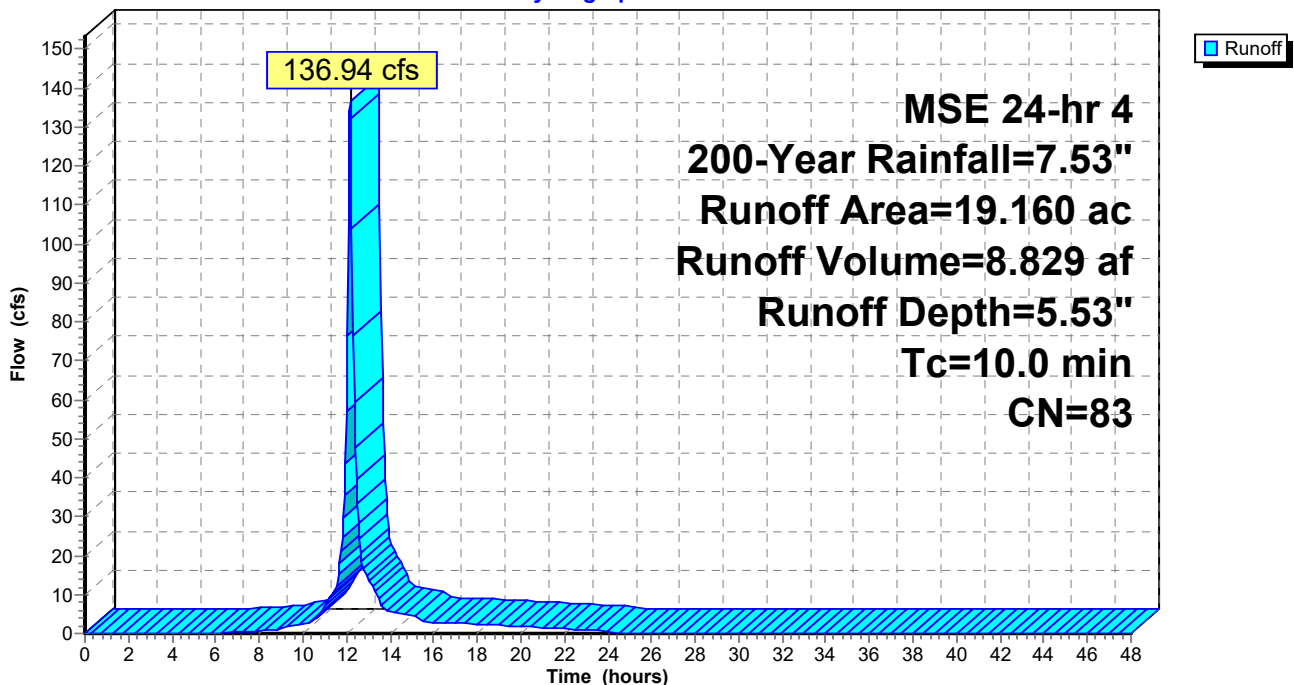
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 2.910	98	Roofs
* 1.450	98	Driveways
* 1.450	98	Sidewalks - House
* 0.900	98	Sidewalks - Street
* 3.240	98	Streets
7.780	61	>75% Grass cover, Good, HSG B
* 1.070	100	Wet Pond
* 0.360	100	Infiltration
19.160	83	Weighted Average
7.780		40.61% Pervious Area
11.380		59.39% Impervious Area

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

Subcatchment 30S: Prop. 30S

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 401

Summary for Subcatchment 31S: Future Commercial

Runoff = 49.38 cfs @ 12.30 hrs, Volume= 4.145 af, Depth= 3.84"
Routed to Pond WP A : Wet Pond A

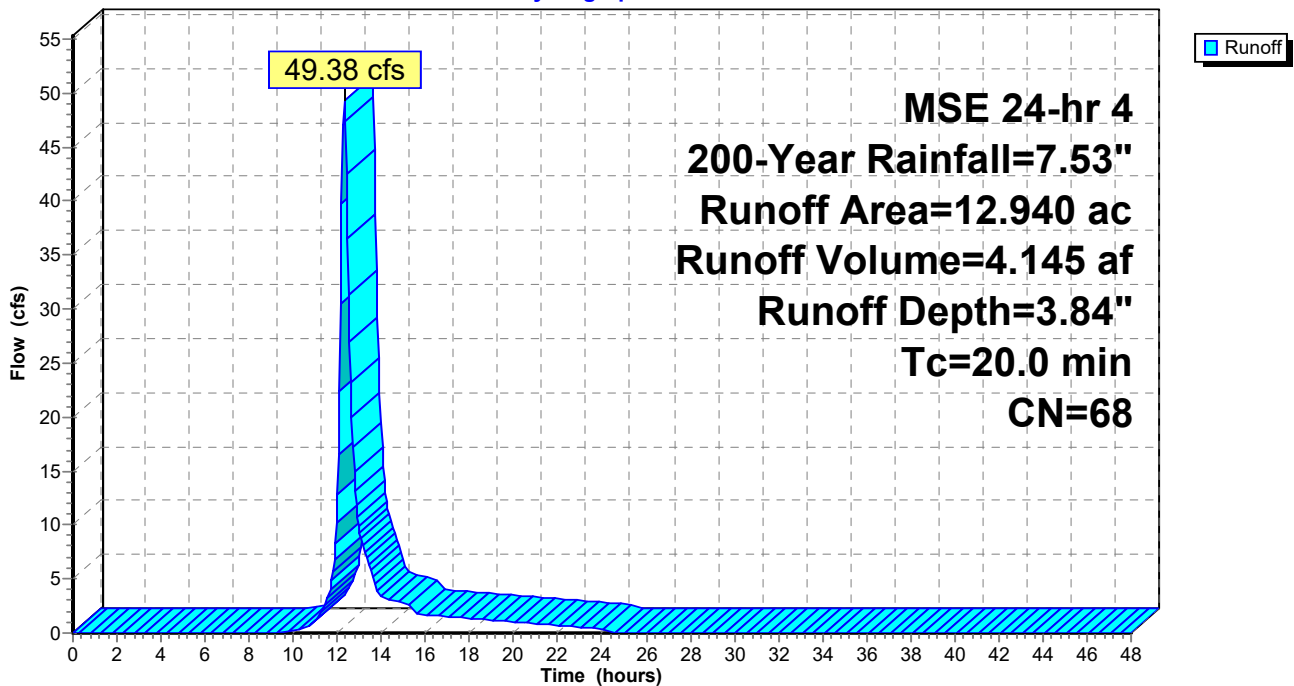
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 12.940	68	B Soil Row Crop
12.940		100.00% Pervious Area

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

Subcatchment 31S: Future Commercial

Hydrograph



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Page 402

Summary for Subcatchment 32S: 32S

Runoff = 28.66 cfs @ 12.17 hrs, Volume= 1.915 af, Depth= 6.23"
 Routed to Pond IP C : IP C

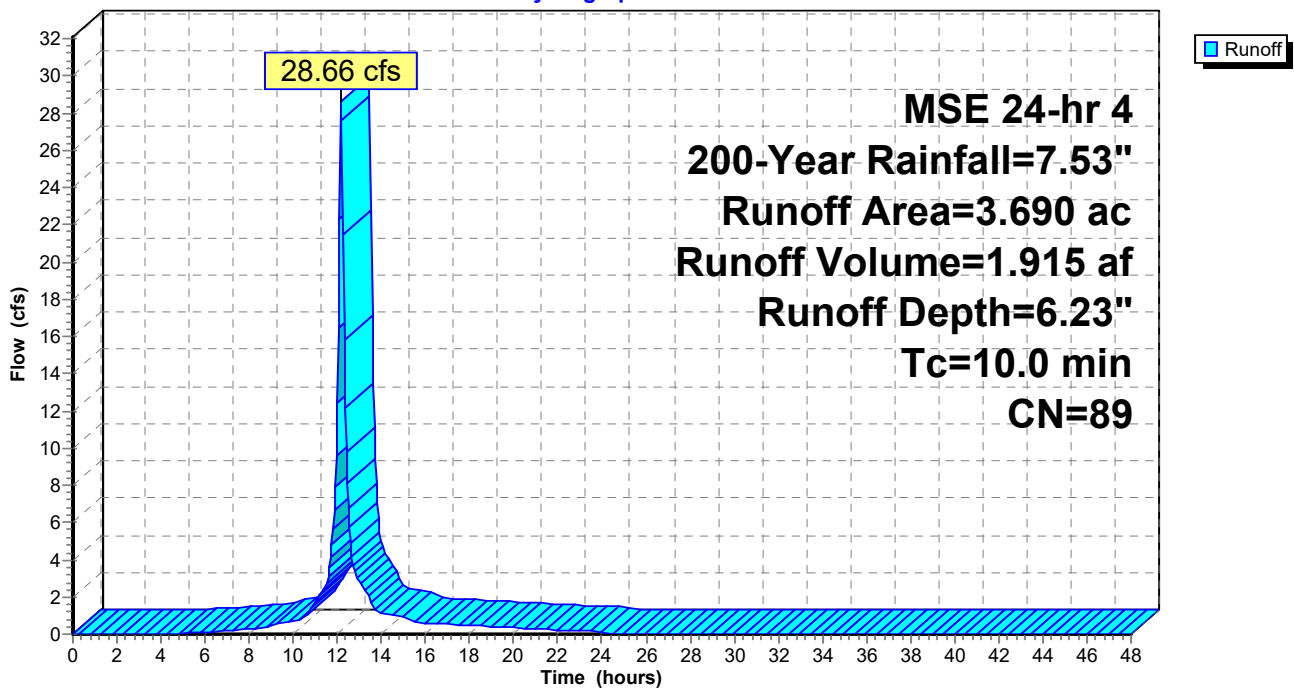
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.370	98	Roof
* 0.680	98	Patio
* 0.680	98	Driveways
0.860	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.690	89	Weighted Average
0.860		23.31% Pervious Area
2.830		76.69% Impervious Area

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

Subcatchment 32S: 32S

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 403

Summary for Subcatchment 33S: 33S

Runoff = 27.93 cfs @ 12.17 hrs, Volume= 1.819 af, Depth= 5.76"
Routed to Pond IP D : IP D

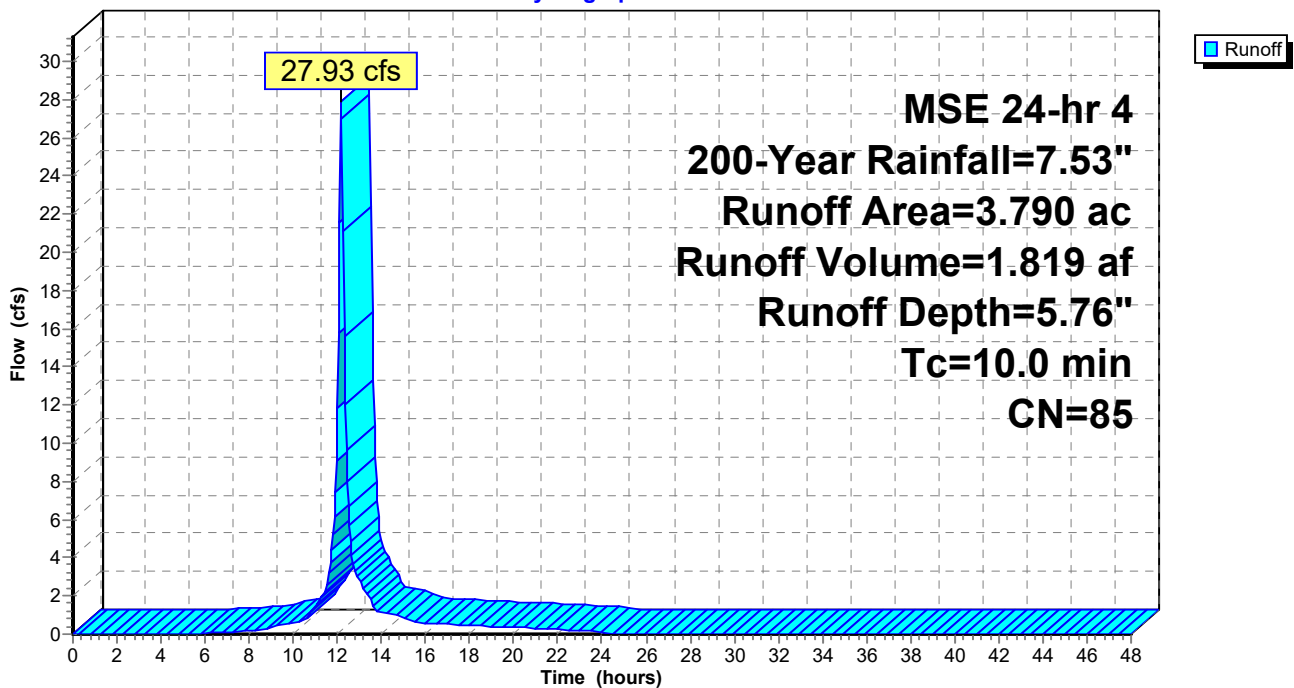
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.380	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.790	85	Weighted Average
1.380		36.41% Pervious Area
2.410		63.59% Impervious Area

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

Subcatchment 33S: 33S

Hydrograph



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Page 404

Summary for Subcatchment 34S: (new Subcat)

Runoff = 178.90 cfs @ 12.17 hrs, Volume= 11.353 af, Depth= 5.07"
 Routed to Pond WP B : Wet Pond B

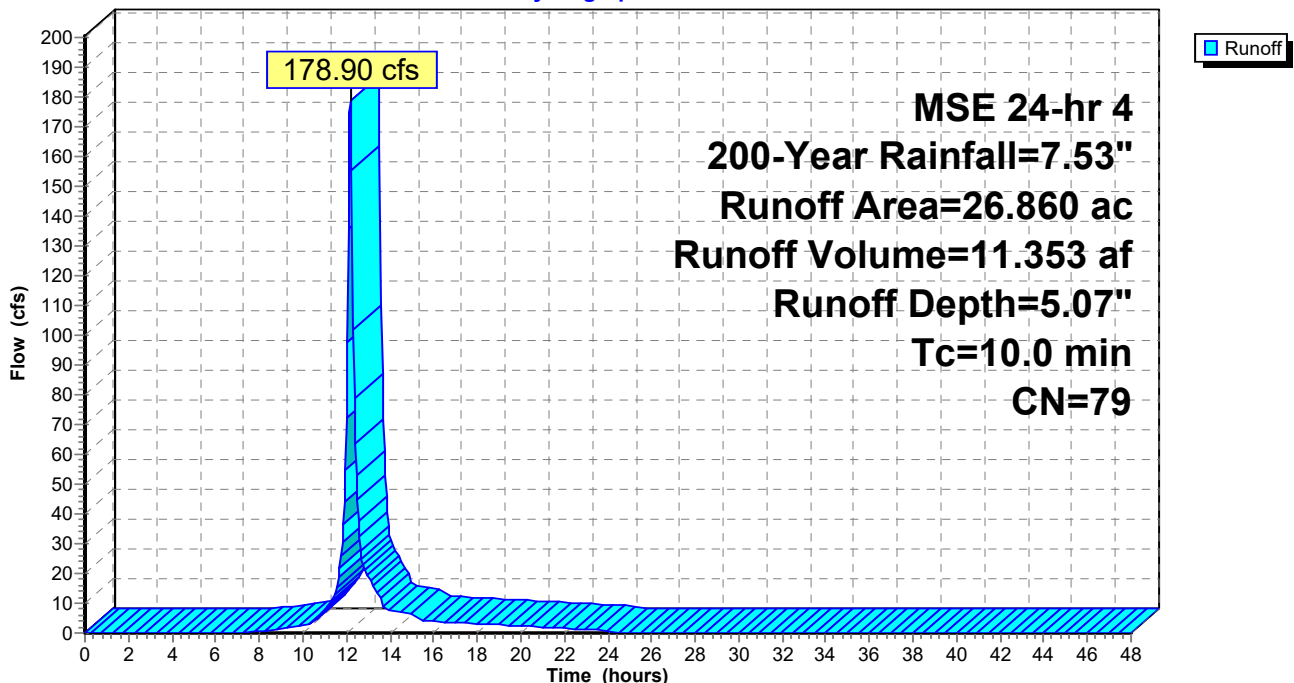
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 2.640	98	Roofs
* 0.210	98	Parking
* 1.320	98	Driveways
* 1.320	98	Sidewalks - House
* 1.190	98	Sidewalks - Street
* 4.050	98	Streets
13.820	61	>75% Grass cover, Good, HSG B
* 1.320	100	Wet Pond
* 0.990	100	Infiltration
26.860	79	Weighted Average
13.820		51.45% Pervious Area
13.040		48.55% Impervious Area

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

Subcatchment 34S: (new Subcat)

Hydrograph



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Page 405

Summary for Subcatchment 35S: 35S

Runoff = 27.81 cfs @ 12.17 hrs, Volume= 1.802 af, Depth= 5.65"
Routed to Pond IP E : IP E

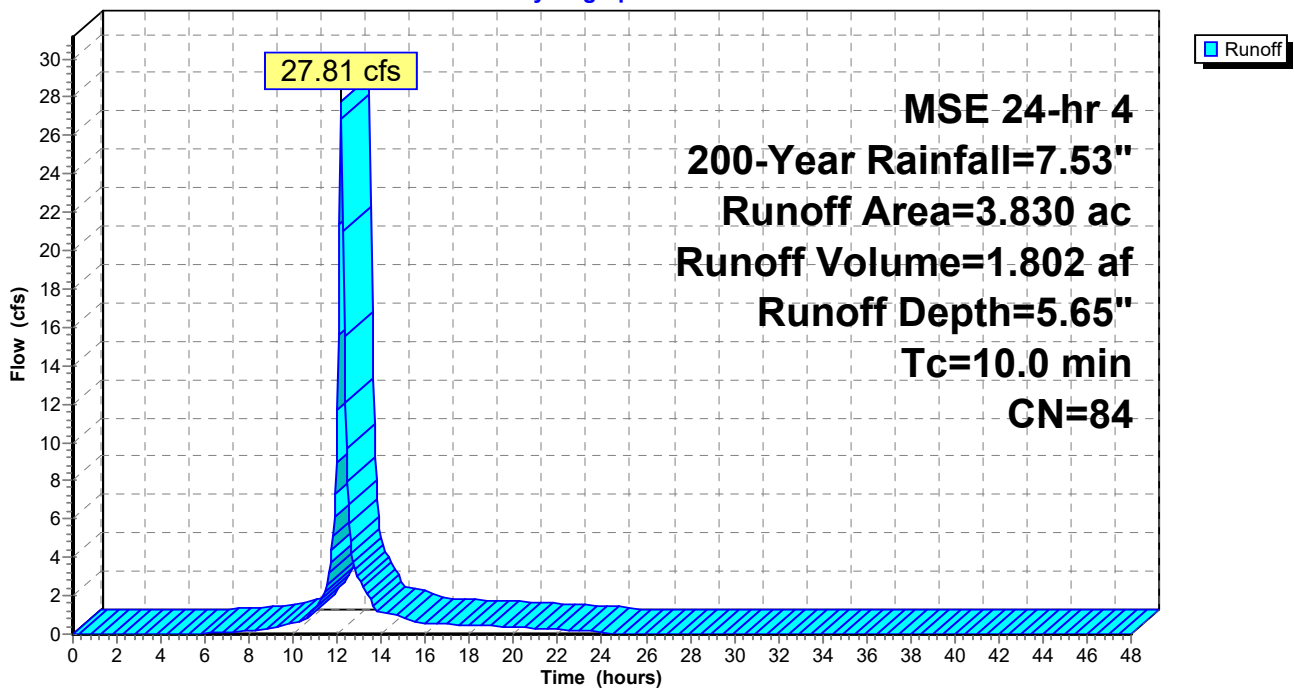
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.150	98	Roof
* 0.580	98	Patio
* 0.580	98	Driveways
1.420	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
3.830	84	Weighted Average
1.420		37.08% Pervious Area
2.410		62.92% Impervious Area

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

Subcatchment 35S: 35S

Hydrograph



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Page 406

Summary for Subcatchment 36S: (new Subcat)

Runoff = 34.08 cfs @ 12.17 hrs, Volume= 2.260 af, Depth= 6.11"
 Routed to Pond IP F : IP F

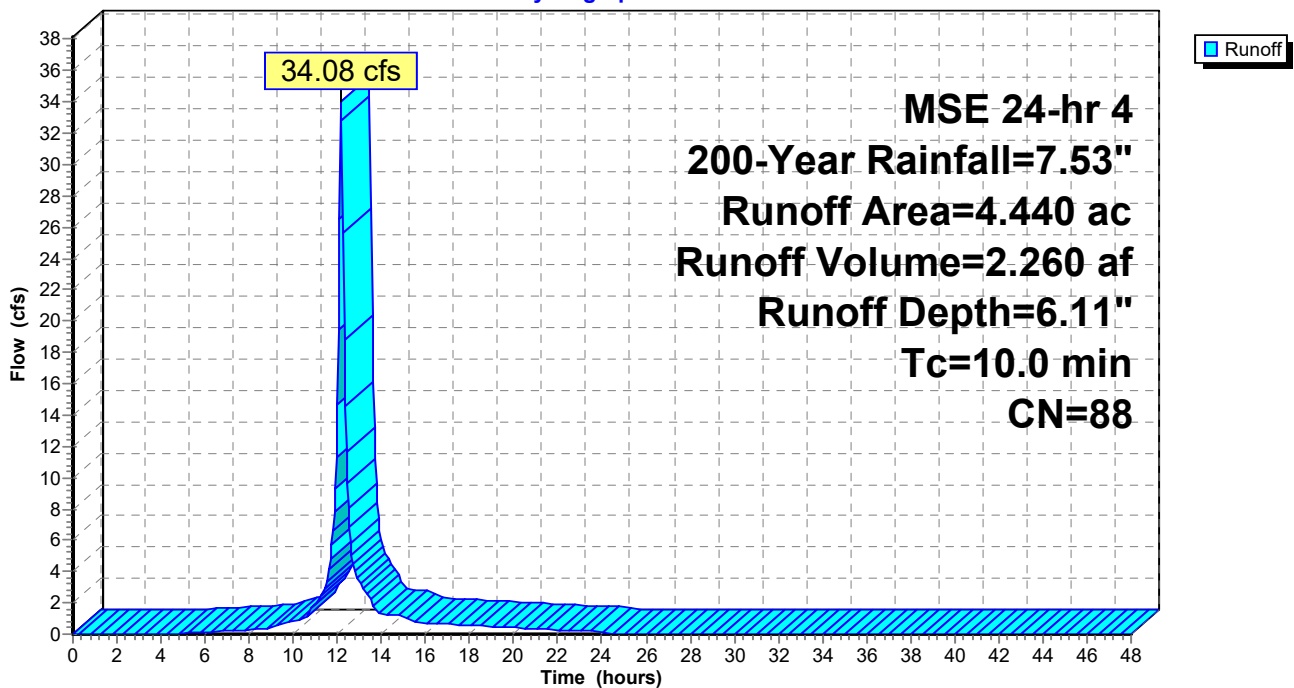
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.490	98	Roof
* 0.750	98	Patio
* 0.750	98	Driveways
1.260	61	>75% Grass cover, Good, HSG B
* 0.190	100	Infiltration Basin
4.440	88	Weighted Average
1.260		28.38% Pervious Area
3.180		71.62% Impervious Area

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

Subcatchment 36S: (new Subcat)

Hydrograph



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Page 407

Summary for Subcatchment 37S: (new Subcat)

Runoff = 32.66 cfs @ 12.17 hrs, Volume= 2.152 af, Depth= 5.99"
 Routed to Pond IP G : IP G

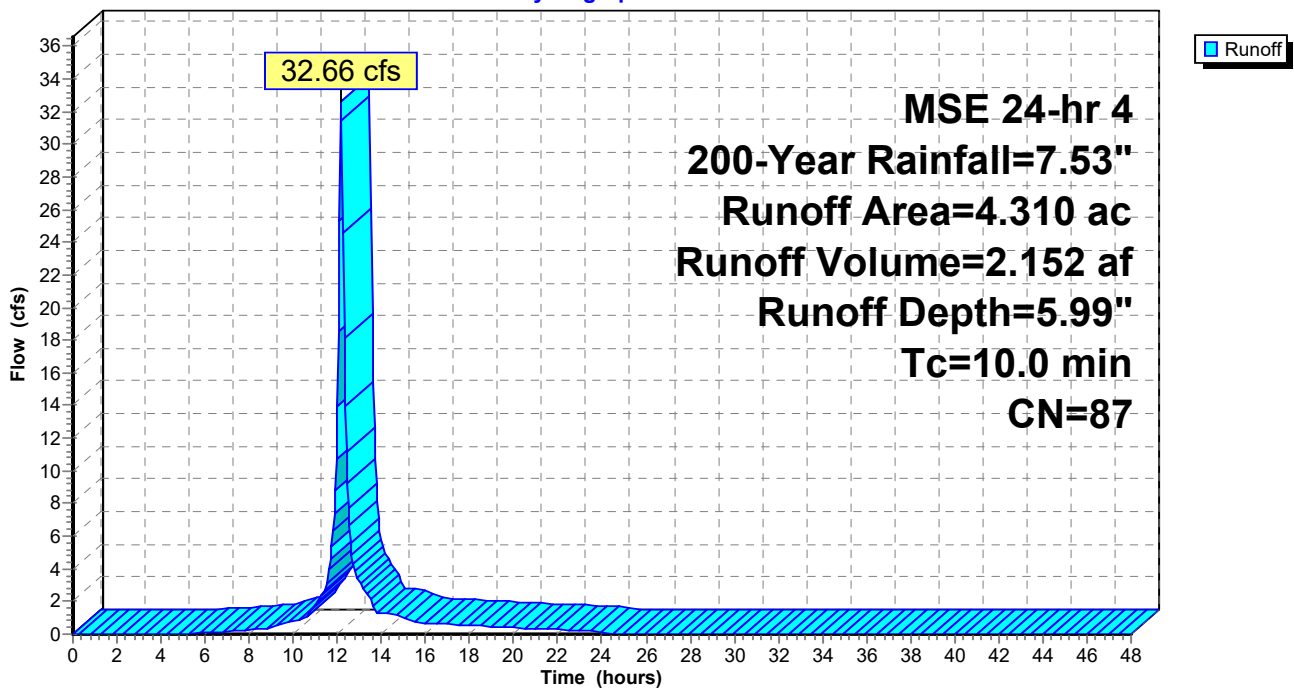
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.420	98	Roof
* 0.710	98	Patio
* 0.710	98	Driveways
1.270	61	>75% Grass cover, Good, HSG B
* 0.200	100	Infiltration Basin
4.310	87	Weighted Average
1.270		29.47% Pervious Area
3.040		70.53% Impervious Area

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

Subcatchment 37S: (new Subcat)

Hydrograph



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Page 408

Summary for Subcatchment 38S: (new Subcat)

Runoff = 18.26 cfs @ 12.17 hrs, Volume= 1.204 af, Depth= 5.99"
 Routed to Pond IP H : IP H

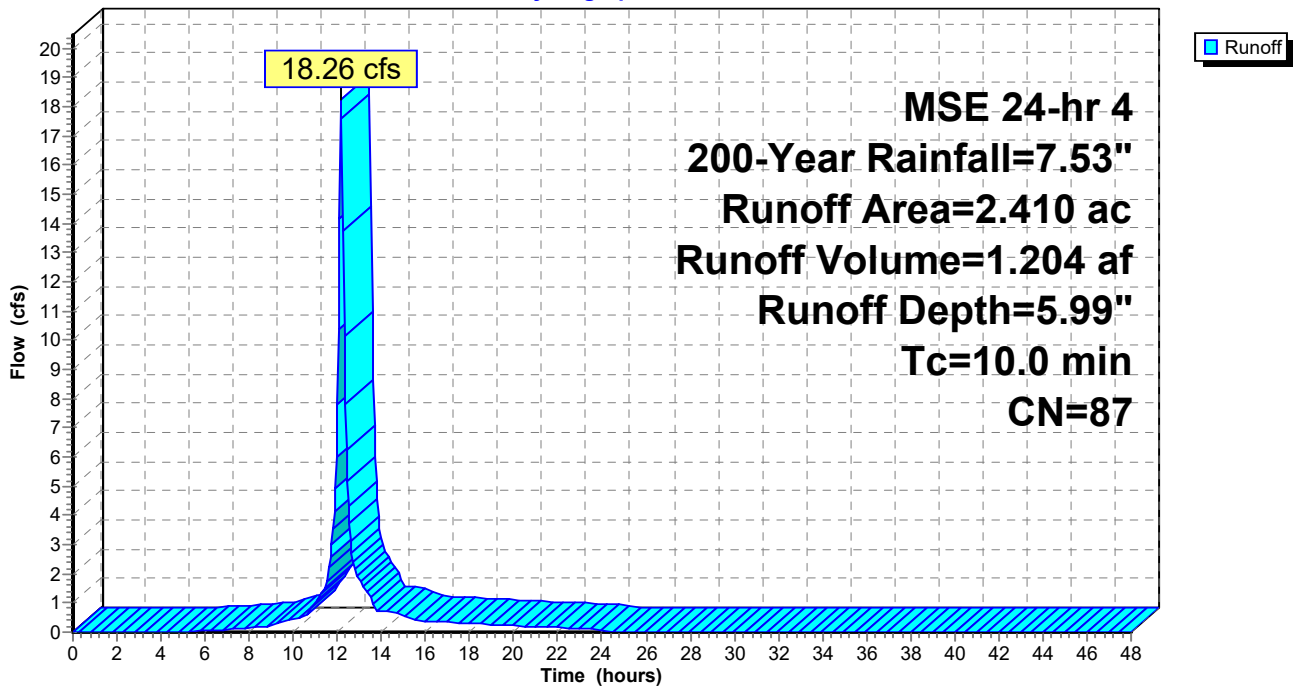
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.830	98	Roof
* 0.420	98	Patio
* 0.420	98	Driveways
0.710	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.410	87	Weighted Average
0.710		29.46% Pervious Area
1.700		70.54% Impervious Area

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

Subcatchment 38S: (new Subcat)

Hydrograph



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Page 409

Summary for Subcatchment 39S: Prop. 39S

Runoff = 41.50 cfs @ 12.17 hrs, Volume= 2.703 af, Depth= 5.76"
 Routed to Pond BIO J : Bio J

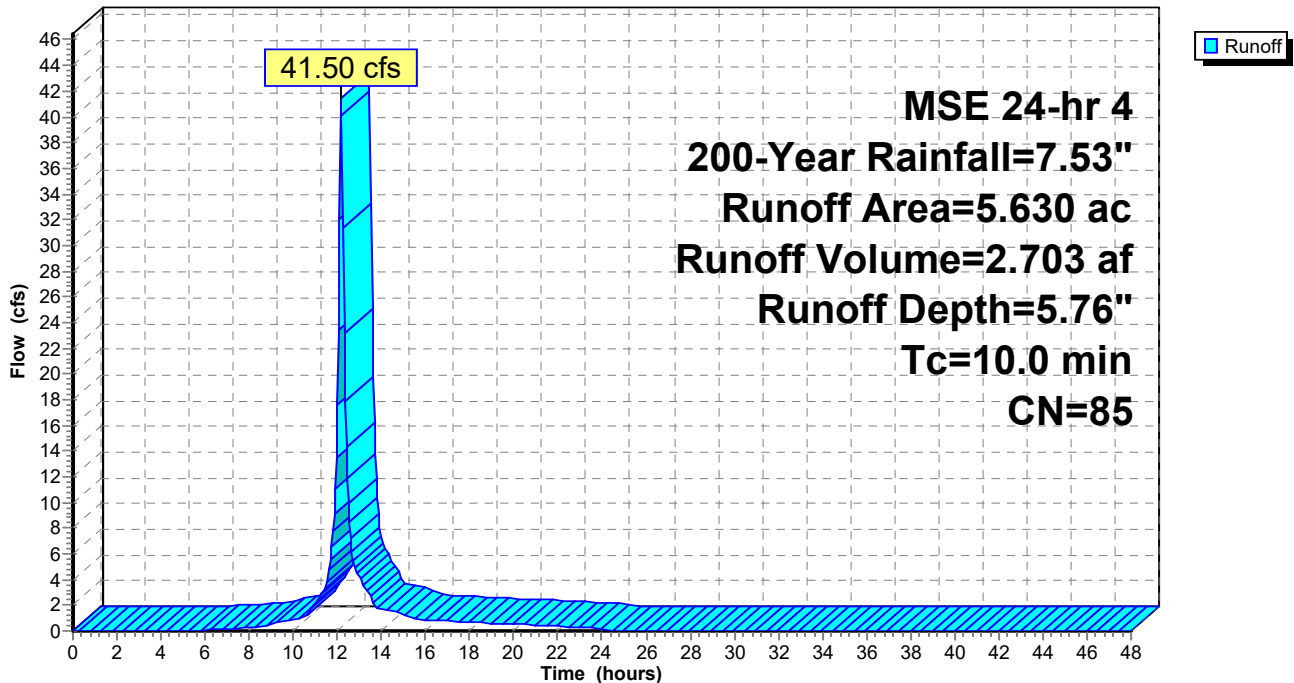
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.660	98	Roof
* 0.830	98	Patio
* 0.830	98	Driveways
* 0.030	98	Sidewalk
* 0.100	98	Street
2.060	61	>75% Grass cover, Good, HSG B
* 0.120	100	Infiltration Basin
5.630	85	Weighted Average
2.060		36.59% Pervious Area
3.570		63.41% Impervious Area

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

Subcatchment 39S: Prop. 39S

Hydrograph



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Page 410

Summary for Subcatchment 40S: Prop. 40S

Runoff = 31.68 cfs @ 12.17 hrs, Volume= 2.087 af, Depth= 5.99"
 Routed to Pond BIO K : Bio K

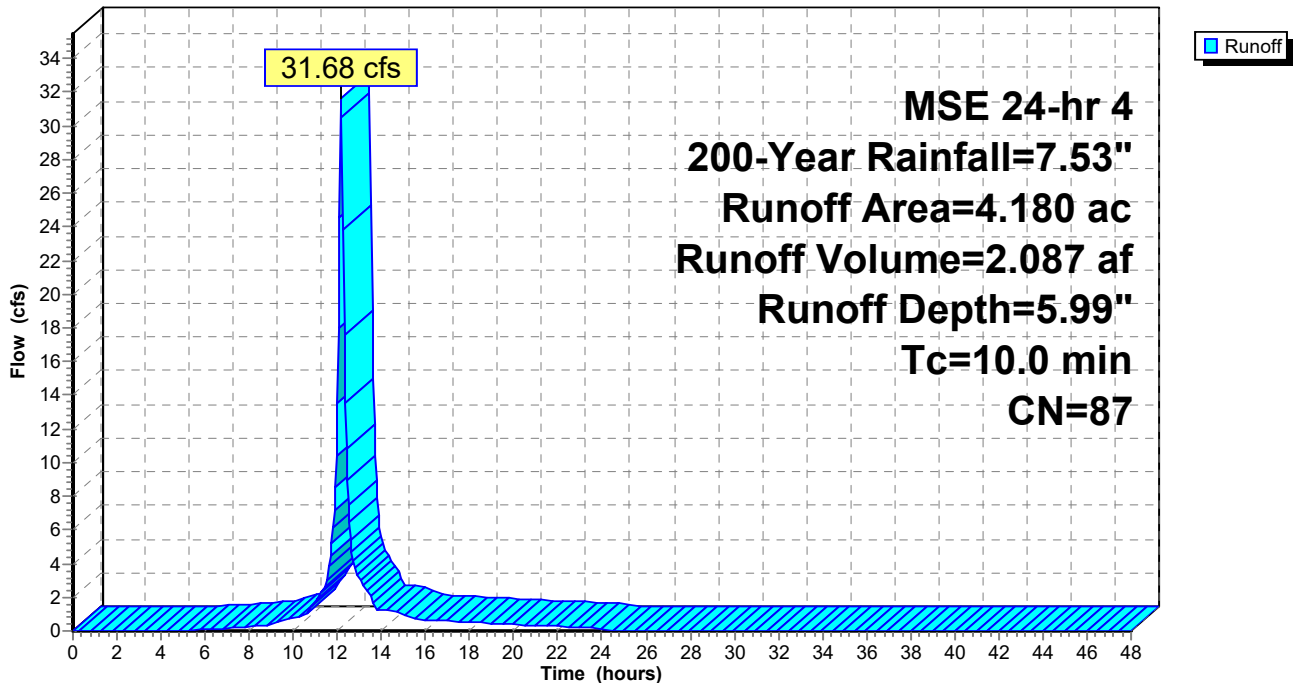
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.960	98	Roof
* 0.480	98	Patio
* 0.480	98	Driveways
* 0.190	98	Sidewalk
* 0.670	98	Street
1.300	61	>75% Grass cover, Good, HSG B
* 0.100	100	Infiltration Basin
4.180	87	Weighted Average
1.300		31.10% Pervious Area
2.880		68.90% Impervious Area

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

Subcatchment 40S: Prop. 40S

Hydrograph



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Page 411

Summary for Subcatchment 41S: Prop. 41S

Runoff = 16.90 cfs @ 12.17 hrs, Volume= 1.107 af, Depth= 5.88"
 Routed to Pond IP L : Inf L

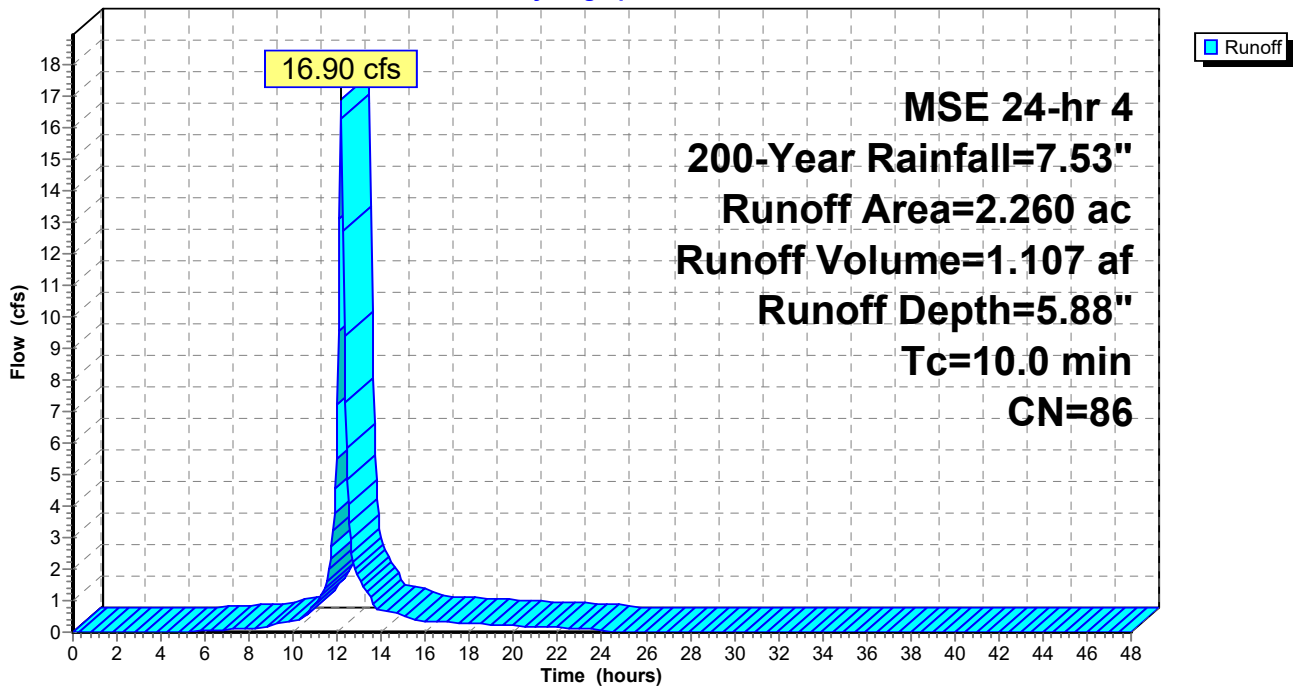
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.750	98	Roof
* 0.380	98	Patio
* 0.380	98	Driveways
0.720	61	>75% Grass cover, Good, HSG B
* 0.030	100	Infiltration Basin
2.260	86	Weighted Average
0.720		31.86% Pervious Area
1.540		68.14% Impervious Area

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

Subcatchment 41S: Prop. 41S

Hydrograph



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Page 412

Summary for Subcatchment 42S: Prop. 42S

Runoff = 7.91 cfs @ 12.17 hrs, Volume= 0.513 af, Depth= 5.65"
 Routed to Pond IP M : Inf M

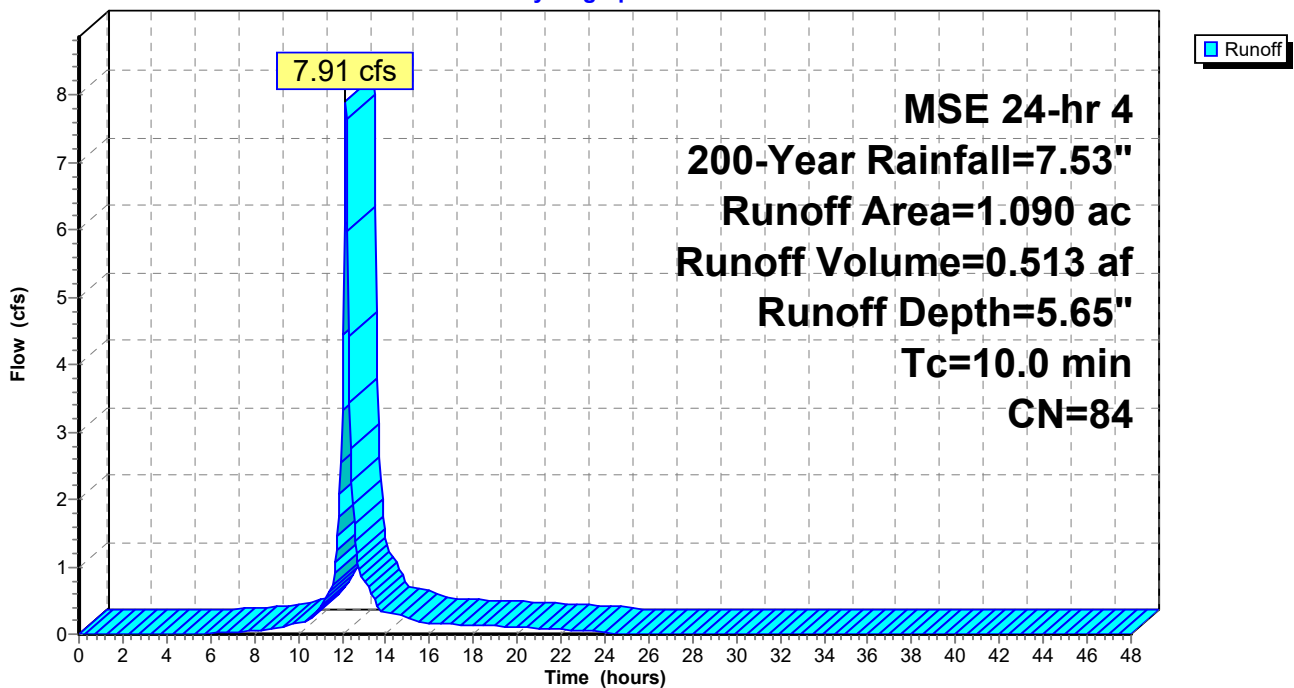
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.300	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.430	61	>75% Grass cover, Good, HSG B
* 0.060	100	Infiltration Basin
1.090	84	Weighted Average
0.430		39.45% Pervious Area
0.660		60.55% Impervious Area

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

Subcatchment 42S: Prop. 42S

Hydrograph



Kilkenny Phase Master

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Page 413

Summary for Subcatchment 43S: Prop. 43S

Runoff = 30.80 cfs @ 12.17 hrs, Volume= 1.986 af, Depth= 5.53"
 Routed to Pond BIO N : Bio N

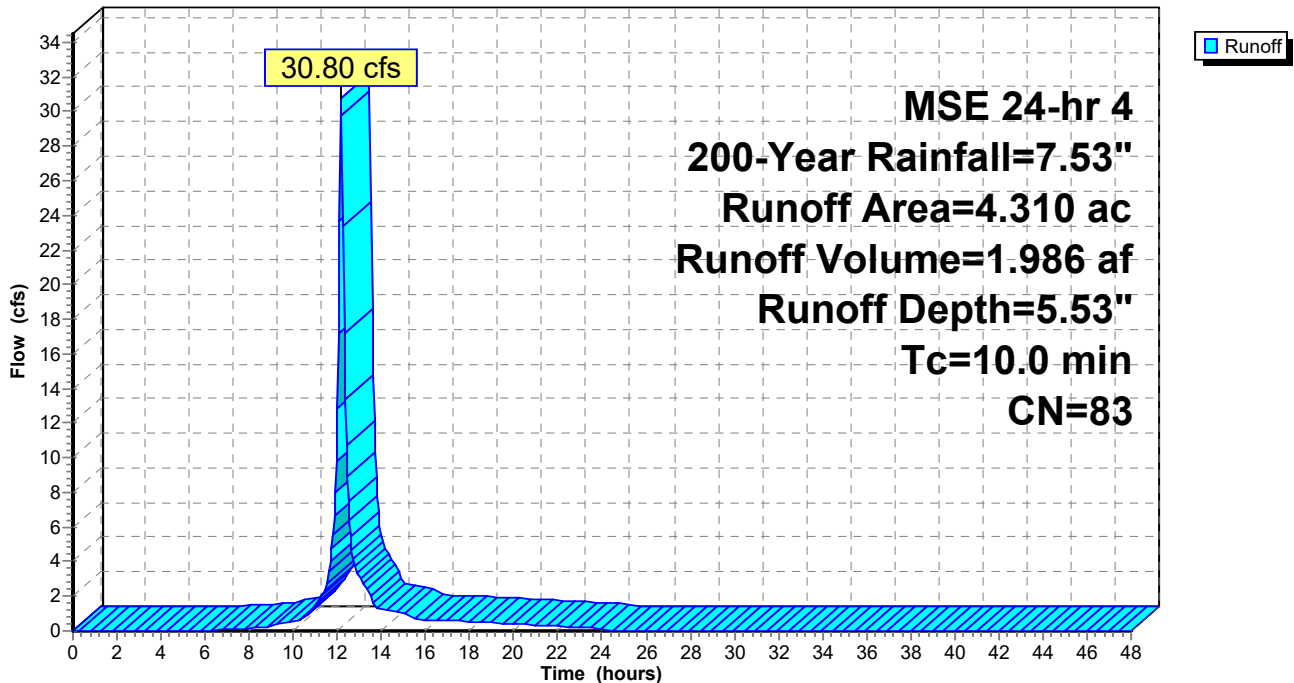
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 43S: Prop. 43S

Hydrograph



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Page 414

Summary for Subcatchment 44S: Prop. 44S

Runoff = 30.80 cfs @ 12.17 hrs, Volume= 1.986 af, Depth= 5.53"
 Routed to Pond BIO O : Bio O

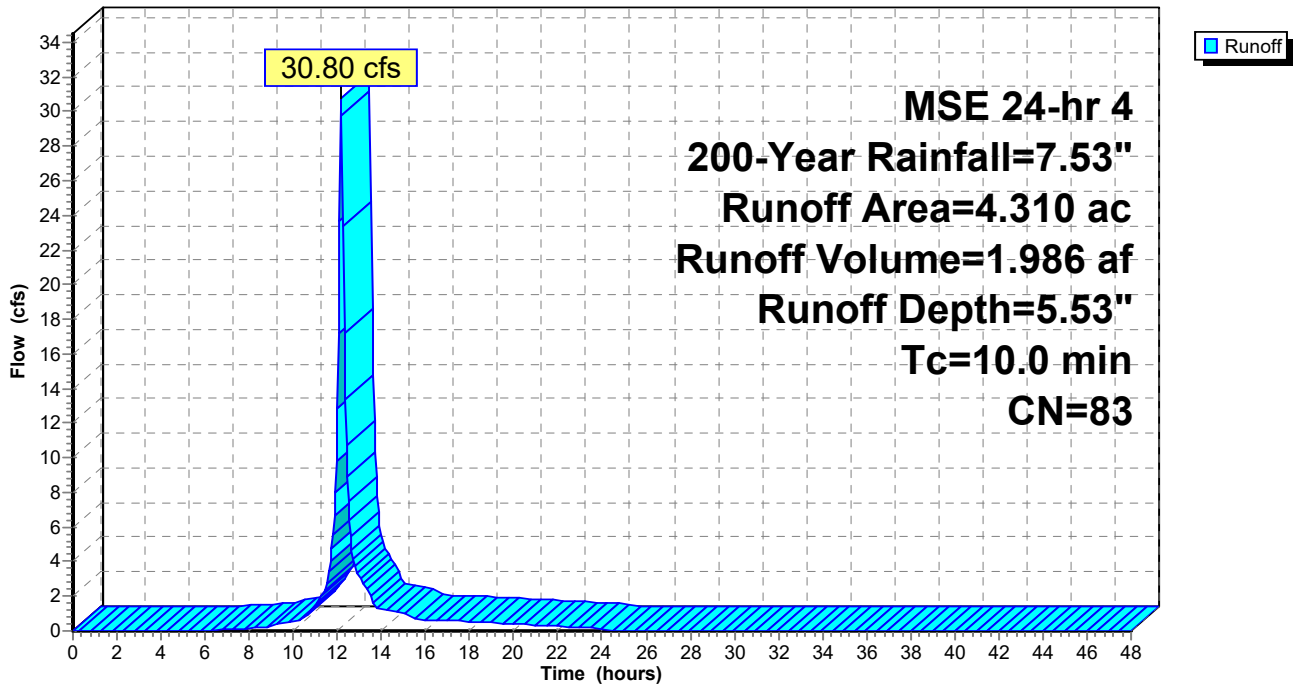
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.630	98	Roof
* 0.320	98	Patio
* 0.320	98	Driveways
* 0.200	98	Sidewalk
* 0.760	98	Street
1.810	61	>75% Grass cover, Good, HSG B
* 0.270	100	Infiltration Basin
4.310	83	Weighted Average
1.810		42.00% Pervious Area
2.500		58.00% Impervious Area

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

Subcatchment 44S: Prop. 44S

Hydrograph



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Page 415

Summary for Subcatchment 45S: Prop. 45S

Runoff = 66.86 cfs @ 12.17 hrs, Volume= 4.291 af, Depth= 5.41"
 Routed to Pond WP P : Wet Pond P

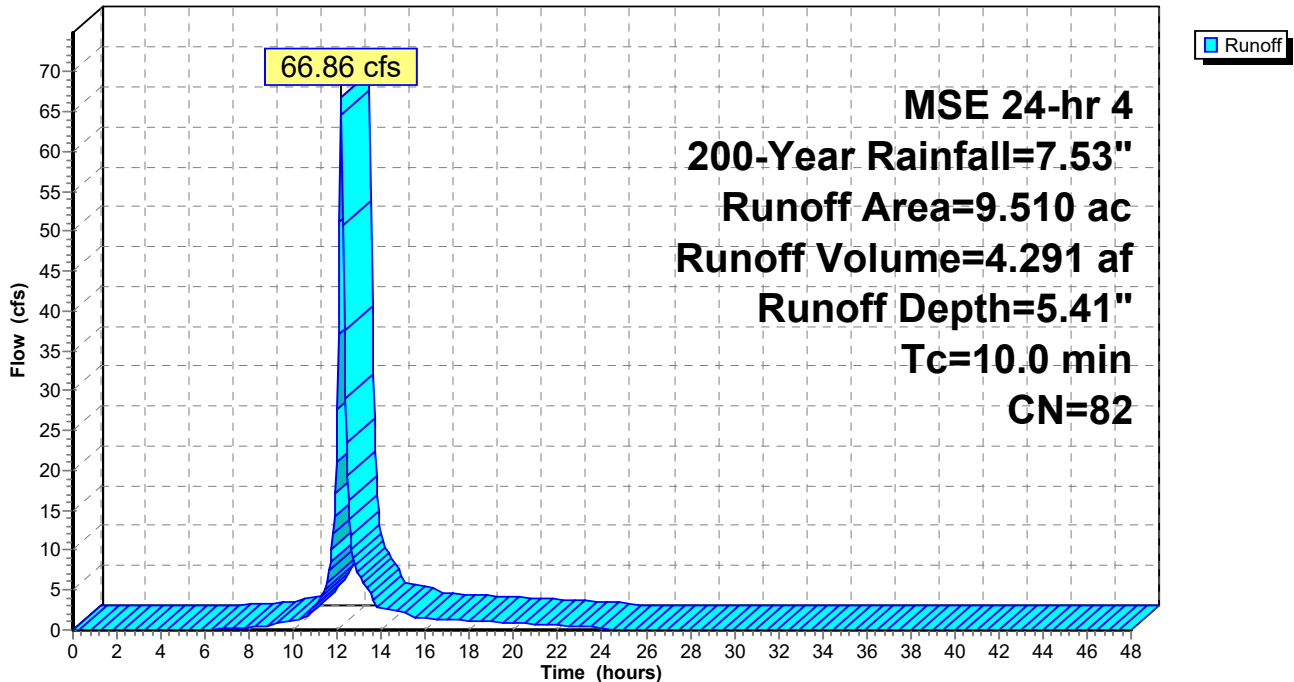
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.690	98	Roofs
* 0.190	98	Parking
* 0.850	98	Driveways
* 0.850	98	Sidewalks - House
* 0.280	98	Sidewalks - Street
* 1.050	98	Streets
4.100	61	>75% Grass cover, Good, HSG B
* 0.250	100	Wet Pond
* 0.250	100	Infiltration
9.510	82	Weighted Average
4.100		43.11% Pervious Area
5.410		56.89% Impervious Area

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

Subcatchment 45S: Prop. 45S

Hydrograph



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Page 416

Summary for Subcatchment 46S: Prop. 46S

Runoff = 89.87 cfs @ 12.23 hrs, Volume= 6.841 af, Depth= 5.88"
 Routed to Pond WP Q : Wet Pond Q

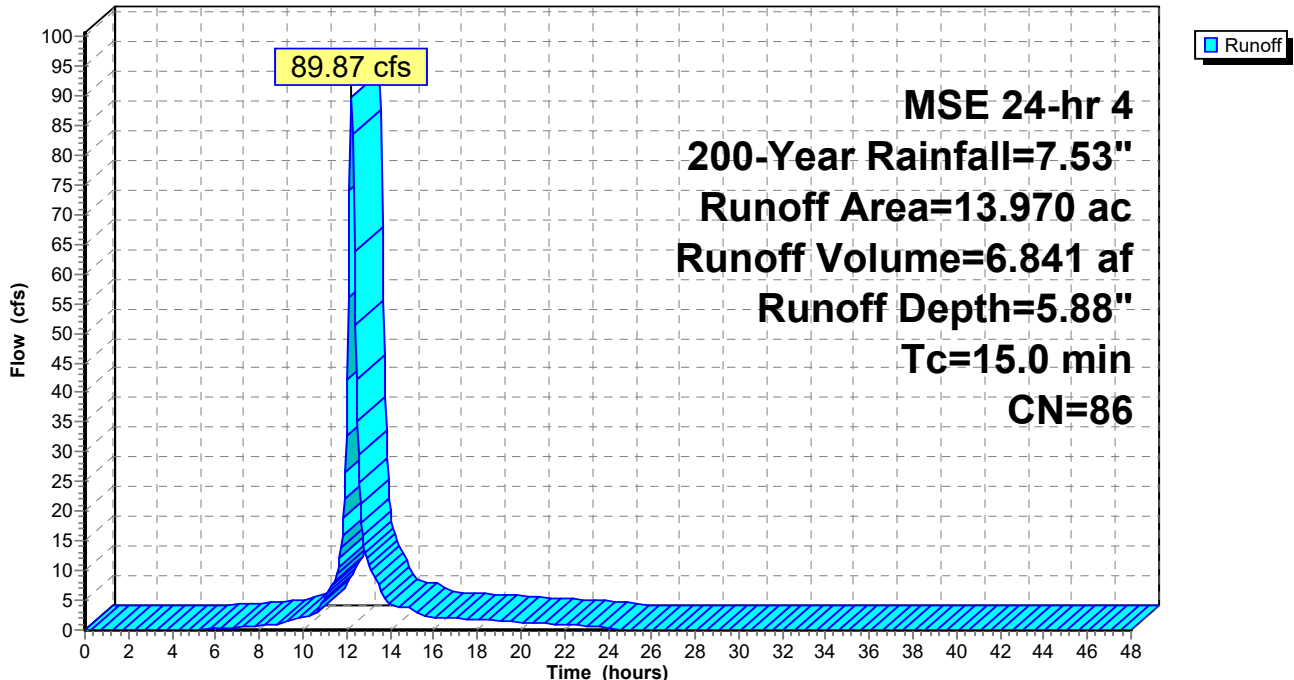
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 3.370	98	Roofs
* 0.080	98	Parking
* 1.680	98	Driveways
* 1.680	98	Sidewalks - House
* 0.510	98	Sidewalks - Street
* 2.050	98	Streets
4.370	61	>75% Grass cover, Good, HSG B
* 0.130	100	Wet Pond
* 0.100	100	Infiltration
13.970	86	Weighted Average
4.370		31.28% Pervious Area
9.600		68.72% Impervious Area

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

Subcatchment 46S: Prop. 46S

Hydrograph



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Page 417

Summary for Subcatchment 47S: Prop. 47S

Runoff = 18.38 cfs @ 12.17 hrs, Volume= 1.175 af, Depth= 5.30"
 Routed to Pond WP R : Wet Pond R

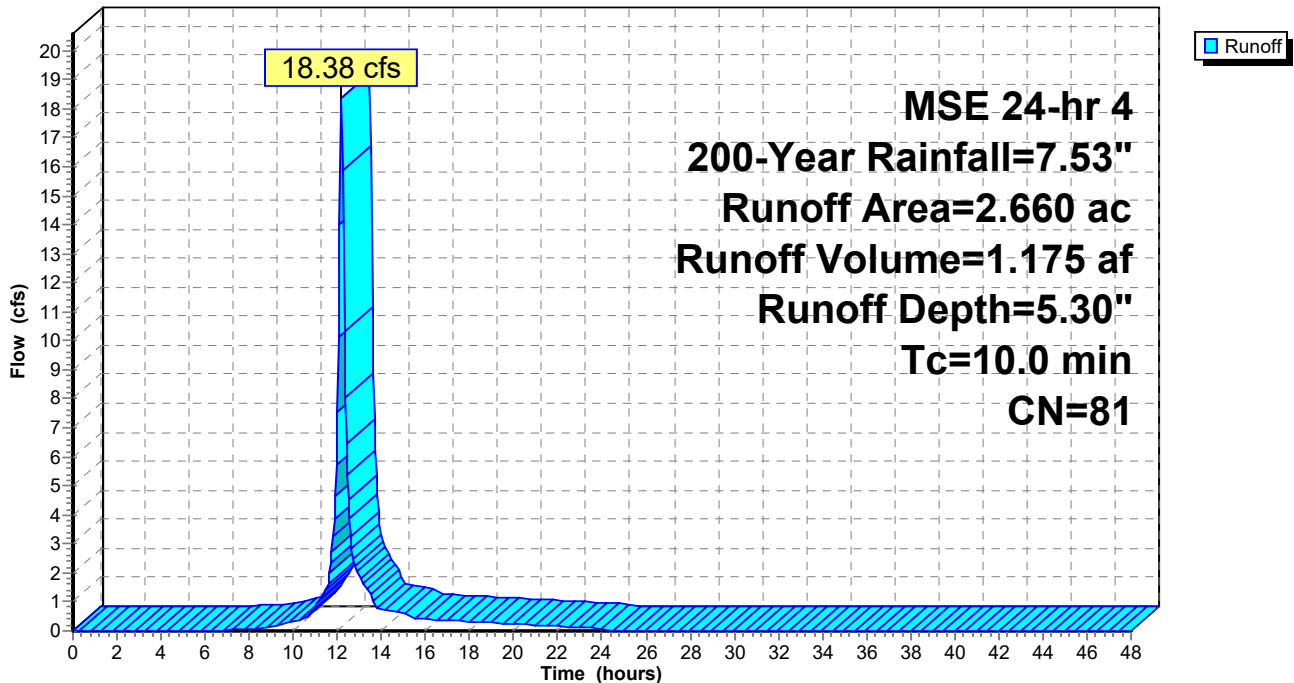
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.350	98	Roofs
* 0.180	98	Driveways
* 0.180	98	Sidewalks - House
* 0.060	98	Sidewalks - Street
* 0.500	98	Streets
1.210	61	>75% Grass cover, Good, HSG B
* 0.180	100	Wet Pond
2.660	81	Weighted Average
1.210		45.49% Pervious Area
1.450		54.51% Impervious Area

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

Subcatchment 47S: Prop. 47S

Hydrograph



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Page 418

Summary for Subcatchment 48S: Prop. 48S

Runoff = 18.49 cfs @ 12.17 hrs, Volume= 1.219 af, Depth= 5.99"
 Routed to Pond Bio S : Bio S

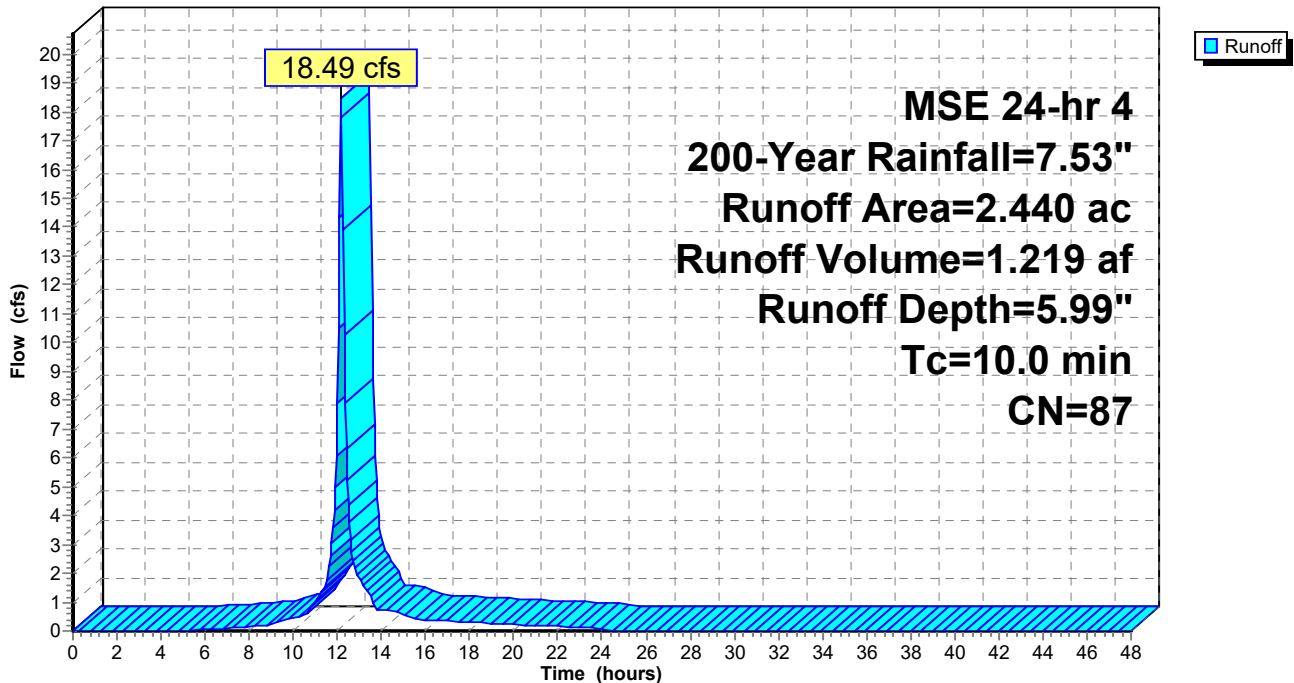
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.430	98	Roof
* 0.220	98	Patio
* 0.210	98	Driveways
* 0.170	98	Sidewalk
* 0.600	98	Street
0.720	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.440	87	Weighted Average
0.720		29.51% Pervious Area
1.720		70.49% Impervious Area

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

Subcatchment 48S: Prop. 48S

Hydrograph



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Page 419

Summary for Subcatchment 49S: 49S

Runoff = 17.05 cfs @ 12.17 hrs, Volume= 1.124 af, Depth= 5.99"
 Routed to Pond IP T : Infil T

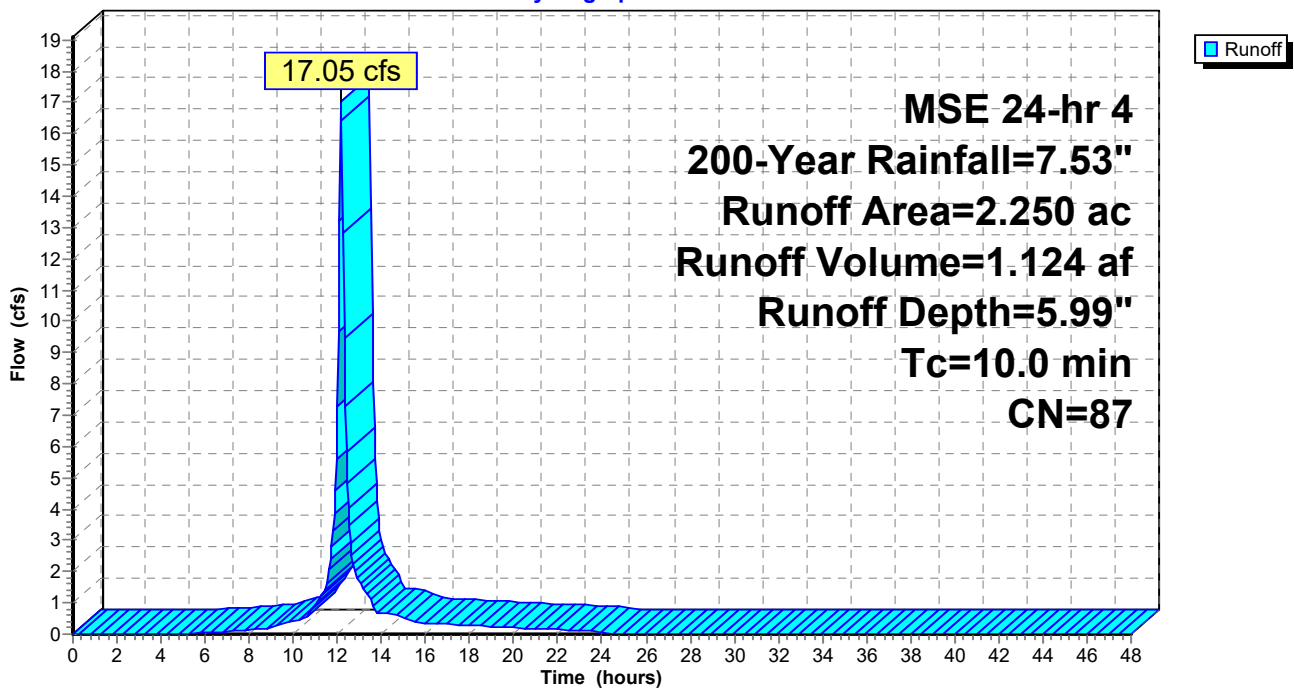
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.740	98	Roof
* 0.370	98	Patio
* 0.370	98	Driveways
0.680	61	>75% Grass cover, Good, HSG B
* 0.090	100	Infiltration Basin
2.250	87	Weighted Average
0.680		30.22% Pervious Area
1.570		69.78% Impervious Area

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

Subcatchment 49S: 49S

Hydrograph



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Page 420

Summary for Subcatchment 50S: Prop. 50S

Runoff = 38.62 cfs @ 12.17 hrs, Volume= 2.515 af, Depth= 5.76"
 Routed to Pond WP U : Wet Pond U

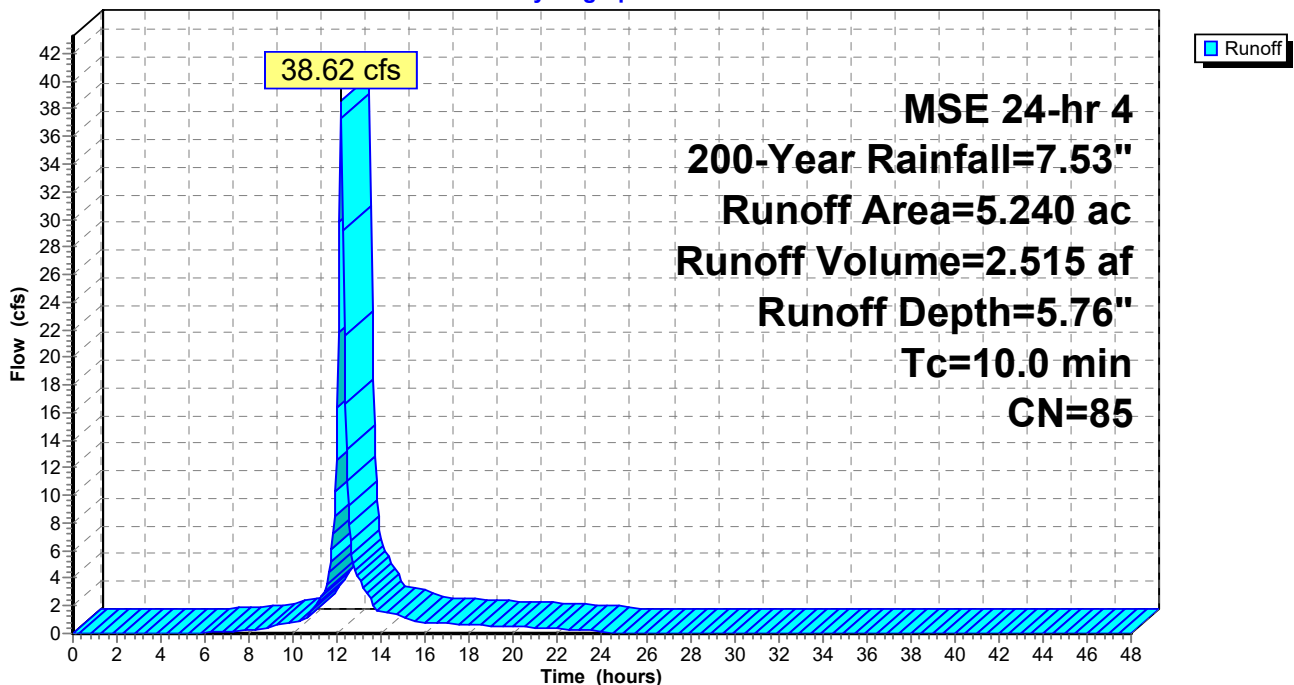
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.420	98	Roofs
* 0.210	98	Driveways
* 0.210	98	Sidewalks - House
* 0.500	98	Sidewalks - Street
* 1.800	98	Streets
1.790	61	>75% Grass cover, Good, HSG B
* 0.160	100	Wet Pond
* 0.150	100	Infiltration
5.240	85	Weighted Average
1.790		34.16% Pervious Area
3.450		65.84% Impervious Area

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

Subcatchment 50S: Prop. 50S

Hydrograph



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Page 421

Summary for Subcatchment 51S: Prop. 51S

Runoff = 11.08 cfs @ 12.17 hrs, Volume= 0.714 af, Depth= 5.53"
Routed to Pond IP V : Infil V

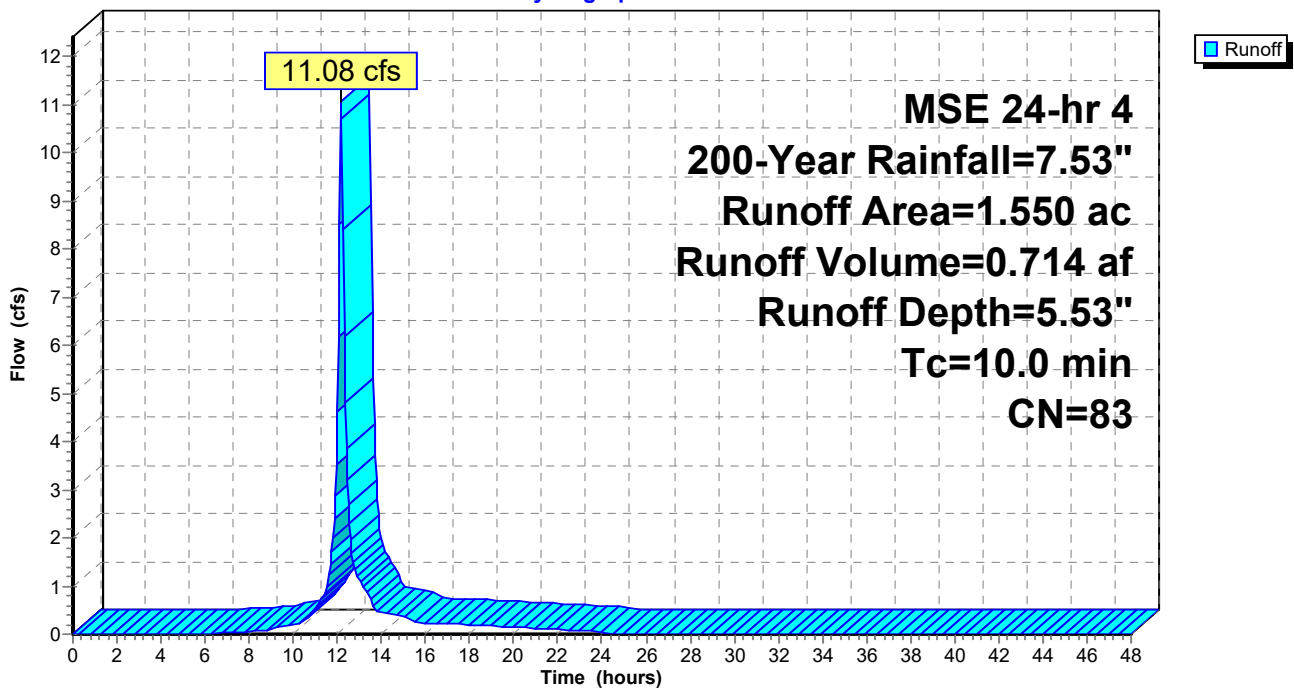
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.290	98	Roof
* 0.150	98	Patio
* 0.150	98	Driveways
0.660	61	>75% Grass cover, Good, HSG B
* 0.300	100	Infiltration Basin
1.550	83	Weighted Average
0.660		42.58% Pervious Area
0.890		57.42% Impervious Area

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

Subcatchment 51S: Prop. 51S

Hydrograph



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Page 422

Summary for Subcatchment 52S: Prop. 52S

Runoff = 26.07 cfs @ 12.17 hrs, Volume= 1.718 af, Depth= 5.99"
Routed to Pond IP W : Infil W

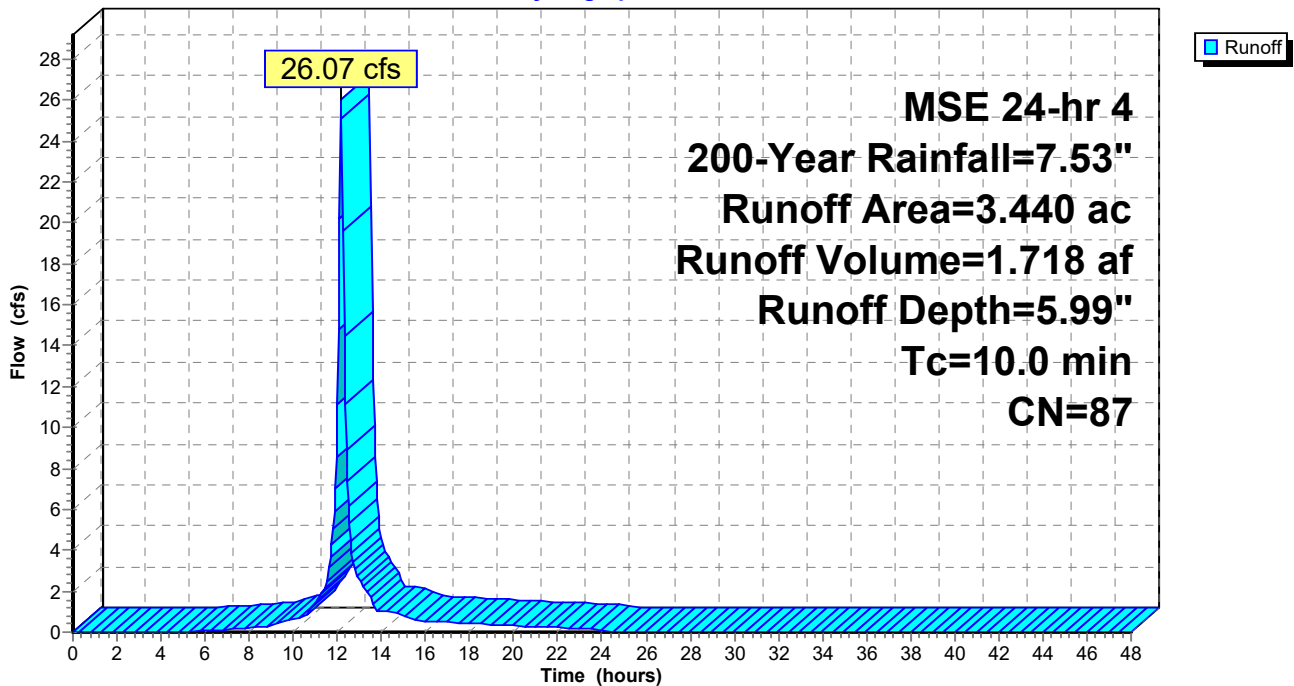
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.170	98	Roof
* 0.590	98	Patio
* 0.590	98	Driveways
1.070	61	>75% Grass cover, Good, HSG B
* 0.020	100	Infiltration Basin
3.440	87	Weighted Average
1.070		31.10% Pervious Area
2.370		68.90% Impervious Area

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

Subcatchment 52S: Prop. 52S

Hydrograph



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Page 423

Summary for Subcatchment 53S: Prop. 53S

Runoff = 30.28 cfs @ 12.17 hrs, Volume= 1.983 af, Depth= 5.88"
 Routed to Pond Bio X : Bio X

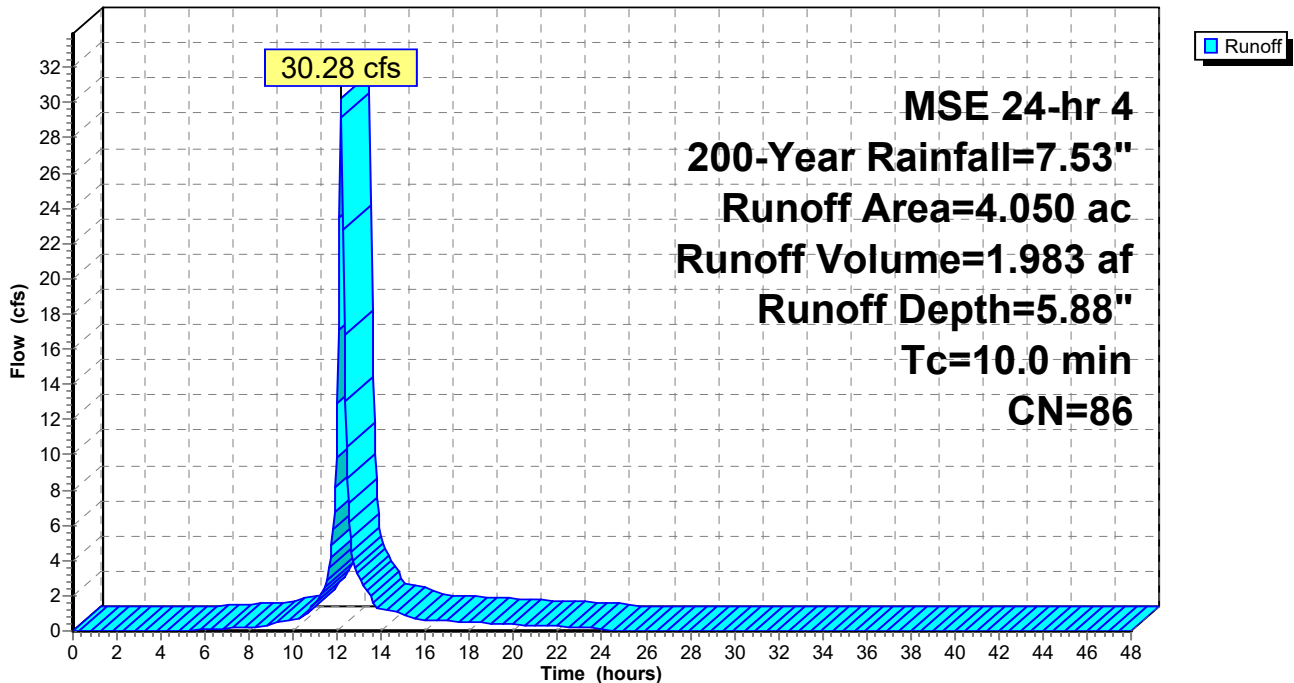
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.000	98	Roof
* 0.000	98	Patio
* 0.000	98	Driveways
* 0.570	98	Sidewalk
* 2.020	98	Street
1.330	61	>75% Grass cover, Good, HSG B
* 0.130	100	Infiltration Basin
4.050	86	Weighted Average
1.330		32.84% Pervious Area
2.720		67.16% Impervious Area

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

Subcatchment 53S: Prop. 53S

Hydrograph



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Page 424

Summary for Subcatchment 54S: Future 54S

Runoff = 13.83 cfs @ 12.24 hrs, Volume= 1.009 af, Depth= 3.84"
Routed to Pond Bio X : Bio X

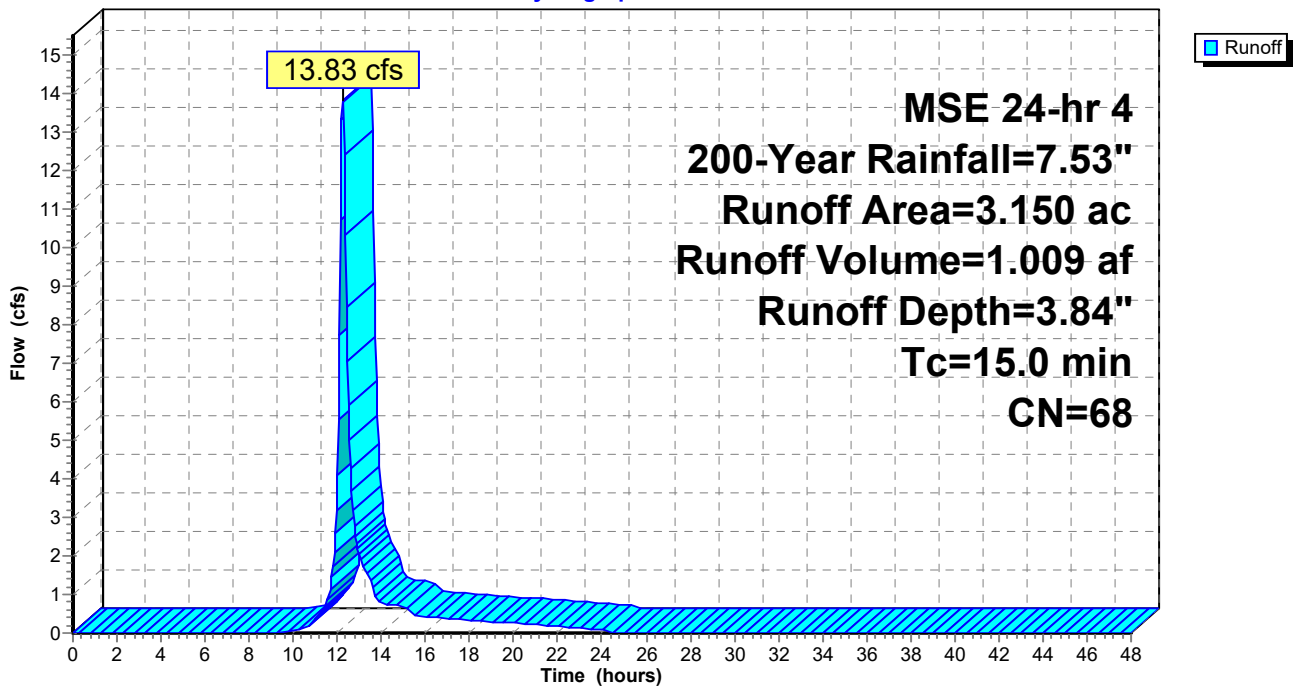
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 3.150	68	HSG B Ag
3.150		100.00% Pervious Area

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

Subcatchment 54S: Future 54S

Hydrograph



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Page 425

Summary for Subcatchment 55S: Prop. 55S

Runoff = 14.57 cfs @ 12.17 hrs, Volume= 0.921 af, Depth= 4.96"
 Routed to Reach 12R : Prop CTH Q

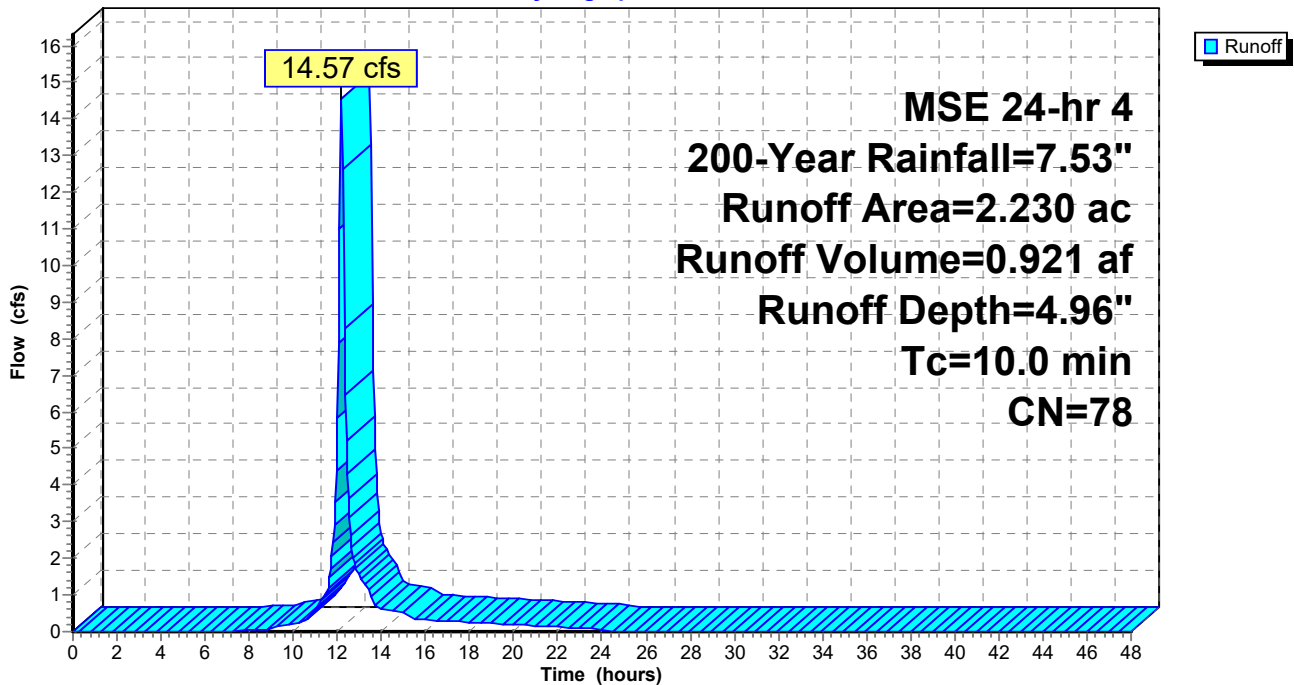
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.120	98	Parking
* 0.200	98	Sidewalk
* 0.720	98	Street
1.190	61	>75% Grass cover, Good, HSG B
2.230	78	Weighted Average
1.190		53.36% Pervious Area
1.040		46.64% Impervious Area

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

Subcatchment 55S: Prop. 55S

Hydrograph



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Page 426

Summary for Subcatchment 56S: (new Subcat)

Runoff = 124.73 cfs @ 12.17 hrs, Volume= 8.333 af, Depth= 6.23"
 Routed to Reach 27R : Post Wetland

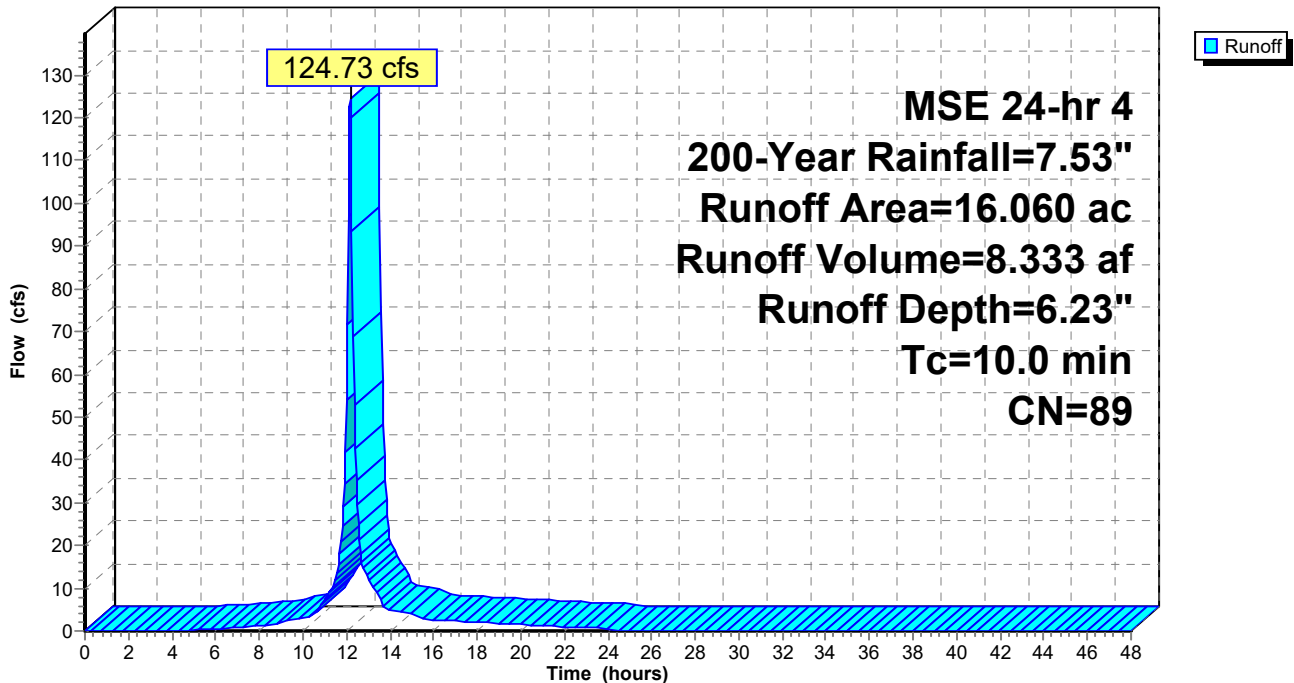
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.120	98	Roof
* 0.560	98	Driveways
* 0.560	98	Patio
* 0.030	98	Sidewalk
* 0.110	98	Street
4.330	61	>75% Grass cover, Good, HSG B
* 9.350	100	Wetland
16.060	89	Weighted Average
4.330		26.96% Pervious Area
11.730		73.04% Impervious Area

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

Subcatchment 56S: (new Subcat)

Hydrograph



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Page 427

Summary for Subcatchment 57S: Existing 56S

Runoff = 11.46 cfs @ 12.18 hrs, Volume= 0.716 af, Depth= 4.17"
 Routed to Reach 52R : TOTAL PROPOSED

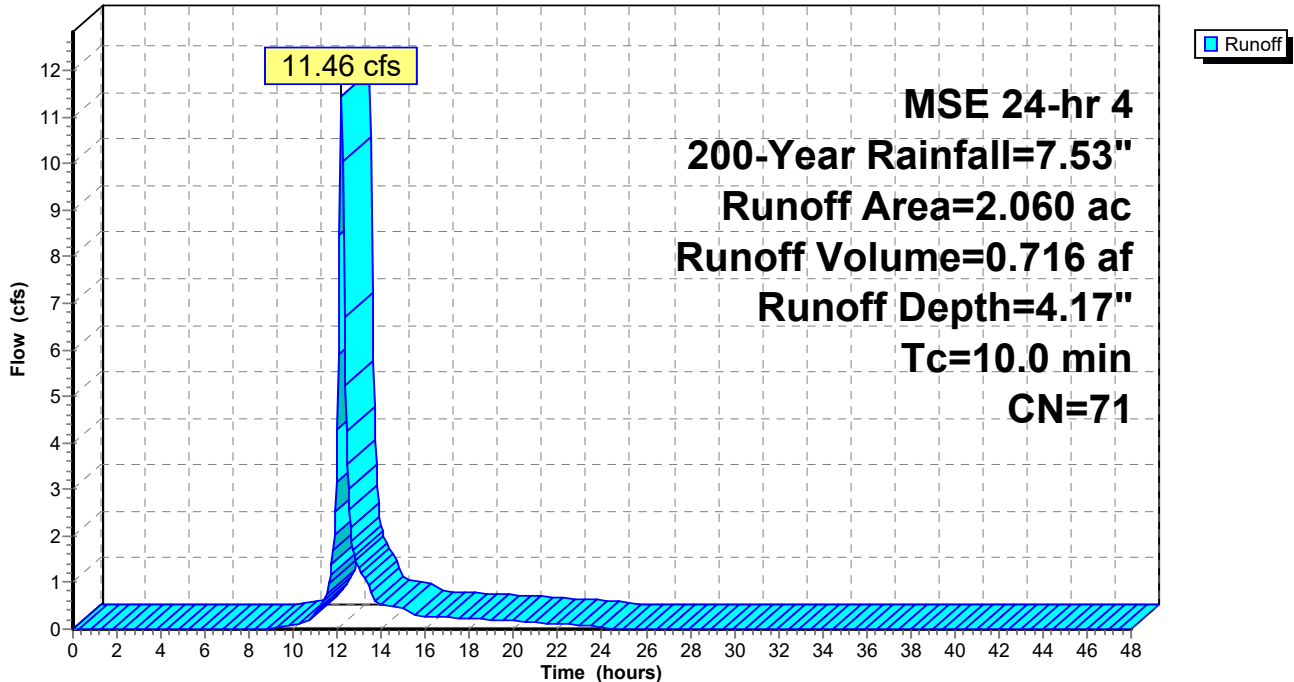
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
1.510	61	>75% Grass cover, Good, HSG B
* 0.300	98	House
* 0.250	98	Impervious
2.060	71	Weighted Average
1.510		73.30% Pervious Area
0.550		26.70% Impervious Area

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

Subcatchment 57S: Existing 56S

Hydrograph



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Page 428

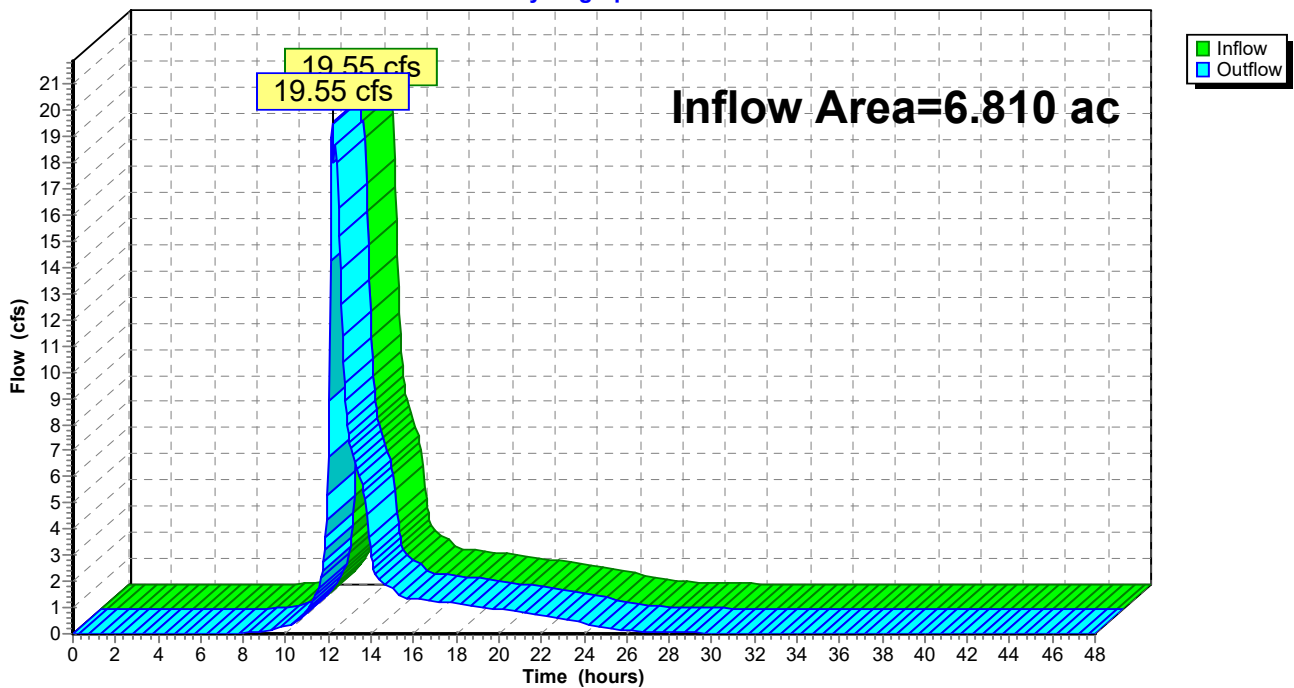
Summary for Reach 12R: Prop CTH Q

Inflow Area = 6.810 ac, 43.91% Impervious, Inflow Depth > 4.90" for 200-Year event
Inflow = 19.55 cfs @ 12.19 hrs, Volume= 2.778 af
Outflow = 19.55 cfs @ 12.19 hrs, Volume= 2.778 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 12R: Prop CTH Q

Hydrograph



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MSE 24-hr 4 200-Year Rainfall=7.53"

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Page 429

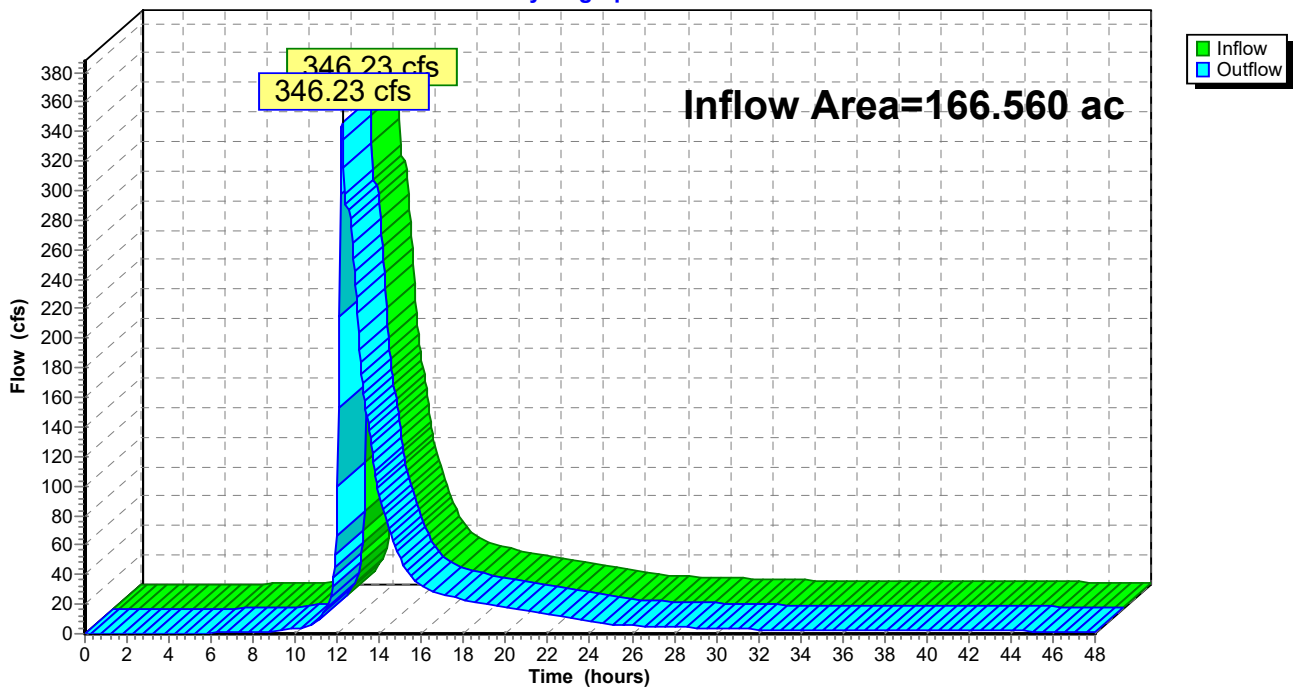
Summary for Reach 27R: Post Wetland

Inflow Area = 166.560 ac, 52.08% Impervious, Inflow Depth > 4.56" for 200-Year event
Inflow = 346.23 cfs @ 12.22 hrs, Volume= 63.298 af
Outflow = 346.23 cfs @ 12.22 hrs, Volume= 63.298 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 27R: Post Wetland

Hydrograph



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Page 430

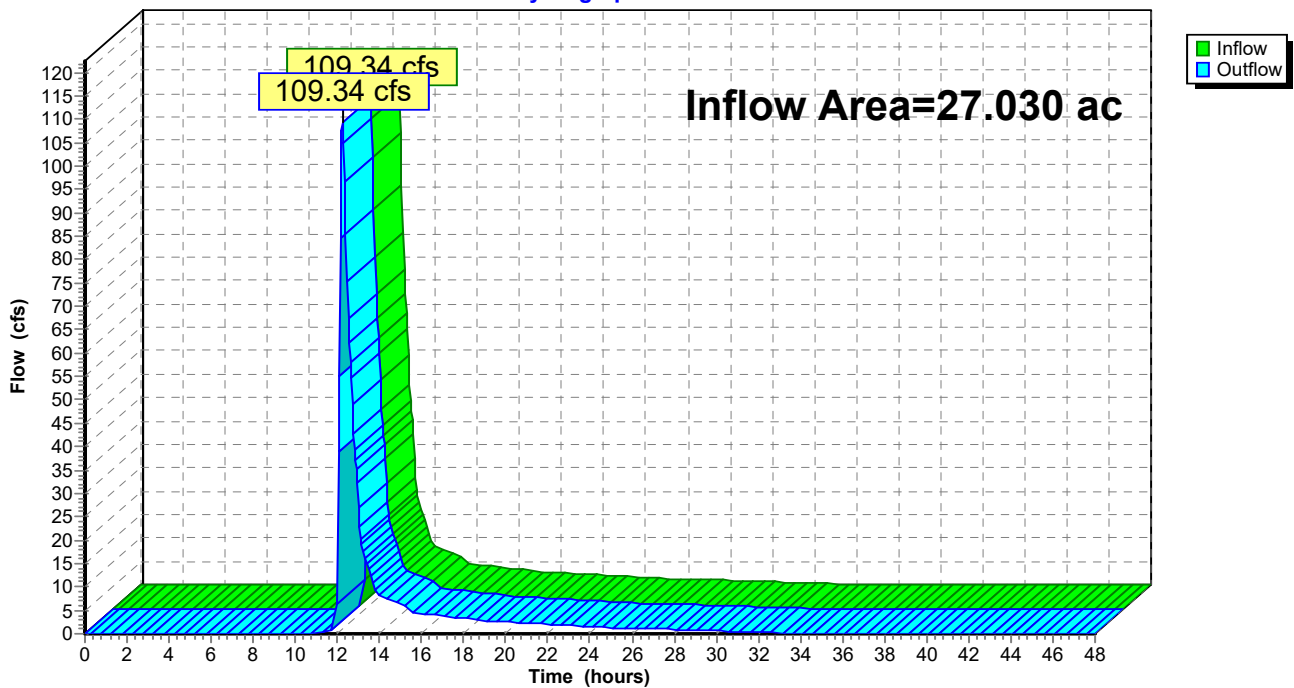
Summary for Reach 41R: (new Reach)

Inflow Area = 27.030 ac, 50.50% Impervious, Inflow Depth = 4.38" for 200-Year event
Inflow = 109.34 cfs @ 12.24 hrs, Volume= 9.875 af
Outflow = 109.34 cfs @ 12.24 hrs, Volume= 9.875 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 41R: (new Reach)

Hydrograph



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Page 431

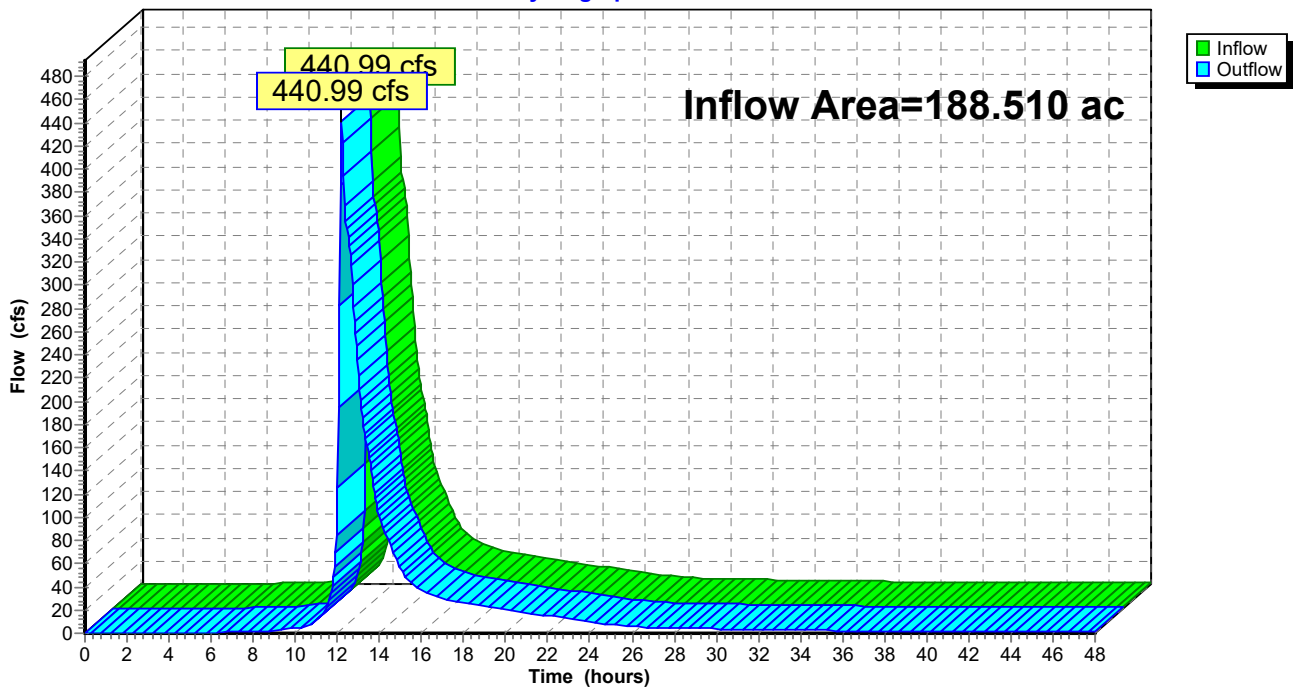
Summary for Reach 52R: TOTAL PROPOSED

Inflow Area = 188.510 ac, 51.50% Impervious, Inflow Depth > 4.60" for 200-Year event
Inflow = 440.99 cfs @ 12.21 hrs, Volume= 72.217 af
Outflow = 440.99 cfs @ 12.21 hrs, Volume= 72.217 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Reach 52R: TOTAL PROPOSED

Hydrograph



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Page 432

Summary for Pond BIO J: Bio J

Inflow Area = 10.880 ac, 32.81% Impervious, Inflow Depth = 4.47" for 200-Year event
 Inflow = 52.56 cfs @ 12.19 hrs, Volume= 4.055 af
 Outflow = 33.90 cfs @ 12.36 hrs, Volume= 4.017 af, Atten= 35%, Lag= 10.0 min
 Discarded = 0.09 cfs @ 12.30 hrs, Volume= 0.223 af
 Primary = 25.80 cfs @ 12.36 hrs, Volume= 3.694 af
 Routed to Pond BIO N : Bio N
 Secondary = 8.01 cfs @ 12.36 hrs, Volume= 0.101 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.43' @ 12.36 hrs Surf.Area= 7,579 sf Storage= 35,155 cf

Plug-Flow detention time= 85.7 min calculated for 4.017 af (99% of inflow)
 Center-of-Mass det. time= 80.1 min (887.1 - 807.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	69,813 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
916.00	5,358	0.0	0	0
916.01	5,358	33.0	18	18
919.99	5,358	33.0	7,037	7,055
920.00	5,358	27.0	14	7,069
921.49	5,358	27.0	2,156	9,225
921.50	5,358	100.0	54	9,278
925.00	7,579	100.0	22,640	31,918
930.00	7,579	100.0	37,895	69,813

Device	Routing	Invert	Outlet Devices
#1	Primary	919.50'	24.0" Round 24" Outlet Pipe L= 660.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 919.50' / 916.00' S= 0.0053 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	919.50'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	922.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	925.00'	10.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 433

Discarded OutFlow Max=0.09 cfs @ 12.30 hrs HW=925.34' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=25.79 cfs @ 12.36 hrs HW=925.42' TW=911.76' (Dynamic Tailwater)

↳ **1=24" Outlet Pipe** (Barrel Controls 25.79 cfs @ 8.21 fps)

↳ **2=4" Underdrain** (Passes < 1.01 cfs potential flow)

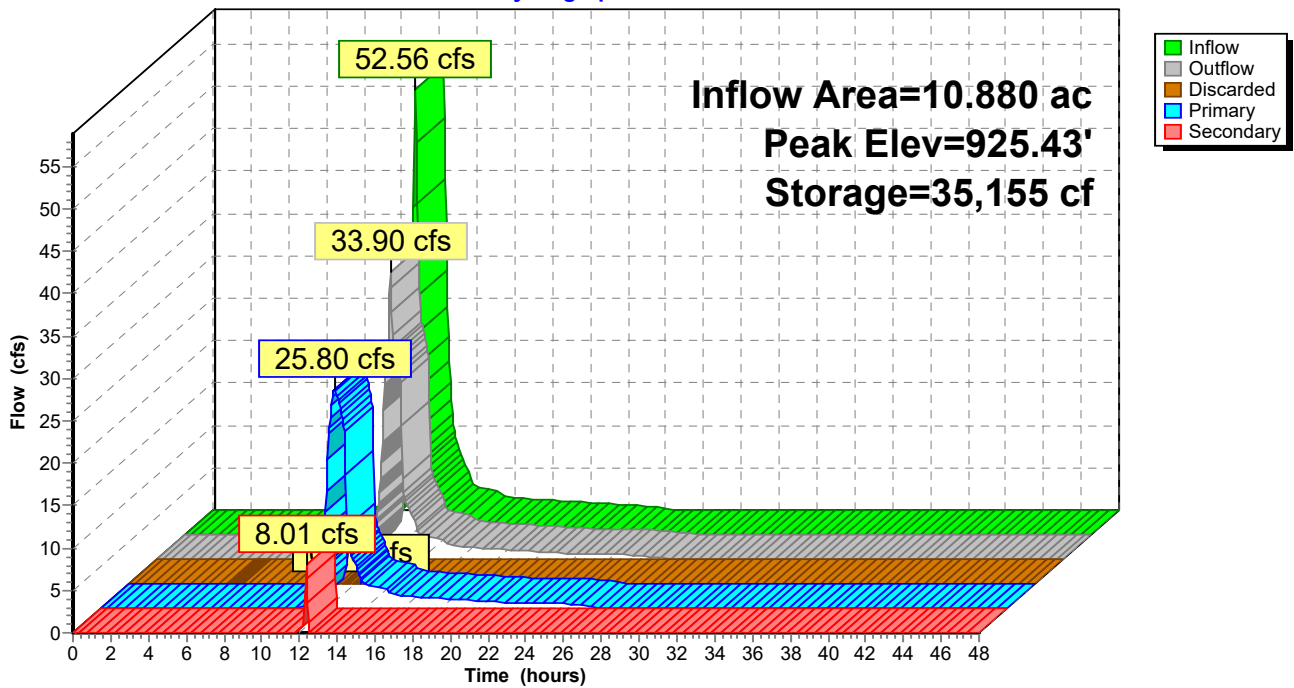
↳ **3=48" Riser** (Passes < 111.90 cfs potential flow)

Secondary OutFlow Max=7.80 cfs @ 12.36 hrs HW=925.42' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Weir Controls 7.80 cfs @ 1.59 fps)

Pond BIO J: Bio J

Hydrograph



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Page 434

Summary for Pond BIO K: Bio K

Inflow Area = 4.180 ac, 68.90% Impervious, Inflow Depth = 5.99" for 200-Year event
 Inflow = 31.68 cfs @ 12.17 hrs, Volume= 2.087 af
 Outflow = 17.85 cfs @ 12.30 hrs, Volume= 2.065 af, Atten= 44%, Lag= 8.0 min
 Discarded = 0.10 cfs @ 12.31 hrs, Volume= 0.194 af
 Primary = 16.99 cfs @ 12.31 hrs, Volume= 1.866 af
 Routed to Pond BIO N : Bio N
 Secondary = 0.76 cfs @ 12.30 hrs, Volume= 0.005 af
 Routed to Pond BIO N : Bio N

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 921.60' @ 12.31 hrs Surf.Area= 8,630 sf Storage= 24,591 cf

Plug-Flow detention time= 135.7 min calculated for 2.063 af (99% of inflow)
 Center-of-Mass det. time= 130.5 min (914.5 - 784.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	913.50'	33,012 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
913.50	4,410	0.0	0	0
913.51	4,410	33.0	15	15
917.49	4,410	33.0	5,792	5,807
917.50	4,410	27.0	12	5,819
918.99	4,410	27.0	1,774	7,593
919.00	4,410	100.0	44	7,637
922.50	10,090	100.0	25,375	33,012

Device	Routing	Invert	Outlet Devices
#1	Primary	917.00'	18.0" Round 18" Outlet Pipe L= 100.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 917.00' / 916.50' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	917.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	921.50'	10.0' long + 4.0 1/2" SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	913.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 435

Discarded OutFlow Max=0.10 cfs @ 12.31 hrs HW=921.59' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=16.97 cfs @ 12.31 hrs HW=921.59' TW=911.80' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 16.97 cfs @ 9.60 fps)

↳ **2=4" Underdrain** (Passes < 0.88 cfs potential flow)

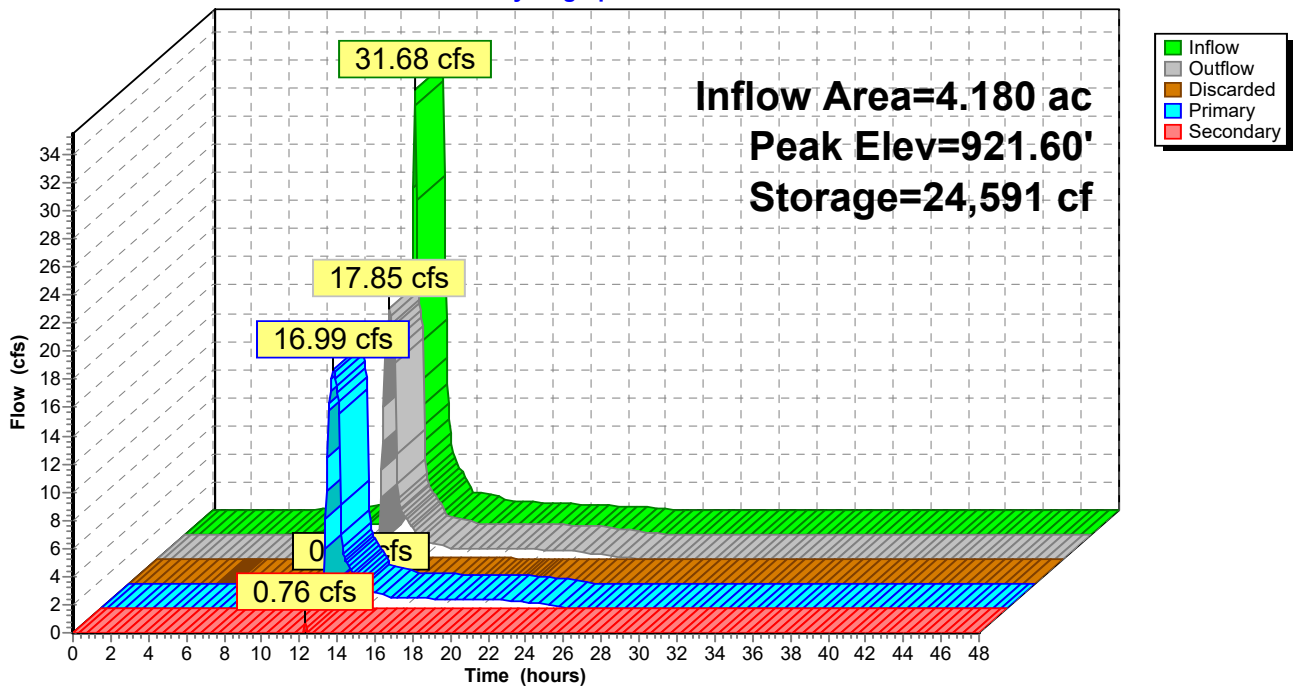
↳ **3=48" Riser** (Passes < 76.41 cfs potential flow)

Secondary OutFlow Max=0.72 cfs @ 12.30 hrs HW=921.60' TW=911.80' (Dynamic Tailwater)

↳ **4=Weir** (Weir Controls 0.72 cfs @ 0.72 fps)

Pond BIO K: Bio K

Hydrograph



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Page 436

Summary for Pond BIO N: Bio N

Inflow Area = 19.370 ac, 46.21% Impervious, Inflow Depth = 4.68" for 200-Year event
 Inflow = 70.12 cfs @ 12.19 hrs, Volume= 7.551 af
 Outflow = 68.65 cfs @ 12.22 hrs, Volume= 7.388 af, Atten= 2%, Lag= 2.0 min
 Discarded = 0.17 cfs @ 12.22 hrs, Volume= 0.496 af
 Primary = 0.81 cfs @ 12.22 hrs, Volume= 1.148 af
 Routed to Reach 41R : (new Reach)
 Secondary = 67.67 cfs @ 12.22 hrs, Volume= 5.744 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 911.84' @ 12.22 hrs Surf.Area= 15,047 sf Storage= 45,292 cf

Plug-Flow detention time= 121.3 min calculated for 7.388 af (98% of inflow)
 Center-of-Mass det. time= 107.5 min (941.4 - 833.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	904.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
904.50	11,850	0.0	0	0
904.51	11,850	33.0	39	39
908.49	11,850	33.0	15,564	15,603
908.50	11,850	27.0	32	15,635
909.99	11,850	27.0	4,767	20,402
910.00	11,850	100.0	118	20,521
912.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	908.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	911.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	904.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.17 cfs @ 12.22 hrs HW=911.84' (Free Discharge)

↳ **3=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.80 cfs @ 12.22 hrs HW=911.84' TW=0.00' (Dynamic Tailwater)

↳ **1=4" Underdrain** (Orifice Controls 0.80 cfs @ 9.22 fps)

Secondary OutFlow Max=66.87 cfs @ 12.22 hrs HW=911.84' TW=0.00' (Dynamic Tailwater)

↳ **2=Broad-Crested Rectangular Weir** (Weir Controls 66.87 cfs @ 2.40 fps)

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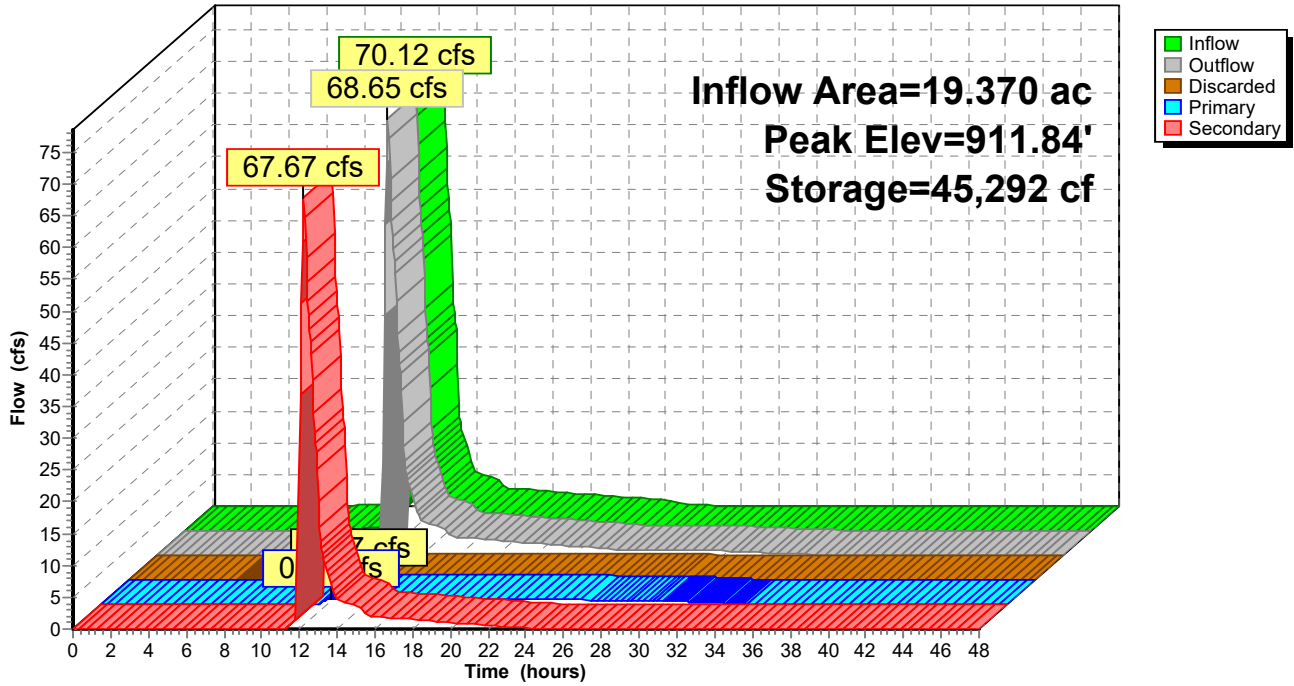
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Page 437

Pond BIO N: Bio N

Hydrograph



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Page 438

Summary for Pond BIO O: Bio O

Inflow Area = 6.570 ac, 61.49% Impervious, Inflow Depth = 5.58" for 200-Year event
 Inflow = 44.90 cfs @ 12.19 hrs, Volume= 3.054 af
 Outflow = 41.10 cfs @ 12.24 hrs, Volume= 2.933 af, Atten= 8%, Lag= 3.1 min
 Discarded = 0.17 cfs @ 12.24 hrs, Volume= 0.487 af
 Primary = 0.78 cfs @ 12.24 hrs, Volume= 0.913 af
 Routed to Reach 41R : (new Reach)
 Secondary = 40.16 cfs @ 12.24 hrs, Volume= 1.533 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 910.60' @ 12.24 hrs Surf.Area= 14,629 sf Storage= 41,717 cf

Plug-Flow detention time= 263.7 min calculated for 2.933 af (96% of inflow)
 Center-of-Mass det. time= 242.5 min (1,040.1 - 797.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	903.50'	47,692 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
903.50	11,850	0.0	0	0
903.51	11,850	33.0	39	39
907.49	11,850	33.0	15,564	15,603
907.50	11,850	27.0	32	15,635
908.99	11,850	27.0	4,767	20,402
909.00	11,850	100.0	118	20,521
911.00	15,321	100.0	27,171	47,692

Device	Routing	Invert	Outlet Devices
#1	Primary	907.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#2	Secondary	910.00'	30.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	903.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.17 cfs @ 12.24 hrs HW=910.59' (Free Discharge)

↳ **3=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.78 cfs @ 12.24 hrs HW=910.59' TW=0.00' (Dynamic Tailwater)

↳ **1=4" Underdrain** (Orifice Controls 0.78 cfs @ 8.91 fps)

Secondary OutFlow Max=39.43 cfs @ 12.24 hrs HW=910.59' TW=0.00' (Dynamic Tailwater)

↳ **2=Broad-Crested Rectangular Weir** (Weir Controls 39.43 cfs @ 2.05 fps)

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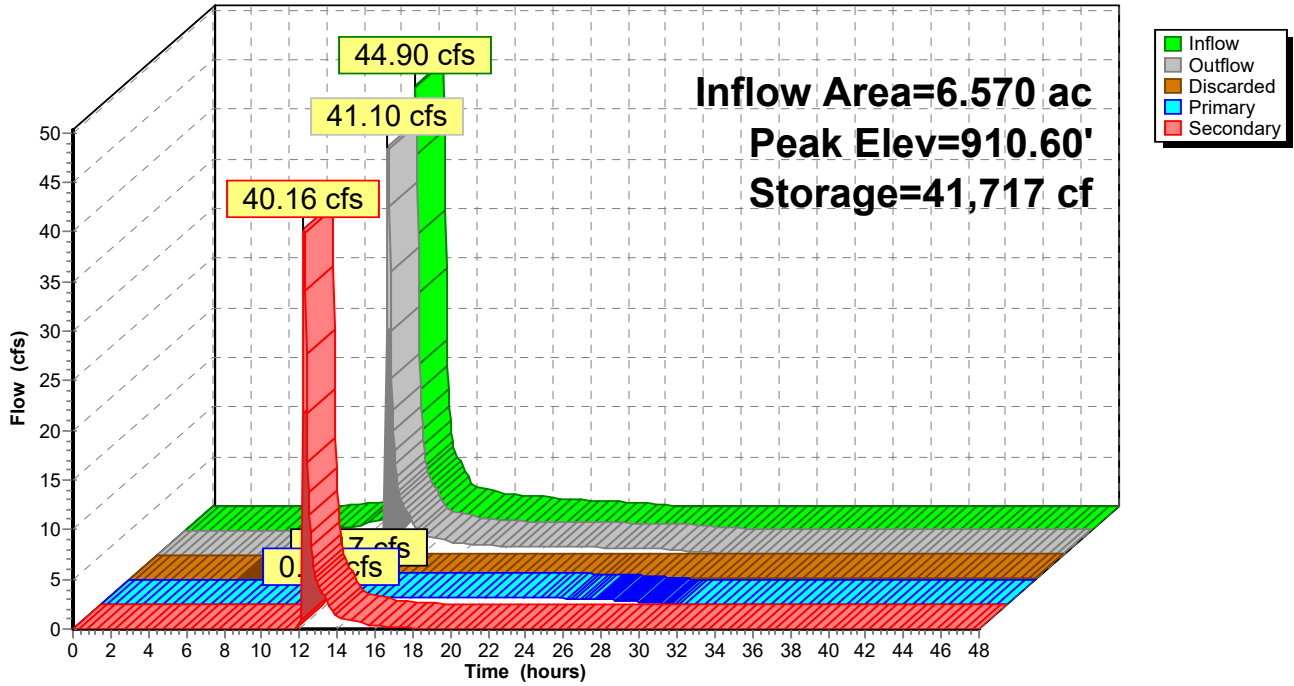
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Page 439

Pond BIO O: Bio O

Hydrograph



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Page 440

Summary for Pond Bio S: Bio S

Inflow Area = 2.440 ac, 70.49% Impervious, Inflow Depth = 5.99" for 200-Year event
 Inflow = 18.49 cfs @ 12.17 hrs, Volume= 1.219 af
 Outflow = 16.91 cfs @ 12.22 hrs, Volume= 1.200 af, Atten= 9%, Lag= 3.0 min
 Discarded = 0.06 cfs @ 12.21 hrs, Volume= 0.170 af
 Primary = 16.86 cfs @ 12.22 hrs, Volume= 1.030 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 924.43' @ 12.21 hrs Surf.Area= 4,896 sf Storage= 13,553 cf

Plug-Flow detention time= 174.5 min calculated for 1.200 af (98% of inflow)
 Center-of-Mass det. time= 165.3 min (949.3 - 784.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	917.50'	42,501 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.50	4,115	0.0	0	0
917.51	4,115	33.0	14	14
921.49	4,115	33.0	5,405	5,418
921.50	4,115	27.0	11	5,429
922.99	4,115	27.0	1,655	7,085
923.00	4,115	100.0	41	7,126
925.00	5,210	100.0	9,325	16,451
930.00	5,210	100.0	26,050	42,501

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.90' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.75'	36.0" Horiz. 36" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	924.50'	5.0' long + 4.0 1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 441

Discarded OutFlow Max=0.06 cfs @ 12.21 hrs HW=924.42' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=16.63 cfs @ 12.22 hrs HW=924.41' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 16.63 cfs @ 9.41 fps)

↳ **2=4" Underdrain** (Passes < 0.76 cfs potential flow)

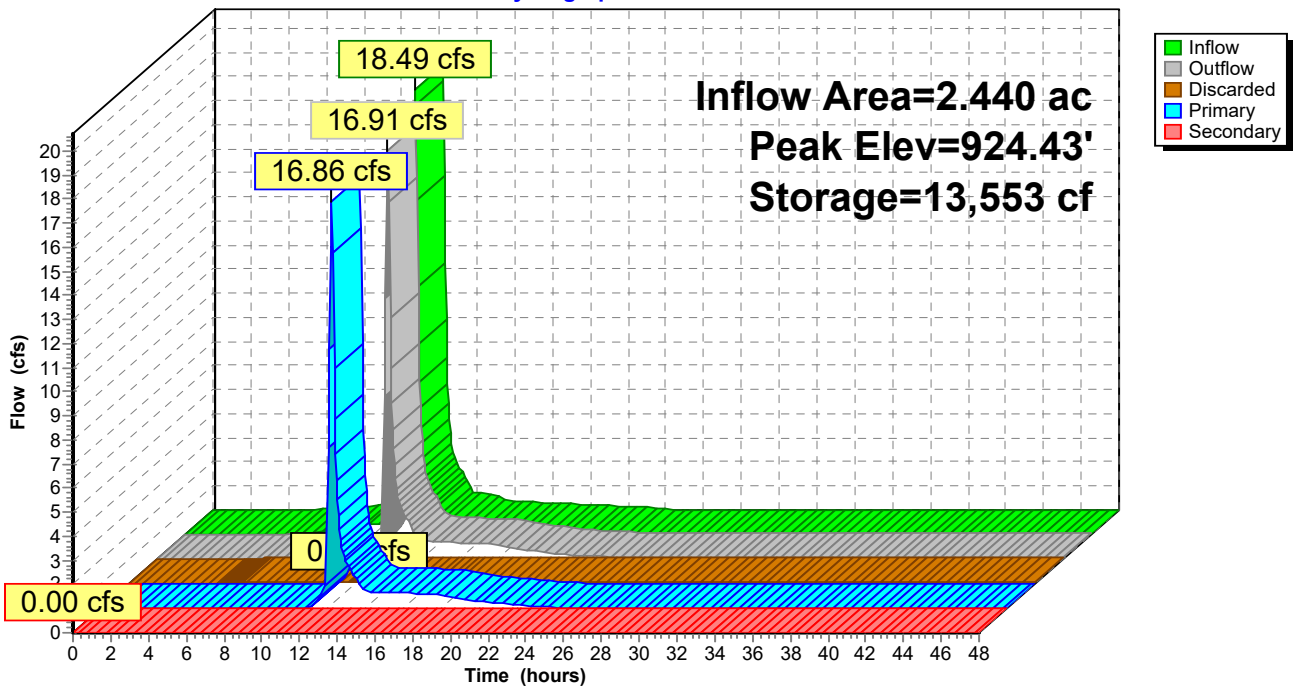
↳ **3=36" Riser** (Passes < 16.55 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=917.50' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond Bio S: Bio S

Hydrograph



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Page 442

Summary for Pond Bio X: Bio X

Inflow Area = 7.200 ac, 37.78% Impervious, Inflow Depth = 4.99" for 200-Year event
 Inflow = 42.70 cfs @ 12.19 hrs, Volume= 2.992 af
 Outflow = 23.76 cfs @ 12.35 hrs, Volume= 2.953 af, Atten= 44%, Lag= 9.7 min
 Discarded = 0.14 cfs @ 12.35 hrs, Volume= 0.244 af
 Primary = 23.62 cfs @ 12.35 hrs, Volume= 2.708 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 951.68' @ 12.35 hrs Surf.Area= 0.271 ac Storage= 0.894 af

Plug-Flow detention time= 149.8 min calculated for 2.949 af (99% of inflow)
 Center-of-Mass det. time= 143.2 min (943.0 - 799.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	942.50'	3.327 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
942.50	0.125	0.0	0.000	0.000
942.51	0.125	33.0	0.000	0.000
946.49	0.125	33.0	0.164	0.165
946.50	0.125	27.0	0.000	0.165
947.99	0.125	27.0	0.050	0.215
948.00	0.125	100.0	0.001	0.216
949.00	0.152	100.0	0.138	0.355
950.00	0.181	100.0	0.166	0.521
951.00	0.225	100.0	0.203	0.724
952.00	0.293	100.0	0.259	0.983
960.00	0.293	100.0	2.344	3.327

Device	Routing	Invert	Outlet Devices
#1	Primary	946.00'	18.0" Round 18" Outlet Pipe L= 20.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 946.00' / 945.90' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	946.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	948.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	950.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	951.75'	5.0' long + 4.0' /' SideZ x 5.0' breadth Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	942.50'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 443

Discarded OutFlow Max=0.14 cfs @ 12.35 hrs HW=951.68' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=23.62 cfs @ 12.35 hrs HW=951.68' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Inlet Controls 23.62 cfs @ 13.37 fps)

↳ **2=4" Underdrain** (Passes < 0.99 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.70 cfs potential flow)

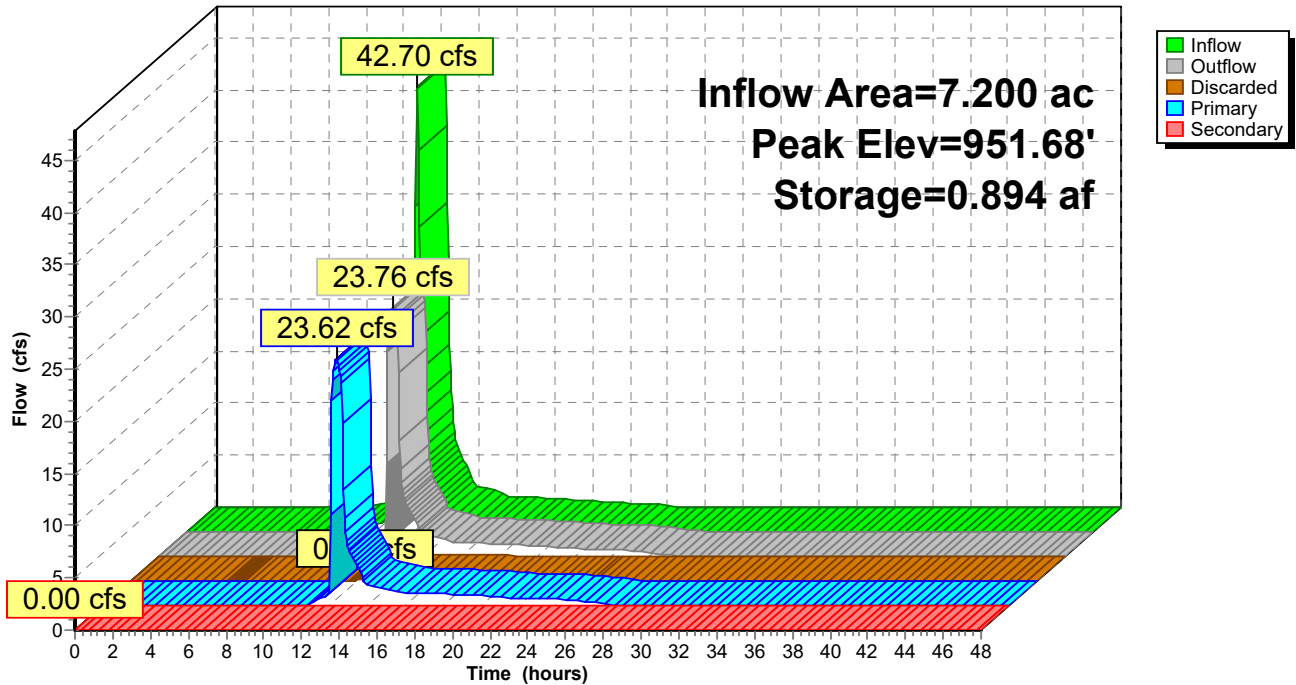
↳ **4=48" Riser** (Passes < 78.47 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=942.50' TW=0.00' (Dynamic Tailwater)

↳ **5=Weir** (Controls 0.00 cfs)

Pond Bio X: Bio X

Hydrograph



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Page 444

Summary for Pond IP A: Infil A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth > 4.82" for 200-Year event
 Inflow = 135.87 cfs @ 12.35 hrs, Volume= 15.887 af
 Outflow = 90.61 cfs @ 12.49 hrs, Volume= 15.254 af, Atten= 33%, Lag= 8.6 min
 Discarded = 0.32 cfs @ 12.49 hrs, Volume= 0.817 af
 Primary = 79.90 cfs @ 12.49 hrs, Volume= 14.165 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 10.39 cfs @ 12.49 hrs, Volume= 0.272 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.67' @ 12.49 hrs Surf.Area= 0.637 ac Storage= 2.437 af

Plug-Flow detention time= 164.1 min calculated for 15.254 af (96% of inflow)
 Center-of-Mass det. time= 98.8 min (1,124.8 - 1,026.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	5.281 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
920.00	0.364	0.0	0.000	0.000
920.01	0.364	27.0	0.001	0.001
920.99	0.364	27.0	0.096	0.097
921.00	0.364	100.0	0.004	0.101
926.00	0.657	100.0	2.552	2.653
930.00	0.657	100.0	2.628	5.281

Device	Routing	Invert	Outlet Devices
#1	Primary	920.00'	36.0" Round 36" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 920.00' / 919.75' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	920.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.00'	5.0' long + 4.0 1' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 445

Discarded OutFlow Max=0.32 cfs @ 12.49 hrs HW=925.66' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.32 cfs)

Primary OutFlow Max=79.81 cfs @ 12.49 hrs HW=925.66' TW=913.66' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 79.81 cfs of 80.12 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.99 cfs @ 11.29 fps)

↳ **3=4" Orifice** (Orifice Controls 0.81 cfs @ 9.32 fps)

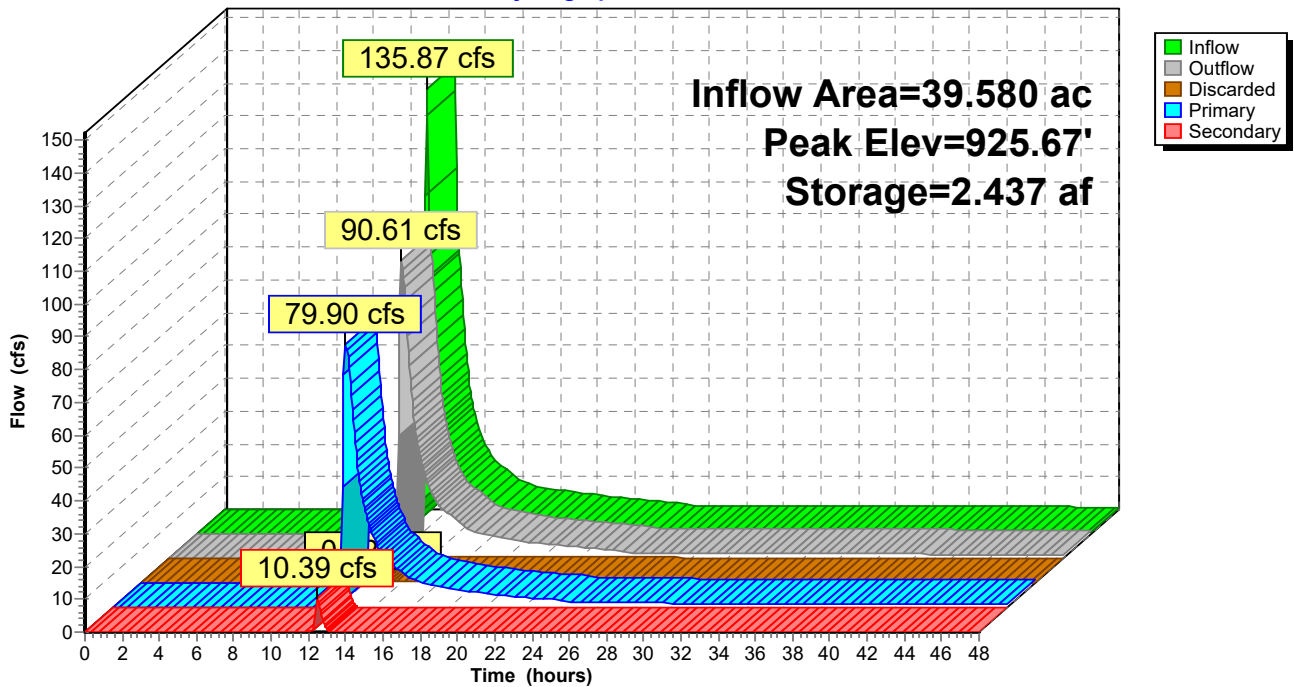
↳ **4=48" Riser** (Orifice Controls 78.01 cfs @ 6.21 fps)

Secondary OutFlow Max=10.29 cfs @ 12.49 hrs HW=925.66' TW=913.66' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 10.29 cfs @ 2.03 fps)

Pond IP A: Infil A

Hydrograph



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Page 446

Summary for Pond IP B: Infil B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth > 2.14" for 200-Year event
 Inflow = 49.48 cfs @ 12.50 hrs, Volume= 16.148 af
 Outflow = 33.85 cfs @ 13.09 hrs, Volume= 15.361 af, Atten= 32%, Lag= 35.3 min
 Discarded = 0.64 cfs @ 13.09 hrs, Volume= 1.754 af
 Primary = 33.21 cfs @ 13.09 hrs, Volume= 13.607 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 911.80' @ 13.09 hrs Surf.Area= 1.269 ac Storage= 2.309 af

Plug-Flow detention time= 126.3 min calculated for 15.361 af (95% of inflow)
 Center-of-Mass det. time= 50.8 min (1,181.2 - 1,130.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	909.00'	13.525 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
909.00	0.990	0.0	0.000	0.000
909.01	0.990	27.0	0.003	0.003
909.99	0.990	27.0	0.262	0.265
910.00	0.990	100.0	0.010	0.275
914.00	1.610	100.0	5.200	5.475
919.00	1.610	100.0	8.050	13.525

Device	Routing	Invert	Outlet Devices
#1	Primary	909.00'	36.0" Round 36" Outlet Pipe L= 380.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 909.00' / 908.00' S= 0.0026 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	909.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	910.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Discarded	909.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.64 cfs @ 13.09 hrs HW=911.80' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.64 cfs)

Primary OutFlow Max=33.20 cfs @ 13.09 hrs HW=911.80' TW=0.00' (Dynamic Tailwater)
 ↳1=36" Outlet Pipe (Barrel Controls 33.20 cfs @ 6.28 fps)
 ↳2=4" Underdrain (Passes < 0.68 cfs potential flow)
 ↳3=48" Riser (Passes < 60.93 cfs potential flow)

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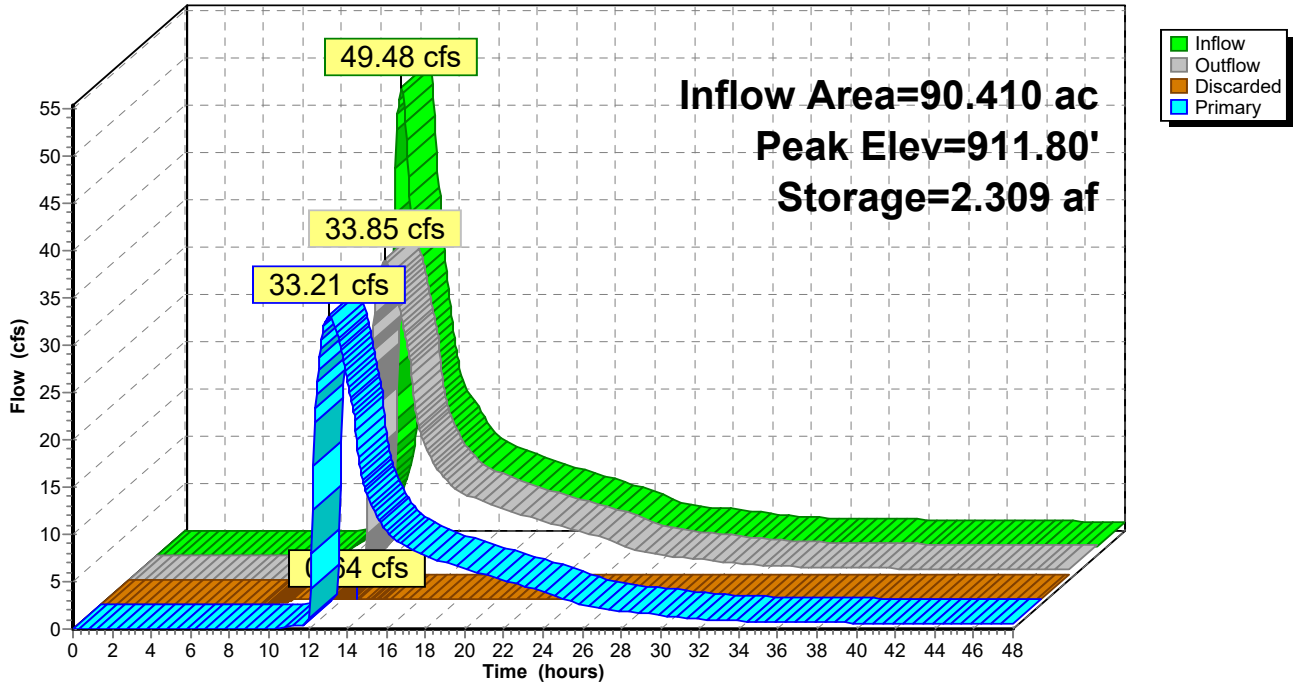
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Page 447

Pond IP B: Infil B

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Page 448

Summary for Pond IP C: IP C

Inflow Area = 3.690 ac, 76.69% Impervious, Inflow Depth = 6.23" for 200-Year event
 Inflow = 28.66 cfs @ 12.17 hrs, Volume= 1.915 af
 Outflow = 22.98 cfs @ 12.25 hrs, Volume= 1.915 af, Atten= 20%, Lag= 4.5 min
 Discarded = 0.11 cfs @ 12.24 hrs, Volume= 0.147 af
 Primary = 16.83 cfs @ 12.24 hrs, Volume= 1.689 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 6.03 cfs @ 12.25 hrs, Volume= 0.079 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 936.86' @ 12.24 hrs Surf.Area= 9,367 sf Storage= 22,024 cf

Plug-Flow detention time= 104.9 min calculated for 1.913 af (100% of inflow)
 Center-of-Mass det. time= 105.4 min (884.3 - 778.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	932.00'	23,322 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
932.00	4,165	0.0	0	0
932.01	4,165	33.0	14	14
933.49	4,165	33.0	2,034	2,048
933.50	4,165	27.0	11	2,059
933.99	4,165	27.0	551	2,610
934.00	4,165	100.0	42	2,652
937.00	9,615	100.0	20,670	23,322

Device	Routing	Invert	Outlet Devices
#1	Primary	933.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 933.00' / 932.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	933.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	936.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	936.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	932.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 449

Discarded OutFlow Max=0.11 cfs @ 12.24 hrs HW=936.86' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=16.82 cfs @ 12.24 hrs HW=936.86' TW=925.68' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 16.82 cfs @ 9.52 fps)

↳ **2=4" Underdrain** (Passes < 0.81 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.55 cfs potential flow)

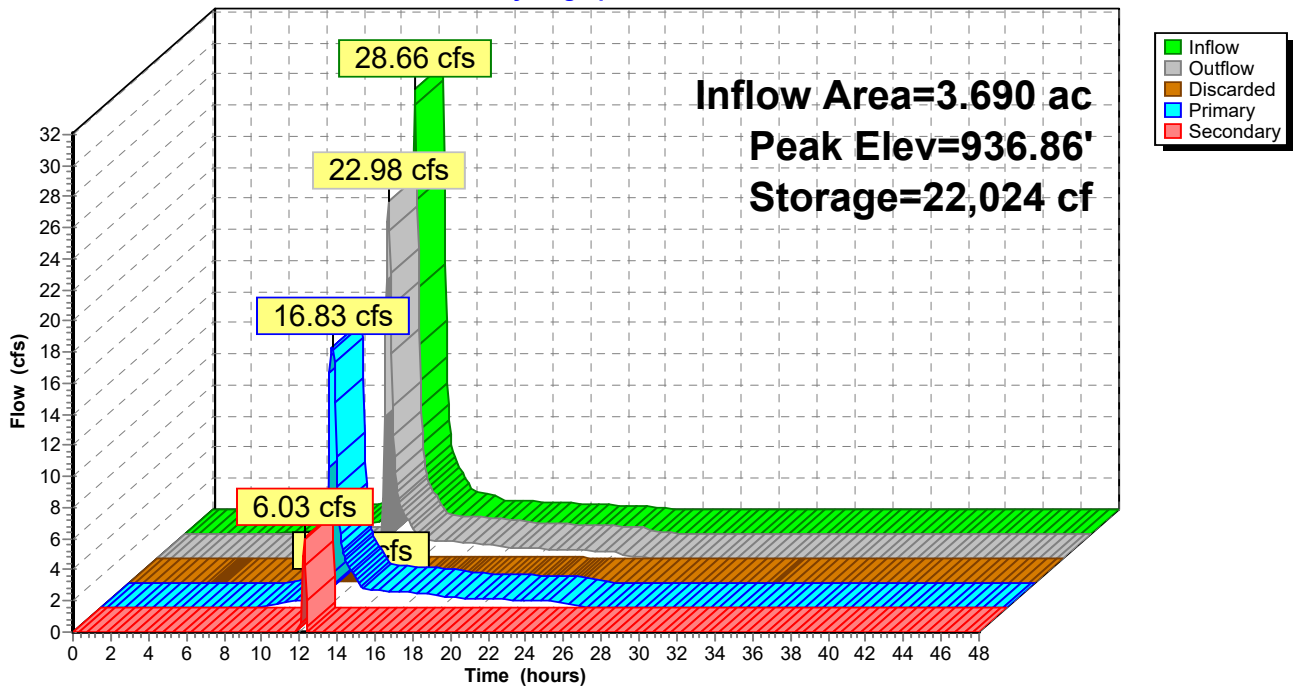
↳ **4=48" Riser** (Passes < 32.67 cfs potential flow)

Secondary OutFlow Max=5.90 cfs @ 12.25 hrs HW=936.86' TW=925.69' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 5.90 cfs @ 1.44 fps)

Pond IP C: IP C

Hydrograph



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Page 450

Summary for Pond IP D: IP D

Inflow Area = 3.790 ac, 63.59% Impervious, Inflow Depth = 5.76" for 200-Year event
 Inflow = 27.93 cfs @ 12.17 hrs, Volume= 1.819 af
 Outflow = 21.80 cfs @ 12.25 hrs, Volume= 1.819 af, Atten= 22%, Lag= 4.8 min
 Discarded = 0.11 cfs @ 12.25 hrs, Volume= 0.146 af
 Primary = 16.71 cfs @ 12.25 hrs, Volume= 1.611 af
 Routed to Pond WP A : Wet Pond A
 Secondary = 4.98 cfs @ 12.25 hrs, Volume= 0.062 af
 Routed to Pond WP A : Wet Pond A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 937.82' @ 12.25 hrs Surf.Area= 9,535 sf Storage= 22,246 cf

Plug-Flow detention time= 110.7 min calculated for 1.818 af (100% of inflow)
 Center-of-Mass det. time= 111.2 min (899.9 - 788.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	933.00'	23,947 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
933.00	4,285	0.0	0	0
933.01	4,285	33.0	14	14
934.49	4,285	33.0	2,093	2,107
934.50	4,285	27.0	12	2,119
934.99	4,285	27.0	567	2,685
935.00	4,285	100.0	43	2,728
938.00	9,861	100.0	21,219	23,947

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	937.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	937.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	933.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 451

Discarded OutFlow Max=0.11 cfs @ 12.25 hrs HW=937.82' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=16.70 cfs @ 12.25 hrs HW=937.82' TW=925.72' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 16.70 cfs @ 9.45 fps)

↳ **2=4" Underdrain** (Passes < 0.80 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.54 cfs potential flow)

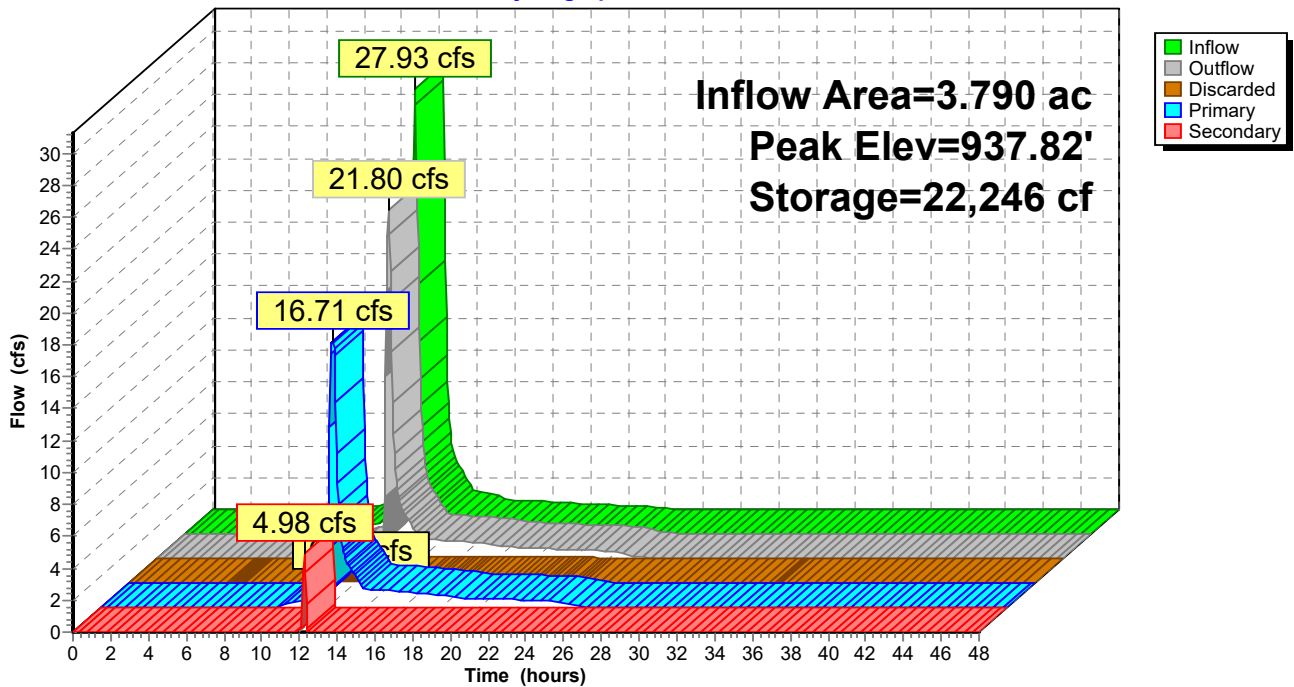
↳ **4=48" Riser** (Passes < 30.71 cfs potential flow)

Secondary OutFlow Max=4.95 cfs @ 12.25 hrs HW=937.82' TW=925.72' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 4.95 cfs @ 1.36 fps)

Pond IP D: IP D

Hydrograph



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Page 452

Summary for Pond IP E: IP E

Inflow Area = 3.830 ac, 62.92% Impervious, Inflow Depth = 5.65" for 200-Year event
 Inflow = 27.81 cfs @ 12.17 hrs, Volume= 1.802 af
 Outflow = 23.27 cfs @ 12.24 hrs, Volume= 1.802 af, Atten= 16%, Lag= 4.1 min
 Discarded = 0.11 cfs @ 12.24 hrs, Volume= 0.153 af
 Primary = 11.80 cfs @ 12.24 hrs, Volume= 1.470 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 11.36 cfs @ 12.24 hrs, Volume= 0.179 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 931.92' @ 12.24 hrs Surf.Area= 9,378 sf Storage= 23,237 cf

Plug-Flow detention time= 123.9 min calculated for 1.800 af (100% of inflow)
 Center-of-Mass det. time= 124.4 min (915.4 - 791.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	927.00'	23,960 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
927.00	4,541	0.0	0	0
927.01	4,541	33.0	15	15
928.49	4,541	33.0	2,218	2,233
928.50	4,541	27.0	12	2,245
928.99	4,541	27.0	601	2,846
929.00	4,541	100.0	45	2,891
932.00	9,505	100.0	21,069	23,960

Device	Routing	Invert	Outlet Devices
#1	Primary	928.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 928.00' / 927.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	928.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	930.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	931.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	931.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	927.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 453

Discarded OutFlow Max=0.11 cfs @ 12.24 hrs HW=931.92' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=11.79 cfs @ 12.24 hrs HW=931.92' TW=913.37' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Barrel Controls 11.79 cfs @ 9.61 fps)

↳ **2=4" Underdrain** (Passes < 0.81 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.56 cfs potential flow)

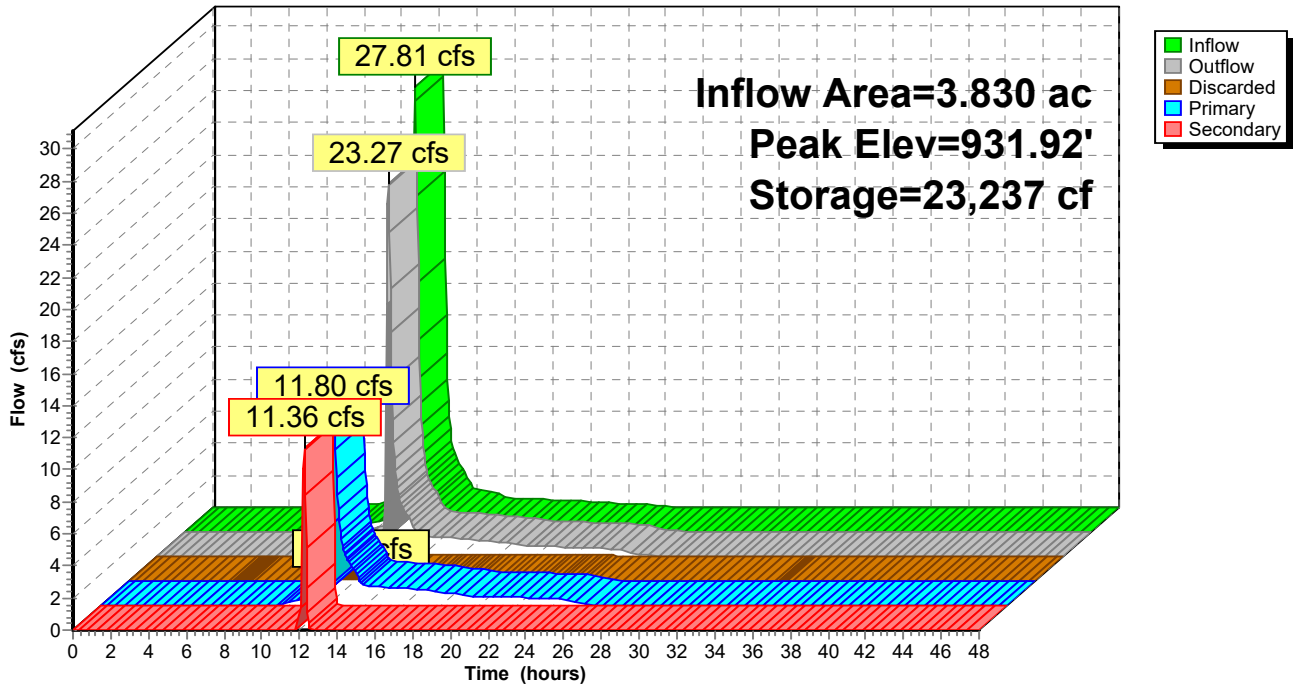
↳ **4=48" Riser** (Passes < 22.32 cfs potential flow)

Secondary OutFlow Max=11.02 cfs @ 12.24 hrs HW=931.92' TW=913.37' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 11.02 cfs @ 1.59 fps)

Pond IP E: IP E

Hydrograph



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Page 454

Summary for Pond IP F: IP F

Inflow Area = 4.440 ac, 71.62% Impervious, Inflow Depth = 6.11" for 200-Year event
 Inflow = 34.08 cfs @ 12.17 hrs, Volume= 2.260 af
 Outflow = 20.07 cfs @ 12.30 hrs, Volume= 2.260 af, Atten= 41%, Lag= 7.8 min
 Discarded = 0.18 cfs @ 12.30 hrs, Volume= 0.322 af
 Primary = 11.66 cfs @ 12.30 hrs, Volume= 1.787 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 8.23 cfs @ 12.30 hrs, Volume= 0.152 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 927.85' @ 12.30 hrs Surf.Area= 15,786 sf Storage= 39,597 cf

Plug-Flow detention time= 220.9 min calculated for 2.260 af (100% of inflow)
 Center-of-Mass det. time= 220.8 min (1,002.3 - 781.5)

Volume	Invert	Avail.Storage	Storage Description	
#1	923.00'	41,988 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
923.00	8,293	0.0	0	0
923.01	8,293	33.0	27	27
924.49	8,293	33.0	4,050	4,078
924.50	8,293	27.0	22	4,100
924.99	8,293	27.0	1,097	5,197
925.00	8,293	100.0	83	5,280
928.00	16,179	100.0	36,708	41,988

Device	Routing	Invert	Outlet Devices
#1	Primary	924.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 924.00' / 923.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	924.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	926.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	927.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	927.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	923.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 455

Discarded OutFlow Max=0.18 cfs @ 12.30 hrs HW=927.85' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=11.66 cfs @ 12.30 hrs HW=927.85' TW=913.51' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Barrel Controls 11.66 cfs @ 9.50 fps)

↳ **2=4" Underdrain** (Passes < 0.81 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.55 cfs potential flow)

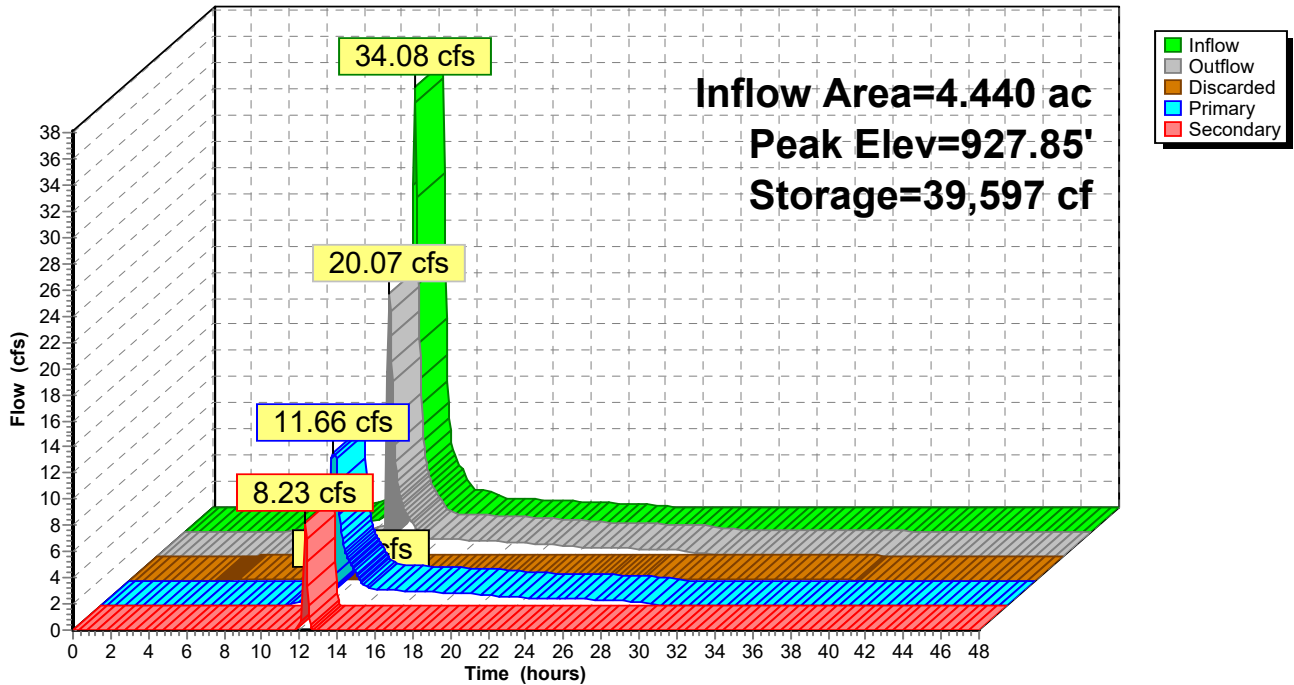
↳ **4=48" Riser** (Passes < 19.11 cfs potential flow)

Secondary OutFlow Max=8.22 cfs @ 12.30 hrs HW=927.85' TW=913.51' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 8.22 cfs @ 1.43 fps)

Pond IP F: IP F

Hydrograph



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Page 456

Summary for Pond IP G: IP G

Inflow Area = 4.310 ac, 70.53% Impervious, Inflow Depth = 5.99" for 200-Year event
 Inflow = 32.66 cfs @ 12.17 hrs, Volume= 2.152 af
 Outflow = 15.26 cfs @ 12.34 hrs, Volume= 2.152 af, Atten= 53%, Lag= 10.1 min
 Discarded = 0.20 cfs @ 12.34 hrs, Volume= 0.349 af
 Primary = 11.38 cfs @ 12.34 hrs, Volume= 1.736 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 3.68 cfs @ 12.34 hrs, Volume= 0.067 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 924.72' @ 12.34 hrs Surf.Area= 17,360 sf Storage= 41,001 cf

Plug-Flow detention time= 250.1 min calculated for 2.150 af (100% of inflow)
 Center-of-Mass det. time= 250.7 min (1,034.7 - 784.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	920.00'	46,073 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
920.00	8,741	0.0	0	0
920.01	8,741	33.0	29	29
921.49	8,741	33.0	4,269	4,298
921.50	8,741	27.0	24	4,322
921.99	8,741	27.0	1,156	5,478
922.00	8,741	100.0	87	5,565
925.00	18,264	100.0	40,508	46,073

Device	Routing	Invert	Outlet Devices
#1	Primary	921.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 921.00' / 920.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	921.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	924.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	924.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	920.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 457

Discarded OutFlow Max=0.20 cfs @ 12.34 hrs HW=924.71' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=11.37 cfs @ 12.34 hrs HW=924.71' TW=913.54' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Barrel Controls 11.37 cfs @ 9.27 fps)

↳ **2=4" Underdrain** (Passes < 0.79 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.52 cfs potential flow)

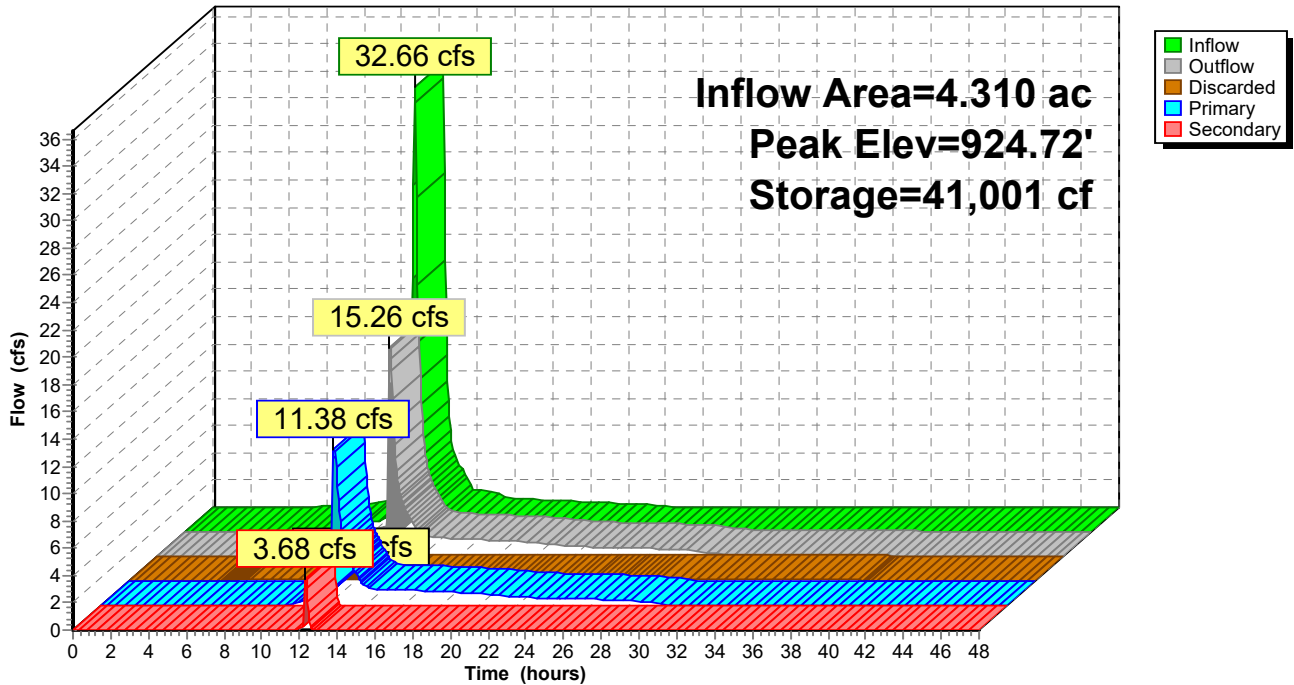
↳ **4=48" Riser** (Passes < 12.92 cfs potential flow)

Secondary OutFlow Max=3.61 cfs @ 12.34 hrs HW=924.71' TW=913.54' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 3.61 cfs @ 1.07 fps)

Pond IP G: IP G

Hydrograph



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Page 458

Summary for Pond IP H: IP H

Inflow Area = 2.410 ac, 70.54% Impervious, Inflow Depth = 5.99" for 200-Year event
 Inflow = 18.26 cfs @ 12.17 hrs, Volume= 1.204 af
 Outflow = 17.82 cfs @ 12.20 hrs, Volume= 1.204 af, Atten= 2%, Lag= 1.7 min
 Discarded = 0.03 cfs @ 12.20 hrs, Volume= 0.039 af
 Primary = 11.55 cfs @ 12.20 hrs, Volume= 1.086 af
 Routed to Pond WP B : Wet Pond B
 Secondary = 6.24 cfs @ 12.20 hrs, Volume= 0.079 af
 Routed to Pond WP B : Wet Pond B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.80' @ 12.20 hrs Surf.Area= 2,881 sf Storage= 6,546 cf

Plug-Flow detention time= 35.7 min calculated for 1.202 af (100% of inflow)
 Center-of-Mass det. time= 36.2 min (820.2 - 784.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	921.00'	7,143 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
921.00	1,237	0.0	0	0
921.01	1,237	33.0	4	4
922.49	1,237	33.0	604	608
922.50	1,237	27.0	3	612
922.99	1,237	27.0	164	775
923.00	1,237	100.0	12	788
926.00	3,000	100.0	6,356	7,143

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	15.0" Round 15" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.75' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Device 1	922.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	924.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	925.25'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	925.50'	15.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	921.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 459

Discarded OutFlow Max=0.03 cfs @ 12.20 hrs HW=925.80' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=11.54 cfs @ 12.20 hrs HW=925.80' TW=913.20' (Dynamic Tailwater)

↳ **1=15" Outlet Pipe** (Barrel Controls 11.54 cfs @ 9.41 fps)

↳ **2=4" Underdrain** (Passes < 0.80 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.54 cfs potential flow)

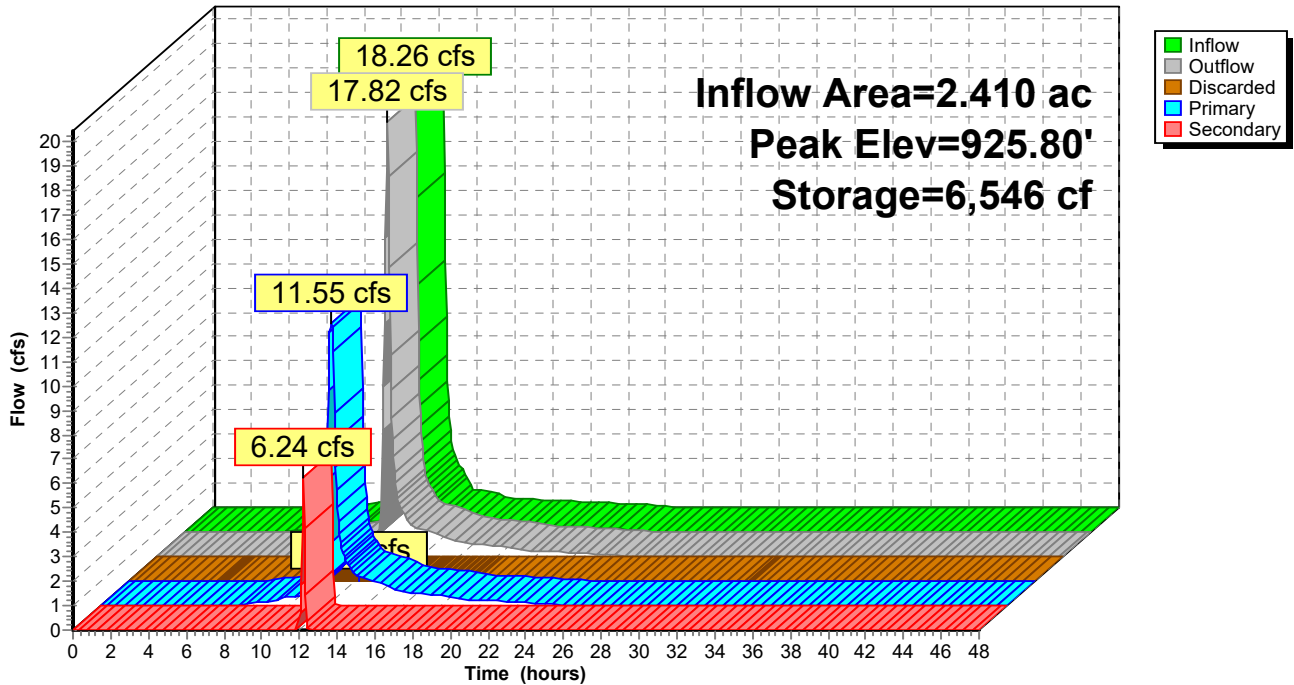
↳ **4=48" Riser** (Passes < 16.53 cfs potential flow)

Secondary OutFlow Max=6.18 cfs @ 12.20 hrs HW=925.80' TW=913.20' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 6.18 cfs @ 1.29 fps)

Pond IP H: IP H

Hydrograph



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Page 460

Summary for Pond IP L: Inf L

Inflow Area = 2.260 ac, 68.14% Impervious, Inflow Depth = 5.88" for 200-Year event
 Inflow = 16.90 cfs @ 12.17 hrs, Volume= 1.107 af
 Outflow = 15.06 cfs @ 12.22 hrs, Volume= 1.107 af, Atten= 11%, Lag= 2.9 min
 Discarded = 0.04 cfs @ 12.22 hrs, Volume= 0.039 af
 Primary = 12.91 cfs @ 12.22 hrs, Volume= 1.049 af
 Routed to Pond BIO O : Bio O
 Secondary = 2.11 cfs @ 12.22 hrs, Volume= 0.019 af
 Routed to Pond BIO O : Bio O

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 920.79' @ 12.22 hrs Surf.Area= 3,082 sf Storage= 4,680 cf

Plug-Flow detention time= 29.0 min calculated for 1.106 af (100% of inflow)
 Center-of-Mass det. time= 29.5 min (815.9 - 786.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	917.00'	5,362 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
917.00	1,260	0.0	0	0
917.01	1,260	33.0	4	4
918.49	1,260	33.0	615	620
918.50	1,260	27.0	3	623
918.99	1,260	27.0	167	790
919.00	1,260	100.0	13	802
921.00	3,300	100.0	4,560	5,362

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	18.0" Round 18" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	918.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	920.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	920.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	917.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 461

Discarded OutFlow Max=0.04 cfs @ 12.22 hrs HW=920.76' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=12.82 cfs @ 12.22 hrs HW=920.76' TW=910.59' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 12.82 cfs @ 7.25 fps)

↳ **2=4" Underdrain** (Passes < 0.68 cfs potential flow)

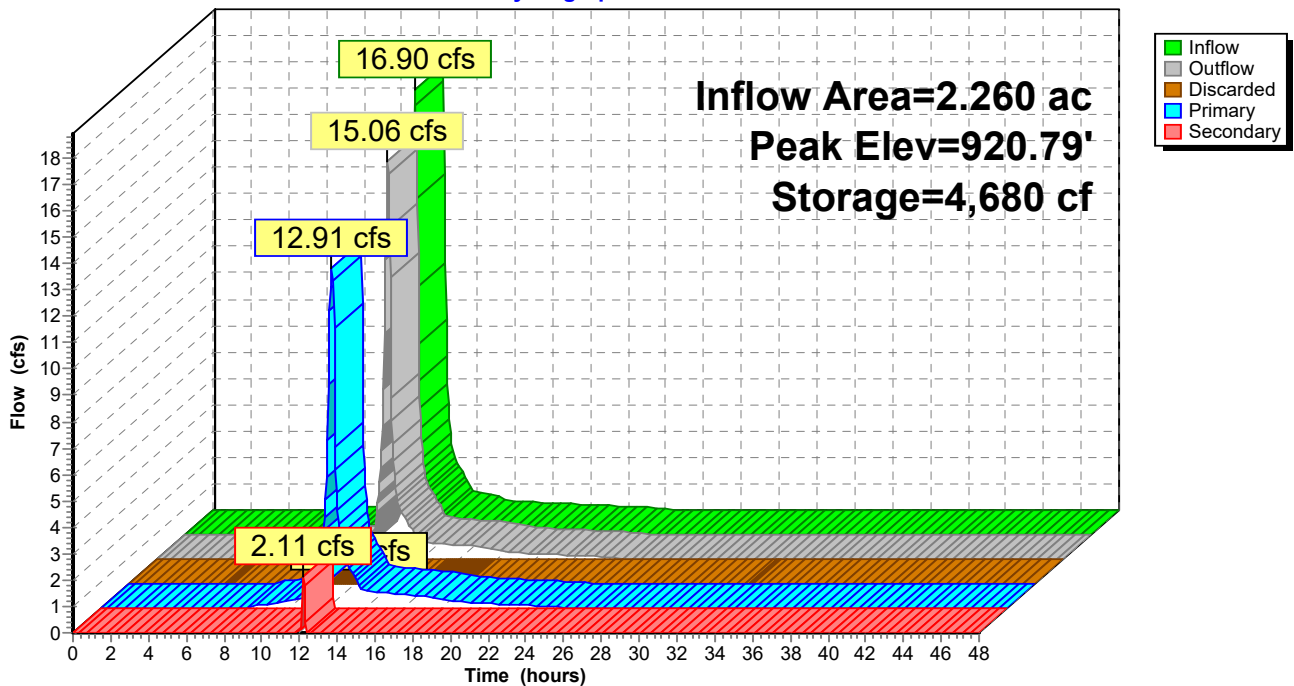
↳ **3=48" Riser** (Passes < 27.48 cfs potential flow)

Secondary OutFlow Max=1.91 cfs @ 12.22 hrs HW=920.77' TW=910.59' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Weir Controls 1.91 cfs @ 1.19 fps)

Pond IP L: Inf L

Hydrograph



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Page 462

Summary for Pond IP M: Inf M

Inflow Area = 1.090 ac, 60.55% Impervious, Inflow Depth = 5.65" for 200-Year event
 Inflow = 7.91 cfs @ 12.17 hrs, Volume= 0.513 af
 Outflow = 1.86 cfs @ 12.52 hrs, Volume= 0.513 af, Atten= 77%, Lag= 20.6 min
 Discarded = 0.06 cfs @ 12.52 hrs, Volume= 0.077 af
 Primary = 1.80 cfs @ 12.52 hrs, Volume= 0.436 af
 Routed to Reach 41R : (new Reach)
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : (new Reach)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 929.10' @ 12.52 hrs Surf.Area= 5,070 sf Storage= 10,072 cf

Plug-Flow detention time= 129.3 min calculated for 0.513 af (100% of inflow)
 Center-of-Mass det. time= 129.3 min (920.3 - 791.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	15,057 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
925.00	2,810	0.0	0	0
925.01	2,810	33.0	9	9
926.49	2,810	33.0	1,372	1,382
926.50	2,810	27.0	8	1,389
926.99	2,810	27.0	372	1,761
927.00	2,810	100.0	28	1,789
930.00	6,035	100.0	13,268	15,057

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	12.0" Round 12" Outlet Pipe L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.75' S= 0.0050 1/1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	928.00'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	929.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	929.50'	5.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 463

Discarded OutFlow Max=0.06 cfs @ 12.52 hrs HW=929.10' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=1.78 cfs @ 12.52 hrs HW=929.10' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Passes 1.78 cfs of 6.34 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.72 cfs @ 8.25 fps)

↳ **3=4" Orifice** (Orifice Controls 0.41 cfs @ 4.65 fps)

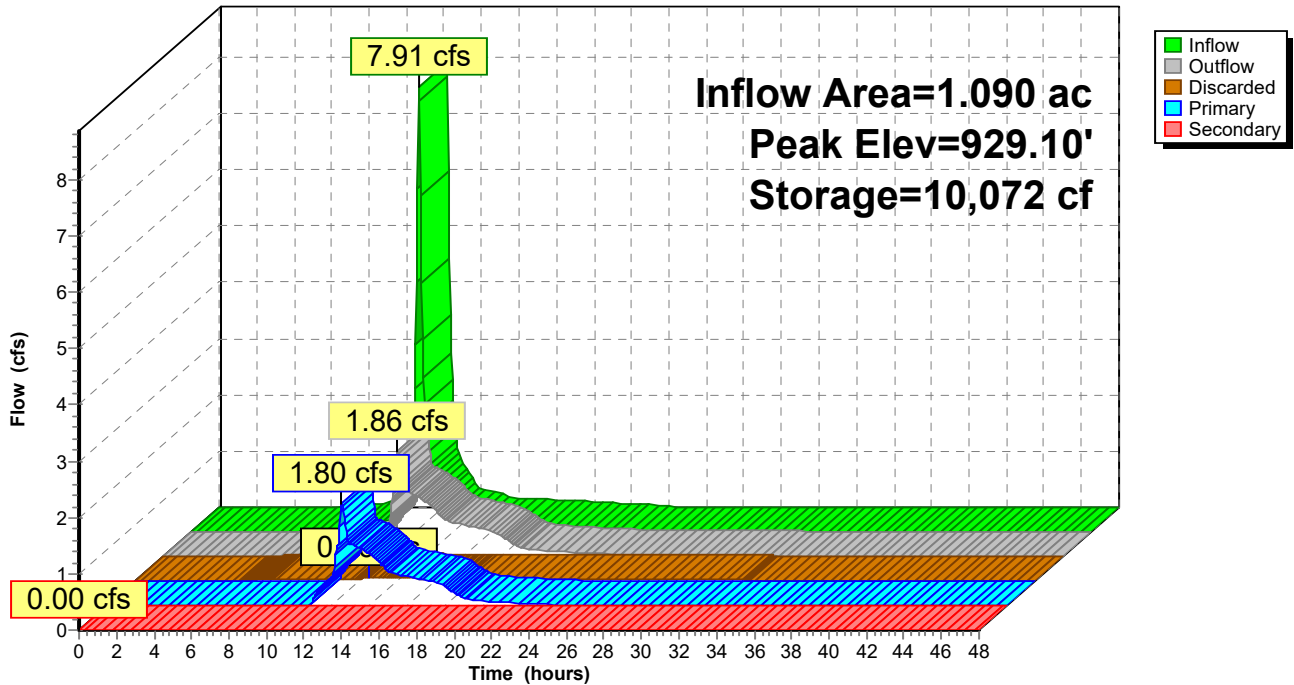
↳ **4=24" Riser** (Weir Controls 0.66 cfs @ 1.04 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=925.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP M: Inf M

Hydrograph



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Page 464

Summary for Pond IP P: Infil P

Inflow Area = 24.020 ac, 62.49% Impervious, Inflow Depth > 5.51" for 200-Year event
 Inflow = 96.25 cfs @ 12.22 hrs, Volume= 11.029 af
 Outflow = 43.36 cfs @ 12.63 hrs, Volume= 10.961 af, Atten= 55%, Lag= 24.4 min
 Discarded = 0.36 cfs @ 12.63 hrs, Volume= 0.725 af
 Primary = 43.00 cfs @ 12.63 hrs, Volume= 10.236 af
 Routed to Pond IP T : Infil T
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP T : Infil T

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 940.33' @ 12.63 hrs Surf.Area= 0.714 ac Storage= 2.644 af

Plug-Flow detention time= 180.6 min calculated for 10.950 af (99% of inflow)
 Center-of-Mass det. time= 171.0 min (1,129.0 - 958.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	934.00'	9.318 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
934.00	0.252	0.0	0.000	0.000
934.01	0.252	27.0	0.001	0.001
934.99	0.252	27.0	0.067	0.067
935.00	0.252	100.0	0.003	0.070
941.00	0.772	100.0	3.072	3.142
949.00	0.772	100.0	6.176	9.318

Device	Routing	Invert	Outlet Devices
#1	Primary	934.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 934.00' / 933.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	934.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	935.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	938.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	940.50'	5.0' long + 4.0 1' SideZ x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	934.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 465

Discarded OutFlow Max=0.36 cfs @ 12.63 hrs HW=940.33' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.36 cfs)

Primary OutFlow Max=42.98 cfs @ 12.63 hrs HW=940.33' TW=931.98' (Dynamic Tailwater)

↳ **1=24" Outlet Pipe** (Barrel Controls 42.98 cfs @ 13.68 fps)

↳ **2=4" Underdrain** (Passes < 1.04 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.88 cfs potential flow)

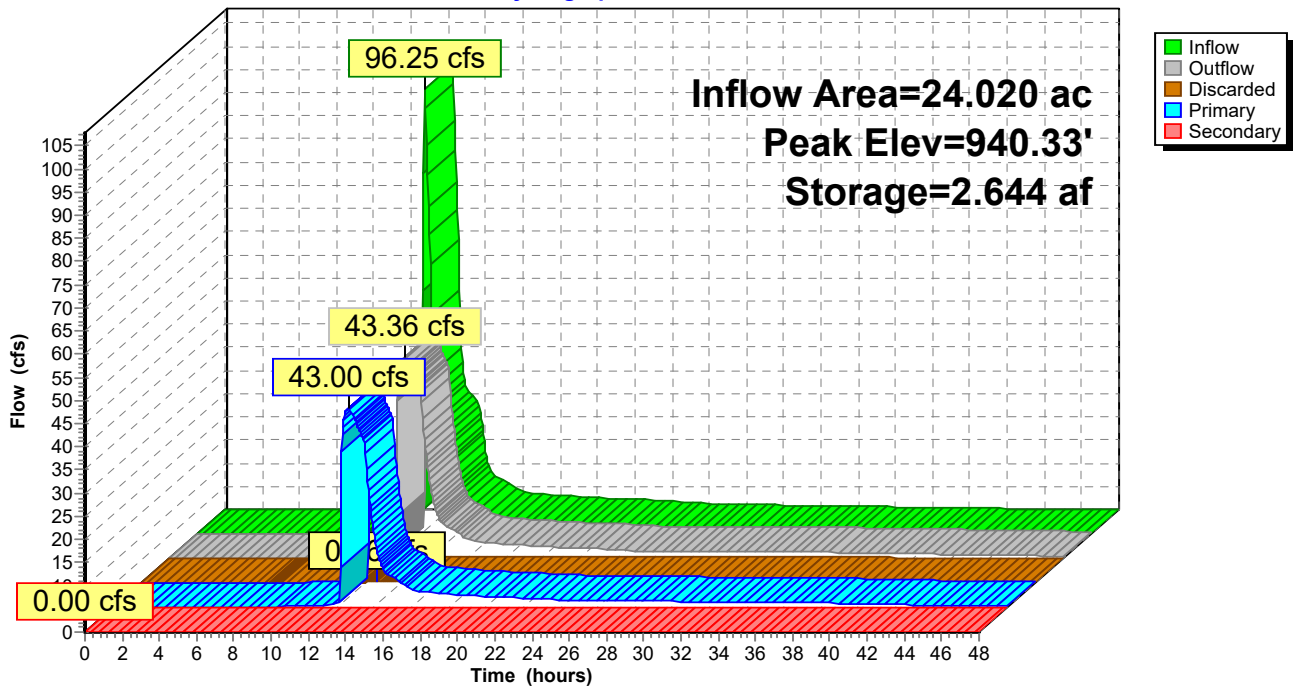
↳ **4=48" Riser** (Passes < 92.27 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=934.00' TW=925.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP P: Infil P

Hydrograph



Kilkenny Phase Master

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Page 466

Summary for Pond IP Q: Infil Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth = 5.77" for 200-Year event
 Inflow = 83.64 cfs @ 12.23 hrs, Volume= 6.977 af
 Outflow = 71.89 cfs @ 12.28 hrs, Volume= 6.977 af, Atten= 14%, Lag= 2.9 min
 Discarded = 0.13 cfs @ 12.31 hrs, Volume= 0.199 af
 Primary = 70.12 cfs @ 12.26 hrs, Volume= 6.759 af
 Routed to Pond IP P : Infil P
 Secondary = 2.00 cfs @ 12.31 hrs, Volume= 0.019 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 942.69' @ 12.31 hrs Surf.Area= 0.258 ac Storage= 0.855 af

Plug-Flow detention time= 71.4 min calculated for 6.977 af (100% of inflow)
 Center-of-Mass det. time= 71.4 min (915.7 - 844.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	937.00'	2.828 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
937.00	0.100	0.0	0.000	0.000
937.01	0.100	27.0	0.000	0.000
937.99	0.100	27.0	0.026	0.027
938.00	0.100	100.0	0.001	0.028
942.00	0.230	100.0	0.660	0.688
943.00	0.270	100.0	0.250	0.938
950.00	0.270	100.0	1.890	2.828

Device	Routing	Invert	Outlet Devices
#1	Primary	937.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 937.00' / 935.70' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	937.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	942.50'	10.0' long + 4.0 1/1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	937.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 467

Discarded OutFlow Max=0.13 cfs @ 12.31 hrs HW=942.68' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=67.90 cfs @ 12.26 hrs HW=942.62' TW=938.96' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Outlet Controls 67.90 cfs @ 9.61 fps)

↳ **2=4" Underdrain** (Passes < 0.80 cfs potential flow)

↳ **3=4" Orifice** (Passes < 0.80 cfs potential flow)

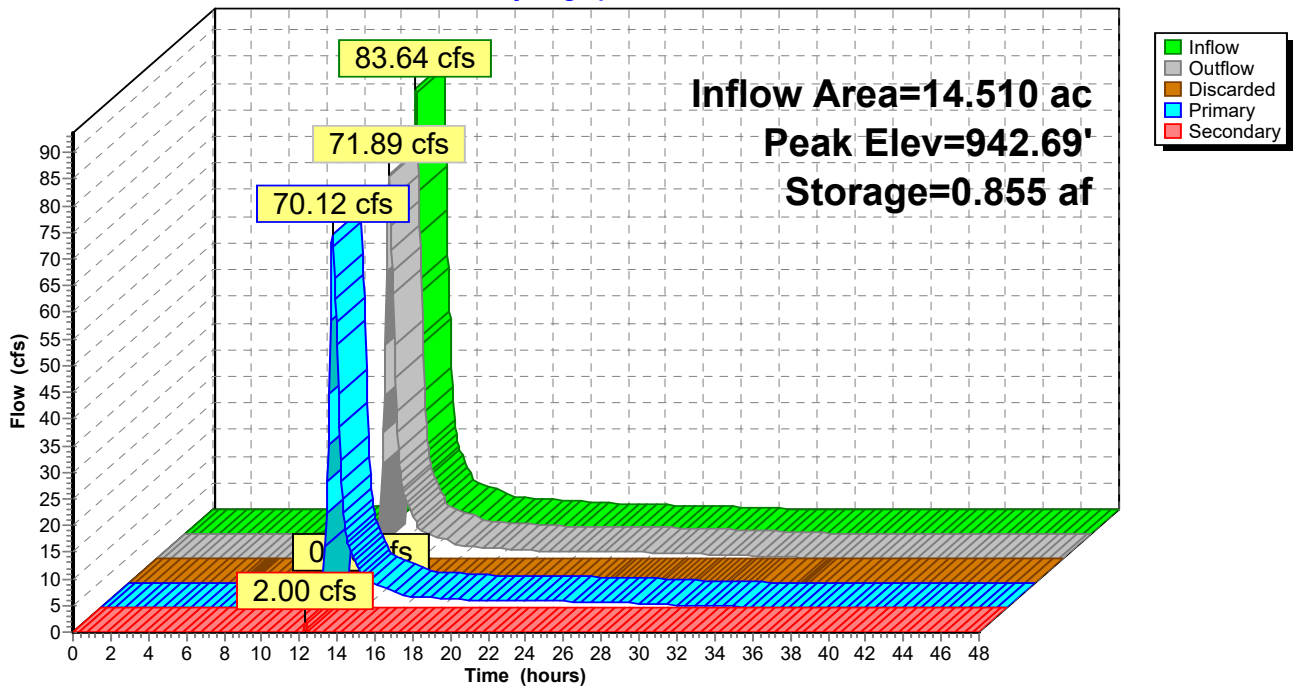
↳ **4=48" Riser** (Passes < 76.91 cfs potential flow)

Secondary OutFlow Max=1.83 cfs @ 12.31 hrs HW=942.68' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Weir Controls 1.83 cfs @ 0.97 fps)

Pond IP Q: Infil Q

Hydrograph



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Page 468

Summary for Pond IP T: Infil T

Inflow Area = 26.270 ac, 63.11% Impervious, Inflow Depth > 5.19" for 200-Year event
 Inflow = 46.88 cfs @ 12.30 hrs, Volume= 11.359 af
 Outflow = 46.22 cfs @ 12.57 hrs, Volume= 11.331 af, Atten= 1%, Lag= 16.0 min
 Discarded = 0.12 cfs @ 14.15 hrs, Volume= 0.105 af
 Primary = 23.37 cfs @ 12.57 hrs, Volume= 9.339 af
 Routed to Pond WP U : Wet Pond U
 Secondary = 22.76 cfs @ 12.57 hrs, Volume= 1.887 af
 Routed to Pond WP U : Wet Pond U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 931.98' @ 12.57 hrs Surf.Area= 0.190 ac Storage= 0.627 af

Plug-Flow detention time= 16.8 min calculated for 11.331 af (100% of inflow)
 Center-of-Mass det. time= 12.3 min (1,077.3 - 1,065.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	925.00'	2.143 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
925.00	0.031	0.0	0.000	0.000
925.01	0.031	33.0	0.000	0.000
926.49	0.031	33.0	0.015	0.015
926.50	0.031	27.0	0.000	0.015
926.99	0.031	27.0	0.004	0.019
927.00	0.031	100.0	0.000	0.020
930.00	0.115	100.0	0.219	0.239
931.00	0.240	100.0	0.177	0.416
932.00	0.189	100.0	0.214	0.631
940.00	0.189	100.0	1.512	2.143

Device	Routing	Invert	Outlet Devices
#1	Primary	926.00'	18.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 926.00' / 925.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	926.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	927.75'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	931.50'	25.0' long + 4.0 1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	925.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 469

Discarded OutFlow Max=0.12 cfs @ 14.15 hrs HW=931.06' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=23.36 cfs @ 12.57 hrs HW=931.98' TW=922.71' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Barrel Controls 23.36 cfs @ 13.22 fps)

↳ **2=4" Underdrain** (Passes < 1.01 cfs potential flow)

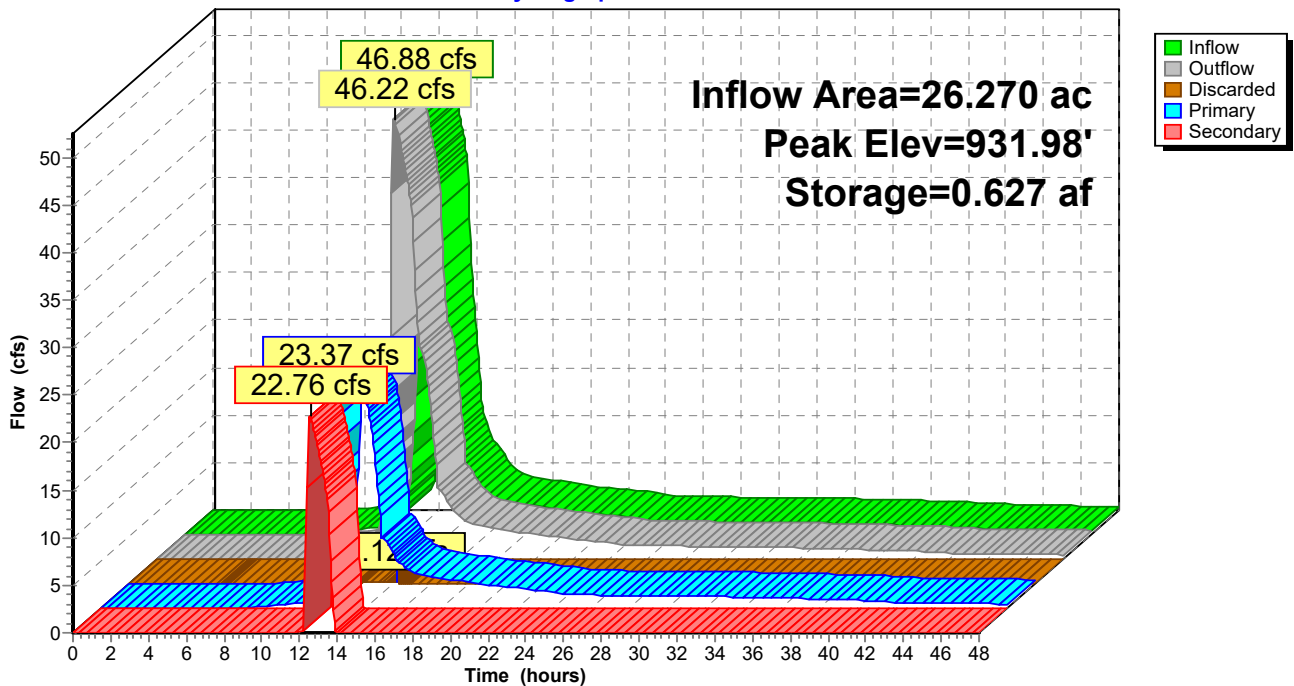
↳ **3=48" Riser** (Passes < 124.43 cfs potential flow)

Secondary OutFlow Max=22.67 cfs @ 12.57 hrs HW=931.98' TW=922.71' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Weir Controls 22.67 cfs @ 1.76 fps)

Pond IP T: Infil T

Hydrograph



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Page 470

Summary for Pond IP U: Infil U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth > 5.17" for 200-Year event
 Inflow = 51.24 cfs @ 12.61 hrs, Volume= 13.579 af
 Outflow = 49.73 cfs @ 12.75 hrs, Volume= 13.197 af, Atten= 3%, Lag= 8.4 min
 Discarded = 0.18 cfs @ 12.75 hrs, Volume= 0.479 af
 Primary = 49.55 cfs @ 12.75 hrs, Volume= 12.718 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.10' @ 12.75 hrs Surf.Area= 0.366 ac Storage= 1.365 af

Plug-Flow detention time= 134.4 min calculated for 13.197 af (97% of inflow)
 Center-of-Mass det. time= 87.4 min (1,185.2 - 1,097.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	916.00'	4.538 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
916.00	0.152	0.0	0.000	0.000
916.01	0.152	27.0	0.000	0.000
916.99	0.152	27.0	0.040	0.041
917.00	0.152	100.0	0.002	0.042
923.00	0.404	100.0	1.668	1.710
930.00	0.404	100.0	2.828	4.538

Device	Routing	Invert	Outlet Devices
#1	Primary	916.00'	36.0" Round 36" Outlet Pipe L= 260.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 916.00' / 914.70' S= 0.0050 '/ S= 0.0050 ' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	916.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	917.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	921.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	922.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	916.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 471

Discarded OutFlow Max=0.18 cfs @ 12.75 hrs HW=922.10' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=49.53 cfs @ 12.75 hrs HW=922.10' TW=0.00' (Dynamic Tailwater)

↳ **1=36" Outlet Pipe** (Passes 49.53 cfs of 74.52 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 1.02 cfs @ 11.73 fps)

↳ **3=4" Orifice** (Orifice Controls 0.86 cfs @ 9.85 fps)

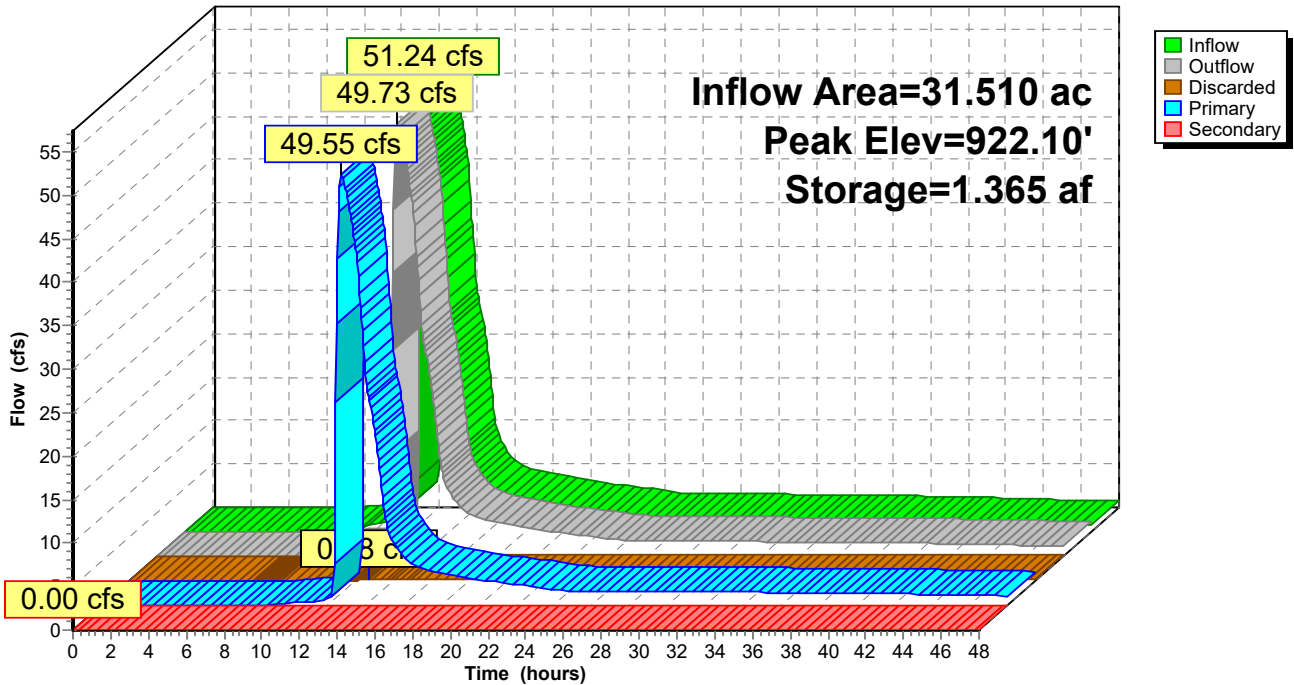
↳ **4=48" Riser** (Weir Controls 47.65 cfs @ 3.44 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=916.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP U: Infil U

Hydrograph



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Page 472

Summary for Pond IP V: Infil V

Inflow Area = 1.550 ac, 57.42% Impervious, Inflow Depth = 5.53" for 200-Year event
 Inflow = 11.08 cfs @ 12.17 hrs, Volume= 0.714 af
 Outflow = 0.69 cfs @ 13.55 hrs, Volume= 0.714 af, Atten= 94%, Lag= 82.8 min
 Discarded = 0.17 cfs @ 13.55 hrs, Volume= 0.319 af
 Primary = 0.52 cfs @ 13.55 hrs, Volume= 0.395 af
 Routed to Reach 27R : Post Wetland
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 907.69' @ 13.55 hrs Surf.Area= 0.346 ac Storage= 0.414 af

Plug-Flow detention time= 320.8 min calculated for 0.714 af (100% of inflow)
 Center-of-Mass det. time= 321.0 min (1,114.2 - 793.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	905.00'	3.915 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
905.00	0.299	0.0	0.000	0.000
905.01	0.299	33.0	0.001	0.001
906.49	0.299	33.0	0.146	0.147
906.50	0.299	27.0	0.001	0.148
906.99	0.299	27.0	0.040	0.187
907.00	0.299	100.0	0.003	0.190
910.00	0.504	100.0	1.205	1.395
915.00	0.504	100.0	2.520	3.915

Device	Routing	Invert	Outlet Devices
#1	Primary	906.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 906.00' / 905.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	906.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	907.75'	4.0" Vert. 4" Orifice C= 0.600 Limited to weir flow at low heads
#4	Device 1	909.00'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#5	Secondary	909.50'	5.0' long + 4.0' /' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#6	Discarded	905.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 473

Discarded OutFlow Max=0.17 cfs @ 13.55 hrs HW=907.69' (Free Discharge)

↳ **6=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.52 cfs @ 13.55 hrs HW=907.69' TW=0.00' (Dynamic Tailwater)

↳ **1=12" Outlet Pipe** (Passes 0.52 cfs of 4.11 cfs potential flow)

↳ **2=4" Underdrain** (Orifice Controls 0.52 cfs @ 5.95 fps)

↳ **3=4" Orifice** (Controls 0.00 cfs)

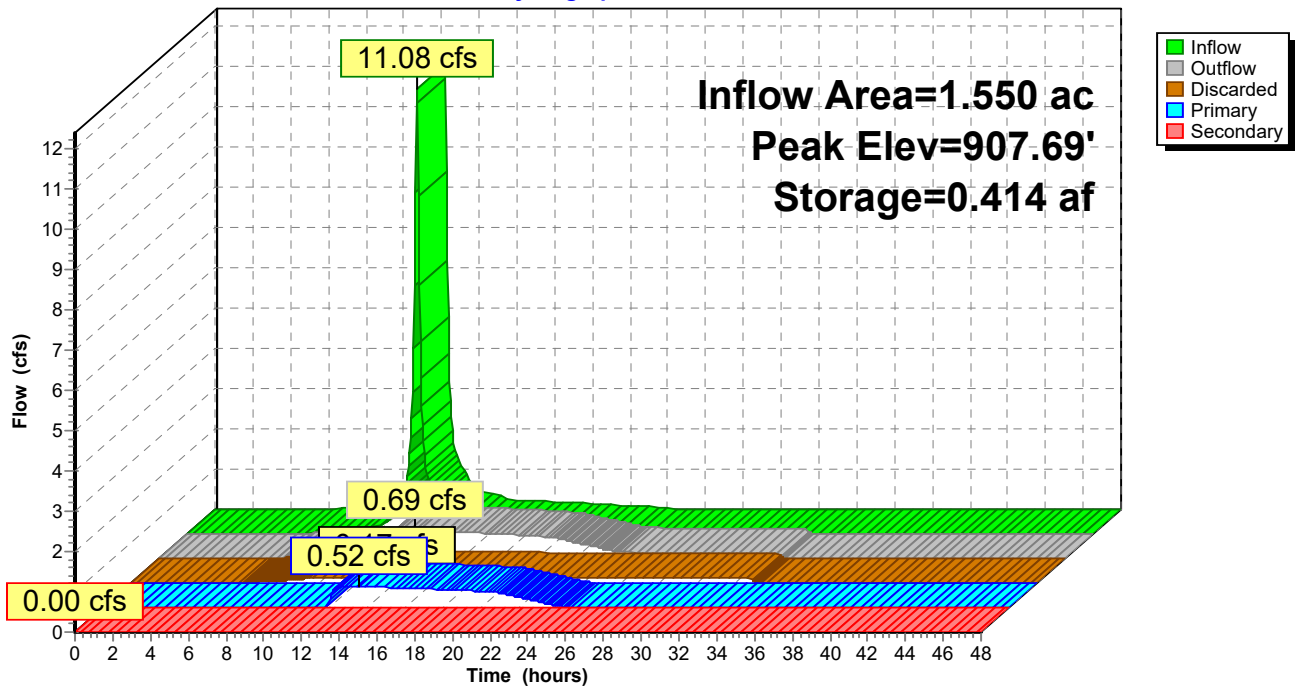
↳ **4=24" Riser** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=905.00' TW=0.00' (Dynamic Tailwater)

↳ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond IP V: Infil V

Hydrograph



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Page 474

Summary for Pond IP W: Infil W

Inflow Area = 3.440 ac, 68.90% Impervious, Inflow Depth = 5.99" for 200-Year event
 Inflow = 26.07 cfs @ 12.17 hrs, Volume= 1.718 af
 Outflow = 25.58 cfs @ 12.20 hrs, Volume= 1.718 af, Atten= 2%, Lag= 1.6 min
 Discarded = 0.04 cfs @ 12.20 hrs, Volume= 0.032 af
 Primary = 13.80 cfs @ 12.20 hrs, Volume= 1.535 af
 Routed to Reach 52R : TOTAL PROPOSED
 Secondary = 11.74 cfs @ 12.20 hrs, Volume= 0.150 af
 Routed to Reach 52R : TOTAL PROPOSED

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 914.93' @ 12.20 hrs Surf.Area= 0.085 ac Storage= 0.112 af

Plug-Flow detention time= 15.7 min calculated for 1.716 af (100% of inflow)
 Center-of-Mass det. time= 16.2 min (800.2 - 784.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	911.00'	0.553 af	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	0.019	0.0	0.000	0.000
911.01	0.019	33.0	0.000	0.000
912.49	0.019	33.0	0.009	0.009
912.50	0.019	27.0	0.000	0.009
912.99	0.019	27.0	0.003	0.012
913.00	0.019	100.0	0.000	0.012
915.00	0.087	100.0	0.106	0.118
920.00	0.087	100.0	0.435	0.553

Device	Routing	Invert	Outlet Devices
#1	Primary	912.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 912.00' / 911.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	912.00'	4.0" Vert. 4" Underdrain C= 0.600 Limited to weir flow at low heads
#3	Device 1	913.75'	36.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	914.50'	15.0' long + 4.0 ' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#5	Discarded	911.00'	0.500 in/hr Exfiltration over Surface area Phase-In= 0.01'

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Page 475

Discarded OutFlow Max=0.04 cfs @ 12.20 hrs HW=914.93' (Free Discharge)

↳ **5=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=13.78 cfs @ 12.20 hrs HW=914.93' TW=0.00' (Dynamic Tailwater)

↳ **1=18" Outlet Pipe** (Barrel Controls 13.78 cfs @ 7.80 fps)

↳ **2=4" Underdrain** (Passes < 0.70 cfs potential flow)

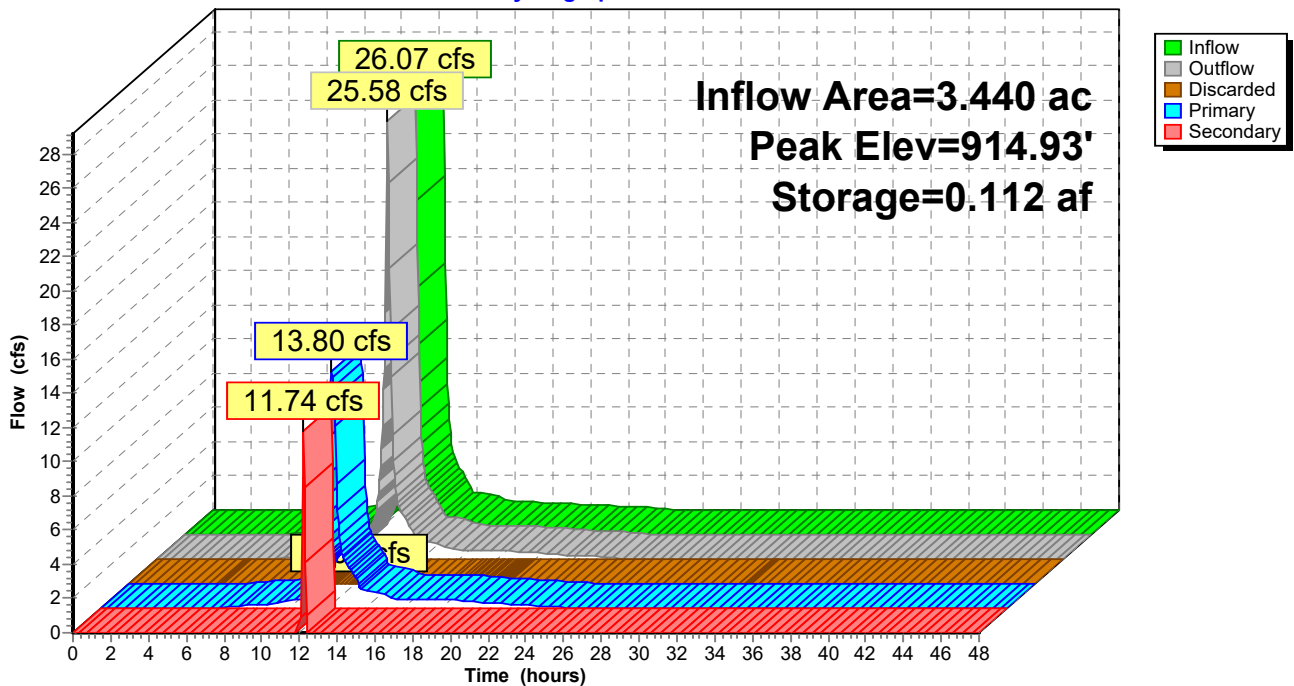
↳ **3=48" Riser** (Passes < 36.95 cfs potential flow)

Secondary OutFlow Max=11.62 cfs @ 12.20 hrs HW=914.93' TW=0.00' (Dynamic Tailwater)

↳ **4=Broad-Crested Rectangular Weir** (Weir Controls 11.62 cfs @ 1.62 fps)

Pond IP W: Infil W

Hydrograph



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Page 476

Summary for Pond WP A: Wet Pond A

Inflow Area = 39.580 ac, 41.99% Impervious, Inflow Depth = 4.98" for 200-Year event
 Inflow = 213.74 cfs @ 12.20 hrs, Volume= 16.415 af
 Outflow = 135.87 cfs @ 12.35 hrs, Volume= 15.887 af, Atten= 36%, Lag= 9.2 min
 Primary = 53.31 cfs @ 12.33 hrs, Volume= 11.935 af
 Routed to Pond IP A : Infil A
 Secondary = 85.05 cfs @ 12.38 hrs, Volume= 3.952 af
 Routed to Pond IP A : Infil A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 925.96' @ 12.38 hrs Surf.Area= 1.550 ac Storage= 5.187 af

Plug-Flow detention time= 224.1 min calculated for 15.871 af (97% of inflow)
 Center-of-Mass det. time= 207.0 min (1,026.0 - 819.0)

Volume	Invert	Avail.Storage	Storage Description
#1	922.00'	11.459 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
922.00	1.071	0.000	0.000
923.00	1.190	1.130	1.130
924.00	1.310	1.250	2.380
925.00	1.431	1.371	3.751
926.00	1.554	1.493	5.243
930.00	1.554	6.216	11.459

Device	Routing	Invert	Outlet Devices
#1	Primary	922.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 922.00' / 921.80' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	922.00'	12.0" Vert. 12" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	923.50'	6.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#4	Secondary	925.00'	30.0' long + 4.0 '/ SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=50.16 cfs @ 12.33 hrs HW=925.93' TW=924.54' (Dynamic Tailwater)

↑1=36" Outlet Pipe (Inlet Controls 50.16 cfs @ 7.10 fps)

↑2=12" Orifice (Passes < 4.46 cfs potential flow)

↑3=Sharp-Crested Rectangular Weir (Passes < 60.25 cfs potential flow)

Secondary OutFlow Max=81.27 cfs @ 12.38 hrs HW=925.96' TW=925.18' (Dynamic Tailwater)

↑4=Broad-Crested Rectangular Weir (Weir Controls 81.27 cfs @ 2.50 fps)

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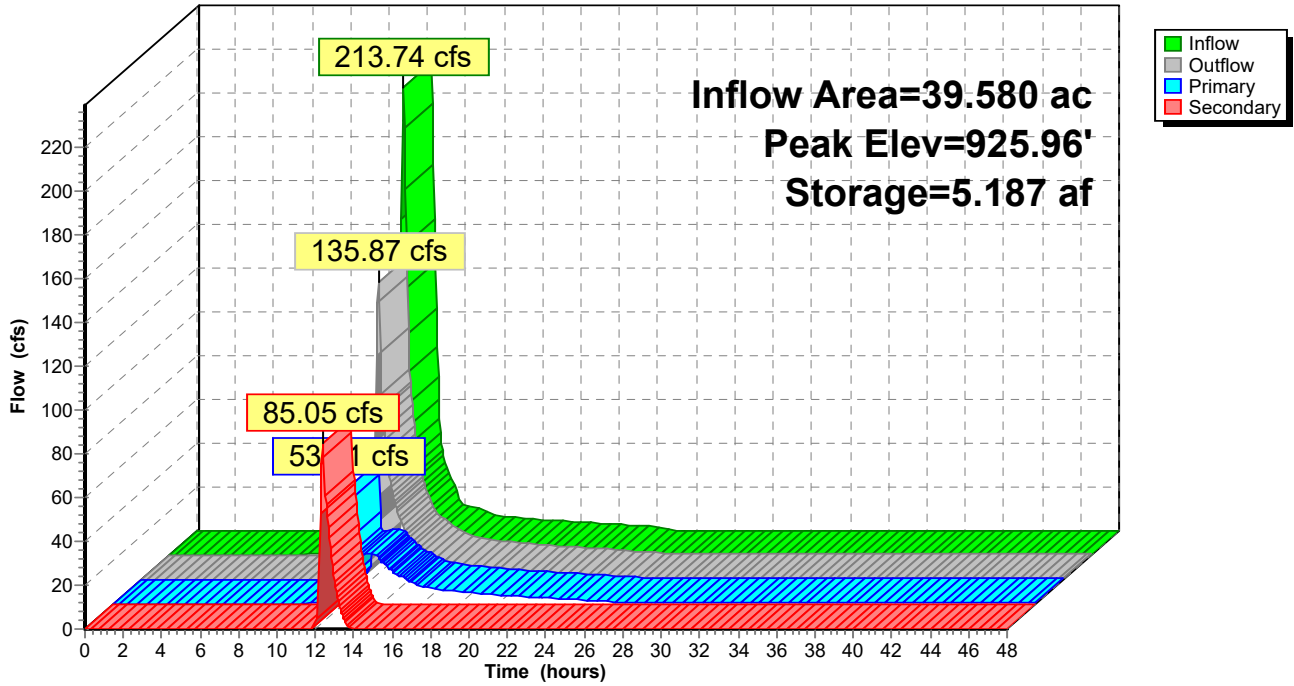
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Page 477

Pond WP A: Wet Pond A

Hydrograph



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Page 478

Summary for Pond WP B: Wet Pond B

Inflow Area = 90.410 ac, 44.73% Impervious, Inflow Depth > 4.62" for 200-Year event
 Inflow = 259.77 cfs @ 12.18 hrs, Volume= 34.828 af
 Outflow = 180.26 cfs @ 12.50 hrs, Volume= 34.518 af, Atten= 31%, Lag= 19.4 min
 Primary = 49.48 cfs @ 12.50 hrs, Volume= 16.148 af
 Routed to Pond IP B : Infil B
 Secondary = 129.90 cfs @ 12.50 hrs, Volume= 18.356 af
 Routed to Reach 27R : Post Wetland
 Tertiary = 0.89 cfs @ 12.50 hrs, Volume= 0.014 af
 Routed to Reach 27R : Post Wetland

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 913.66' @ 12.50 hrs Surf.Area= 1.842 ac Storage= 4.199 af

Plug-Flow detention time= 44.6 min calculated for 34.518 af (99% of inflow)
 Center-of-Mass det. time= 28.4 min (975.3 - 946.9)

Volume	Invert	Avail.Storage	Storage Description
#1	911.00'	16.295 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
911.00	1.320	0.000	0.000
912.00	1.510	1.415	1.415
913.00	1.710	1.610	3.025
914.00	1.910	1.810	4.835
920.00	1.910	11.460	16.295

Device	Routing	Invert	Outlet Devices
#1	Primary	911.00'	18.0" Round 4 - 18" Outlet to Infiltration X 4.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.00' / 910.75' S= 0.0050 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Secondary	911.35'	24.0" Round 6 - 24" Outlet Pipes X 6.00 L= 50.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 911.35' / 910.00' S= 0.0270 '/ Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Tertiary	913.50'	5.0' long + 4.0 ' SideZ x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=49.46 cfs @ 12.50 hrs HW=913.66' TW=911.40' (Dynamic Tailwater)
 ↳ **1=4 - 18" Outlet to Infiltration** (Barrel Controls 49.46 cfs @ 7.00 fps)

Secondary OutFlow Max=129.86 cfs @ 12.50 hrs HW=913.66' TW=0.00' (Dynamic Tailwater)
 ↳ **2=6 - 24" Outlet Pipes** (Inlet Controls 129.86 cfs @ 6.89 fps)

Tertiary OutFlow Max=0.88 cfs @ 12.50 hrs HW=913.66' TW=0.00' (Dynamic Tailwater)
 ↳ **3=Broad-Crested Rectangular Weir** (Weir Controls 0.88 cfs @ 0.97 fps)

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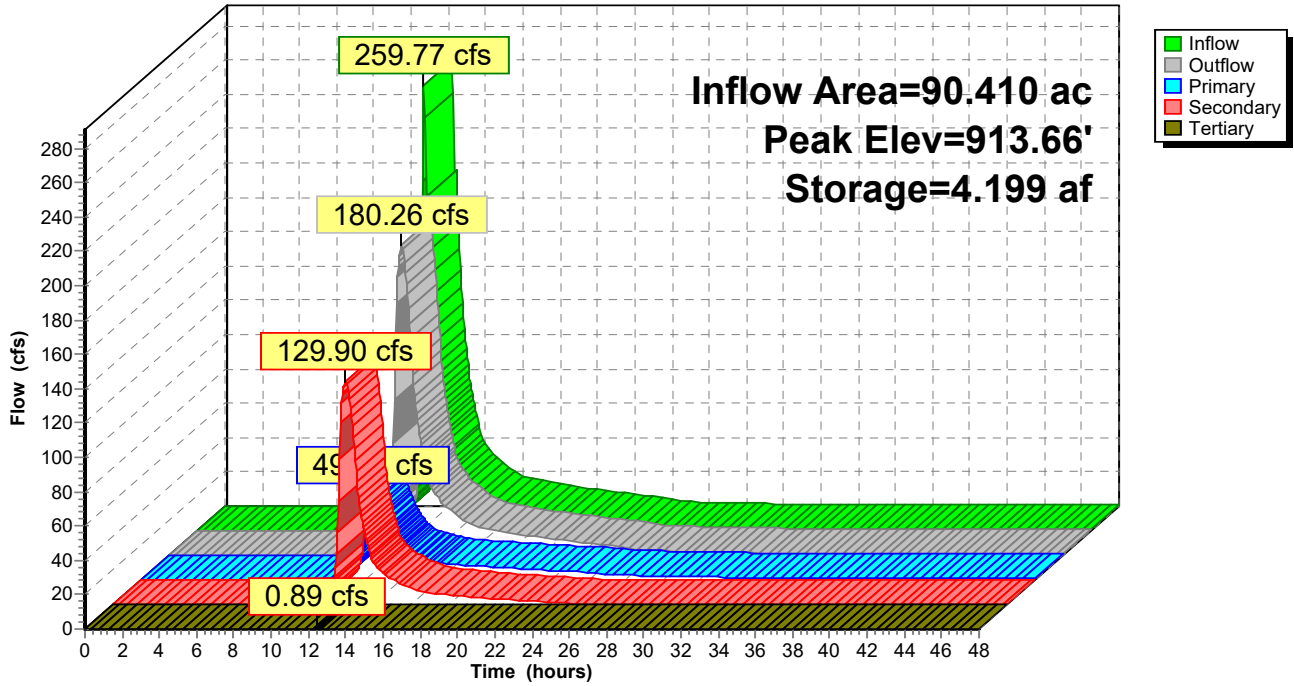
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Page 479

Pond WP B: Wet Pond B

Hydrograph



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Page 480

Summary for Pond WP P: Wet Pond P

Inflow Area = 9.510 ac, 56.89% Impervious, Inflow Depth = 5.41" for 200-Year event
 Inflow = 66.86 cfs @ 12.17 hrs, Volume= 4.291 af
 Outflow = 26.31 cfs @ 12.20 hrs, Volume= 4.270 af, Atten= 61%, Lag= 1.4 min
 Primary = 26.31 cfs @ 12.20 hrs, Volume= 4.270 af
 Routed to Pond IP P : Infil P
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond IP P : Infil P

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 940.48' @ 12.76 hrs Surf.Area= 0.540 ac Storage= 1.752 af

Plug-Flow detention time= 246.4 min calculated for 4.266 af (99% of inflow)
 Center-of-Mass det. time= 244.6 min (1,039.9 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	936.00'	2.045 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
936.00	0.247	0.000	0.000
937.00	0.310	0.278	0.278
938.00	0.375	0.342	0.621
939.00	0.440	0.408	1.028
940.00	0.508	0.474	1.502
941.00	0.576	0.542	2.045

Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	24.0" Round 24" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 936.00' / 935.80' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	936.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	940.50'	5.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=21.58 cfs @ 12.20 hrs HW=939.57' TW=938.27' (Dynamic Tailwater)

↑ **1=24" Outlet Pipe** (Inlet Controls 21.58 cfs @ 6.87 fps)

↑ **2=9" Orifice** (Passes < 2.43 cfs potential flow)

↑ **3=48" Riser** (Passes < 45.48 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=936.00' TW=934.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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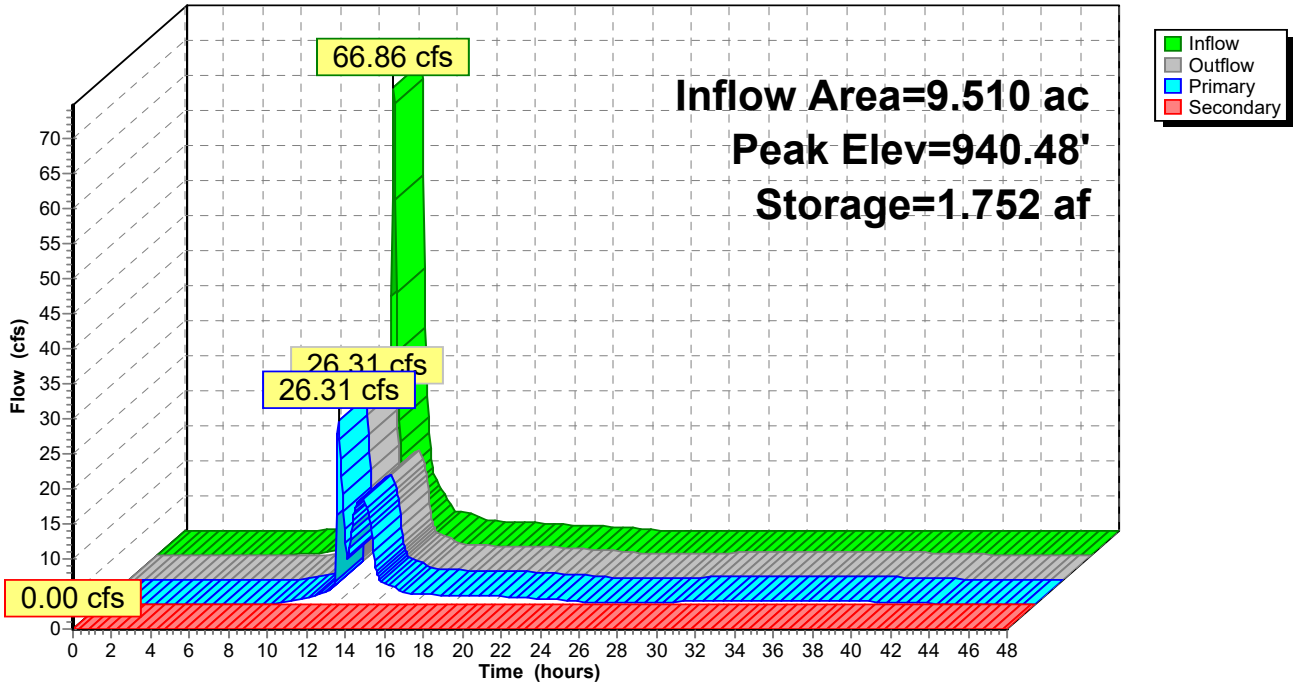
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Page 481

Pond WP P: Wet Pond P

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Page 482

Summary for Pond WP Q: Wet Pond Q

Inflow Area = 14.510 ac, 66.16% Impervious, Inflow Depth = 5.77" for 200-Year event
 Inflow = 91.83 cfs @ 12.23 hrs, Volume= 6.980 af
 Outflow = 83.64 cfs @ 12.23 hrs, Volume= 6.977 af, Atten= 9%, Lag= 0.5 min
 Primary = 9.99 cfs @ 11.70 hrs, Volume= 3.365 af
 Routed to Pond IP Q : Infil Q
 Secondary = 80.05 cfs @ 12.24 hrs, Volume= 3.612 af
 Routed to Pond IP Q : Infil Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 942.71' @ 12.36 hrs Surf.Area= 0.233 ac Storage= 0.692 af

Plug-Flow detention time= 52.9 min calculated for 6.977 af (100% of inflow)
 Center-of-Mass det. time= 52.4 min (844.4 - 791.9)

Volume	Invert	Avail.Storage	Storage Description
#1	939.00'	2.439 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
939.00	0.141	0.000	0.000
940.00	0.165	0.153	0.153
941.00	0.189	0.177	0.330
942.00	0.215	0.202	0.532
943.00	0.240	0.227	0.759
950.00	0.240	1.680	2.439

Device	Routing	Invert	Outlet Devices
#1	Primary	939.00'	18.0" Round 18" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 939.00' / 938.80' S= 0.0050 1' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Device 1	939.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	941.00'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	941.50'	60.0' long + 4.0 1' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=8.90 cfs @ 11.70 hrs HW=941.35' TW=940.65' (Dynamic Tailwater)

↑ **1=18" Outlet Pipe** (Inlet Controls 8.90 cfs @ 5.04 fps)

↑ **2=9" Orifice** (Passes < 1.78 cfs potential flow)

↑ **3=48" Riser** (Passes < 8.50 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 12.24 hrs HW=942.44' TW=942.54' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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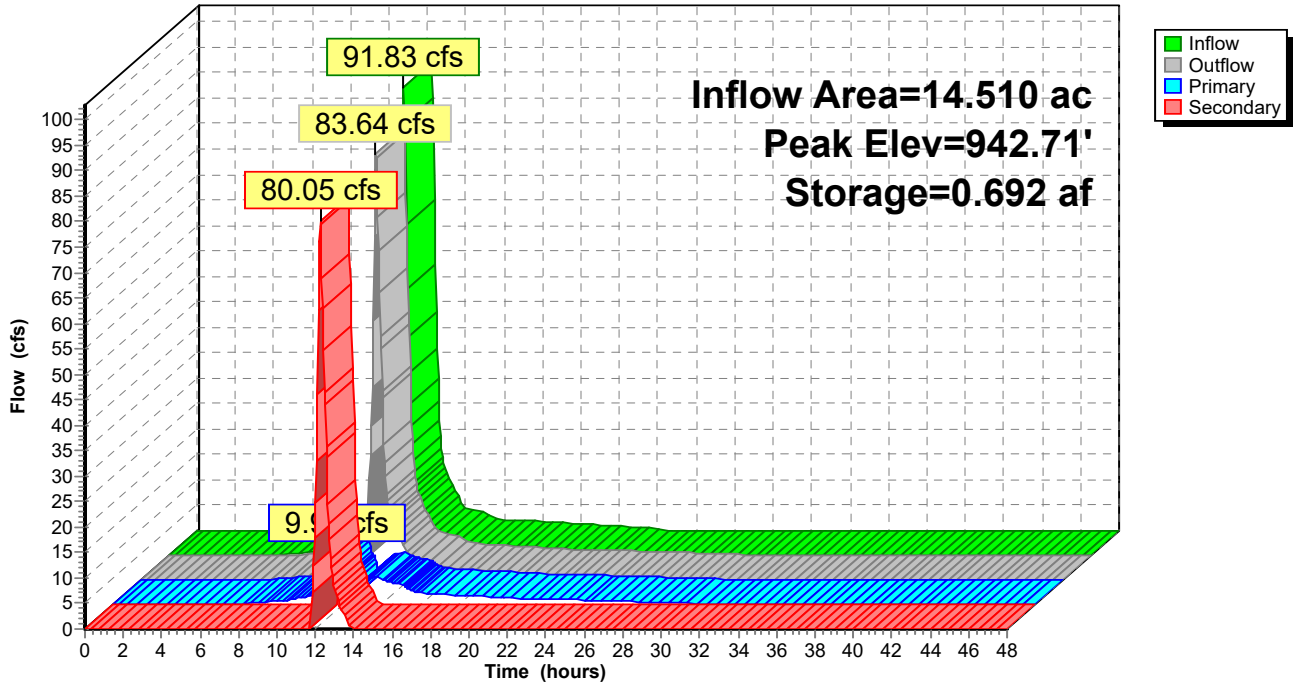
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Page 483

Pond WP Q: Wet Pond Q

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Page 484

Summary for Pond WP R: Wet Pond R

Inflow Area = 4.580 ac, 42.58% Impervious, Inflow Depth = 4.83" for 200-Year event
 Inflow = 23.81 cfs @ 12.19 hrs, Volume= 1.843 af
 Outflow = 11.97 cfs @ 12.44 hrs, Volume= 1.837 af, Atten= 50%, Lag= 15.1 min
 Primary = 6.42 cfs @ 12.44 hrs, Volume= 1.669 af
 Routed to Reach 12R : Prop CTH Q
 Secondary = 5.55 cfs @ 12.44 hrs, Volume= 0.168 af
 Routed to Reach 12R : Prop CTH Q

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 937.98' @ 12.44 hrs Surf.Area= 0.260 ac Storage= 0.658 af

Plug-Flow detention time= 111.1 min calculated for 1.835 af (100% of inflow)
 Center-of-Mass det. time= 110.5 min (918.5 - 808.0)

Volume	Invert	Avail.Storage	Storage Description
#1	935.00'	2.491 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
935.00	0.183	0.000	0.000
936.00	0.208	0.196	0.196
937.00	0.234	0.221	0.417
938.00	0.261	0.248	0.664
945.00	0.261	1.827	2.491

Device	Routing	Invert	Outlet Devices
#1	Primary	935.00'	12.0" Round 12" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 935.00' / 934.80' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	935.00'	6.0" Vert. 6" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	936.50'	24.0" Horiz. 24" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	937.50'	5.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=6.42 cfs @ 12.44 hrs HW=937.98' TW=0.00' (Dynamic Tailwater)

- ↑ 1=12" Outlet Pipe (Barrel Controls 6.42 cfs @ 8.17 fps)
- ↑ 2=6" Orifice (Passes < 1.56 cfs potential flow)
- ↑ 3=24" Riser (Passes < 18.37 cfs potential flow)

Secondary OutFlow Max=5.51 cfs @ 12.44 hrs HW=937.98' TW=0.00' (Dynamic Tailwater)

- ↑ 4=Broad-Crested Rectangular Weir (Weir Controls 5.51 cfs @ 1.68 fps)

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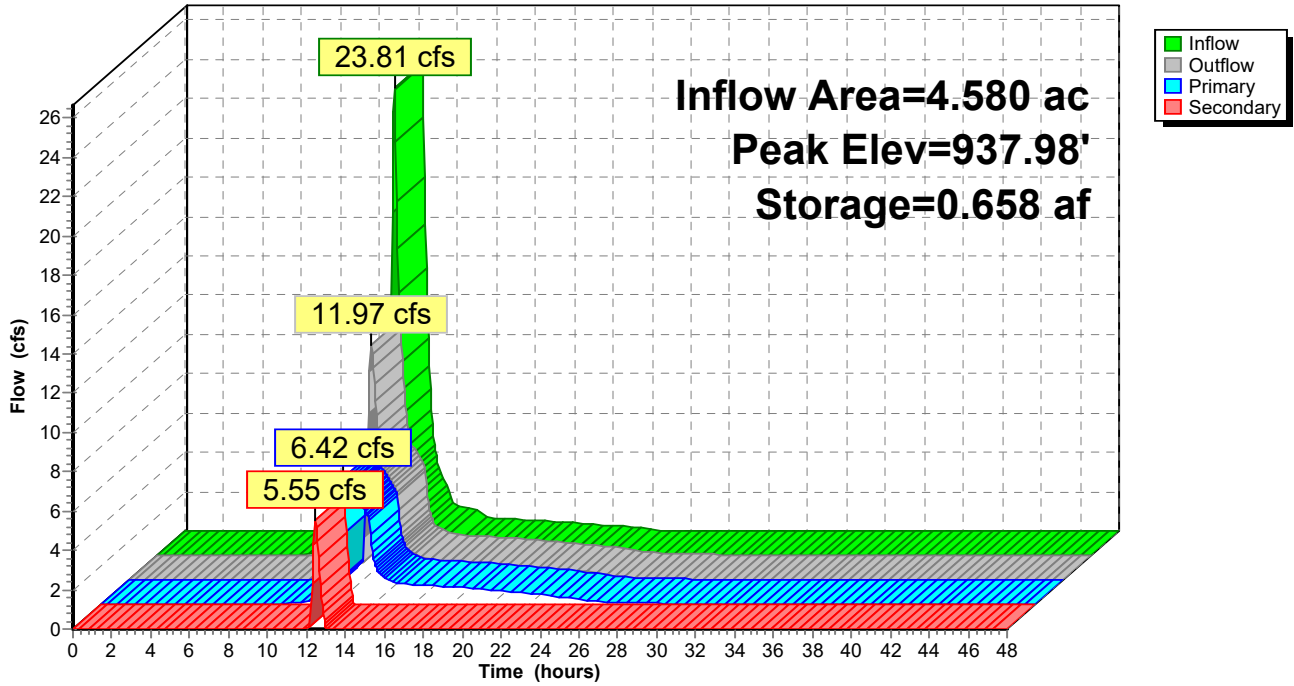
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Page 485

Pond WP R: Wet Pond R

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Page 486

Summary for Pond WP U: Wet Pond U

Inflow Area = 31.510 ac, 63.57% Impervious, Inflow Depth > 5.23" for 200-Year event
 Inflow = 55.13 cfs @ 12.52 hrs, Volume= 13.742 af
 Outflow = 51.24 cfs @ 12.61 hrs, Volume= 13.579 af, Atten= 7%, Lag= 5.7 min
 Primary = 45.53 cfs @ 12.27 hrs, Volume= 12.578 af
 Routed to Pond IP U : Infil U
 Secondary = 15.42 cfs @ 12.72 hrs, Volume= 1.001 af
 Routed to Pond IP U : Infil U

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 922.75' @ 12.72 hrs Surf.Area= 0.300 ac Storage= 1.084 af

Plug-Flow detention time= 97.3 min calculated for 13.565 af (99% of inflow)
 Center-of-Mass det. time= 76.7 min (1,097.8 - 1,021.2)

Volume	Invert	Avail.Storage	Storage Description
#1	918.00'	1.160 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
918.00	0.161	0.000	0.000
919.00	0.188	0.174	0.174
920.00	0.216	0.202	0.376
921.00	0.245	0.230	0.607
922.00	0.276	0.261	0.868
923.00	0.308	0.292	1.160

Device	Routing	Invert	Outlet Devices
#1	Primary	918.00'	36.0" Round 36" Outlet Pipe L= 40.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 918.00' / 917.80' S= 0.0050 1/1 Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	918.00'	9.0" Vert. 9" Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	921.50'	48.0" Horiz. 48" Riser C= 0.600 Limited to weir flow at low heads
#4	Secondary	922.50'	50.0' long + 4.0 1/2' SideZ x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=44.49 cfs @ 12.27 hrs HW=922.50' TW=919.98' (Dynamic Tailwater)

1=36" Outlet Pipe (Passes 44.49 cfs of 62.34 cfs potential flow)

2=9" Orifice (Orifice Controls 3.38 cfs @ 7.65 fps)

3=48" Riser (Weir Controls 41.11 cfs @ 3.27 fps)

Secondary OutFlow Max=15.36 cfs @ 12.72 hrs HW=922.75' TW=922.10' (Dynamic Tailwater)

4=Broad-Crested Rectangular Weir (Weir Controls 15.36 cfs @ 1.19 fps)

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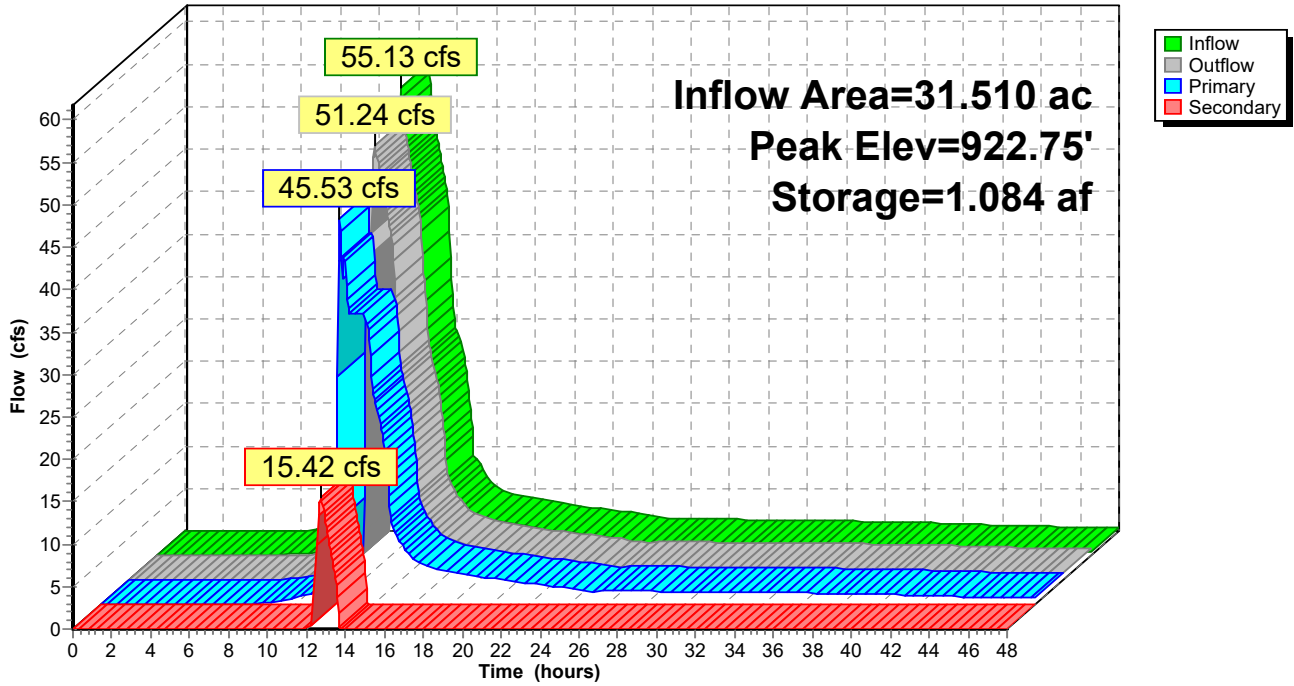
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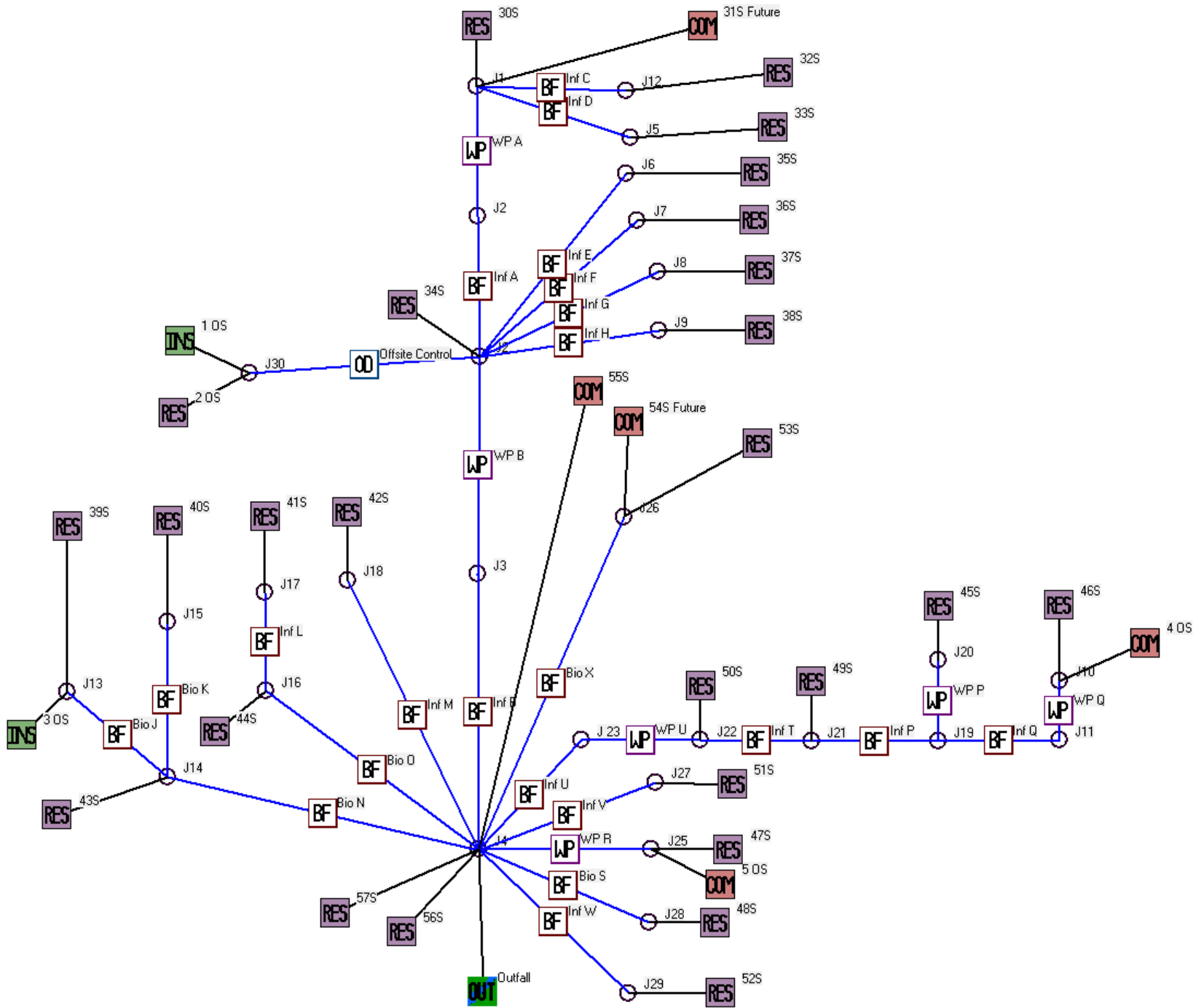
Page 487

Pond WP U: Wet Pond U

Hydrograph



5 Sediment Reduction Calculations



Data file name: M:\Tierney, Don\190219_Kilkenny West Master\Design Development\Stormwater and Erosion Control\Modeling\TSS Modeling\Proposed Kilkenny Wes.mdb

WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppx

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Study period starting date: 01/01/81 Study period ending date: 12/31/81

Start of Winter Season: 12/02 End of Winter Season: 03/12

Date: 03-13-2023 Time: 16:56:48

Site information:

LU# 1 - Residential: 30S Total area (ac): 19.160

1 - Roofs 1: 2.910 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 1.450 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 1.450 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.900 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 3.240 ac. Intermediate Street Length = 1.671 curb-mi Street Width (assuming two curb-mi per street mile) = 31.99282 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 7.780 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 1.430 ac. Source Area PSD File:

LU# 2 - Commercial: 31S Future Total area (ac): 12.940

45 - Large Landscaped Areas 1: 12.940 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#2

LU# 3 - Residential: 32S Total area (ac): 3.670

1 - Roofs 1: 1.370 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.680 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.680 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.840 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.100 ac. Source Area PSD File:

LU# 4 - Residential: 33S Total area (ac): 3.790

1 - Roofs 1: 1.150 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.580 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.580 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 1.380 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.100 ac. Source Area PSD File:

LU# 5 - Residential: 34S Total area (ac): 26.860

1 - Roofs 1: 2.640 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 0.210 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 1.320 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 1.320 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
32 - Sidewalks 2: 1.190 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 4.050 ac. Intermediate Street Length = 2.228 curb-mi Street Width (assuming two curbs-mi per street mile) = 29.99327 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 13.820 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 2.310 ac. Source Area PSD File:

LU# 6 - Residential: 35S Total area (ac): 3.830

1 - Roofs 1: 1.310 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.660 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.660 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.100 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.100 ac. Source Area PSD File:

LU# 7 - Residential: 36S Total area (ac): 4.440

1 - Roofs 1: 1.490 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.750 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.750 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.260 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.190 ac. Source Area PSD File:

LU# 8 - Residential: 37S Total area (ac): 4.310

1 - Roofs 1: 1.420 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.710 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.710 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.270 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.200 ac. Source Area PSD File:

LU# 9 - Residential: 38S Total area (ac): 2.410

1 - Roofs 1: 0.820 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.410 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.420 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.730 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.030 ac. Source Area PSD File:

LU# 10 - Residential: 46S Total area (ac): 13.970

1 - Roofs 1: 3.370 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.080 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 1.680 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 1.680 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.510 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 2.050 ac. Intermediate Street Length = 1.128 curb-mi Street Width (assuming two curb-mi per street mile) = 29.9867 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 4.370 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.230 ac. Source Area PSD File:

LU# 11 - Residential: 39S Total area (ac): 5.630

1 - Roofs 1: 1.660 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.830 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.830 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.030 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.100 ac. Intermediate Street Length = 0.055 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 2.060 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.120 ac. Source Area PSD File:

LU# 12 - Residential: 40S Total area (ac): 4.180

1 - Roofs 1: 0.960 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.480 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.480 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.190 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.670 ac. Intermediate Street Length = 0.369 curb-mi Street Width (assuming two curb-mi per street mile) = 29.95935 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.300 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.100 ac. Source Area PSD File:

LU# 13 - Residential: 41S Total area (ac): 2.260

1 - Roofs 1: 0.750 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.380 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.380 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.720 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.030 ac. Source Area PSD File:

LU# 14 - Residential: 42S Total area (ac): 1.090

1 - Roofs 1: 0.300 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.150 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.150 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.430 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.060 ac. Source Area PSD File:

LU# 15 - Residential: 43S Total area (ac): 4.310

1 - Roofs 1: 0.630 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.320 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.320 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.200 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.760 ac. Intermediate Street Length = 0.418 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.810 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.270 ac. Source Area PSD File:

LU# 16 - Residential: 44S Total area (ac): 4.310

1 - Roofs 1: 0.600 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.300 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.300 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.340 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 1.270 ac. Intermediate Street Length = 0.699 curb-mi Street Width (assuming two curb-mi per street mile) = 29.97854 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.300 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.200 ac. Source Area PSD File:

LU# 17 - Residential: 45S Total area (ac): 9.510

1 - Roofs 1: 1.690 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.190 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.850 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.850 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.280 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 1.050 ac. Intermediate Street Length = 0.578 curb-mi Street Width (assuming two curb-mi per street mile) = 29.97405 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 4.100 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.500 ac. Source Area PSD File:

LU# 18 - Residential: 48S Total area (ac): 2.440

1 - Roofs 1: 0.430 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.220 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.210 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.170 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.600 ac. Intermediate Street Length = 0.33 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.720 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.090 ac. Source Area PSD File:

LU# 19 - Residential: 47S Total area (ac): 2.660

1 - Roofs 1: 0.350 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.180 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.180 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.060 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.500 ac. Intermediate Street Length = 0.275 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.210 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.180 ac. Source Area PSD File:

LU# 20 - Residential: 49S Total area (ac): 2.250

1 - Roofs 1: 0.740 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.370 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.370 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.740 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.030 ac. Source Area PSD File:

LU# 21 - Residential: 50S Total area (ac): 5.240

1 - Roofs 1: 0.420 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.210 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.210 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.500 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 1.800 ac. Intermediate Street Length = 0.99 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.790 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.310 ac. Source Area PSD File:

LU# 22 - Residential: 51S Total area (ac): 1.550

1 - Roofs 1: 0.290 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.150 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.150 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.660 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.300 ac. Source Area PSD File:

LU# 23 - Residential: 52S Total area (ac): 3.440

1 - Roofs 1: 1.170 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.590 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.590 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.070 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.020 ac. Source Area PSD File:

LU# 24 - Residential: 53S Total area (ac): 4.050

31 - Sidewalks 1: 0.570 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 2.020 ac. Intermediate Street Length = 1.111 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.330 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.130 ac. Source Area PSD File:

LU# 25 - Commercial: 54S Future Total area (ac): 3.150

45 - Large Landscaped Areas 1: 3.150 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#36

LU# 26 - Commercial: 55S Total area (ac): 2.230

13 - Paved Parking 1: 0.120 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.200 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.720 ac. Intermediate Street Length = 0.396 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.190 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 27 - Residential: 56S Total area (ac): 16.060

1 - Roofs 1: 1.120 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.560 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.560 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.030 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.110 ac. Intermediate Street Length = 0.061 curb-mi Street Width (assuming two curb-mi per street mile) = 29.7541 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 4.330 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 9.350 ac. Source Area PSD File:

LU# 28 - Institutional: 1 OS Total area (ac): 2.600

45 - Large Landscaped Areas 1: 2.600 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 29 - Residential: 2 OS Total area (ac): 6.380

1 - Roofs 1: 0.340 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.110 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 5.930 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 30 - Commercial: 4 OS Total area (ac): 0.540

45 - Large Landscaped Areas 1: 0.540 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#30

LU# 31 - Residential: 57S Total area (ac): 2.060

1 - Roofs 1: 0.300 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.250 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.510 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 32 - Institutional: 3 OS Total area (ac): 5.250

45 - Large Landscaped Areas 1: 5.250 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#32

LU# 33 - Commercial: 5 OS Total area (ac): 1.920

1 - Roofs 1: 0.200 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
OD-CP#35

13 - Paved Parking 1: 0.300 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
OD-CP#34

45 - Large Landscaped Areas 1: 1.420 ac. Normal Silty Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz OD-CP#33

Control Practice 1: Wet Detention Pond CP# 1 (DS) - WP A

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Sharp Crested Weir

1. Sharp crested weir length (ft): 6
2. Sharp crested weir height from invert: 2.5
3. Sharp crested weir invert elevation above datum (ft): 7.5

Outlet type: Orifice 1

1. Orifice diameter (ft): 1
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 30
2. Weir crest width (ft): 5
3. Height from datum to bottom of weir opening: 9

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.3483	0.00	0.00
2	1.00	0.4071	0.00	0.00
3	5.00	0.6875	0.00	0.00
4	6.00	1.0715	0.00	0.00
5	10.00	1.5540	0.00	0.00

Control Practice 2: Other Device CP# 1 (SA) - SA Device, LU# 2 ,SA# 45

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 3: Biofilter CP# 1 (DS) - Inf C

1. Top area (square feet) = 9617
2. Bottom aea (square feet) = 4168
3. Depth (ft): 5.5

4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 2
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3.5
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1.5
3. Number of underdrain outlets: 1

Control Practice 4: Biofilter CP# 2 (DS) - Inf D

1. Top area (square feet) = 9861
2. Bottom area (square feet) = 4285
3. Depth (ft): 5.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 2
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80

- 15. Biofilter peak to average flow ratio = 3.8
- 16. Number of biofiltration control devices = 1
- 17. Particle size distribution file: Not needed - calculated by program
- 18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

- 1. Weir crest length (ft): 10
- 2. Weir crest width (ft): 5
- 3. Height of datum to bottom of weir opening: 5

Outlet type: Vertical Stand Pipe

- 1. Stand pipe diameter (ft): 4
- 2. Stand pipe height above datum (ft): 4.5

Outlet type: Surface Discharge Pipe

- 1. Surface discharge pipe outlet diameter (ft): 0.33
- 2. Pipe invert elevation above datum (ft): 3.5
- 3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

- 1. Underdrain outlet diameter (ft): 0.33
- 2. Invert elevation above datum (ft): 1.5
- 3. Number of underdrain outlets: 1

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 1.5
2. Number of orifices: 4
3. Invert elevation above datum (ft): 6

Outlet type: Orifice 2

1. Orifice diameter (ft): 2
2. Number of orifices: 6
3. Invert elevation above datum (ft): 6.35

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 8.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.4014	0.00	0.00
2	1.00	0.4751	0.00	0.00
3	5.00	0.8324	0.00	0.00
4	6.00	1.3245	0.00	0.00

5 9.00 1.9093 0.00 0.00

Control Practice 6: Biofilter CP# 3 (DS) - Inf B

1. Top area (square feet) = 70250
2. Bottom area (square feet) = 42945
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 2
3. Height of datum to bottom of weir opening: 4.8

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 1.75

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5
2. Invert elevation above datum (ft): 0
3. Number of underdrain outlets: 1

Control Practice 7: Biofilter CP# 4 (DS) - Inf A

1. Top area (square feet) = 28637
2. Bottom area (square feet) = 15837
3. Depth (ft): 6
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5

13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 20
3. Height of datum to bottom of weir opening: 5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 3
2. Stand pipe height above datum (ft): 5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 1.75
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5
2. Invert elevation above datum (ft): 0
3. Number of underdrain outlets: 1

Control Practice 8: Biofilter CP# 5 (DS) - Inf E

1. Top area (square feet) = 9505
2. Bottom area (square feet) = 4541
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.25

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 9: Biofilter CP# 6 (DS) - Inf F

1. Top area (square feet) = 9505
2. Bottom area (square feet) = 4541
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6

12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.25

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 10: Biofilter CP# 7 (DS) - Inf G

1. Top area (square feet) = 9505
2. Bottom area (square feet) = 4541
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5

3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.25

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 11: Biofilter CP# 8 (DS) - Inf H

1. Top area (square feet) = 9505
2. Bottom area (square feet) = 4541
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33

11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.25

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 12: Wet Detention Pond CP# 3 (DS) - WP Q

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.75
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 14
3. Height from datum to bottom of weir opening: 8.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 7.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0185	0.00	0.00
2	1.00	0.0253	0.00	0.00

3	5.00	0.0637	0.00	0.00
4	6.00	0.1303	0.00	0.00
5	9.00	0.2025	0.00	0.00

Control Practice 13: Biofilter CP# 9 (DS) - Inf Q

1. Top area (square feet) = 10095
2. Bottom aea (square feet) = 4375
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data

Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 14
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 2
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 0
3. Number of underdrain outlets: 1

Control Practice 14: Biofilter CP# 10 (DS) - Bio J

1. Top area (square feet) = 7600
2. Bottom area (square feet) = 5378
3. Depth (ft): 9.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4

10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 9.49

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 6.5

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 3.5
3. Number of underdrain outlets: 1

Control Practice 15: Biofilter CP# 11 (DS) - Bio N

1. Top area (square feet) = 15321
2. Bottom area (square feet) = 11850
3. Depth (ft): 7.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 30
2. Weir crest width (ft): 5

3. Height of datum to bottom of weir opening: 6.5

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33

2. Invert elevation above datum (ft): 3.5

3. Number of underdrain outlets: 1

Control Practice 16: Biofilter CP# 12 (DS) - Bio K

1. Top area (square feet) = 10090

2. Bottom area (square feet) = 4410

3. Depth (ft): 9

4. Biofilter width (ft) - for Cost Purposes Only: 10

5. Infiltration rate (in/hr) = 0.5

6. Random infiltration rate generation? No

7. Infiltration rate fraction (side): 0.01

8. Infiltration rate fraction (bottom): 1

9. Depth of biofilter that is rock filled (ft) 4

10. Porosity of rock filled volume = 0.33

11. Engineered soil infiltration rate: 3.6

12. Engineered soil depth (ft) = 1.5

13. Engineered soil porosity = 0.27

14. Percent solids reduction due to flow through engineered soil = 80

15. Biofilter peak to average flow ratio = 3.8

16. Number of biofiltration control devices = 1

17. Particle size distribution file: Not needed - calculated by program

18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 8

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 6.5

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 3.5
3. Number of underdrain outlets: 1

Control Practice 17: Biofilter CP# 13 (DS) - Bio O

1. Top area (square feet) = 12365
2. Bottom area (square feet) = 8855
3. Depth (ft): 7.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01

8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 30
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 6.5

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 3.5
3. Number of underdrain outlets: 1

1. Top area (square feet) = 3300
2. Bottom area (square feet) = 1260
3. Depth (ft): 4
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 3.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 3

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 19: Biofilter CP# 15 (DS) - Inf M

1. Top area (square feet) = 6035
2. Bottom area (square feet) = 2810
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1

17. Particle size distribution file: Not needed - calculated by program

18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 4

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 20: Wet Detention Pond CP# 4 (DS) - WP P

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.75
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height from datum to bottom of weir opening: 10.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 7.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0005	0.00	0.00
2	1.00	0.0053	0.00	0.00
3	5.00	0.0680	0.00	0.00
4	6.00	0.2472	0.00	0.00
5	11.00	0.5759	0.00	0.00

1. Top area (square feet) = 33644
2. Bottom area (square feet) = 10965
3. Depth (ft): 8
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 7.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 2.75
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 22: Biofilter CP# 17 (DS) - Inf T

1. Top area (square feet) = 5017
2. Bottom area (square feet) = 1374
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5

13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.99

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 2.5
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 23: Wet Detention Pond CP# 5 (DS) - WP U

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.75
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 50
2. Weir crest width (ft): 5
3. Height from datum to bottom of weir opening: 10.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 9

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0142	0.00	0.00
2	1.00	0.0263	0.00	0.00
3	5.00	0.0803	0.00	0.00
4	6.00	0.1608	0.00	0.00

5 11.00 0.3083 0.00 0.00

Control Practice 24: Biofilter CP# 18 (DS) - Inf U

1. Top area (square feet) = 17610
2. Bottom area (square feet) = 6637
3. Depth (ft): 8
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 7

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 6

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 2.75
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 25: Wet Detention Pond CP# 6 (DS) - WP R

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.5
2. Number of orifices: 1

3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5

2. Weir crest width (ft): 10

3. Height from datum to bottom of weir opening: 8.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2

2. Stand pipe height above datum (ft): 7.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0548	0.00	0.00
2	1.00	0.0642	0.00	0.00
3	5.00	0.1071	0.00	0.00
4	6.00	0.1832	0.00	0.00
5	9.00	0.2608	0.00	0.00

Control Practice 26: Biofilter CP# 19 (DS) - Bio X

1. Top area (square feet) = 9263

2. Bottom area (square feet) = 5453

3. Depth (ft): 9.5

4. Biofilter width (ft) - for Cost Purposes Only: 10

5. Infiltration rate (in/hr) = 0.5

6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 9.49

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 7.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33

2. Pipe invert elevation above datum (ft): 6.25

3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33

2. Invert elevation above datum (ft): 3.5

3. Number of underdrain outlets: 1

Control Practice 27: Biofilter CP# 20 (DS) - Bio S

1. Top area (square feet) = 5210

2. Bottom area (square feet) = 4116

3. Depth (ft): 7.5

4. Biofilter width (ft) - for Cost Purposes Only: 10

5. Infiltration rate (in/hr) = 0.5

6. Random infiltration rate generation? No

7. Infiltration rate fraction (side): 0.01

8. Infiltration rate fraction (bottom): 1

9. Depth of biofilter that is rock filled (ft) 4

10. Porosity of rock filled volume = 0.33

11. Engineered soil infiltration rate: 3.6

12. Engineered soil depth (ft) = 1.5

13. Engineered soil porosity = 0.27

14. Percent solids reduction due to flow through engineered soil = 80

15. Biofilter peak to average flow ratio = 3.8

16. Number of biofiltration control devices = 1

17. Particle size distribution file: Not needed - calculated by program

18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 7

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 3
2. Stand pipe height above datum (ft): 6.25

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 3.5
3. Number of underdrain outlets: 1

Control Practice 28: Biofilter CP# 21 (DS) - Inf V

1. Top area (square feet) = 6035
2. Bottom area (square feet) = 2810
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No

7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 4

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 2.75
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 29: Biofilter CP# 22 (DS) - Inf W

1. Top area (square feet) = 3800
2. Bottom area (square feet) = 845
3. Depth (ft): 4
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 3.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 2.75

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 30: Other Device CP# 2 (SA) - SA Device, LU# 30 ,SA# 45

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 31: Other Device CP# 3 (DS) - Offsite Control

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 32: Other Device CP# 4 (SA) - SA Device, LU# 32 ,SA# 45

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 33: Other Device CP# 5 (SA) - SA Device, LU# 33 ,SA# 45

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 34: Other Device CP# 6 (SA) - SA Device, LU# 33 ,SA# 13

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 35: Other Device CP# 7 (SA) - SA Device, LU# 33 ,SA# 1

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Control Practice 36: Other Device CP# 8 (SA) - SA Device, LU# 25 ,SA# 45

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

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Data file name: M:\Tierney, Don\190219_Kilkenny West Master\Design Development\Stormwater and Erosion Control\Modeling\TSS Modeling\Proposed Kilkenny West T
WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\w10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42

Study period starting date: 01/01/81 Study period ending date: 12/31/81

Start of Winter Season: 12/02 End of Winter Season: 03/12

Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81

Date of run: 03-13-2023 Time of run: 17:12:10

Total Area Modeled (acres): 188.490

Years in Model Run: 1.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	9.242E+06	-	83.65	48263	-
Outfall Total with Controls:	3.634E+06	60.68%	38.37	8704	81.97%
Annualized Total After Outfall Controls:	3.644E+06			8728	

6 Infiltration Calculations

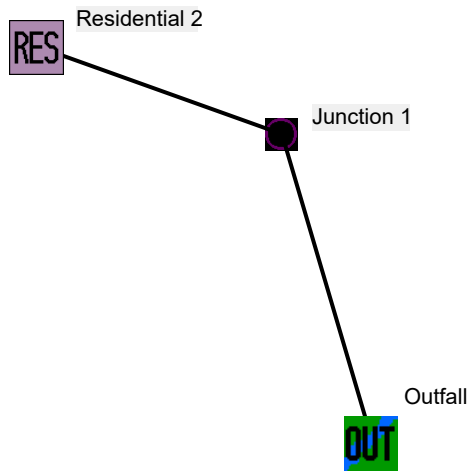
PreDeveloped

Data File: M:\Tierney, Don\190219_Kilkenny West Master\Design Development\Stormwater and Erosion Contr							
Rain File: WisReg - Madison w/ 1981.RAN							
Date: 03-13-23 Time: 5:05:18 PM							
Site Description:							
Runoff Volume Total (cf) at the Outfall							
Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)
Minimum:		0.00	0	0.060	0.01	73.6	0.149
Maximum:		2.59	363150	0.248	1.95	99.7	42.854
Average:		0.26	17401	0.061	0.23	81.3	14.898
Total:		28.81	1.897E+06		25.49		
* Note: NRCS does not recommend using CN method for rains < 0.5 in.							
See 'PreDevelopment Areas and CN' Help for more info.							

PostDeveloped

Data File: M:\Tierney, Don\190219_Kilkenny West Master\Design Development\Stormwater and Erosion Cont							
Rain File: WisReg - Madison w/ 1981.RAN							
Date: 03-13-23 Time: 5:21:42 PM							
Site Description:							
Runoff Volume Total (cf) at the Outfall							
Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)
Minimum:		0.00	0	0.063	0.01	80.3	0.161
Maximum:		2.59	547577	0.374	1.62	99.7	40.082
Average:		0.26	31523	0.096	0.21	86.4	14.215
Total:		28.81	3.436E+06		22.76		
* Note: NRCS does not recommend using CN method for rains < 0.5 in.							
See 'PreDevelopment Areas and CN' Help for more info.							

Infiltration = $\frac{\text{PostDeveloped Total Loss}}{\text{PreDeveloped Total Loss}} * 100 = \frac{22.76 \text{ inches/year}}{25.49 \text{ inches/year}} = 89.3\% \rightarrow \text{Goal is Met}$



Data file name: M:\Tierney, Don\190219_Kilkenny West Master\Design Development\Stormwater and Erosion Control\Modeling\Infiltration Modeling\PreDeveloped.mdb
WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Study period starting date: 01/01/81

Study period ending date: 12/31/81

Start of Winter Season: 12/02

End of Winter Season: 03/12

Date: 03-13-2023

Time: 17:06:42

Site information:

LU# 1 - Residential: Residential 2 Total area (ac): 155.730

45 - Large Landscaped Areas 1: 146.380 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 9.350 ac. PSD File:

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Data file name: M:\Tierney, Don\190219_Kilkenny West Master\Design Development\Stormwater and Erosion Control\Modeling\Infiltration Modeling\PreDeveloped.mdb
WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\w10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12

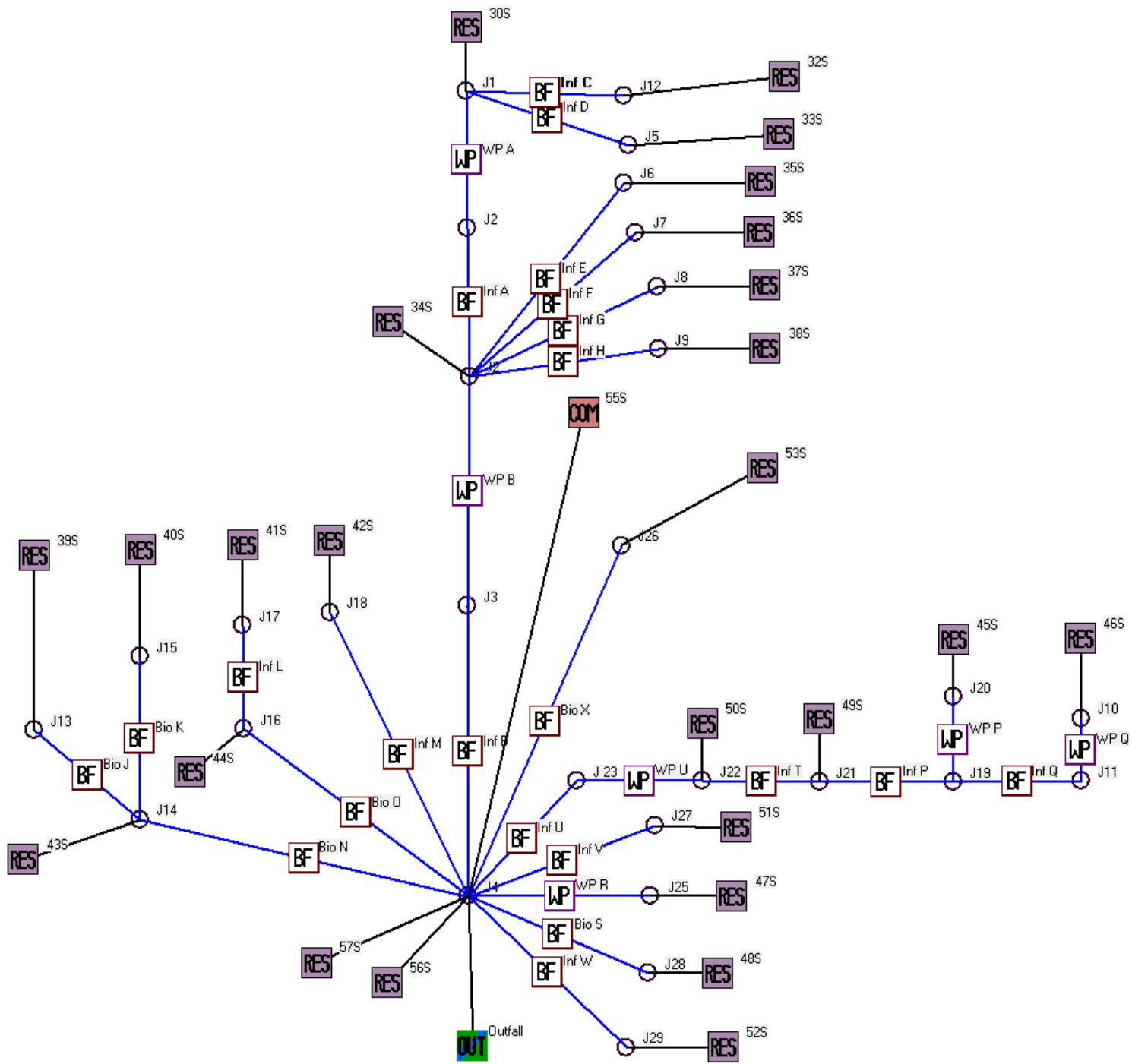
Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81

Date of run: 03-13-2023 Time of run: 17:08:10

Total Area Modeled (acres): 155.730

Years in Model Run: 1.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	1.897E+06	-	110.0	13021	-
Outfall Total with Controls:	1.897E+06	0.00%	110.0	13022	-0.01%
Annualized Total After Outfall Controls:	1.902E+06			13058	



Data file name: M:\Tierney, Don\190219_Kilkenny West Master\Design Development\Stormwater and Erosion Control\Modeling\Infiltration Modeling\Proposed Kilkenny West Infiltration.mdb

WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppx

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Study period starting date: 01/01/81 Study period ending date: 12/31/81

Start of Winter Season: 12/02 End of Winter Season: 03/12

Date: 03-13-2023 Time: 17:24:55

Site information:

LU# 1 - Residential: 30S Total area (ac): 19.160

1 - Roofs 1: 2.910 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 1.450 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 1.450 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.900 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 3.240 ac. Intermediate Street Length = 1.671 curb-mi Street Width (assuming two curb-mi per street mile) = 31.99282 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 7.780 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 1.430 ac. Source Area PSD File:

LU# 2 - Residential: 32S Total area (ac): 3.670

1 - Roofs 1: 1.370 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.680 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.680 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.840 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.100 ac. Source Area PSD File:

LU# 3 - Residential: 33S Total area (ac): 3.790

1 - Roofs 1: 1.150 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.580 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.580 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.380 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.100 ac. Source Area PSD File:

LU# 4 - Residential: 34S Total area (ac): 26.860

1 - Roofs 1: 2.640 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.210 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 1.320 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 1.320 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 1.190 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 4.050 ac. Intermediate Street Length = 2.228 curb-mi Street Width (assuming two curb-mi per street mile) = 29.99327 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 13.820 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 2.310 ac. Source Area PSD File:

LU# 5 - Residential: 35S Total area (ac): 3.830

1 - Roofs 1: 1.310 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.660 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.660 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.100 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.100 ac. Source Area PSD File:

LU# 6 - Residential: 36S Total area (ac): 4.440

1 - Roofs 1: 1.490 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.750 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.750 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.260 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.190 ac. Source Area PSD File:

LU# 7 - Residential: 37S Total area (ac): 4.310

1 - Roofs 1: 1.420 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.710 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.710 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.270 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.200 ac. Source Area PSD File:

LU# 8 - Residential: 38S Total area (ac): 2.410

1 - Roofs 1: 0.820 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.410 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.420 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.730 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.030 ac. Source Area PSD File:

LU# 9 - Residential: 46S Total area (ac): 13.970

1 - Roofs 1: 3.370 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.080 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 1.680 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 1.680 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.510 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 2.050 ac. Intermediate Street Length = 1.128 curb-mi Street Width (assuming two curb-mi per street mile) = 29.9867 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 4.370 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.230 ac. Source Area PSD File:

LU# 10 - Residential: 39S Total area (ac): 5.630

1 - Roofs 1: 1.660 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.830 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.830 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.030 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.100 ac. Intermediate Street Length = 0.055 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 2.060 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.120 ac. Source Area PSD File:

LU# 11 - Residential: 40S Total area (ac): 4.180

1 - Roofs 1: 0.960 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.480 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.480 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.190 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.670 ac. Intermediate Street Length = 0.369 curb-mi Street Width (assuming two curbs-mi per street mile) = 29.95935 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.300 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.100 ac. Source Area PSD File:

LU# 12 - Residential: 41S Total area (ac): 2.260

1 - Roofs 1: 0.750 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.380 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.380 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.720 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.030 ac. Source Area PSD File:

LU# 13 - Residential: 42S Total area (ac): 1.090

1 - Roofs 1: 0.300 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.150 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.150 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.430 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.060 ac. Source Area PSD File:

LU# 14 - Residential: 43S Total area (ac): 4.310

1 - Roofs 1: 0.630 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.320 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.320 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.200 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.760 ac. Intermediate Street Length = 0.418 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.810 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.270 ac. Source Area PSD File:

LU# 15 - Residential: 44S Total area (ac): 4.310

1 - Roofs 1: 0.600 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.300 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.300 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.340 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 1.270 ac. Intermediate Street Length = 0.699 curb-mi Street Width (assuming two curb-mi per street mile) = 29.97854 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.300 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.200 ac. Source Area PSD File:

LU# 16 - Residential: 45S Total area (ac): 9.510

1 - Roofs 1: 1.690 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.190 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.850 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.850 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.280 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 1.050 ac. Intermediate Street Length = 0.578 curb-mi Street Width (assuming two curbs-mi per street mile) = 29.97405 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 4.100 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.500 ac. Source Area PSD File:

LU# 17 - Residential: 48S Total area (ac): 2.440

1 - Roofs 1: 0.430 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.220 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.210 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.170 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.600 ac. Intermediate Street Length = 0.33 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.720 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.090 ac. Source Area PSD File:

LU# 18 - Residential: 47S Total area (ac): 2.660

1 - Roofs 1: 0.350 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.180 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.180 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.060 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.500 ac. Intermediate Street Length = 0.275 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.210 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.180 ac. Source Area PSD File:

LU# 19 - Residential: 49S Total area (ac): 2.250

1 - Roofs 1: 0.740 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.370 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.370 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.740 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.030 ac. Source Area PSD File:

LU# 20 - Residential: 50S Total area (ac): 5.240

1 - Roofs 1: 0.420 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.210 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.210 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.500 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 1.800 ac. Intermediate Street Length = 0.99 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.790 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.310 ac. Source Area PSD File:

LU# 21 - Residential: 51S Total area (ac): 1.550

1 - Roofs 1: 0.290 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.150 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.150 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.660 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.300 ac. Source Area PSD File:

LU# 22 - Residential: 52S Total area (ac): 3.440

1 - Roofs 1: 1.170 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.590 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.590 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.070 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.020 ac. Source Area PSD File:

LU# 23 - Residential: 53S Total area (ac): 4.050

31 - Sidewalks 1: 0.570 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 2.020 ac. Intermediate Street Length = 1.111 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.330 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.130 ac. Source Area PSD File:

LU# 24 - Commercial: 55S Total area (ac): 2.230

13 - Paved Parking 1: 0.120 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.200 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.720 ac. Intermediate Street Length = 0.396 curb-mi Street Width (assuming two curb-mi per street mile) = 30 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.190 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 25 - Residential: 56S Total area (ac): 16.060

1 - Roofs 1: 1.120 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.560 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.560 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

32 - Sidewalks 2: 0.030 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.110 ac. Intermediate Street Length = 0.061 curb-mi Street Width (assuming two curb-mi per street mile) = 29.7541 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 4.330 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 9.350 ac. Source Area PSD File:

LU# 26 - Residential: 57S Total area (ac): 2.060

1 - Roofs 1: 0.300 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.250 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 1.510 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - WP A

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Sharp Crested Weir

1. Sharp crested weir length (ft): 6
2. Sharp crested weir height from invert: 2.5
3. Sharp crested weir invert elevation above datum (ft): 7.5

Outlet type: Orifice 1

1. Orifice diameter (ft): 1
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 30
2. Weir crest width (ft): 5
3. Height from datum to bottom of weir opening: 9

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.3483	0.00	0.00
2	1.00	0.4071	0.00	0.00
3	5.00	0.6875	0.00	0.00

4	6.00	1.0715	0.00	0.00
5	10.00	1.5540	0.00	0.00

Control Practice 2: Biofilter CP# 1 (DS) - Inf C

1. Top area (square feet) = 9617
2. Bottom area (square feet) = 4168
3. Depth (ft): 5.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 2
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3.5
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1.5
3. Number of underdrain outlets: 1

Control Practice 3: Biofilter CP# 2 (DS) - Inf D

1. Top area (square feet) = 9861
2. Bottom area (square feet) = 4285
3. Depth (ft): 5.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No

7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 2
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

 User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

 Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 5

 Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.5

 Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3.5

3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33

2. Invert elevation above datum (ft): 1.5

3. Number of underdrain outlets: 1

Control Practice 4: Wet Detention Pond CP# 2 (DS) - WP B

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 1.5

2. Number of orifices: 4

3. Invert elevation above datum (ft): 6

Outlet type: Orifice 2

1. Orifice diameter (ft): 2

2. Number of orifices: 6

3. Invert elevation above datum (ft): 6.35

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5

2. Weir crest width (ft): 10

3. Height from datum to bottom of weir opening: 8.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.4014	0.00	0.00
2	1.00	0.4751	0.00	0.00
3	5.00	0.8324	0.00	0.00
4	6.00	1.3245	0.00	0.00
5	9.00	1.9093	0.00	0.00

Control Practice 5: Biofilter CP# 3 (DS) - Inf B

1. Top area (square feet) = 70250
2. Bottom area (square feet) = 42945
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27

14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 2
3. Height of datum to bottom of weir opening: 4.8

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 1.75

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5
2. Invert elevation above datum (ft): 0
3. Number of underdrain outlets: 1

Control Practice 6: Biofilter CP# 4 (DS) - Inf A

1. Top area (square feet) = 28637
2. Bottom area (square feet) = 15837
3. Depth (ft): 6
4. Biofilter width (ft) - for Cost Purposes Only: 10

5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 20
3. Height of datum to bottom of weir opening: 5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 3
2. Stand pipe height above datum (ft): 5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33

2. Pipe invert elevation above datum (ft): 1.75

3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5

2. Invert elevation above datum (ft): 0

3. Number of underdrain outlets: 1

Control Practice 7: Biofilter CP# 5 (DS) - Inf E

1. Top area (square feet) = 9505

2. Bottom area (square feet) = 4541

3. Depth (ft): 5

4. Biofilter width (ft) - for Cost Purposes Only: 10

5. Infiltration rate (in/hr) = 0.5

6. Random infiltration rate generation? No

7. Infiltration rate fraction (side): 0.01

8. Infiltration rate fraction (bottom): 1

9. Depth of biofilter that is rock filled (ft) 1.5

10. Porosity of rock filled volume = 0.33

11. Engineered soil infiltration rate: 3.6

12. Engineered soil depth (ft) = 0.5

13. Engineered soil porosity = 0.27

14. Percent solids reduction due to flow through engineered soil = 0

15. Biofilter peak to average flow ratio = 3.8

16. Number of biofiltration control devices = 1

17. Particle size distribution file: Not needed - calculated by program

18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.25

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 8: Biofilter CP# 6 (DS) - Inf F

1. Top area (square feet) = 9505
2. Bottom area (square feet) = 4541
3. Depth (ft): 5

4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.25

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 9: Biofilter CP# 7 (DS) - Inf G

1. Top area (square feet) = 9505
2. Bottom area (square feet) = 4541
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8

16. Number of biofiltration control devices = 1

17. Particle size distribution file: Not needed - calculated by program

18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.25

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 10: Biofilter CP# 8 (DS) - Inf H

1. Top area (square feet) = 9505
2. Bottom area (square feet) = 4541

3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.25

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 11: Wet Detention Pond CP# 3 (DS) - WP Q

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.75
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 14
3. Height from datum to bottom of weir opening: 8.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 7.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0185	0.00	0.00
2	1.00	0.0253	0.00	0.00
3	5.00	0.0637	0.00	0.00
4	6.00	0.1303	0.00	0.00
5	9.00	0.2025	0.00	0.00

Control Practice 12: Biofilter CP# 9 (DS) - Inf Q

1. Top area (square feet) = 10095
2. Bottom area (square feet) = 4375
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6

12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 14
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 2
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 0
3. Number of underdrain outlets: 1

Control Practice 13: Biofilter CP# 10 (DS) - Bio J

1. Top area (square feet) = 7600

2. Bottom area (square feet) = 5378
3. Depth (ft): 9.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

 User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

 Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 9.49

 Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 6.5

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 3.5
3. Number of underdrain outlets: 1

Control Practice 14: Biofilter CP# 11 (DS) - Bio N

1. Top area (square feet) = 15321
2. Bottom area (square feet) = 11850
3. Depth (ft): 7.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1

17. Particle size distribution file: Not needed - calculated by program

18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 30
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 6.5

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 3.5
3. Number of underdrain outlets: 1

Control Practice 15: Biofilter CP# 12 (DS) - Bio K

1. Top area (square feet) = 10090
2. Bottom area (square feet) = 4410
3. Depth (ft): 9
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4

10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 8

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 6.5

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 3.5
3. Number of underdrain outlets: 1

Control Practice 16: Biofilter CP# 13 (DS) - Bio O

1. Top area (square feet) = 12365
2. Bottom area (square feet) = 8855
3. Depth (ft): 7.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 30
2. Weir crest width (ft): 5

3. Height of datum to bottom of weir opening: 6.5

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33

2. Invert elevation above datum (ft): 3.5

3. Number of underdrain outlets: 1

Control Practice 17: Biofilter CP# 14 (DS) - Inf L

1. Top area (square feet) = 3300

2. Bottom area (square feet) = 1260

3. Depth (ft): 4

4. Biofilter width (ft) - for Cost Purposes Only: 10

5. Infiltration rate (in/hr) = 0.5

6. Random infiltration rate generation? No

7. Infiltration rate fraction (side): 0.01

8. Infiltration rate fraction (bottom): 1

9. Depth of biofilter that is rock filled (ft) 1.5

10. Porosity of rock filled volume = 0.33

11. Engineered soil infiltration rate: 3.6

12. Engineered soil depth (ft) = 0.5

13. Engineered soil porosity = 0.27

14. Percent solids reduction due to flow through engineered soil = 0

15. Biofilter peak to average flow ratio = 3.8

16. Number of biofiltration control devices = 1

17. Particle size distribution file: Not needed - calculated by program

18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 3.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 3

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 18: Biofilter CP# 15 (DS) - Inf M

1. Top area (square feet) = 6035
2. Bottom area (square feet) = 2810
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1

9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 4

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 3
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33

2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 19: Wet Detention Pond CP# 4 (DS) - WP P

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.75
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height from datum to bottom of weir opening: 10.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 7.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00

1	0.01	0.0005	0.00	0.00
2	1.00	0.0053	0.00	0.00
3	5.00	0.0680	0.00	0.00
4	6.00	0.2472	0.00	0.00
5	11.00	0.5759	0.00	0.00

Control Practice 20: Biofilter CP# 16 (DS) - Inf P

1. Top area (square feet) = 33644
2. Bottom area (square feet) = 10965
3. Depth (ft): 8
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program

18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 7.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 2.75
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 21: Biofilter CP# 17 (DS) - Inf T

1. Top area (square feet) = 5017
2. Bottom area (square feet) = 1374
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10

5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 4.99

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 4.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33

2. Pipe invert elevation above datum (ft): 2.5

3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33

2. Invert elevation above datum (ft): 1

3. Number of underdrain outlets: 1

Control Practice 22: Wet Detention Pond CP# 5 (DS) - WP U

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.75

2. Number of orifices: 1

3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 50

2. Weir crest width (ft): 5

3. Height from datum to bottom of weir opening: 10.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4

2. Stand pipe height above datum (ft): 9

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0142	0.00	0.00
2	1.00	0.0263	0.00	0.00
3	5.00	0.0803	0.00	0.00
4	6.00	0.1608	0.00	0.00
5	11.00	0.3083	0.00	0.00

Control Practice 23: Biofilter CP# 18 (DS) - Inf U

1. Top area (square feet) = 17610
2. Bottom area (square feet) = 6637
3. Depth (ft): 8
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27

14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 7

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 6

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 2.75
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.5
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 8.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 7.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0548	0.00	0.00
2	1.00	0.0642	0.00	0.00
3	5.00	0.1071	0.00	0.00
4	6.00	0.1832	0.00	0.00
5	9.00	0.2608	0.00	0.00

Control Practice 25: Biofilter CP# 19 (DS) - Bio X

1. Top area (square feet) = 9263
2. Bottom area (square feet) = 5453
3. Depth (ft): 9.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 4
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

 User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

 Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 9.49

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 7.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 6.25
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 3.5
3. Number of underdrain outlets: 1

Control Practice 26: Biofilter CP# 20 (DS) - Bio S

1. Top area (square feet) = 5210
2. Bottom area (square feet) = 4116
3. Depth (ft): 7.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1

9. Depth of biofilter that is rock filled (ft) 4
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 80
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 7

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 3
2. Stand pipe height above datum (ft): 6.25

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 3.5
3. Number of underdrain outlets: 1

Control Practice 27: Biofilter CP# 21 (DS) - Inf V

1. Top area (square feet) = 6035
2. Bottom area (square feet) = 2810
3. Depth (ft): 5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 5
2. Weir crest width (ft): 5

3. Height of datum to bottom of weir opening: 4.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 4

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.33
2. Pipe invert elevation above datum (ft): 2.75
3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Control Practice 28: Biofilter CP# 22 (DS) - Inf W

1. Top area (square feet) = 3800
2. Bottom area (square feet) = 845
3. Depth (ft): 4
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.5
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 1.5
10. Porosity of rock filled volume = 0.33

11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 0.5
13. Engineered soil porosity = 0.27
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 15
2. Weir crest width (ft): 5
3. Height of datum to bottom of weir opening: 3.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 2.75

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.33
2. Invert elevation above datum (ft): 1
3. Number of underdrain outlets: 1

Data file name: M:\Tierney, Don\190219_Kilkenny West Master\Design Development\Stormwater and Erosion Control\Modeling\Infiltration Modeling\Proposed Kilkenny V
WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81
Date of run: 03-13-2023 Time of run: 17:22:24
Total Area Modeled (acres): 155.710
Years in Model Run: 1.00

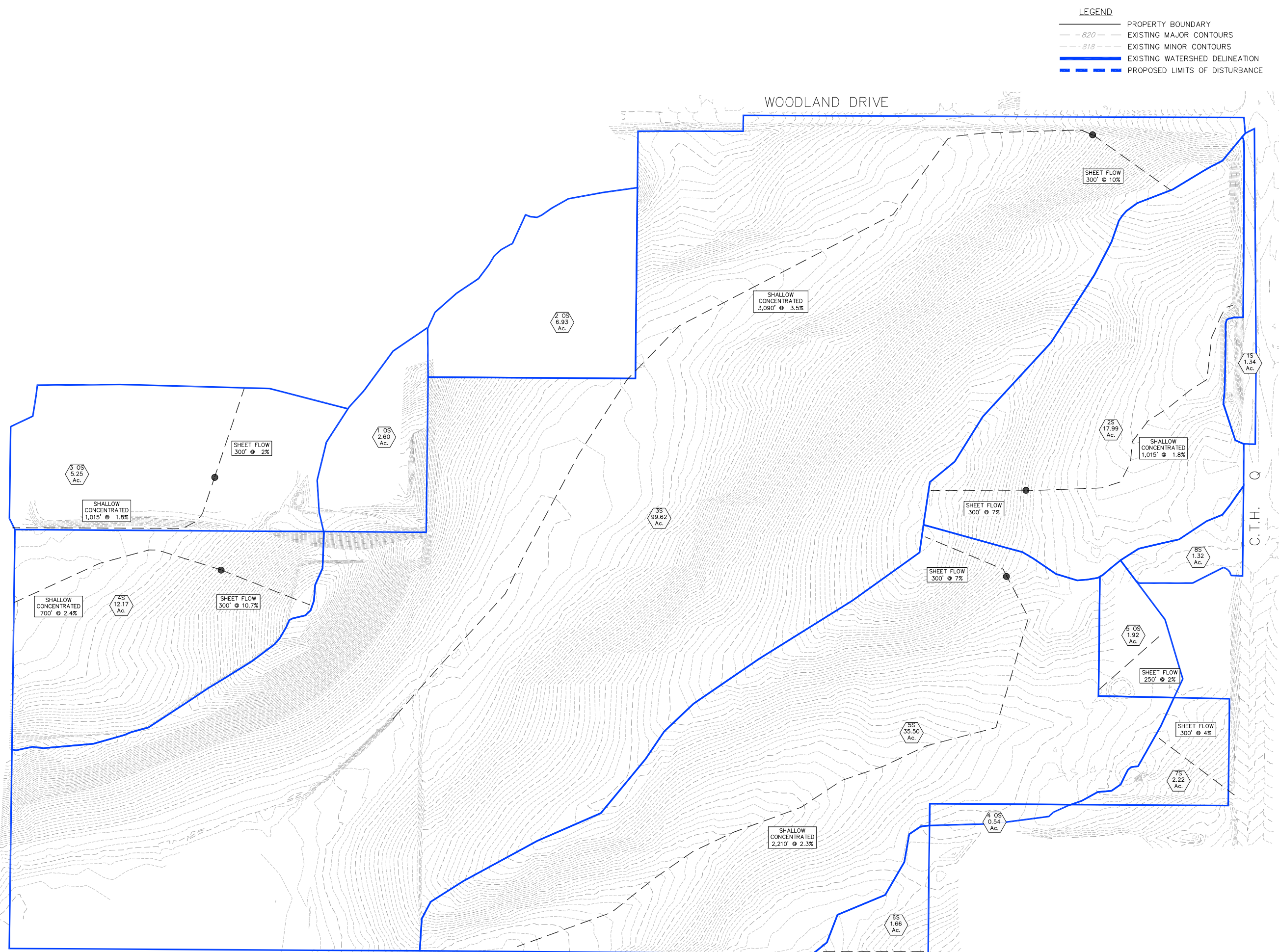
	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	8.959E+06	-	86.29	48263	-
Outfall Total with Controls:	3.436E+06	61.65%	39.62	8497	82.39%
Annualized Total After Outfall Controls:	3.445E+06			8521	

7 Erosion Control Calculations
(Will be provided upon permit applications)

Exhibits

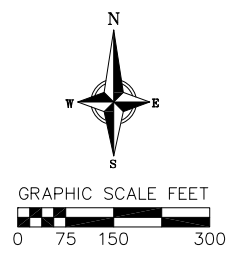
8.1 Stormwater Maintenance Agreement
(Will be provided upon permit applications)

8.2 Pre-Developed Drainage Map



LEGEND

- PROPERTY BOUNDARY
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- EXISTING WATERSHED DELINEATION
- PROPOSED LIMITS OF DISTURBANCE



Pre-Developed Watershed Map
Kilkenny West Farms
Village of Waunakee
Dane County, WI

REVISIONS		REVISIONS	
NO.	DATE	NO.	DATE

SCALE AS SHOWN

DATE
March 2023

DRAFTER
SCHU

CHECKED
SCHU

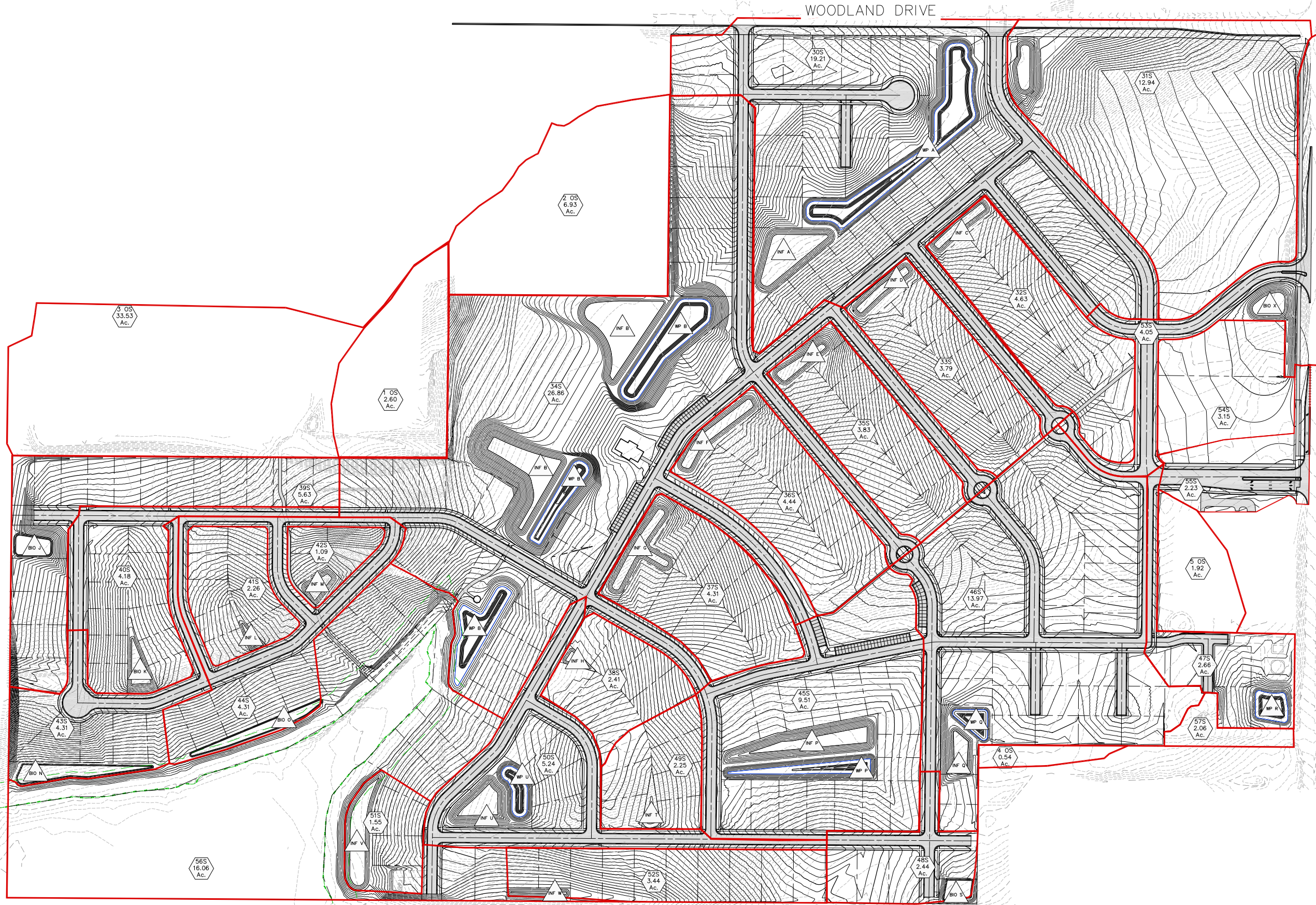
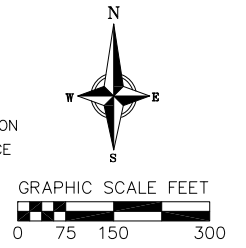
PROJECT NO.
190219

SHEET
1 OF 1

DWG. NO.

8.3 Post-Developed Drainage Map

- LEGEND**
- — — — — PROPERTY BOUNDARY
 - - - - - EXISTING MAJOR CONTOURS
 - - - - - EXISTING MINOR CONTOURS
 - (820) PROPOSED MAJOR CONTOURS
 - (818) PROPOSED MINOR CONTOURS
 - — — — — PROPOSED WATERSHED DELINEATION
 - — — — — PROPOSED LIMITS OF DISTURBANCE



Post-Developed Watershed Map
Kilkenny West Farms
Village of Waunakee
Dane County, WI

REVISIONS	NO.	DATE	REMARKS

SCALE AS SHOWN

DATE: March 2023

DRAFTER: SCHU

CHECKED: SCHU

PROJECT NO.: 190219

SHEET: 1 OF 1

DWG. NO.:

8.4 Wetland Delineation Report